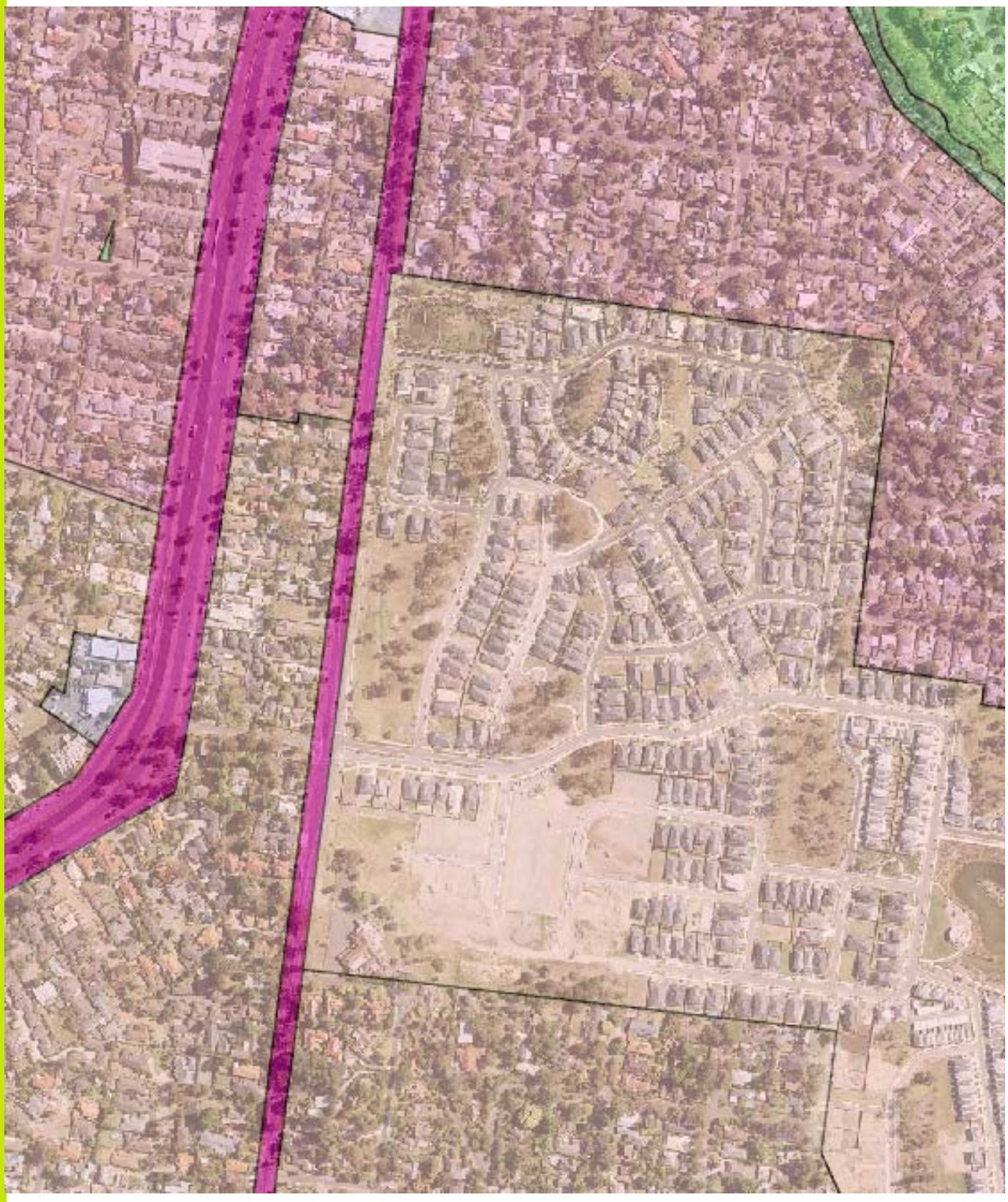
Opportunities for Residential Development

Developing a new housing strategy for Maroondah

February 2016



The places we live
Developing a strategy for housing in Maroondah

Maroondah City Council

Working towards an attractive, thriving and well built community

Prelude

Council is developing a new housing strategy to establish future policy directions and guide future residential development.

The first stage of the process involved project scoping and the preparation of a range of background technical reports designed to build an evidence base for decision making.

The second stage involved a range of community engagement activities to seek the views of community and key stakeholders on housing needs, services and facilities, housing issues and ways to address these issues.

The third stage of the process is the preparation of an Issues and Options Paper, based on the technical evidence as well as community and industry inputs. The Draft Housing Strategy will be prepared based on the preferred options set out in that report and the background technical papers.

This *Opportunities for Residential Development* Paper has being prepared as an input to the Draft Housing Strategy.

This Paper has been prepared by Maroondah City Council and Swinburne University



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Executive Summary

This report examines the capacity for new housing development in Maroondah. The findings presented herein are a snapshot of the current situation, which will evolve over time.

Capacity is calculated on a lot by lot basis, taking a number of factors into consideration, including Redevelopment Potential Index (RPI), age of existing buildings and lot size. The methodology has primarily focused on a lot-by-lot geographical analysis, from which findings about the potential for new subdivision can be extracted.

The main findings of the analysis are as follows:

