Appendix D: Technical report on the resident population, dwellings, and rural activity in the Wakatipu Basin

1.0 Introduction

Demand for residential development for both permanent residents and visitor accommodation is a core driver of current and future development pressure on the Wakatipu Basin study area. Such demand may also impact on the long-term prospects of rural production activities in the study area.

This technical report provides information on:

i. the scale of resident population and dwelling numbers in the Wakatipu Basin study area and in relation to its 'share' of the wider Queenstown-Lakes District (QLD); and

ii. the significance of rural industry activities in the study area (in response to comments specifically raised by the Hearings Panel, vis "farming is barely practised in the Wakatipu Basin" and "the range of activities present in the Wakatipu Basin severely constrains the viability of farming in the Basin")[1].

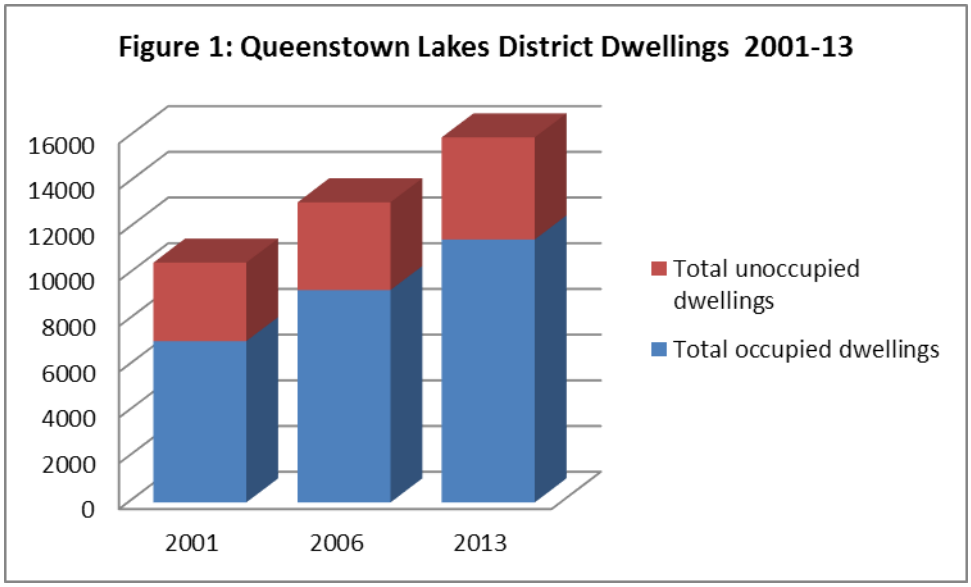
This report provides a context for identifying the extent to which potential additional capacity will help to relieve demand pressures in the study area, in light of projected future demand for dwellings in QLD as a whole over the next 30 years.

2.0 Queenstown-Lakes District resident population and dwelling numbers

QLD was the fastest growing area in the country over 2001-06, and by 2013 reached a resident population of 28,224 (increase of 65% over 15 years). Total occupied dwellings grew at a similar rate of 63%, to reach 11,508 in 2013, implying an average household size of 2.5[2].

