



DRAFT REPORT: 18 February 2015

Arrowtown Dwelling Supply and Demand

PREPARED FOR

QUEENSTOWN LAKES DISTRICT COUNCIL

INSIGHT ECONOMICS
ANALYSIS

CLEAR AND CONCISE SOLUTIONS BASED ON RIGOROUS RESEARCH AND

Authorship

This document was written by Fraser Colegrave, Steve Hoskins and Kim Mundy. For further information, please contact Fraser at the details below:

DDI: (09) 366 6416

Mobile: (021) 346 553

Email: fraser@insighteconomics.co.nz

Web: www.insighteconomics.co.nz

© Insight Economics Ltd, 2015. All rights reserved.

Contents

1	Introduction	1
1.1	Context, Scope and Purpose of this Report	1
1.2	Structure of the Report	1
2	Demographic Trends	2
3	Current Dwelling Stock	3
3.1	Dwelling Information from Census	3
3.2	Dwellings Currently For Sale or Rent	3
3.3	Rating Information Database	4
3.4	Summary	5
4	Future Dwelling Demand	6
4.1	Steps in the Analysis	6
4.2	District Population Projections	6
4.3	Arrowsmith's Population and Household Projections	7
4.4	Latent Demand	8
4.5	Final Dwelling Growth Projections	9
5	Additional Supply Capacity	10
5.1	Theoretical Capacity Estimates	10
5.2	Realisable Market Supply	10
6	Summary and Conclusions	11
	Appendix One	12
	Methodology	12
	Assumptions Used	12
	Appendix Two: List of Houses for Sale	13

1 Introduction

1.1 Context, Scope and Purpose of this Report

The Queenstown Lakes District Council (QLDC) has entered into a housing accord with the Government to enable special housing areas (SHA) to be identified and developed in the district. Sixteen expressions of interest have been received from parties who wish to have their land included, three of which are in Arrowtown.

Section 16(3)(c) of the Act states that the Minister must be satisfied there is a demand for residential housing within the proposed areas. To that end, this report analyses the likely demand for housing in Arrowtown over the short term, and also briefly reviews the longer-term situation.

1.2 Structure of the Report

The remainder of this report is structured as follows:

- **Section 2** reviews the demographic trends in the area.
- **Section 3** describes the current housing stock.
- **Section 3** projects future demand for dwellings.
- **Section 4** reviews the existing capacity for additional dwellings, and
- **Section 5** presents our summary and conclusion.

2 Demographic Trends

This section briefly reviews demographic trends over time using data from the 2001 and 2013 censuses. For a more detailed snapshot of Arrowtown's current demography, please see our Stage 1a Housing Demand Report.

Table 1: Arrowtown Demographic Trends over Time

Demography	2001	2013	% Change
General			
Population	1,700	2,450	44%
Households	660	960	45%
Average Household Size	2.58	2.55	-1%
Income Profile			
Median Personal Income (pa)	\$23,600	\$37,900	61%
Median Family Income	\$52,900	\$85,000	61%
Age Profile			
0-14 Years	21%	24%	14%
15-29 Years	17%	12%	-29%
30-44 Years	27%	26%	-4%
45-59 Years	18%	20%	11%
60 +	17%	18%	6%
Employment			
Employed	73%	77%	5%
Unemployed	2%	2%	0%
Not in Labour Force	25%	22%	-12%
Household Composition			
Couple without children	38%	35%	-8%
Couple with children	28%	33%	18%
One parent with children	8%	7%	-13%
Flatting	4%	3%	-25%
Single Person	22%	22%	0%

Table 1 shows that, over the last 12 years:

- Arrowtown's population has grown rapidly, but the number of households has grown slightly quicker due to small decreases in average household size
- Personal and family incomes have increased markedly (> 4% per annum)
- The age profile has shifted significantly. There are far fewer people aged 15 to 29, but more people aged 45 to 59, and also more younger people (0 to 14).
- This reflects both the increase in couples with children, and also the corresponding decrease in people flatting.
- With these structural changes have come increases in the (i) labour force participation, and (ii) employment rate.

