April 2010

Development forecasts for Poowong

for South Gippsland Shire Council

Tim Nott

economic analysis + strategy

and

Matters More

land use economics

Report Data

Version	Date	Approved By	Sent to
Draft	29 March 2010	TN	Ken Griffiths, South Gippsland SC
Final	1 April 2010	TN	Ken Griffiths, South Gippsland SC

Prepared by:

Tim Nott

economic analysis + strategy

ABN: 29 590 304 665

20 Scotia Street

West Preston

Victoria 3072

Australia

Tel: 0401 993 451

Email: tim@timnott.com.au

Web: www.timnott.com.au

In association with:

Marianne Stoettrup

Matters More – Land Use Economics

19 Gyro Court, Gisborne 3437

Telephone 0400 995 363
email: marianne@mattersmore.com.au

ABN 59 113 066 283

Please Note

The findings of this report have relied on professional judgement as well as on primary and secondary data sources. Whilst the author believes any assumptions contained in the report are reasonable, the reader should bear in mind that there is no certainty in prediction.

Contents

1 Introduction

1.1 About this Project

South Gippsland Shire Council is preparing structure plans for the townships of Nyora, Poowong and Loch to guide future development. This planning process is required as a result of the impending introduction of reticulated sewerage services to the towns. The provision of sewerage is expected to enable the provision of urban sized allotments with a potential increase in the rate of population growth as a result. The rate of business investment in the towns may also be increased.

To assist the planning process, Council is keen to understand the supply and demand issues associated with housing, commercial and industrial activity in the townships over the next 15 years and beyond.

1.2 About this Report

This report has been prepared by Tim Nott and Matters More to assist Council in its preparation of a structure plan for Poowong. The report examines the key drivers of growth in the area and provides a number of scenarios for development.

The report is in several sections:

- Section 2 provides the development context of Poowong, including the current land-use, recent population and housing growth, and the external links of the population (chiefly their work destinations)
- Section 3 looks at the potential changes to land-use being contemplated in the structure planning process
- Section 4 provides several scenarios for population and housing growth in the future based on different assumptions about how the township will develop
- Section 5 uses the population scenarios to derive likely demand for retail and commercial facilities
- Section 6 provides an estimate of industrial development under each scenario, based on the existing activity and the forecasts for population growth
- Section 7 provides a summary and comparison of the various development scenarios

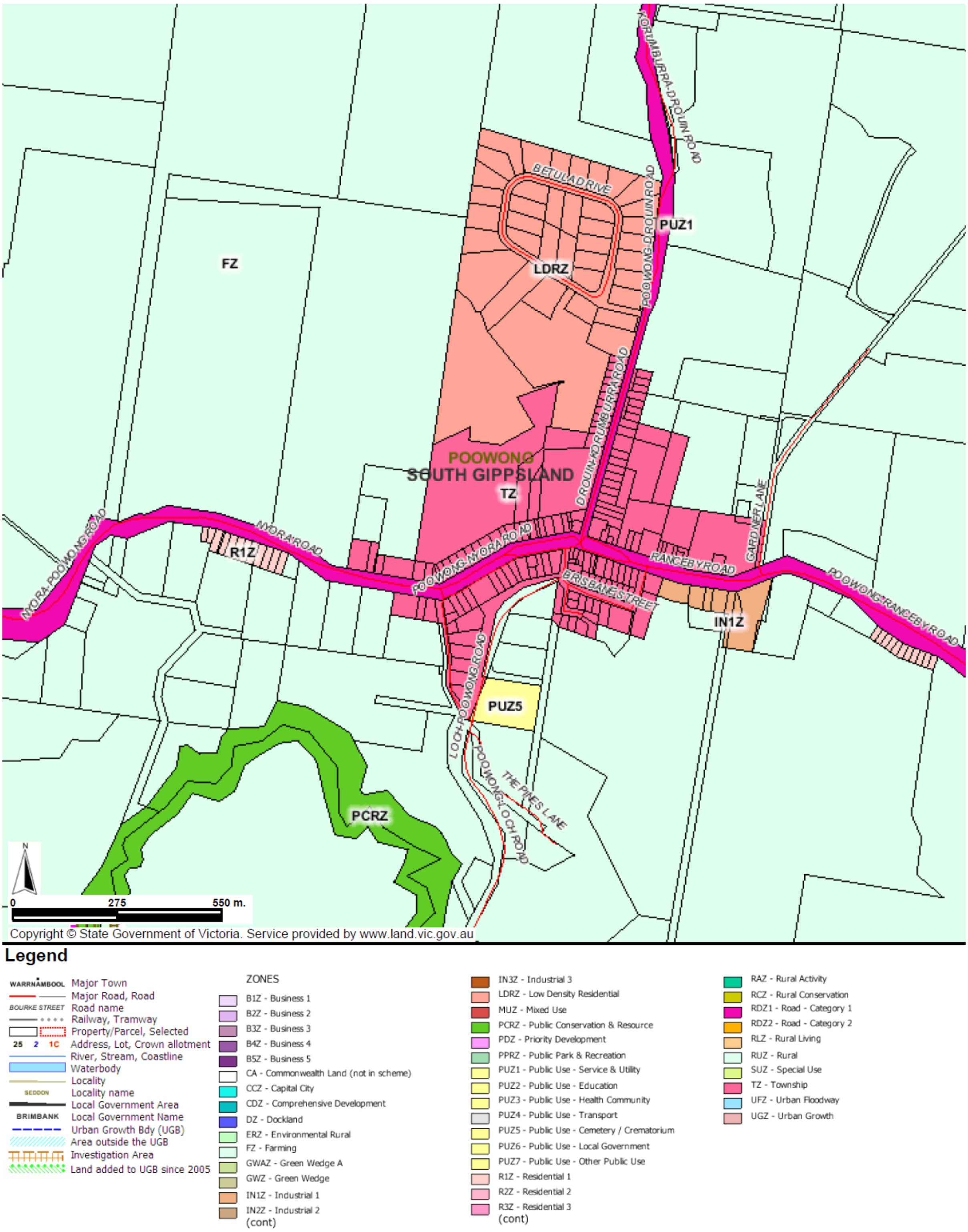
2 Development Context

2.1 Current Town Structure

The Poowong township developed from around 1874 to service the surrounding farmland. The township is situated on a series of ridge lines in what is now largely grazing land used for dairying purposes. Poowong has remained a small rural service town and has not been provided with sewerage which has limited urban development. Nevertheless, some recent rural residential development has taken place on the outskirts of the urban area. The town itself is relatively self-sufficient for a township of its size (less than 600 people in the urban area) and has a significant set of commercial activities in the town centre and industrial activity on the town outskirts to the east.

The following zoning plan illustrates the pattern of development to date.

Figure 1: Poowong – land-use zoning



Source: Land Channel, State Government of Victoria

The main township is restricted to the area marked TZ (Township Zone). This comprises mainly urban sized lots of around 1,000 sq m (although there are larger vacant lots around the town). Development on these older vacant lots has been problematic in more recent times: all lots have septic tanks and, nowadays, lot sizes of 4,000 sq m are considered the minimum necessary to provide acceptable standards of environmental performance. The Low Density Residential area to the north of the township is a more recent development that responds to environmental concerns. The majority of lots in this area remain vacant. Two small strips of housing zoned Residential 1 are located on the main road through Poowong to the east and west of the township. Also shown on the plan is an area of industrial activity (zoned IN1Z). This accommodates a dairy which is now operating at only a low level. However, there is a substantial milk depot further to the east in Farming zoned land. There is also an abattoir on Gardner Lane just beyond the Township Zone.

The main town centre services are on the Nyora Road/Ranceby Road, concentrated around the intersection with the Loch/Drouin Roads.

