

## Caulfield Major Activity Centre

# Economic and Housing Analysis 2021

Prepared for

**Glen Eira City Council**

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Level 19/8 Exhibition Street  
Melbourne VIC 3000  
T +61 (0) 3 8102 8888

Sydney  
Level 25/52 Martin Place  
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T +61 (0) 2 8228 7888

Brisbane  
Level 32/123 Eagle Street  
Brisbane QLD 4000  
T +61 (0) 7 3338 9688

Singapore  
138 Market Street, CapitaGreen  
Level 24-01  
Singapore 048946  
T +65 6679 6067

**admin@charterkc.com.au**  
**charterkc.com.au**

Charter Keck Cramer Pty Ltd  
ABN 78 618 794 853

Charter Keck Cramer  
(Sydney) Pty Ltd  
T/A Charter Keck Cramer  
ABN 21 601 785 326

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# Instructions.

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Instructing Party	Glen Eira City Council
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Our Reference	Charter Contact	Simon Micmacher
	Report Author	Simon Micmacher

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# Executive Summary.

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## Economic Status 2021

- Higher education, equestrian services and food comprise the main pillars of the Caulfield Major Activity Centre (the Centre) economy accounting for just under three quarters of total employment at 2016.
- The Coronavirus has disrupted the key pillars of the Centre's economy. Declining enrolments at Monash University Caulfield (following successive years of growth) and an corresponding decline in on campus learning has adversely impacted on the centre's housing market and food and beverage sectors and overall levels of activity throughout Derby Road and Sir John Monash Drive. Employment at Monash University Caulfield is also likely to have declined although there is currently no public information to validate this.
- In the near term, the Centre will also see declines in employment within the Centre's equestrian following the closure of horse stabling and training at Caulfield Racecourse in 2023.

## Economic Outlook

- Looking beyond the Coronavirus era, the Centre is well positioned to support a larger and more diverse economy: Specifically:
  - The delivery of the Metro Tunnel in 2026 will elevate the status and role of the Caulfield rail station. The Metro Tunnel repositions Caulfield station as the primary rail interchange in Melbourne's south surpassing South Yarra as the region's main transfer node. Caulfield will function as the key public transport gateway for a range of new Metro Tunnel destinations including St Kilda Road, Parkville, City North, Arden and Melbourne Airport. Fundamentally, new public transport accessibility will link Caulfield's higher education and recreational anchors to Melbourne's emerging knowledge corridor in which the innovation and research institutes of Parkville, Melbourne University, RMIT and the future Arden centre are joined via the Metro Tunnel.
  - New transport infrastructure will be delivered in the context of a youthful, increasingly skilled and growing southern region that prior to the Coronavirus was expected to support a population of 2.1 million residents by 2036 (this growth is now expected to be delayed but not ultimately curtailed).
  - Within the Centre, the expansion plans of Monash University, the Melbourne Racing Club and private developers will transform the centre's physical environment whilst also affirming Caulfield's role as a leading higher education, horse racing, and multimodal conference and function destination.
  - The completion of Caulfield Village Boulevard will deliver high quality retail space transforming the centre into a service and dining destination for nearby suburbs. The boulevard will, likewise, expand the centre's retail catchment to encompass suburbs west of Caulfield Rail Station.
  - The next five years will also see the recovery of the centre's student economy which will occur in the context of increased retail, leisure and community amenity within the centre and improved transport infrastructure.
- The recovery of the student economy in combination with the completion of Caulfield Village, the renewal of Caulfield Racecourse and the delivery of the Metro Tunnel establish the basis for a reinvigorated and renewed centre economy by the end of the decade. The study assumes that the centre's many amenity and accessibility advantages will inevitably boost its attractiveness and desirability as a location for enterprise and the delivery of services. As

such, the study identifies demand for a further 19,600 sqms of dedicated commercial office space within the centre to 2036. New commercial floor space is also needed to attract and support enterprise and start ups emanating from Monash University.

- To ensure the centre's growing advantages support a strengthened and resilient local economy the centre requires active leadership and co-ordination. Specifically, there is need to ensure the plans of major anchors deliver integrated, safe and inviting frontages and that public amenity supports centre connectivity and invites passengers to exit Caulfield station.

### Housing and Demography

- The Centre is on track to deliver between 3,600 and 4,400 new dwellings depending on the final design and build out of the Centre's major redevelopment sites. To date, 930 dwellings have been delivered as part of the Caulfield Village development and a further 430 are under construction. To 2036, the Centre is set to deliver between 20% and 25% of Glen Eira's required housing supply (based on the municipality's 2018 forecast requirements).
- At present the Centre supports a residential community of approximately 2,350 people. Substantial dwelling growth has resulted in rapid population growth. Over the past four years the centre added over 2,100 new residents (at 2016, there were less than 200 residents living within the Centre).
- The renewal and redevelopment of the Centre's major redevelopment sites provides the capacity to support a new residential community of 8,700 residents. The Centre's current and future community is expected to comprise significant numbers of smaller households (lone person and couple without children households). Based on *Victoria in Future 2019* projections the centre's ultimate population is likely to represent 4.5% of the municipality's total population at 2036.
- The centre's dwelling mix of predominantly one and two bedroom apartments limits its attractiveness to young families. Glen Eira experiences outward migration of young households. Supporting the long term housing needs of younger households is critical to retaining younger households within the municipality.
- The centre's 2020 rental and purchase prices are generally more affordable than those across the broader Glen Eira municipality. In general, the centre's rents and purchase prices are affordable for moderate income earners and some low income earners. Like most of the region, the centre is unaffordable for very low income earners. Overall, the centre can be seen to provide housing choice and a relative level of affordability within the context of relatively expensive local housing markets.
- According to observations by local agents and strata managers, the Coronavirus has altered the centre's tenant mix. Increased numbers of local residents now live in the centre as compared with its pre-2020 population which comprised far higher numbers of international students.

Table 1: Summary Outlook

	2016	2021	2036
<b>Dwellings</b>	<b>200</b>	<b>1010</b>	<b>3,600 to 4,400</b>
<b>Residents</b>	<b>450</b>	<b>2,350</b>	<b>7120 to 8,700</b>
<b>Jobs</b>	<b>2,340</b>	<b>Not available</b>	<b>4,100 *</b>
<b>Commercial Office +</b>	<b>1,700 sqms</b>	<b>1,700 sqms</b>	<b>19,600 sqms</b>
<b>Retail</b>	<b>11,700</b>	<b>11,700 sqms</b>	<b>18,100 sqms ^</b>

\* Taken from employment projections from *Caulfield Station Precinct, Employment and Innovation Analysis*, Prepared for Victoria Planning Authority, October 2019. Charter Keck Cramer

^ Based on committed and mooted proposals at 2021

+ Does not include Monash University Caulfield office space (which is not commercial office space) nor account for any future plans of the university.

# 1. Report Purpose

The Caulfield Station Centre (the centre) is located on the northern boundary of the City of Glen Eira and the southern boundary of the City of Stonnington. The centre is 14 km from the CBD.

The centre comprises 122 hectares of land incorporating the area bounded by Princes Highway/Dandenong Road to the north, Kambrook/Booran Road to the west, Neerim Road to the south and Queens Avenue to the east.

*Plan Melbourne 2017–2050*, the city’s metropolitan strategy, identifies Caulfield as a Major Activity Centre, and Monash University’s Caulfield campus as a State Significant Education Centre.

The centre is home to the Monash University Caulfield campus and the Caulfield Racecourse which are both metropolitan destinations. The centre also incorporates substantive renewal land which over the next decade will be home to a community of over 7,000 residents.

Figure 1: Caulfield Station Centre





## 1.1. Purpose of report and methodology

In March 2021, the City of Glen Eira commissioned Echelon Planning and Urban Fold to develop a Structure Plan to guide the future development of the Caulfield Station Centre.

This report provides economic and housing analysis to inform the development of the 2021 structure plan. To provide the necessary information to guide the structure plan, the report:

- reviews the current composition of employment within the centre and recent employment growth
- explores the centre's major economic sectors and their medium to long term economic outlook
- examines the impact of the Coronavirus on the performance of the centre's economy
- explores the centre's population and housing outlook in light of its renewal land
- explores the potential for the centre to eventually leverage from the university to support an innovation ecosystem of scale.

## 2. Economic Analysis

### 2.1. Economic Overview

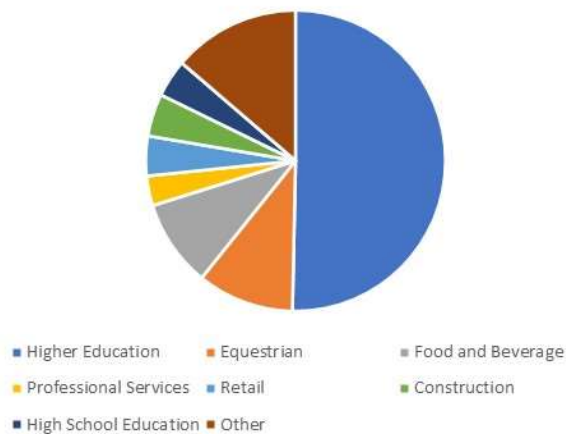
The Centre is one of Victoria's leading providers of higher education particularly within the disciplines of economics and business. Numerous students live within and around Centre or travel to the Centre providing the economic foundation for the Centre's numerous restaurant outlets. Derby Road and the Caulfield Plaza shopping centre together incorporate over twenty food establishments specialising in Asian cuisine.

The Centre is also a destination for horse racing events, general entertainment and conference functions. Major race events such as the Caulfield Cup along with the RSL State Conference, the Melbourne Guitar Show and the Wedding Expo sporadically draw large volumes of people to the Centre over the course of each year. The southern portion of the Centre currently supports significant horse stabling and training facilities which are scheduled to close in 2023. The end of horse training will instigate a new era for the racecourse in which the racecourse sports an expanded calendar of events and the centre of the racecourse is renewed for sporting and recreational purposes.

It follows that higher education, equestrian services and food comprise the main pillars of the Centre's economy and thereby are its largest employers. At 2016, the centre supported 2,340 jobs of which higher education (1,180 jobs), food and beverage (220 jobs) and equestrian activities (245 jobs) constituted just under three quarters of the Centre's total employment base. Professional services, high school education and construction employment comprise the other major sectors of the centre's economy.

Within the City of Glen Eira, the Centre comprises approximately 6.5% of the municipality's total employment base and, as might be expected, approximately 90% of the municipality's higher education sector.

Figure 2: Centre Employment 2016



ABS, Charter Keck Cramer

The following profiles the core economic clusters that comprise the Centre's economy.

## Monash University Caulfield Campus

Monash University Caulfield Campus is Monash University's second largest campus with over 20,000 students in 2018 (Monash University Clayton Campus had 42,500 students in 2018). The campus is currently home to four faculties, including the:

- Faculty of Art Design and Architecture
- Faculty of Arts
- Faculty of Business and Economics
- Faculty of Medicine, Nursing and Health Sciences

The Faculties of Business and Economics and Art Design and Architecture are the two leading faculties within Monash University Caulfield.

The Business and Economics Faculty has achieved globally recognised accreditations that provide extensive recognition for the university's qualifications.<sup>1</sup> The accreditations reflect the status of the faculty as one of the top five accounting and finance, economics and econometrics, business and management educators in Australia. The faculty is also within the top 50 educators for these disciplines in the world and is ranked in the top 3 Master of Business (MBA) locations in Australia, and amongst the top 100 locations for MBA education in the world.

Within the faculty, the Department of Econometrics and Business Statistics has achieved significant research leadership and recognition in the fields of forecasting, demand management, buyer behaviour, model building and computational techniques.<sup>2</sup> The Dean of the Faculty of Business and Economics, Simon Wilke, has significant expertise in game theory and was the former chief economic policy strategist at Microsoft Corporation and has also served as the chief economist for the US Federal Communications Commission.

Within the Monash University Caulfield campus, the faculty operates a number of research laboratories including the STARLab which is a purpose built facility that enables the simulation and analysis of behaviour in a trading environment. The faculty also runs a behavioural lab that tracks consumer decision making and behaviour using eye tracking technology.

The business faculty attracts large volumes of international students (in 2018, 62% of students at Monash University Caulfield campus were international students). Most students are full time students which, during semesters, engenders significant day time activity and vibrancy in and around the campus.

Since the early 2000s Monash University has invested over \$250 million in the redevelopment of its Caulfield campus which has resulted in a highly contemporary, connected and greener environment. The Art Design and Architecture Faculty has been a major beneficiary of campus renewal with the development of a number of purpose built facilities that include extensive workshops, labs and studios. The faculty is home to the recently opened SensiLab which is a purpose-built workshop established to support multidisciplinary collaboration in which design thinking is integrated with advanced computing, fabrication and engineering projections. Facilities include immersive visualisation spaces, sound and imaging studios, fabrication areas, a wet lab and a dedicated deep learning supercomputer.<sup>3</sup> The faculty supports a wide variety of research including design based urban development investigations, art history and design thinking for the health sector.

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<sup>1</sup> The Association to Advance Collegiate School of Business (AACSB), Accreditations include (EFMD Quality Improvement System), AMBA (Association of MBAs) accreditation is the global standard for all MBA, DBA and Master's degrees, currently accrediting programs from the top 1% of business schools in more than 70 countries.

<sup>2</sup> <https://www.monash.edu/business/ebs/research/research-showcase>

<sup>3</sup> <https://sensilab.monash.edu/about-us/>

Design is a critical component in successful commercialisation. As a result, design subjects delivered by the Art Design and Architecture Faculty have been introduced into the subject streams offered by the Faculty of Business and Economics. The Monash University Caulfield campus encompasses two key capabilities essential to commercialising innovations – design thinking and entrepreneurial capability. As will be discussed shortly, Monash University Caulfield and, in turn, the broader centre, has been adversely impacted by the closure of international borders over the course of the Coronavirus pandemic.

### **Caulfield Racecourse - Melbourne Racing Club (MRC)**

Caulfield Racecourse (which is leased to the Melbourne Racing Club) encompasses 54 Ha of land within the centre. In 2018, it hosted 21 racing events and 8 general entertainment and conference functions.<sup>4</sup>

By 2023, all horse training uses and horse stabling at the race track will cease freeing space for redevelopment and new uses. The MRC recently released plans for the redevelopment of their existing racecourse facilities which includes plans for an additional track and night racing infrastructure as well as improved events and visitor facilities. Land in the centre of the reserve will be reconfigured for public use (as depicted below).

**Figure 3: Impression of the Redeveloped Caulfield Racecourse<sup>5</sup>**



The proposed redevelopment is expected to cost \$570m. As part of this, the MRC propose to redevelop their freehold land for substantial residential uses. Vacant car parking land located to west of the racecourse, which is currently freehold land, has been identified for redevelopment for residential uses.

The MRC currently operates a gaming/food and beverage venue (The Glasshouse) at the corner of Smith and Station Streets and provides public carparking that services Caulfield rail station commuters along Normandy Road. A future masterplan for the racetrack may seek to relocate and redevelop these uses for higher order commercial purposes. The southern end of the racecourse along Neerim Road, will convert into community uses and public spaces once training uses cease.

#### **2.1.2. Derby Road Retail**

Derby Road, East Caulfield incorporates the Centre's core retail and commercial floor space. At May 2021 there were 26 retail shops along Derby Road and Station Street, the vast majority (58%) of which supported take away food/restaurant enterprises.

<sup>4</sup> <https://mrcmembership.com.au/member-news/economic-contribution-of-the-melbourne-racing-club/>

<sup>5</sup> April 14, 2021, The Age

The Caulfield Plaza Shopping Centre is the largest retail destination in the Centre. The shopping centre is anchored by a full service Coles supermarket which is adjoined by 13 retail shops of which 3 shops are currently vacant. Over the medium to long term, Caulfield Plaza Shopping Centre will be demolished and redeveloped as part of the Monash Caulfield Campus. The new retail boulevard within the Caulfield Village development will replace the Caulfield Plaza Shopping Centre as the centre's main supermarket and fresh food destination.

Derby Road also support a number of non-retail uses including childcare, education and accounting services. There is very limited high quality retail floor space within the Centre and limited merchandise trade. At the time of writing this report 2 contiguous retail shops along Derby Road were underdevelopment. The completion of this development will see high quality retail floor space added to the Centre's retail floor space.

The university also incorporates a small number of private food enterprises that operate according to the university calendar. A variety of food and beverage enterprises operate from the nearby Dandenong Road corridor which is not within the Centre boundary.

**Table 2: Retail Uses Caulfield Station Centre**

Use	Derby Road	Station Street	Caulfield Plaza	Monash	Racecourse
Take Away and Restaurants	10	5	4	4	
Newsagent	1				
Speciality real		1	4		
Chemist			1		
Pub/hospitality	1				1
Personal services			1		
Supermarket			1		
Non-retail	3				
Vacant	3		3		
Under construction	2				

### 2.1.3. Caulfield Village Redevelopment

The centre incorporates the Caulfield Village redevelopment, which entails the redevelopment of surplus carparking land south of the Caulfield rail station. At completion, the development will include between 1,000 to 1,200 dwellings. The project will also create a new street "The Boulevard" which will include street based retail uses, food and beverage outlets and a full-line major supermarket (which will ultimately replace the supermarket within Caulfield Plaza when Caulfield Plaza ceases operation).

To date, Centre 1 of the development has been completed delivering approximately 442 apartments. Centre 2 (Caulfield Heath) is currently under construction and will include a mixture of 3 to 6 storey residential buildings as well as delivering retail uses along the boulevard. Uses for centre 3 are yet to be finalised but are likely to have a commercial and mixed use focus.

The development will boost day and night time activity within the centre and result in a new up to date recreation and shopping destination for residents of suburbs south of the rail line and residents living in nearby high density apartment buildings along Princes

**Figure 4: Caulfield Village Redevelopment**



Highway. The last few years have seen substantial residential development along the nearby Dandenong Road corridor north of the rail line with the completion of successive residential towers of up to 18 storeys.

## Centre Employment

At 2016, the centre supported 2,340 jobs of which higher education (1,180 jobs), food and beverage (220 jobs) and equestrian activities (245 jobs) constituted just under three quarters of the Centre's total employment base. Professional services, high school education and construction employment comprise other major sectors of the centre's economy.