In short, Arrowtown's demography is changing rapidly.

3 Current Dwelling Stock

This section briefly describes the current dwelling stock in Arrowtown – including a summary of those for sale – using a range of data sources.

3.1 Dwelling Information from Census

In 2013, there are 1,360 dwellings in Arrowtown, 86% of which were stand-alone, and 14% of which were attached. As shown in the table below, this represents a significant shift from 2001 both in the number of dwellings, and also their composition. Also of note is the relatively static number of unoccupied dwellings. These have increased by only 6% since 2001, while the number of occupied dwellings has increased by 45%.

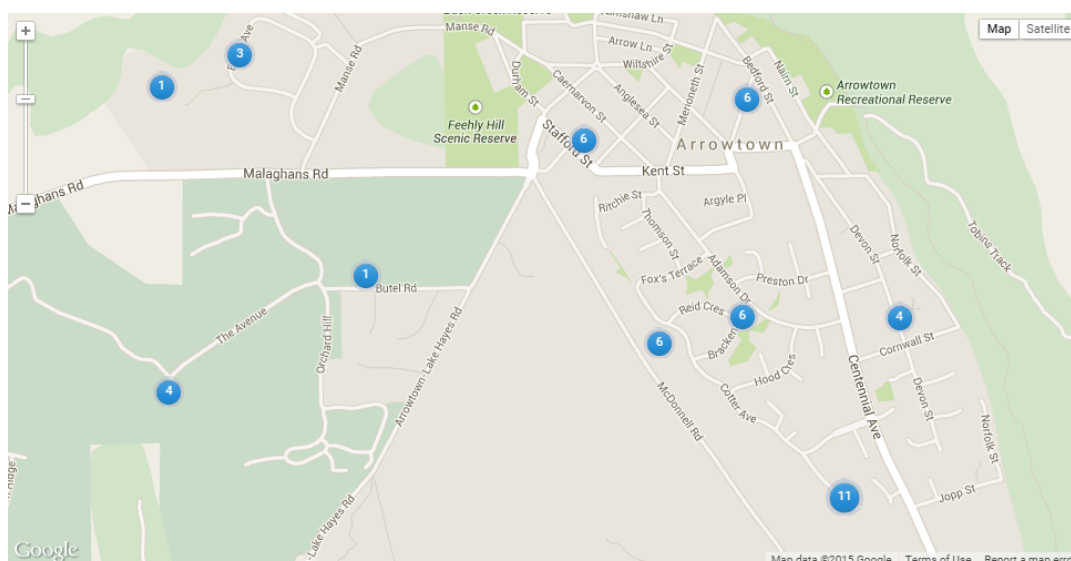
Table 2: Census Dwellings in 2001 and 2013

Characteristics	2001	2013
Occupied	690	1,000
Unoccupied	340	360
Total	1,030	1,360
Separate House	83%	86%
Attached Dwelling	17%	14%

3.2 Dwellings Currently For Sale or Rent

Next we performed a comprehensive search of online listings to determine the number of dwellings currently for sale or rent. There was just over 65 houses for sale and 5 for rent. The following figure shows where houses for sale were broadly located.

