

Mount Soho Trust

**Arrowtown Plan Change**

**Economic Impact Assessment**

Status: Final Draft

June 2008

● market economics

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## 1 Introduction

The Mount Soho Trust, together with a number of its neighbours, is seeking a private plan change to rezone their properties from rural general to a special zone, to enable a planned residential development in the order of 150 dwellings. The properties occupy approximately 30.8 hectares of land adjacent the southern edge of Arrowtown, in the Wakatipu basin. The Trust has appointed Market Economics Limited (MEL) to undertake an economic impact assessment of the proposed development in the context of residential demand and supply in Arrowtown.

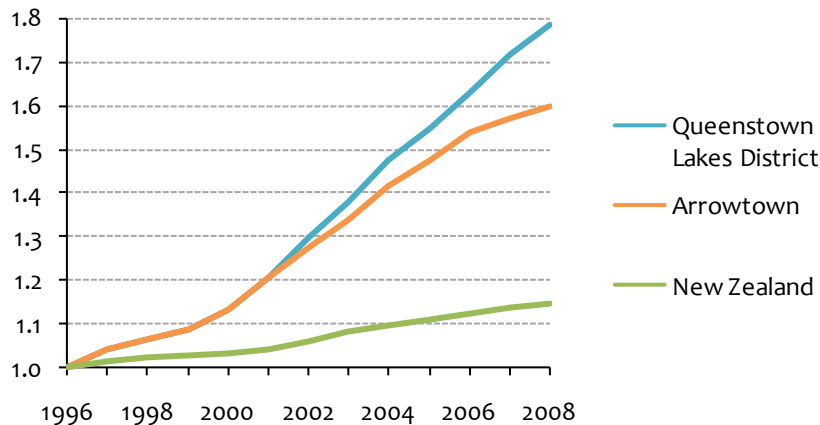
Queenstown Lakes District Council has identified the need to plan for residential growth in Arrowtown and is currently progressing a District Plan change that includes defining a growth boundary for Arrowtown. In its discussion document on the Arrowtown growth boundary (2008), Council identified demand for an additional 461 dwellings by 2026 and residual capacity for 312 new dwellings, resulting in a shortfall of 149 dwellings by 2026.

Council's evaluation of residential demand and supply in Arrowtown is based on its Growth Projections (2008) and Dwelling Capacity (2008) studies. Our analysis reveals that Council has misinterpreted the findings of both studies, resulting in an underestimate of residential demand and an overestimate of residential supply. Consequently, Council has greatly underestimated the extent of the future shortfall in Arrowtown.

## 2 Residential Development in Arrowtown

Statistics New Zealand's (SNZ) subnational population estimates show that the Arrowtown population grew at an average rate of 4.4% a year between the 1996 and 2006 census years, some 3.8 times faster than the national average rate of growth, i.e. 1.2% a year (see Figure 2.1).<sup>1</sup>

**Figure 2.1: Comparative Rates of Population Growth, 1996 to 2008**



Source: SNZ, MEL

In the context of sustained strong population growth, and limited land zoned for future residential development, the need to plan for residential growth in Arrowtown is clear.

The Queenstown Lakes District Plan provides for residential development in the following three zones in Arrowtown:

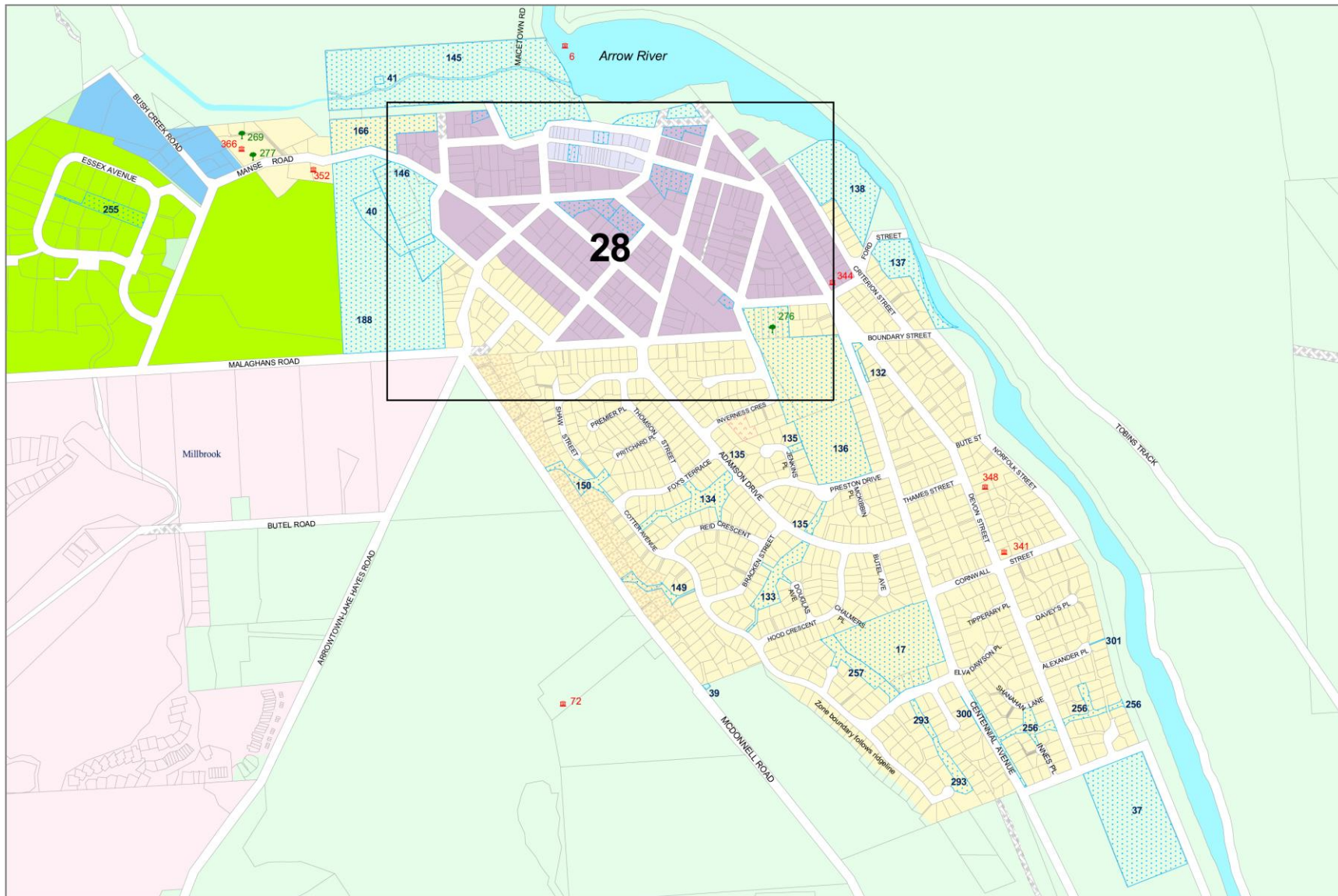
- the Residential Arrowtown Historic Management Zone;
- the Low Density Residential Zone; and
- the Meadow Park Zone.

