Amendment C375 to the Greater Geelong Planning Scheme

Expert Witness Statement

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Project Number: 18147
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1 INTRODUCTION

Professional Details

1.1 My name John Christopher McNeill. I practice as a Director and Senior Economist at Essential Economics Pty Ltd of 96 Pelham Street, Carlton.

1.2 I hold the degree of Economics from Monash University. A copy of my CV is attached to this statement.

Area of Expertise

1.3 My area of professional expertise is urban economics and the economic analysis of urban policy. This includes expertise in demographic and residential land analysis which I have undertaken for a wide range of public and private sector clients throughout Victoria.

1.4 My opinions expressed herein are, to the context relevant, made by me in reliance upon my above expertise.

1.5 I am a member of the Victorian Planning and Environmental Law Association (VEPLA).

Instructions

1.6 I have been instructed in this matter by Best Hooper Lawyers, lawyers acting on behalf of Macafee Investments Pty Ltd and Gull Company Pty Ltd (the ‘joint venture’).

1.7 The joint venture controls a site (the Subject Land) located outside the current settlement boundary of Barwon Heads. The joint venture wishes to develop the subject land in the future as a residential development, with a significant retirement and aged care component.

1.8 Greater Geelong City Council is currently updating the Barwon Heads Structure Plan (BHSP). Amendment C375 to the Greater Geelong Planning Scheme will consider the revised BHSP. As part of its submission to the Independent Panel that will consider Amendment C375, the joint venture wishes to call expert evidence relating to urban economics.

1.9 My instructions in this matter are as follows:

(a) Address the supply of, and demand for, residential land at Barwon Heads;
(b) Outline the demographic and population challenges faced by Barwon Heads, including the implications regarding demand for aged care facilities;
(c) Outline the longer-term considerations associated with the prevailing tight constraints on the release of additional land supply for residential and other development at Barwon Heads;
(d) Provide commentary relating to the management of residential land supply on the wider Bellarine Peninsula;

(e) Prepare this Expert Witness Statement considering the above; and

(f) If necessary, appear as an expert witness at the relevant panel hearing.

Preparation

1.10 In preparing this statement:

(a) I am aware that, as a witness giving evidence (by report, or otherwise) in a proceeding as an expert, I have a duty to assist the tribunal and that this duty overrides any obligation that I may have to any party to the proceeding or to any person who is liable for my fee or expenses in this matter;

(b) I have neither received nor accepted any instructions to adopt or reject any particular opinion in preparing this report;

(c) I have made all the enquiries which I believe are desirable and appropriate and that no matters of significance which I regard as relevant have, to my knowledge, been withheld from the tribunal; and

(d) I have considered the relevant documents disclosed by the parties to this proceeding as well as the documents listed in this report.
2 THE SUBJECT LAND AND LOCATION

2.1 In this section of my Evidence Statement, I provide an overview of the Subject Land.

**Subject Land**

2.2 The Subject Land consists of lots 1900 and 1920 Barwon Heads Road, Barwon Heads. The Subject Land is 49.6 hectares in area and is located immediately west of the established Barwon Heads urban area, on the south side of Barwon Heads Road. Murtnaghurt Lagoon and channel is located to the south and west of the Subject Land. The Subject Land presently comprises paddocks with some remnant vegetation. A dwelling (and sheds) and disused sporting field are located in the northern part of the Subject Land, adjacent to Barwon Heads Road.

2.3 The majority of the Subject Land is located in the Farming Zone. The southernmost portion of the Subject Land is located in the Rural Conservation Zone (Schedule 10) and subject to the Environmental Significance Overlay (Schedule 2 – High Value Wetlands and Habitat Protection), while the western portion of the Subject Land is affected by an Inundation Overlay.

2.4 The part of the Subject Land located in the Farming Zone is relatively flat and unencumbered and, I understand, is considered the most easily developable part of the Subject Land.

**Barwon Heads**

2.5 Barwon Heads is a relatively small seaside town, located some 18km south-east of the Geelong’s city centre at the mouth of the Barwon River. The town’s scenic estuary, renowned golf courses (Barwon Heads Golf Club and 13th Beach Golf Links), beach themed shops and cafes, and surfing beaches (Thirteenth Beach), make Barwon Heads a popular destination for holiday makers, tourists and residents alike.

2.6 Over the last 10-15 years, Barwon Heads has experienced a relatively low level of urban development in comparison to most other Surf Coast or Bellarine urban centres.

2.7 The urban footprint of Barwon Heads is physically constrained by the Barwon River and marshland to the east and north, and Barwon Heads Golf Club and sand dunes/coastal heath to the south.

2.8 An urban settlement boundary has limited the township’s urban footprint from extending in a westerly direction, and the established urban area has effectively grown to the full extent accommodated by the settlement boundary. Accordingly, land immediately to the west of the established urban area, including the Subject Land, is vacant and undeveloped. The urban settlement boundary established in previous structure plan iterations has been retained in the Draft Barwon Heads Structure Plan (2017). This, and other planning policy matters, are discussed in more detail in Chapter 3 of my Evidence Statement.
Development Intentions

2.9 A high-level staged Concept Plan has been developed by the joint venture indicating a modern residential community with retirement living, aged care and sport/recreation elements on the Subject Land. Specifically, the joint venture’s development vision comprises:

- Approximately 240-250 residential lots for subdivision;
- An aged care facility containing 110 beds;
- A retirement village comprising 180-220 villas;
- A community pavilion – to be developed adjacent to an upgraded sports oval at the northern end of the Subject Land (adjacent to Barwon Heads Road); and
- A small commercial centre on Barwon Heads Road accommodating Childcare (around 90 places), a Medical Centre and coffee shop to provide local needs and complementing the residential, aged care, retention uses at the site.

2.10 The development concept includes measures to improve the existing wetland areas in the southern and western parts of the Subject Land. In addition, the proposed development concept assists in the delivery of the ‘Round the Heads’ Trail Project through the delivery of trails and carparking facilities onsite.

2.11 The development concept allows for the project developed over 10 stages commencing with works to rehabilitate the wetlands area and establish trail facilities, followed by the delivery of a community pavilion at the existing sports oval.