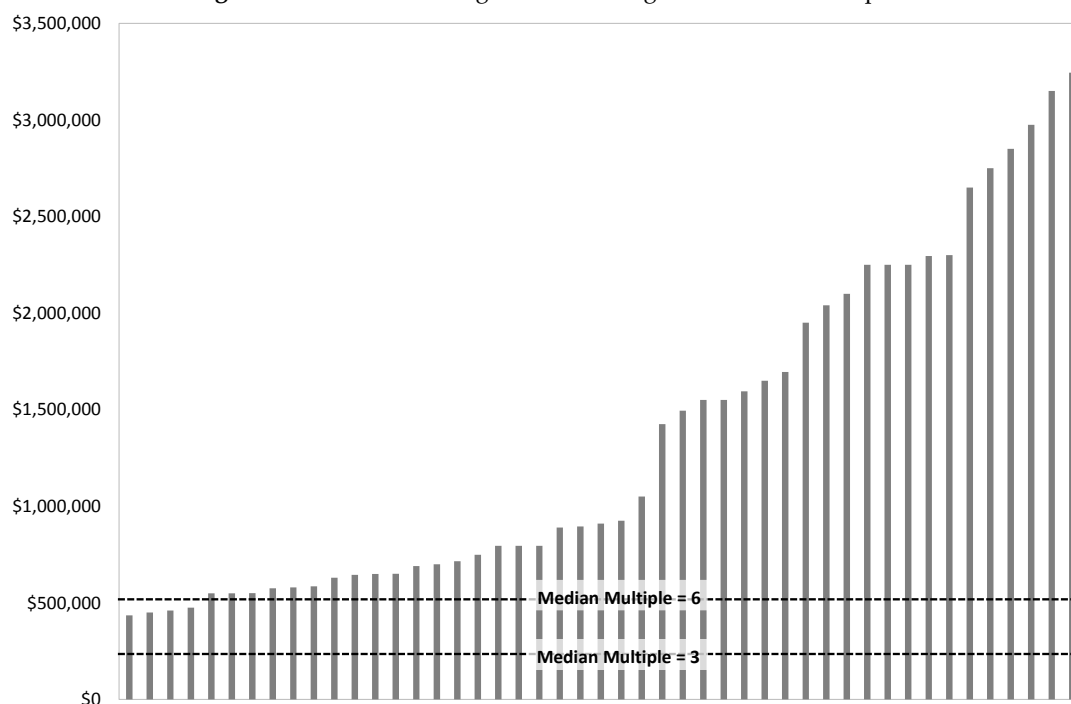
Figure 1: Broad Location of Arrowtown Houses for Sale



Source: Real Estate New Zealand

While some of the houses for sale did not advertise a sale price, many did. We used those sales prices to determine overall affordability by comparing them to “median multiples.”¹ The results are shown in the graph below, while the appendix provides a full list of the dwellings and their addresses.

Figure 2: Prices of Dwellings for Sale Along with Median Multiples



As shown in the figure above, none of the houses currently for sale are affordable using the widely-accepted median multiple benchmark of 3. Furthermore, even using a median multiple of 6, only four of the 48 houses is affordable. Perhaps even more surprising, the average price across the houses for sale was \$1.45 million while the median was \$1.24 million.

This suggests that there is likely to a considerable gap in the market for lower-end affordable dwellings, particularly in light of the recent influx of younger families.