The extent of these zones can be observed in the District Plan map of Arrowtown, presented in Figure 2.2.

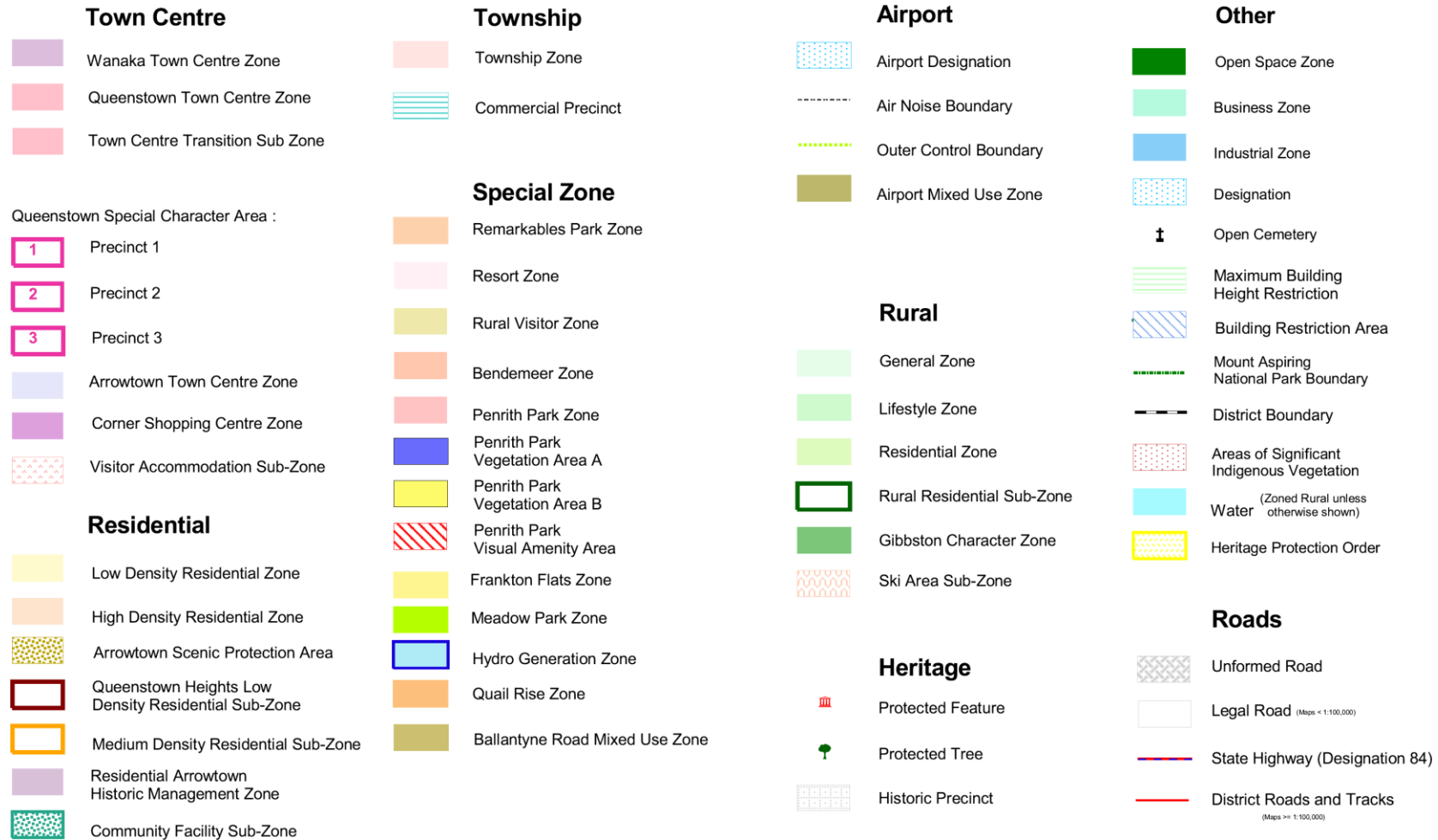
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<sup>1</sup> The population at 30 June in each census year (1996, 2001 and 2006) is based on the census usually resident population count, updated for residents missed or counted more than once by the census (net census undercount); residents temporarily overseas on census night; and births, deaths and net migration