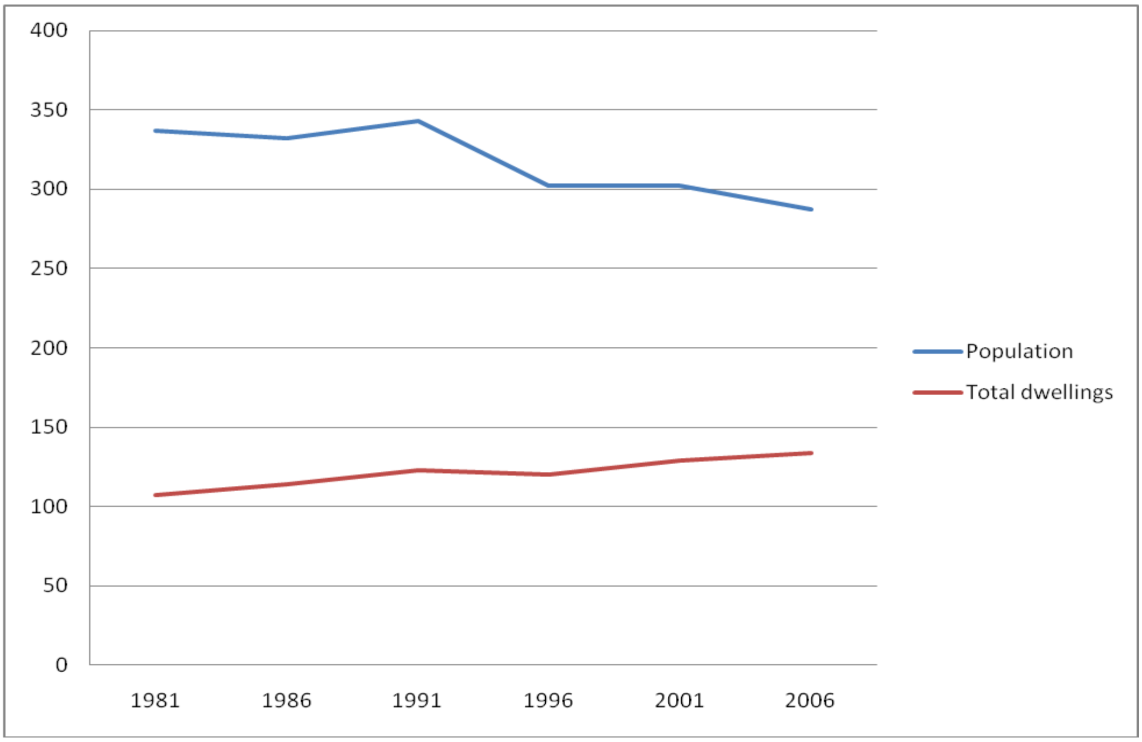
In general, Poowong remains a rural service centre focused on the surrounding farming activity. Nevertheless, there is some recent settlement that has been developed for people wishing to have a small-town lifestyle but who work in larger centres.

2.2 Recent Population and Housing Growth

In 2006, according to the last Census of Population and Housing, there were 287 residents[1] in Poowong, including some in the recently developed area to the north along Betula Drive. Despite the relatively high level of township services for a town of its size, Poowong has experienced a decline in the size of its population since the 1991 Census where it was counted at 343.

The chart below shows the trends in enumerated population size and number of dwellings from 1981 to 2006.

Figure 2: Population and dwelling trends, Poowong, 1981 to 2006



[1] Enumerated population

Source: ABS Census data, Towns in Time DSE

This chart and associated calculations provide the following points:

- Between 2001 and 2006 there was a decline in population size of 15 people, a rate of approximately -1.0% a year.
- In 1981, Poowong was a 'young' township – over 190 children aged 0-17 of a total population of approximately 340. At that time, the average household size was 3.1.
- By 2006, Poowong was an 'older' town – with only 64 children aged 0-17, and an average household size of 2.1. This age profile is expected to have remained unchanged from 2006 to 2010, as the decline in household size is stabilised by an anticipated influx of families in the new rural residential housing.
- Over the 10-year period, from 1996 to 2006 the population declined by 15 people, at an average rate of -0.5%.
- The number of dwellings in Poowong has increased by an average of 1.1 new dwellings a year, or an average yearly increase of 0.9%. In 2006, there were 134 dwellings in Poowong (ABS, 2007).
- Vacancy rates appear to be around 16%. Approximately 20 dwellings in the township are unoccupied (21 in 2006). This is consistent with some weekender use. There is no clear trend in vacancies – in 2001 there appeared to be 0 or 3 vacancies depending on the source (potentially a Census counting error), while in 1996 there were 19 dwellings vacant, i.e. 16% vacancy.

Making the usual allowance for undercounting at the Census, the estimated resident population in 2006 was 298. Since 2006, 15 new dwellings have been constructed. This report assumes that the population in new homes has slightly outweighed the decline in the existing population. **The estimated resident population of Poowong in 2010 is 300**. The resident population has therefore increased by 2 people over four years which is an average population growth rate of 0.2% a year. By these estimates, Poowong has begun to grow again after some years of decline.

2.3 House Prices

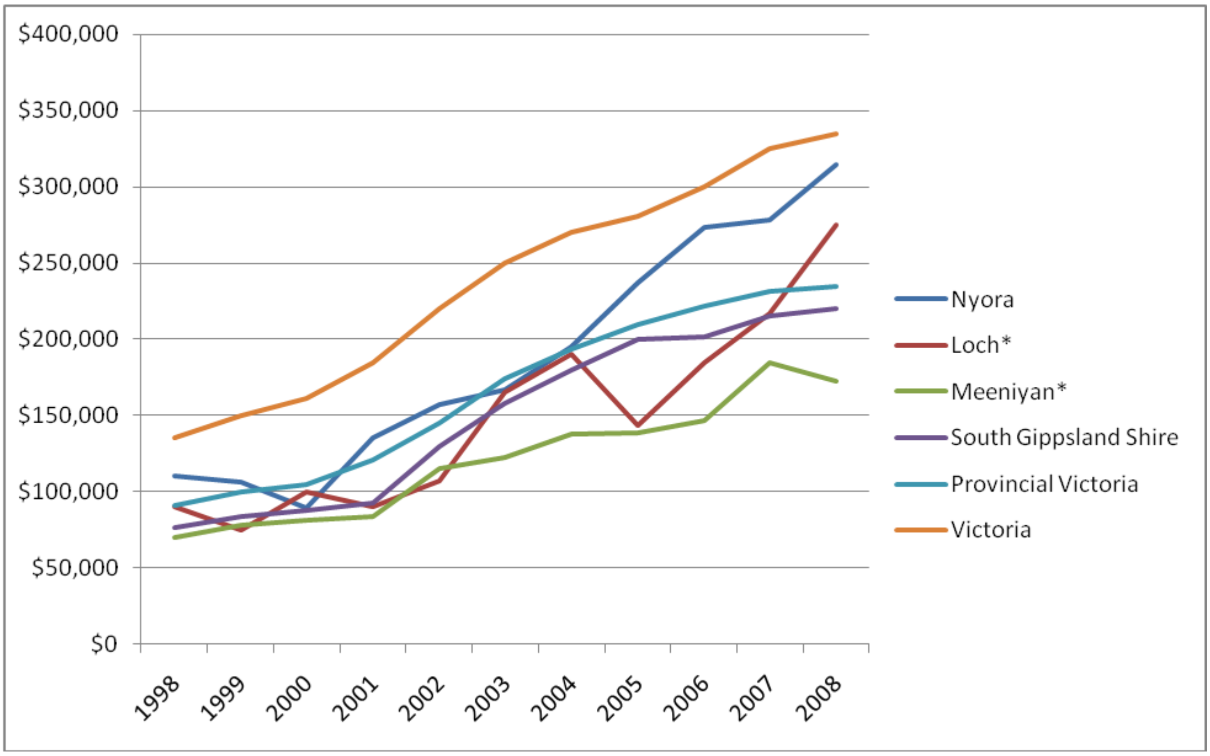
In Poowong a 4 bedroom home built approximately 20 – 30 years ago is on the market for $295,000, while for $390,000, it is possible to purchase a newer 4 bedroom home with an in-ground pool on a 3.5 acre lot.

Housing is relatively affordable. The region's median house price is $227,000 (January 2010, www.domain.com.au), which is higher than in Poowong where the median price is $186,000 while in Nyora it is $236,000.

While historic data for Poowong is not published by the Department of Sustainability and Environment (in *A Guide to Property Values*), data for Loch and Nyora is available and the trends for these towns are shown below in comparison with South Gippsland Shire, Provincial Victoria and Victoria.

House prices in the region have been trending upwards and it is reasonable that the median house price in Poowong has also been on a general upward trend.

Figure 3: Trends in median house prices, small towns near Poowong, South Gippsland Shire, Provincial Victoria and Victoria, 1998 to 2008



Source: A Guide to Property Prices 2009, DSE

2.4 External Linkages

In 2006, there were approximately 128 people aged over 15 in the labour force in Poowong with labour force participation at 55%.

Between 2001 and 2006, the labour force increased by approximately 13 people at an average annual growth rate of 2.2%. This shows that the rate of participation in the labour force has increased, given that the population aged 15 and over in Poowong declined over the period.