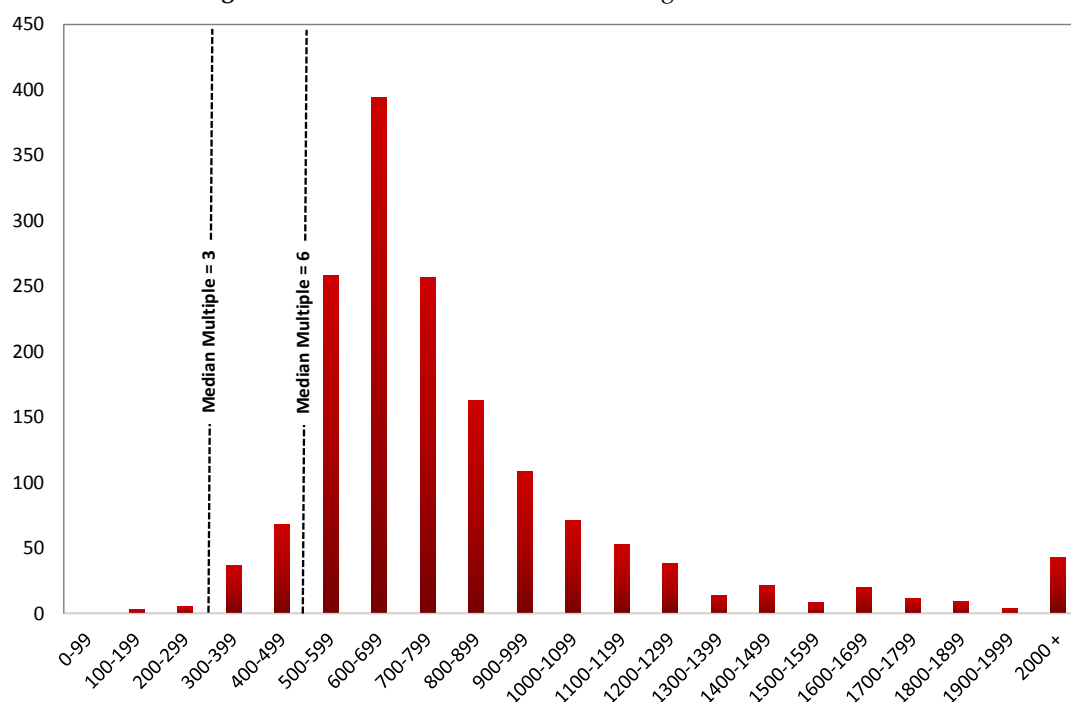
3.3 Rating Information Database

While the analysis of current sales prices above is useful (if not a little alarming), it does relate to a fairly small sample size and hence may not be representative. To gain a more comprehensive view of affordability, we used Council’s rating information database to analyse the current rating valuations for all Arrowtown dwellings. In short, we took the capital values listed for each dwelling and then scaled them up by the average ratio of

¹ Median multiples are widely used as a measure of affordability. They express house prices as a multiple of median household incomes. So, for example, a median multiple of three means that the house price is three times the median annual household income. In general, multiples equal to or less than three are deemed affordable and vice versa.

sales prices to capital values for the homes currently for sale.² The following graph shows the resulting distribution of estimated dwelling prices along with the median multiples.

Figure 3: Distribution of Estimated Dwelling Prices in Arrowtown



Interestingly, the distribution of estimated dwelling prices is not as extreme as the price distribution of listed properties, with at least a few properties falling below the median multiple of 3. The fact that none are currently available at this level, however, may mean that lower-end properties are not reaching the market and instead are being tightly held.

Either way, this graph confirms that there is very little “affordable” housing available in Arrowtown. In fact, only 0.3% of the scaled prices above were less than or equal to a multiple of 3, and only 7.6% were less than or equal to a multiple of 6.

3.4 Summary

Arrowtown’s dwelling stock is evolving, with stand-alone dwellings becoming more prevalent, and attached dwellings less prevalent. At the time of writing, only 65 dwellings were available for sale and 5 were for rent. However, the dwellings for sale were mainly higher end (with an average of \$1.45 million) and none were affordable using the median multiple of 3 benchmark.

² On average, listed sales prices were 46% higher than capital values, so we scaled the capital values for all Arrowtown dwellings up by this percentage to derive the values summarised in figure 3.

4 Future Dwelling Demand

This section analyses future demand for dwellings in Arrowtown.