2.12 An overview of the Subject Land and locational context is provided at Figure 2.1, while Figure 2.2 shows the Preliminary Master Plan.
Figure 2.1: The Subject Land and Locational Context

Source: Essential Economics with MapInfo Pro
Figure 2.2: Preliminary Master Plan

Source: Preliminary Master Plan - 1900 Barwon Heads Roads, Urban Design and Management
3 PLANNING CONTEXT

3.1 In this section of my Evidence Statement I consider the relevant planning context, from an economic perspective.

Regional Context

3.2 Barwon Heads is located in the City of Greater Geelong and is therefore subject to the Greater Geelong Planning Scheme.

3.3 Greater Geelong City Council is the fastest growing municipality in Victoria outside of Greater Melbourne. From 2012 to 2017, Greater Geelong’s population increased by approximately 26,000 persons, representing an average annual growth rate of approximately 5,150 persons (or 2.3%). In regional Victorian terms, a growth rate of this magnitude is significant. Greater Geelong’s population growth is influenced by:

- The region’s higher order services as Victoria’s ‘second city’
- The municipality’s diverse employment base, and emerging services-based economy
- The availability of affordable housing options relative to Greater Melbourne
- Proximity to Greater Melbourne
- The potential for a coastal lifestyle.

3.4 Greater Geelong’s housing market comprises:

- A conventional regional housing market based on the primary Geelong urban area. This market is itself split between new broadhectare growth areas (such as Armstrong Creek) and urban consolidation opportunities within the established urban area; and
- Housing opportunities in the municipality’s smaller townships, particularly the coastal townships located on the Bellarine Peninsula. The Bellarine Peninsula’s key growth opportunities are based in Ocean Grove (approximately two kilometres east of Barwon Heads) and at Torquay (around 12 kilometres west of Barwon Heads and in neighbouring Surf Coast Shire).

Land Supply Policy

3.5 Recent Amendment VC148 has implemented changes to the Victoria Planning Provisions (VPP) and planning schemes. As noted in Planning Advisory Note 71 (Department of Environment, Land, Water and Planning):

“The Amendment introduces the first stage of the new Planning Policy Framework (PPF) which replaces the existing State Planning Policy Framework (SPPF). In future the PPF will, in conjunction with the new (MPS), also replace
the Local Policy Framework (LPPF). The PPF enables all policy content in planning schemes to be merged into a single source.” (p1)

3.6 Effectively, the PPF and MPS would work together to form the strategic basis of each municipality’s planning scheme. The discussion of State and Local Policy provided below has been undertaken in view of the changes to the Greater Geelong Planning Scheme implemented by VC148. Note that Greater Geelong City Council is yet to translate its Local Planning Policy Framework into the new MPS and PPF format. As such, the objectives of Council’s present planning scheme remain relevant.

3.7 Clause 11.01 provides a number of broad goals ‘Strategies’ relating to Settlement in Geelong G21 region including:
- That the role of Central Geelong be supported as a major regional city and revitalise and strengthen its role as Victoria’s second city.
- Support the growth of Bannockburn, Colac, Drysdale/Clifton Springs, Lara, Leopold, Ocean Grove and Torquay/Jan Juc etc.
- Provide for settlement breaks between towns to maintain their unique identities.
- Require a settlement boundary for all towns.

3.8 Clause 11.02 of the SPPF includes under ‘Strategies’ the need to:

“Plan to accommodate projected population growth over at least a 15-year period and provide clear direction on locations where growth should occur. Residential land supply will be considered on a municipal basis, rather than a town-by-town basis.”

3.9 I make the following observations in relation to Clause 11.02 as outlined in paragraph 3.8:
- State Policy refers to the consideration of land supply at a municipal level. In my opinion, there is some ambiguity as to how to interpret the adequacy of land supply at a local level against the needs of the municipality as a whole. The need for discrete assessments on a more localised basis is particularly relevant in some regional and rural areas where the demand and supply context may vary significantly between urban centres.

In many instances, it is appropriate to measure the adequacy of land supply against the needs of a particular urban centre rather than at a municipal level. In the case of Barwon Heads, it is evident that geographical constraints limit the ability of township to continually expand to accommodate additional broadhectare land supply. In this regard, I acknowledge it is simply not possible to provide an enduring 15 year supply of land for future growth. In my opinion however, there is a need to review current approaches to urban growth and settlement to ensure the town’s strategic planning policy provides for sufficient local population and demographic balance to support the adequate provision of local infrastructure and services.
- The strategy calls for at least a 15-year supply of land to meet expected demand. That this benchmark is regularly cited as a minimum is frequently overlooked in strategic planning documents. It is my opinion that supply benchmarks are not supposed to be breached but rather maintained at least at the benchmark level.

3.10 Greater Geelong’s Municipal Strategic Statement (MSS) (Clause 21.06) provides the following objectives regarding urban growth:
- To limit urban sprawl by directing urban growth to designated growth areas; and
- To improve housing affordability, the maintenance of appropriate urban land supplies, the promotion of competition in the housing market and the development of a diverse range of well-located housing stock.

3.11 Designated urban growth areas are identified at Armstrong Creek, Ocean Grove, Drysdale/Clifton Springs, Lara and Leopold. It is stated that the majority of new residential development in the municipality will be directed to these locations.

3.12 Although Barwon Heads is not a designated growth location, urban growth is permitted in the town provided it (Clause 21.14):
- occurs within the defined settlement boundary
- maintains a compact urban form and avoids outward sprawl; and
- protects the unique character of Barwon Heads as a coastal village amongst other aspects.

3.13 The MSS notes the wider Bellarine Peninsula area is one of the fastest growing areas in City of Greater Geelong, with population growth being driven by the attractiveness of the area as a lifestyle destination proximate to a major regional city (Geelong) and within the broader orbit of a major metropolitan area (Greater Melbourne).

3.14 The zones applied to the Barwon Heads area, including the Subject Land are shown at Figure 3.1. As noted, most of the Subject Land is located in the Farming Zone.
Figure 3.1: Planning Zones, Barwon Heads

Source: Planzone, DWELP
Draft Settlement Strategy (May 2018)

3.15 The Draft Settlement Strategy (2018) (DSS) provides policy guidance to deliver housing in Greater Geelong to 2036 in view of the need to accommodate what appears to be an increasingly strong population growth outlook for the municipality.