Unemployment in 2006 was 6.3% (8 people were not employed). More recent unemployment data from the Department of Employment and Work Place Relations indicate that unemployment in the region has since declined and is approximately 2.9%, although this may not apply to Poowong as the number of unemployed is quite small and there may be special circumstances as barriers to employment that relate to these individuals.

Information about the place of work is available for 114 employed residents in Poowong (custom data sourced from ABS Census 2001 and 2006). This information is shown in the following table.

Table 1: Location of work, Poowong work force, 2001 and 2006

Distance from Poowong	Local government area or Statistical Local Area	2001 Jobs per location	2001 %	2006 Jobs per location	2006 %
0 - 30km	South Gippsland- West	***40***		***56***	
	Subtotal	***40***	***37%***	***56***	***49%***
31 - 50km	South Gippsland - Ctra	10		3	
	Leongatha	incl above		6	
	Casey – Berwick	3		0	
	Bass Coast	6		0	
	Cardinia	11		10	
	Baw Baw	24		14	
	Subtotal	***54***	***50%***	***33***	***29%***
51 - 70km	Dandenong	0		7	
	Subtotal	***0***	***0%***	***7***	***6%***
71+ km	Melbourne - Inner	3		3	
	Melbourne -D'lands-S'bank	0		3	
	Kingston	0		4	
	Subtotal	***3***	***3%***	***10***	***9%***
	Vic undefined	0			
	No fixed Address	10		8	
	Subtotal	***10***	***9%***	***8***	***7%***
		107	***100%***	***114***	***100%***

Source: ABS Census 2001 & 2006 Custom data

The table shows:

- Poowong residents are predominantly employed locally, that is within the South Gippsland – West SLA where 56 residents work, i.e. 49% of the total of 114 workers who travel less than 30km to work.
- The second largest group of 33 workers travel between 31 and 50kms to work (29% of all workers) located in South Gippsland Shire (for example in Leongatha) or in the neighbouring Baw Baw and Cardinia Shires.
- Only a small proportion of workers travel further afield, for example, to Dandenong (6%) and the Melbourne CBD (5%).
- A total of 8 workers are at no fixed address; these people may have jobs in the transport or construction industry.

Travel for work, if not local, is mainly northwards towards Baw Baw and northwest towards Cardinia Shire. Compared with Nyora only a few kilometres to the west, Poowong has a much more locally based labour-force.

Nevertheless, it is noticeable that there has been an increase in the number of jobs held by residents that are located in the Melbourne CBD, and locations that are more than 70kms from Poowong. In 2001, 3% of the workforce was employed in these more distant locations, while in 2006 this had tripled to 9% of the employed workforce.

3 Structure Planning

3.1 Key Issues

A new Structure Plan for Poowong is now being contemplated by Council. Key considerations in the development of the structure plan include:

1. **The township is to be sewered**. South Gippsland Water expects to complete the Poowong, Loch and Nyora Sewerage Scheme by 2013 at a cost of $16 million (South Gippsland Water, 2009). This will allow a more urban style development with smaller lot sizes. More urban-scale development will enable more people to live in the township at higher densities. This may change the existing socio-economic patterns in the township.
2. **Much of the land in and around Poowong is steeply sloped** and this provides significant constraints to future development. Nevertheless, there are some areas where development may be possible given appropriate zoning.
3. **Existing industry provides a constraint.** The abattoir and dairy situated to the east of town are significant businesses for the town and both have invested in recent times. However, the nature of these businesses provides a constraint to housing development. (The EPA buffer distance guidelines nominate 500 m buffer for an abattoir and 300 m buffer for milk processing factory.)
4. **There is interest in housing development**. The Shire has received expressions of interest from land-holders in developing parcels of land in or adjacent to the township.
5. **Market demand is unclear**. The extent of demand for either urban-density living or rural residential development in Poowong is not clear. Only rural residential development has been undertaken most recently but this has been because there have been strong constraints on urban density housing.
6. **Melbourne's south east continues to grow**. The growth of south east Melbourne creates demand for all types of lifestyles, including those offered by small towns such as Poowong (whether on large or small lot subdivisions).
7. **More extensive urban development will require infrastructure services to be provided**. Sewerage is not the only additional infrastructure required for urban development. Extensions to reticulated water, storm water, roads, energy and telecommunications services may also be required. Fairly apportioning the cost of these services will be an issue.
8. **More residents will generate more demand for commercial and community services**. The level of service provided locally will depend on the number of additional people that move into the township and surrounds. The provision of new services – more shops, doctors, community services, etc – is triggered at various threshold populations, and will also depend on the location and quality of competing services. Services are generally best clustered in an activity centre; it is unclear to what extent the existing centre can accommodate growth.

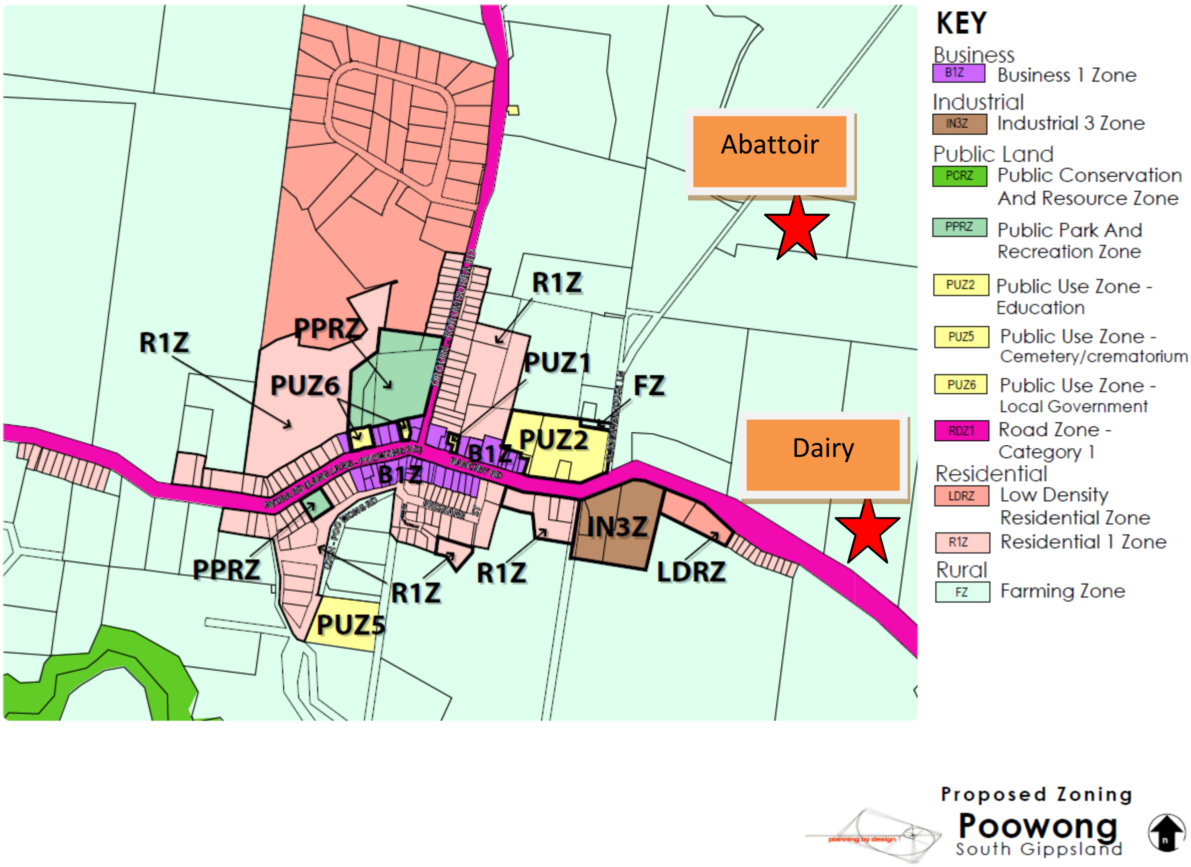
3.2 Option Being Considered

Council is considering introducing some short-term changes to the land-use zoning to translate the Township Zone to more functional Zones. However, longer term options for expansion are also being considered. These potential changes are considered in turn.