Figure 2.2: District Plan Map of Arrowtown



**Figure 2.3: Legend for Planning Maps**



The District Plan outlines the rules for residential development in each zone. In the Residential Arrowtown Historic Management and Low Density Residential zones, these rules relate to minimum developable plot sizes. In the Meadow Park special zone, the District Plan prescribes the maximum permissible number of dwellings.

Council has developed the Queenstown Lakes District Dwelling Capacity Model to keep track of residential capacity in the district. The model contains property level data from Council's geographic information system (GIS) and the NCS rates system, including:

- the **rating assessment number**, a unique identifier for each property that can be used to link information from other databases;
- the **number of parcels** that make up the property;
- the **number of dwellings**, if any, on the property;
- the **number of building consents**, if any, for the property;
- the **number of units**, if any, that have been approved to be built on the property;
- the **location**, in terms of the dwelling capacity area, of the property;
- the **area**, in terms of square metres, that the property covers; and
- the **rating code**, to determine whether the property is residential or not.

Comparing the initial 2003 version of the model with the updated 2008 version enables a detailed analysis of residential development in Arrowtown over the past five years. Our analysis distinguishes between the following types of residential development:

- **greenfield** development on sites greater than or equal to one hectare;
- **vacant** development on sites that contain no residential buildings;
- **vacant potential** development on sites greater than 2,600m<sup>2</sup> in the Residential Arrowtown Historic Management Zone and 1,800m<sup>2</sup> in the Low Density Residential Zone that have one or more residential buildings on them and include a portion of undeveloped or vacant land; and
- **infill** development on sites up to 2,600m<sup>2</sup> in the Residential Arrowtown Historic Management Zone and 1,800m<sup>2</sup> in the Low Density Residential Zone and taking the form of either general infill (i.e. the addition of one or more dwellings to the front or rear of an existing residentially developed site) or infill redevelopment (i.e. the removal of the existing dwelling and redevelopment to the maximum permitted density).

### **Residential Arrowtown Historic Management Zone**

In July 2003, the Residential Arrowtown Historic Management Zone comprised 218 residential dwellings on 217 properties. In July 2008, the zone comprised 217 dwellings on 217 properties.

Between 2003 and 2008, three new dwellings were developed on vacant sites and four dwellings were demolished and had not yet been replaced.

### **Low Density Residential Zone**

In July 2003, the Low Density Residential Zone comprised 867 residential dwellings on 916 properties. In July 2008, the zone comprised 1,006 residential dwellings on 1,002 properties, an increase of 139 residential dwellings at an average rate of 28 dwellings a year. Between 2003 and 2008, the following residential development took place:

- 44 new dwellings on greenfield sites;
- 90 new dwellings on vacant sites;
- new dwellings on vacant potential sites;
- 2 new dwellings on infill sites;
- 8 new residential flats;<sup>2</sup> and
- 9 dwellings were demolished and had not yet been replaced.

### **Meadow Park Zone**

The Meadow Park Zone was first developed in the year to July 2005 and had grown to 25 dwellings in July 2008, at an average rate of six dwellings a year.

In total then, 168 new residential dwellings were built in Arrowtown between 2003 and 2008, in the following locations:

- 3 new dwellings in the Residential Arrowtown Historic Management Zone;
- 140 new dwellings (excluding residential flats) in the Low Density Residential Zone; and
- 25 new dwellings in the Meadow Park Zone.

The nature and location of residential development in Arrowtown between 2003 and 2008 (excluding Meadow Park) is presented in Figure 2.4. It is apparent that the bulk of residential development over the past five years has occurred on greenfield and vacant sites towards the southern end of Arrowtown.

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<sup>2</sup> Plan Change 7: Residential Flats (2006), defines a residential flat as a residential activity that:

- consists of no more than one flat in the same ownership as the residential unit; and
- is contained within the same residential unit; and
- if attached to a detached accessory building does not cover more than 50% of the total Gross Floor Area of the building containing the flat and detached accessory building; and
- contains no more than one kitchen and one laundry; and
- does not cover more than 35% of the total Gross Floor Area of the building(s) containing the residential unit and flat (but excluding accessory buildings).