3.16 The DSS provides a number of ‘Directions’ relating to the future distribution of residential land in Greater Geelong, including:

- Direct the majority of future housing needs to urban Geelong (urban infill, Armstrong Creek and the Northern and Western Geelong Growth Areas);

- Acknowledge the share of new development on the Bellarine Peninsula should decline over time, and that use of the term ‘growth area’ should be discontinued when describing district towns on the Peninsula (e.g. Ocean Grove, Drysdale and Clifton Springs); and

- Ensure development occurs within designated settlement boundaries.

3.17 Regarding the Bellarine Peninsula specifically, the DSS advances the ‘Principle’ to “maintain the unique township, landscape, tourism, farming and environmental values of the Bellarine Peninsula” (p8), and provides several ‘Directions’, which include:

- Recognise that Drysdale/Clifton Springs, Leopold and Ocean Grove are already fulfilling their roles as district towns; and acknowledge the share of housing development occurring on the Bellarine Peninsula should decrease over time; and

- Ensure that development reflects the preferred character of towns.

3.18 The DSS states that the implementation of permanent settlement boundaries should be based on existing urban areas and other areas already identified in policy, and that a consultation process be established to review the appropriateness of this boundary and deal with any significant anomalies or logical inclusions that might be needed.

3.19 One of the most significant elements contained in the DSS relates to future population growth and, therefore, housing demand. The DSS confirms that since the early 1990’s, Greater Geelong’s rate of population growth has been accelerating (Table 7 of the DSS) and this now appears to be a well-established trend.

3.20 The DSS also establishes a number of population growth scenarios (ranging from 1.3% per annum (p.a.) to 3% p.a.) with a 2% p.a. population growth rate nominally considered as the basis for establishing the adequacy of land supply in the strategy. A population growth rate of this magnitude (2% p.a.) will require in the order of 2,850 additional dwellings each year in Greater Geelong to 2036. In my opinion, Greater Geelong should prepare itself for relatively strong population growth (of at least 2% p.a.) for the foreseeable future. The underlying implication is that, regardless of spatial settings from a land-use point of view, there will be implications for every urban area in the municipality – whether that area is identified for ongoing growth or not. This issue is explored further in section 5 of my evidence.
Barwon Heads Structure Plan (2017)


3.22 The updated Draft BHSP includes:
- No change to the defined settlement boundary location of the town;
- A rezoning of the majority of the township from General Residential Zone 2 to Neighbourhood Residential Zone 1 (accompanied by a Design and Development Overlay 41);
- A rezoning of the Increased Housing Diversity Area in Barwon Heads from General Residential Zone (Schedule 3) to General Residential Zone 1;
- A rezoning of Warrenbeen Court; and
- A rezoning of residential land south of Bridge Road.

3.23 The updated BHSP establishes principles and directions to achieve the vision for Barwon Heads derived from the Bellarine Peninsula Strategic Plan 2006-2016, as follows:

“In the year 2016 Barwon Heads will be a unique, sustainable, residential and environmental hub...where human impact is managed to support the fragile natural surroundings by:
- Clearly defining limitations on urban development;
- Protecting and nurturing natural surroundings by managing human footprint; and
- Supporting walking, cycling, fishing, sailing, swimming and generally enjoying what our coastal village has to offer in an environmentally sensitive way.” (p7)

3.24 The updated BHSP sets out a range of key influences (issues, opportunities or constraints) relevant to the current and future planning policy context of Barwon Heads. Of particular relevance to any future development of the Subject Land are those key influences relating to the demographic and social profile of the town, including:
- Changes to the township’s age structure in recent decades, notably an increase of parents and homebuilders as well as primary school children;
- Although the number of retirees has declined in recent decades, the proportion of people near or at retirement age is forecast to grow significantly to 2031; and
- Slowing population growth is occurring in the township as housing supply decreases.
Planning Policy Implications

3.25 The Subject Land is located immediately west of the existing settlement boundary, an alignment which has been retained by the updated BHSP (2017). Accordingly, as proposed, the revised BHSP will not provide for the urban development of the Subject Land. Clear implications arise from the retention of the Settlement Boundary for urban development in Barwon Heads, include:

- That future urban development opportunities in Barwon Heads will be based on redevelopment and infill opportunities (such that planning controls provide for such development) as there is limited remaining greenfield supply within the current settlement boundary. Although a small block of land north-west of the Seabanks Estate has been identified as broadhectare supply, its development isn’t expected to occur for some 11+ years.

- A limited number of vacant lots exist within the settlement boundary. The proposed BHSP estimates there is around 120 vacant lots within the settlement boundary. It should be noted the existence of vacant lots is quite typical in coastal townships, particularly those where there is a significant number of holiday homes or weekenders. In many instances, lots remain vacant due to long-term plans by owners for the eventual construction of a dwelling (for holiday or permanent purposes). It should also be noted the vacant lot count does not include vacant, or, as-yet undeveloped lots in the nearby Thirteenth Beach development (located almost one-kilometre west of the Subject Land). Thirteenth Beach is considered to represent a significantly different market to that of Barwon Heads.

- Limited population growth is expected in the future as residential land supply and urban consolidation opportunities are exhausted. If a reduction in the town’s residential population eventuates, there will be implications for the level of service provision in the township.

- Opportunities for population growth to provide demographic balance in view of the increased retirement age cohort that is expected to occur at Barwon Heads would be forgone.

- Little or no available land may be available for the provision of new aged care or retirement living facilities at Barwon Heads to support the forecast increase in the retirement age cohort.

3.26 These issues are explored further in sections 4 and 5 of my evidence. The proposed BHSP Map is provided at Figure 3.2. Of note, is the township’s settlement boundary shown as a dark red line.
Figure 3.2: Barwon Heads Structure Plan

Source: City of Greater Geelong, Barwon Heads Structure Plan (August 2017)
4 Residential Market

4.1 In this section of my evidence statement, I consider an updated outlook for the residential market in Barwon Heads and, in broader terms, the Greater Geelong region.

Recent Population Trends

4.2 In 2017, Barwon Heads had a residential population of approximately 4,020 persons and comprised 1.6% of Greater Geelong’s total population of 244,800 persons. Since 2007, the population of Barwon Heads has increased by some +880 persons, or approximately +90 persons annually.