In the inter-censal period, between 2011 and 2016 the centre added approximately 300 jobs at a rate of 2.8% p.a. In this time, food and accommodation based jobs (+88 jobs) and recreational employment (+60 jobs) were major areas of employment growth. Growth in recreational employment is assumed to be associated with horse racing and race horse training.

The map below depicts Australian Bureau of Statistics employment areas within the centre. At 2016, the Monash University Caulfield campus-Caulfield Village area incorporated the largest number of jobs within the centre (1,870 jobs). Within this area education related employment accounted for 1,200 jobs. As will be discussed shortly, it is expected that the impact of the Coronavirus on the university sector will have resulted in employment losses within the campus as well as within the centre's food hospitality sector.

Figure 5: Destination Zones Caulfield Station Centre and employment outcomes 2016<sup>6</sup>



Source – Charter Keck Cramer

Sector	East Caulfield Reserve	Race-course/ Glen Eira College	Monash Uni Caulfield Campus-Caulfield Village	Total
Construction	8	9	88	105
Retail Trade	3	9	93	105
Accommodation and Food Services	6	33	179	218
Financial and Insurance Services	4	7	10	21
Professional, Scientific and Technical Services	18	21	30	69
Administrative and Support Services	3	13	31	47
Education and Training	7	91	1206	1304
Health Care and Social Assistance	16	3	24	43
Arts and Recreation Services	7	205	75	287
<b>Total</b>	<b>106</b>	<b>408</b>	<b>1,876</b>	<b>2,370</b>

Source – ABS

<sup>6</sup> The centre geographies are ABS geographies. The centre titles were created by Charter Keck Cramer for the purposes of this study.

## 2.2. 2021 Economy

The Coronavirus pandemic has disrupted the major pillars of the centre economy. The specific impacts on university sector and associated hospitality enterprises are yet to be fully determined. The following, however, explores available data as well as the future post Coronavirus economy.

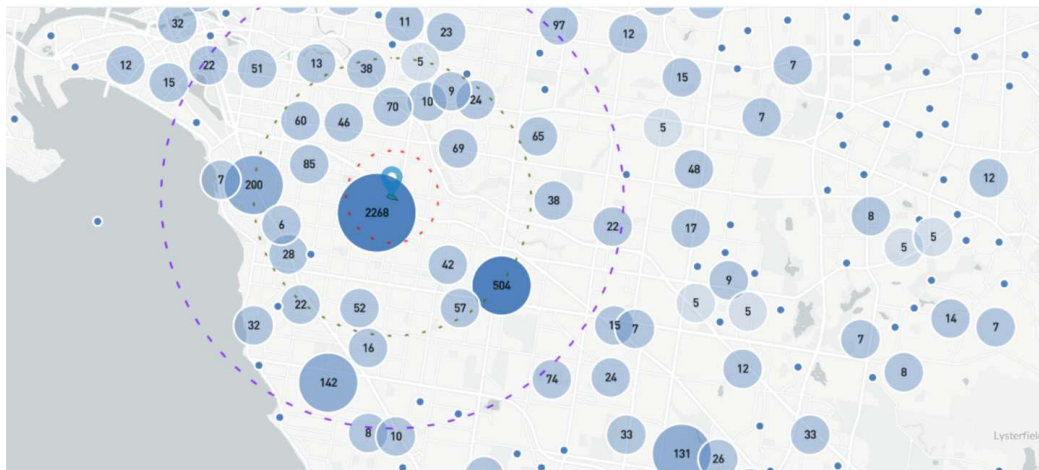
### 2.2.1. A Disrupted Student Economy

The day to day life of the centre is highly informed by the activities of students, academics and support staff at Monash University's Caulfield Campus which is the centre's main economic anchor and destination. As at May 2021, Monash University Caulfield comprised a land area of approximately 5.5 ha.

Students permeate the centre's retail, education and housing sub centres shaping the centre's demography, housing demand and food and beverage offerings. The ebb and flow of student movement to and from Monash University Caulfield over the course of the academic calendar is the centre's key economic driver and a primary influence on the degree to which large parts of the centre's built form is used.

Large numbers of students live in immediate proximity to the university both within the centre and in nearby suburbs such as Carnegie and Caulfield North. The suburbs of Clayton, Brighton, Elwood/St Kilda are also a major source of students.<sup>7</sup>

Figure 6: Evening Locations of Mobile Phone Signals Recorded at Monash Caulfield Campus May 2020 to May 2021

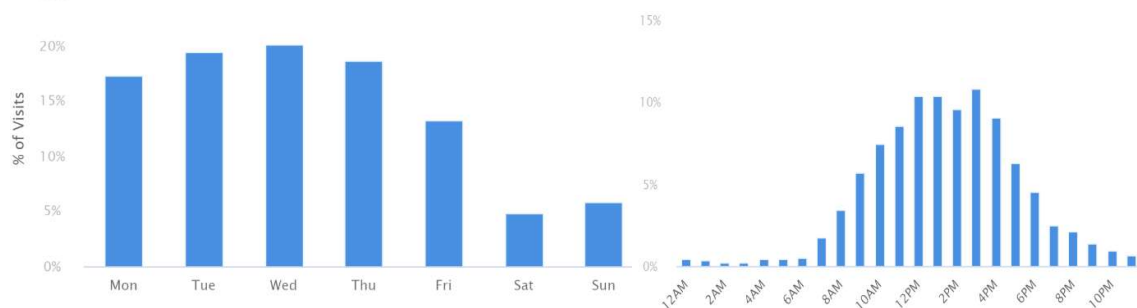


Uber Media, Charter Keck Cramer

<sup>7</sup> The analysis refers to students, however, the mobile phone signatures recorded in this work inevitably belong to students, academics and support staff. The work refers to students as these form the largest cohort. The analysis examines the evening resting place of mobile phone signatures recorded at the campus. The algorithm identifies signals recorded over a number of months.

The campus is almost exclusively a weekday day time campus with the majority of activity occurring between midday and 4 pm between Monday and Friday. Reflecting this, many of the centre’s restaurants are closed during weekends.

**Figure 7: Day of the Week and Visitation Times Monash University Caulfield Campus May 2020 to May 2021**



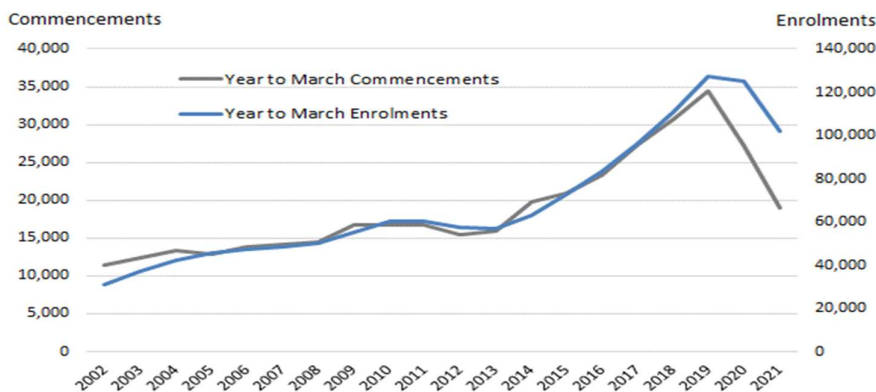
Uber Media, Charter Keck Cramer

### 2.2.2. International Students and the Impact of Closed Borders

As has been widely reported, the closure of international borders in response to the Coronavirus pandemic has adversely impacted Australia’s international higher education market with flow on impacts for academics and support staff and businesses reliant on local student demand.

As can be seen in the chart below, near on two decades of continuous higher education enrolment growth in Victoria was abruptly halted by the Coronavirus. As at 2020, both enrolments and commencements in higher education throughout Victoria were in sudden decline. For the higher education sector, the decline in commencements is most concerning as a lack of commencements adversely impacts subsequent years of student demand.

**Figure 8: Victorian Higher Education Enrolments and Commencements**



Source: Commonwealth Provider Registration and International Student Management database

The impact of the Coronavirus on Monash University enrolments and student numbers has been significant:

- In 2020, Monash University had 28,697 international students who would have been studying at one of its Australian campuses but, due to travel restrictions, were unable to do so. Of these students 35 per cent (10,143 students) continued their studies offshore (presumably online).

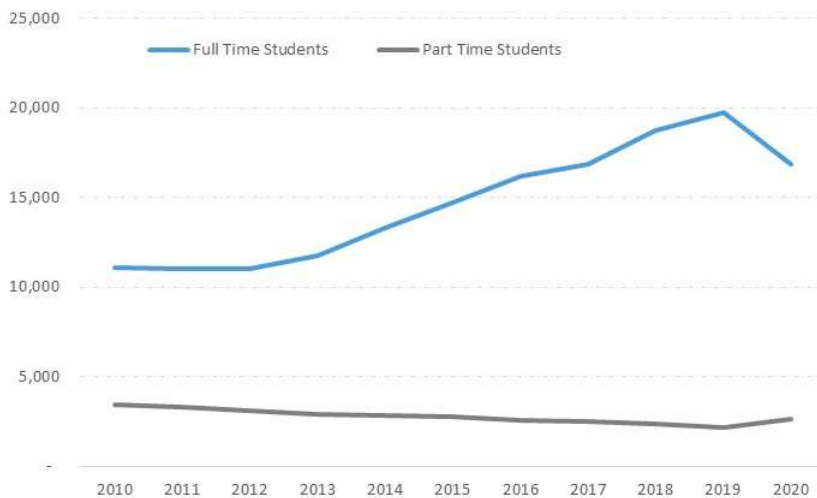


- Preliminary data (as at 18 January 2021) on international undergraduate and graduate/postgraduate enrolments, showed declines of 4.4 per cent and 8.7 per cent respectively.
- At the close of 2020, Monash University recorded a revenue shortfall of \$145 million. At the commencement of the pandemic this was projected to be a \$350 million shortfall. However, more international students were retained online than initially expected.
- Declining student numbers have impacted staffing across both academic and administrative functions. According to public information the Coronavirus has resulted in the loss of 754 jobs including 277 redundancies, 238 fixed-term employees and 239 casuals. No public information is available on specific staffing declines at Monash Caulfield.<sup>8</sup>

Within Monash University Caulfield the pandemic has disrupted a decade of ongoing enrolment growth in which student numbers grew year on year at an annual rate of 6.7% p.a. underwriting the physical expansion of the campus and its associated exceptional civic amenity. The recent development of the campus's highly contemporary economic, architecture and library facilities are emblematic of the benefits of ongoing student growth.

At 2020, full time enrolments at the Monash University Caulfield campus declined to approximately 16,840 students after reaching near on 20,000 students in the previous year. The number of students currently physically attending Monash Caulfield is lower than the headline enrolment figure as, as discussed above, many overseas students are now studying online from their home countries due to border closures. The impact of the Coronavirus on the broader Caulfield Station Centre economy due to the border closure is therefore far greater than is implied by the overall decline in total enrolments.<sup>9</sup>

**Figure 9: Monash Caulfield Student Numbers\***



\* a proportion of students are likely to be studying online overseas in their home country.

In addition to the above, the 2020 period also saw the relocation of the Information Technology faculty from the University's Caulfield campus to its Clayton campus. In 2019 this faculty supported 4,100 students.

<sup>8</sup> <https://www.businessinsider.com.au/australian-university-job-cuts-losses-tally-2020-9>

<sup>9</sup> At 2019, 44% of undergraduate and 85% of post graduate students at the Monash Caulfield were international students.

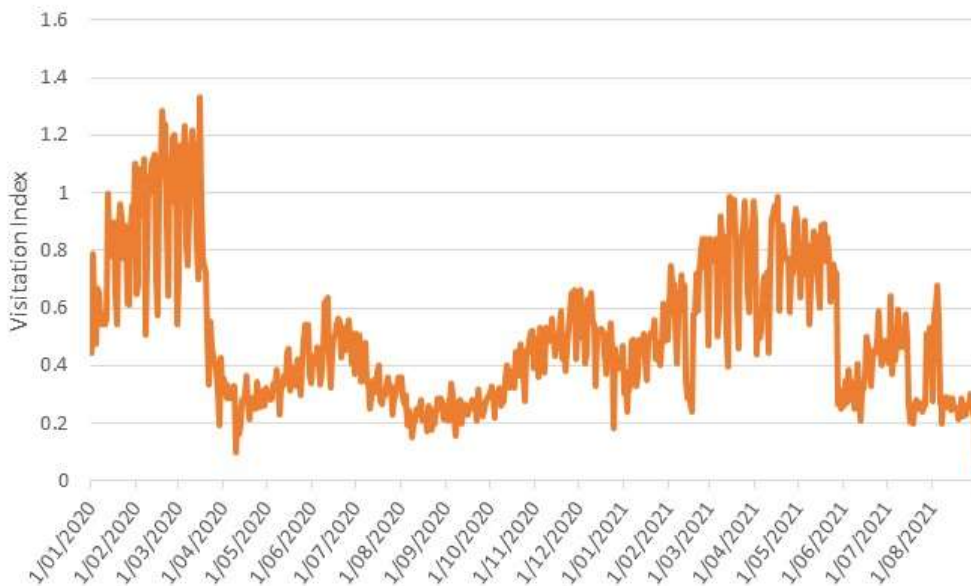
### 2.2.3. Flow on Impacts and Recovery

Declining student numbers have adversely impacted the centre economy. Derby Road food proprietors indicated that declining student activity and demand has resulted in significant negative financial impacts. There is now significant vacancy along the Derby Road centre and within Caulfield Plaza with 15% of retail premises vacant (of a total of 41 shops). The on campus food court is also yet to reopen at full capacity.

A lack of new and returning overseas students, similarly impacted on local housing demand. At the beginning of the pandemic, vacancies in Caulfield Village rose sharply which, according to local agents, has been steadily alleviated by growing demand from households from within the region. A lack of student demand resulted in declining rents which has helped to attract new households from across the region (according to agent observations). Former student apartments are now increasingly occupied by local tenants.

As can be seen in the chart below, Coronavirus lockdowns and the decline of student activity has resulted in ongoing declines in visitation to the centre's retail areas (Derby Road, Sir John Monash Drive and Caulfield Plaza). Daily visitation to the centre at August 2021 represents a 90% decline on visitation from the 1 March 2020 just prior to Melbourne's first Coronavirus lockdown.<sup>10</sup> Despite the easing of restrictions between May and July 2020 and October 2020 and May 2021, activity within the centre has never matched activity levels prior to the Coronavirus. This is undoubtedly due to the impact of border closures on student activity and the delivery of higher education via online platforms.

Figure 10: Visitation Caulfield Centre Retail



Recent commentary on the higher education sector suggests that international student numbers are unlikely to recover to pre-pandemic levels until 2028. Based on current border controls it is expected that international student numbers will bottom out in 2022-23 before beginning to recover. A recovery at 30% per annum from 2024 onwards would result in the number of international students returning to pre-pandemic levels by 2028. The next five years are therefore unlikely to see growth in the centre's university focused housing, food service and education sectors.

<sup>10</sup> The visitation study area takes in Derby Road, Sir John Monash Drive and Caulfield Plaza shopping Centre. Melbourne's first lockdown commenced on the 31<sup>st</sup> of March.

Notwithstanding the above, Monash University continues to maintain ambitious expansion plans for its Caulfield campus. Mooted plans envisage a significant expansion of teaching space and the integration and expansion of the campus to Derby Road. A landmark education building is planned for the corner of Derby Road and Princess Highway.

#### 2.2.4. The End of Stabling and Horse Training

In the near term, further disruption will arise from the closure of horse training facilities at Caulfield Racecourse. By 2023, all horse training and stabling at the racetrack will cease. The closure of training facilities will see the relocation of approximately 250 jobs from the centre. According to recent news reports, training may cease prior to 2023 subject to the agreement of trainers. Notably, over the 2011 to 2016 period horse racing employment grew by 50 jobs.

As the racetrack is developed into a broader entertainment venue there is the potential for job losses to be somewhat countered by hospitality employment growth. The vision for the racecourse includes the introduction of night racing infrastructure as well as improved events and visitor facilities. In 2018, the racecourse hosted 21 racing events and 8 general entertainment and conference functions. Additional conference, entertainment and racing events will inevitably drive demand for hospitality services and employment. A future masterplan may also expand economic activity by introducing new commercial and administrative uses to the racetrack.

#### 2.2.5. 2021 Economic Status

Local industry change in combination with global events have adversely impacted the Centre’s economy and will, at least in the short term, continue to impact on the Centre. Overall, the 2020s marks an unsettled and uncertain period for the centre with its two major employment anchors impacted by changing circumstances.

Recent employment modelling by REMPLAN suggests that the centre’s employment base has continued to grow. As at May 2021, REMPLAN identify 2,570 jobs within the centre representing jobs growth of over 200 jobs since 2016. The centre’s main anchors (education, recreation and food sectors) are each identified as the core sectors for post 2016 employment growth. It’s not clear whether REMPLAN’s modelling accounts for university job losses and flow on impacts into the broader centre as a result of declining enrolments and far more limited face to face student education. The results of the 2021 Census will provide definitive information as to the current employment status of the centre.

The 2021 Census is likely to identify significant (but temporary) public sector and construction employment growth within the Centre. The delivery of the Caulfield Village development and the establishment of a staging site for the Metro Tunnel within the centre has resulted in significant construction activity and associated employment growth within the centre. Concurrently, Glen Eira Council has taken up office space in the centre along Princes Highway.

The completion of major construction projects at the end of this decade, however, will inevitably see a major decline in construction activity and construction employment within the centre. Likewise, public sector employment within the centre may prove to be temporary as Council decides on more enduring office space solutions for its staff.

Figure 11: 2021 Centre Economic Status

Growth Drivers	Growth Constraints
Public Sector employment (temporary)	Decline in overseas students
Construction employment (temporary)	Decline in food and beverage demand
Resumption of racing calendar and conventions	Closure of the Commonwealth Bank
	International borders remain closed delaying the recovery of student numbers
	Relocation of Information Technology Faculty to Clayton

Growth Drivers	Growth Constraints
	Closure of stabling and horse training

## 2.3. Beyond 2021 – Economic Outlook

Council's *City Plan 2020* identifies the Caulfield Station Centre as an Education And/ Or Innovation Centre.