- As of 2016, Maroondah has a theoretical development capacity of in excess of 10,000 dwellings.
- When the propensity for development, or the willingness of landowners to develop is factored in, likely capacity is reduced to approximately 3,000 dwellings. Possible changes to zoning provisions or schedules may also affect capacity.
- Capacity will rise over the coming years as more properties achieve an RPI of greater than 0.7 while their building stock also ages. It is likely that an additional 9,000 properties will move into this category over the next 5 years (an additional 2,700 properties based on a 30% propensity for development).
- An additional 8,700 properties are likely to move into the redevelopable category between 2021 and 2031 or 2,610 at 30% propensity (this figure may be reduced due to factors such as flooding, infrastructure, etc.).
- The Ringwood MAC area has the capacity to produce an additional 3,277 dwellings by 2030 in shop-top apartment or other forms of development, primarily along the Maroondah Highway.
- Projected demand for housing is for an additional 7,500 dwellings by 2031 (Spatial Economics Housing Demand Paper, May 2015). Based on the above figures, there is likely to be capacity to produce this number of dwellings (capacity for a total of approximately 11,500 dwellings by 2031 at 30% propensity for development).
- Additional capacity is likely to emerge from this housing typology in Croydon, Ringwood East and Heathmont in Commercial 1 areas, although a figure hasn't been adopted in this report, given the difficulty of predicting potential supply for land that could have either a commercial or residential use. However, housing in commercial areas will make a significant contribution to overall capacity.
- Although capacity exists for projected development in the period up to 2031, capacity is likely to become more constrained thereafter due to the number of lots that will have already been subdivided and redeveloped. Policy initiatives, such as Greening the Greyfields, could be considered to optimise capacity in the shorter term to alleviate longer term constraints.
- Capacity could be boosted through policy initiatives that support the consolidation of lots prior to redevelopment. An analysis of the areas around Maroondah's neighbourhood centres indicates that capacity could be increased by up to 55% (from 1,506 to 2,722 dwellings) in an optimised lot layout.

1. Introduction

Maroondah City Council is currently undertaking the preparation of a new housing strategy. The housing strategy will help guide decision making in relation to housing and land use policy over the coming decade.

A range of background technical reports have been prepared to inform decision making, including this *Opportunities for Residential Development* report. The purpose of this report is to gain an understanding of housing capacity, or the latent potential for the development of new dwellings within existing zoned areas.

Historical data indicates that Maroondah has increased its housing supply by approximately 10% over the last decade, or around 500 dwellings per year. The *Housing Supply Analysis* prepared by Charter Keck Cramer (May 2015) and *Housing Demand Study*, prepared by Spatial Economics (May 2015), have examined this trend and provided projections for population and dwelling growth over the coming 15-20 years, based on historical and predicted future conditions. This report compares the predicted likely demand for housing with the number of dwellings that land, as it is currently zoned, is capable of providing.

In order to determine latent capacity, the capacity analysis examines a range of factors, including an analysis of existing lot sizes and the potential for subdivision, current zonings, each property's Redevelopment Potential Index (land values as compared to Capital Improved Value), age of buildings and resultant likelihood of redevelopment. The report then goes on to provide an indication of how many new dwellings may be brought to the market over the coming decades across the municipality. The results are broken down by suburb, zone and housing market area, providing an indication of how much capacity is available in different locations.

Given that housing capacity is determined to some extent by the policy context (zoning, etc.), the report also provides a review of the existing policy context, from State level to Council's overarching policy documents and the Maroondah planning scheme. A brief explanation of the implications of Maroondah's zoning schedules is also undertaken.

2. Consultation

The process undertaken for the preparation of the housing strategy has involved a number of consultation events. These have ranged from activities in the café consult tent at the Maroondah Festival and at Realm/Town Square, Ringwood, to focus groups held with representatives of the development industry, community and service providers, and community groups.

The Housing Strategy Community Engagement Report (February 2016) provides some insight into community perceptions on the issues and challenges associated with housing in Maroondah. Issues associated with population growth and the lack of affordable and social housing were seen as two of the most significant issues. The challenges associated with population growth featured consistently across all age cohorts, while affordable and social housing was seen as more of an issue by younger participants.

A focus group held with representatives of the development industry discussed a number of issues pertaining to housing demand and capacity. One participant commented that there was a significant change in Maroondah in the mid-late nineties, when demand started to outstrip supply. Since then, there have been more people trying to get into Maroondah then there are homes available.

The group also discussed the impacts of zoning on house prices and affordability, commenting that a change was noticeable within a month of the reformed residential zones being implemented.

The group discussed the effects of the changing and aging demographic of Maroondah's residents, noting the difficulties associated with providing dwellings targeted at the aged given land prices.

The group also acknowledged the impact of increasing land prices on those who grew up in the municipality but are now unable to afford to purchase a home here. That demand is getting pushed further to the east, into the growth areas. The difficulties for potential owner-occupiers when bidding against a developer who will land bank and/or develop was also acknowledged.

The focus group held with community and service providers discussed a range of issues, including social and affordable housing, crisis accommodation and housing diversity. The aging population as well as the increase in single person households was discussed. These households tend to be female dominated and at greater risk of poverty. A lack of housing for disabled people and a lack of alternatives, such as portable and relocatable dwellings, was seen as an issue.

The diversity of new dwellings being brought to the market was also discussed. Higher density developments in activity centres, including apartments, won't be suitable for everyone. Housing needs to be affordable across the full range of housing typologies. Larger families can't be accommodated in 1-2 bedroom apartments, which are often the only affordable option, according to the participants.

The community group focus group discussed a similar range of issues, including those related to demand and capacity. Although some participants were concerned about property prices and gentrification, others pointed out that housing is cyclical and that much of the housing that was constructed from the 50's through to the 70's and 80's have lost their former character and vibrancy, as families have grown up and moved out. Gentrification is not just about people being forced out, it is also about younger people being brought back in, said one participant.

3. Policy Context

The following policy context is of relevance to the preparation of the housing strategy for Maroondah.

3.1 Plan Melbourne and the Refresh Discussion Paper

Plan Melbourne was adopted in 2014 by the previous State government. Following the election and change of government, the Plan Melbourne Refresh Discussion paper ('the Refresh Paper') was put on public exhibition in October 2015. An updated version of Plan Melbourne is expected to be adopted mid 2016.

The Refresh Paper maintains much of the intent of the original Plan Melbourne document. However, it advances a number of key areas relevant to housing as follows:

- Clarifying locations that will support new population and housing growth;
- Focusing development on unlocking supply in established areas, with a 70/30 split in favour of new development in established suburbs and the balance on greenfield sites in growth areas;
- Resolving conflicts in Plan Melbourne around 'protecting the suburbs' and defining what that means for development;
- Improving housing diversity and affordability;
- Identifying planning tools and reforms to help unlock supply in established areas;
- Support of the renewal of greyfield locations.