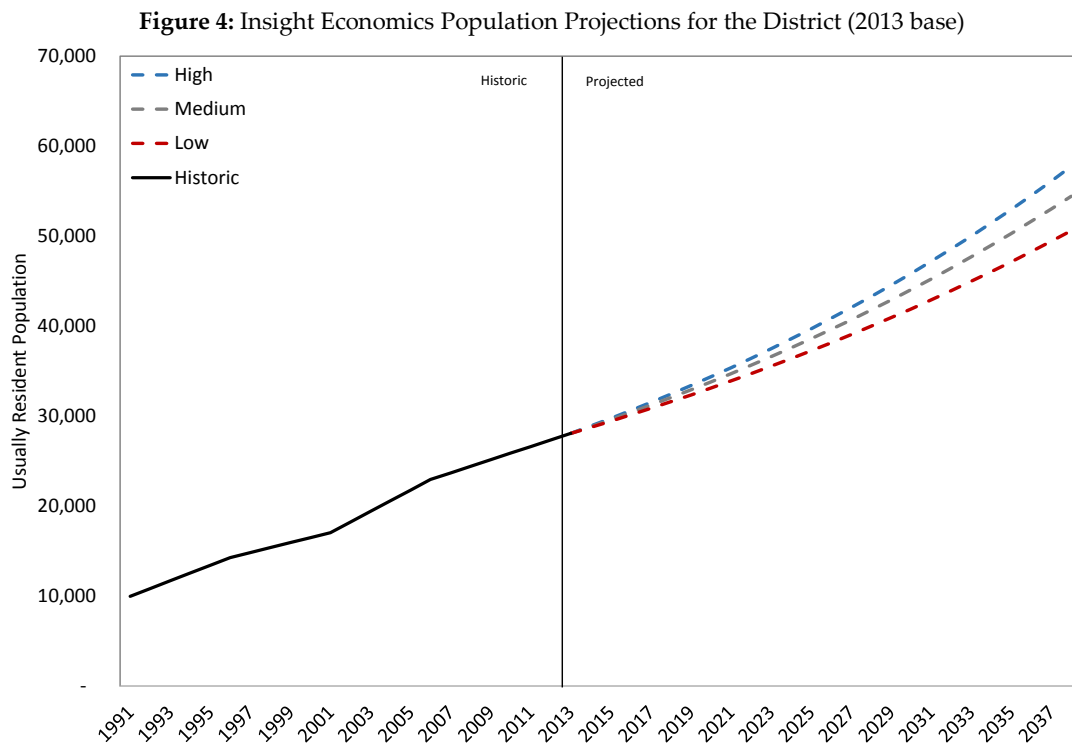
4.1 Steps in the Analysis

Following are the key steps in the analysis:

1. Project district population growth
2. Estimate Arrowtown's share of the future population
3. Convert Arrowtown's future population to an estimate of future households
4. Account for potential latent demand over the short term
5. Derive final dwelling projections for Arrowtown.

4.2 District Population Projections

We recently created a “cohort component model” for the Queenstown Lakes District to estimate the future population by age and gender. It estimates a future population of 50,000 to 58,000 by 2038 depending on the scenario.³ The following graph shows how the population is projected to grow over time, while the appendix provides more details about the underlying methodology and assumptions.



³ These translate to average annual growth rates of 2.4% and 2.9% respectively, which we consider conservative given that the historic rate was 4.2%.

4.3 Arrowtown's Population and Household Projections

The next step was to estimate Arrowtown's share of the future population. To do this, we first calculated its historic share back to 1996, as shown in the table below.

Table 3: Arrowtown's Share of District Population (1996 - 2013)

Area	1996	2001	2006	2013
Arrowtown	1,428	1,692	2,151	2,445
Queenstown	14,286	17,043	22,956	28,224
Share	10.0%	9.9%	9.4%	8.7%

As we can see, Arrowtown's share of the district population has been falling over time. In our view this simply reflects the fact that there has been rampant growth elsewhere⁴, not that Arrowtown is undesirable. For example, between 2001 and 2013, Wanaka's population grew five times faster than the national average, while Wakatipu's population grew four times faster. Arrowtown, by contrast, grew only 2.5 times faster than the national average, causing its share of district population to fall.

For the sake of this analysis, we have assumed that Arrowtown's district population share remains fixed at the 2013 level (of 8.7%). The following table shows our projections of future population and households (ignoring latent demand for now).

⁴ Combined with limited brown- and greenfield development enabled by the District Plan.