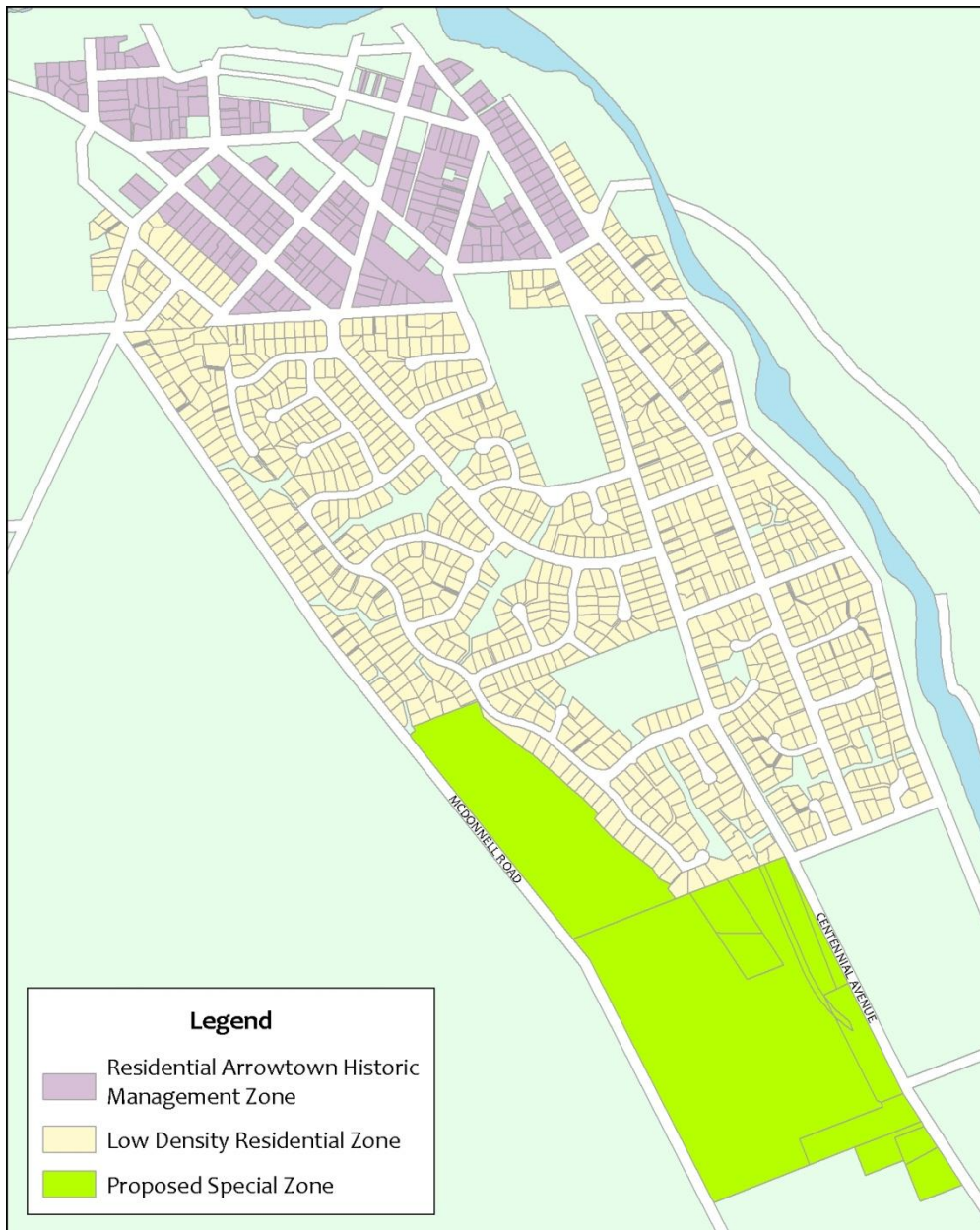
Figure 2.4: Residential Development in Arrowtown, 2003 to 2008



### 3 Proposed Special Zone Site

The land under consideration comprises nine contiguous properties occupying approximately 30.8 hectares of rural general zoned land adjacent the existing southern urban edge of Arrowtown (see Figure 3.1). The site is generally bounded by Centennial Avenue to the east, McDonnell Road to the west and the Arrowtown Golf Course to the south. The proposal is to establish a special zone, permitting a planned residential development in the order of 150 dwellings.

**Figure 3.1: Location of the Proposed Special Zone**



## 4 Residential Demand in Arrowtown

Council recently commissioned Rationale Limited to produce the Queenstown Lake District Growth Projections (2008). Rationale’s approach involved estimating growth in the greater Wakatipu and Wanaka areas, before allocating this growth to the census area units within each area.

Rationale used the Ministry of Tourism’s (2007) forecast of visitor nights for the Queenstown regional tourism organisation to produce population projections for the Wakatipu area (comprising Frankton, Glenorchy, Kelvin Heights, Sunshine Bay, Wakatipu, Lake Hayes, Arrowtown, Queenstown Bay and Queenstown Hill). These population projections were used, in turn, to produce projections of demand for residential dwellings in the Wakatipu area.

Rationale’s projections show demand for residential dwellings in the Wakatipu area rising from 8,415 in 2006 to 13,754 in 2026, representing an additional 5,339 dwellings at an average rate of 2.5% a year (Table 4.1).