3.2 Maroondah 2040

Maroondah 2040 was prepared over an 18 month period and adopted by Council in June 2014. It involved extensive community consultation and resulted in a shared vision for the municipality up to 2040. The vision for the future of Maroondah is built around 8 key elements, including 'a safe, healthy and active community' and 'an attractive thriving and well built community'. Each element of the vision incorporates a range of key directions, including the following of relevance to housing provision:

- Encourage high density development in activity centres where there is access to high quality facilities;
- Protect and value ridgelines and neighbourhood character, local history and cultural heritage;
- Support for a diverse range of housing options across Maroondah;
- Promote the increased provision of affordable housing options.

3.3 Urban Development Program

Every year, State Government releases an updated Urban Development Program (UDP) report, which tracks housing supply across Melbourne. The 2015 UDP report (July 2015) reveals that there are 239,000 dwellings identified for construction in major residential developments (developments of 10 or more dwellings) across metropolitan Melbourne. This figure does not include dwellings that will become available from 'Mum and Dad' type developments (small scale subdivisions), which has traditionally provided the largest source of new dwellings in Maroondah.

Of the 239,000 dwellings identified, approximately 75% are in development of four stories or greater, with the proportion of these developments that are located within activity centres increasing from 45% in 2004-2005 to 59% in 2014-15.

Maroondah had 12 projects that fell into the major residential developments category in 2013-2014, with 279 dwellings already constructed within those developments. There are an additional 754 dwellings under construction across 25 projects. Over 1,000 additional dwellings are expected to be constructed in major developments in the next 2 years. Maroondah accounts for 1% of the overall supply across Melbourne in the major developments category.

3.4 Managing Residential Development Advisory Committee

The Managing Residential Development Advisory Committee has been appointed by the Minister for Planning to report on the application of the residential zones in Metropolitan Melbourne and four regional cities. The Committee is considering issues including: managing growth, proximity to transport and jobs and housing affordability and diversity.

In early 2016, the Committee released the 'Residential State of Play' reports. The reports provide a snapshot of housing development across regions and on a Council by Council basis. The report notes the following about housing development and capacity in Maroondah:

- Within land now in the general residential zone, there have been a relatively high number of projects resulting in three to nine new dwellings as well as a high proportion of single and dual occupancy projects. Multi-unit development is expected to continue and may increase.
- Single dwellings on a lot account for the majority of projects in the NRZ, with dual occupancy projects also common.
- Compared to the neighbourhood residential and general residential zones, there have been very few developments in land zoned residential growth zone. However, projects are generally significant in scale providing large numbers of new dwellings at high densities. Apartment type development has increased over recent years and is likely to increase further.
- There has been a steady increase in unit/townhouse development over the last five years, with approvals more than doubling since 2010.
- Units and townhouses remain a relatively affordable option in the Eastern subregion.

3.5 Maroondah Planning Scheme

The Maroondah Planning Scheme is the primary source of land use planning policy for the municipality. The vision for Maroondah set out in the planning scheme is for an active, diverse community with a strong local economy and cultural life, within a sustainable environment.

The Municipal Strategic Statement seeks to ensure that Maroondah is provided with diverse and sustainable high quality residential developments. The Scheme also provides a range of objectives for each of the defined neighbourhood areas within the municipality.

The objectives for the Ringwood Activity Centre (22.06) include reinforcing its role as the premier commercial, residential and community focal point for the region, facilitating high density residential development and encouraging the amalgamation of smaller lots to achieve larger scale development.

The Croydon Major Activity Centre (22.09) is another location where higher density development in the form of apartments and shop-top housing is supported.

The reformed residential and commercial zones were integrated into the Maroondah Planning Scheme through a 'policy neutral' amendment (C93), gazetted in June 2014. The following zones are currently in force in Maroondah and can accommodate residential development:

Commercial 1 Zone (C1Z)

Applies primarily to activity centres and facilitates commercial activity with possible residential uses on upper stories. Residential uses at ground floor level are restricted through controls on frontage. 2% of land in Maroondah is in the C1Z.

Mixed Use Zone (MUZ)
The mixed use zone is a part of the residential suite of zones and can accommodate a range of uses, including residential, commercial, and some lighter industrial uses. The MUZ is not widely used in Maroondah. Less than 1% of land in Maroondah is in the MUZ.

Low Density Residential Zone (LDRZ)
Maroondah accommodates a limited quantity of LDRZ land, primarily along the borders with the City of Manningham. Minimum lot sizes of 0.2 hectares apply where access to reticulated sewerage is available and 0.4 hectares where it's not available. Maroondah doesn't operate any schedules to the LDRZ. 1% of land in Maroondah is zoned LDRZ.

Residential Growth Zone
In Maroondah, the residential growth zone has only been applied in the Ringwood Metropolitan Activity Centre Area (MAC). The structure plan for the Ringwood MAC is currently underway and anticipates an additional 4,242 dwellings within the overall study area. This figure could rise to over 14,500 under a maximum development capacity scenario. 1% of land in Maroondah is in the RGZ.

General Residential Zone – Schedule 1
Maroondah currently operates a single general residential zone that applies across much of the municipality. 40% of land in Maroondah is in the GRZ.

The Ringwood East Structure Plan (Hansen 2013), anticipates an additional 500 dwellings in the Ringwood East area, most of which are expected to be provided in the form of medium density housing within the structure plan study area between 2011 and 2031. The Heathmont structure plan anticipates an additional 573 households over the same period.

Neighbourhood Residential Zone – Schedule 1
The Neighbourhood Residential Zone (NRZ1) applies to Ridgeline Protection Area A. A minimum lot size for subdivision of 2,000m^2 applies. 2% of land in Maroondah is zoned NRZ1.

Neighbourhood Residential Zone – Schedule 2
The Neighbourhood Residential Zone (NRZ2) applies to Ridgeline Protection Area B. A minimum lot size for subdivision of 864m^2 applies. 10% of land in Maroondah is zoned NRZ2.

Neighbourhood Residential Zone – Schedule 3
NRZ3 applies to the canopy cover ridgeline protection areas. No minimum subdivision size is specified. 16% of land in Maroondah is zoned NRZ3.

Neighbourhood Residential Zone – Schedule 4
NRZ4 applies to sites of biological significance. No minimum subdivision size applies. 1% of land in Maroondah is zoned NRZ4.

