



Appendix C: Housing demand and capacity

Alpine Shire Council

Land Development Strategy

November 2023





Independent
insight.



ALPINE
SHIRE COUNCIL

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1. Population forecast scenarios

The key driver of housing demand in Alpine Shire is population growth, in combination with factors such as broader demographic shifts and local housing market dynamics. The following section presents three population growth scenarios: a base case scenario using official state government population projects, as well as two alternative population scenarios which account for the impacts of and recovery from COVID to varying degrees.

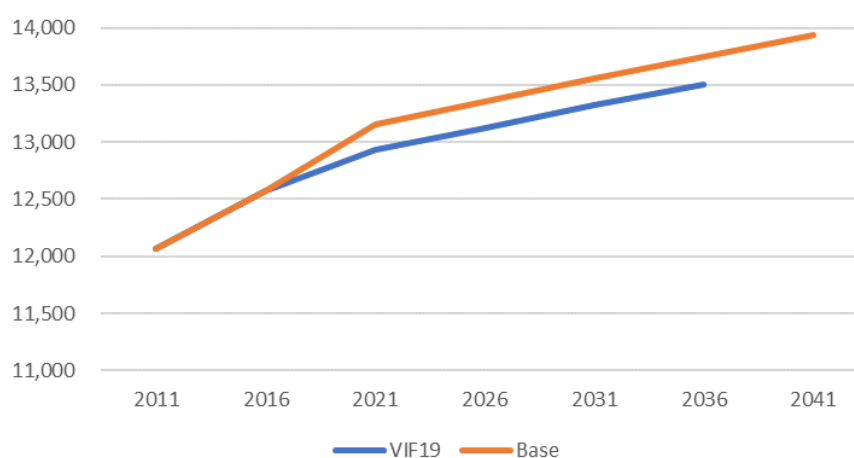
1.1 'Base case' population forecast

The Victoria in Future (VIF) forecast is produced by the Victorian Government and provides planning assumptions with a common approach across the State to the year 2036. The VIF projects the total estimated residential population (ERP) in the LGA. ERP is a population estimate created by the ABS, and historical ERP is the best available estimate of the overall population. In creating ERP estimates, the ABS corrects for undercounts in the ABS census, residents temporarily overseas and other small corrections, and so ERP figures are higher than census counts.

Historical ERP statistics and the VIF projections for Alpine Shire are shown in Figure 1. Based on VIF projections, total population in the LGA is expected to reach 13,507 persons by 2036, growing by 0.3% per annum (39 persons per year in numerical terms).

A 'base case' population growth scenario has been established by utilising VIF19, with adjustments to align the forecast with the recorded ERP figure from Census 2021. The projected average annual growth rate (AAGR) recorded in VIF19 at year 2036 has also been extended a further five years to the 2041 LDS horizon. The base case scenario results in a marginally higher population change over the 20-year period compared to the VIF19 forecast (Figure 1). The base case population scenario sees a population of 13,936 in 2041, growing by 780 people from 2021.

FIGURE 1: COMPARISON OF VIF19 AND BASE CASE SCENARIO POPULATION PROJECTIONS, 2001 TO 2041



Source: Victoria in Future (2019), Population projections 2016 to 2036; SGS Economics and Planning (2023)

1.2 Alternative population scenarios

Since the release of the most recent VIF forecasts in 2019, the COVID-19 pandemic has disrupted and shifted population growth trends. According to the ABS's ERP data in the 2020-21 financial year, the population in Alpine Shire increased by 2 percent; well above the projected population growth set out in the VIF19 estimates. As such, the VIF forecasts are now out of date.

The Australian Government's Centre for Population's (CfP) 2022 Population Statement details the early impacts of the Covid-19 pandemic on Australia's population and projects its implications into the future. The '2022 Population Statement' provides growth rates for regional Victoria as a whole.

SGS Economics and Planning has prepared two alternative scenarios for population growth, building on the 'base case' scenario discussed above, accounting for COVID impacts. These scenarios take account of:

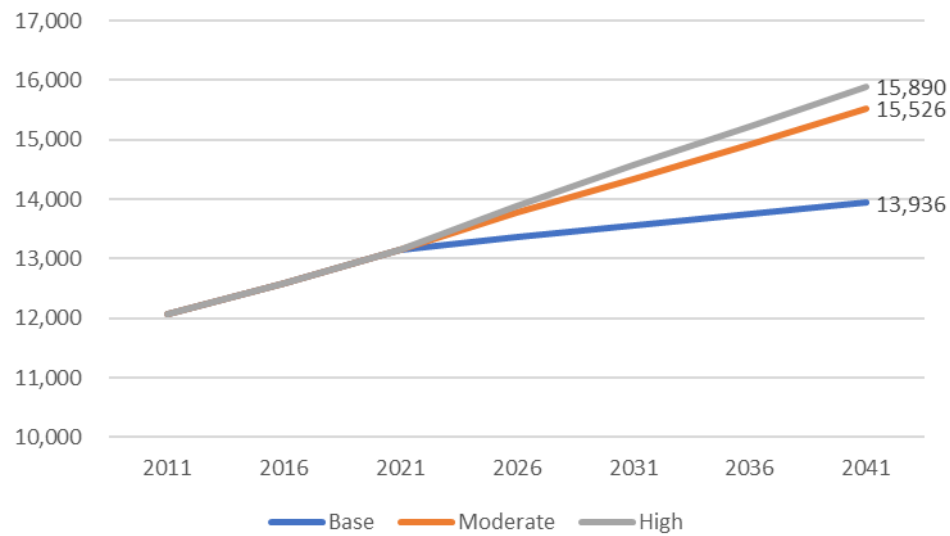
- Continuing uncertainty regarding population trends for regional areas over the long term.
- Aggregation of CfP estimates of population growth for all of regional Victoria. It is reasonable to assume that Alpine Shire might experience a longer running increase in population growth on average than other parts of the state.

These alternative population scenarios are:

- **Moderate scenario:** Contains a COVID-19 growth uptick based on current migration patterns, then growth rates taper to pre-COVID rates (10-year average) after a two to three-year period in line with CfP predictions
- **High scenario:** Contains a COVID-19 growth uptick based on current migration patterns, then growth rates taper to pre-COVID rates (10-year average) after a five year period.

The projected growth rates and ultimate population figures for each scenario are set out in Table 1.

FIGURE 2: FORECAST POPULATION GROWTH SCENARIOS COMAPRISON, 2001 TO 2041



Source: SGS Economics and Planning (2023)

TABLE 1: POPULATION GROWTH SCENARIOS – ALPINE SHIRE 2021 TO 2041

	2021	2026	2031	2036	2041	Change 2021-41	Av. Per Yr	AAGR
Base	13,156	13,357	13,555	13,744	13,936	780	39	0.3%
Moderate	13,156	13,766	14,336	14,919	15,526	2,370	118	0.8%
High	13,156	13,881	14,567	15,214	15,890	2,734	137	0.9%

Source: SGS Economics and Planning (2023)

The scenarios show population growth of around 39 (base), 118 (moderate), and 137 (high) people per year respectively.

The following sections will show how each of the population scenarios is used to estimate the composition of households in future, and subsequently, demand for housing.

2. Forecast dwelling demand

The following section presents an estimate of future dwelling demand using each of the above population scenarios, with additional consideration for impacts of short stay accommodation and holiday homes on housing demand in Alpine.

2.1 Method overview

SGS's Housing Demand Model forecasts the number of dwellings needed by type and size for the future projected population in a given area. The model synthesises population projections, local demographic trends and local trends in the revealed housing preferences for different household types (i.e. what proportion of households live in each kind of dwelling).

Forecast population by age groups is translated into family members using trends observed in the 1996 to 2021 ABS Census. This captures gradual changes in the formation of families (for example, an increase in lone person households and more complex family structures in general) and shifts in population demographics (such as an ageing population).

Family members are then translated into households by family type. Finally, households by family type are translated into underlying demand for dwellings by structure type based on trends evident in the 1996 to 2021 ABS Census. This approach captures changes in implied consumer preferences such as a shift in preference towards higher density forms as household's trade-off dwelling size for higher accessibility and amenity based on past housing consumption patterns.

It is cautioned that the SGS forecast model takes the *observed trend* in household type by dwelling type data and forecasts this into the future (within bounded limits to ensure that trends do not continue unrealistically). The observed trends are the result of housing supply (as produced by developers) and market regulation through the planning system.

There is strong evidence (from past SGS research and anecdotal evidence) in some contexts that supply is mismatched against actual (latent) demand through the under-provision of attached dwellings and apartments. And as outlined throughout this project, there is also evidence that COVID-19 and the related shifts in working-from-home practices may be influencing housing preferences in the opposite direction.

Therefore, the housing demand estimates presented below represent a base case for consideration of housing need across the Shire.

In addition, it is noted that the share of unoccupied dwellings (vacancy rate) recorded in the 2016 Census (24 per cent of all private dwellings) has been used as the benchmark for future housing projections. It seen as feasible that the lower rate of vacancy recorded at the 2021 Census (18 per cent total private dwellings) is an anomaly resulting from shifts in population and housing trends due to the impacts of the COVID-19 pandemic.

2.2 Future housing demand

SGS has forecast base case dwelling demand by drawing on the population and household forecasts in the previous section for the low, moderate and high population growth scenarios.

Over the forecast period, there is expected to be demand for between 1,021 and 2,167 additional dwellings in Alpine LGA. A comparison of total dwelling demand at 2041 for each population scenario is shown in Table 2.