**Table 4.1: Demand for Residential Dwellings in the Wakatipu Area**

Residential Dwellings	2006	2011	2016	2021	2026
Total Demand	8,415	9,653	10,960	12,269	13,754
Incremental Change	0	1,238	1,307	1,309	1,485
Cumulative Change	0	1,238	2,545	3,854	5,339

Source: Rationale, MEL

Rationale then allocated this growth in residential dwellings to the census area units within the Wakatipu area, based on historical growth rates and the residual capacity identified in Council’s Dwelling Capacity Model (2007). The growth projections show residential dwellings in Arrowtown rising from 1,254 in 2006 to 1,508 in 2016 (by which point it has reached capacity) and remaining unchanged to 2026, representing a total increase of 254 dwellings (Table 4.2).

**Table 4.2: Growth Projections for the Arrowtown Census Area Unit**

Residential Dwellings	2006	2011	2016	2021	2026
Total Dwellings	1,254	1,392	1,508	1,508	1,508
Incremental Change	0	138	116	0	0
Cumulative Change	0	138	254	254	254

Source: Rationale, MEL

It is important to note that these growth projections do not represent demand for residential dwellings at the census area level, as they have already been constrained by Council’s estimation of residual capacity. Rationale does not report the area unit level residential demand that drives their growth projections. However, on request, Rationale has provided projections of demand for residential dwellings in Arrowtown for consideration in our analysis. The projections show demand for residential dwellings in Arrowtown rising from 1,254 in 2006 to 1,569 in 2016 and 1,930 in 2026 (Table 4.3).

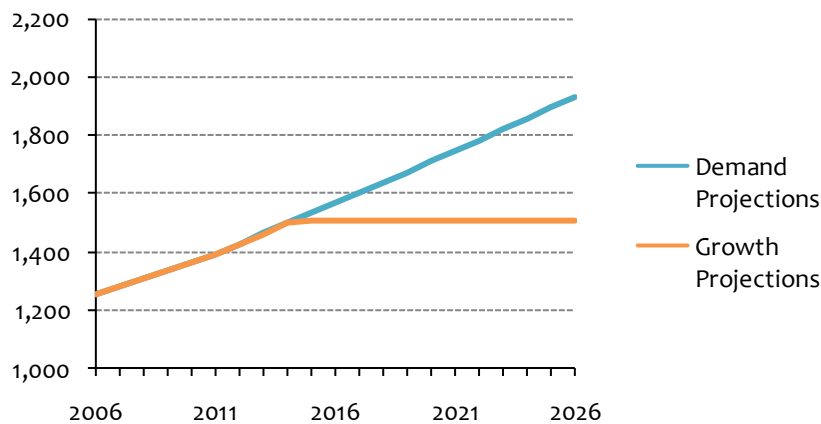
**Table 4.3: Demand for Residential Dwellings in the Arrowtown Census Area Unit**

Residential Dwellings	2006	2011	2016	2021	2026
Total Demand	1,254	1,392	1,569	1,743	1,930
Incremental Change	0	138	177	174	187
Cumulative Change	0	138	315	489	676

Source: Rationale, MEL

Council, in its discussion document on the Arrowtown growth boundary (2008), interprets the growth projections to mean that there is demand for an additional 254 residential dwellings (and 207 dwellings for visitor accommodation).<sup>3</sup> In fact, Rationale’s projections show that there is demand for an additional 676 residential dwellings between 2006 and 2026.

**Figure 4.1: Comparative Projections for Arrowtown (Residential Dwellings)**



Source: Rationale, MEL

<sup>3</sup> The Growth Projections (2008) report defines a visitor unit as a unit of accommodation which is available to be charged out to guests, e.g. a powered site in a caravan park, a bed in a backpacker, a room in a hotel or motel. The report shows that, in 2006, there were 270 visitor units in 20 dwellings in Arrowtown.

In its discussion document on the Arrowtown growth boundary (2008), Council incorrectly identifies demand for visitor units as demand for dwellings. Furthermore, Council does not recognise that the Growth Projections make allowances for visitor accommodation (i.e. demand for visitor accommodation is satisfied prior to allocating growth in residential dwellings).

To keep things simple, our analysis focuses solely on residential demand and supply in Arrowtown. Suffice to say, demand for visitor accommodation will place additional pressure on the supply of residential zoned land in Arrowtown.

## 5 Residential Supply in Arrowtown

The Queenstown Lakes District Dwelling Capacity Model (2008) is a property level evaluation of residential capacity in the district. Capacity is estimated in each residential zone, according to the provisions for residential development outlined in the District Plan. One of the stated purposes of the model is to inform Council on its decisions as to whether more land should be zoned for residential purposes.

In the Residential Arrowtown Historic Management and Low Density Residential zones, capacity is calculated based on minimum lot sizes, with assumptions about the feasibility of the implied level of development. Due to the provisions of the District Plan in these zones, the minimum lot size differs depending on the manner in which development takes place:

- a landowner/developer can subdivide the property, create a new title and then apply for landuse and/or building consent to build a dwelling (yielding a maximum of one dwelling per 800m<sup>2</sup> in the Residential Arrowtown Historic Management Zone and one dwelling per 600m<sup>2</sup> in the Low Density Residential Zone); or
- a landowner/developer can apply for landuse and/or building consent to build a dwelling on the property prior to subdividing and creating new titles (yielding a maximum of one dwelling per 650m<sup>2</sup> in the Residential Arrowtown Historic Management Zone and one dwelling per 450m<sup>2</sup> in the Low Density Residential Zone).