4.About Maroondah

The City of Maroondah covers a land area of 61.4 square kilometres in Melbourne's outer east, 22 kilometres from the central business district. The City of Maroondah includes the suburbs of Bayswater North, Croydon, Croydon Hills, Croydon North, Croydon South, Heathmont, Kilsyth South, Ringwood, Ringwood East, Ringwood North and Warranwood.

Maroondah is a substantially developed municipality, with an estimated population of 111,223 residents. The population is forecast to grow by 18% over the next 20 years to 133,526 in 2036. There are an estimated 43,663 households in Maroondah in 2016 with this number forecast to increase to 53,045 households by 2036, although household size is expected to decrease over this period.



Current population density in Maroondah stands at 18.12 persons per hectare, although this varies between suburbs from a low of 9.06 persons per hectare in Kilsyth South to a high of 21.71 persons per hectare in Croydon Hills. Overall density is expected to increase over the next 20 years with an increase in townhouse and apartment type development.

4.1 Suburbs

The table below shows the quantity of land and number of land parcels in each suburb.

Table 4.1: Area and land parcels by suburb

Suburb	Area (Hectares)	Land Parcels	Proportion of Total (%)
BAYSWATER NORTH	583.7	4,491	12%
CROYDON	1,125.30	12,547	22%
CROYDON HILLS	185.9	1,785	4%
CROYDON NORTH	335.1	3,141	7%
CROYDON SOUTH	211.5	2,104	4%
HEATHMONT	347.6	4,054	7%
KILSYTH	95.2	903	2%
KILSYTH SOUTH	298	1,237	6%
PARK ORCHARDS	7.4	18	0.1%
RINGWOOD	805.2	8,592	16%
RINGWOOD EAST	369.4	4,873	7%
RINGWOOD NORTH	392.9	3,692	8%
VERMONT	15.1	167	0.3%
WARRANWOOD	268.6	1,676	5%
WONGA PARK	11	114	0.2%
Total	**5,052**	**49,394**	100%

4.2 Zoning

The table below demonstrates the quantity of land and number of land parcels within each zone in Maroondah. As the table shows, the General Residential Zone (GRZ) accounts for over half of residential zoning with 2,011.2 hectares. The Neighbourhood Residential Zone (NRZ) is the second most prominent residential zone, with a total of 1,464.2 hectares of zoned land.

Table 4.2: Total area and land parcels by zone

Zone	Area (Hectares)	Land parcels	Proportion of Total (%)
Commercial 1 Zone	77.4	909	2%
Commercial 2 Zone	38	308	1%
Mixed Use Zone 1	2	10	0%
Mixed Use Zone 2	0	1	0%
Residential Growth Zone	30.7	699	1%
General Residential Zone 1	2,011.20	28,620	40%
Neighbourhood Residential Zone 1	109.2	526	2%
Neighbourhood Residential Zone 2	488.9	4842	10%
Neighbourhood Residential Zone 3	812.9	10,739	16%
Neighbourhood Residential Zone 4	53.2	167	1%
Low Density Residential Zone	43.3	92	1%
Industrial 1 Zone	462.2	1718	9%
Industrial 3 Zone	20.9	72	0%
Green Wedge A Zone	168.1	75	3%
Farming Zone	4.1	1	0%
Public Conservation and Resource Zone	73.7	31	1%
Public Park and Recreation Zone	408.1	283	8%
Public Use Zone 1	53.7	43	1%
Public Use Zone 2	105.6	38	2%
Public Use Zone 3	3.9	3	0%
Public Use Zone 4	1.3	8	0%
Public Use Zone 6	20.5	43	0%
Public Use Zone 7	1	2	0%
Road Zone 1	4.4	23	0%
Road Zone 2	0.5	5	0%
Urban Flood Zone	57.1	136	1%
Total	**5,052**	**49,394**	**100%**

4.3 Housing Market Areas

The Housing Strategy divides the municipality into a number of housing market areas, based on the local housing market, zoning, administrative boundaries and topography (refer map, page 30). The defined housing market boundaries are as follows:

Table 4.3: Area and land parcels by Housing Market Area

Housing Market Area	Area (Hectares)	Land parcels	Proportion of Total (%)
Croydon	474.7	5,936	9%
Croydon North	290.1	3,323	6%
Croydon South	800.1	6,186	16%
Maroondah Central	422.8	4,056	8%
Maroondah North	1,198.90	10,137	24%
Maroondah South East	526.7	3,575	10%
Maroondah South West	272.4	2,107	5%
Ringwood	1,066.50	14,076	21%
Total	**5,052.30**	**49,396**	**100%**

The quantum of zoned land in each housing market area is explored further in Section 9 of this report.

4.4 Strategic Sites

The 1997 Housing Strategy identified a number of strategic sites that had the potential to provide additional housing supply. The sites identified at that time were as follows:

- Former SEC Terminal Station near the corner of Yarra and Plymouth Roads – approximately 70-90 lots
- Gas and Fuel Site in Dorset Road – approximately 20-30 lots
- Former secondary school site in Croydon Road – approximately 60 lots
- Rear of Dorset Gardens Hotel – approximately 30 lots
- 49 Taylors Road, Croydon
- Area bounded by Warrandyte Road/ Maroondah Highway and the proposed Ringwood Bypass
- Lot 1 Wantirna Road, Heathmont
- Barnsdale Forest Estate in the north of the municipality – (remaining potential for 30 lots)
- Glenvale Road – potential for 23 lots between the Barnsdale Forest and the Oban Woods Estates
- Liverpool Road, approximately 50 lots

Further detailed analysis of the above sites is beyond the scope of this report, but it is recommended that a fresh analysis is undertaken as a part of subsequent work.

5. Historical Growth Pattern

In order to understand future housing needs in Maroondah, it is important to analyse market behaviour over the past 10-15 years. In particular, historical housing trends provide insight into the propensity for development, or the willingness of property owners to sell, subdivide and redevelop their properties. The number of lots that come on the market or are subdivided or redeveloped by their owners can help provide an understanding of likely future land supply over time. The historical data indicates that Maroondah has increased its housing supply by approximately 10% over the last decade, or around 500 dwellings per year. The table below shows the development of new housing supply over the 2004-2014 period.