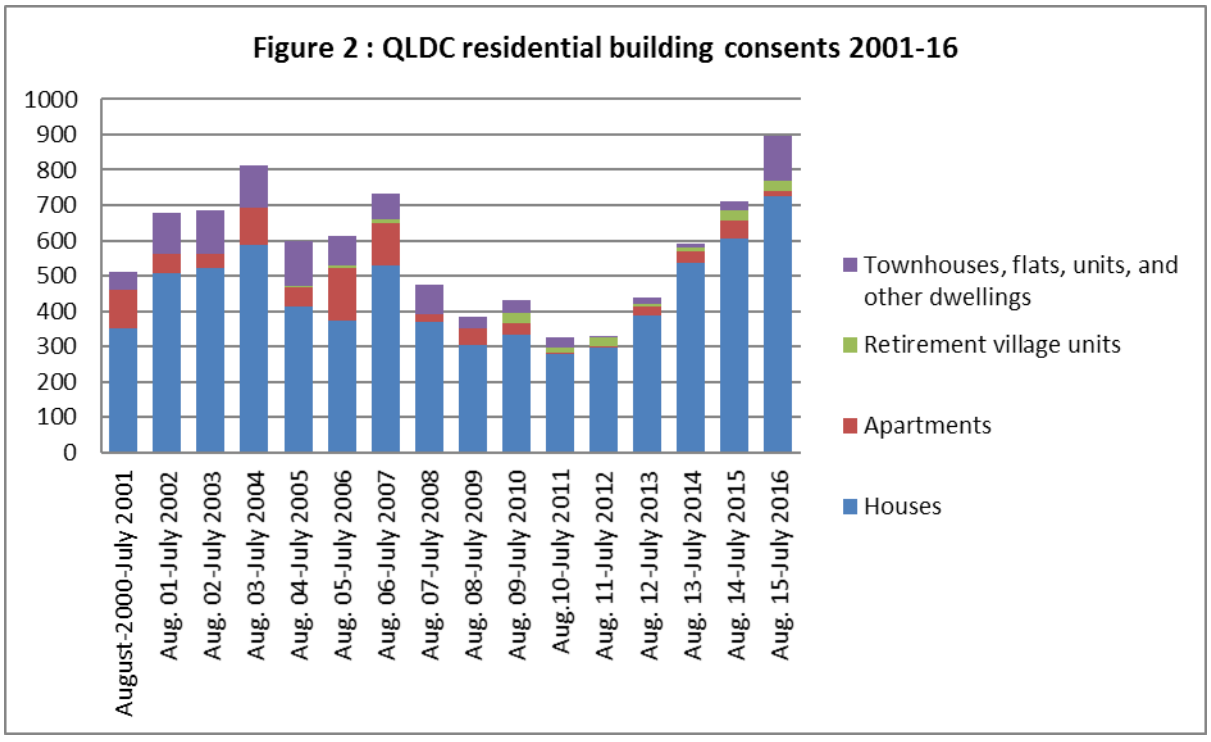
Dwelling numbers in the study area are significantly higher than the resident population would suggest, due to a significant proportion of 'unoccupied dwellings'. There were 15,975 total dwellings in the district in 2013 with 28% (4,467) being unoccupied (refer Figure 1)[3]. These dwellings grew by 30% over 2001-13 (half the rate of growth in occupied dwellings), reflecting the district's popularity as a residential and tourist destination subject to high in-migration of new workers and residents (and a relative decline as a domestic holiday home location).

[1] Refer Hearings Panel comments in the project brief.
[2] Stats NZ 2013 Census figures.
[3] Unoccupied Dwellings include those classified as 'Residents Away' or Empty Dwellings' in the 2013 Census. They differ from 'occupied dwellings' on the basis that they are occupied periodically (e.g. as second homes or holiday homes, or rented visitor accommodation).



Source: Stats NZ 2013 Census

Over the past 15 years the district has averaged 576 new residential building consents[4] per annum, with annual consent volumes exhibiting a cyclical pattern (refer Figure 2) with peaks in 2004 and 2016 (reaching 800-900 consents) either side of a 'post-GFC' plateau in 2011-12 (at 330 consents per annum).



Source: Stats NZ building consents data (Infoshare)

Since 2013 development activity in the district has risen markedly – over August 2013-July 2016, 2,197 dwelling consents were issued (double that of the preceding three years 2010-13). There has also been a return in 2016 to relatively high numbers of 'townhouses, flats and units', at levels last seen in the early 2000s. 'Retirement

[4] Stats NZ data; dwellings include houses, apartments, retirement units, townhouses, flats and units.

units' have also emerged since 2010 as a growth sector; on the other hand, 'apartment' consents have yet to return to the volumes seen in the mid-2000s. If all the consented dwellings in the past three years were built there would now be over 18,000 dwellings in the district.

StatsNZ's latest estimate (2016) for the resident population is 34,700[5] reflecting a high rate of growth, averaging 5.6% per annum over the past 3 years. Stats NZ's most recent population projections[6] for the district indicate it could reach 57,400 (medium series) or 65,000 (high series) by 2043.