The model assumes that if a parcel of land is capable of yielding up to three dwellings (i.e. up to 1,950m<sup>2</sup> in the Residential Arrowtown Historic Management Zone and up to 1,350m<sup>2</sup> in the Low Density Residential Zone), then the landowner will build first to take advantage of the higher density provisions (i.e. one dwelling per 650m<sup>2</sup>/450m<sup>2</sup> respectively). If the property is larger than this, the model assumes that the landowner will subdivide first (at 800m<sup>2</sup>/600m<sup>2</sup> respectively) and forgo the additional density, as the capital outlay required to develop at this scale is likely to outweigh the potential density gains.

In this way, the model identifies theoretical capacity for 34 additional dwellings in the Residential Arrowtown Historic Management Zone and 219 additional dwellings in the Low Density Residential Zone.

In reality, a number of factors prevent development from occurring at the maximum permissible density, including:

- access;
- physical conditions;
- existing dwelling size;
- existing dwelling location;
- quality and age of existing dwelling;
- the shape of the development land;
- roading required; and
- data inaccuracy (the site may have already been developed, even though Council's system says that it has not).

These factors may vary depending on the character of the area, the existing lot sizes and the minimum lot size. For example, smaller properties may be constrained by access, physical conditions and existing dwelling location. Conversely, larger properties may be able to work around such constraints but may require roads and reserves to be established.

As a result, the model distinguishes between infill and greenfield sites, based on their size. According to the Dwelling Capacity (2008) report, the model assumes that sites of one hectare or more are greenfield sites and the balance are infill sites. However, our analysis reveals that the model incorrectly identifies all vacant sites as greenfield sites, regardless of their size. Consequently, the model identifies theoretical capacity for 119 additional dwellings on greenfield (i.e. vacant) sites and 134 additional dwellings on infill sites (see Figure 5.1).

**Figure 5.1: Council’s Estimate of Theoretical Capacity at July 2008**



The model then assumes the following feasibility factors (i.e. the proportion of theoretical capacity that Council considers to be realistically achievable) for each site type and location:

- 70% for greenfield sites in the Residential Arrowtown Historic Management Zone;
- 72% for greenfield sites in the Low Density Residential Zone;
- 80% for infill sites in the Residential Arrowtown Historic Management Zone; and
- 76% for infill sites in the Low Density residential Zone.

Consequently, the model identifies residual capacity for:

- 11 new dwellings on greenfield sites in the Residential Arrowtown Historic Management Zone;
- 75 new dwellings on greenfield sites in the Low Density Residential Zone;
- 15 new dwellings on infill sites in the Residential Arrowtown Historic Management Zone; and
- 87 new dwellings on infill sites in the Low Density Residential Zone.

In addition to this, the Meadow Park special zone is permitted a maximum of 100 dwellings. In July 2008, there were 25 existing dwellings and building consent for five dwellings that had not yet been built, leaving residual capacity for 70 new dwellings in the Meadow Park Zone. In total then, the model identifies residual capacity for 258 new dwellings in Arrowtown (and building consent for 20 dwellings that had not yet been built).

In the Dwelling Capacity (2008) report, Council acknowledges that the measure of dwelling capacity is a maximum and would rarely be realised in a given area. Council also acknowledges that the model is likely to indicate more capacity than is actually achieved, particularly with respect to infill capacity, where inevitably a range of factors influence landowners' decisions to develop or redevelop land.

In fact, our analysis of recent residential development in Arrowtown shows that infill development has occurred at only two sites over the past five years. As a result of this, and the model's incorrect identification of greenfield sites, we have recalculated what we believe to be the realistically achievable proportion of theoretical capacity in Arrowtown. We have used a feasibility factor of 90% for vacant sites (yielding a higher number of dwellings on these sites, as they do not require the establishment of roads and reserves) and 80% for vacant potential sites. We therefore estimate that there is residual capacity for 105 new dwellings on vacant sites and 33 new dwellings on vacant potential sites. Some infill development may also take place. However, on the evidence of historical infill development in Arrowtown, it is unlikely to yield more than, say, an average of one dwelling a year. In addition to this, the Meadow Park Zone has residual capacity for 70 new dwellings, resulting in total residual capacity for 208 new dwellings in Arrowtown (plus an anticipated average of one infill development a year).