Table 4: Arrowtown Population and Household Projections

	Population Projections				Household Projections		
Year	High	Medium	Low	Hhld Size	High	Medium	Low
2013	2,430	2,430	2,430	2.55	950	950	950
2014	2,530	2,520	2,510	2.54	990	990	990
2015	2,620	2,600	2,590	2.53	1,040	1,030	1,020
2016	2,710	2,690	2,660	2.52	1,080	1,070	1,060
2017	2,800	2,780	2,740	2.51	1,120	1,110	1,090
2018	2,900	2,860	2,820	2.51	1,160	1,140	1,120
2019	2,990	2,950	2,890	2.51	1,200	1,180	1,160
2020	3,090	3,040	2,970	2.50	1,240	1,210	1,190
2021	3,190	3,130	3,050	2.50	1,280	1,250	1,220
2022	3,290	3,210	3,130	2.49	1,320	1,290	1,260
2023	3,380	3,300	3,200	2.48	1,360	1,330	1,290
2024	3,490	3,390	3,280	2.47	1,410	1,370	1,330
2025	3,590	3,480	3,360	2.46	1,460	1,410	1,360
2026	3,690	3,570	3,440	2.45	1,500	1,460	1,400
2027	3,790	3,660	3,520	2.44	1,550	1,500	1,440
2028	3,890	3,760	3,600	2.43	1,600	1,540	1,480
2029	4,000	3,850	3,670	2.42	1,650	1,590	1,520
2030	4,110	3,940	3,750	2.41	1,700	1,630	1,550
2031	4,220	4,040	3,830	2.40	1,750	1,680	1,590
2032	4,320	4,130	3,910	2.40	1,800	1,720	1,630
2033	4,430	4,220	3,990	2.39	1,860	1,770	1,670
2034	4,540	4,320	4,070	2.38	1,910	1,820	1,710
2035	4,660	4,420	4,150	2.37	1,960	1,860	1,750
2036	4,770	4,520	4,220	2.36	2,020	1,910	1,790
2037	4,890	4,620	4,300	2.36	2,080	1,960	1,830
2038	5,000	4,720	4,380	2.35	2,130	2,010	1,870
Growth p.a.	2.9%	2.7%	2.4%	-0.3%	3.1%	2.9%	2.6%

These projections suggest that, under the medium scenario, there will be demand for an additional 110 dwellings over the next 3 years, and an additional 790 dwellings over the next 20 years.

4.4 Latent Demand

Over and above the projections above, it is likely that there exists some pent-up (or latent) demand for new dwellings in Arrowtown. This is because:

- Arrowtown is an attractive place to live, with high amenity and good proximity to a range of key attractors, including Remarkables Park and Wakatipu.
- However, historically, growth options have been limited here.

To test this theory, we conducted interviews with real estate agents operating in Arrowtown. They unanimously reported that the current housing stock was misaligned with market demand and hence that latent demand does exist. Specifically, they noted that appears to be a:

- Distinct lack of affordable entry-level dwellings in the market,
- Lack of 2-bedroom dwellings on smaller sections, and
- Shortage of rental properties across-the-board, both in terms of price and size.

To account for this latent demand, we simply scaled our household projections above up by 20%. While there is no hard and fast science to this scalar, we consider it reasonable

4.5 Final Dwelling Growth Projections

Including our estimates of latent demand, we project demand growth of between:

- 120 and 140 dwellings over the next 3 years, and
- 830 and 1,040 dwellings over the next 20 years

5 Additional Supply Capacity

This section review's the DCM's estimates of additional dwelling capacity for Arrowtown.

5.1 Theoretical Capacity Estimates

The following table shows the DCM's most recent estimates of additional dwelling capacity for Arrowtown ignoring Millbrook.⁵

Table 5: Capacity for Dwellings (DCM)

Zone	Area	Res. Dwelling Capacity
Arrowtown Historic	Arrowtown Historic	20
Low Density Residential	Arrowtown Historic	145
Special Zone	Meadow Park	53
Total		218

5.2 Realisable Market Supply

As most readers will be aware, the figures above are theoretical maximums and do not account for a number of factors that will reduce actual market supply. The following table shows our corresponding estimates of realisable supply (over the next 20 years) using 'feasibility factors' derived in previous work for the Council.