TABLE 2: HOUSING DEMAND FORECAST COMPARISON, 2021 TO 2041

Scenario	Dwellings 2021	Dwellings 2041	Change	AAGR (%)
Low	7,153	8,174	1,021	0.7%
Moderate	7,153	9,106	1,953	1.2%
High	7,153	9,320	2,167	1.3%

Source: SGS Economics and Planning (2023)

Accounting for dwelling demand from non-residents

The housing demand figures discussed above are based on historic and projected ERP trends, however, demand for dwellings also comes from non-residents, such as the construction of homes for investment (for short term accommodation) and for personal holiday homes. This is a particularly relevant consideration in the Alpine Shire, where the high environmental amenity of the Shire attracts a large number of tourists and 'weekenders'.

It is difficult to distinguish between homes primarily used by their owners (and their relatives and families), those that form part of the supply (either intermittently or permanently) of tourism accommodation (such as short-term holiday lettings), or those that were made available for permanent rental housing. This is an important distinction.

The following data sources are useful in identifying an appropriate adjustment to estimates to account for housing demand from non-residents:

- Share of un-occupied (vacant) dwellings
- Share of properties owned by non-resident ratepayers
- Share of residential properties with a commercial rating status
- Past dwelling constructions activity

Based on the 2021 Census, 18 percent of private dwellings in the Alpine Shire were unoccupied. This is higher than the Hume region average (14 percent) and Victorian average (11 percent), suggesting there is a higher proportion of holiday homes in the Alpine Shire LGA. The Upper Ovens sub-region had the highest share of unoccupied dwellings (29 per cent), followed by the Kiewa Valley (25 per cent) and Lower Ovens (12 per cent).

Based on Council's rates data, there are almost 400 residential properties across the municipality (or 6 per cent) classed as operating commercially (that is, being used to generate income as short-term rentals). Within Bright alone, there are at least 250 properties classified this way.

However, this is considered an underestimate, as a search of properties available to hire listed in Airbnb in July 2021 indicated that there were 293 properties in Bright alone. This represents approximately 19 per cent of all the housing stock in Bright. It is also expected that more short-term rental accommodation may be available through other channels, and not listed on Airbnb (e.g., Stayz.com, holiday rental providers, real estate agents).

An examination of past dwelling construction activity provides further insight into the total dwellings demand across the Shire, accounting for demand from both permanent residents as well as non-resident ratepayers.

Analysis of building permits undertaken in Section 2.8 of Appendix B found that 472 dwellings were constructed between 2016 and 2021 (an average of 79 dwellings per year). Of these, 403 dwellings were built within urban zones (GRZ, LDRZ, TZ and C1Z), or 67 per year on average. Bright absorbed the largest share of growth (40.5 per cent).

This discussion suggests the following:

- An estimated 20 per cent of existing dwellings are used by non-residents as investments, holiday homes or short stay accommodation.
- Housing construction activity provides an indication of total demand for dwellings from permanent residents and other sources. Projecting forwards past trends in dwelling construction activity from 2021 to 2041 suggests demand for an additional 1,800 dwellings (largely in line with the moderate housing demand scenario shown in Table 2).

2.3 Adopting a preferred demand scenario

It is evident from the discussion above that there is currently uncertainty as to future demand for dwellings in Alpine Shire because of the COVID-10 pandemic and associated impacts on population and housing growth and change. This is a common experience across Victoria and Australia. Making an allowance for holiday and other non-permanently occupied dwellings is a related but further complication in the Alpine context.

Balancing these uncertainties, the findings of the analysis undertaken above, and the need for Council to plan for *at least* 15 years supply of residential land to ensure an efficient and well-functioning housing market, it is recommended that Council adopt the high growth scenario for dwelling demand to ensure prudent settlement planning.

The high growth scenario forecasts an approximate additional 2,167 dwellings between 2021 and 2041, with approximately 75 per cent of demand expected in the Shire's urban zoned areas (or 1,625 dwellings).

If the shares of recent construction activity by settlement location continue (assuming no policy intervention or additional limits to growth), it could be expected that 813 (or 50 per cent) of dwellings demand would occur in Bright-Porepunkah, 309 (or 19 per cent) in Myrtleford and 179 (or 11 per cent)

in Mount Beauty-Tawonga South (with the remainder in other smaller settlements in the Shire). Table 4 provides a further breakdown of demand by town and zone.

TABLE 3: POTENTIAL DISTRIBUTION OF DWELLINGS DEMAND BY TOWN, 2041

Location	% Share	Total dwellings 2041
Bright-Porepunkah	50%	813
Myrtleford	19%	309
Mount Beauty-Tawonga South	11%	179
Other	20%	325
Total	100.0%	1,625

Source: SGS Economics and Planning (2023)

TABLE 4: POTENTIAL DISTRIBUTION OF DWELLINGS DEMAND BY TOWN AND ZONE, 2041

Town	Dwelling demand %	Dwelling demand #
Bright-Porepunkah		
GRZ	34.0%	553
TZ	11.0%	179
LDRZ	5.0%	81
<i>Subtotal</i>	<i>50%</i>	<i>813</i>
Myrtleford		
GRZ	16.2%	262
LDRZ	2.9%	46
<i>Subtotal</i>	<i>19%</i>	<i>309</i>
Mount Beauty-Tawonga South		
GRZ	8.1%	132
TZ	0.1%	2
LDRZ	2.8%	45
<i>Subtotal</i>	<i>11%</i>	<i>179</i>
Other		
TZ	11.2%	182

Town	Dwelling demand %	Dwelling demand #
LDRZ	8.8%	143
Subtotal	20%	325
TOTAL		1,625

Source: SGS Economics and Planning (2023)

Based on the demand modelling separate dwellings are expected to account for 82 per cent of future total dwellings, while 17 per cent of demand relates to medium to high density (flats, units and apartments) (Table 5). Four bedroom dwellings will represent the largest share of dwellings demand to 2041 (Table 5).

TABLE 5: DWELLING TYPE, HIGH GROWTH SCENARIO, 2021 TO 2041

Scenario	Dwellings 2021	Dwellings 2041	Change	Share of growth %
Separate house	6,545	8,318	1,773	82%
Medium/high density	543	904	360	17%
Other	64	98	34	2%
Total	7,153	9,320	2,167	100%

Source: SGS Economics and Planning, 2021

TABLE 6: NUMBER OF BEDROOMS, HIGH GROWTH SCENARIO, 2021 TO 2041

Scenario	Dwellings 2021	Dwellings 2041	Change	Share of growth %
0 bedrooms	70	113	44	2%
1 bedrooms	282	482	200	9%
2 bedrooms	1,233	1,446	213	10%
3 bedrooms	3,602	4,235	633	29%
4 bedrooms	1,665	2,576	911	42%
5+ bedrooms	301	468	166	8%
Total	7,153	9,320	2,167	100%

Source: SGS Economics and Planning, 2021

However as discussed above, modelling of forecast dwelling demand is based on observed past trends and reflects choices made by households based on existing housing supply and planning regulations. As

has been shown through past SGS research, in many locations, supply may not match actual or latent demand, expressed as an under-provision of attached dwellings and apartments.

In Alpine Shire, the presence of latent demand for smaller and more diverse housing types is supported by dwelling suitability analysis which showed that almost 55 percent of all dwellings have two or more bedrooms spare. While some households may choose to live in larger separate, dwellings for lifestyle reasons (those with spare rooms to accommodate visiting family and friends, or families who intend to have children, for example), a proportion of these households with spare bedrooms may prefer smaller dwellings but are unable to find them in the local market. Evidence indicates that this is particularly relevant for older households of retirement age.

3. Housing capacity assessment

The following Section summarises the findings of the housing capacity assessment, which provides an estimate of the potential of existing residentially zoned land to accommodate future housing need.

3.1 Method overview

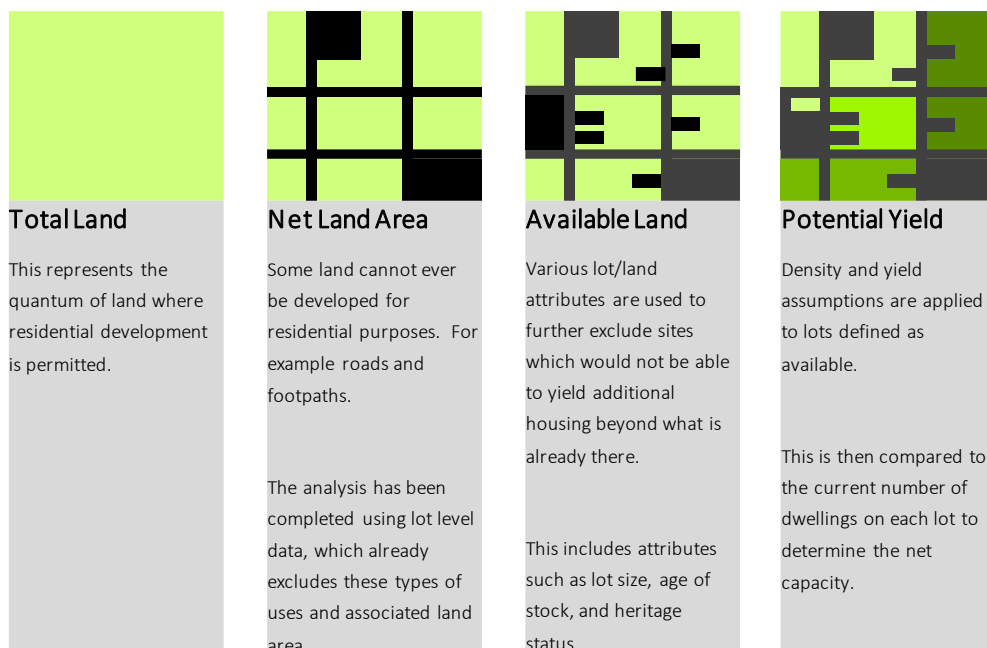
Housing capacity is an estimate of the quantum of housing that could be accommodated in an area. It is based on existing planning controls, recent housing supply trends and planned future land-release precincts. It is a theoretical assessment of the maximum number of dwellings that could be developed under current planning controls and development conditions and in future precincts. It follows from a high-level analysis and is intended to be indicative rather than absolute.