Figure 5.2: MEL's Estimate of Theoretical Capacity at July 2008

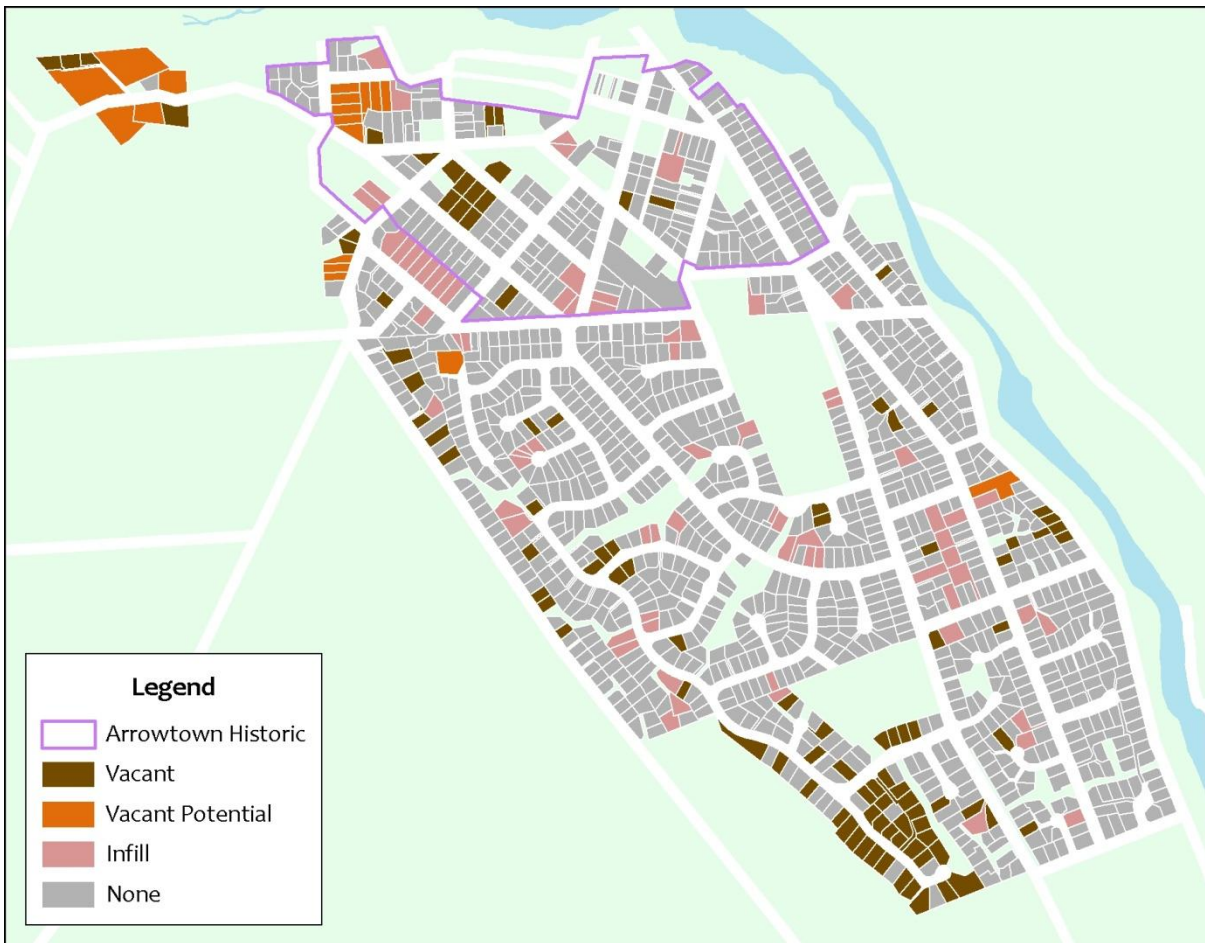
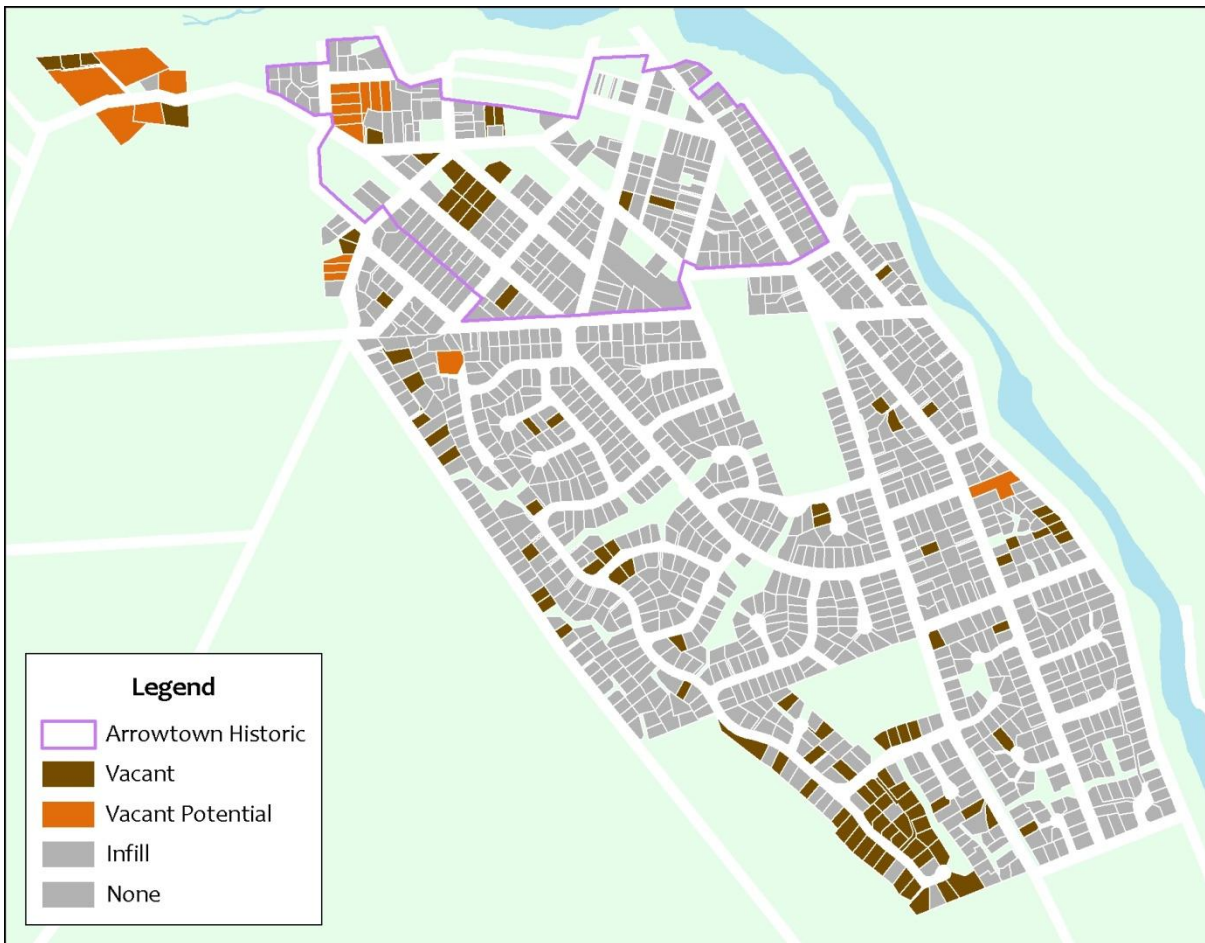