4.3 As highlighted in Table 4.1, from 2007-2012 Barwon Head’s annual average population growth in percentage terms (2.5%), was higher than both Ocean Grove (1.8%) and Greater Geelong (1.5%). In contrast, from 2012-2017 Barwon Head’s annual average rate of growth (2.3%) was one percentage point lower than Greater Geelong, but a substantial 11 percentage points lower than Ocean Grove.

4.4 In considering recent population growth trends in Barwon Heads, it is noted that between 2012-2017 neighbouring Ocean Grove increased by some +460 persons annually compared to Barwon Heads at +80 persons annually. The substantial population growth observed by Ocean Grove is largely attributed to greenfield development which is occurring to the north-east of the town’s established urban area. In contrast, the recent population growth in the Barwon Heads settlement area was primarily generated by infill development within the established urban footprint.

Table 4.1: Recent Population Trends; Barwon Heads, Ocean Grove and City of Greater Geelong (2007 – 2017)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Barwon Heads (Settlement Area)</td>
<td>3,140</td>
<td>3,610</td>
<td>4,020</td>
<td>90</td>
<td>2.5%</td>
<td>80</td>
<td>2.0%</td>
</tr>
<tr>
<td>Ocean Grove</td>
<td>11,980</td>
<td>13,120</td>
<td>15,420</td>
<td>230</td>
<td>1.8%</td>
<td>460</td>
<td>3.3%</td>
</tr>
<tr>
<td>City of Greater Geelong</td>
<td>203,800</td>
<td>219,020</td>
<td>244,800</td>
<td>3,040</td>
<td>1.5%</td>
<td>5,160</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

Source: ABS, Regional Population Growth, Cat: 3218.0; ABS, Estimated Residential Population (Customized Data)
Note: Figures rounded to the nearest ten

Forecast Population and Dwelling Growth

4.5 A small area perspective of future population growth is available through forecasts prepared for Greater Geelong City Council by consulting firm, id Consulting, in November 2017. The id forecast was undertaken in view of the 2016 Census dwelling counts and 2016 ABS Estimated Resident Population numbers, and as such represents an up-to-date assessment of population growth expectations.
4.6  id forecasts of population and dwellings for the id small area Barwon Heads – Connewarre – Breamlea, and Ocean Grove, as well as City of Greater Geelong are shown in Table 4.2 and Table 4.3 respectively. The boundary of the Barwon Heads – Connewarre – Breamlea small area is shown in Figure 4.1 on the below page.

Table 4.2  Forecast Population, id (2016 to 2036)

<table>
<thead>
<tr>
<th>Population</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>2031</th>
<th>2036</th>
<th>2016-2036 AAG (No.)</th>
<th>AAG (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barwon Heads – Connewarre – Breamlea</td>
<td>4,750</td>
<td>4,790</td>
<td>4,820</td>
<td>4,860</td>
<td>4,970</td>
<td>+10</td>
<td>+0.2%</td>
</tr>
<tr>
<td>Ocean Grove</td>
<td>14,560</td>
<td>15,490</td>
<td>16,150</td>
<td>16,800</td>
<td>17,550</td>
<td>+150</td>
<td>+0.9%</td>
</tr>
<tr>
<td>Greater Geelong</td>
<td>238,610</td>
<td>260,420</td>
<td>282,040</td>
<td>303,830</td>
<td>325,780</td>
<td>+4,350</td>
<td>+1.6%</td>
</tr>
</tbody>
</table>

Source: id forecast (prepared for Greater Geelong City Council)
Note: Figures rounded to nearest ten

Table 4.3  Forecast Dwellings, id (2016 to 2036)

<table>
<thead>
<tr>
<th>Dwellings</th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>2031</th>
<th>2036</th>
<th>2016-2036 AAG (No.)</th>
<th>AAG (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barwon Heads – Connewarre – Breamlea</td>
<td>2,630</td>
<td>2,790</td>
<td>2,900</td>
<td>2,990</td>
<td>3,080</td>
<td>+20</td>
<td>+0.8%</td>
</tr>
<tr>
<td>Ocean Grove</td>
<td>7,470</td>
<td>8,050</td>
<td>8,540</td>
<td>9,030</td>
<td>9,500</td>
<td>+100</td>
<td>+1.2%</td>
</tr>
<tr>
<td>Greater Geelong</td>
<td>107,110</td>
<td>117,630</td>
<td>128,340</td>
<td>139,020</td>
<td>149,350</td>
<td>+2,130</td>
<td>+1.7%</td>
</tr>
</tbody>
</table>

Source: id forecast (prepared for Greater Geelong City Council)
Note: Figures rounded to nearest ten

4.7  As shown in Table 4.2 and Table 4.3, significant growth in population and dwellings is forecast for Greater Geelong as whole over the 2016-2036 period (Note: the id forecast figure is significantly less than the planning figure adopted in the DSS). In contrast, very limited growth is forecast for Barwon Heads – Connewarre – Breamlea, with annual average growth in population and dwellings for the locality forecast at +10 persons (or +0.2%) and +20 dwellings (+0.8%) respectively.

4.8  Ocean Grove is forecast to average population growth of +150 persons per annum, between 2016 to 2036, and +100 dwellings per annum over the same period.
Available Land Supply

4.9 As noted, Barwon Heads is effectively ‘built out’ in terms of there being an identifiable pipeline of greenfield residential land supply.

4.10 The proposed BHSP estimates there are 119 vacant lots within the current (and proposed) settlement boundary. My own review estimates vacant developable land in the order of 6.2 hectares (Figure 4.2). It is important to note however that some of these ‘available lots’ represent lots that are combined with an existing dwelling as a garden or recreation area. Also, it is not clear these lots are available to the market. In my experience, a characteristic of the market in coastal areas is that vacant lots are often held for extended periods of time, forming part of longer-term family plans for holidays homes or for retirement purposes.
Figure 4.2 Vacant/Developable Land Lots in Barwon Heads

Source: Essential Economics, with Data from DWELP Property Parcel
Building Approvals

4.11 Although historic building approvals can provide a guide as to future demand, using past home approvals data is not always a useful predictive tool in forecasting housing demand at a small area level. The reasons are:

- Population growth – and therefore housing demand – can fluctuate significantly based on broader population trends, including at a national, state and regional level.