Table 5.1: Historical Housing Supply 2004-2014 (New Dwellings)

Suburb	Initial dwellings 2004	Projects 04-14	Initial site dwellings	Resultant dwellings	Net dwelling increase	% Suburb land developed	% housing increase
BAYSWATER NORTH	3,256	188	168	473	305	5.2%	9.4%
CROYDON	9,584	1,101	852	2,861	2,009	8.9%	21.0%
CROYDON HILLS	1,676	21	13	32	19	0.8%	1.1%
CROYDON NORTH	2,583	248	206	539	333	8.0%	12.9%
CROYDON SOUTH	1,643	192	141	316	175	8.6%	10.7%
HEATHMONT	3,476	267	185	505	320	5.3%	9.2%
KILSYTH	3,890	93	92	210	118	2.4%	3.0%
KILSYTH SOUTH	905	29	16	63	47	1.8%	5.2%
PARK ORCHARDS	1,188	4	4	3	-1	0.3%	-0.1%
RINGWOOD	6,750	466	487	1,231	744	7.2%	11.0%
RINGWOOD EAST	4,056	272	241	492	251	5.9%	6.2%
RINGWOOD NORTH	3,355	218	113	318	205	3.4%	6.1%
VERMONT	3,815	12	8	16	8	0.2%	0.2%
WARRANWOOD	1,455	101	47	150	103	3.2%	7.1%
Total	**47,632**	**3,212**	**2,573**	**7,209**	**4,636**	**5.4%**	**9.7%**

Note: The above analysis does not include land in the Commercial 1 Zone.

The above table indicates an overall increase in housing of 9.7% in the period between 2004-2014. The total number of additional dwellings was 4,636, arising out of 3,212 projects. This figure highlights the substantial quantity of projects taking place in Maroondah and the relatively low average yield. The figures reinforce the view that the vast majority of new housing brought to the market has been arising from 'Mum and Dad' (small scale subdivision) type development, rather than from large individual development projects.

Table 5.2 below also covers the period 2004-2014, but breaks the information down not just by suburb, but also by zone within each suburb.

Table 5.2: Historical Housing Supply by Suburb and Zone 2004-2014

Suburb	Zone	Initial dwellings 2004	Projects 04-14	Initial Site dwellings	Resultant dwellings	net gain	Total dwellings 2014	% Housing increase
Bayswater North	GRZ1	2,392	74	54	147	93	2,485	4%
	NRZ3	801	87	88	201	113	914	14%
	PUZ1	4	1	1	86	85	89	2125%*
Croydon (Vic.)	GRZ1	6,224	537	459	1,282	823	7,047	13%
	NRZ3	1,926	26	0	23	23	1,949	1%
	MUZ1	0	1	0	104	104	104	0%
	NRZ1	201	7	2	7	5	206	2%
	NRZ2	1,090	61	27	158	131	1,221	12%
	NRZ3	1,926	285	201	894	693	2,619	36%
	NRZ4	28	1	1	0	-1	27	-4%
	PPRZ	24	1	1	7	6	30	25%
Croydon Hills	GRZ1	1,667	18	9	26	17	1,684	1%
Croydon North	GRZ1	1,265	351	355	789	434	1,699	34%
	NRZ1	58	8	6	12	6	64	10%
	NRZ2	362	46	33	62	29	391	8%
	NRZ3	888	281	228	542	314	1,202	35%
	NRZ4	10	1	0	0	0	10	0%
	RGZ1	0	2	2	4	2	2	0%
Croydon South	GRZ1	459	36	32	62	30	489	7%
	NRZ1	86	4	1	2	1	87	1%
	NRZ2	187	5	1	5	4	191	2%
	NRZ3	936	117	76	208	132	1,068	14%
Heathmont	C1Z	1	1	1	0	-1	0	0%
	GRZ1	1,240	144	81	215	134	1,374	11%
	NRZ2	972	31	24	46	22	994	2%
	NRZ3	1,344	67	54	148	94	1,438	7%
Kilsyth	GRZ1	642	80	79	179	100	742	16%
Kilsyth South	GRZ1	852	24	14	57	43	895	5%
	GWAZ	53	4	1	5	4	57	8%
Ringwood (Vic.)	GRZ1	4,120	219	215	467	252	4,372	6%
	LDRZ	2	1	1	1	0	2	0%
	NRZ3	1,859	125	106	253	147	2,006	8%
	NRZ4	3	1	1	1	0	3	0%
	PPRZ	9	1	20	16	-4	5	-44%
	PUZ7	2	1	2	0	-2	0	0%
	RDZ1	31	3	26	0	-26	5	-84%
	RGZ1	601	36	38	351	313	914	52%
Ringwood East	GRZ1	2,751	181	161	340	179	2,930	7%
	NRZ1	87	8	2	9	7	94	8%
	NRZ2	691	21	20	27	7	698	1%

	NRZ3	569	30	29	55	26	595	5%
Ringwood North	GRZ1	1,940	132	60	221	161	2,101	8%
	LDRZ	53	5	5	3	-2	51	-4%
	NRZ2	1,204	28	7	25	18	1,222	1%
	NRZ3	68	18	7	24	17	85	25%
Vermont	GRZ1	152	8	5	11	6	158	4%
	LDRZ	0	1	0	1	1	1	0%
Warranwood	GRZ1	1,128	65	26	104	78	1,206	7%
	LDRZ	12	5	3	5	2	14	17%
	NRZ1	54	4	3	5	2	56	4%
	NRZ3	222	12	3	12	9	231	4%
	NRZ4	19	4	0	4	4	23	21%
	UFZ	12	1	1	0	-1	11	-8%
Total		**41,227**					**45,861**	**11%**

The above table demonstrates that while the vast majority of additional dwellings are being developed in the General Residential Zone (GRZ), a significant number of dwellings are also being built in the Neighbourhood Residential Zones (NRZ), particularly NRZ3 and NRZ4, where no minimum lot size requirements apply. Some of the activity currently taking place in the NRZ is as a result of the transitional arrangements introducing the new zones and will reduce over time as those arrangements expire.