The projections have been used to derive projected occupied dwellings in this report based on a constant average household size of 2.5, with additional allowance made for unoccupied dwellings based on their declining over time as a share of total dwellings as per the trend rate over 2001-13[7] (refer Table 1 and Figures 3 and 4).

The projections imply that the district could double in size – in terms of both residents and dwelling stock - over 30 years from 2013[8]. The district's additional dwellings requirement associated with continuing rapid population growth would require a cumulative 15,000-19,000 additional dwellings, on top of the close to 16,000 existing dwellings in 2013.

Table 1: Queenstown District dwellings projections

Year	Population Est. &Proj	Occupied dwellings[1]	Unoccupied dwellings[2]	Total dwellings	Additional dwellings (cumulative)
2013	29,700	11,508	4,467	15,975	
High projection					
2018	39,400	15,760	6,014	21,774	5,799
2023	46,300	18,520	6,948	25,468	9,493
2028	51,200	20,480	7,554	28,034	12,059
2033	56,000	22,400	8,123	30,523	14,548
2038	60,600	24,240	8,642	32,882	16,907
2043	65,000	26,000	9,113	35,113	19,138
Medium projection					
2018	38,300	15,320	5,846	21,166	5,191
2023	44,000	17,600	6,603	24,203	8,228
2028	47,700	19,080	7,038	26,118	10,143
2033	51,100	20,440	7,412	27,852	11,877
2038	54,300	21,720	7,744	29,464	13,489
2043	57,400	22,960	8,048	31,008	15,033

1 From 2018 estimated based on ave. household size of 2.5

2 From 2018 estimated based on ratio of unoccupied to occupied dwellings of 38.8% in 2013, declining by 1.69% per annum (same rate as over 2001-13).

Source: Strateg.Ease projections based on StatsNZ population projections (2013 base).

[5] Stats NZ provisional estimate. Source:http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7502

[6] Updated Stats NZ sub-national projections released December 14, 2016.

[7] The ratio of unoccupied to occupied to dwellings declined by an average 1.7% per annum over 2001-13. Projecting this rate over 2013-43 causes their share of total dwellings to go from 28% in 2013 to 26% in 2043.

[8] Note that these population and dwellings projections are significantly higher than those prepared for the council five years ago (Rationale 2011), which projected the resident population to reach 44,100 in 2031. Stats NZ now project the population to reach 51,100 (medium) or 56,000 (high) in 2033, exceeding previous expectations by 16-21%.

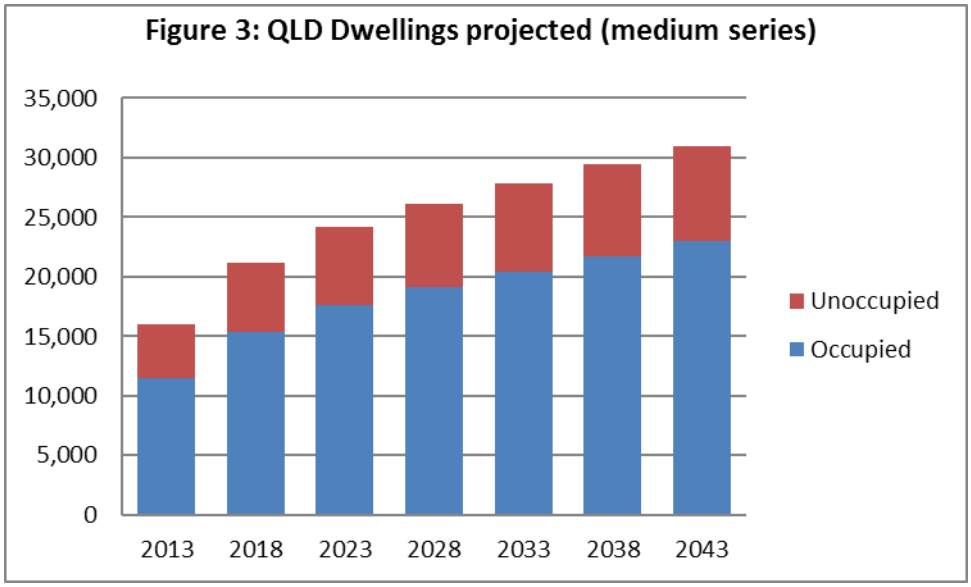


Figure 3: QLD Dwellings projected (medium series)
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
2013
2018
2023
2028
2033
2038
2043
Unoccupied
Occupied