The Plan envisages education/innovation centres functioning as:

- A major focus for professional employment growth opportunities that complement the specialised function of the centre.
- Supporting greater than 1:1 new jobs to new housing ratio.
- Supporting ancillary health and education services, or growth within the innovation and knowledge industry.
- Supporting retail uses that accommodate weekly needs of an approximate 800 metre to two kilometre residential catchment (including a minimum of (or demonstrated capacity to accommodate) approximately one supermarket or similar fresh food market; business services; specialty retailing; hospitality; and entertainment.
- Focus for major office and smaller suites for professional, knowledge and innovation sectors, as well as business incubators, co-working offices and home offices.

Looking beyond the next five years, concurrent local and regional economic drivers provide the basis to both strengthen and expand on the Centre's existing commercial role in line with the aspirations of the *City Plan*. These factors include:

- the beneficial accessibility and clustering impacts resulting from the delivery of the Metro Tunnel
- regional population growth and socio-economic change in Melbourne's south east
- the individual development plans of major land holders in the Centre.

These drivers establish the basis for the Centre's Coronavirus recovery which is discussed as follows.

### 2.3.1. Metro Tunnel and Metropolitan Accessibility

*“there has been a compelling link between the transport system and economic prosperity throughout history”*

The Eddington Transport Study (2006)

New and expanded accessibility is historically associated with new forms of economic activity and growing investment and employment growth.

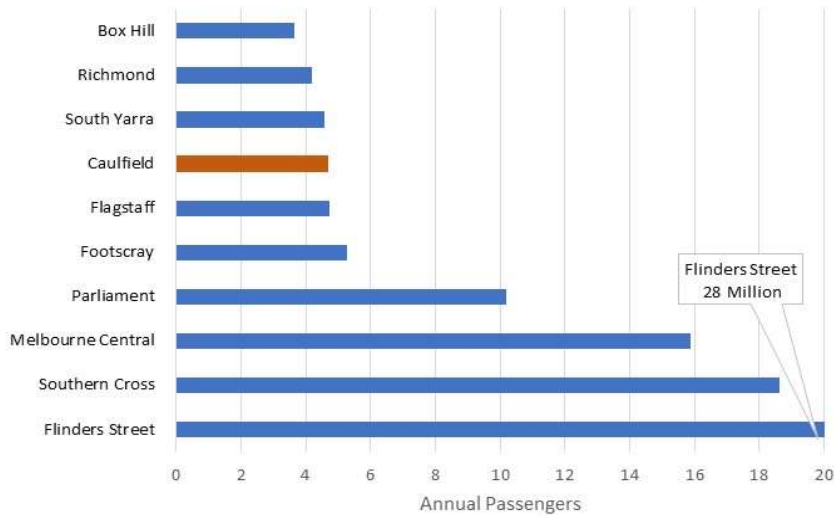
Figure 12: Caulfield Station and the Metro Tunnel Stations



The delivery of the Metro Tunnel in 2026 will elevate the status and role of the Caulfield rail station. The Metro Tunnel repositions Caulfield rail station as the primary rail interchange in Melbourne’s south surpassing South Yarra as the region’s main transfer node. Caulfield will function as the key public transport gateway for a range of new Metro Tunnel destinations including St Kilda Road, Parkville, City North, Arden and Melbourne Airport. Fundamentally, new public transport accessibility will link Caulfield’s higher education and recreational anchors to Melbourne’s emerging knowledge corridor in which the innovation and research institutes of Parkville, Melbourne University, RMIT and the future Arden centre are joined via the Metro Tunnel.

Caulfield Rail Station is already a significant transport node across the metropolitan and south eastern public transport system. In its current form, the station provides access to express services to and from the CBD for the Frankston, Cranbourne and Pakenham rail lines while also providing regional services to Traralgon and Bairnsdale. Over the 2017-18 financial year Caulfield rail station was the 7th busiest station in the state recording an annual patronage of 4.7 million passengers. According, to the RACV 2019 commuter survey the station scored 6.78 out of 10 for commuter satisfaction. Commuters identified the lack of car parking and the crowded nature of train services as the station's major deficiencies.

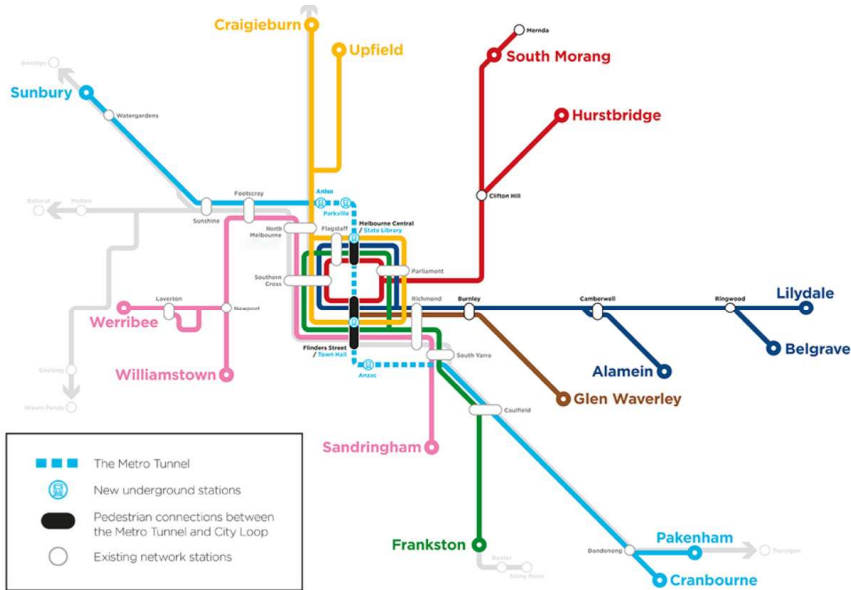
Figure 13: Annual Passenger Numbers 2017 to 2018 Financial Year<sup>11</sup>



Source: Philip Mallis

Upon the 2026 delivery of the Metro Tunnel, passengers travelling from Melbourne's south along the Frankston Rail Line will need to interchange at Caulfield Station in order to access the Tunnel's new stations and destinations including St Kilda Road, Parkville, Melbourne Airport and the new Arden centre. Equally, Caulfield Station will become the key interchange point for Cranbourne-Pakenham line commuters wishing to access existing stations throughout Melbourne's CBD as well as South Yarra and Richmond stations. Many passenger transfers that presently take place at South Yarra and Richmond Stations will now occur at Caulfield Station boosting the volume of passengers drawn to and moving through the station and broader Centre.

Figure 14: Melbourne Metro Tunnel



According to Metro Tunnel modelling the delivery of Melbourne Metro will result in Caulfield sharing similar daily passenger volumes to North Melbourne station and greater volumes than South Yarra

<sup>11</sup> Based on Myki touch ons and survey data

station. The re-distribution of interchanges elevates Caulfield above South Yarra as an interchange, in turn, strengthening its desirability as a service and employment node.

Figure 15: Projected Daily Passenger Volumes Metro Tunnel Delivery



Metro Tunnel Business case

Table 3: Project Benefits Caulfield Station Centre

Project	Description	Benefits
Metro Tunnel (2026)	High capacity trains link Sunbury to Cranbourne and Pakenham via a new central city rail line enabling over half a million additional passengers per week to use the rail system during peak periods.	<p>Improves Caulfield to CBD transport reliability, capacity and frequency.</p> <p>Reduces Caulfield to CBD travel times.</p> <p>Caulfield is the pivotal link linking residents in Melbourne’s south and south east to the Metro Tunnel and its numerous new destinations.</p> <p>Metro Tunnel links research institutes and university campuses in a ‘knowledge corridor.’ This includes major global research institutes in Parkville, Melbourne University, RMIT and Monash Caulfield.</p> <p>Expands workforce accessibility.</p>
Melbourne Airport Rail (2029)	<p>Airport trains will run through the Metro Tunnel. Airport rail connects the Melbourne airport to the CBD within a 30 minute journey via the Metro Tunnel.</p> <p>Connects airport rail infrastructure to the existing regional and metropolitan network.</p>	<p>Caulfield will function as an interchange hub for airport rail passengers connecting to Melbourne’s southern region.</p>

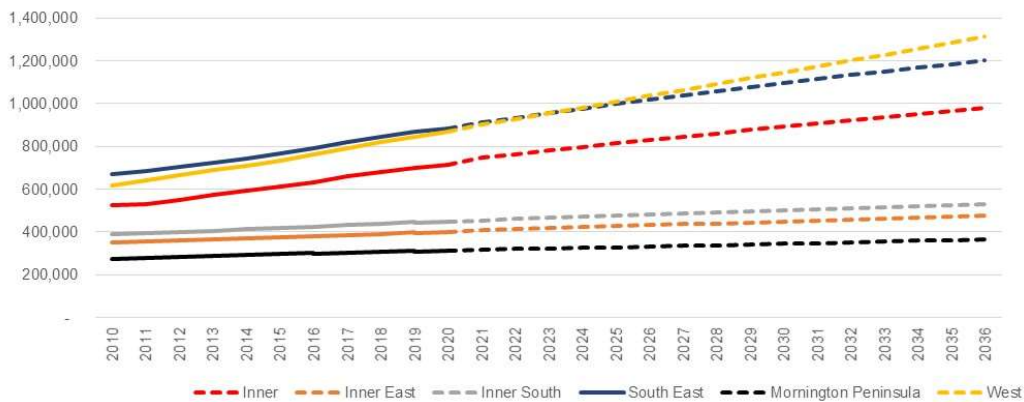
### 2.3.2. Population Growth and Socio - Economic Change

The centre is located within the central transport spine of a growing and increasingly skilled region.

Over the past decade, Melbourne’s southern region added over 304,000 new residents to form a population of 1.6 million at 2020. Prior to the Coronavirus the region was expected to support a population of 2.1 million people to 2036 with the City of Casey accommodating a high proportion of the region’s new residents and households. It’s now likely that the Coronavirus will delay but not curtail the region’s projected growth.

The chart below details pre- pandemic population projections for Melbourne’s inner, west, inner south and south east regions which are the populations most directly linked to Caulfield via the delivery of the Metro Tunnel. As can be seen, the Metro Tunnel will link each of Melbourne’s largest and fastest growing regions by population (the inner, west and south eastern regions).

Figure 16: 2020 Population and Pre-Coronavirus Projected Population



Source: VIF 2019 and ABS

When Caulfield Rail Station eventually becomes the region’s key interchange it will enjoy exceptional access to a growing and skilled labour force. Melbourne’s south eastern and inner regions are home to young, growing and increasingly skilled workforces.

SA4	Labour Force (1000’s)		2021 Participation rate (%)	No. Employed persons 2021 (1000’s)	Median Age
	2011	2021			
South East	346.4	483.9	68	452	34
Inner East	196.2	234	69.7	217.2	38
Inner South	216	248.8	67.2	240	39
Inner	351.6	482.9	74.9	453	33
Mornington Peninsula	149	158.7	62.8	150.8	42

Australian Bureau of Statistics, Labour Force 2021 (6291.0.55.001)

High numbers of professionals, managers and professional service workers live in the municipalities that immediately abut the centre while across the broader region the number of skilled and professional workers living within the region is steadily growing due to continued skilled migration.



Table 4: Occupations Over Time

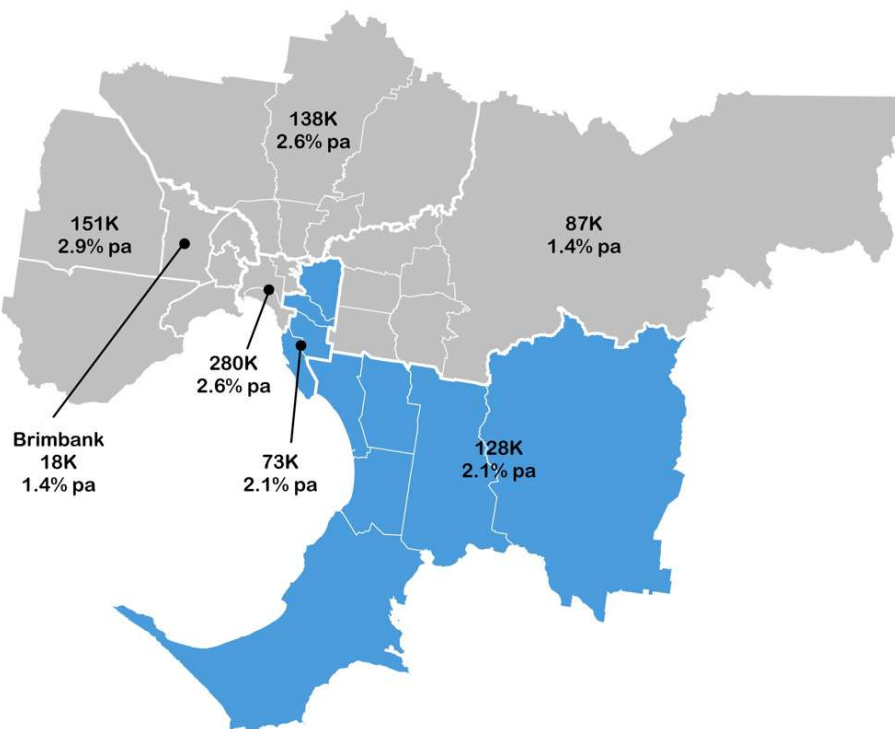
LGA	Proportion of Managers/Professionals			Proportion of Professional Service Workers		
	2011	2016	2020	2011	2016	2020
Inner South (SA4)	48%	51%	53%	13%	13%	14%
South East (SA4)	29%	30%	35%	6%	7%	8%
Stonnington (C)	59%	60%	60%	18%	18%	18%
Glen Eira (C)	49%	52%	52%	14%	14%	14%

REMPPLAN, ABS, Labour Market Information Portal

Population and labour force growth in combination with an increasingly skilled and educated workforce is set to drive significant regional employment growth. Prior to the Coronavirus, the region was expected to see an additional 200k jobs to 2031.

Pre-pandemic employment projections for Glen Eira identified an additional 14,000 jobs over the 2016 to 2031 period with education, health care and professional services leading local jobs creation. At 2016, there were 37,100 jobs in Glen Eira up from 29,000 jobs in 2006.

Figure 17: Pre- Coronavirus Employment Projections 2016 to 2031



Source: Melbourne Commercial and Industrial Strategy Department of Environment, Land, Water and Planning,

For the Caulfield Station Centre the combination of rising accessibility in the context of continued employment and skills growth represents a major opportunity to attract and anchor new commercial uses and enterprise within the centre. Appendix 4 provides a detailed analysis of how the centre might leverage from its existing anchors and accessibility uplift to support a deeper and more diverse economy.

## 2.4. Commercial Floor Space Assessment

For commercial office investors, workforce access, transport accessibility and established industry clustering are key influences in the allocation of investment funding.

The centre incorporates many of the critical elements needed to support commercial floor space growth including labour force accessibility, transport accessibility and access to skilled labour. At present, however, the centre lacks a critical cluster of private businesses and employers that demonstrate market confidence in the location as has occurred in other major suburban commercial office locations such as Hawthorn and Box Hill and more recently Ringwood.

At 2021, the Centre supported less than 1,700 sqms of dedicated commercial floor space. The centre is therefore not an established nor proven private sector office location and ranks as a minuscule commercial market compared with nearby locations such as Mulgrave, Clayton, South Yarra and Brighton.

The centre's growth drivers, however, suggest that there is significant potential for this to change as the centre's locational advantages and desirability grow. As discussed:

- Caulfield Rail Station will function as a regional gateway connecting the growing population and workforce of Melbourne's South East to new transport accessibility and destinations.
- new accessibility will link Caulfield's higher education and recreational anchors to Melbourne's emerging knowledge corridor in which the innovation and research institutes of Parkville, Melbourne University, RMIT and the future Arden centre will be joined together via the Metro Tunnel.
- the Centre's population is set to grow with the completion of Caulfield Village development and residential growth on MRC land driving new service and retail demand.
- new high quality retail, recreation and housing amenity will merge the Centre's transport accessibility to establish highly attractive conditions for commercial workers and enterprise.
- The Centre is well positioned to support new enterprise and start ups emanating from Monash University. With appropriate institutional support and floor space the Centre is positioned to support clusters of innovative as is currently occurring in direct proximity to Swinburne University in Hawthorn.

While the Centre lacks a commercial identity and established professional service based employment clusters, this has the potential to change. Melbourne's economic geography is not fixed and there are now many precedents in which commercial development has proceeded in locations without an established commercial market. In the recent past University Hill in Bundoora (in direct proximity to La Trobe University and the Western Ring Road) added 25,000 sqms of commercial space with a further 20,000 sqms set to be added in the near future. Similarly, Williams Landing in direct proximity to the Williams Landing Rail Station in Melbourne's west, will soon add 35,000 sqms of new commercial space. Up until very recently both places lacked commercial precedents to support these expansions.

The *Glen Eira Housing and Local Economy Growth Assessment (SGS 2018)* identifies future floor space demand for the Centre. According to this work, by 2036 the Centre will require 5,500 sqm of commercial floor space to meet forecast commercial demand. The work identifies 3,500 sqms of existing floor space at 2018 and thereby a requirement of an additional 2,000 sqms to meet demand to 2036.

It is important to note that in identifying future commercial space for the Centre the SGS report acknowledged that the Caulfield Station Centre structure plan was likely to unlock additional residential, retail and commercial floorspace capacity beyond that identified in the study.