In terms of the propensity for development, the historical rates indicate that even where redevelopment of a lot could be financially viable (Redevelopment Potential Index of 0.7 or above), many lots remain undeveloped, due to the preferences of owners (want to stay in the family home, want a large back yard, etc.). Consequently, the capacity assessment will incorporate an assumption that only 30% of lots that meet the criteria for redevelopment (larger lot, RPI >0.7, building >20 years old) are potential candidates for redevelopment.

The table below, drawn from the Charter Keck Cramer (February 2015) Housing Supply Analysis, provides the following information about new housing supply by zone during 2015:

Table 5.3: New Housing Supply 2015

Zone	No. of Projects	Total Projects (%)	No. Net New Dwellings	Total Net New Dwellings (%)
Commercial 1 Zone	2	2%	99	15%
General Residential Zone 1	77	61%	284	43%
Neighbourhood Residential Zone 2	1	1%	7	1%
Neighbourhood Residential Zone 3	36	29%	106	16%
Neighbourhood Residential Zone 4	1	1%	19	3%
Residential Growth Zone 1	9	7%	142	22%
Total	126	100%	657	100%

As demonstrated by the figures in the Charter report, the General Residential Zone (GRZ) was by far the biggest producer of new dwellings in 2015, producing 284 dwellings from 77 projects, or the equivalent of 43% of all new dwellings. The Residential Growth Zone (RGZ) was the next largest producer, creating 142 new dwellings from 9 projects. It is notable that projects in the RGZ tend to create significantly more dwellings per project, with an average of nearly 16 dwellings, as compared to an average of just under 4 dwellings per project in the GRZ. This reflects the fact that projects in the RGZ are not only more likely to be apartment type developments, but the number of apartments per development also tends to be higher.

While there were a number of apartment type developments in the GRZ (e.g. Mount Dandenong Road), many developments in the GRZ still tend to be small scale residential subdivisions creating a small number of new dwellings per project, which significantly reduces the overall average for the zone.

The contribution made to new housing from the Neighbourhood Residential Zones was modest during 2015, with the exception of the NRZ3, which created as many new units as the Commercial 1 Zone. The NRZ3 created 106 new dwellings from a total of 36 projects, or an average of just under three units per project. If the apartment type developments were removed from the GRZ average, the average project size would probably be very similar to that which is taking place in NRZ3 areas.

The Commercial 1 Zone contributed 15% of the overall dwelling total from just 2 projects, a 45 apartment development in Ringwood and a 55 apartment development in Croydon. The proportion of new dwellings being accounted for by the Commercial 1 Zone is likely to increase as a number of significant projects get underway in Ringwood.

6. Growth Projections

The assessment of demand for the quantity and type of housing stems primarily from population growth and demographic trends. The population of Maroondah is anticipated to increase by over 20,000 people between 2016 and 2036, from 112,901 in 2016 to 128,429 in 2031 and 133,526 by 2036, according to projections prepared by forecast.id and shown in Table 1 below.

Table 6.1: Population projections 2016 to 2036 (forecast.id)

	2016	2021	2026	2031	2036	2016-2036	Avg annual increase
Maroondah	112,901	118,631	123,563	128,429	133,526	20,625	1,031

The number of households is also anticipated to grow, from 46,822 in 2016 to 54,037 by 2031, according to State government figures. Household size is anticipated to decline from 2.5 to 2.3 persons per household over the same time period, with the households with the least number of people anticipated to be located in the Ringwood MAC area.

Table 6.2: Dwelling projections 2011 to 2031 (Victoria in Future figures)

	2011	2016	2021	2026	2031	2011-2031	Avg annual increase
Maroondah	44,102	46,822	49,243	51,632	54,037	9,935	662

The rate of population growth in Maroondah is projected to increase between 2011 and 2021 and be generally higher than that of the Eastern Region for the next 30 years, although lower than the average across metropolitan Melbourne. The Housing Demand Paper prepared by Spatial Economics (May 2015) puts the average increase in dwellings slightly lower than state government figures, at approximately 500 dwellings per annum.

Charter Keck Cramer has prepared a Housing Supply Analysis (May 2015) as a background technical study to feed into the preparation of the Housing Strategy. The report provides a review of development activity in recent years and makes observations about the market in Maroondah. One output from the Charter Report are dwelling site ratios for each suburb. The dwelling site ratio (DSR) is the average lot size currently being brought to the market in new developments. From a capacity perspective, the DSR provides insight into how many new dwellings might be achieved through the subdivision of existing lots. Table 6.3 below sets out the DSRs for each suburb as well as median house prices.

Table 6.3: Dwelling site ratio by suburb.

Suburb	Total No. of Projects	No. of Dw. At Project Completion	Median No. of Dw. per Project	Median lot size of Parent Site (m^2)	Dwelling Site Ratio (m^2)	2014 Median House Price
Bayswater North	21	85	3.0	1,023	372	$480,000
Croydon	78	366	3.0	1,098	371	$517,400
Croydon Hills	2	4	2.0	1,104	552	$575,000
Croydon North	23	106	4.0	1,366	368	$580,000
Croydon South	20	44	2.0	905	433	$515,000
Heathmont	19	92	2.0	933	357	$630,000
Ringwood	74	367	3.0	912	355	$650,000
Ringwood East	42	121	3.0	980	374	$600,000
Ringwood North	11	78	5.0	3,300	471	$660,750
Vermont	2	5	2.5	786	322	$700,650
Warranwood	2	11	5.5	2,890	569	$693,250
Maroondah LGA	294	1279	3.0	999	373	$595,000

SOURCE - Charter Keck Cramer.

The Charter report also examined the locational characteristics of new development, including an analysis of the proportion of new developments that are being constructed in designated activity centres as compared to the balance of the municipality. The data is presented in Table 4 below.