Figure 3 charts the four-step process for determining dwelling capacity. The logical flow is to firstly identify current and future residential land before filtering out all the lots which are not available for development, and then calculating the potential development yield of each lot. Each step is discussed in more detail below.

Only a small portion of available lots are likely to be developed in any one year and some lots are likely to be withheld from development. For these reasons, greater capacity than (expected) demand is required to ensure that future development is not constrained.

There are likely to be site-specific attributes which may affect the development potential of some sites, but which cannot be included in an LGA-wide capacity analysis.

FIGURE 3: HOUSING CAPACITY APPROACH OVERVIEW



Source: SGS Economics and Planning (2018).

Step 1: Net land area identification:

Net land refers to total land where residential development is permitted, minus the land that cannot be developed for residential purposes, such as roads and footpaths. The capacity calculation is conducted on a lot by lot basis, with only lots where residential development is permissible considered, and so parts of the public domain are automatically excluded.

Step 2: Available land assessment

Available land represents any land that is likely to be able to accommodate additional housing in the Alpine Shire. It is derived from the net land, from which lots unlikely to be developed are excluded.

Designation of a lot as available land does not mean that development is necessarily feasible or that property owners are ready or willing to develop these sites. Typically, only a small portion of available lots are likely to be developed in any one year. There are also likely to be site-specific attributes which may affect the development potential of some sites, but which cannot be included in an LGA-wide capacity analysis.

Land Exclusions

The following exclusions were used to determine which lots cannot or are unlikely to be developed:

- **Heritage:** Properties listed on the Victorian Heritage Register or covered by the Heritage Overlay were excluded from the analysis. While some of these properties may be able to be redeveloped, this is likely to be uncommon. Including heritage items or precincts without further study could risk over-estimating housing capacity.
- **Small lots:** Sites with small lots (<200 square meters) are generally either not allowed to develop under the planning controls or are difficult to develop. The minimum lot size for development on

each lot was assessed based on what kinds of development were permissible, and minimum lot areas and frontages for those kinds of development.

- **Land use exclusions:** Properties were manually excluded if they contain social infrastructure or other land uses which are likely to be in place over the next 20 years. These include schools, community centres, aged care facilities, private hospitals, large places of public worship and clubs.
- **Areas subject to natural hazards (bushfire, flooding, excessive slope):** Clause 13 of the Alpine Planning Scheme Planning Policy Framework addresses Environmental Risk, and at an over-arching level supports risk-based planning as a fundamental approach to planning. It places particular emphasis on bushfire, flooding risk, and climate change, but also refers to soil degradation, landslip and erosion, floodplain management, landscape protection, and environmentally sensitive areas. In line with this policy, the capacity analysis has excluded areas based on the following:
 - *Flooding (designated as the FO and LSIO):* were excluded from the analysis. FO designates areas subject to dangerous flooding, while LSIO designates areas subject to nuisance flooding. Whilst it is preferred that areas subject to all types of flooding be excluded from development, in some cases engineering works normal to a subdivision development can reduce the areas subject to nuisance flooding (LSIO).
 - *Bushfire:* this is a policy driven absolute constraint whereby the State provisions of the Planning Scheme require that no land with a Bushfire Attack Level (BAL) rating of over 12.5 shall be developed for residential purposes.
 - *Slope:* Excessive slopes make the provision of infrastructure and construction of buildings prohibitively expensive or unfeasible. Where the slopes coincide with unstable soils development can be unsafe. Development on steep slopes can also impact on landscape values. Slopes greater than 20 percent have been excluded from capacity modelling.
 - *Environmental buffers:* There are several areas within the Shire that are subject to environmental buffers, such as around sewerage treatment plants and certain industrial operations. These areas have been excluded.

Step 3: Potential yield assessment

Potential yields were calculated for the available land using a series of yield assumptions depending upon each lot's zone, size, frontage, location, development standards and constraints. This assessment was conducted for all lots within the 48 precincts, and took into consideration the following:

- **Land use zone and lot size:** Different residential zones have differing requirements regarding minimum lot sizes and servicing requirements etc.
- **Existing development patterns:** Existing development and lot size patterns (i.e median and average lot size) were examined on a precinct scale to determine likely potential future development outcomes.
- **Land use exclusions:** Properties were excluded if they contain social infrastructure or other land uses which are likely to be in place over the next 20 years. These include schools, community centres, aged care facilities, private hospitals, large places of public worship and clubs.
- **Areas subject to natural hazards (bushfire, flooding, excessive slope):** Clause 13 of the Alpine Planning Scheme Planning Policy Framework addresses Environmental Risk. Areas subject to

flooding and bushfire risk, steep slopes (as a proxy for landslip), and within environmental buffers (i.e from the Wastewater Treatment Plant) were removed from the analysis)

The yield assessment was undertaken for defined 'housing capacity precincts'. Precinct boundaries were broadly based on location (towns and settlements), zoning (each precinct includes only one zone), neighbourhood character, and status (or otherwise) as a greenfield or other large development area.

In total, 48 precincts were defined across the Shire for each precinct, the following information was gathered:

- Total number of lots
- Number of existing dwellings
- Number of vacant lots
- Average lot frontage
- Median lot size
- Zoning category
- Applicable overlays
- Subject to flooding, large slopes, and bushfire attack level (BAL) requirements

TABLE 7: HOUSING CAPACITY PRECINCTS

Town/ settlement	No. of precincts
Bright	26
Myrtleford	4
Mount Beauty	3
Porepunkah	3
Tawonga South	3
Tawonga	2
Harrietville	2
Wandligong	1
Buffalo River	1
Dederang	1
Merriang	1
Ovens	1

Source: SGS Economics and Planning (2022)

The yield assessment was focused on the dominant typology of development in the region which is subdivision of large lots. Potential for infill development was also assessed for specific precincts in Bright and Myrtleford where further subdivision and development in established residential areas was observed.

Assumptions for each precinct differed based on development patterns and informed through consultation with Council..

Table 8 contains the assumptions utilised for precincts in regard to **Infill** and **Occupied lots with potential for further subdivision (aka large-scale subdivision)**. Not all precincts were identified to be suitable for infill development and/or subdivision.

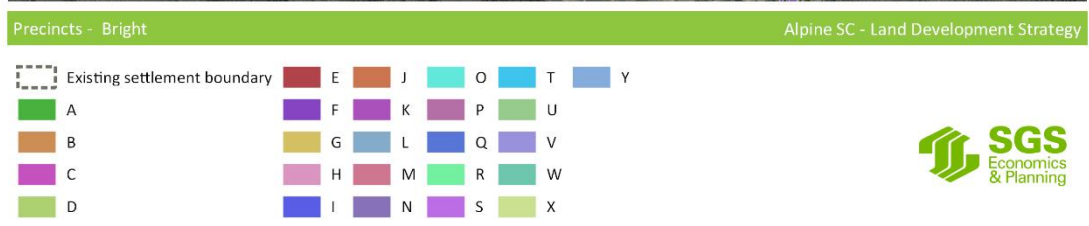
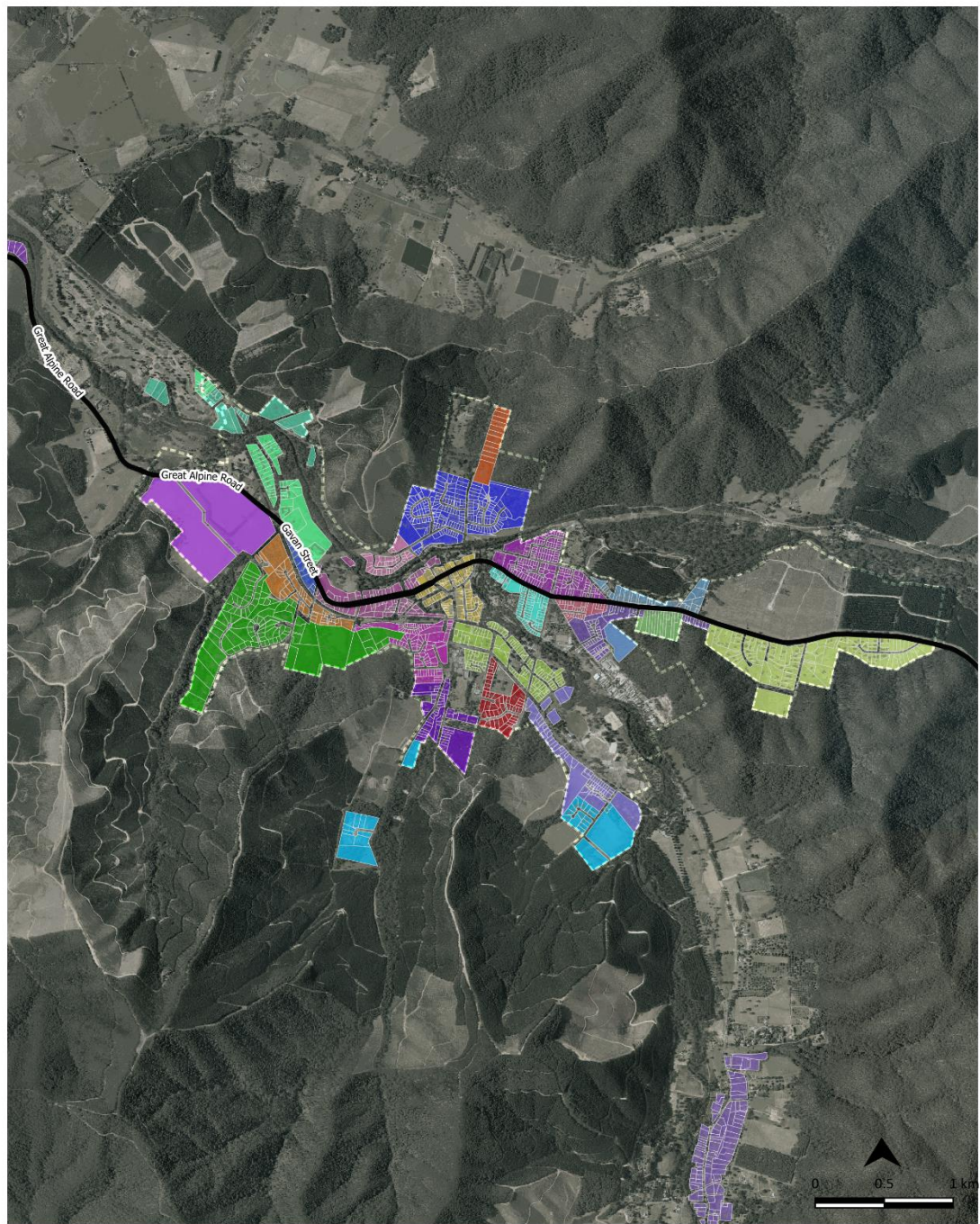
TABLE 8: YIELD ASSUMPTIONS BY PRECINCT