3.2.1 Rezoning likely in the near term

The following diagram illustrates the changes in zoning being considered in the short term by Council. (***It should be stressed that this illustration is preliminary and for discussion purposes only; no decision has yet been made to rezone land in Poowong.***)

Figure 4: Short term rezoning being considered in Poowong



Source: South Gippsland Shire Council, unpublished 2010

For the most part, the zoning changes proposed in the short term simply translate the Township Zone into more functional areas – Residential 1, Business 1 and Public Use Zones. There are some minor changes, including:

- the addition of two Low Density Residential lots on Ranceby Road to the east of the Industrial Zone
- the rezoning of farmland adjacent to the old dairy factory to Industrial 3
- the rezoning of several small industrial parcels on Ranceby Road to Residential 1 Zone
- the rezoning of farmland south of Brisbane Street to Residential 1

No substantial areas for expansion are proposed; rather, the change in zoning will allow an intensification of urban development, particularly in the northern half of the township where there are presently large parcels of un-subdivided land which will be zoned R1.

Altogether, the existing vacant housing lots and lots created under the changes proposed amount to around 56 lots, as shown in the table below.

Table 2: Estimate of the number of housing lots created by proposed changes to land-use zoning

	Urban density	Low Density Residential	Total
	no.	no.	no.
Current vacant lots	0	30	30
Additional lots allowed by short term changes	124	2	126
Total	124	32	156

Source: Tim Nott, Matters More

Note: Additional lots allowed by short term changes include some within the 500m buffer of the abattoir (although most of these are more than 300m from the abattoir).

The table below provides an estimate of the population that might be supported by those additional lots.

Table 3: Estimate of population enabled by additional lots

	Urban density	Low Density Residential	Total
Total lots	124	32	156
Occupancy rate	84%	95%	
Occupied houses	105	30	135
Household size	2.2	2.8	2.3
Additional population	230	85	315

Source: Tim Nott, Matters More

Note: Occupancy rate of lots in Residential 1 Zoning is assumed to remain at 84%, catering for weekenders. The occupancy rate in rural residential lots is assumed to be higher given the larger commitment to buying and maintaining a large block.

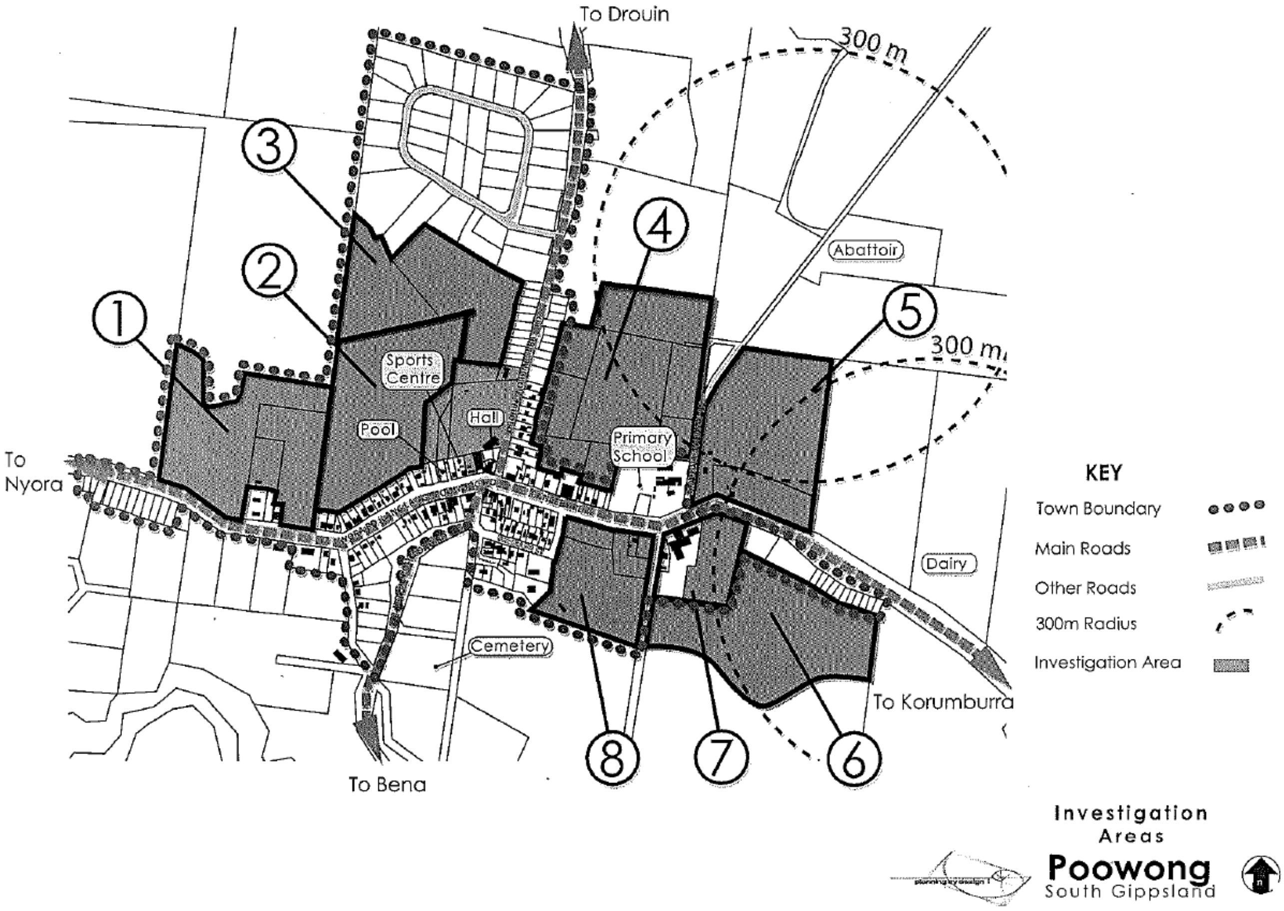
Potentially, the current vacant lots and the additional lots created by zoning changes could accommodate a further 315 people in Poowong.

If the lots were fully taken up by 2030, then the population would be around 615, an average annual growth rate of 3.7%.

3.2.2 Potential areas for urban expansion

Council is also considering areas for expansion of Poowong in the longer term. The map below illustrates a number of areas being investigated for future urban development. **It should be stressed that this is a preliminary illustration prepared for discussion purposes only. Consultation with the community and key stakeholders is required before the 'Investigation Areas' are finalised in terms of geographic area or potential development density.**

Figure 5: Areas being investigated for urban expansion of Poowong



Source: South Gippsland Shire

Note: Council has identified several errors with this map:

1) Abattoir buffer in map should have 500m radius

2) Northern boundary of Area 1 should be straight line.

The table below provides an estimate of the additional population capacity of the investigation areas. The table excludes the areas which have already been considered above.

Table 4: Potential lots, houses and additional population capacity in proposed expansion areas

Area	Total approximate area	Developable land	Potential lots	Occupied houses	Population capacity
	ha	ha	no. lots	no. houses.	no. persons
Area 1	10.4	7.8	93	78	172
Area 2 (to be zoned Residential 1 in the short term)	0	0.0	0	0	0
Area 3 (already zoned LDR)	0	0.0	0	0	0
Area 4 (part not already zoned)	10.7	8.0	96	81	178
Area 5	11.1	8.3	100	84	185
Area 6	10.4	7.8	94	79	173
Area 7 (to be zoned IN3)	0	0.0	0	0	0
Area 8 (part not already zoned)	3.3	2.5	30	25	55
Total	45.8	34.4	413	347	762

Source: Tim Nott, Matters More

Table notes:

- Developable land assumed to be 75% of total area
- Potential lots calculated at urban density of 12 lots per ha
- Occupied houses assumed to be 84% of available lots
- Population capacity calculated at 2.2 persons per household

Given the assumptions outlined above, the population capacity of the investigation areas is 760 people. This would bring the total population capacity of the town to approximately 1,380 people. If this population were to be achieved by 2030, the average annual growth rate would be over 7.9%. Such changes, then, would be likely to cater for growth well beyond 2030.

4 Forecasting Urban Development

4.1 Development Scenarios

The previous section has examined the scale of potential development in Poowong and surrounds. This section provides evidence about the potential future rate of development. The rate of development is important since it is this that will determine if and when various infrastructure and community services will be required.

The rate of development cannot be known with any certainty since there are a multitude of variables, many of which are not within the control of local land-owners or Council. In order to assist the planning process, it is common practice in this situation to create a set of scenarios based on different policy directions or influences.

In this case, the scenarios are taken to 2030, 20 years from now.