Table 6.4: Development Activity Inside and Outside the Activity Centres

	Inside Activity Centres	Outside Activity Centres	Total
Total Projects	11%	89%	100%
Net Additional Dwellings	27%	73%	100%

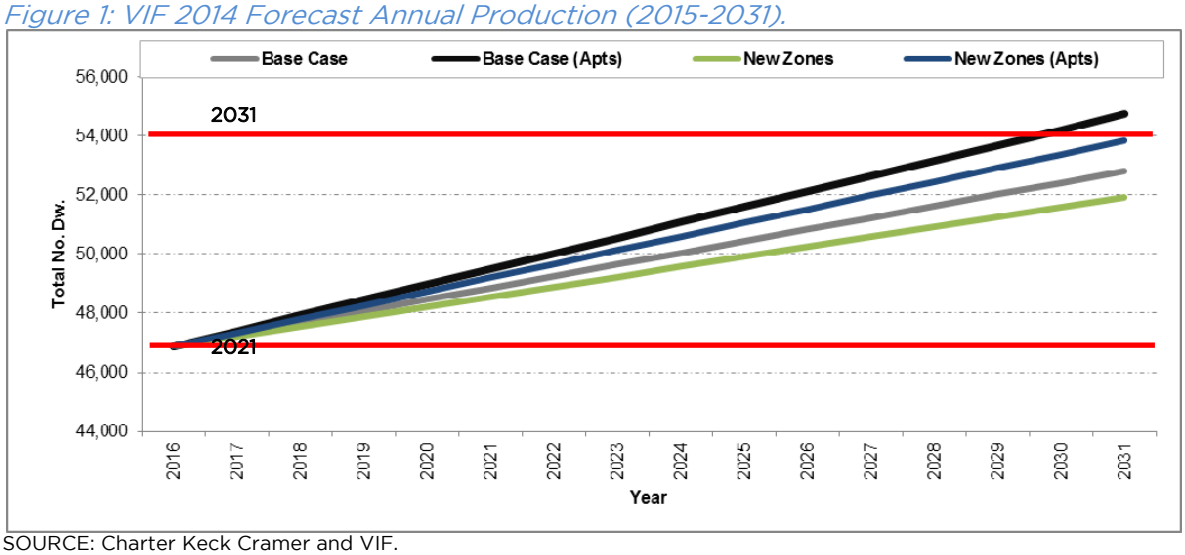
SOURCE - Charter Keck Cramer.

The above table indicates that nearly two thirds of net additional dwellings are currently being delivered outside of Maroondah's designated activity centres. One option that the 'Issues and Options' Paper examines is the possibility of a reversal of this trend, with 75% of new dwellings being delivered within activity centres, such as the Ringwood MAC, Croydon, Heathmont and Ringwood East. Indeed, the housing activity data for 2015 indicates that a trend towards activity centres is already underway, with approximately 50% of new housing construction in these areas.

The possibility of designating additional Neighbourhood Centres at locations such as Burnt Bridge, Ringwood North, Maroondah Village and Canterbury Gardens is also considered. The proportion of dwellings that are being delivered outside of activity centres is also indicative of the housing typology, which still favours detached dwellings, many of which stem from 'Mum and Dad' type developments where existing larger lots are subdivided.

Figure 1 below is an extract from the housing supply paper prepared by Charter Keck Cramer and shows the current number of dwellings in the municipality along with a projection of the number of dwellings in the period up to 2031. The projections in Figure 1 are based on the Victoria in Future (VIF) population projections published by State government in 2014.

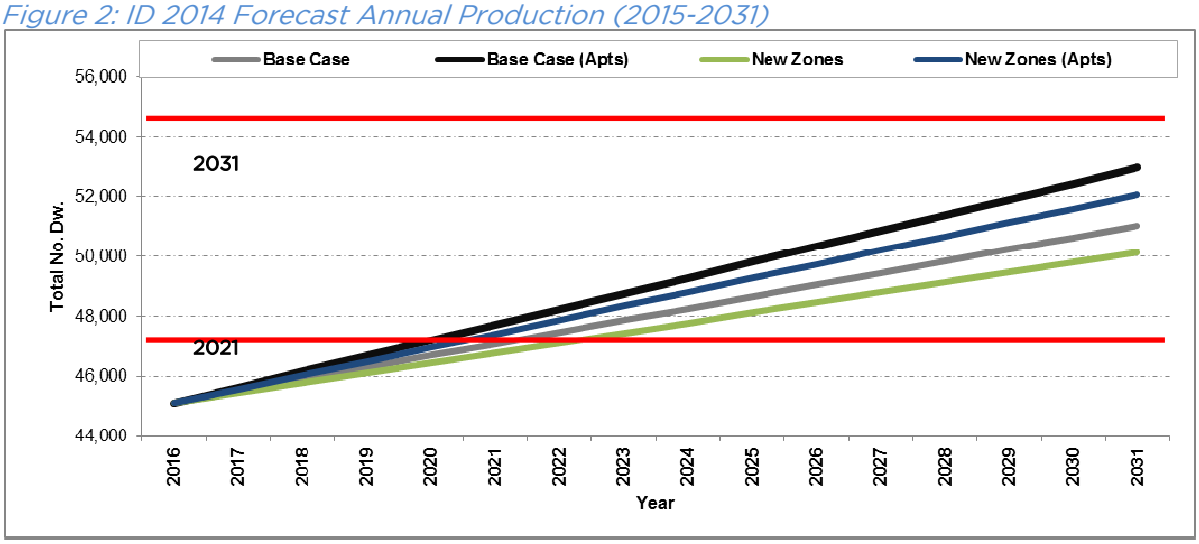
Figure 1: VIF 2014 Forecast Annual Production (2015-2031).



SOURCE: Charter Keck Cramer and VIF.
NOTE: VIF projections are based on Structural Private Dwelling (SPD) numbers.

Figure 2 is also an extract from the housing supply paper and shows the supply of dwellings over the same period, based on the population forecasts prepared for Maroondah City Council by Forecast.id.

Figure 2: ID 2014 Forecast Annual Production (2015-2031)



SOURCE: Charter Keck Cramer and ID.

Both figures demonstrate a substantial increase in apartments as compared to other types of dwellings over the time period. Apartment developments will be concentrated in designated activity centre areas.

7. Factors to consider in accommodating growth

In order to establish likely capacity of the municipality, or of a given area, a range of potential constraints that can affect development yields needs to be considered. These include: physical, policy, and market constraints. Key questions include:

- Is the land available for redevelopment based on landowner attitudes?
- Is the land suitable for development given physical constraints and proximity to infrastructure, such as train stations?
- Are there any legal covenants restricting development, or is there infrastructure that needs to be developed before capacity can be unlocked?
- Is development deliverable in the short term?