Precinct	Subdivision		Infill	
	Area per new lot (sqm)	Minimum original property area (m)	Maximum original property area (sqm)	Area per new lot (sqm)
Bright_A	2300	4600	N/A	N/A
Bright_B	1100	2200	1200	400
Bright_C	900	1800	1200	500
Bright_D	500	2000	2000	500
Bright_E	1400	2800	2800	600
Bright_F	1300	2600	N/A	N/A
Bright_G	N/A	N/A	10000	400
Bright_H	800	1600	1500	500
Bright_I	900	1800	1500	400
Bright_J	4000	8000	N/A	N/A
Bright_K	700	1400	1400	400
Bright_L	1700	3400	N/A	N/A
Bright_M	700	1400	N/A	N/A
Bright_N	800	1600	N/A	N/A
Bright_O	600	1800	1800	500
Bright_P	1000	2000	1500	400
Bright_Q	3500	7000	N/A	N/A

Bright_R	2500	5000	N/A	N/A
Bright_S	N/A	N/A	N/A	N/A
Bright_T	2400	4800	N/A	N/A
Bright_U	3800	7600	N/A	N/A
Bright_V	900	1800	N/A	N/A
Bright_W	1900	3800	N/A	N/A
Bright_X	3300	6600	N/A	N/A
Dederang_TZ	6100	12200	N/A	N/A
Harrietville_TZ	1900	3800	N/A	N/A
Merriang_LDRZ	5100	10200	N/A	N/A
Mount Beauty_C1Z	200	400	N/A	N/A
Mount Beauty_GRZ1	600	1200	N/A	N/A
Myrtleford_C1Z	600	1200	N/A	N/A
Myrtleford_GRZ1	800	1600	1600	600
Myrtleford_LDRZ	4000	8000	N/A	N/A
Myrtleford_MUZ	1200	2400	N/A	N/A
Porepunkah_LDRZ	4000	8000	N/A	N/A
Porepunkah_TZ	1100	2200	N/A	N/A
Tawonga South_GRZ1	700	1400	N/A	N/A
Tawonga South_LDRZ	6000	12000	N/A	N/A
Tawonga South_MUZ	1000	2000	N/A	N/A
Tawonga_LDRZ	5700	11400	N/A	N/A
Tawonga_TZ	1200	2400	N/A	N/A
Wandiligong_LDRZ	4000	8000	N/A	N/A

Source; SGS Economics and Planning, 2022

FIGURE 4: YIELD PRECINCTS – BRIGHT



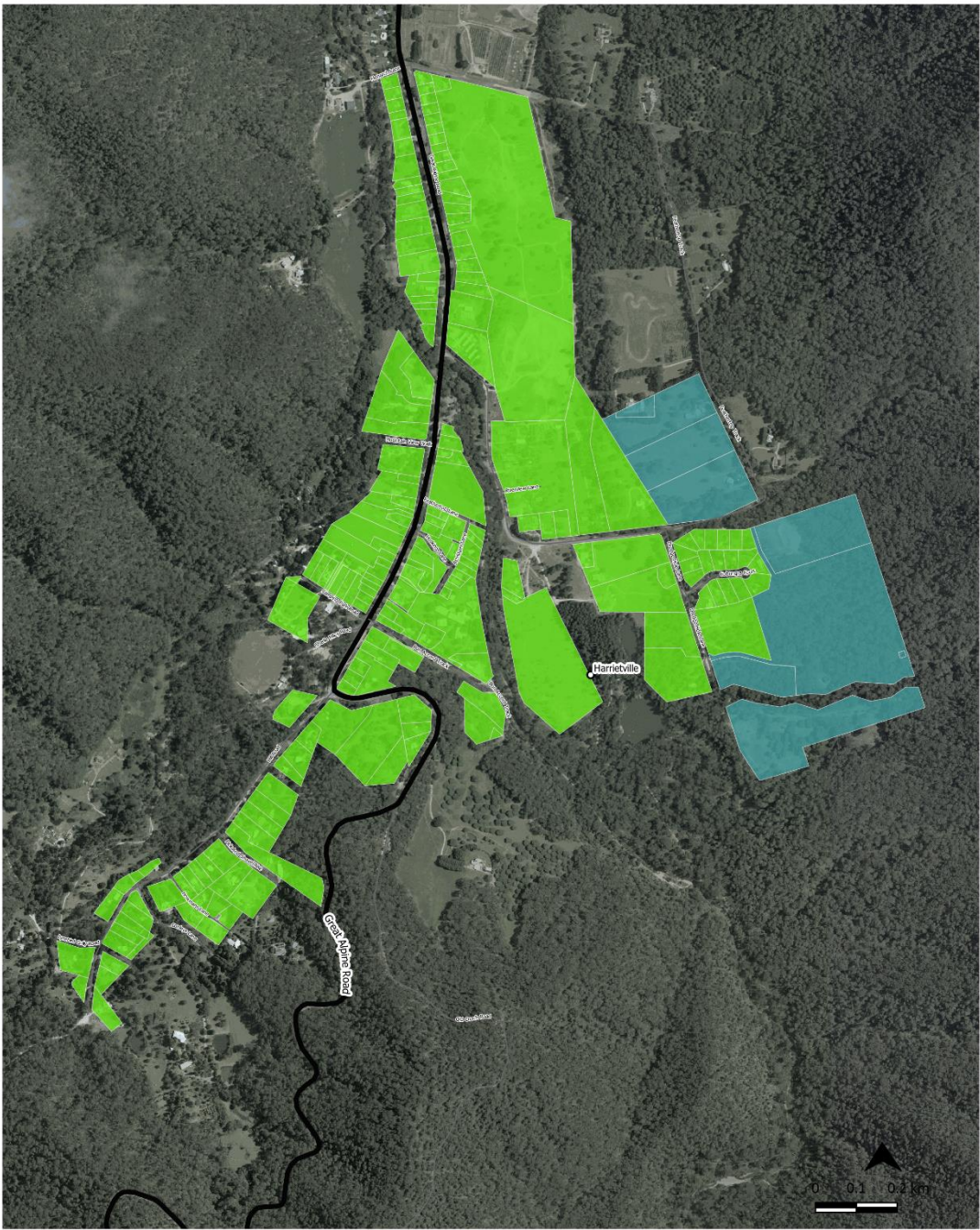
Source; SGS Economics and Planning, 2022