**Table 5: Floor Space Demand to 2036**

Location	Additional Commercial Floor Space Required (SQMs)
East Village	48,050
Carnegie Major Activity Centre	46,500
Elsternwick Major Activity Centre	29,500
Bentleigh Major Activity Centre	19,600
Caulfield South Large Neighbourhood Centre	18,000
Bentleigh East outside of Activity Centre	16,000
Ormond Neighbourhood Centre	8,500
Bentleigh East Activity Centre	7,000
Caulfield Station Centre	2,000

Glen Eira Housing and Local Economy Growth Assessment

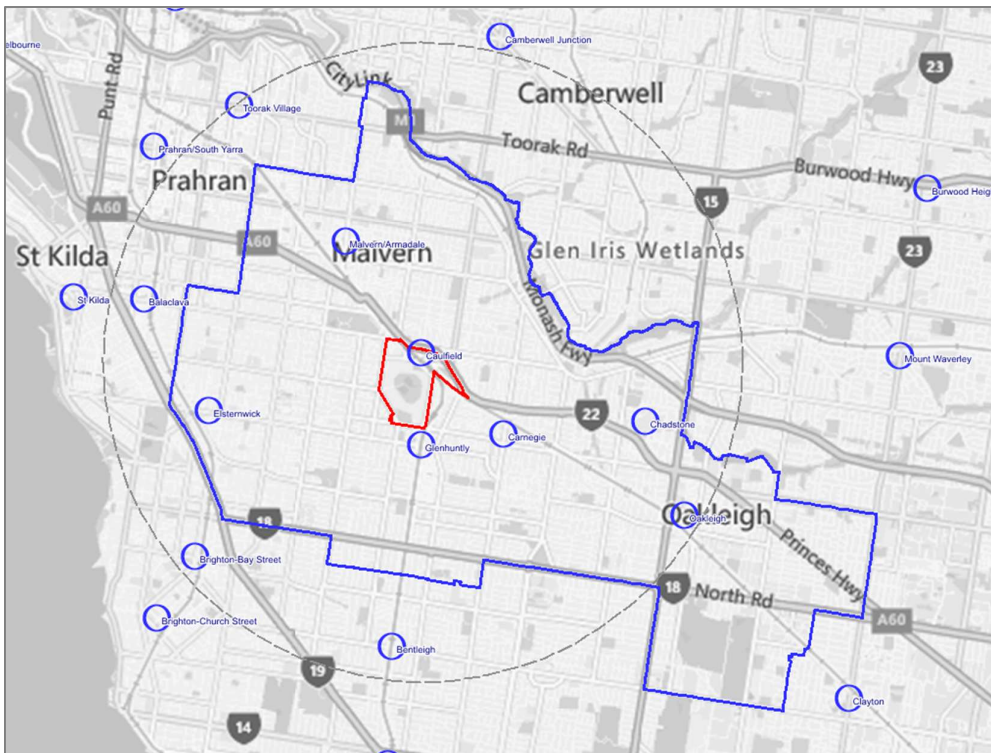
To update and further expand on previous analysis, this report undertakes a broad commercial floor space analysis to identify potential floor space demand accounting for the Centre's advantages which is detailed as follows.

## 2.5. Commercial Office Space Demand: Investigation Area

The following commercial office demand analysis focuses on an investigation area which is set out in the map below. The investigation area includes land bounded by the Monash Freeway and North Road taking in the suburbs of Elsterwick, Caulfield, Malvern, Carnegie, Chadstone, Oakleigh and portions of St Kilda, Prahran, and Glen Iris.

The investigation area encompasses residential neighbourhoods, local transport corridors and commercial precincts in which the Centre is positioned to compete for and attract existing and new enterprise. As will be seen, the commercial floor space methodology ultimately looks beyond the investigation area to explore the potential for the Centre to attract enterprise from broader area given the Centre's significant road and rail accessibility.

Figure 18: Caulfield – Commercial – Investigation Area



Source: Charter Keck Cramer

## 2.6. Supply Analysis

As previously identified there is approximately 1,700 sqms of commercial floor space within the Centre which is primarily located at 840 Princes Hwy.

Within the investigation there are numerous Centres that support commercial office uses including the:

- Oakleigh Activity Centre: employment services, medical services and government tenancies
- Chadstone Activity Centre: 30,000 sqm of commercial office floorspace including the Waterman premium flexible commercial office workspace of approximately 4,900 sqms.
- Malvern-Armadale Activity Centre: an array of ancillary commercial tenancies and medical uses.

## 2.7. Commercial Market Demand Analysis

Population, employment growth and the retention and attraction of employment within the investigation area are the key determinants of commercial floor space demand.

### 2.7.1. Population

The population of the investigation area is estimated to increase from approximately 191,100 (in 2021) to approximately 226,100 (in 2036), representing an increase of approximately 35,000 people over the 15 year period.

Figure 19: Caulfield Station Centre – Investigation Area – Projected Population Growth

	2011	2016	2021	2026	2031	2036	Net Change (2021 to 2036)	Avg Annual Growth (2021 to 2036)
Population	165,990	176,386	191,132	203,191	214,613	226,184	35,052	-
Average annual growth rate (% p.a.)	-	1.2%	1.6%	1.2%	1.1%	1.1%	-	1.1%

Source: VIF 2019, ABS; Charter Keck Cramer

### 2.7.2. Employment projections

Based on historic ratios between population and employment the resident workforce in the investigation area is estimated to increase from approximately 91,200 (in 2021) to approximately 106,255 (in 2036), representing an increase of approximately 15,030 worker residents.

This estimate is moderated by the expectation that worker to population rates will decline over time as a result of an ageing demographic.

### 2.7.3. Employment Self Sufficiency

Measuring employment self sufficiency provides insight into the employment weighting and regional role of a location in supporting economic activity and employment.

Employment self-sufficiency is defined as the proportion of the local workforce that could potentially find employment within the defined local area. For example, in an area containing 20,000 job opportunities and 40,000 employed residents the local employment self-sufficiency of the area would be one in two, or 50%.

$$\text{Employment Self Sufficiency Ratio} = \frac{\text{Local Job Stock}}{\text{Employed Local Workforce}}$$

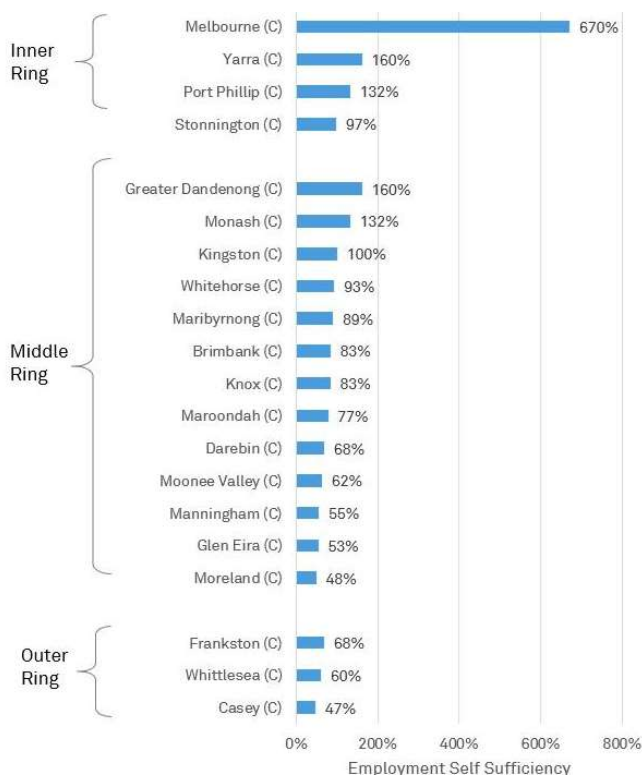
Accordingly, employment self-sufficiency indicates the level at which local resident workers could potentially meet the labour requirements of local industries and businesses and conversely the extent local enterprise and industry might meet local employment demand.

Self-sufficiency is influenced by:

- The nature of employment opportunities relative to the skills and qualifications of residents
- Available transport options and commuting times
- The overall geographic size of the defined area.

Employment self sufficiency for a selection of LGAs within Greater Melbourne (GCCSA) is detailed below. As seen in the chart, Greater Dandenong LGA has an employment self sufficiency of 160% (deriving from its 96,690 jobs and 60,300 residents). Stonnington LGA has an employment self sufficiency of 97% while Glen Eira’s self sufficiency is 53%.

**Figure 20: Employment Self Sufficiency – Selected Greater Melbourne LGAs (2016)**



Source: ABS; Charter Keck Cramer

Employment self sufficiency within the investigation area is 76.7% (see below). This means that for every 4 resident employed persons there are 3 jobs within the investigation area.

Self sufficiency differs by type of employment. For example, white collar workers have an employment self sufficiency of 59.5% reflecting the high numbers of white collar resident workers within the catchment. In contrast, blue collar and service employment have self sufficiencies above 100% indicating that the investigation area draws a significant amount of service and blue collar labour from beyond its immediate catchment.

**Figure 21: Caulfield Investigation Area – Employment Self Sufficiency – Worker Skill Type (2016)**

Worker Skill Type	Definition	Employment Self Sufficiency
White Collar	Managers Professionals Clerical and Administrative Workers	59.5%
Blue Collar	Technicians and Trades Workers Machinery Operators and Drivers, Labourers	108.5%
Services	Community and Personal Service Workers Sales Workers	113.9%
<i>Total</i>		<i>76.7%</i>

Source: ABS; Charter Keck Cramer

## 2.7.4. White Collar Employment Growth

In looking to the future Charter anticipates that the investigation area's employment self sufficiency will grow from 77% in 2016 to 90% by 2036. This is based on the assumption that major accessibility improvements in combination with the continued growth of the area's major anchors will propel local employment growth beyond local population growth, specifically:

- the investigation area incorporates growing economic anchors including the Chadstone shopping Centre, Cabrini Hospital, Monash University Caulfield and the Glenferrie Road, Carnegie and Oakleigh Activity Centres.
- the Metro Tunnel coupled with the elevation of Caulfield Rail Station will significantly enhance local connectivity and accessibility drawing new investment.
- the shifting location of white collar work in the Coronavirus era has seen professional work disperse from the CBD into residential suburbs. The investigation area incorporates a substantive white collar workforce that in post Coronavirus era may seek to sustain working locally both at home and within suburban office space.

White collar employment growth is the key (but not the only) driver for office space demand. At 2016, there were 33,140 white collar jobs in the investigation area in 2016. Based on projected population growth and anticipated self sufficiency expansion, Charter estimates that the number of white collar jobs in the investigation area will grow to 49,000 jobs by 2036.

Figure 22: Caulfield – White Collar Employment Growth

	2016	2021	2026	2031	2036	Net Change (2021 - 2036)
Population	176,386	191,132	203,191	214,613	226,184	35,052
Labour force	140,844	152,618	162,248	171,368	180,607	27,989
Worker to Population Ratio	47.98%	47.98%	47.98%	47.98%	47.98%	-
Resident Workforce	84,625	91,222	96,469	101,356	106,255	15,033
Employment Self Sufficiency	77%	80%	83%	87%	90%	10%
Total Local Jobs	64,898	73,059	80,541	88,067	95,936	22,878
<b>Total Local Jobs: White Collar Jobs</b>	<b>33,143</b>	<b>37,311</b>	<b>41,132</b>	<b>44,975</b>	<b>48,994</b>	<b>11,684</b>

Source: Charter Keck Cramer

### Drivers of office floor space

Within the Caulfield Centre it is anticipated that the convergence of key drivers will see the Centre capture a greater share of broader white collar employment growth.

As discussed, the Centre is subject to a number of major transformations that will enhance its desirability as a service and white collar employment destination as follows:

- The 2026 delivery of the Metro Tunnel will elevate the role and prominence of Caulfield Rail Station within regional and metropolitan transport systems particularly as Caulfield Rail Station overtakes South Yarra Station as the leading commuter hub in Melbourne's south east. Increased accessibility, transport capacity and reduced transport times will boost the Centre's attractiveness as a destination to deliver services and conduct enterprise. As such, the study assumes an additional 1% capture rate for the Centre based on the delivery of new transport infrastructure.
- The full delivery of the Caulfield Village development will transform the Centre as shopping, living, and dining destination, creating an attractive environment for prospective organisations (and their employees) seeking commercial office accommodation co-located with strong retail and commercial amenity.

- Significant expansion of the Monash University Caulfield campus, with new university campus buildings replacing the existing Caulfield Plaza shopping Centre will grow both university staff and student numbers, providing new opportunities for Monash University Caulfield Campus' Departments and private enterprises to seek synergies and co-location employment opportunities in the broader Centre. See appendix 4 for further analysis of potential spillover opportunities arising from university faculties.

Based on the above the study assumes the Centre's white collar employment 'capture rate' within the investigation area will steadily grow to 2.0% by 2036 (from .5% at 2016).

### 2.7.5. Commercial Office Requirement

The projected office space requirement within the Centre reflects a range of previous assumptions in relation to population and employment growth, and the capacity of the Centre to capture new employment growth.

As set out in previous sections, there are approximately 37,311 white collar jobs within the investigation area in 2021 which is projected to grow to 49,000 jobs by 2036. As discussed, the study assumes that based on its transformation and accessibility advantages, the Centre's capture of white collar employment growth will grow to 2% of total white collar employment within the investigation area.

Charter has converted the employment demand in the Caulfield Station Centre investigation area to a potential office floorspace demand requirement based on a provision of 20 square metres per employee. 20 square metres of floor space per employee is a current industry benchmark (as per the City of Melbourne Census of Land Use and Employment 2019). The Coronavirus and subsequent social distancing requirements may see floor space requirements expand.

Based on the above assumptions the study anticipates demand for approximately 19,600 sqms of commercial office floor space to 2036. This amount of commercial floor space creates the capacity for approximately 980 office based jobs within the Centre.

It should be noted that the estimate represents a conservative baseline demand projection given the advantages of the Centre, projected growth in local white collar employment, the Centre's transformed public transport accessibility, the potential for the Centre to support new enterprise emanating from Monash University and the potential for a major anchor tenant to demand substantially more floor space than has been estimated based on known trends.

**Figure 23: Caulfield – Commercial Office Floorspace Requirement Centre Transformation**

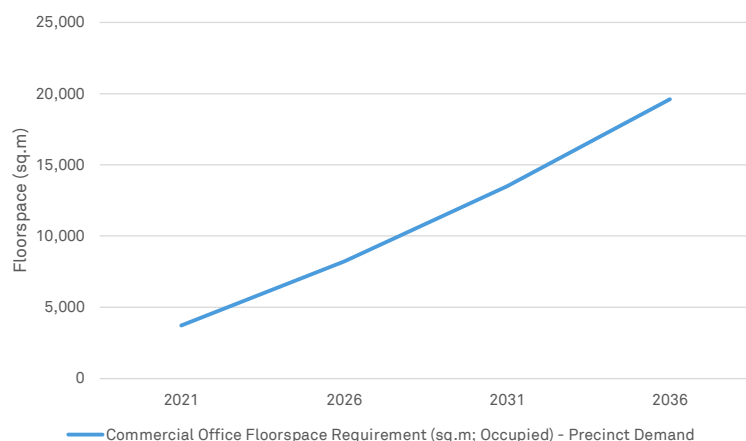
	2016	2021	2026	2031	2036
Total Local Jobs: White Collar Jobs	33,143	37,311	41,132	44,975	48,994
White Collar Jobs - in Commercial Offices (estimate)	-	0.5%	1.0%	1.5%	2.0%
White Collar Jobs - in Commercial Offices	-	187	411	675	980
Commercial Office Floorspace per worker (sq.m)	-	20	20	20	20
<b>Commercial Office Floorspace Requirement (sq.m)</b>	-	<b>3,731</b>	<b>7,256</b>	<b>13,493</b>	<b>19,598</b>

Source: Charter Keck Cramer



The chart below depicts escalating demand through to the end of the projection period. The chart traces growth in potential demand as the Centre benefits from increased transportation accessibility, co-location with an expanded Monash University Caulfield campus, and access to a wider employment pool of white collar workers throughout metropolitan Melbourne.

**Figure 24: Caulfield – Commercial Office Floorspace Requirement – Centre Transformation**



Source: Charter Keck Cramer

### 2.7.6. Commercial Office – Major Projects Pipeline

The Centre includes approved and mooted projects that include new high quality commercial office space. Specifically:

- The redevelopment of the Zagame’s complex at the corner of Derby Road and Princess Highway is mooted to include new commercial office space that replaces existing office space at 840 Princes Highway (which at 2021 is the Centre’s only dedicated commercial office space).
- The "Caulfield Village” development comprises a residential, retail and dining Centre. Nonetheless the development includes the provision of approximately 664 sqms of new office space which is currently under construction.

The investigation area incorporates approximately 40,500 sqms of approved and mooted new commercial office space which is detailed below.

**Figure 25: Commercial Office – Future Proposed Projects – Investigation Area**

Project Name	Address	Suburb	Total Office Floorspace (sq.m)
Malvern Collective	641-669 Dandenong Rd	Malvern	1,500
Como Street Warehouse & Office	5 Como St	Malvern	491
Dandenong Road Malvern East Mixed Use Development	851-853 Dandenong Road	Malvern East	426
Malvern Road Mixed Use Development	1935 Malvern Road	Malvern East	150
Koornang Road Mixed Use Development	217-221 Koornang Rd	Carnegie	450
Station Street Mixed Use Development	25 Station St	Malvern	150
Number 1 Como Malvern Apartments	1-3 Como St	Malvern	150
Malvern Road Mixed Use Development	1437-1441 Malvern Rd	Glen Iris	150
Warrigal Road Mixed Use Development	89 Warrigal Road	Hughesdale	150
Berrima Street Mixed Use Building	19-23 Berrima St	Oakleigh East	47
Egan Street Mixed Use Development	8 Egan Street	Carnegie	1,206
Chester Street Mixed Use Development	11 Chester Street	Oakleigh	117
Glenhuntly Road Mixed Use Development Site	922 Glen Huntly Rd	Caulfield South	300
Ormond Station Sky Tower (Ormond Place)	51 Katandra Rd and 483A North Rd	Ormond	500
Oakleigh on Drummond	102-108 Drummond St	Oakleigh	300
Glenferrie Road Mixed Use Development	146-148 Glenferrie Rd	Malvern	1,200
Waverley Road Commercial Building	275 Waverley Rd	Malvern East	1,050
Horne Street Mixed Use Development	7-12 Horne Street	Elsternwick	1,885

Project Name	Address	Suburb	Total Office Floorspace (sq.m)
Neerim Road Mixed Use Development	317 Neerim Rd	Carnegie	600
Gardenvale Road Mixed Use Development	103 Gardenvale Rd	Gardenvale	400
Hawthorn Road Mixed Use Development	51 Hawthorn Rd	Caulfield North	150
Chadstone Shopping Centre Redevelopment	1341 Dandenong Road	Malvern East	22,400
Booran Road Mixed Use Development	179 Booran Road	Caulfield South	150
Balaclava Road Mixed Use Development	219-229 Balaclava Road	Caulfield North	450
Kooyong Road Commercial Building	86 Kooyong Road	Caulfield North	750
High Street Commercial Building	919 High Street	Armadale	180
Wattleree Road Mixed Use Building	127-133 Wattleree Road	Malvern	600
Jewish Arts Quarter	7 Selwyn Street	Elsternwick	900
Johnson Street Oakleigh Commercial Building	12-14 Johnson Street	Oakleigh	2,990
Hawthorn Road Mixed Use Building	227 Hawthorn Road	Caulfield North	150
Waverley Road Commercial Building	268 Waverley Road	Malvern East	200
Glen Huntly Road Mixed Use Building	644-646 Glen Huntly Road	Caulfield South	150
Elsternwick Mixed Use Development	421 Glen Huntly Road	Elsternwick	200
<b>Total - Investigation Area</b>			<b>40,492</b>

Source: Charter Keck Cramer

### 2.7.7. Retail Reconfiguration

Charter's May 2021 retail audit identified approximately 11,700 sqms of gross retail floor space within the Centre as depicted below (see Appendix 1). The audit included pub/ hospitality venues outside of the core retail area and food establishments within Monash University Campus.