- Within an urban area, demand, or take-up, is supply sensitive. That is, the take-up of land is dependent on where land supply is available. In Barwon Heads where there is little to no recent history of greenfield land supply offerings, approvals are limited to urban consolidation opportunities including housing construction on dispersed vacant lots. As a result, in an urban area like Barwon Heads, building approvals (often seen a leading indicator of demand) provide little insight into underlying housing demand.

4.12 Even so, building approvals for Barwon Heads are provided at Table 4.4. The relatively low number of building approvals between 2011/12 and 2017/18 is evident.

Table 4.4 Residential Building Approvals – Barwon Heads and Greater Geelong (2011/12 to 2017/18)

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<tbody>
<tr>
<td>Barwon Heads</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Residential Building Approvals</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>12</td>
<td>9</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Annual Increase (No.)</td>
<td>-2</td>
<td>6</td>
<td>4</td>
<td>-3</td>
<td>-5</td>
<td>-3</td>
<td></td>
</tr>
<tr>
<td>Annual Increase (%)</td>
<td>-50%</td>
<td>300%</td>
<td>50%</td>
<td>-25%</td>
<td>-56%</td>
<td>-75%</td>
<td></td>
</tr>
<tr>
<td>Greater Geelong</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Residential Building Approvals</td>
<td>1,897</td>
<td>2,147</td>
<td>2,473</td>
<td>2,654</td>
<td>2,649</td>
<td>2,623</td>
<td>3,065</td>
</tr>
<tr>
<td>Annual Increase (No.)</td>
<td>250</td>
<td>326</td>
<td>181</td>
<td>-5</td>
<td>-26</td>
<td>442</td>
<td></td>
</tr>
<tr>
<td>Annual Increase (%)</td>
<td>13%</td>
<td>15%</td>
<td>7%</td>
<td>0%</td>
<td>-1%</td>
<td>17%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics Building Approvals by SA1, February 2018. Customised data: SA1 Codes: 2105016, 2105017, 2105031, 2105032, 2105033, 2105034, 2105035, 2105036

Median House Prices

4.13 In my view, a more relevant indicator of demand and supply in urban areas where supply is constrained is the median house price.

4.14 Median house prices are effectively an expression of demand and supply where the price provides an indication of:

- the relatively scarcity or otherwise of supply; and

- the relatively strength, or otherwise, of demand.
4.15 In Barwon Heads it is already established that available land supply is constrained. In this regard it is insightful to compare the median house price in Barwon Heads with other nearby towns and against that of the municipality as a whole. This is provided at Figure 4.3 and Table 4.5.

4.16 The underlying strength of the Barwon Heads residential market is reflected in median house prices which since 2012 has been higher than comparative townships. In 2017, the median house price in Barwon Heads was $920,500, almost double the average for Greater Geelong.

4.17 In my opinion, there is little doubt there is strong underlying demand for residential land and housing in Barwon Heads. The average annual rate of growth in the median house price in Barwon Heads (8.1% per annum between 2003 and 2017) is higher than all other locations identified in Table 4.5.
Figure 4.3  Median House Price (selected Locations), 2003 to 2017

![Graph showing median house prices for selected locations, 2003 to 2017.](source: Pricefinder.com.au)

Table 4.5  Median House Prices (Selected Locations), 2003 to 2017

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Barwon Heads</td>
<td>$310,000</td>
<td>$583,750</td>
<td>$925,250</td>
<td>$615,250</td>
<td>8.1%</td>
</tr>
<tr>
<td>Drysdale</td>
<td>$180,000</td>
<td>$356,000</td>
<td>$450,000</td>
<td>$270,000</td>
<td>6.8%</td>
</tr>
<tr>
<td>Greater Geelong</td>
<td>$205,000</td>
<td>$337,500</td>
<td>$480,000</td>
<td>$275,000</td>
<td>6.3%</td>
</tr>
<tr>
<td>Leopold</td>
<td>$211,000</td>
<td>$311,500</td>
<td>$447,500</td>
<td>$236,500</td>
<td>5.5%</td>
</tr>
<tr>
<td>Ocean Grove</td>
<td>$260,000</td>
<td>$415,000</td>
<td>$638,750</td>
<td>$323,750</td>
<td>6.6%</td>
</tr>
<tr>
<td>Point Lonsdale</td>
<td>$422,500</td>
<td>$687,500</td>
<td>$755,000</td>
<td>$332,500</td>
<td>4.2%</td>
</tr>
<tr>
<td>Port Arlington</td>
<td>$240,000</td>
<td>$366,500</td>
<td>$515,000</td>
<td>$275,000</td>
<td>5.6%</td>
</tr>
<tr>
<td>Torquay</td>
<td>$285,000</td>
<td>$500,000</td>
<td>$732,000</td>
<td>$447,000</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

Source: Pricefinder.com.au
5 BARWON HEADS AS AN AGEING COMMUNITY

5.1 This section of my evidence statement considers the way in which the population of Barwon Heads is ageing.

Recent Ageing

5.2 Ageing of the population is a nationwide trend, and a consequence of increased life expectancy and below replacement level fertility rates.

5.3 Some urban areas, however, are ageing more rapidly than others. In the 10 years to 2016, Barwon Heads has experienced significant ageing as a community (Table 5.1). Between 2006 and 2016, the proportion of the population aged 0 to 55 years of age, decreased from 75.3% to 67.6%, and the proportion of the population aged over 55 increased from 24.5% to 32.4%.