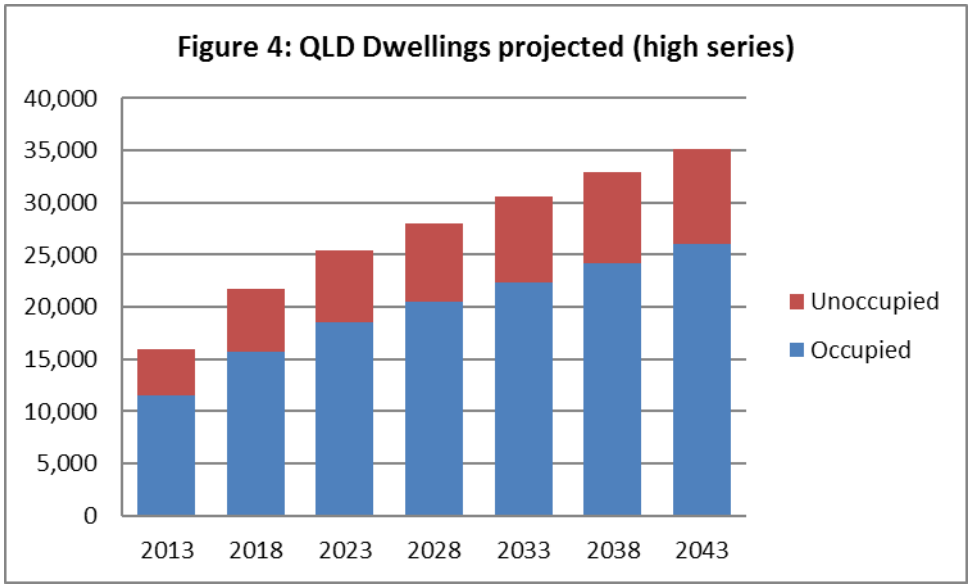


Figure 4: QLD Dwellings projected (high series)
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
2013
2018
2023
2028
2033
2038
2043
Unoccupied
Occupied

3.0 Wakatipu Basin resident population and dwelling numbers

It is difficult to estimate the Wakatipu Basin study area's population accurately as it is contained within several StatsNZ area units which extend beyond the study area. Table 1 shows the relevant area unit figures for 2001-13 as a guide to its population. The combined area units accommodate less than 6,800 residents, accounting for less than a quarter of the district's population. Over 2006-13 the combined area has grown faster than the district as a whole, by around 40% compared to the district's 23% (refer Table 1). Allowing for an overstatement factor by assuming half of the population in the Frankton East and Outer Wakatipu Basin area units (total 1,290) are outside the study area suggests the study area's resident population (2013) would be around 6,150.

Table 1: Population growth in the Wakatipu Study Area 2001-13[9]

Area unit	2001	2006	2013	% increase 2006-13
1 Arrowtown	1,692	2,148	2,445	13.8%
2 Lake Hayes	192	252	318	26.2%
3 Lake Hayes South	60	615	1,638	166.3%
4 Wakatipu Basin	837	963	1,104	14.6%
5 Frankton East	153	396	639	61.4%
6 Outer Wakatipu Basin	414	462	651	40.9%
Study Area	3,348	4,836	6,795	40.51%
Total Queenstown Lakes District	17,043	22,959	28,224	22.9%

Source: area unit data extracted from QLDC website:
http://www.qldc.govt.nz/planning/other-planning-information/population-and-growth/

Total dwellings in this area are shown in Table 2. If it is assumed that half of the dwellings in the relatively lower populated area units of Frankton East and Outer Wakatipu Basin (total 639) lie outside the study area, the total dwellings in the study area would be closer to 3,000.