Figure 26: Retail Floor Space 2021



Of the 44 retail premises within the Centre 52% (23 shops) supported restaurants/ take away food enterprises. At the time of the audit, six retail premises were vacant and two were under construction. The audit identified a further 3 vacant premises within Caulfield Plaza including the vacant former Commonwealth Bank premises.

Retail premises along Derby Road now also support non-retail uses including education, childcare and professional services. There are no merchandise retail traders within the Centre (apparel, footwear, electronics etc) which is consistent with the decline of merchandise retail trade along shopping strips across the metropolis.

According to mobile phone analysis the Centre's retail offer attracts high numbers of residents from locations north and north east of the Centre, primarily from within the City of Stonnington.

Figure 27: Origin of Mobile Phone Devices Identified at Caulfield Plaza May 2020 to May 2021



Source: Uber Media

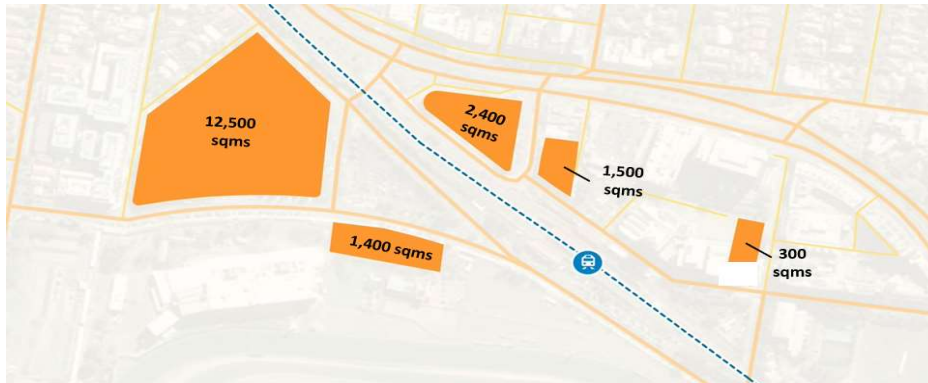
## Reconfigured Retail

The completion of the Caulfield Village development over the next five years will see the Centre support two neighbourhood retail centres. The existing centre to the north of Caulfield Rail Station and a new centre to its south within Caulfield Village.

Eventually the expansion of Monash University Caulfield will see the closure of Caulfield Plaza and the corresponding development of a new mainline supermarket within Caulfield Village along with a series of new retail spaces. The new Caulfield Village boulevard will shift the Centre's retail focus to the south of the rail line. The boulevard will offer superior retail and pedestrian amenity than is currently provided along Derby Road which will help the Centre attract a broader range and number of weekly shoppers and dinners from its local catchment. In particular residents in the nearby suburbs of Caulfield North and East will enjoy increased accessibility to the Centre's much improved retail offer.

The delivery of new high quality retail space within Caulfield Village will also see the integration of the Centre's retail space with its primary population clusters along Normanby Road, Station Street and, in the future, Kambrook Road. At the moment, the Centre's local residents within the Caulfield Village development must cross the rail line to access the Centre's shopping services.

**Figure 28: Future Retail Floor Space**



*The Glen Eira Housing and Local Economy Growth Assessment* forecasts the need for an additional 3,600 sqms of retail floor space within the Centre to 2036. The eventual reconfiguration of retail floor space within the Centre will result in approximately 18,000 sqms of retail space representing an expansion of 6,400 sqms of retail floor space.

### 2.7.8. Economic Outlook Key Insights

Looking beyond the Coronavirus era, the Centre's economy is well positioned to resume its previous growth specifically:

- The delivery of Metro Tunnel in 2026 will elevate the prominence and status of Caulfield as a major transport hub in the south east and in turn the Centre's desirability as a service and enterprise hub.
- The completion of Caulfield Village Boulevard will boost the appeal of the Centre as a retail and dining destination. In the medium term, the renewal of the Caulfield Racecourse as a multimodal entertainment venue will, likewise, expand the appeal and status of the Centre as a major entertainment, conference and leisure destination.
- The full return of the student economy in 2028 will occur in the context of increased retail and community amenity and improved transport infrastructure. It is likely that a return of enrolments to their previous scale will require a five year period of ongoing enrolment growth – enrolment impacts over the 2020 and 2021 periods will flow through into subsequent years of Centre demand and activity.

The potential full recovery of the student economy in 2028, in combination with substantive private investment at Derby Road (Zagames), the completion of Caulfield Village and the renewal of Caulfield Racecourse will establish the basis for a reinvigorated and renewed Centre economy by the end of the decade.

Figure 29: 2021 Centre Economic Outlook to 2036

Growth Drivers	Growth Constraints
<ul style="list-style-type: none"> <li>New CBD destinations and airport accessibility</li> <li>Primary rail interchange in Melbourne's south east</li> <li>Expansion of Monash Caulfield</li> <li>Retail renewal and expansion via the completion of the Caulfield Village boulevard</li> <li>Transformation of Caulfield Racecourse into a multimodal entertainment venue</li> <li>Overseas student recovery</li> <li>Centre population growth</li> </ul>	<ul style="list-style-type: none"> <li>Potential long term decline of overseas student demand</li> <li>Limited land to support new commercial expansion</li> </ul>

## 3. Housing and Population Analysis

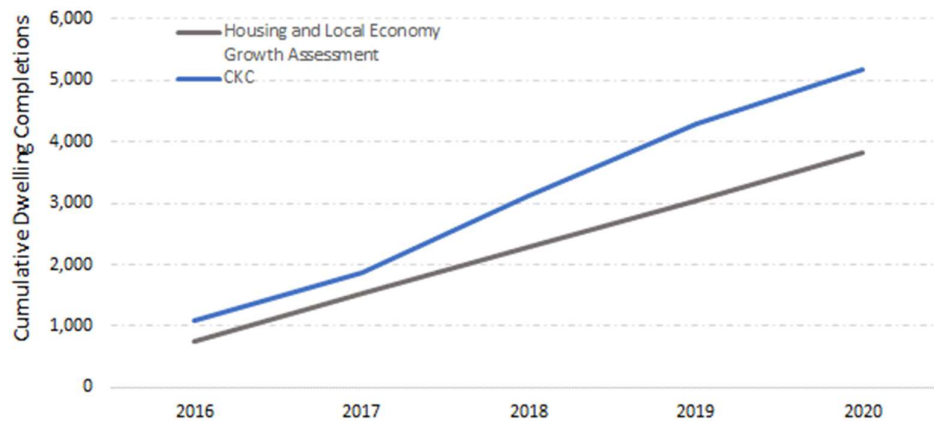
### 3.1. 2016 to 2020 Housing Growth Glen Eira

The past five years has seen a significant expansion of Glen Eira's housing supply. Over the 2016 to 2020 period approximately 5,160 new dwellings were delivered within the municipality establishing Glen Eira as a leading housing supply location within Melbourne's established area.

*The Glen Eira Housing and Local Economy Growth Assessment* identified the need/demand for approximately 16,000 new dwellings over the 20 year period between 2016 and 2036. Due to the scale of recent housing growth, in 2020 just under a third of required supply had already been delivered.

To meet its 2036 demand target, Glen Eira needed to add approximately 3,800 new dwellings by 2020. As identified in Appendix 1, a high proportion of this supply occurred in strategic locations supported for significant housing change in local planning policy.

Figure 30: 2016 to 2020 Housing Supply Versus Housing Requirement



Glen Eira Housing and Local Economy Growth Assessment, Charter Keck Cramer, Victorian Building Approvals

The volume of approved and marketed dwellings within the City of Glen Eira suggests that, in the short term, current levels of housing supply are likely to be sustained. As of May 2020, there were approximately 800 dwellings under construction in the City of Glen Eira with a further 300 new dwellings marketed for sale. By the end of 2021 the municipality will be on track to have delivered near on 40% of its 2036 dwelling ambitions.

#### 3.1.1. Centre Housing Supply

The Centre has been and will continue to be a major source of new housing for the municipality. Over the 2016 to 2020 period, 932 new dwellings were constructed within the Centre primarily as a result of the delivery of the initial stages of the Caulfield Village.

Over this time the Centre delivered 18% of all new supply within the municipality. As can be seen in the table below, the north east portion of the municipality is the fastest growing area of the municipality adding approximately 40% of all new housing within the City of Glen Eira over the past 5 years.

For the 2016 to 2020 period, the Centre was the second greatest source of new housing in the municipality behind the Carnegie Activity Centre, which, following the introduction of Sky Rail walking and cycling infrastructure, is now highly integrated to the residential, education and commercial life of the Centre. The Carnegie Activity Centre is now only a 5 minute off road bicycle trip and 15 minute walking trip to and from the Centre due to the delivery of the Sky Rail infrastructure.

Table 6: 2016 to 2020 Dwelling Supply Glen Eira by Strategic Location

Centre	Completed (2016 -2020)	Under Construction
Carnegie Major Activity Centre with Urban Renewal	1017	35
Caulfield Station Centre	932	437
Bentleigh Major Activity Centre	650	52
Elsternwick Major Activity Centre with Urban Renewal	423	50
Bentleigh East Large Neighbourhood Activity Centre	355	12
McKinnon Neighbourhood Centre	249	80
Glen Huntly Emerging Major Activity Centre	228	103
Murrumbeena Neighbourhood Centre	183	32
Ormond Neighbourhood Centre	155	0
Caulfield Park Neighbourhood Centre	149	0
Moorabbin Junction Emerging MAC with Urban Renewal	113	0
Caulfield South Large Neighbourhood Centre	86	13
Hughesdale Neighbourhood Centre	77	15
Ripponlea Neighbourhood Centre	77	0
Alma Village Neighbourhood Centre	74	0
Outside Activity Centres	389	-

The Centre has the potential to deliver between 3,600 and 4,440 new dwellings depending on the final design and build out of the Centre’s major redevelopment sites. This represents between 20% and 25% of the municipality’s housing requirement to 2036 based on the Glen Eira LGA’s 2018 forecast requirements. The future scale of housing supply within the Centre will be determined by the renewal of Zagames, the Kambrook Road/Booran Road precinct and the renewal of sites along Grange Road. Other renewal sites might also be identified over time. 437 apartments are currently under construction.

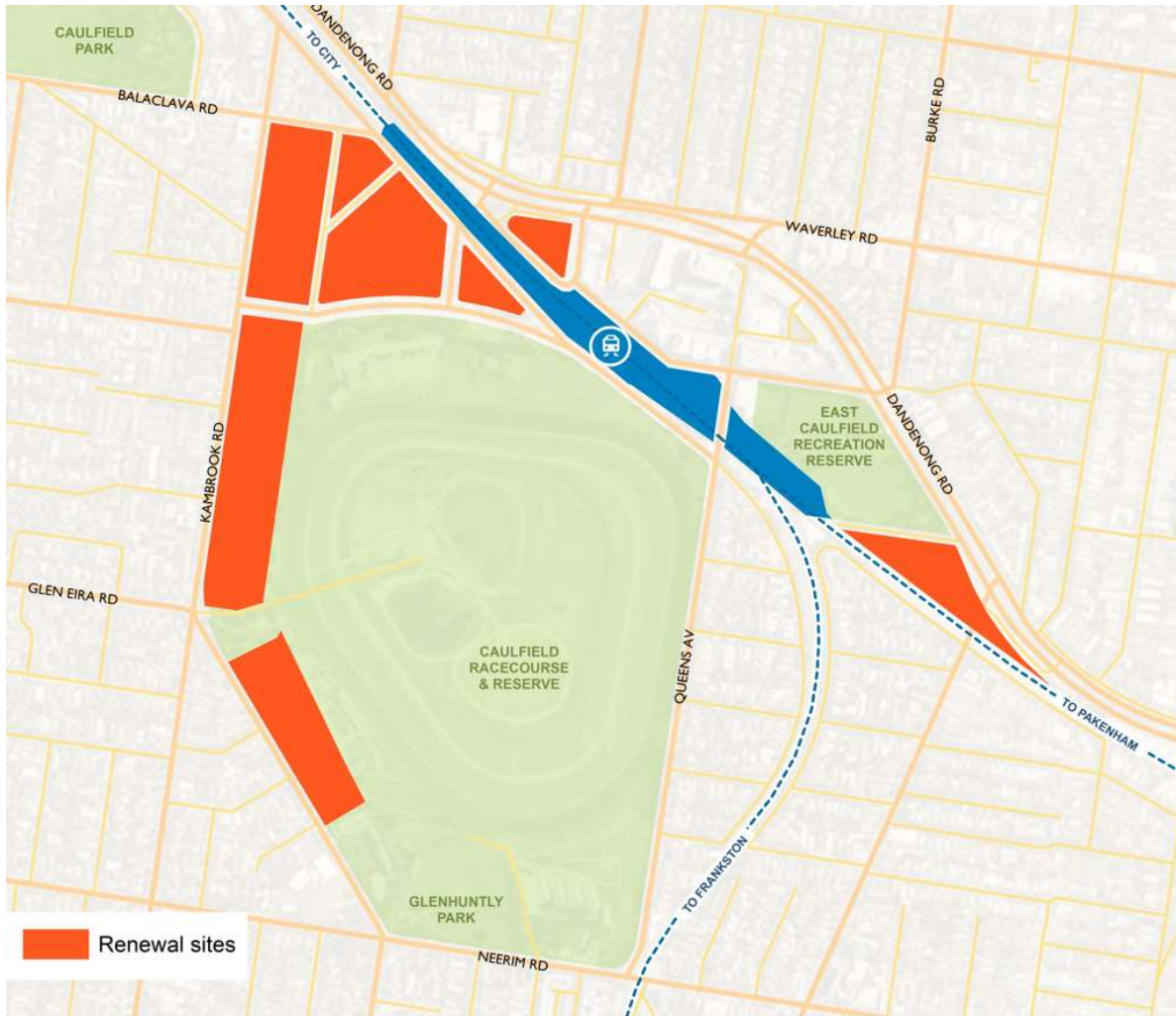
The corridor abutting Princess Highway north of the Centre has also emerged as a major high density housing location. In 2021 this area included approximately 930 dwellings (primarily apartments) following the addition of 450 new apartments over the 2016 to 2020 period.

To date, the Centre’s housing supply has been almost exclusively comprised of one and two bedroom apartments. The future stages of Caulfield Village and mooted development in Derby Road are likely to continue to deliver high density apartments. Ultimately, the Centre will function as a high density housing diversity area within the context of substantial limited change residential areas primarily comprised of single detached and townhouse dwellings subject to the Neighbourhood Residential Zone.<sup>12</sup>

<sup>12</sup> To date Caulfield Village has delivered an estimated 15 three bedroom apartments. The build to rent stage of Caulfield Village will deliver a further 10 three bedroom apartments.

In the short term, the Centre is set to deliver as much as a third of the municipality's new housing supply (see Appendix 2).

Figure 31: Centre Renewal Sites\*



\*The above reflects known renewal sites. New sites might emerge in the future expanding the Centre's dwelling supply and population.

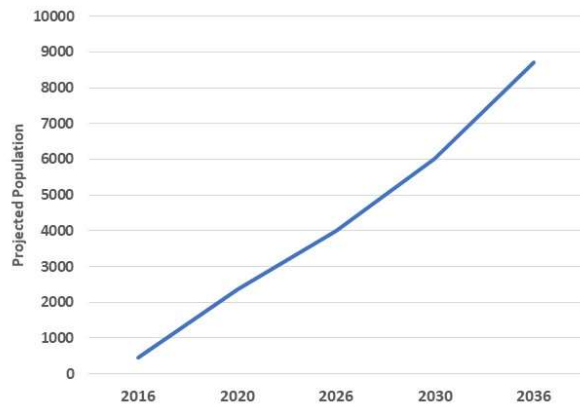


## 3.2. Centre Demography

Recent dwelling growth has resulted in rapid population growth. At 2016, the Centre comprised fewer than two hundred households and a resident population of approximately 450 people. At 2020, the completion of the initial stages of the Caulfield Village development has seen the Centre's population grow to an estimated 2,350 people.

Into the future, based on the Centre delivering a dwelling stock of near on 4,400 dwellings the Centre will support a population of approximately 8,700 residents. Under this scenario by 2036, the Centre will support approximately 4.5% of the municipality's 2036 population based on state government 2019 population projections.

Figure 32: Centre Projected Population Growth



Source: Charter Keck Cramer

Charter's modelling and project consultation suggests that the Centre's population is currently largely comprised of high numbers of young lone person and couple with no children households. Consultation, likewise, indicated that there are limited families in the Centre with the largest cohort of households in pre-family formation age groups (ages 20 to 35).

At 2020 Charter's modelling identifies approximately 1070 households within the Centre. Charter's household modelling is based on the Centre's current housing stock and the composition of households in equivalent locations anchored by high numbers of students.<sup>13</sup>

Figure 33: Modelled Households Caulfield Station Centre 2020

Households	Proportion	Number
Couple no children	20%	220
Couple with children	6%	61
One parent family	5%	52
Other family	1%	15
Lone Person	48%	512
Group Household	9%	95
Visitor Only	4%	46
Other non-classifiable household	7%	76
<b>Total Households</b>		<b>1076</b>

Charter Keck Cramer

<sup>13</sup> Modelling results were shared with centre property managers for validation.