There are three main scenarios:

4.1.1 Past growth continued

Between 2001 and 2006, Poowong's population declined by 1.0% per year. However, as noted above, since 2006 it appears likely that the township has grown with the development of new homes. This growth is estimated at 0.2% per year. On this basis, a potential development scenario for Poowong is that it continues to experience a low population growth of 0.2% per year on average to 2030. Under this scenario Poowong will continue to have a weekender element, with 'vacant' dwellings remaining at the current rate of approximately 16% of the housing stock:

- Total estimated population in 2030: 312
- Population growth rate: 0.2%pa
- Average household size in 2030: 2.1 persons per household
- Total dwellings by 2030: 177 - an increase of 30 dwellings over the 20-year period
- Occupied dwellings by 2030: 149 - an increase of 25 dwellings over the 20 year period (assuming 16% unoccupied dwellings).

4.1.2 Growth forecast of State Government

Victorian State Government (DPCD) release population forecasts on a periodic basis for areas as small as Statistical Local Areas (SLAs) and these can be used to provide a forecast for smaller areas. The latest forecasts are Victoria in Future 2008 and go out to 2026 for SLAs.

The SLA containing Poowong – South Gippsland West SLA – is expected to grow by 1.0% per year over the period to 2030.

This scenario assumes that Poowong will grow at the same rate forecast for the SLA, ie 1.0% pa.

It is assumed that by 2030 the average household size will be 2.2 and that the township will attract a mix of household types and age groups.

- Total estimated population in 2030: 366 – an increase of 66 residents
- Population growth rate: 1.0%pa
- Average household size in 2030: 2.2 persons per household
- Total dwellings by 2030: 198 - an increase of 51 dwellings over the 20 year period.
- Occupied dwellings by 2030: 166 - an increase of 42 dwellings (assuming a vacancy rate of 16%).

4.1.3 Growth History of Similar Towns

Recent growth in Poowong may ***not*** be a good guide to future growth patterns since key factors are changing. In particular, the provision of sewerage and the potential availability of large areas of land for urban development are new features of the town. Some understanding of how these changes may affect the growth rate of the town may be found by examining the experience of other towns in proximity to Melbourne.

Poowong's location approximately 95km South East of the Melbourne CBD puts it within the range of commuting to Melbourne and in the outer band of towns that are experiencing growth due to the influence of metropolitan Melbourne.

Population growth is not uniform across these bands, and each town experiences a different scenario. Some towns become the focus of a large-scale residential development and experience substantial growth off a very small base, becoming completely different types of settlement. Other towns experience more steady growth that is a continuation of the existing trend of settlement and maintain their township identity as they grow. Some towns become dormitory suburbs of Melbourne, while others develop to provide a good range of services to their residents and thereby sustain a level of community adhesion. Table 5 below provide a list of small towns within a 20 – 50km range of the perimeter of metropolitan Melbourne. Towns with a population of 200 to 5,000 have been included as towns within this range and are the most relevant points of comparison for Poowong's future development scenario. Note that the population estimates may in some cases underestimate the town's size if the town has spread over a larger geographic area and these new boundaries not recognised in the data.

The towns are located within four general development corridors. These are

- The western/south-western corridor towards Geelong and Ballarat. Towns located in this corridor are not unilaterally Melbourne focused as Geelong and Ballarat provide competition to Melbourne as employment centres and therefore the experience in this corridor is less relevant to Loch. Towns in this corridor have good rail access via the Geelong and Ballarat lines;
- The northern/north-western corridor which includes towns along the Calder and Hume Freeways. Towns in this corridor have good rail access via the Bendigo and Albury rail lines;
- The eastern corridor which extends into the Yarra Valley and north east into Murrindindi Shire. Towns in this corridor have limited rail access with the closest trains departing from Lilydale;
- The south-eastern corridor which extends along the Princes and South Gippsland Highways. Towns in this corridor along the Princes Highway have good rail access via the Traralgon Line, whereas there is no rail access along the South Gippsland Highway. Cowes on Phillip Island is also included in this corridor.

Towns in the following table are sorted according to distance from Melbourne, based on an assumption that there is a relationship between population growth and distance: the further towns are from Melbourne (as the growth driver) the lower their growth rate will be. Analysis of the three broad corridors shows that there is a (negative) correlation between distance from Melbourne and population growth in 2001-2006 in the northern and eastern corridors. However this relationship is not valid for the south eastern corridor where substantial population growth in Dalyston, Nilma, Darnum and Cowes skews the result.

Table 5: Selected small towns, enumerated population 1981 to 2006

	Distance from Melbourne	1981	1986	1991	1996	2001	2006	aagr 2001-2006
Western Corridor								
Ballan	80km W	689	857	1,190	1,451	1,766	1,770	0.1%
North and North Western Corridor								
Bulla	23km NW	-	258	294	345	373	397	1.3%
Beveridge	37km N	-	-	-	-	-	342	n.a.
Wallan	43km N	1,198	1,802	2,381	3,262	4,075	5,322	5.5%
Riddells Creek	45km NW	1,076	1,375	1,592	1,795	2,337	2,548	1.7%
Romsey	53km N	945	1,409	2,209	2,555	3,021	3,457	2.7%

Macedon	54km NW	1,137	1,236	1,354	1,385	1,419	1,377	-0.6%
Mount Macedon	54km NW	805	980	1,017	1,066	1,202	1,066	-2.4%
Kilmore	54km N	1,862	2,213	2,865	3,088	3,866	4,703	4.0%
Woodend	62km NW	1,808	2,244	2,766	2,994	3,038	3,087	0.3%
Lancefield	62km N	633	837	1,080	1,146	1,160	1,160	0%
Broadford	65km N	1,640	1,983	2,339	2,508	2,794	2,999	1.4%
Tylden	72km NW	213	230	250	244	291	254	-2.7%
Trentham	78km NW	522	554	632	658	697	622	-2.3%
Pyalong	76km N	-	-	-	-	238	259	1.7%
Tallarook	78km N	213	230	250	244	291	254	-2.7%
Malmsbury	93kmNW	445	458	518	514	494	616	4.5%
Eastern and North Eastern Corridor								
Yarra Glen	39km NE	1,016	1,181	1,196	1,244	1,385	1,870	6.2%
Yarra Junction	56km E	1,543	1,812	1,962	2,083	2,210	2,297	0.8%
Don Valley	55km E	-	-	-	-	273	270	-0.2%
Warburton	63km E	1,743	1,956	2,110	1,992	1,997	1,894	-1.1%
Powelltown	67km E	190	193	198	176	205	201	-0.4%
Warburton East	68km E	391	541	632	740	708	708	0.0%
Buxton	78km NE	-	-	-	-	206	213	0.7%
South Eastern Corridor								
Cannons Creek	53km SE	-	-	-	-	481	495	0.6%
Warneet	54km SE	-	-	-	-	455	492	1.6%
Maryknoll	60km SE	-	-	-	-	516	460	-2.3%
Nar Nar Goon	60km SE	346	522	625	596	607	607	0.0%
Koo Wee Rup	62km SE	1,047	1,081	1,106	1,118	1,305	1,403	1.5%
Tynong	64km SE	238	262	298	261	335	320	-0.9%
Garfield	69km SE	517	577	674	658	703	867	4.3%
Lang Lang	72km SE	582	569	696	825	921	894	-0.6%
Corinella	77km SE	173	235	340	391	478	495	0.7%
Coronet Bay	80km SE	193	342	504	520	622	630	0.2%
Grantville	82km SE	195	323	383	389	401	458	2.7%
Nilma	96km SE	-	-	-	-	-	206	n.a.
Dalyston	97km SE	-	-	-	-	171	275	10.0%
Darnum	100km SE	180	255	325	293	316	362	2.8%
Yarragon	103km SE	587	670	725	695	721	721	0.0%
Trafalgar	114km SE	2,109	2,149	2,146	2,239	2,279	2,251	-0.2%
Cowes	122km S	1,563	2,251	2,658	3,060	3,571	4,139	3.0%

Source: towns in time, DSE

Notes: AAGR – average annual growth rate

Individual growth rates should be treated with caution since the statistical boundaries of the towns do not capture the extent of urban development in all cases.

The advent of reticulated sewerage was also analysed to identify whether this affected township growth and if so, by how much. Four towns were identified that had been sewered in the last decade; Dalyston (2000), Lancefield (2003), Macedon and Mount Macedon (both in 2006).

- Dalyston: Westernport Water completed the sewering of Dalyston in 2000, but this did not immediately lead to any growth as Dalyston was not a suburb of choice. Growth has increased since 2005, as land availability in nearby Wonthaggi has become in short supply and Dalyston is now emerging as a first home buyer's area for current or new residents to the Wonthaggi area. The development of the desalination plant near Wonthaggi is also spurring growth in the region, as is the coastal location.
- Lancefield: Sewering by Western Water in 2003 has not lead to any discernible growth, however the current structure plan recognises that infill development and smaller lot development can now occur and land towards the south west and north is earmarked for residential expansion and land to the east for low density residential development.
- Macedon and Mount Macedon: These towns are also located north of Melbourne with good commuter access via train (Bendigo line) and the Calder Freeway. The provision of sewerage was completed in March 2006, but this has not lead to planning scheme amendments to rezone land.