Over 2006-13, 831 new dwellings (average 118 per annum) were built in the area units encompassing the study area (refer Table 2). Allowing for an 'overstatement' factor due to the area being larger than the study area, it is reasonable to assume that at least 100 dwellings per annum have been built in the study area over 2006-13.

The Wakatipu Basin study area comprises several residential settlement areas subject to a mixture of 'urban' and 'rural' zonings and Special Zones. Based on GIS information supplied by the council (refer summary table in Attachment A), in 2016 there were an estimated 785 existing dwellings and 373 'vacant' registered building platforms (total 1,158)[10] in the defined landscape character units in the study area (which do not comprise all land within the study area). The 785 existing dwellings account for less than a third of the 3,000 estimated total dwellings in the study area from Table 2, reflecting the important role that urban residential zones and the Special Zones have played in accommodating the majority of demand for dwellings in the study area in recent years.

[9] As Stats NZ area unit boundaries do not correspond directly with the geography of the study area (or the areas in the council's Development Capacity Model), the population figures overstate the study area's actual population. Area units 1-4 are 100% contained in the study area while units 5 and 6 extend beyond the study area.

[10] GIS information on existing dwellings and registered building platforms (RBGs) in the study area sourced from QLDC (November 2016).

Table 2: Dwellings in the Wakatipu Study Area 2001-13[1]

Area unit	2001		2006		2013		2013	% increase
	Occupied	Unoccupied	Occupied	Unoccupied	Occupied	Unoccupied	Total dwellings	2006-13
1 Arrowtown	690	339	894	360	1,005	360	1,365	8.9%
2 Lake Hayes	72	45	99	39	132	57	189	37.0%
3 Lake Hayes South	18	0	195	15	495	30	525	150.0%
4 Wakatipu Basin	300	87	351	81	435	135	570	31.9%
5 Frankton East	54	21	129	36	234	54	288	74.5%
6 Outer Wakatipu Basin	174	93	195	63	270	81	351	36.0%
Study Area	1,308	585	1,863	594	2,571	717	3,288	33.8%
Total Queenstown Lakes District	7,059	3,435	9,294	3,840	11,508	4,467	15,975	21.6%

Source: NZStats Census data

[1] As with Table 1 the figures overstate the study area's dwellings. All dwellings in areas 1-4 are within the study area (2,649 dwellings) but only a portion of those in areas 5 and 6 are in the study area (e.g. Quail Rise Special Zone is in the Frankton East area unit but is outside the study area boundary).

4.0 Rural activity

Land-use for rural production is a relatively minor activity within the study area. Relatively low numbers of stock were observed on a small number of sites during fieldwork undertaken for the landscape character assessment. Similarly, horticultural (crop or orchard based) activity was also of low significance.

As the Panel noted, the more significant farming operations occur within Outstanding Natural Landscapes and Outstanding Natural Features (which lie predominantly outside of the study area).

Employment data also shows that employment in the primary sector in the study area has changed little over the past nine years. Based on Stats NZ area units that encompass the study area, the primary sector employment count (i.e. in the Agriculture, Forestry and Fishing Industry) was 200 in 2015, compared with 213 in 2006 (refer Table 1)[11].

Employment in the primary sector in Queenstown as a whole has also declined over this period from 600 to 500 jobs and the study area now accounts for 40% of this sector's total employment in the district.

While primary sector jobs in the study area have been less than 200 for most of this period, total employment within the study area grew at a significant 49% over 2006-15, exceeding the 32% increase in employment for the district as a whole. Rural production activity has therefore declined in terms of its relative share of employment in the study area, from over 8% of total employment in 2006 to over 5% in 2015. Employment growth has occurred in 'non-farming' industry sectors such as Construction, Accommodation and Food Services, and Retail Trade.