By 2036 the number of households within the Centre is expected to grow to over 4,200 households. According to Charter’s household modelling this population, like the 2020 population, will be predominantly comprised of smaller households.

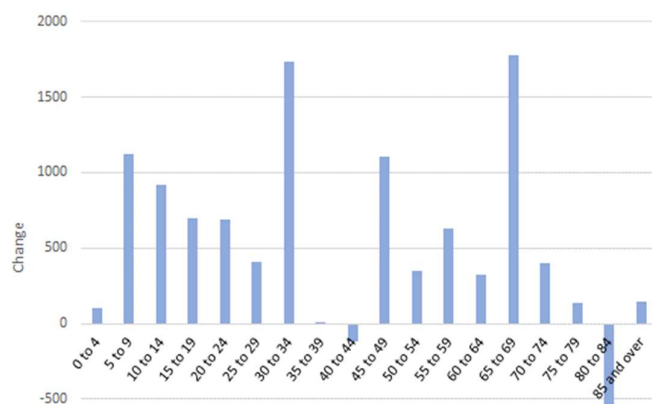
**Figure 34: Modelled Households Caulfield Station Centre 2036**

Households	Proportion	Number
Couple no children	20%	864
Couple with children	6%	239
One parent family	5%	204
Other family	1%	58
Lone Person	48%	2,014
Group Household	9%	374
Visitor Only	4%	181
Other non-classifiable household	7%	298
<b>Total Households</b>		<b>4,233</b>

The above household modelling reflects the type of housing likely to be delivered within the Centre to 2036. The modelling assumes that high density one and two bedroom apartments will comprise the vast majority of new dwellings to 2036. If the Centre is to ultimately support larger households the dwelling supply mix will need to incorporate greater numbers of 3 bedroom dwellings. At present the Centre incorporates limited family friendly/ three bedroom dwellings. Likewise, dwellings currently under construction incorporate very limited numbers of three bedroom dwellings.<sup>14</sup>

As can be seen in the chart below, between 2011 to 2016 Glen Eira experienced out migration of residents in prime household formation ages. 2016 Census analysis identifies high numbers of former residents aged between 25 and 40 migrating to Kingston (1,200 residents), Monash (1,010 residents) and Bayside (878 residents). To retain higher numbers of this age cohort Glen Eira will need to deliver more affordable family friendly dwellings. Research suggests that the need for a third bedroom is an important cause of outward migration for young families.

**Figure 35: Change in age cohorts Glen Eira 2011 to 2016**



<sup>14</sup> Charter identified 15 three bedroom dwellings in the initial stages of the Caulfield Village development. The build to rent development that is currently under construction is comprised of 94 studio apartment, 191 one bedroom apartments, 142 two bedroom apartments, and 10 three bedroom apartments. Research suggests that the need for a third bedroom is an important cause of mobility for young families.



## 4. Centre Affordability Assessment

The following explores the relative affordability of the Centre’s housing market. In examining housing affordability Charter explores 2020 rental and purchasing prices against State government income bands for low and moderate income households with the aim of revealing the level of income generally required to either rent or purchase housing within the Centre. Additionally, the work compares prices within the Centre with prices across the City of Glen Eira with the aim of understanding the role of the Centre’s housing market within the context of the municipality’s broader housing market. The analysis does not examine the role or need for social housing within the Centre.

### 4.1. Affordability Definition

The following assesses housing affordability within the Caulfield Station Centre and broader Glen Eira LGA in relation to state government defined household income brackets that define “low”, “very low” and “moderate” income households. Within the state government framework, households within defined income bands are likely to experience housing stress if more than 30% of their pre-tax gross income is allocated to either purchasing or renting housing. Affordable housing income bands are indexed to the Consumer Price Index (CPI).

State government defines Low, Very Low and Moderate incomes for single, adult, couple only and family households as follows:

**Table 7: Income Bands by Household Type (2020-2021)**

Household	Very Low Income	Low Income	Moderate Income
Single Adult	Up to \$26,090	\$26,091 - \$41,750	\$41,751 - \$62,610
Couple, no dependants	Up to \$39,130	\$39,131 - \$62,260	\$62,621 - \$93,920
Family (one or two parents with dependent children)	Up to \$54,780	\$54,781 - \$87,970	\$87,671 - \$131,500

Source: Department of Environment Land Water and Planning

### 4.2. Dwelling Affordability

The following analysis benchmarks house and unit prices recorded within the Caulfield Station Present and broader Glen Eira LGA against the “very low”, “low” and “moderate” income thresholds. The analysis seeks to highlight the extent to which house and unit prices within the Centre are affordable for households within their respective income cohort.

The affordability assessments detailed in this work use the income ranges for each household to test rental and purchaser affordability. To support the assessments, Charter has identified a mid-point in each income band range as detailed in the table below.<sup>15</sup>

**Table 8: Derived income by Household and Income Band (Rounded)**

	Single Household	Couple Family Without Dependents	Family (1 or 2 Parents) With Dependents
Very Low Income	\$26,000	\$34,000	\$52,000
Low Income	\$39,000	\$51,000	\$78,000
Moderate Income	\$55,000	\$71,000	\$110,000

Source: DELWP, Charter Keck Cramer.

<sup>15</sup> Based on this methodology the study may underestimate affordability options for moderate income households earning more than \$110,000 p.a. The study however highlights outcomes in which the household may be on the cusp of affordability.

## 1.1 Rental Affordability.

Rental options are considered affordable when no more than 30% of gross income within each of the income brackets is required to pay weekly rent. Based on state government income bands affordable rental thresholds are detailed in the table below.

**Table 9: Derived Affordable Rent Ceiling by Income Band and Household**

	Single Household	Couple Family Without Dependents	Family (1 or 2 Parents) With Dependents
Very Low Income	\$151	\$226	\$301
Low Income	\$196	\$294	\$452
Moderate Income	\$301	\$412	\$632

Source: DELWP, Charter Keck Cramer

Charter has applied the above rental thresholds to 2020 rents within the Centre to highlight the net difference between median weekly rents for individual property types and derived rental affordability in relation to household incomes.

As can be seen below, the Centre is not affordable for all low income households (apart from family with children households). The Centre provides affordable rental options for family with children households and couple without children households on moderate incomes. Very similar results are evident when rental prices are tested against affordability income brackets across the City of Glen Eira.

**Table 10: Derived Rental Affordability by Income Band and Household Caulfield Station Centre – Nominal Price Difference**

Dwelling Type	Median Rent Caulfield Station Centre (2020)	Single Person Household			Couple Family without Dependents			Family (1 or 2 Parents) with Dependents		
		Very low	Low	Moderate	Very low	Low	Moderate	Very low	Low	Moderate
Apartment 2 bedroom	\$400	-\$249	-\$204	-\$99	-\$174	-\$106	\$12	-\$99	\$52	\$232
Apartment 3 bedroom	\$525	-\$374	-\$329	-\$224	-\$299	-\$231	-\$113	-\$224	-\$73	\$107
Townhouse 3 bedroom	\$698*	-\$547	-\$502	-\$397	-\$472	-\$404	-\$286	-\$397	-\$246	-\$66
House	-									

Source: DELWP, Pricefinder, Charter Keck Cramer.

\*Calculated on only 4 rent data points including 2019 data.

The above table focuses on median rents, which is the middle price across a particular property type. As a result, there are properties within the Centre that are rented or sold below the median house price which are, therefore, more affordable dwellings. To allow some consideration for this, Charter has highlighted outcomes that are at or near 10% below the median price. This highlights the price points in which households may be on the cusp of affordability. For instance, in the above a three bedroom townhouse is shaded in orange for families with children as the price is on the cusp of affordability.

While the application of income ranges reveals limited affordability particularly for low income groups, when the Centre's rental prices are considered against rents across Glen Eira independent of affordability income brackets, the Centre can be seen to provide high levels of relative affordability particularly for 2 and 3 bedroom apartments.<sup>16</sup>

**Table 11: Median Rents (2020)**

Dwelling Type	Caulfield Station Centre	Glen Eira
Apartment 2 bedroom	\$400	\$450
Apartment 3 bedroom	\$525	\$628
Townhouse 3 bedroom	\$698*	\$596
House	N/a	\$612

Source: DELWP, Pricefinder, Charter Keck Cramer.  
\*Calculated on only 4 rental data points including 2019 data

Overall, while the Centre is a relatively more affordable rental market than the whole of Glen Eira, the Centre, like Glen Eira, provides very few options for low income households while providing options for most moderate income households.

## 1.2 Purchaser Affordability

This analysis highlights a household's relative affordability in relation to their capacity to purchase property. In determining this, affordability is measured in relation to serviceability of mortgage payments not exceeding 30% of gross household income. The analysis determines price thresholds through the Reserve Bank of Australia (RBA) pricing model that considers the principal loan amount that can be serviced based on a collection of loan characteristics (interest rate, loan term) with additional consideration for equity.

Considering the risk aversion and additional prudence in lending practices from banks, the assessment assumes an equity requirement of 20%. Charter notes that an assessment of the median considers the middle price expressed across a particular property type. As a result, half of the purchase prices that make up the median are below the median price point.

Under State government income cohorts, the following purchase price ceilings have been calculated for different household types assuming 20% equity. The purchase ceilings assume an amortising loan, a loan period of 30 years, an interest rate of 3.5%, and 30% of gross income serviceability.

**Table 12: Derived Affordable Dwelling Price Ceiling (20% equity assumption) by Income and Household Cohort (Rounded)**

	Single Household	Couple Family Without Dependents	Family (1 or 2 Parents) With Dependents
Very Low Income	\$182,000	\$272,000	\$381,000
Low Income	\$236,000	\$354,000	\$497,000
Moderate Income	\$381,000	\$545,000	\$763,000

Source: DELWP, Charter Keck Cramer.

<sup>16</sup> Consultation with local agents suggests rental prices within the Centre declined over the 2020/2021 period.

The table below, applies affordability pricing thresholds to 2020 median sale prices within the Centre. The Centre provides purchasing options for moderate income family households with children and moderate income couple with no children households. Prices are, however, well beyond the reach of all low income households and moderate income single person households. Similar results are evident when prices are tested against affordability income brackets across the City of Glen Eira.

**Table 13: Derived Purchaser Affordability [20% Equity Assumption] by Income Band and Household Caulfield Station Centre– Nominal Price Difference [Rounded]**

Dwelling Type	Caulfield Station Centre Median Purchase Price 2020	Lone Person Household			Couple Family without Dependents			Family (1 or 2 Parents) with Dependents		
		Very low	Low	Moderate	Very low	Low	Moderate	Very low	Low	Moderate
Apartment 2 bedroom	\$558,000	-\$376,000	-\$322,000	-\$195,000	-\$286,000	-\$204,000	-\$13,000	-\$177,000	-\$61,000	\$205,000
Apartment 3 bedroom	\$757,500	-\$576,000	-\$521,000	-\$394,000	-\$485,000	-\$403,000	-\$213,000	-\$376,000	-\$261,000	\$5,000
Townhouse 3 Bedroom										
House										

Source: DELWP, Pricefinder, Charter Keck Cramer.

When prices are compared independent of affordable income brackets, the Centre can be seen to provide relatively affordable housing options within the context of Glen Eira's generally more expensive housing market.

**Table 14: Median Dwelling Prices 2020**

Dwelling Type	Caulfield Station Centre	Glen Eira
Apartment 2 bedroom	\$558,000	\$605,000
Apartment 3 bedroom	\$757,500	\$945,000
Townhouse 3 bedroom	-	\$1,050,000

## 5. Appendix

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### 5.1. Appendices 1: Land Audit

Count of Premises May 2021

	Derby West	Derby East	Station Street	Caulfield Plaza	Monash	Racecourse
Take Away and Restaurants	5	5	5	4	4	
Newsagent		1	1			
Speciality real				4		
Chemist				1		
Pub/hospitality	1					1
Personal services				1		
Supermarket				1		
Non-retail		3				
Vacant	1	2		3		
Under construction	2					



## 5.2. Appendix 2 Development Within Activity Centres

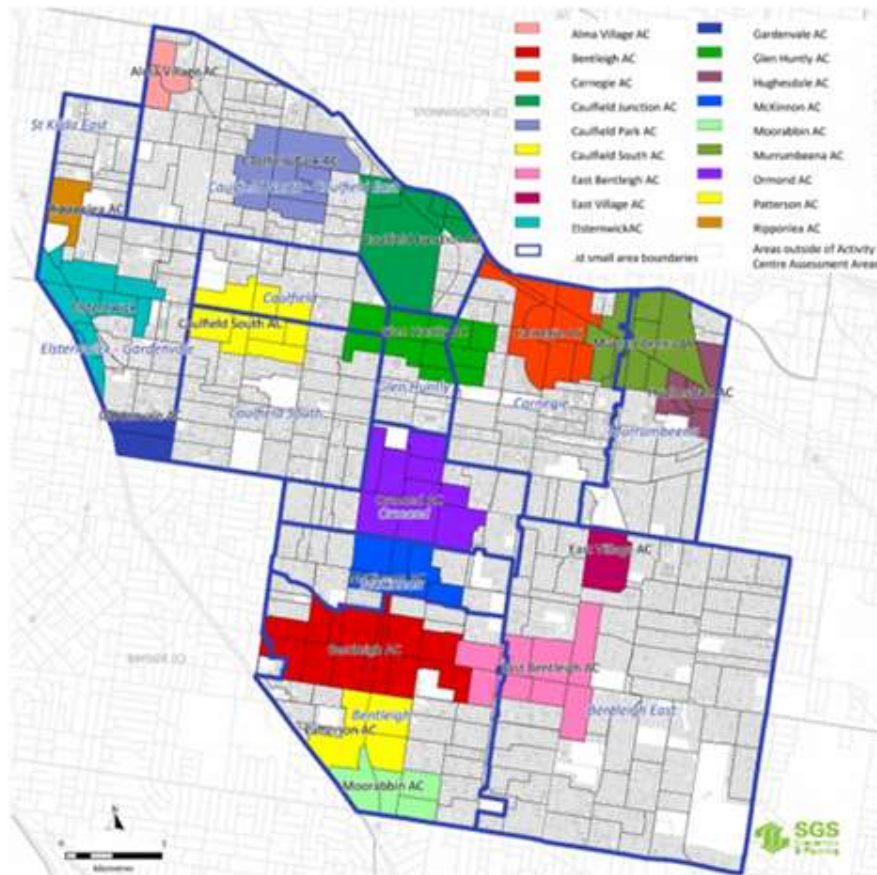
Charter analysis suggests a high proportion of 2016 to 2020 occurred in and around Activity Centres.

Figure 36: Location of New Housing 2016 to 2020

Location	Number	Proportion
Activity Centres (in and around)	4,780	92%
Other locations	389	8%

Source – Charter Keck Cramer, Victorian Building Approvals

The analysis is based on the definition of Activity Centres as identified in the map below.



### 5.3. Appendices 3: Future Dwelling Pipeline

Figure 37: Future Dwelling Supply and Demand\*

Activity Centre	Demand for Dwellings 2016-2036**	Completions 2016-2020	Under Construction	Marketed/ Approved	Application / Mooted
Alma Village Neighbourhood Centre	197	74	0	24	0
Bentleigh East Large Neighbourhood Activity Centre	670	355	12	36	36
Bentleigh Major Activity Centre	945	650	52	232	30
Carnegie Major Activity Centre with Urban Renewal	1768	1017	35	386	231
Caulfield Park Neighbourhood Centre	605	149	0	61	12
Caulfield South Large Neighbourhood Centre	1297	86	13	285	75
Caulfield Station Centre Health, Education, and Innovation Centre with Urban Renewal	1427	932	437	0	3025 - 2,225
East Village Emerging Health, Education and Innovation Centre	786	0	0	0	1250
Elsternwick Major Activity Centre with Urban Renewal	1131	423	50	86	176
Gardenvale Neighbourhood Centre	36	12	0	12	12
Glen Huntly Emerging Major Activity Centre	416	228	103	124	24
Hughesdale Neighbourhood Centre	343	77	15	21	0
Mckinnon Neighbourhood Centre	588	249	80	30	25
Moorabbin Junction Emerging MAC with Urban Renewal	183	113	0	0	0
Murrmbeena Neighbourhood Centre	910	183	32	17	102
Ormond Neighbourhood Centre	545	155	0	467	252
Patterson Neighbourhood Centre	58	0	0	0	0
Ripponlea Neighbourhood Centre	55	77	0	12	0
<i>Outside Activity Centres</i>	4057	389	<i>Na</i>	<i>Na</i>	<i>Na</i>

Victorian Building Approvals, Charter Keck Cramer

\* Based on information at May 2021

\*\* Taken from The Glen Eira Housing And Local Economy Growth Assessment

## 5.4. Appendices 4: Caulfield Centre and the Education and Innovation Economy

The Centre is positioned to support private enterprise activity emerging from Monash University Caulfield. This however will require the provision of floor space and institutional support primarily from Monash University. The attributes of the innovation economy and the potential role of the Centre in this are discussed as follows.

### **The Innovation Economy.**

The economic map of the world is dominated by locations that have achieved a critical mass of competitive success in particular fields such as Silicon Valley, Hollywood, Singapore and Seoul. Economic clusters comprise dense economic ecosystems able to successfully diffuse knowledge, investment and entrepreneurial capability to deliver increased economic value and growth.

Over the past decade, State governments across Australia have sought to recognise and facilitate economic and innovation clusters as a means of fostering integration between industry, research and technical specialisations to achieve economic growth. In Victoria, for instance, Plan Melbourne 2017 – 2050 formally recognised seven innovation and employment centres including the Monash, Parkville and La Trobe innovation centres. Similarly, in 2018 the New South Wales government identified the corridor between Macquarie Park and Sydney Airport (the Eastern Economic Corridor) and the Sydney CBD harbor area (Harbor CBD) as nationally significant innovation areas, and, most recently, the Federal Department of Industry, Innovation and Science underlined the importance of facilitating place based collaboration as a means of stimulating innovation and commercialisation via its Statement of Principles for Australian Innovation Centres.