FIGURE 5: YIELD PRECINCTS – DEDERANG



Source; SGS Economics and Planning, 2022

FIGURE 6: YIELD PRECINCTS – HARRIETVILLE



Precincts - Harrietville

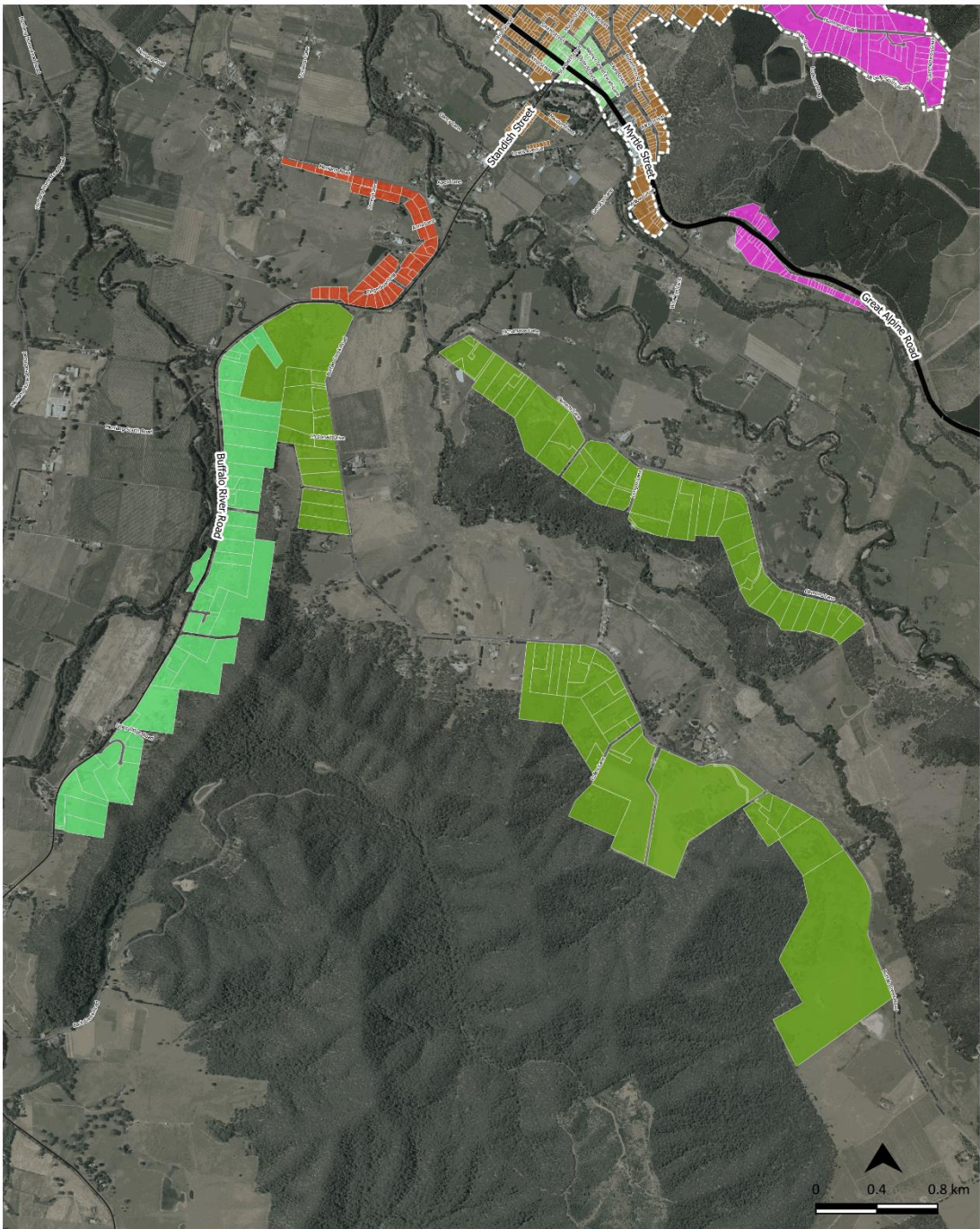
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- Harrietville RLZ
- Harrietville TZ



Source; SGS Economics and Planning, 2022

FIGURE 7: YIELD PRECINCTS – MERRIANG



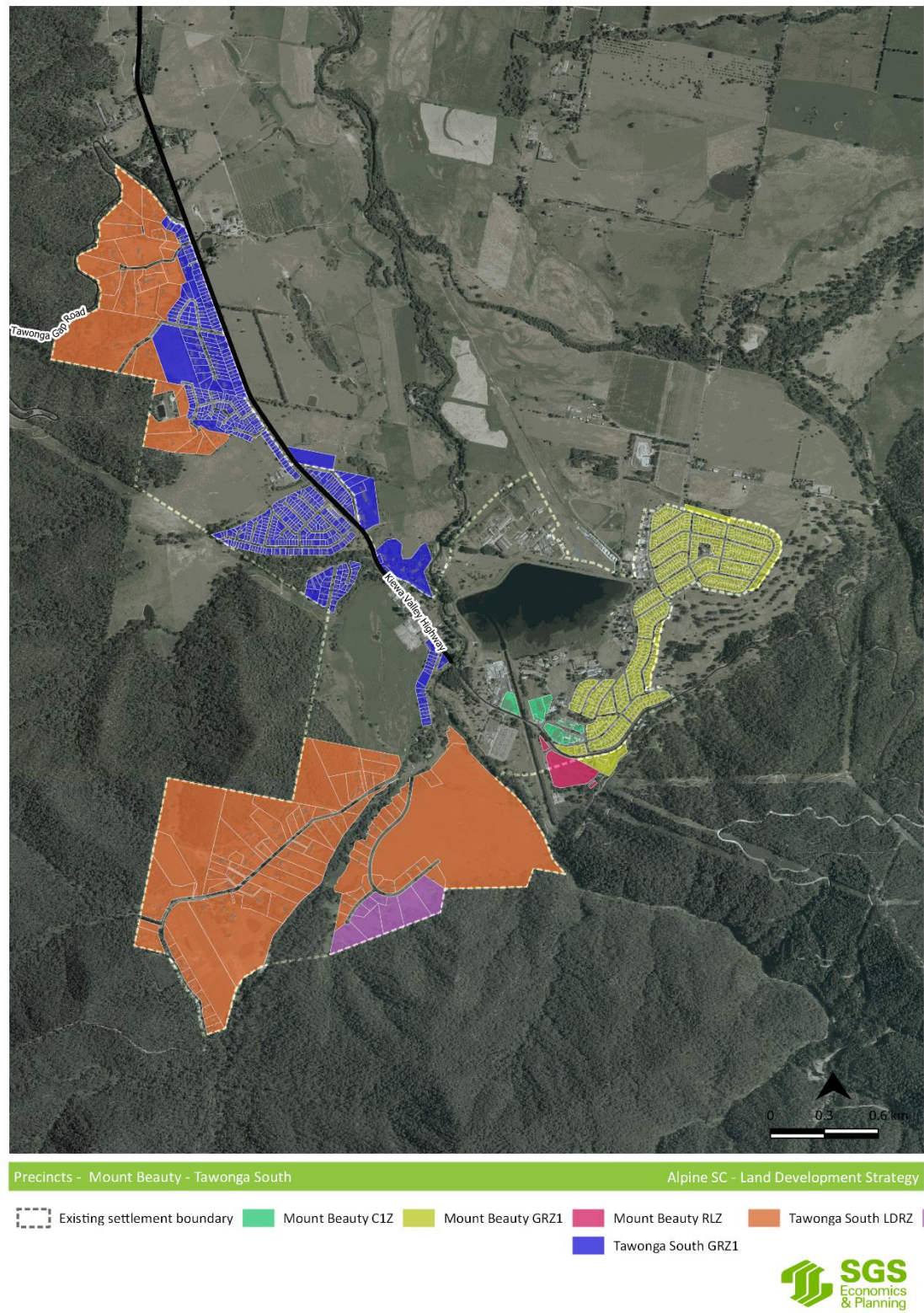
Precincts - Merriang Alpine SC - Land Development Strategy

- Buffalo River RLZ
- Merriang LDRZ
- Myrtleford RLZ



Source; SGS Economics and Planning, 2022

FIGURE 8: YIELD PRECINCTS – MOUNT BEAUTY – TAWONGA SOUTH



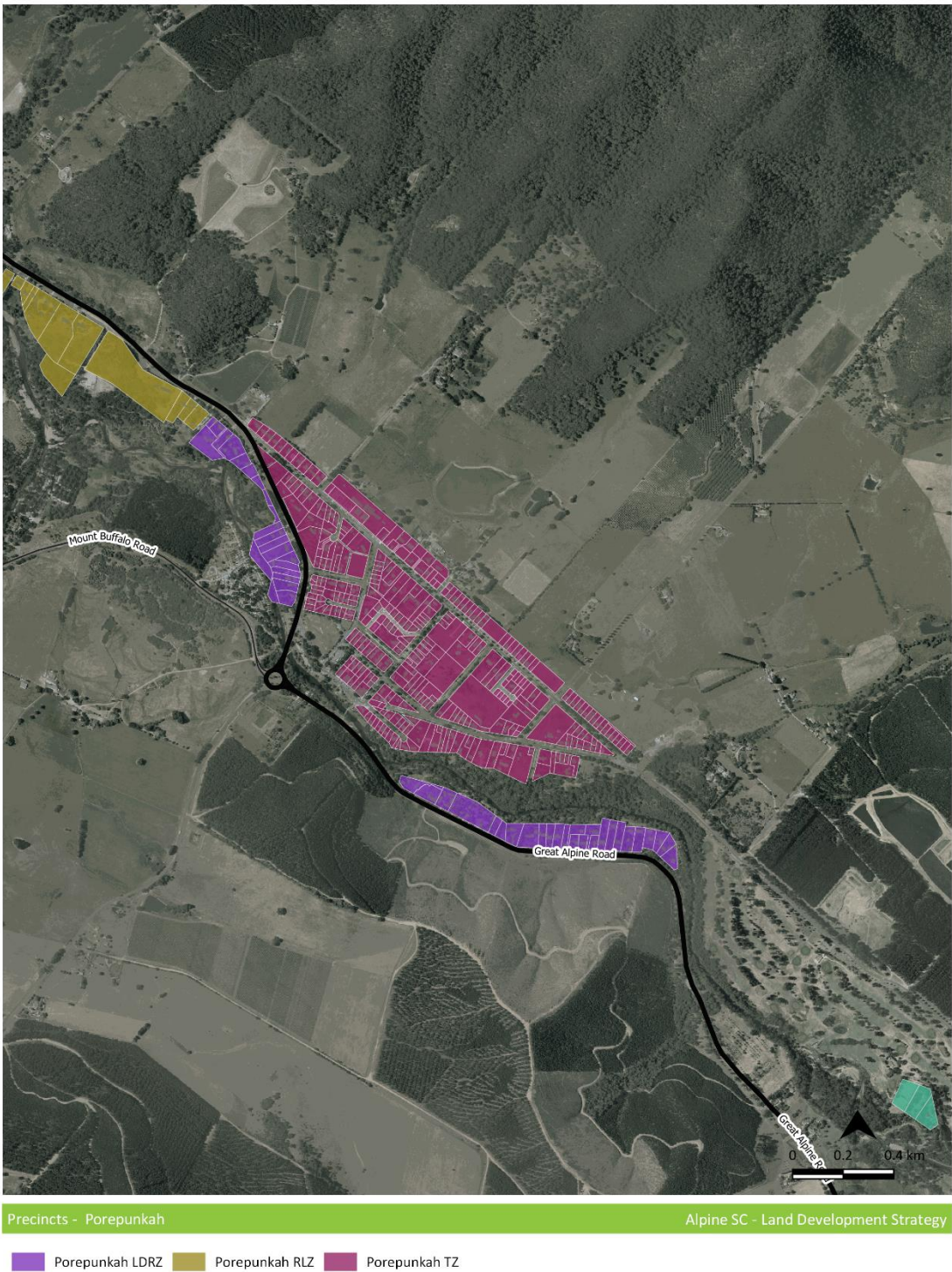
Source; SGS Economics and Planning, 2022