<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>7.5%</td>
<td>7.3%</td>
<td>6.8%</td>
<td>-0.2%</td>
<td>-0.6%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>5-9</td>
<td>8.1%</td>
<td>8.7%</td>
<td>8.9%</td>
<td>0.6%</td>
<td>0.2%</td>
<td>0.7%</td>
</tr>
<tr>
<td>10-14</td>
<td>7.9%</td>
<td>7.5%</td>
<td>8.7%</td>
<td>-0.4%</td>
<td>1.2%</td>
<td>0.8%</td>
</tr>
<tr>
<td>15-19</td>
<td>6.0%</td>
<td>5.9%</td>
<td>5.4%</td>
<td>-0.1%</td>
<td>-0.5%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>20-24</td>
<td>4.4%</td>
<td>3.6%</td>
<td>3.5%</td>
<td>-0.8%</td>
<td>-0.2%</td>
<td>-1.0%</td>
</tr>
<tr>
<td>25-29</td>
<td>4.3%</td>
<td>3.3%</td>
<td>2.2%</td>
<td>-1.0%</td>
<td>-1.1%</td>
<td>-2.1%</td>
</tr>
<tr>
<td>30-34</td>
<td>6.6%</td>
<td>4.9%</td>
<td>4.1%</td>
<td>-1.7%</td>
<td>-0.9%</td>
<td>-2.6%</td>
</tr>
<tr>
<td>35-39</td>
<td>8.0%</td>
<td>8.7%</td>
<td>5.9%</td>
<td>0.7%</td>
<td>-2.8%</td>
<td>-2.1%</td>
</tr>
<tr>
<td>40-44</td>
<td>7.3%</td>
<td>9.0%</td>
<td>8.7%</td>
<td>1.7%</td>
<td>-0.3%</td>
<td>1.4%</td>
</tr>
<tr>
<td>45-50</td>
<td>8.2%</td>
<td>6.7%</td>
<td>7.3%</td>
<td>-1.5%</td>
<td>0.6%</td>
<td>-0.9%</td>
</tr>
<tr>
<td>50-54</td>
<td>6.8%</td>
<td>8.2%</td>
<td>6.3%</td>
<td>1.4%</td>
<td>-1.9%</td>
<td>-0.5%</td>
</tr>
</tbody>
</table>

| 0-54 Years | 75.3% | 73.8% | 67.6% | -1.4% | -6.3% | -7.7% |
| 55+        | 24.5% | 26.2% | 32.4% | 1.6%  | 6.3%  | 7.9%  |
| 70+        | 11.1% | 9.2%  | 11.2% | -1.8% | 1.9%  | 0.1%  |
| 75+        | 7.8%  | 5.9%  | 6.5%  | -1.9% | 0.6%  | -1.3% |
| 85+        | 2.0%  | 1.6%  | 1.6%  | -0.4% | 0.0%  | -0.4% |

Source: ABS Census of Population and Housing

5.4 The numerical outcomes of these demographic trends are provided at Table 5.2.

5.5 Although there have been increases in the number of persons amongst younger age cohorts (for example, those in the 0 to 19 years of age), the overall change between
2006 and 2017 has seen a reweighting of the population away from those aged 0-54 years (+430 persons) towards those aged over 55 years of age (+560 persons).

5.6 The striking change, however, is that which occurred during the later period 2011 to 2017, where the number of persons aged 0 to 54 years increased by +40 persons, and the number of persons aged over 55 years of age increased by +560 persons.

5.7 Additionally, it is evident that in looking at numerical changes in older age cohorts (55 years+, 70 years+ and 85 years+), a greater number are remaining in Barwon Heads. For example, between 2006 and 2011, the number of persons aged 70 years or more did not change. Between 2011 and 2017, the number of persons aged 70 years or more increased by +110 persons.

Table 5.2  Barwon Heads – Estimated Resident Population by Age Group (2006 to 2017)

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>230</td>
<td>270</td>
<td>270</td>
<td>270</td>
<td>+40</td>
<td>0</td>
<td>+40</td>
</tr>
<tr>
<td>5-9</td>
<td>250</td>
<td>320</td>
<td>350</td>
<td>360</td>
<td>+70</td>
<td>+40</td>
<td>+110</td>
</tr>
<tr>
<td>10-14</td>
<td>240</td>
<td>270</td>
<td>340</td>
<td>350</td>
<td>+30</td>
<td>+80</td>
<td>+110</td>
</tr>
<tr>
<td>15-19</td>
<td>180</td>
<td>210</td>
<td>210</td>
<td>220</td>
<td>+30</td>
<td>+10</td>
<td>+40</td>
</tr>
<tr>
<td>20-24</td>
<td>130</td>
<td>130</td>
<td>140</td>
<td>140</td>
<td>0</td>
<td>+10</td>
<td>+10</td>
</tr>
<tr>
<td>25-29</td>
<td>130</td>
<td>120</td>
<td>90</td>
<td>90</td>
<td>-10</td>
<td>-30</td>
<td>-40</td>
</tr>
<tr>
<td>30-34</td>
<td>200</td>
<td>180</td>
<td>160</td>
<td>160</td>
<td>-20</td>
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</tr>
<tr>
<td>35-39</td>
<td>240</td>
<td>320</td>
<td>240</td>
<td>240</td>
<td>+80</td>
<td>-80</td>
<td>0</td>
</tr>
<tr>
<td>40-44</td>
<td>220</td>
<td>330</td>
<td>350</td>
<td>350</td>
<td>+110</td>
<td>+20</td>
<td>+130</td>
</tr>
<tr>
<td>45-50</td>
<td>250</td>
<td>240</td>
<td>290</td>
<td>290</td>
<td>-10</td>
<td>+50</td>
<td>+40</td>
</tr>
<tr>
<td>50-54</td>
<td>210</td>
<td>300</td>
<td>250</td>
<td>250</td>
<td>+90</td>
<td>-50</td>
<td>+40</td>
</tr>
<tr>
<td>0-54 Years</td>
<td>2,290</td>
<td>2,680</td>
<td>2,690</td>
<td>2,720</td>
<td>+390</td>
<td>+40</td>
<td>+430</td>
</tr>
<tr>
<td>55+</td>
<td>740</td>
<td>950</td>
<td>1,290</td>
<td>1,300</td>
<td>+210</td>
<td>+350</td>
<td>+560</td>
</tr>
<tr>
<td>70+</td>
<td>340</td>
<td>340</td>
<td>440</td>
<td>450</td>
<td>0</td>
<td>+110</td>
<td>+110</td>
</tr>
<tr>
<td>75+</td>
<td>240</td>
<td>210</td>
<td>260</td>
<td>260</td>
<td>-30</td>
<td>+50</td>
<td>+20</td>
</tr>
<tr>
<td>85+</td>
<td>60</td>
<td>60</td>
<td>70</td>
<td>70</td>
<td>0</td>
<td>+10</td>
<td>+10</td>
</tr>
</tbody>
</table>

Source: ABS, Estimated Residential Population and ABS Census of Population and Housing

Future Ageing of Population

5.8 The id forecasts provide an overview of how different age cohorts are expected to change in the future (Table 5.3). Again, the area assessed is that of Barwon Heads which in the id forecasts includes Connewarre and Breamlea.