In the following table the towns are grouped according to growth in 2001-2006: negative growth, low growth, strong growth and high growth, and factors that are likely to contribute to growth or decline are noted. These bands are used to identify the towns that share conditions with Poowong and possibly develop a growth scenario that is not covered in the above scenarios based on experiences elsewhere.

Table 6: Growth hierarchy of towns around Melbourne

	Town	Distance from Melbourne	Population 2006	aagr 2001-2006	Development factors
Negative Population Growth	Tylden	72km NW	254	-2.7%	Land for development not available
	Tallarook	78km N	254	-2.7%	Land for development not available
	Mount Macedon	54km NW	1,066	-2.4%	Not planning for growth
	Maryknoll	60km SE	460	-2.3%	
	Trentham	78km NW	622	-2.3%	Established historic town, no trains, rural setting
	Warburton	63km E	1,894	-1.1%	Closure of large employer
	Tynong	64km SE	320	-0.9%	Land for development not available
	Macedon	54km NW	1,377	-0.6%	Not planning for growth
	Lang Lang	72km SE	894	-0.6%	Planning constraints
	Powelltown	67km E	201	-0.4%	Land for development not available
	Don Valley	55km E	270	-0.2%	Land for development not available
Growth of more than	Yarragon	103km SE	721	0.0%	Tourist role, main highway stop (Princes H'wy)
	Lancefield	62km N	1,160	0.0%	Better serviced towns closer to City (no train)
	Nar Nar Goon	60km SE	607	0.0%	Outcompeted by Garfield, Pakenham
	Warburton East	68km E	708	0.0%	Better serviced towns closer to City (no train)
	Ballan	80km W	1,770	0.1%	Growth in rural surrounds

	Town	Distance from Melbourne	Population 2006	aagr 2001-2006	Development factors
0% but less than 2%pa	Coronet Bay	80km SE	630	0.2%	Coastal attraction, many holiday homes
	Woodend	62km NW	3,087	0.3%	Main highway, railway, tourist role
	Cannons Creek	53km SE	495	0.6%	
	Buxton	78km NE	213	0.7%	Rural setting, low service level
	Corinella	77km SE	495	0.7%	Coastal attraction, many holiday homes
	Yarra Junction	56km E	2,297	0.8%	Little land available
	Bulla	23km NW	397	1.3%	Not planning for strong growth, limited land released
	Broadford	65km N	2,999	1.4%	Future growth destination (after Kilmore)
	Koo Wee Rup	62km SE	1,403	1.5%	Well serviced town close to growth area
	Warneet	54km SE	492	1.6%	
	Pyalong	76km N	259	1.7%	
	Riddells Creek	45km NW	2,548	1.7%	Current growth destination, on train line
Growth of more than 2% but less than 4%pa	Grantville	82km SE	458	2.7%	Current growth destination, coastal access
	Romsey	53km N	3,457	2.7%	Current growth destination, village w services
	Darnum	100km SE	362	2.8%	Suburb town to Warragul where aagr is 1.8%pa
	Cowes	122km S	4,139	3.0%	Retirement & tourist focus, 46% is 55+ and median age is 52, coastal access
Growth of 4% pa or more	Kilmore	54km N	4,703	4.0%	Strong growth, on train line, developer focus
	Garfield	69km SE	867	4.3%	Strong growth, on train line, services
	Malmsbury	93kmNW	616	4.5%	Data questionable, changed count method
	Wallan	43km N	5,322	5.5%	Strong growth, on train line, developer focus
	Yarra Glen	39km NE	1,870	6.2%	New land release after years of pent up demand
	Dalyston	97km SE	275	10.0%	Strong growth, supply shortage in area
no data	Beveridge	37km N	342	n.a.	Developer focus
no data	Nilma	96km SE	206	n.a.	Suburb town to Warragul where aagr 1.8%pa

Source: Refer table 5, and consultants estimates

Note: Individual growth rates should be treated with caution since the statistical boundaries of the towns do not capture the extent of urban development in all cases.

From table 6 and additional calculations it appears that an indicator for future growth is town size: there is a positive correlation (+0.32 across all towns) between the population size and growth rate from 2001 and 2006, which means that size as a factor explains about 30% of the growth for towns with between 200 and 5,000 residents. The implication for Poowong is that with 300 residents it is unlikely to grow and is more likely to have negative growth. To reverse this trend it therefore needs some external stimulus to ensure that growth occurs. Such stimuli can include, for example increase in local employment (as has happened at Dalyston), establishment of a medical facility, a magnet school or college, a retirement village, or a resort development.

Six towns in table 6 have experienced growth of 4% or more from 2001 to 2006. Of these, Dalyston is most similar to Poowong in terms of size and location, but, as mentioned before, has experienced explosive growth due to jobs growth in the area and limited land availability in nearby Wonthaggi with a population of over 6,600 and a good range of shops and services. On this basis, a high growth scenario is not realistic for Poowong unless there is significant investment in facilities and some developer interest materialises. In Poowong, substantial and sustained growth in the dairy and meat processing industries may trigger high growth. Reopening of the dairy factory as a substantial employer, for example, could generate strong demand for housing. However, it is unlikely that this kind of growth of over 4% per year could be sustained for 20 years.

In terms of grouping, Poowong has some similarities with the group of towns that have growth of 2% but less than 4%. In general, these towns are:

- similar distances from the nearest metropolitan growth corridor
- attractive for different reasons including coastal access (Grantville); large urban lots and historic town centre (Romsey); proximity to regional centre and freeway access (Darnum)
- in the case of Romsey and Grantville, identified by the planning scheme as towns which have the capacity to grow, with structure plans in place
- not directly linked to the rail network (although the train runs through Darnum the station is closed)
- available residential lots

Poowong is a similar distance from the job markets of Melbourne as Grantville; it is in an attractive setting; it is not directly linked to the rail network; and may have a variety of housing lots available. Poowong is not a major tourist town but it does have strong local industries that provide employment. As a result, a growth rate of 2.7% is adopted for this scenario (that is, the average for the three similar towns) with the following results:

- the population of Poowong in 2030 rises to 510
- the household size, in keeping with the growth in commuter families, is assumed to remain at 2.4 people per house
- the number of occupied houses in 2030 is 213, a growth of 89 compared with the present

4.2 Comparison of growth scenarios

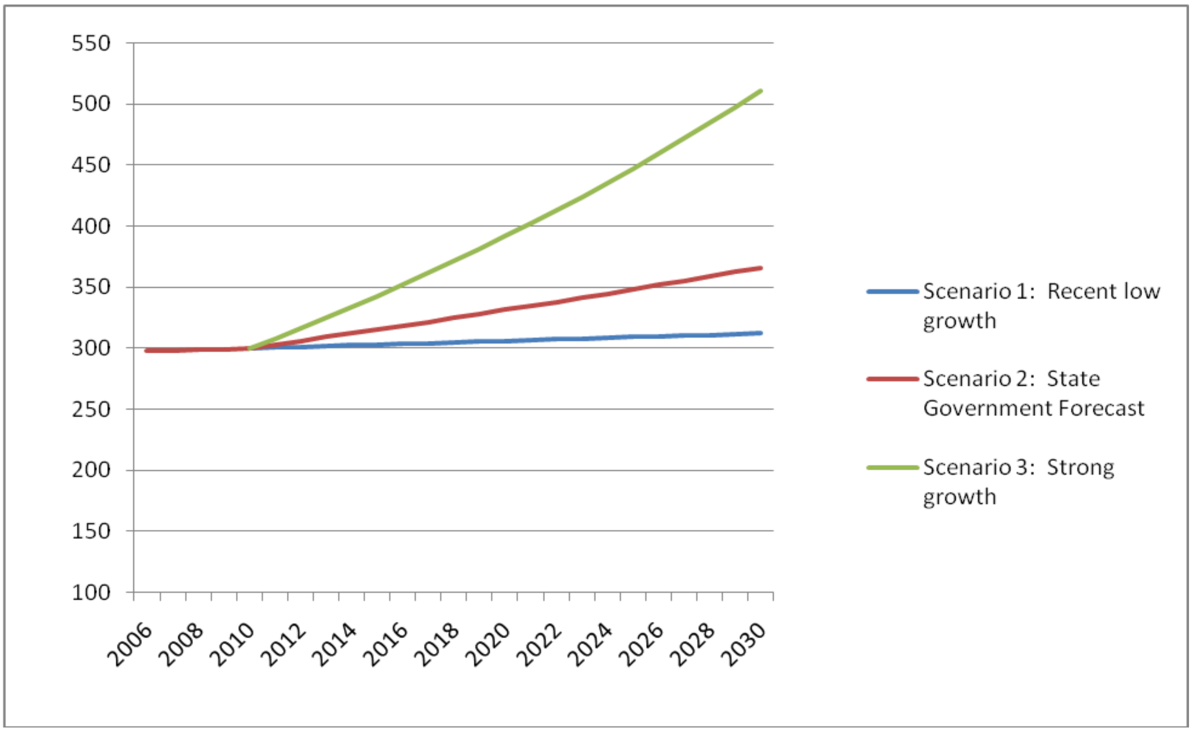
The following figure and table provide a comparison of the population and housing outcomes of the various scenarios.