FIGURE 9: YIELD PRECINCTS – MYRTLEFORD



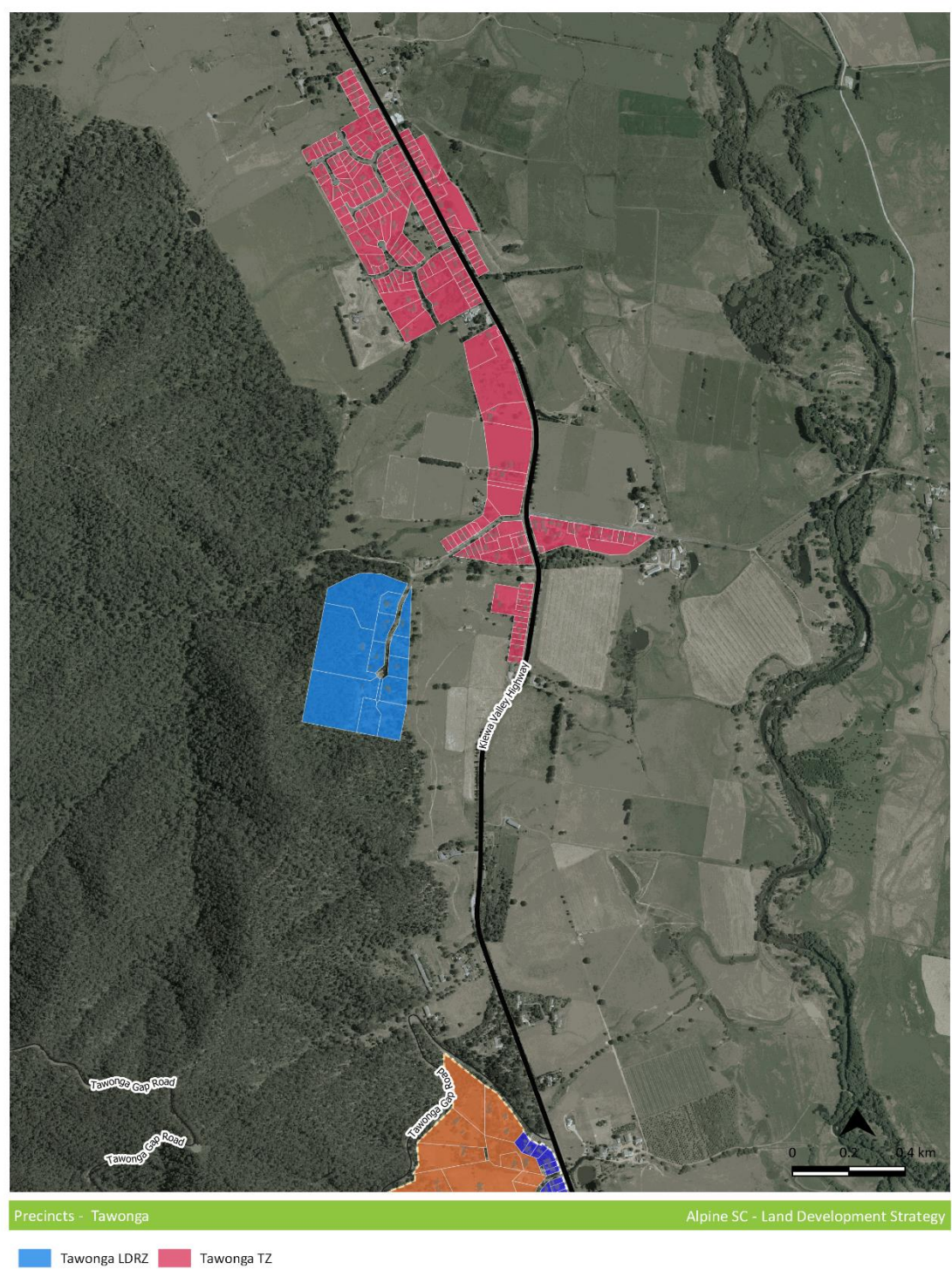
Source; SGS Economics and Planning, 2022

FIGURE 10: YIELD PRECINCTS – POREPUNKAH



Source; SGS Economics and Planning, 2022

FIGURE 11: YIELD PRECINCTS – TAWONGA



Source; SGS Economics and Planning, 2022

FIGURE 12: YIELD PRECINCTS – WANDILIGONG



Source; SGS Economics and Planning, 2022

Yield definitions

The following definitions apply to the terms used throughout the capacity analysis:

- **Vacant lots:** Vacant lots zoned for residential use that can accommodate one additional dwelling but are not large enough to present potential for subdivision.
- **Subdivision of large lots:** Large lots zoned for residential use that have potential for further subdivision in existing residential zoned areas.

Established area infill: Lots with potential to accommodate additional higher density dwellings (small-scale apartments, villa units, townhouses) in established areas close to essential services and commercial premises based on past development trends. Established area infill has only been estimated for Bright in precincts where this development type is already occurring as determined by an aerial image sample of recent development).

Additional assumptions across all precincts include:

- 25 per cent land in areas designated for large-scale subdivision will be used for the provision of community infrastructure (i.e open space) and development infrastructure).
- 100 per cent of the site area of lots identified as having infill potential will be used for the provision of housing.

Beyond the use of capacity assumptions across precincts, there was also significant input from Alpine Shire Council. This input included the identification of parcel lot yield on a site-by-site basis based on the current development pipeline, unsuitable sites and vacant sites. Alpine Shire Council was also involved over a 6+ month period a quality assurance process reviewing the output of the capacity model and refining yields across the LGA. This process has resulted in a housing capacity with a high level of confidence in its accuracy.

3.3 Housing capacity scenarios

The housing capacity assessment explored three potential scenarios – High, Medium and Low. The assumptions differentiating each scenario relate to:

- Inclusion or exclusion of land subject to partial/ discretionary constraints.
- Propensity (or likelihood) for development to occur on designated available lots over the period to 2041.

These assumptions are shown in Table 9 and Table 10.

TABLE 9: SCENARIO LAND EXCLUSIONS ASSUMPTIONS

	Exclusions				
	HO	LSIO	Flood Overlay (proposed)	BAL	Slope 20% plus
Low scenario	1	1	1	1	1
Medium scenario	1	0	1	1	1
High scenario	0	0	0	0	0

Source; SGS Economics and Planning, 2022

Note: “1” means land subjected to constraint excluded. “0” means land subject to constraint included.

TABLE 10: SCENARIO DEVELOPMENT PROPENSITY ASSUMPTIONS

	Development propensity							
	GRZ1		LDRZ		MUZ		C1Z	
	Infill	Large-scale subdivision	Infill	Large-scale subdivision	Infill	Large-scale subdivision	Infill	Large-scale subdivision
Low scenario	30%	80%	30%	80%	30%	80%	30%	80%
Medium scenario	50%	100%	50%	100%	50%	100%	50%	100%
High scenario	100%	100%	100%	100%	100%	100%	100%	100%

Source; SGS Economics and Planning (2022)

3.4 Housing capacity assessment results

Detailed precinct capacity results are presented in Table 11, while

Table 12 shows housing capacity results by town and zone.

The results show that there is existing theoretical capacity for between approximately 1,266 (low-capacity scenario) and 1,578 (high capacity scenario) dwellings across the Shire, including:

- 448 to 675 dwellings in Bright
- 100 to 107 dwellings in Porepunkah
- 330 to 440 dwellings in Myrtleford
- 229 to 270 dwellings in Mount Beauty- Tawonga South, and
- 117 to 137 across the remainder of the Shire.

The largest share of total capacity is available through large-scale subdivision of greenfield areas in Bright and Myrtleford.