Table 6: Realisable Supply Over the Next 20 Years

Zone	Area	Residual capacity	Feasibility	Realisable Supply
Arrowtown Historic	Arrowtown Historic	20	69%	14
Low Density Residential	Arrowtown Historic	145	69%	100
Special Zone	Meadow Park	53	72%	38
Totals		218		152

Overall, we estimate there is existing capacity for another 152 new dwellings over the next 20 years.

⁵ The DCM estimated that there was capacity for an additional 310 dwellings at Millbrook. However, we are currently working with Millbrook on a separate matter and can say with absolute confidence that this figure is incorrect. Indeed, it would seem odd that they have just spent \$7 million purchasing an adjacent property (to enable further property and golf development) if there was still capacity for an extra 310 dwellings on their existing land. We suspect that the DCM has assumed that the golf courses themselves could be redeveloped as dwellings, hence the high figure of 310.

6 Summary and Conclusions

According to our calculations, and including latent demand, there could be demand for an extra 120 to 140 dwellings over the next three years. However, according to the DCM, there is currently capacity for only around 150 dwellings. This means, that, to meet short term demand, nearly all the capacity identified by the DCM would have to be developed and brought to the market over the next three years.

We consider this highly unlikely. Indeed, a general rule of thumb is that only around 5% to 10% of realisable market supply will be brought to the market in any given year.

In addition, our analysis – and discussions with realtors – have revealed a gap in the market for more affordable houses generally, but emphasised lower-end affordable houses. Accordingly, we recommend that the Council consider enabling Special Housing Areas in Arrowtown (particularly to the extent that they can bolster the supply of more affordable dwellings).

Appendix One

Methodology

This model rolls forward the population from one year to the next on the basis of assumed births, deaths and net migration. This is illustrated below.

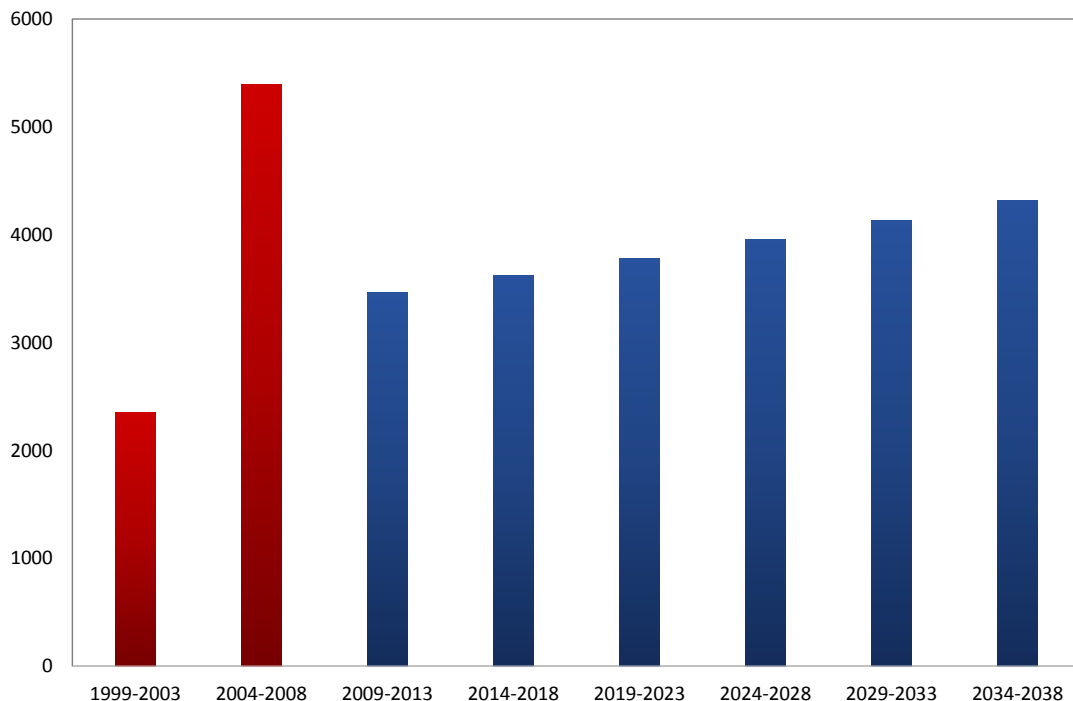
Figure 5: Cohort Component Model Methodology