5.9 In summary, the id forecasts suggest the ageing of the population is expected to continue. For example, between 2016 and 2036 the number of persons aged 0 to 54
years is expected to decrease (-208 persons) while the number of persons aged 55 and over is expected to increase by approximately +1,400 persons over the period. The cohort 70+ is forecast to increase by approximately +970 persons between 2016 and 2036.

5.10 These trends can be expected to have significant implications on community infrastructure, and, particularly, the manner in which Barwon Heads accommodates the elderly (see section 6).

Table 5.3  ID Forecast (Barwon Heads - Connewarre - Breamlea)

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2021</th>
<th>2026</th>
<th>2031</th>
<th>2036</th>
<th>Change 2016-2036</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-54 Years</td>
<td>3,131</td>
<td>3,089</td>
<td>2,979</td>
<td>2,877</td>
<td>2,923</td>
<td>-208</td>
</tr>
<tr>
<td>55+</td>
<td>1,619</td>
<td>1,700</td>
<td>1,841</td>
<td>1,985</td>
<td>2,044</td>
<td>+425</td>
</tr>
<tr>
<td>70+</td>
<td>532</td>
<td>709</td>
<td>874</td>
<td>973</td>
<td>988</td>
<td>+456</td>
</tr>
<tr>
<td>75+</td>
<td>297</td>
<td>393</td>
<td>521</td>
<td>645</td>
<td>701</td>
<td>+404</td>
</tr>
<tr>
<td>85+</td>
<td>53</td>
<td>80</td>
<td>94</td>
<td>127</td>
<td>164</td>
<td>+111</td>
</tr>
</tbody>
</table>

Source: Forecast ID
6 IMPLICATIONS AND KEY FINDINGS

6.1 This section of my evidence considers the potential implications of a future environment in which Barwon Heads experiences limited population growth (or population decline), especially impacts on a resident population that is considerably older than most townships.

A Stable or Declining Population

6.2 Barwon Heads is reaching an interesting juncture in its development. Like some other high-priced and geographically constrained coastal townships, there is a realistic prospect of population stabilisation or decline. This is a particularly realistic prospect in coastal townships where the median house price is at a level which limits the market to a relatively small economic cohort. In townships that enjoy a reputation for lifestyle, it is not uncommon for a decline in the number of dwellings that are permanently occupied, and a subsequent increase in the proportion of dwellings that are held as weekenders or holiday homes. In effect, such townships become the domain of those who can afford to hold property, rather than a more normalised urban structure where the majority of the community reside and involve themselves in the local community.

6.3 In affluent coastal communities experiencing population stabilisation or decline, it is not uncommon for basic retail services to be replaced with nuanced lifestyle-based retail activities that cater more specifically to a weekend or holiday population (for example, cafes and restaurants, fashion and gift outlets rather than supermarkets, pharmacies etc).

6.4 Another impact, particularly where the population is stable (or in decline) and ageing, is on the demand for childcare, schools and recreational facilities and clubs that tend to be reliant on younger age cohorts.

6.5 The age cohort analysis undertaken in section 5 of my evidence points to an ageing community where there is significant growth in older age cohorts.

6.6 The impacts are also significant in terms of the provision of education. The Barwon Heads Primary School, located in Golf Links Road, is regarded as an important community asset. The school’s 2016 Annual Report (endorsed 23 March 2017) states that:

“The Barwon Heads Primary School continues to serve the needs of the Barwon Heads community as it has for over 125 years, being the only school in the town. Enrolments have exceeded 400 in the past few years but are expected to slowly decline then stabilize around the low 300s in the following years due to the finite growth potential of the town and the reluctance of current residents to consider relocation due to their appreciation for the local environment and community.”

6.7 The school expects enrolment decline by approximately 25% in the future. I do not suggest that, at 300 students, the school will not be viable. However, in my experience,
schools that have experienced a significant decline in student numbers often find it more difficult to maintain established infrastructure, and sometimes find it difficult to dispel an emerging reputation as a school in decline.

An Ageing Population

6.8 As noted in section 5, Council forecasts indicate Barwon Heads is likely to continue to experience population ageing with the proportion of persons aged 55 years and over increasing at the expense of those aged 0 to 54 years of age.

6.9 In this regard, one of the most significant challenges facing Barwon Heads is that, presently, there are no retirement-based or aged care facilities located in the township. Moreover, there does not appear to be many options available for such facilities given the high price of land, and the lack of developable parcels. It should be noted the relatively new Arcare Point Lonsdale facility occupies around a 1.1 hectare site within the greenfield “The Point” development. Within that development, a further area of several hectares is proposed to be developed as a retirement village.

6.10 There are existing aged-care facilities in Ocean Grove, however, given the attachment many residents have with Barwon Heads, the extent to which retirees and those requiring nursing home facilities are willing to transfer from Barwon Heads to Ocean Grove is not clear.

Conclusions

6.11 Barwon Heads is a popular coastal township located at the head of the Barwon River, in the City of Greater Geelong.

6.12 Although the town is geographically constrained to the north, east and south, some land to the west could be developed. The revised Barwon Heads Structure Plan proposes to re-apply the existing settlement boundary at the western edge of the established urban area.

6.13 Since the remaining developable greenfield land was developed within the settlement boundary, residential approvals have declined and development opportunities in Barwon Heads are now largely limited to small and scarce infill opportunities.

6.14 With no residential land supply, there is limited evidence of underlying demand if measured by, for instance, building approvals.

6.15 Greater Geelong overall however, is expected to experience significant growth in the future and the median house price in Barwon Heads is amongst the highest in the Greater Geelong Region, suggesting there is strong underlying demand for housing if it was available in Barwon Heads.

6.16 With limited opportunities for additional housing, the outlook for Barwon Heads’ population is of a stable or declining population base, and an ageing population.
6.17 Most noticeably, the proportion and actual population of persons aged 0 to 54 years is expected to decrease in the future, and the proportion and actual population of those aged 55 years and over is expected to increase significantly.