Table 1: Employment in Queenstown-Lakes District and the Wakatipu Basin 2006-15

	QLD			Wakatipu Basin Study Area*		
	Primary sector employment count[1]	Total Employment Count	Primary sector share of total	Primary sector employment count	Total Employment Count	Primary sector share of total
2006	600	15,120	3.97%	213	2,517	8.46%
2007	490	15,500	3.16%	208	2,555	8.14%
2008	430	15,720	2.74%	168	2,835	5.93%
2009	440	15,400	2.86%	165	2,865	5.76%
2010	420	15,820	2.65%	153	2,770	5.52%
2011	420	16,080	2.61%	170	3,105	5.48%
2012	430	16,600	2.59%	175	3,105	5.64%
2013	440	17,210	2.56%	144	3,255	4.42%
2014	430	18,440	2.33%	170	3,595	4.73%
2015	500	19,930	2.51%	200	3,745	5.34%

Source: Stats NZ Business Directory data
Notes: 1 refers to Industry Sector: Agriculture, Forestry and Fishing
*Data based on closest fit between the study area and Stats NZ Area Units of:
Arrowtown, Lake Hayes, Lake Hayes South, Wakatipu Basin, Frankton East and Outer Wakatipu Basin.
Totals exclude confidential data (due to counts of less than 3 in some years), which occur predominantly in the Lake Hayes and Arrowtown area units.

[11] It is also important to note that the Outer Wakatipu Basin area unit accounts for most of the primary sector employment within the study area, and as this area unit extends outside the study area the employment figures overstate actual employment within the study area.

Although this analysis omits consideration of any changes in average farm size or productivity levels in the district (which might show that the primary sector has 'held its own' in economic output/value terms), a number of factors will continue to exert pressure on the viability of farming in the study area:

- Increasing size of landholdings required to operate commercial scale agriculture or horticulture (at an average 250 hectares per farm in 2014[12]), and an existing pattern of lot sizes in the study area where larger lots (100-500+ hectares) are mainly in the 'outer Basin' area while the majority of lots in the 'inner Basin' are below this scale.

- Current median prices of $1.3 million for 'Rural and Lifestyle homes' and $690,000 for 'Rural and Lifestyle sections' in Wakatipu in 2015[13] 'competing' against much lower average farm land prices in the range of $20,000-30,000 per hectare in the Otago region[14].

- Projected strong growth in demand for residential housing and tourist visitor accommodation (and associated facilities) in the Wakatipu Basin and in Queenstown generally.

Whilst safeguarding rural production activities can contribute to protection of landscape amenity values, the above factors will make it difficult to sustain productive land-uses particularly on sites where landowners have a reasonable expectation that rural-residential development would be feasible, either as subject to a discretionary consent application under current zoning policies or in anticipation of a future change in zoning.

5.0 Demand pressures in the study area

The potential for additional dwellings development capacity under the PDP has not been estimated for the study area. Dwellings capacity for the district as a whole was previously estimated to be in the order of 22,000 dwellings (for 'urban' zones only)[15]. The total of 21,973 relates to 'urban' capacity only, and needs to be supplemented by additional capacity sources including approved, existing Special Zones, and an amount of 'rural' capacity yet to be determined.

In 2017 the council's District Capacity Model (DCM) is due to be updated which will provide current estimates of both existing dwellings and potential development capacity under the PDP. These estimates will therefore provide a more accurate basis for determining the baseline number of existing dwellings and potential development capacity in the study area. Similarly, they will also provide a basis for assessing the adequacy of the PDP's total quantum of supply and its composition by typology and spatial location, to cater for the projected demand for 15,000-19,000 additional dwellings in the district over 2013-2043.

[12] Refer Stats NZ 2014 Agricultural Production Survey.
[13] Data sourced from Colliers 2016 Market Review and Outlook (Queenstown).
[14] October 2016 data sourced from www.interest.co.nz. Average prices for dairy farm land were $30,000/ha and for grazing land, $18,000/ha.
[15] Refer hearings evidence: Reply of Matthew Paetz on behalf of QLDC: Strategic Direction and Urban Development Chapters 7 April 2016. This was an initial high level estimate of capacity enabled within the Urban Growth Boundaries (UGBs) under the PDP for 21,973 dwellings, consisting of 17,000 under the Operative Plan (taking into account the Northlake Plan Change in Wanaka) and 4,973 additional dwellings attributed to amended 'urban' zoning rules and/or zone coverage in the PDP. It is noted that the only area of upzoning under the PDP that is within the study area, is Arrowtown (in which some land has been upzoned from low density residential to medium density).