TABLE 11: DETAILED CAPACITY RESULTS BY PRECINCT, 2022

Precinct	Low				Medium				High			
	Vacant	Large scale subdivisi on	Infill	Total	Vacant	Large scale subdivisi on	Infill	Total	Vacant	Large scale subdivisi on	Infill	Total
Bright_A	5	18	0	23	5	18	0	23	5	37	0	42
Bright_B	0	0	2	2	0	0	3	3	0	0	11	11
Bright_C	4	0	1	5	4	0	2	6	4	5	3	12
Bright_D	4	12	7	23	4	13	10	28	4	13	14	31
Bright_E	2	0	4	6	2	0	6	8	2	0	18	20
Bright_F	3	2	0	5	3	3	0	6	3	11	0	14
Bright_G	0	0	7	7	0	0	11	11	0	0	30	30
Bright_H	0	4	1	4	0	4	1	5	0	4	3	7
Bright_I	11	27	17	55	11	31	27	68	11	55	42	107
Bright_J	0	1	0	1	0	1	0	1	0	1	0	1
Bright_K	0	4	7	11	0	5	12	17	0	6	18	24
Bright_L	2	2	0	4	2	2	0	4	2	2	0	4
Bright_M	0	0	0	0	0	0	0	0	0	0	0	0
Bright_N	2	3	0	5	2	3	0	5	2	5	0	7

Bright_O	3	12	1	16	3	13	2	18	3	13	3	19
Bright_P	2	8	5	15	2	10	9	21	2	13	24	39
Bright_Q	0	0	0	0	0	0	0	0	0	0	0	0
Bright_R	5	26	0	31	5	26	0	31	5	26	0	31
Bright_S	0	176	0	176	0	176	0	176	0	176	0	176
Bright_T	0	17	0	17	0	18	0	18	0	25	0	25
Bright_U	0	0	0	0	0	0	0	0	0	0	0	0
Bright_V	3	23	2	27	3	27	2	32	3	37	2	42
Bright_W	1	5	0	6	1	6	0	7	1	12	0	13
Bright_X	0	8	0	8	0	9	0	9	0	20	0	20
Dederang_TZ	1	1	0	2	1	1	0	2	1	1	0	2
Harrietville_TZ	27	53	0	80	27	56	0	83	27	72	0	99
Merriang_LDRZ	0	5	0	5	0	5	0	5	0	5	0	5
Mount Beauty_C1Z	0	0	0	0	0	0	0	0	0	0	0	0
Mount Beauty_GRZ1	1	2	0	3	1	2	0	3	1	2	0	3
Myrtleford_C1Z	2	2	1	5	2	2	1	5	2	2	1	5
Myrtleford_GRZ1	37	240	15	292	36	271	24	330	36	307	48	391
Myrtleford_LDRZ	3	29	0	32	3	33	0	36	3	40	0	43
Myrtleford_MUZ	1	0	0	1	1	0	0	1	1	0	0	1

Porepukah_LDRZ	4	2	0	6	4	2	0	6	4	2	0	6
Porepukah_TZ	8	84	3	94	8	89	3	99	8	91	3	101
Tawonga South_GRZ1	27	48	4	79	27	52	4	83	27	29	4	60
Tawonga South_LDRZ	4	112	0	116	4	114	0	118	4	107	0	111
Tawonga South_MUZ	0	0	0	0	0	0	0	0	0	0	0	0
Tawonga_LDRZ	1	0	0	1	1	0	0	1	1	0	0	1
Tawonga_TZ	10	61	1	72	10	66	1	76	10	44	1	54
Wandiligong_LDRZ	28	3	0	31	28	3	0	31	28	3	0	31
Total	201	988	77	1,266	200	1058	117	1,374	200	1163	224	1,587

Source: SGS Economics and Planning, 2022

TABLE 12: DETAILED CAPACITY RESULTS BY MAIN TOWN AND ZONE, 2022

Town/ settlement	Zone	Low				Medium				High			
		Large-scale subdivision	Established area Infill	Vacant	Total	Large-scale subdivision	Established area Infill	Vacant	Total	Large-scale subdivision	Established area Infill	Vacant	Total
Bright	GRZ	300	47	41	387	313	73	41	427	366	137	41	544
	TZ	49	0	6	55	52	0	6	58	95	0	6	101
	LDRZ	0	7	0	7	0	11	0	11	0	30	0	30
Porepukah	LDRZ	2	0	4	6	2	0	4	6	2	0	4	6
	TZ	84	3	8	94	89	3	8	99	91	3	8	101
Myrtleford	GRZ	242	16	40	298	273	25	39	337	309	49	39	397
	LDRZ	29	0	3	32	33	0	3	36	40	0	3	43
Mount Beauty- Tawonga South	GRZ	49	4	28	81	54	4	28	86	31	4	28	63
	TZ	61	1	10	72	66	1	10	76	44	1	10	54
	LDRZ	112	0	5	117	114	0	5	119	107	0	5	112
Other	TZ	53	0	28	81	57	0	28	85	73	0	28	101
	LDRZ	8	0	28	36	8	0	28	36	8	0	28	36
Total		988	77	201	1,266	1,058	117	200	1,374	1163	224	200	1,587

3.6 Selecting a preferred capacity scenario

The low capacity scenario has been selected as the preferred to ensure a ‘conservative’ approach to planning for future land requirements (that is, being careful not to overestimate future development potential).

- Capacity results by town and zone for this scenario are shown in 448 dwellings in Bright
- 100 dwellings in Porepunkah
- 330 dwellings in Myrtleford
- 270 dwellings in the Upper Kiewa Valley (Mount Beauty, Tawonga, Tawonga South), and
- 117 across the remainder of the Shire.

Table 13. It shows capacity by town totals:

- 448 dwellings in Bright
- 100 dwellings in Porepunkah
- 330 dwellings in Myrtleford
- 270 dwellings in the Upper Kiewa Valley (Mount Beauty, Tawonga, Tawonga South), and
- 117 across the remainder of the Shire.

TABLE 13: HOUSING CAPACITY ASSESSMENT RESULTS

Town/ settlement	Zone	Large-scale subdivision	Established area infill	Vacant	Total
Bright	GRZ	300	53	41	394
	LDRZ	49	0	6	55
Porepunkah	LDRZ	2	0	4	6
	TZ	84	3	8	94
Myrtleford	GRZ	242	16	40	298
	LDRZ	29	0	3	32
Mount Beauty- Tawonga South (Upper Kiewa Valley)	GRZ	49	4	28	81
	TZ	61	1	10	72
	LDRZ	112	0	5	117

Other	TZ	53	0	28	81
	LDRZ	8	0	28	36
Total		988	77	201	1266

3.8 Comparing demand and capacity

A comparison of expected demand and current capacity for each town is shown in Table 14. It shows that:

- There is an undersupply of land for residential development in the order of 360 dwellings across Alpine Shire Council.
- Based on past development trends, it is expected that the greatest share of future housing demand (34 per cent or 553 dwellings) will be in Bright, where there is an anticipated shortfall in capacity of 104 dwellings.
- Based on past development trends, Myrtleford is expected to have a marginal oversupply of 21 and Mount Beauty-Tawonga South an excess of 92.
- There is expected to be a shortfall in capacity across other towns and settlements of 208 dwellings, however given the constraints of these towns for further development, it can be expected that this demand will be redirected to larger towns.

TABLE 14: HOUSING DEMAND VS CAPACITY BY TOWN

Town	% share of forecast development (based on past trends)	Total dwelling demand 2041	Housing capacity estimate	Difference (demand vs capacity)
Bright-Porepunkah	34%	553	448	-104
Porepunkah	16%	260	100	-160
Myrtleford	19%	309	330	21
Mount Beauty-Tawonga South (Upper Kiewa Valley)	11%	179	270	92
Other	20%	325	117	-208
Total	100%	1625	1266	-359

Source: SGS Economics and Planning (2022)

Given environmental, natural hazards and servicing constraints across the Shire these results indicate that the Land Development Strategy will need to set policy direction for dwelling demand that exceeds capacity (208 dwellings) that is expected in “Other” areas of the Shire. This demand should be absorbed in locations that support good planning outcomes, including locations that are safe, well serviced, and suitable for urban expansion.

3.9 Land requirements for new housing

Based on the analysis undertaken, estimates of how much additional greenfield land might be required to accommodate forecast growth have been made. This assumes:

- Demand exceeding capacity in 'Other' townships will be redirected to the three main township areas due to environmental constraints (i.e. bushfire and flooding risk), servicing constraints (presence of reticulated services) and state and local policy directions which prioritise the protection of human life in areas affected by natural hazards and promote urban consolidation in well-served locations.
- Each zone provides unique housing opportunities in the Shire's main townships meaning demand is less likely to move between zones.
- Additional land will be needed in proposed Growth Areas for provision of community and development infrastructure.
- The assumed average lot size for new housing is generally based on existing averages in each town by relevant zone, except in Porepunkah where an average lot size in the General Residential Zone in Bright has been used assuming that this is the likely a more appropriate zoning category and development density (refer Table 15).

Table 16 summarises high level land requirements for each of the main towns, noting detailed structure planning processes will be required to determine in detail appropriate zoning, lot configurations and sizes, transport accessibility and infrastructure provision. Table 17 overviews the detailed assessment process and results.

Note that land requirements for "Other" towns have been distributed across the three main towns.

TABLE 15: LOT SIZE ASSUMPTIONS FOR LAND REQUIREMENTS

Town	Zone	Assumed average lot size (sqm)
Bright	GRZ	700
	LDRZ	4000
Porepunkah	GRZ	700
Myrtleford	GRZ	800
	LDRZ	4000
Mount Beauty-Tawonga South	GRZ	600
	LDRZ	4000
Other	TZ	1200
	LDRZ	4000

Source: SGS Economics and Planning (2022)

TABLE 16: POTENTIAL LAND REQUIREMENTS FOR NEW HOUSING BY TOWNSHIP AREAS

Town	Land requirement (hectares)
Bright	36
Porepunkah	29
Myrtleford	20
Mount Beauty-Tawonga South	11
Total	98

Source: SGS Economics and Planning (2022)

* Surplus capacity was identified for areas of LDRZ and TZ in Mount Beauty-Tawonga South, however additional land zoned for general residential purposes is required to absorb demand expected for “Other” townships.