Table 7: Comparison of growth scenarios for Poowong

Scenario	Past Growth Continued	State Government forecast	Strong growth
Description	Continuation of low growth level experienced from 2006 to 2010	State government forecast growth rate of 1% in South Gippsland – West also envisaged for Poowong	Growth in commuters, local workers and families
Population			
Forecast annual growth rate	0.2%	1.0%	2.7%
ERP in 2010	300	300	300
ERP in 2030	310	370	511
Average household size in 2030	2.1	2.2	2.4
Net change 2010 to 2030	10	70	210
Dwellings			
Total dwellings, 2030	177	198	237
Net change in total dwellings, 2010 to 2030	30	51	90
% occupied dwellings	84%	84%	90%
Occupied dwellings, 2030	149	166	213
Net change in occupied dwellings, 2010 to 2030	25	42	89

Source: Tim Nott, Matters More

Figure 6: Three population growth scenarios for Poowong, 2010 to 2030



Source: Matters More, Tim Nott

4.3 Implications for the Structure Plan

The various growth scenarios have several implications for the Poowong structure plan:

- ***The proposed short-term rezoning is likely to generate sufficient lots to cater for growth*** in all the scenarios to 2030. However, this does depend on the availability of land being rezoned. For example, there may be some difficulties in zoning land for residential purposes that is within the buffer of the abattoir or the dairy. If growth warrants, these factors may require land identified for potential rezoning in the longer term to be brought forward.
- Under any scenario, ***the structure and urban character of the town is unlikely to change***.

The following sections examine the impact of the scenarios on activity centres and industrial land.

5 Retail and Commercial Growth Forecast

5.1 Current Activity

Poowong town centre has an extensive range of commercial and community activities for a town of its size. The table below provides an estimate of the extent of the various activities. There is approximately 750 sq m of retail space which is 24% of all non-residential space in the centre. Of note, there is a small IGA supermarket. The largest proportion of activity space is taken up with community and sporting facilities, including a swimming pool, sports hall, community hall, library, maternal and child health clinics, pre-school centre, CFA shed and so on.

In addition, the town centre contains several vacant shop premises and there are a number of houses interspersed between the non-residential activities.

Table 8: Estimate of non-residential activity in Poowong town centre

Activity	Premises	Floorspace
	no.	sq m
Supermarket/general store	2	350
Cafe/take-away	1	100
Hardware	1	180
Antiques	1	60
Hairdresser	1	60
Total retail	6	750
Light industry	2	280
Hotel	1	250
Rural supplies	1	200
Professional services	1	150
Pool and sports centre	2	500
Community buildings	5	650
Churches	2	350
Total activity	20	3,130

Source: Tim Nott, Matters More

The presence of a supermarket, albeit small, marks this as a very ***small neighbourhood centre*** in the hierarchy of activity centres serving the area. The following table provides a guide to understanding the hierarchy of activity centres operating in South Gippsland Shire. This hierarchy uses retail development as the key indicator; however, it is important to recognise that activity centres also often contain a wide range of other functions such as tourism, financial, professional and community services.

The size of the catchment for the Poowong activity centre is around 1,000 people. This would not normally be large enough to support a small neighbourhood centre. However, Poowong is a natural centre for the district because of its location and its existing provision of community services (and it is a ***very*** small neighbourhood centre).

Table 9: Activity centre hierarchy in the South Gippsland region

Centre type	Retail role	Relevant example	Typical catchment size	Typical retail floorspace	Typical share of trade area retail spending
			persons	*sq m*	*%*
Capital City	High order comparison goods shopping with entertainment	Melbourne CBD	1 million +	300,000	5 to 10%
Regional Centre	Mainly comparison goods shopping	Dandenong CBD, Fountain Gate	100,000+	100,000	30%-40%
Sub-regional centre	Routine comparison goods and groceries	Mid-valley Wonthaggi	50,000+	15,000 to 50,000	15% to 25%
Community Centre	Groceries and some comparison goods	Leongatha	20,000+	10,000 to 25,000	30% to 40%
Neighbourhood Centre	Extensive food and groceries and local services	Korumburra	8,000+	4,000 to 10,000	25% to 35%
Small Neighbourhood Centre	Food and groceries and local services	Poowong Lang Lang	1,500+	1,000 to 4,000	10% to 20%
Local Centre	Top-up groceries and local services	Loch Nyora	800+	up to 1,000	2-5%

5.2 Retail Analysis

Retail analysis can be used to determine the scale of the activity centre likely to be required to service the needs of the population in each scenario. Here the current retail situation is used as a guide to the future.

5.2.1 Current situation

Data is available from a microsimulation model developed by MDS Market Data Systems (Market Info) to estimate retail spending in small areas. The following table provides an estimate of retail spending by Poowong residents.

Table 10: Estimated retail spending per person, Poowong and Victoria, 2010

	Food and groceries	Other retailing	Total retail spending
Poowong	$5,400	$6,000	$11,400
Victoria	$5,800	$7,300	$13,100
Poowong as % of Victoria	93%	82%	87%

Source: Market info, 2005/06 and ABS Retail Trade Australia, 2010

The shops at Poowong serve a retail catchment that is much wider than the township. The population of this catchment is estimated (using data from the Census) at 950 people. Using the information from the table above, the following table provides an estimate of retail floorspace supported by each resident of Poowong and surrounds. (And this retail floorspace is located in all the shops visited by residents, not just in Poowong.)

Table 11: Retail floorspace supported by residents of the Poowong catchment, 2010

	Retail spending by Poowong residents	Retail turnover density	Retail floorspace generated	Retail floorspace per person
	$m	$/sq m	sq m	sq m
Food and groceries	$5.2	$7,000	740	0.8
Other retailing	$5.7	$5,000	1,150	1.2
Total retail spending	$10.9	$5,800	1,890	2.0

Source: Tim Nott

The table shows that total retail spending by residents of the Poowong catchment is approximately $11 million and that this supports around 1,900 sq m of retail floorspace, a rate of 2.0 sq m per person.

Using the foregoing information it is possible to estimate, in broad terms, the share of resident spending that is captured by the shops in Poowong.

- Retail floorspace – 750 sq m
- Assume the retail turnover density in Poowong is $3,500 - 60% of the average (small centres with independent retailers typically have a much lower turnover that larger centres)
- Retail sales in Poowong are $2.6 million ($3,500 times 750 sq m)
- Allow $0.3 million (10%) of sales to come from beyond the catchment area
- Sales to catchment residents are $2.3 million ($2.6 million minus $0.3 million)
- Total retail spending of residents is $10.9 million (from table above)
- Share of resident spending undertaken in Poowong is 22%

This share of spending is around the right order of magnitude for a very small neighbourhood centre (if slightly higher than average). It reflects the lack of other retail facilities in the wider district and the role of Poowong as a strong community focal point. Nevertheless, the retail provision in Poowong may be vulnerable to competition from other more rapidly growing centres such as Nyora.

5.2.2 The Future

Retail floorspace per person is likely to change over the period to 2030 as a result of a growth in spending per person (forecast here to be 1% per year, which is conservatively low compared with recent trends) and a growth in retail turnover density (forecast here to be 0.5% per year as retail space becomes more and more efficient). As a result, by 2030, the retail floorspace supported by each person is forecast to be 2.2 sq m.

This information, together with the estimates of the retail hierarchy above, can be used to estimate the number of residents required to support various levels of activity centre. The following table provides an estimate of the population catchment needed to support local, small neighbourhood and neighbourhood centres.