The impetus to formally recognise innovation geographies reflects the importance of collaboration and multidisciplinary integration in generating economic growth in the contemporary economy. Fluid inter-firm and institutional linkages can identify new opportunities and strengthen the capacity to compete with benefits flowing equally between institutions and industry.

It follows that locations that incorporate a density of research, industry and educational facilities have been selected as locations to facilitate place based initiatives seeking to build a culture of innovation, collaboration and commercialisation. The Monash National Employment and Innovation Cluster, for instance, incorporates nationally significant research, industry and educational facilities that together provide the basis to stimulate economic value creation via closer integration and collaboration.

Not all innovation centres, however, have been designated as innovation areas based on a legacy of major research and industrial facilities. There are also greenfield and incipient locations in which government and/or the university sector is seeking to create the commercial and academic conditions that will eventually justify the location's designation as an innovative centre.

### **The Knowledge Economy**

The creation and distribution of goods and services has become increasingly reliant on knowledge and expertise. As such, the ability to gain and embed knowledge for both firms and individuals is increasingly seen as a core element of economic productivity and commercial competitive advantage.

It follows that industry and government are motivated to better utilise and integrate with the knowledge, networks and intellectual curiosity inherent in major education and research institutions. The Federal government's *Australia 2030, Prosperity Through Innovation Plan* repeatedly identifies industry–research sector collaboration as essential to improved national productivity and in uncovering new sources of growth.

The university sector has heeded the call of government identifying commercialisation, innovation and industry collaboration as core objectives – innovation and commercialisation has emerged as the “third mission” of universities (education and research being the two other, more established, missions). Monash University, for instance, identifies innovation through collaboration as one of four overarching

goals for the university - *To build enduring partnerships with industry, government and other organisations that will enrich our ability to innovate, to infuse our students and staff with enterprising capabilities and provide opportunities to apply our research.*<sup>17</sup>

Similarly, Melbourne University, in its strategic plan, identifies deep connections with *business, government and community* as a key performance indicator, *with centres a key means of engaging with partners to leverage research and teaching strengths*. Notably, the Melbourne University vision for engagement and collaboration is founded on the geography of centres which in 2020 will be given physical expression with the opening of Melbourne Connect which will be a purpose built innovation centre bringing together industry, scientific and research capability in single site.

### **Innovation centres**

In curating and facilitating a place based approach to inter-disciplinary and inter-enterprise linkages and collaboration, the innovation centre may be seen as a timely and appropriate land use response to the needs of the contemporary economy and industry.

The innovation centre incorporates many of the crucial dimensions of contemporary economic systems including:

- the importance of achieving economic returns from knowledge accumulation
- recognition that innovation and commercialisation is non-linear and shaped by the interplay of a variety of market and non-market forces
- the role of cultural and institutional conditions in boosting creativity
- the role of building trust and inter personal familiarity in enabling specialisations to successfully interact and collaborate.

Innovation centres are defined as agglomerations of entrepreneurs, jobs, capital and innovation that stimulate new and higher levels of person-to-person connectivity, idea sharing, collaboration and innovation, which produces benefits for the broader economy.<sup>18</sup>

The terms 'Innovation Centres,' 'Innovation Districts', 'Innovation Hubs', and 'Technology Parks' are used to describe forms of geographic clustering of knowledge-based activity. Crucially, these are locations in which facilitated networks and geographic proximity support knowledge based collaboration enabling enterprises and institutions of different scales to interact to generate new value.

According to the Australian Government, there are currently 103 innovation centres across the country of which many are focused on specific areas of expertise including space science, agriculture, health, defence, finance technology, nuclear science and cybercrime. Some of the more prominent centres include Tonsley Innovation District in South Australia, Australian Technology Park in New South Wales and, as discussed previously, the Parkville and Monash National Employment and Innovation Clusters in Victoria.

Australia's innovation geographies are yet to achieve the same scale of research, investment and employment as the leading innovation locations across the world which include Paris Saclay (155,000 researchers), Silicon Valley (\$33 billion in venture capital) and Zhongguancun District in Beijing (11,000 technology companies).

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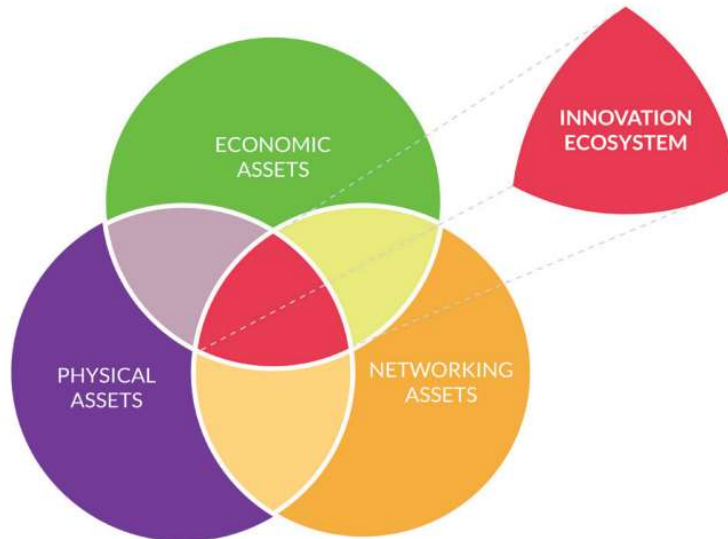
<sup>17</sup> "Monash Focus, Monash University Strategic Plan 2015 to 2020, page 13.

<sup>18</sup> Department of Industry, Innovation and Science, Statement of Principles for Australian Innovation Centres, Place Based Partnerships Building on Competitive Strengths October 2018

## Innovation ecosystem

For the Brookings Institute, a successful innovation ecosystem emerges from the geographic overlap of economic, networking and physical assets within a specific geography. As recognised by the Federal Government’s *Statement of Principles for Australian Innovation Centres*, this can take many years to develop.

**Figure 1: Ingredients of Innovation Ecosystem**



*Source – Worldbank; Brookings Innovation Ecosystem Framework*

The fundamental qualities that are conducive to both the development and success of innovation centres are discussed in the table below. The table uses local examples to illustrate areas of local strength:

Attribute	Description <sup>19</sup>	Centre Examples
<b>Physical assets</b>	Centres require physical infrastructure that includes advanced digital infrastructure, shared work and lab spaces, specialised research infrastructure, community facilities and public transport connections. Centres also require social and retail amenities that support the cultural life of the centre.	<p>The Monash National Employment and Innovation Cluster incorporates nationally significant Science, Technology, Engineering and Mathematics (STEM) based research infrastructure including the Australian Synchrotron, the Melbourne Centre for Nanofabrication, the Victorian Heart Hospital, and the Monash Medical Centre. In the future the centre will also include a new advanced biotechnology manufacturing platform which will be part of Biobanking Victoria. Industry partners in the centre: Agilent, Johnson &amp; Johnson, ABB, BHP Billiton, Bosch, Pfizer, Hydrix, Chobani and Woodside. The centre is Victoria’s leading non-CBD hub for employment, economic growth and innovation.</p> <p>Overall the Monash NEIC includes many (but not all) of the physical assets needed to facilitate innovation ecosystem particularly in relation to science based research infrastructure that can enable both private and publicly focused research. There are many examples of successful innovation and commercialisation that have emanated from the centre particularly in molecular science and pharmaceuticals.</p>
<b>Networking</b>	Established social and commercial capital, a culture of integration and collaboration,	The Victorian Cyber Security and Innovation Centre in Melbourne’s Docklands encompasses a diversity of national and international networks and co-tenants. These include the CSIRO, Data61, the Oceania Cyber Security Centre and a collaboration with Oxford University’s Global Cyber Security Capacity Centre. The centre includes a cyber security start up accelerator, CyRise and has formed partnerships with eight Victorian

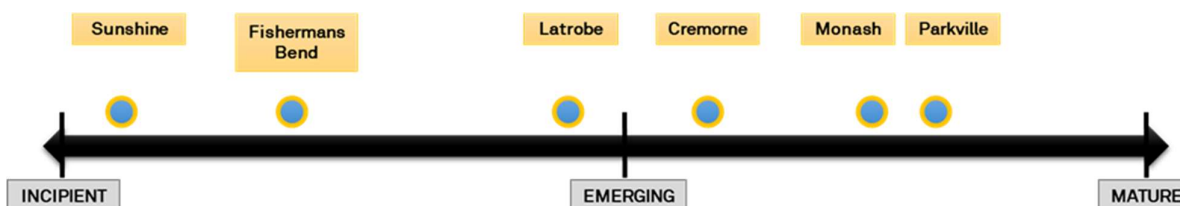
<sup>19</sup> These definitions have been developed for the purpose of this study

Attribute	Description <sup>19</sup>	Centre Examples
	communities of practice and knowledge sharing.	universities and a number of private sector partners including Australia Post, Optus and PricewaterhouseCoopers.
<b>Economic</b>	Skilled workforce, a diversity of complementary industries, educational institutions.	<p>The Melbourne Biomedical Centre (Parkville) is home to Australia's largest pharmaceutical company, and over 30 major hospitals, health research institutes, and medical training institutions including the University of Melbourne, Monash University, CSIRO and CSL Limited, The Royal Melbourne Hospital, The Royal Children's Hospital, The Royal Women's Hospital, St Vincent's Hospital, the Peter Doherty Institute, the Florey Institute, Murdoch Children's Research Institute, the Bio21 Institute, and the Walter and Eliza Hall Institute. There has been over \$5 billion in private and public investments in recent years.</p> <p>There are more than 49,000 employees in the Parkville Centre, including more than 10,000 scientists. The centre attracts around a quarter of Australia's competitive biomedical research funding, more than any other centre in the country and attracts scientists from across the country and internationally.</p>

The Brookings formulation describes the conditions of a mature innovation centre in which all of the components of a vibrant ecosystem are present. These conditions are exemplified by the Massachusetts Institute of Technology (MIT) which, since the mid 1940's, has steadily developed a legacy of ground breaking collaborations between academia, industry and government and a corresponding record of spawning numerous leading information technology, defence and social welfare enterprises.

Many of Australia's centres, however, lack elements of the above. The Monash National Employment and Innovation Cluster, for instance, incorporates substantial heavy science capability and established institutions but is yet to develop and embed a centre wide culture of collaboration and integration. The Sunshine NEIC, lacks both institutional anchors and private investment but will be supported by unprecedented transport infrastructure over the coming decade.

Figure 2: Innovation centre maturity



Source – Charter Keck Cramer

In general, an innovation centre incorporates:

- At least one anchor institution (there is other analysis that suggests both an academic and industry anchor are essential).
- A level of formal governance that helps align the goals and agendas of centre partners.
- Active curation of networks and collaboration – there is a significant body of analysis that demonstrates that active curation supported by facilitative governance is essential in achieving innovation.
- A focus on a specific expertise or discipline.
- An environment that enables diverse interactions between individuals, organisations and institutions.
- A focus on bridging local interests via joint economic/research agendas and the creation of trade opportunities.

The above raises a series of overarching questions for the Caulfield Station Centre as to whether the area currently functions as an innovation centre or whether the conditions for this might emerge in the future.

### **Innovation Centre Assessment – Caulfield Activity Centre**

In 2019, Charter consulted with a range of stakeholders to assess the future innovation and economic potential of the Station Centre. Consultation included Monash University, the Melbourne Racing Club, Glen Eira Council, and Reshape (project managers for the development of the Caulfield Village).<sup>20</sup> The study also consulted with executive leadership in the I2N innovation centre in Newcastle in New South Wales and the Tonsley Innovation district in South Australia.

The consultation, along with text based analysis, which included analysis of publicly available documents and websites, established a number of overarching insights as follows:

- **Minimal evidence of spillover impacts within the Centre:** The assessment sought to uncover evidence of 'spillover' activity within the Station Centre. This would entail specialisations and advanced research capability within the university instigating complementary commercially focused activity and enterprises within the Station Centre or within the broader region. There is clearly significant spillover of student demand for food and beverage services in the Station Centre. There is, however, no evidence of commercial organisations (apart from travel agencies) establishing in proximity to the campus to connect with and leverage from knowledge and networks within the campus. The consultation identified a small number of start-ups that had originated from within the campus, these, however, have not located within the Station Centre.
- **A lack related industry or independent research facilities within the Centre:** There are no major architecture, design, marketing, business consulting, accountancy or information technology firms that have established within the Station Centre which might link into the core specialities and expertise within the campus. Similarly, there are no research facilities within the immediate vicinity of the Centre that might form a network connected to campus specialisations (there are no major research facilities in the vicinity of the campus).
- **Strategic direction for the university's research and commercialisation is focused in Clayton:** Consultation consistently confirmed that Monash University's Clayton campus would remain as the focus for science, technology, engineering and mathematics (STEM) based research. A number of individuals stated that Monash University Clayton was the focus for heavy science research and education given that all of the accompanying infrastructure is located there.<sup>21</sup> Implicitly, the current and future focus for the university's commercially oriented innovation and enterprise generation activity is in Monash University Clayton. The Monash University Clayton campus is, for instance, home to the university's start up floor space and facilitation programs. Alternate views were nonetheless expressed by senior academics at Monash University Caulfield who identified a number of programs and emerging international relationships as providing the practical basis for start-up activity and enterprise development. The business school, for instance, offers nine entrepreneurship courses as well as a start-up boot camp. Each of these courses is designed and delivered by industry teaching fellows who are actively engaged in the Australian and International start-up ecosystems. The pedagogy that underlines each of these courses is focused on learning by doing and real world experience. There are also two highly experienced start up practitioners on the faculty board. As is discussed below, the business school is steadily building international entrepreneurship networks and

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<sup>20</sup> The study consulted with representatives from the Monash Enterprise unit, the Faculty of Art Design and Architecture, representatives from Sensilab, Behavioural Lab, the Faculty of Economics and Business, representatives from the MRC, an Economic Development officer from Glen Eira City Council.

<sup>21</sup> This reflects the concentration and consolidation of engineering, physics, chemistry, transportation and medical research infrastructure in and around Monash University Clayton which will soon also incorporate the faculty of computer science.

relationships that recently incorporated an international innovation study tour. The Monash University Caulfield campus therefore incorporates skills and capability to foster and support start-up activity and commercialisation. The infrastructure, floor space and programs to support this form of activity is, however, currently focused at the Monash University Clayton campus.

#### 5.4.1. Research strengths and achievements within the Caulfield Station Centre

The analysis below refers to a range of research initiatives and achievements that have emanated from the Monash University Caulfield campus. The analysis draws on web based research and consultation with key landholders to develop an overview of core research capabilities, facilities and achievements emanating from Monash University Caulfield campus. The table seeks to identify the focus of research to date and to gauge commercial potential. These facilities are referred to frequently in the detailed analysis on the following pages.

Discipline	Lab	Lab Focus	Research to date	Commercialisation potential
Behavioural Economics	Behavioural Lab	Consumer behaviour, consumer choices, online shopping behaviour	Consumer choice and judgment	The Lab already undertakes a range of private sector research as well as academically focused research.
Experimental and behavioural economics	Monash Laboratory for Experimental Economics (MonLee)	Modelling the implications of behaviour on economic development and growth	Social, legal, crime and ethical issues. Research has achieved international recognition and acclaim.	Minimal
Econometrics and Business Statistics	SoDa Lab	Focuses on social science insights via collaboration with computer science disciplines	Social, crime, political science, consumer behaviour and ethical issues.  The discipline has developed customised statistical packages that are widely used and downloaded.	Potential particularly in finance and insurance, forecasting and statistical software development
Financial modelling	StarLab	Financial simulations	Market operations, risk management, trading environment simulations	Primarily an educational laboratory
Artificial Intelligence	SensiLab	Integrating design thinking in the development of intelligent devices	This is a new purpose built facility. To date, a range of sound, health and aesthetic devices have been developed.	Significant commercial potential particularly in integrating design and device development.



Discipline	Lab	Lab Focus	Research to date	Commercialisation potential
			A small number of students have created start-ups.	

## 5.5. Innovation Centre Evaluation Caulfield Station Centre

As discussed, innovation centres are agglomerations of entrepreneurs, jobs, capital and innovation that stimulate new and higher levels of person-to-person connectivity, idea sharing, collaboration and innovation, which produce benefits for the broader economy.

A key finding in the international literature on innovation centres is the need to harness and build upon existing competitive strengths and identify innovation potential. The following seeks to identify whether the Caulfield Major Activity Centre incorporates the fundamental attributes to warrant a designation as an innovation centre. In seeking to address this question the work considers the Centre's underlying current attributes and, based on the input from consultation with key landholders, whether desirable attributes are likely to emerge in the future.

The evolution of centres into richly networked and highly productive locations can take many years of curation and interaction. As such, in evaluating the potential for the development of an innovation centre there is a need to consider both the current status of the centre and whether given other initiatives, investments and strategic objectives for the centre, favourable attributes are likely to emerge over time.