TABLE 17: LAND REQUIREMENTS BY ZONE, DETAILED ASSUMPTIONS

Town	% Share dwelling demand 2021-41	Total dwelling demand 2021-41	Existing capacity				Unmet capacity (Demand vs Capacity)	Unmet capacity	Lot size comparison precinct	Assumed precinct lot size	Additional land req. for infrastructure	Total additional land required (sqm)
			Large-scale subdivision	Established area nfill	Vacant	Total						
Bright												
GRZ	30.0%	488	300	53	41	394	-94	94	Bright_K	700	1.25	139,068
LDRZ	4.0%	65	49	0	6	55	-10	10	Porepukah_LDRZ	4,000	1.25	105,063
Subtotal	34%	553	348	53	47	448	-104	104				133,484
Porepukah												
TZ	15%	244	84	3	8	94	-149	149	Bright_K	700	1.25	130714
LDRZ	1%	16	2	0	4	6	-11	11	Porepukah_LDRZ	4000	1.25	53763
Subtotal	16%	260	85	3	12	100	-160	160				184,477
Myrtleford												
GRZ	16.2%	262	242	16	40	298	35	0	Myrtleford_GRZ1	800	1.25	0
LDRZ	2.9%	46	29	0	3	32	-14	14	Myrtleford_LDRZ	4,000	1.25	70,098
Subtotal	19%	309	271	16	43	330	21	14				70,098

Mount Beauty - Tawonga South (Upper Kiewa Valley)												
GRZ	8.1%	132	49	4	28	81	-51	51	Mount Beauty_GRZ1	600	1.25	38,134
TZ	0.1%	2	61	1	10	72	70	0	Tawonga_TZ	1,200	1.25	0
LDRZ	2.8%	45	112	0	5	117	72	0	Myrtleford_L DRZ	4,000	1.25	0
Subtotal	11%	179	222	5	43	270	91	51				38,134
Other												
TZ	11.2%	182	53	0	28	81	-101	101	Tawonga_TZ	1,200	1.25	150,867
LDRZ	8.8%	143	8	0	28	36	-108	108	Myrtleford_L DRZ	4,000	1.25	537,610
Subtotal	20%	325	61	0	56	117	-208	208				688,477

4. Additional barriers to housing supply

Providing sufficient, residentially zoned land is essential to enabling sufficient housing supply and supporting the proper functioning of housing markets. However, there are other factors (some outside of the purview of local government) that are necessary to facilitate housing development.

Stimulating housing supply in regional areas is a complex problem that is currently subject to extensive investigation by several state and regional agencies. While much of this work is ongoing, the following have been identified as barriers to housing across regional Victoria:

- **Provision of servicing infrastructure:** It can be prohibitively expensive to service housing lots with water or sewerage infrastructure. There is a mismatch between the planned infrastructure delivery, population growth rates and the cost/revenue structure of the water authorities. This mismatch limits the ability of water authorities to bring forward or expand their capital expenditure to meet demand, noting that the timelines associated with significant infrastructure projects is itself a challenge in meeting unanticipated demand.
- **Land withholding in greenfield areas:** In some locations, land is not developed as there is no compelling reason for landowners to sell. Landowners may have particular price expectations and if this is not being offered, then they can continue to use the land productively, and hold it in the expectation that prices will rise in future. Land being held back from development can also be influenced by the upfront costs of infrastructure provision.

In 2023 the Windfall Gains Tax (WGT), was implemented in Victoria. Land value uplift resulting from rezoning will be taxed at 50 per cent for windfalls above \$500,000. The tax will commence with windfalls of \$100,000 but will only reach its full 50 per cent rate when the gain from rezoning is \$500,000 or more. Given the relatively low achievable prices for finished residential lots in greenfield areas in rural Victoria - versus development costs including normal profit - it is unlikely that the residual value of rezoned land will greatly exceed the value prior to rezoning. If the WGT were to be payable, this would only be because the proponent can make a normal profit as well as paying a premium for the site over the use value prior to rezoning.

However, the application of the WGT is not always well understood and is seen to lack transparency. This may impact the perceived developability of land if landowners consider their profit potential to be at risk.

At a more basic level some landowners might not necessarily know what to do with their land (in terms of development potential) and need direction. Others may hold onto their land because they do not want to see change.

- **Local geography and settlement patterns:** The location, geography and settlement patterns of many rural towns and settlements creates a range of barriers to development, including:
 - **Onsite wastewater management** is required as some smaller towns in Alpine Shire aren't connected to trunk wastewater infrastructure. In some instances, smaller lots (particularly those zoned LDRZ or RLZ) can be left vacant because the lots are too small to meet EPA guidelines and codes of practice. The alternative (expansion of reticulated services to these

small towns) is prohibitively costly, and it is generally accepted that it is not possible (or desirable) to service all small towns.

- **The timely provision of other development infrastructure**, such as roads, drainage infrastructure, bicycle and footpaths, public transport and open space is also a barrier to development in some locations, particularly where a Development Contributions Plan (DCP) is not in operation.
- **Poor access to NBN and unreliable telecommunications is a significant issue.** Large parts of the Shire are black spots, including several spots along the Great Alpine Road and other major roads. Many people in black spots are now relying on satellite internet services, which to a large extent overcomes the problem. However, this service is currently less affordable than NBN. This was raised as an issue in Bright, and there is no internet in parts of Wandiligong and Harrietville.
- **A lack of staffing and labour resources** can impact delivery timeframes for the construction of infrastructure and is a major issue in the region as there not enough builders or contractors.
- **Development feasibility:** in some areas, the costs of developing a dwelling are greater than the potential sale price the developer or builder would receive, rendering development unfeasible. The sometimes marginal feasibility of developing medium and higher density housing is a particular problem for adding to and diversifying the housing stock in regional Victoria. There is current demand for this type of housing, from ageing and downsizing households and seasonal and essential workers, but development costs, and risks associated with approvals, site constraints, apparently limited market depth and ultimate sale values, constrains the market provision of this needed stock.
- **Size and structure of the development industry:** the annual demand for new housing is limited in many regional areas, sometimes counted in the mere dozens of dwellings or fewer in some smaller country towns. The modest size of housing markets in small towns and rural areas is a barrier to responsive and more innovative development. In these situations, the size of the market cannot support a sufficient body of competitive suppliers, setting up actual or near 'natural monopoly' amongst very few active developers.
- **Skills and awareness of development industry:** as well as the scale of the development industry, there is also a challenge regarding the diversification into new products. The expertise required to deliver medium and higher density is rarely present, and it is more straightforward to continue developing the same products, despite there being demand for alternative products.

As well as identifying suitable areas and patterns for housing growth, the Alpine Land Development Strategy will consider how council, in partnership with other relevant stakeholders and agencies, can support housing delivery.

5. Implications for the Land Development Strategy

- The global COVID-19 pandemic has created uncertainty regarding future population projections in Alpine Shire. International border closers, restrictions on domestic travel and periods of rolling lockdowns in Victoria significantly impacted population movements and also shifted individual and household preferences regarding lifestyle and housing.
- Uncertainty continues as to the impacts of the COVID-19 pandemic on long term population trends. To account for this uncertainty several populations forecast scenarios for Alpine Shire were generated to demonstrate alternative recovery scenarios. These scenarios demonstrate that the population of Alpine Shire could vary between 13,936 people and 15,890 people by 2041.
- Population growth results in additional demand for housing. By 2041 there is expected to be demand for between 1,021 (low population growth scenario) to 2,167 (high population growth scenario) additional dwellings in Alpine Shire. Across all scenarios, separate houses are expected to comprise the largest share of total growth. These projections are based on observed recent trends continuing. Alternative policy directions and settings are possible.
- Non-resident ratepayers create additional demand for housing. While it is difficult to quantify this additional demand precisely, it is expected that adopting a high growth scenario is a conservative approach and should be sufficient to accommodate additional demand created by this sub-set of the housing market. Further, review of the strategy at regular intervals (e.g. every five years) will allow the growth figures to be adjusted if necessary in future.
- Balancing the findings of the analysis undertaken above, and the need for Council to plan for at least 15 years supply of residential land to ensure an efficient and well-functioning housing market, it is recommended that Council adopt the high growth scenario for dwelling demand (2,167 additional dwellings by 2041) to ensure prudent settlement planning, with 1,625 (75 per cent) to be accommodated in urban areas.
- Based on trends in the locational shares of past dwelling construction it could be assumed that 553 (or 34 per cent) of dwelling demand would occur in the Bright, 309 (or 19 per cent) in the Myrtleford, 260 (or 16 per cent) in Porepunkah and 179 (or 11 per cent) in Mount Beauty-Tawonga South (with the remainder in other smaller and scattered locations in the Shire).
- Existing, residentially zoned areas provide capacity for between 1,266 and 1,587 dwellings, depending on the stringency of land use exclusions and development propensities applied, with the largest share of capacity available via large-scale subdivision in Bright. Based on past trends in infill development, it is expected that – without active intervention – further infill development accounts for only a small share of overall capacity.
- Broadly speaking and without policy adjustment there is an estimated undersupply of land for residential development in the order of 360 dwellings across Alpine Shire, with shortfall in land supply greatest in Bright and Porepunkah where past development trends indicate future demand will likely be greatest.

- It is broadly estimated that an additional 98 hectares could be rezoned to support future demand for housing, although unlocking infill development in existing urban-zoned areas should be prioritised (reducing the need for new greenfield land). Detailed structure planning will be required to determine exact land area requirements and associated provision of services.

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