Table 12: Forecast of catchment required to support various activity centres in Poowong, 2030

Activity centre	A. Typical share of retail spending captured	B. Proportion of average turnover achieved in this centre	C. Retail floorspace per person at this level of the hierarchy	D. Minimum size of retail floorspace in centre	E. Minimum catchment size
	(from hierarchy table)	(adjustment factor)	(A/B times 2.1 sq m per person)	(from hierarchy table)	(D/C))
	%	%	sq m/person	sq m	persons
Local	5%	60%	0.2	100	600
Small neighbourhood	20%	60%	0.7	1,000	1,400
Neighbourhood	33%	90%	0.8	4,000	5,000

Source: Tim Nott (figures rounded)

Notes: A local centre usually contains a general store and possibly some other food and local services (take-away food, hair-dressing etc). From the hierarchy table, a local centre can take 2-5% of the sales generated in the catchment. Turnover per sq m is estimated at 60% of the average; operators can accept a lower turnover per sq m because their costs are lower.

A small neighbourhood centre usually contains a small supermarket and a small range of other food and grocery stores and local retail and other services. From the hierarchy table, a small neighbourhood centre typically captures 20% of the sales generated in the catchment. Turnover per sq m is estimated at 60% of the average; operators can accept a lower turnover per sq m because their costs are lower.

A neighbourhood centre is characterised by a medium to large supermarket (usually 2,000 to 4,000 sq m) and a broader range of convenience shopping as well as non-retail activity such as community, financial and professional services. From the hierarchy table, a neighbourhood centre typically captures 33% of the sales generated in the catchment. Turnover per sq m is estimated at 90% of the average; operators can accept a lower turnover per sq m because their costs are lower.

Not all communities are served by activity centres at every level of the retail hierarchy.

Usual minimum catchment size is the size used when planning thresholds for new activity centres. Existing centres may have smaller or larger catchments for a variety of historical reasons and depending on the nature of the other centres in the local network.

From this table, the usual population size required to support a local activity centre in 2030 will be 600 people; a small neighbourhood centre will be 1,400 people and a full neighbourhood centre will be 5,000 people. In practice there is likely to be some flexibility around these figures, depending on the aspirations of individual retailers and on the level of service provided by the local network of activity centres.

5.3 Implications of Growth Scenarios

The following table provides an estimate of the kind of retail activity centres that would be supported by the various levels of population growth predicted for Poowong under each scenario.

Table 13: Support for retail activity centres under five growth scenarios, Poowong, 2030

	Past growth continued	State Government forecast	Strong growth
Population in each scenario by 2030	312	366	511
People in surrounding rural areas	670	650	650
Total catchment population	982	1016	1161
Support for local centre	yes	yes	yes
Support for small neighbourhood centre	possibly	possibly	likely
Support for neighbourhood centre	no	no	No

The table shows that, by 2030, a local centre will be supportable under all scenarios and that a full neighbourhood centre is not supported by any of the growth scenarios. A very small neighbourhood activity centre, as at present, could possibly be supported under all scenarios. However, this will very much depend on the wider catchment of the rural area continuing to see Poowong as the key focal point for the district. If, for example, Nyora grows rapidly and is able to support a larger activity centre, then the residents of the western part of the Poowong rural catchment are likely to travel there. If this occurs, the current level of services in Poowong may decline, even though the population of the town itself is growing.

The scale of growth envisaged under any of the scenarios is relatively modest and would be unlikely to generate significant growth in the activity centre beyond its current boundaries. As discussed previously, the centre has a wide variety of services for a town of its size and further services are not likely to be provided (although existing services may be renewed from time to time). Should further shops be required, there are vacant buildings and houses within the proposed Business 1 Zone that could be redeveloped.

Additional individual shops and other town centre enterprises would be able to locate in the proposed Business 1 Zone through take-up of vacant commercial premises or redevelopment/re-use of houses.

5.4 Implications for the Structure Plan

From this assessment it is clear that the future of the towns in the western part of the municipality are inter-linked; that what happens in one town will affect development in another. Rapid growth in Nyora, for example, may have an adverse impact on the level of services in Poowong (and in other towns). Planning for the Poowong activity centre, at least in the short term, should be seeking to safeguard and strengthen existing services.

The level of likely demand for commercial expansion can be accommodated within the Business 1 Zone proposed by Council.

6 Industrial Growth Forecast

6.1 Current Activity

Poowong has several significant industrial activities that provide local employment and incomes including the abattoir, a dairy product manufacturing operation and a separate milk collection, processing and distribution facility operated by UDP. Between them, these enterprises employ approximately 200 people and attract workers from the wider district. In addition to these larger enterprises, the town centre accommodates a small engineering business and an auto-electrician.

Only the dairy manufacturing operation is currently on industrially zoned land (and this business appears to be operating at a low level, if at all). This will remain the case following the rezoning proposed by Council in the short term. The abattoir and milk collection business are on land zoned for farming purposes.

Council has provided figures on industrial building approvals for the four years to 2009. These show that the recent industrial development in the township and surrounds has been for expansion of the existing larger enterprises. It appears that no new lots have been consumed in that time.

6.2 Industrial Development Prospects

The prospects for future industrial development in Poowong are likely to rest on three factors:

- The success of the existing manufacturers involved in meat and dairy processing in meeting the needs of regional and export markets
- The requirements of an expanding local population for industrial services (automotive, machinery repair etc)
- The availability of land to meet any future demand
- A strategic decision to accommodate new industrial development in Poowong rather than in larger centres

Council is proposing to retain the industrial zoning of the moribund dairy processing factory and extend the zone to include an adjacent lot. This will protect the ability of the dairy factory to restart its operations in earnest and allow for growth. The other larger enterprises are on significant allotments and are not likely to require further land.

Population growth under any of the scenarios presented here is unlikely to generate demand for significant new industrial activity to service local needs. One or two further industrial service businesses can be located in the main street. Other businesses could be located in the proposed extension to the Industrial 3 Zone beside the dairy manufacturing plant.

6.3 Implications for the Structure Plan

The existing abattoir and milk distribution plant are on lots that allow for some growth; however, their growth will continue to be dependent on what is allowed under the Farming Zone (and this may change from time to time). An industrial zone for these premises may be able to provide more certainty.

Should major expansion of meat or dairy processing be considered, land to the east of the township adjacent to the existing abattoir or dairy plant would be the logical location. However, the infrastructure and labour-force capacity of the town should also be a consideration. Major industrial development is likely to require the infrastructure and labour-force of a larger town such as Korumburra or Leongatha.

Council should be judicious in its consideration of any proposal to rezone new residential expansion areas within the amenity buffer areas of the abattoir or UDP dairy in order to protect the long term viability of these uses.

7 Summary

This report has examined the key factors affecting growth and development in Poowong township and its immediate surrounds. The existing township and recent trends in its development has been described and a number of development scenarios have been prepared in order to help Council planners and decision-makers in the structure planning process for the township.

Key characteristics and outcomes of the various development scenarios are summarised below.

Table 14: Summary of development scenarios for Poowong

Scenario	Past Growth Continued	State Government forecast	Strong growth
Description	Continuation of low growth level experienced from 2006 to 2010	State government forecast growth rate of 1% in South Gippsland – West also envisaged for Poowong	Growth in commuters, local workers and families
Population			
Forecast annual growth rate	0.2%	1.0%	2.7%
ERP in 2010	300	300	300
ERP in 2030	310	370	511
Average household size in 2030	2.1	2.2	2.4
Net change 2010 to 2030	10	70	210
Dwellings			
Total dwellings, 2030	177	198	237
Net change in total dwellings, 2010 to 2030	30	51	90
% occupied dwellings	84%	84%	90%
Occupied dwellings, 2030	149	166	213
Net change in occupied dwellings, 2010 to 2030	25	42	89
Activity Centre			
Largest activity centre required by 2030	Very small neighbourhood centre	Very small neighbourhood centre	Very small neighbourhood centre
Industrial activity			
Additional industrial land required by 2030	none	none	none

Source: Tim Nott, Matters More

8 References

ABS, 2010, *Retail Trade Australia, December 2009*, Canberra

Depart of Planning and Community Development, 2009, *Victoria in Future 2008*, Melbourne

Department of Sustainability and Environment, 2009, *A Guide to Property Values 2008*, Melbourne

MDS Market Data Systems, *Market Info 2005/06*, Gold Coast

South Gippsland Water, 2009, Community Presentation – Poowong Loch & Nyora Sewerage Scheme, (from www.sgwater.com.au)