Figure 5.3: MEL's Estimate of Theoretical Capacity (excluding infill) at July 2008



## 6 Economic Impact Assessment

We have chosen the Dwelling Capacity Model’s value of existing dwellings at July 2008 as the basis for our comparison of residential demand and supply in Arrowtown. As the Growth Projections are based on the Census 2006 count of dwellings, we have assumed straight line growth between the reported years and have added the incremental changes to this base. Our estimates of residential supply comprise the existing dwellings and building consents identified in the Dwelling Capacity Model (2008) plus our estimate of residual capacity calculated in Section 5.

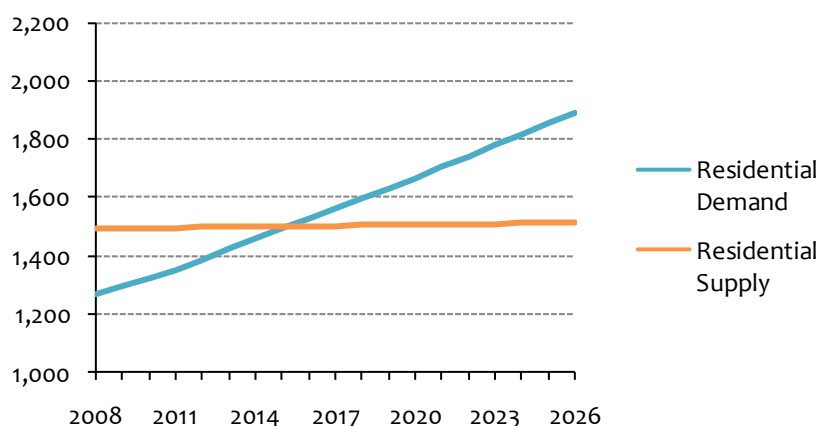
The resultant projections of residential demand and supply in Arrowtown show that residual capacity will be exhausted within eight years, i.e. by 2016 (see Table 6.1 and Figure 6.1). In this context, an additional 150 dwellings at the proposed special zone would cater for a further four years of residential demand, i.e. to 2020.

**Table 6.1: Estimated Residential Demand & Supply in Arrowtown**

Residential Dwellings	2008	2011	2016	2021	2026
Residential Demand	1,266	1,349	1,526	1,700	1,887
Residential Supply	1,495	1,498	1,503	1,508	1,513

Source: Rationale, QLDC, MEL

**Figure 6.1: Estimated Residential Demand & Supply in Arrowtown**



Source: Rationale, QLDC, MEL

One of the stated purposes of the Dwelling Capacity Model is to inform Council on its decisions as to whether more land should be zoned for residential purposes. The Dwelling Capacity (2008) report highlights the need to always have a proportion of land available for residential development because, in a growing district such as Queenstown Lakes District, land shortages will be experienced before total capacity is taken up. The report provides two measures of residual capacity recommended to avoid land shortages, being either:

- 20% of existing capacity; or
- 10-15 years of supply.

According to these measures, the current level of residual capacity in Arrowtown (i.e. 229 residential dwellings) represents approximately 15% of existing capacity (i.e. current residential supply) and less than eight years of supply (i.e. projected future demand). The current level of residual capacity therefore falls short of Council's stated target to avoid land shortages. In this context, an additional 150 dwellings at the proposed special zone would represent a further 10% of existing capacity and an additional four years of supply.