Assumptions Used

Wherever possible, we have pegged our assumptions to those used by Stats NZ. For instance, we adopted their high fertility assumption and also their high survivorship assumption. However, rather than using their migration assumptions, we derived our own based on historical averages. Specifically, we base migration for the first five years around the 14 year average (1999 – 2013), before letting it grow 5% every five years thereafter⁶. Figure 6 plots the resulting migration assumptions.

Figure 6: Migration Assumptions in Insight Economics Cohort Component Model



⁶ We used historical averages rather than actual numbers to smooth the recent migration numbers. That is, the period of 2007-2012 was far lower than usual as a result of both the GFC and the Christchurch earthquake. However, recent migration data shows high growth and gives justification to smoothing the volatility.

Appendix Two: List of Houses for Sale

Following is the list of dwellings that we found for sale in Arrowtown as at 5 February 2015.

Address	Asking Price
10 Mace Lane	\$435,000
Lot 18 Advance Terrace	\$450,000
Lot 22 Cotter Avenue	\$460,000
Unit 14 Arrowtown Mews	\$475,000
15a Davey's Place	\$549,000
133/134 Butel Villa, Millbrook	\$549,000
13 Cotter Avenue	\$550,000
Spearglass Flat Road	\$575,000
9B Bracken Steer	\$580,000
73 Cotter Avenue	\$585,000
67 Cotter Avenue	\$630,000
145/146 Butel Villa, Millbrook	\$645,000
22 Denbigh Street	\$649,000
147/148 Butel Villa, Millbrook	\$650,000
30 Nairn Street	\$690,000
29 McDonnell Road	\$699,000
17 Hood Crescent	\$715,000
1 Thames Street	\$749,000
1-20 Mica Ridge	\$795,000
69 Morven Ferry Road	\$795,000
64 Arrow Junction Road	\$795,000
2 Mace Lane	\$890,000
28 Wiltshire Street	\$895,000
63 Essex Avenue	\$910,000
10 Suffolk Street	\$925,000
25b Advance Terrace	\$1,050,000
752 Malaghans Road	\$1,425,000
4 Mace Lane	\$1,495,000
Lot 19 Mica Ridge	\$1,550,000
Lot 19 Rocky Gully Lane	\$1,550,000
4 Torea Lane, Millbrook	\$1,595,000
21 Advance Terrace	\$1,649,500
2 Tarama Lane	\$1,695,000
70 Buckingham Street	\$1,950,000
8 Torea Lane, Millbrook	\$2,040,000
17 Fox's Terrace	\$2,100,000
Lot 17 & 18 Rocky Gully Lane	\$2,250,000
110 Hogans Gully Road	\$2,250,000
Arrowtown Lots, Rocky Gully Lane	\$2,250,000
18 Ayrburn Ridge	\$2,295,000
117 Cotter Avenue	\$2,300,000
10 Caernarvon Street	\$2,650,000
20 Advance Terrace	\$2,750,000
21 Denbigh Street	\$2,850,000
7 Streamside Lane	\$2,975,000
761 Malaghans Road	\$3,150,000
114a Lake Hayes Road	\$3,245,000
37 Lake Hayes Road	\$5,950,000