Evaluation Criteria	Current Status	Future Prospects
<b>Economic Assets</b>		
A recognised position as an important regional, national or international value creation hub	<p>The Business Faculty has achieved international recognition for research in econometric and behavioural economics. The campus is ranked No.1 in cognitive and behavioural economics in the Asia-Pacific.</p> <p>The Business Faculty is also a leading centre for software development in open source statistical software. The campus is a leader in the development of software packages in the programming language R. The forecasting package <i>forecast</i> has over 136K downloads per month and is widely used by many leading global technology firms. There are a range of other packages that attract significant numbers of monthly downloads.<sup>22</sup></p> <p>Rob Hyndman is a world authority on forecasting and Professor Yves Zenou is one of the world's leading authorities on behavioural economics and social network analysis.<sup>23</sup></p>	<p>The Faculty of Business and Economics will continue to be a major and growing educational asset for the centre. Various strengths in econometric, behavioural economics, data science and forecasting are likely to continue to strengthen and achieve ongoing consultancies with industry and government. New commercial space in the centre may provide the basis and conditions for the establishment of dedicated cross industry/research ventures linked to the above expertise.</p> <p>At present centre expertise is very much tied to the advanced skills of specific individuals rather than a broader cluster of people. As such, expertise may be readily transferred to any location. At the same time, if the cluster of skills around econometrics, statistics and data science grows into a more significant network of individuals the centre may eventually become synonymous with these skills.</p>

<sup>22</sup> See: <https://www.monash.edu/business/ebs/impact-and-engagement/software-development>

<sup>23</sup> see: <https://sites.google.com/site/yvesbzenou/>

Evaluation Criteria	Current Status	Future Prospects
	<p>The above research strengths have generated consultancies within the Caulfield campus. These are yet, however, to spill over into commercial ventures strongly linked to the centre.</p> <p>Individuals from the Art, Design and Architecture have achieved recognition in various areas of design, communication and architecture. Achievements and recognition are generally individual and do not relate to the ongoing capability of the centre.</p> <p>The centre does not currently include a major dedicated commercial or research anchor that is a recognised commercial value generator (beyond educational and academic networks).</p>	<p>Over time, the Faculty of Art, Design and Architecture may also achieve greater prominence particularly in the integration of design based thinking in the development of advanced devices, particularly via the work of SensiLab.</p> <p>In the future, Centre 3 or a redeveloped Derby Road may attract a major commercial or research anchor in the centre that embeds a particular commercial and or research competency to the centre.</p>
Recognised core competence in a specific technology or discipline	<p>Education in business, economics and marketing disciplines are recognised core competencies of the centre. These disciplines attract large numbers of international and local students. The faculty has achieved internationally recognised accreditation for its business and economics courses and its MBA program.</p> <p>As discussed, the faculty has significant expertise in econometrics, data science, forecasting and modelling and has secured a number of industry and government based consultancies in these fields.</p>	<p>Over time, the faculty is likely to expand its econometric, forecasting and behavioural consultancies. For these to spill over into the centre to support dedicated industry linked to these capabilities will require appropriate floor space and associated supportive conditions.</p> <p>SensiLab may over time achieve an increasing level of leadership in supporting advanced devices with design based thinking. Achievements in this areas may help the centre's design capability gain broader recognition. This will require the university's Artificial Intelligence and advanced computational programs to continue to collaborate and integrate with the campus's design capability. SensiLab will also need to be retained in Caulfield (the SensiLab is part of the Faculty of Information Technology which is moving to the University's Clayton campus. Representatives from Monash University have indicated that SensiLab will remain at the Caulfield campus given the investment in the facility).</p>
A growing concentration of centre partners, and growth in complementary enterprises in the region's wider geographic environment	There is minimal evidence of centre partnerships or complementary enterprises within the centre or in the broader region that directly link to the activities of the centre. There are no, for instance, major architecture, design, marketing, business consulting, accountancy or information technology firms that have established within the Station Centre that relate to the core specialities of the campus or leverage from current research.	Over time, given appropriate space, there is the potential for major architecture, design, marketing, business consulting, advanced economics and data, accountancy and information technology firms to establish in the centre that relate to the core specialities of the campus.

Evaluation Criteria	Current Status	Future Prospects
	<p>Parkville and Clayton, in contrast, incorporate a range of enterprises and semi-public/private institutions that leverage from core research competencies in their respective centres.</p>	<p>With supportive office space and appropriate curation the business school's entrepreneurial program might likewise successfully develop networks with STEM based research at Monash University's Clayton campus and thereby integrate with the broader innovation eco-system in Melbourne's South East. Clayton based start-up programs might also integrate with the entrepreneurial skills at Caulfield in a symbiotic way.</p> <p>Design skills and business capability are unlikely to attract commercial investment in their own right. As such, the Station Centre is unlikely to become a major attractor of venture capital investment which is far more likely to be drawn to the spin-off and spill over potential of the technical research facilities in Clayton and Parkville. Design and entrepreneurial skills are, nonetheless, essential in enabling and facilitating the commercialisation of innovation.</p> <p>The opening of Melbourne Metro will boost the attractiveness of the centre as a commercial node. This may over time generate meaningful industry/academic spillovers in the centre provided there is appropriate commercial floor space.</p>
<p>Major anchor tenants or institutions that lend scale and immediate profile to the centre</p>	<p>Monash University and the MRC lend significant scale and profile to the centre.</p> <p>There are no plans to locate additional research facilities at Monash University's Caulfield campus nor are there plans by major research institutions to locate within the centre.</p>	<p>The completion of Melbourne Metro may establish the basis to draw in a major enterprise and new anchor in the centre. This is, however, largely dependent on the type of commercial spaces developed as part of the <i>Caulfield Village</i> redevelopment, the MRC's proposed redevelopment and the potential redevelopment and expansion of the Monash University Caulfield Campus.</p> <p>The development of commercial floor space as part of Caulfield Village Centre 3, for instance, may attract a major anchor tenant that adds a new economic dimension to the centre. Likewise, the redevelopment of Derby Road as part of the further expansion of the Monash University Caulfield campus may, for instance, create hybrid spaces that draw in new institutional uses and cutting edge enterprises that change perceptions of the centre.</p>
<p>Access to funding – government or private</p>	<p>The centre is undergoing major transformation with the development of Caulfield Village. The centre's redevelopment will also shortly include the MRC</p>	<p>Centre 3 of the Caulfield Village development provides the opportunity to deliver innovation and enterprise floor space</p>

Evaluation Criteria	Current Status	Future Prospects
funding to drive the development of the centre in its initial phase of development	<p>renewal of the racetrack and its surrounding environment. In combination, these projects will transform the centres urban form south of the rail station.</p> <p>Monash University Caulfield also has ongoing plans for the expansion and redevelopment of its facilities north of the rail station. The next decade will therefore see the transformation of a high proportion of the Station Centre.</p> <p>At the same time, redevelopment plans for the centre do not currently include aspirations to develop innovation focused floor space or innovation curation within the centre.</p>	<p>within the Station Centre. This might be supported by Centre stakeholders including Council.</p> <p>The redevelopment and expansion of the Monash University Caulfield campus toward Derby Road might result in the development of hybrid commercial/start up/ co-working spaces as a smaller scale version of the Melbourne Connect model. There are at present no plans by the university to develop such a facility in Caulfield (the university plans to create this form of facility at Monash University Clayton). A smaller hybrid facility might, nonetheless, be eventually considered for Monash University Caulfield.</p>
Skilled workforce – local educational infrastructure and educational standards	<p>As described in the Caulfield centre context section above, the socio-demography of the broader Glen Eira/Stonnington corridor incorporates high numbers of highly educated residents many of whom work in professions and/or as managers.</p> <p>The region is often referred to as the “CEO Belt” reflecting the level of management expertise in the region and corresponding executive leadership.</p> <p>The university is a recognised leader in MBA education and education in Business and Economics. There are highly skilled individuals employed throughout the university with significant expertise. University accreditations reflect the significant international standing of the university.</p>	<p>The level of education, academic achievement and executive leadership in the corridor is likely to be sustained.</p>
Business capability – capability and experience of local business in start-up and innovation initiatives	<p>There are a significant number of businesses in the region of all sizes and ongoing business commencements. The region is increasingly seeing the emergence of co-working space and encompasses a vibrant creative industries sector particularly to the south of the corridor.</p> <p>The business and economics faculty includes individuals with substantial experience in business management, consultancy and executive leadership. There are, for instance, individuals that have consulted for ASX 100 companies within the campus and individuals that have managed private and public enterprises. Recent appointments to the Faculty of Business such as Simon Wilks (who was an executive at Microsoft) add significant international profile and global scale to the campus. Similarly, Professor David Gilbert, who is the</p>	<p>The completion of Melbourne Metro is likely to attract greater business capability to the Station Centre. This is, however, dependent on the availability of commercial space.</p>

Evaluation Criteria	Current Status	Future Prospects
	<p>Director of Entrepreneurship, has led numerous start-ups and has founded and invested in a number of businesses.</p> <p>Notwithstanding the above, the infrastructure and programs to support start up activity within the university are located and hosted in Clayton. The Monash Generator is located at the Monash University Clayton campus and includes “validator” and “accelerator” programs as well as co-working space. While there are educational programs in Caulfield dedicated to entrepreneurship these are not currently supported by floor space and specific facilities that might spillover into more enduring start- ups based in the Station Centre.</p>	
<b>Networking Assets</b>		
<p>Established collaboration mechanisms and practices either locally, regionally, nationally and internationally; between industry, R&amp;D and educational institutions; as well as business-to-business and supply chain collaboration</p>	<p>There is no evidence of commercially focused collaboration within the centre.</p> <p>Econometric, behavioural economics, data science and forecasting research initiatives encompass international and regional networks.</p> <p>Behavioural Lab is occasionally commissioned by industry to assess consumer behaviour using its eye tracking technology.</p> <p>The Australian Consumer and Retail Studies group is associated with the Department of Marketing and collaborates closely with the retail sector.</p>	<p>Design, business capability and technical capability are widely seen as the three critical ingredients in the innovation ‘eco system’. The Monash University Caulfield campus fosters two of these ingredients while Monash University Clayton encompasses a range of technical specialisations. With appropriate facilitation and support, design and business capability may be integrated into the broader Monash University innovation eco-system. SensiLab exemplifies this type of multi-disciplinary arrangement.</p> <p>Econometric, behavioural economics, data science and forecasting capabilities are likely to continue to build international and regional networks and to achieve broader recognition particularly following recent high profile appointments.</p>
<p>Rich and growing networks beyond the centre’s geographical bounds, including relationships with other centres/clusters within the sector/technology area and beyond</p>	<p>The business Faculty has developed an entrepreneurship program/relationship with University of California, Berkeley in the United States of America and recently completed a short intensive course for students providing exposure to innovation, technology, and entrepreneurship activities. Approximately, 50 students undertook the course which involved travel to the Berkeley Haas School of Business in California. The Faculty is currently seeking to establish a more formal relationship with the University of California focused on entrepreneurship and innovation. The entrepreneurship program is also seeking to expand its network to include a program in Silicon Valley.</p> <p>There are an estimated 310 research units within Monash University. These are generally intertwined with numerous worldwide networks and encompass</p>	<p>The introduction of appropriate floor space into the Station Centre to coincide with the completion of Melbourne Metro may provide the basis for an intermediate innovation node that is connected to Parkville, Melbourne Connect and Monash and provides these locations expertise in design and entrepreneurship.</p> <p>The centre might seek to distinguish itself from other competing centre via the provision of micro grid energy facilities and other</p>

Evaluation Criteria	Current Status	Future Prospects
	<p>a broad range of specialties. Clayton is the epicentre of research initiatives and thereby the key node for these networks and collaborative relationships.<sup>24</sup></p> <p>As discussed, the Faculty of Business hosts a number of leading research initiatives that encompass data and research networks.</p>	<p>sustainable energy and water initiatives. This might be explored during the structure planning process.</p>
<p>Systematic collaboration on cross-sectoral, multidisciplinary innovation, supported at the centre level by clearly expressed operational strategies;</p>	<p>In 2017, the campus opened Sensilab which is a lab that seeks to integrate artificial intelligence and advanced computational devices with a focus on design. As such, the lab provides a significant basis for collaboration and multidisciplinary innovation. To date, the lab has produced a number of innovative prototypes but is yet to achieve a major commercial outcome. A small number of students with experience in the SensiLab have nonetheless commenced start-ups (none of which are located in the Caulfield centre). Other students have been employed by major technology enterprises.</p> <p>No further multidisciplinary initiatives were identified by this study.</p>	<p>In the future, existing collaborative networks may be accompanied by a centre focused innovation and collaboration strategy that seeks to embed and attract further collaborative partners into the centre. Such a strategy might seek to facilitate an intermediate innovation node that links with the innovation systems in Clayton and Parkville connected by Melbourne Metro.</p>
<p>Trust among the centre partners, and a shared understanding of how partnerships deliver value and recognition</p>	<p>There is a familiarity and existing relationships between centre partners particularly local government and the university as well as local government and the MRC and developers of Caulfield Village. These relationships are primarily focused on place making and amenity and not, as of yet, delivering higher order economic value.</p>	<p>As per the above, the expansion of Monash University Caulfield and/or the commencement of planning for Centre 3 of Caulfield Village may generate mutual support for the creation of an innovation node with accompanying floor space and programs among existing centre partners. This would need to be led by entities outside of the university (at least initially).</p>
<b>Physical Assets</b>		
<p>Shared lab spaces, specialised research infrastructure, digital infrastructure</p>	<p>The three most prominent labs on campus are the StarLab (financial market simulations), Behavioural Lab (consumer behaviour) and SensiLab (design thinking for advance computational devices). At present, these Labs primarily focus on academic research.</p>	<p>There are no future plans to introduce any new labs or research facilities into the centre.</p>
<p>Transport infrastructure</p>	<p>The centre enjoys exemplary accessibility particularly by rail which is complimented by tram and bus facilities. There are also a variety of shared and dedicated cycling routes that connect to the centre which were recently improved as a result of the Level Crossing Removal project.</p>	<p>An integrated transport study is being developed as part of the structure planning process this may identify new transport connections.</p>
<b>Push factors</b>		

<sup>24</sup> see <https://research.monash.edu/en/projects/>

Evaluation Criteria	Current Status	Future Prospects
<p>Centre champions and centre leadership motivated to curate and facilitate an innovation centre.</p>	<p>Identifiable governance and centre leadership in facilitating an innovation facility/identity in the centre is yet to emerge.</p> <p>Centre leadership would need to emanate from outside of Monash University either in local government or State government. There is currently no expressed desire within the Monash University executive to support an innovation centre in Caulfield. The strategic direction for the university supports start-up, innovation and commercialisation as key objectives for the university. The infrastructure and programs to support delivery on these objectives is focused within Monash University's Clayton Campus. Consultation with Caulfield based university staff, nonetheless, suggests that Monash University Caulfield would inevitably be draw in by and involved in dedicated innovation space if it were to be created in the centre.</p> <p>Council is motivated to facilitate higher order economic activity in the centre (not necessarily innovation focused), whether Council will commit funds or land to supporting the delivery of enabling infrastructure is not yet clear.</p> <p>The developers of Caulfield Village are yet to finalise plans for Centre 3. This may include commercial space that may support start up activity and innovation focused collaboration.</p>	<p>As discussed below, there is the potential for the centre to act as an intermediate innovation node that provides space and programs in support of the larger more established innovation systems in Clayton and in Parkville. Such a system might link these areas with the design skills and entrepreneurial skills within Monash University Caulfield. Such an initiative would require advocacy for a dedicated innovation space within the centre (for instance, as part of Centre 3 of the Caulfield Village development or as part of the expansion of the Monash University Caulfield campus).</p> <p>There is a need for the key parties to determine whether integrated centre co-ordination and governance warranted and, if so, to determine who might lead this.</p>



## Discussion and Recommendations

There is no evidence of a collaborative network focused on innovation and commercialisation within the Station Centre. There are specialisations within the centre that have achieved international and national recognition, their activities, however, are yet to spillover into the centre or broader area as enterprises linked to either the identity or skills and capabilities of the centre.

The vision for start-up activity and innovation within Monash University is focused at Monash University Clayton as part of the next stage in the development of the Monash National Employment Cluster. Over the past two years Monash University has steadily commenced the development of programs and facilities to support innovation and start up activity within its Clayton campus. Monash University is the logical entity to anchor an innovation initiative in the centre, however, consultation suggests that this would seem not to align with the university's vision for innovation. As such, the consultation suggests that the centre is not currently supported by an anchor motivated to establish an innovation and commercially focused eco system within the Station Centre.

The potential to facilitate an innovation centre and associated networks in the Station Centre, nonetheless, still has merit as follows:

- There are key specialisations within the centre that have the inherent potential to spill over into commercially focused activity within the Station Centre.
- The centre incorporates design and entrepreneurial expertise that is seen as central to successful commercialisation of STEM based research. There is the opportunity to link this expertise into Melbourne's broader innovation ecosystem.
- Successful Clayton based start-ups may be attracted to the centre as it provides superior transport accessibility then the Monash National Employment and Innovation Cluster while retaining proximity to Monash.
- Increased accessibility will boost the attractiveness and desirability of Monash for commercial uses.

The above while favourable to the development of an innovation identity, may not ultimately produce a coherent and distinct innovation identity for the Station Centre without the support of a centre champion seeking to facilitate an innovation vision, programs and associated floor space. In other locations, innovation networks and systems have emerged organically over time.

In light of Charter's review, it is unlikely that a dense cluster of research institutions and interlinked commercial enterprises will emerge in the Caulfield Centre as has happened in Parkville and Clayton (not without active stewardship and public investment). There is, nonetheless, the opportunity to create an intermediate/hybrid innovation location that:

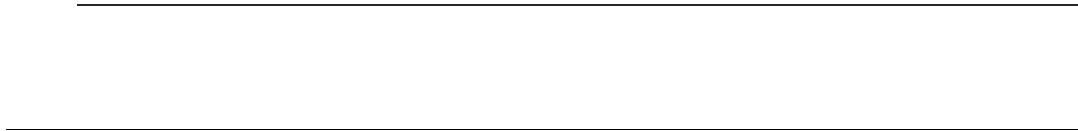
- Services the broader innovation and commercial ecosystems that will be interconnected by the Metro Tunnel
- Is identified with the business and international trade expertise and specialisations within the Station Centre
- Supports the socio demographic and educational growth of Melbourne's South Eastern corridor.

In light of the above, a hybrid space that provides a range of spaces and programs might be considered within the centre. This facility would provide co-work space, curate

networking opportunities for established and start up enterprises and provide space for advanced industries to locate and embed within the centre. This would be a similar model to the Sydney Start-Up Hub model in which a variety of innovation and enterprise spaces are curated within a single multi storey building. The focus of commercial activity within the Sydney Start Up-Hub are quite diverse but united in their focus on delivering higher order economic activity. This model would require the development of a standalone commercial facility within the centre.

The centre might also consider a hybrid model made up of multiple spaces within and abutting the Caulfield campus. This would be similar to the Swinburne Hawthorn campus in which there are multiple dedicated spaces that support established commercial enterprises, start up activity and co-working activity. These are dispersed within and around the Swinburne university campus. This model would require the redevelopment and expansion of the Monash University Caulfield campus to incorporate hybrid innovation spaces as well as the development of complimentary spaces outside of the campus.

As stated, the vision for this type of infrastructure does not currently align with the long term vision for innovation and enterprise for Monash University, however, many individuals indicated during the consultation that Monash University would inevitably be drawn to such a facility. Innovation leadership for the Station Centre would therefore need to emerge outside of the university environment and seek to generate a form of reverse spillover in which uses outside of Monash university eventually draw in university involvement and support.



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