6.18 The potential implications for Barwon Heads are likely to be as follows:

- More nuanced offerings in terms of the provision of basic retail services. This is particularly the case should house prices continue to rise relative to other locations, and an increase in the proportion of dwellings used for holiday purposes increases.
- Reduced student numbers and educational infrastructure.
- Increased demand for retirement and aged care facilities within the township. The issue however is that development of a retirement village and aged care facilities in Barwon Heads within the current urban footprint is likely to be challenging given the constrained nature of land supply, lack of available sites and high land prices.

6.19 Accordingly, it is my opinion that the proposed settlement boundary should be assessed in a holistic manner in which the full needs of the community now, and into the future, are properly considered.

Declaration

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance that I regard as relevant have to my knowledge been withheld.

Chris McNeill
Director
Essential Economics Pty Ltd

14 August 2018
ATTACHMENT:

Chris McNeill CV
Chris McNeill
BACHELOR OF ECONOMICS (MONASH)
Director

Chris is a demographer and urban economist with more than 25 years of experience. He is armed with a deep knowledge of Australia’s urban landscape and is a regular conference presenter and expert witness in matters relating to urban planning and development.

between 2005 and 2031 during which he chaired a number of significant Panels and Advisory Committees.

Chris has a passion for regional Australia and he also has extensive experience in both growth area economics and urban renewal projects. Chris has extensive experience in analysing demographic trends and projections and casting his mind forward to how current trends may shape our future. He has been a regular and entertaining presenter at a range of conferences and boardroom presentations, exploring various aspects of Australia’s demographic future.

ACADEMIC QUALIFICATIONS

Bachelor of Economics, Monash University, 1990

PAST POSITIONS

Director, Spade Consultants Pty Ltd, 2007 -2017
Policy Director, Urban Development Institute of Australia (Victoria), 2002-2006
Senior Manager, Ernst & Young, 2001-2002

DISCIPLINES, SKILLS, QUALIFICATIONS

Chris has a Bachelor of Economics degree and post-graduate Certificate qualifications in international business from the Siemens business school in Germany. He is a Member of the Victorian Planning and Environmental Law Association and a former Sessional Member of Planning Panels Victoria.

Chris has worked in the manufacturing industry as a commercial manager, and as an urban economist with an industry association and as a consultant in private practice. Chris was appointed as a Sessional Member of Planning Panels Victoria for an eightyear period.
Commercial Manager, Telstra Limited, 2000
Commercial Manager, Australian Defence Industries Limited, 1997-1999
Senior Commercial Officer, Siemens Limited, 1991-1996
*Studied and worked in Germany as part of Siemens Limited Management Program, 1992-1993
*Sessional Member, Planning Panels Victoria, 2005-2013

RELEVANT EXPERIENCE

The following represents a sample of projects undertaken by Chris McNeill in his former role as a Director with Spade Consultants Pty Ltd.

**Urban Policy Analysis**
Armstrong Creek Development Contributions Analysis, for Coles
Ballarat West Development Contributions Plan analysis and expert evidence, for G&N Closter
Cost Benefit Analysis of Level Crossing Removals (Mitcham, Rooks and Springvale Roads), for VicRoads
Fishermans Bend High Density Residential Concept Testing, for Urban Development Institute of Australia (Victoria)
Heidelberg Parking Strategy and expert evidence, for Banyule City Council
Northland High Density Residential Development Concept Testing, for Department of Sustainability and Environment
Viability of higher density residential development in middle Melbourne, for the Priority Development Panel
Watergardens High Density Residential Concept Testing, for QIC
Werribee Riverbend Precinct Concept Testing, for Department of Sustainability and Environment

**Cape Bridgewater Structure Plan economic inputs, for Mesh Planning**
Darebin Economic Land Use Strategy and expert evidence, for City of Darebin
Horsham North Urban Design Framework, with SJB Urban
Mornington Aged Care Analysis, for AMP Capital Investments
Nathalia and Numurkah Industrial Land Demand and Feasibility Study, for Nathalia Community Bank
Numurkah Economic Development Plan, for Moira Shire Council
Seymour Structure Plan, with Tract Consultants for Mitchell Shire Council

**Residential and Aged Care Assessment**
Armstrong Creek Residential Land Assessment and expert evidence, Dennis Family Corporation
Bacchus Marsh Residential Land Assessment, for Planning Studio on Peel
Ballarat Residential Land Assessment, for Thorney Investments
Ballarat Residential Land Assessment, for G&N Closter Pty Ltd
Bendigo Housing Strategy review and evidence, for Urban Development Institute of Australia (Victoria)
Cape Patterson Residential Land Assessment and expert evidence, for Wallis Watson
Churchill Residential Land Assessment, for Tract Consultants
Coronet Bay Residential Land Assessment and expert evidence, for Thorney Investments
Cowes Residential Land Assessment and expert evidence, for Lechte Corporation
Drouin Residential Land Assessment and expert evidence, for Planning Central
Koo Wee Rup Residential Land Assessment, for Brosnan Engineering Services
Kyneton Residential Land Assessment and expert evidence, for ZFN Management Services
Melbourne Inner North Residential Market Assessment, for Department of Planning and Community Development
Nyora Residential Land Assessment, for Wallis Watson
Riddells Creek Residential Land Assessment, for Alan Bravo
Shepparton North East Growth Area Residential Land Assessment, Mondous Property
Torquay Residential Land Assessment and expert evidence, Amex Corporation
Warragul Residential Land Assessment and expert evidence, for Planning Central
Warrnambool Housing Strategy Analysis and expert evidence, for Rodgers Properties
Woodend Residential Land Assessment and expert evidence, for Villawood Properties

Retail, Commercial, Industrial and Tourism Analysis
Mildura Industrial Land Assessment and expert evidence, for Turk Superannuation Fund
Nathalia and Numurkah Industrial Land Demand and Feasibility Study, for Nathalia Community Bank
Proposed Theme Park Economic Assessment, for Beveridge Williams
Regional Urban Development Program (Industrial), for Department of Planning and Community Development
Tocumwal Foreshore Masterplan Economic Benefits Analysis, Berrigan Shire Council
Wangaratta CBD Master Plan Economic Benefits Analysis, Wangaratta City Council

Other
VCAT and Planning Panels Victoria - Role as Expert Witness on behalf of private and public sector clients
Sessional Member, Planning Panels Victoria (2005 - 2013)

Urban Economics for Property Developers – UDIA Victoria, preparation and presentation for industry property development course (annual, between 2009 and 2013)