Whilst the 373 vacant building platforms in the study area will make a modest contribution to accommodating future demand for dwellings there, additional capacity is also expected to become available from Special Housing Areas (SHAs). The estimated yield from currently approved SHAs within the study area[16] is 700-750 dwelling equivalents. These SHAs (on their own) would allow dwellings development to be sustained at past levels of 100 dwellings per annum for 7-8 years. The council's 'new' 2016 Lead Policy on SHAs offers the prospect of further SHAs being approved, which will also provide an additional source of capacity to any residual capacity estimated in the DCM 2017 update.

6.0 Conclusions

Continuing demand for dwelling provision in the district as a whole will likely exert pressure outside of the urban growth boundaries to release/rezone 'rural' land in order to yield additional dwellings capacity. Whilst the rapid growth occurring in the district should continue to support higher density typologies being achieved in the district's main towns, the threat to the PDP's objectives to protect the amenity landscape character of the study area is unlikely to diminish.

Provision of additional capacity within the study area can be justified on the basis of currently projected levels of demand for dwellings in the district. Potential dwellings development capacity under the PDP has not been estimated for the entire study area but this is expected to be available once the council has completed the Development Capacity Model (DCM) update in 2017.

The DCM update will provide a basis for assessing the relative contributions of PDP (as notified) capacity together with the additional capacity associated with recommended changes to the PDP's zones for areas identified from the landscape character assessment as suitable for absorbing further development. Some of these areas may also be considered as appropriate locations for new SHAs under the council's 'new' 2016 Lead Policy.

However, limitations on being able to extract significant additional capacity from within the study area without detracting from landscape amenity values, and the potential for 'leakage' of dwelling capacity in both 'urban' and 'rural' zones for other uses (such as non-dwelling based visitor accommodation or aged care facilities), implies that the majority of future dwellings demand will need to rely on capacity being provided elsewhere in the district.

[16] SHAs located completely or partially within the study area include (expected dwellings in brackets): Shotover Country (95); Queenstown Country Club (309),Onslow Rd (20), Arrowtown Retirement Village (130-175), Bridesdale (136). Note as the SHAs are on land subject to a mixture of underlying zonings they will also offset an amount of capacity that would otherwise be estimated for those areas in the DCM.

Attachment A: Wakatipu Land-Use Study Area existing dwellings and building platforms (GIS analysis Feb. 2017)

Unit Number	Unit Name	Existing Dwellings	Consented Platforms	Hectares
1	Malaghans Valley	82	18	1065.9
2	Fitzpatrick Basin	33	26	310.3
3	Shotover River Terrace	4	3	48.9
4	Tucker Beach	37	20	201.2
5	Dalefield	62	6	179.5
6	Wharehuanui Hills	37	11	400.2
7	Domain Road River Terrace	30	9	118.4
8	Speargrass Flat	16	4	437.1
9	Hawthorn Triangle	60	43	175.3
10	Ladies Mile	41	24	211.3
11	Slope Hill 'Foothills'	67	44	565.9
12	Lake Hayes Rural Residential	92	27	155.5
13	Lake Hayes Slopes	47	24	183.7
14	Lake Hayes Terrace	7	1	29.4
15	Hogans Gully	19	2	239.0
16	Bendemeer	11	28	114.5
17	Morven Ferry	18	7	163.0
18	Morven Eastern 'Foothills'	9	5	240.1
19	Gibbston Highway Flats	17	2	128.9
20	Crown Terrace	24	33	1072.9
21	Arrow Junction Rural Residential	29	5	83.3
22	The Hills	6	18	175.1
23	Millbrook	24	8	338.5
24	South Arrowtown	11	4	152.4
25	Shotover Country Margins	2	1	26.7
Total		**785**	**373**	**6817**