7.1 Physical

There are a range of physical constraints to consider in accommodating new housing growth. These include elements such as physical infrastructure (road access, potable water, reticulated sewerage, electricity, gas, waste etc.) as well as community infrastructure (schools, maternal and child health facilities, kindergartens, sports fields and reserves, stadiums, aquatics, etc.) which need to be able to meet the needs of new and existing residents.

Other types of physical constraints include topography, landscape and environmental values and management of creeks and waterways, as well as overland flows. Oftentimes, physical constraints are connected with policy constraints, such as restrictions on development in areas with environmental values, such as Maroondah's ridgeline areas or creeks or due to slope, flooding, etc.

7.2 Policy

There are a number of policy constraints that affect the supply of housing in a given area. These include restrictions brought about through zoning schedules, Design and Development Overlays (DDO), Development Plan Overlays (DPO), heritage overlays, as well as landscape protection overlays, etc.

Other constraints include possible locational objectives or targets that affect the construction of new dwellings. For example, the Housing Strategy might introduce an objective to increase the proportion of new dwellings that are located in activity centres, or near other existing services. This may affect the part of the municipality where new development is concentrated, rather than the overall quantity of new units that are constructed, or both. Objectives prioritising or incentivising planned growth in given locations as opposed to dispersed development can therefore vary capacity in given areas.

7.3 Changing demographics and customer needs

There is an inextricable link between population growth and the demand for housing. However, a more detailed understanding of the changing demographic profile is needed to understand the type of housing required. The changing age profile and household structures in particular impact on market preferences and appropriate housing types. Some of the key demographic trends over recent decades have been as follows:

- Fall in average household sizes due to the increase in more one and two person households;
- Aging population, resulting in a greater proportion of 'empty nest' households;
- Higher rates of marriage break-downs, resulting in greater levels of lone person and single parent households;
- Economic pressures and increased cost of housing resulting in children remaining in the family home longer and potentially returning for periods of time;
- People spending longer periods of time in formal education, changing jobs more frequently, and being more mobile.

The impact that these changes will have are difficult to predict, as are future trends that may not yet be known. As a result, a diverse and flexible housing stock that allows the market to respond to changing conditions over time is preferable.

7.4 Market preferences

Market preferences change over time as a consequence of the changing demographic profile of the municipality. Currently, the following key trends define the new housing market in Maroondah:

- Three bedroom double storey townhouses are the most common form of new housing, with approvals more than doubling since 2010. However, the dominance of double storey townhouses has resulted in a somewhat generic medium density housing type.
- Higher density developments in Ringwood have brought about an increase in the number of apartments coming to the market. There has been a resultant increase in the proportion of one and two bedroom dwellings. This has improved affordability and diversity in the market, but apartments don't suit everyone.
- Approvals for single detached dwellings have remained relatively stable since 2010.

According to the Housing Supply Paper (May 2015) prepared by Charter Keck Cramer, increased diversity in the Maroondah housing market is required to meet the needs of the changing population, including the aged cohort. As stated in the focus group held with community members (23 October 2015), there may be a difference between what vendors are able to sell on the market and what would really suit purchaser's preferences.

8. Methodology and Assumptions

Capacity has been calculated through the use of geographical software. A range of data was inputted, making it possible to enter a variety of queries to gain capacity outputs. Inputs included the following:

- Current suburb and zone layers obtained from data.vic.
- Minimum lot sizes, based on zoning requirements, as applicable.
- Dwellings size ratios (DSR) for each suburb, based on the outputs of the Housing Supply Paper (May 2015) prepared by Charter Keck Cramer. The DSR is the average size of new dwellings being brought to market in a given area (2013-2014).
- Parcel layers, showing the location of all lots in the municipality, from the 2014 Maroondah valuations dataset, validated against the 2014 housing development data from the Department of Environment, Land Water and Planning (DELWP).
- Housing Market Areas developed by Spatial Economics in the preparation of the Housing Demand Paper (May 2015) were duplicated from that study.

Total land area and parcel numbers, in each suburb, housing market area and zone, were calculated based on geographical queries of overlaid tables.

The quantity of available land (land that it may currently be feasible to redevelop) is calculated on the basis of the following:

- Redevelopment Potential Index (RPI) – land is considered a possible candidate for development if it has an RPI of 0.7 or greater. RPI is calculated on the basis of land value divided by Capital Improved Value (CIV). The CIV is the value of the land plus any improvements, including buildings. When the RPI reaches 0.7 or the equivalent of the land being equal to or greater than 70% of the CIV, market pressures will start to make the subdivision or redevelopment of the site increasingly likely. An RPI was calculated for every residential lot in the municipality. Value was obtained from the municipal valuations data.
- Age – the age of each property was obtained from the municipal rates. Given that older properties are more likely to be redeveloped, all lots with buildings of under 20 years were excluded and are not currently considered candidates for redevelopment.
- Lot size – the area of each lot was calculated from GIS queries. Smaller lots of under 700sq.m were not considered as redevelopable, as they would be incapable of being subdivided into lots of at least 350sq.m, 373sq.m being the average lot size (DSR) for new dwellings in Maroondah.
- Policy constraints – Areas zoned NRZ1, NRZ2, and GWAZ have minimum lot size requirements (2000sq.m, 864sq.m and 20,000sq.m respectively). In these areas, only lots that are at least double the minimum lot size were considered as candidates for subdivision.

Available properties were therefore considered to be ones that had 0.7 RPI or greater, were older than 20 years and had a minimum area of 700sqm (or as determined by zoning requirements).

Once the potential redevelopable land parcels have been identified, potential capacity was calculated.

To allow for variation in the level of redevelopment, or the rate at which potential dwellings are redeveloped, a number of scenarios were calculated, with redevelopment occurring in 100%, 50% and 30% of the available lots.

This was performed by reducing the number of available lots by 50% and 70% respectively, recalculating the potential capacity based on DSR and average lot size, and then reducing this gross capacity figure by the initial number of dwellings to generate a new net capacity for each zone, by suburb and Housing Market Area.

To provide historical context, and to provide decision makers with the capacity to choose the most effective redevelopment scenario, for each zone, suburb and market area, the Victorian Department of Environment, Land, Water and Planning's (DELWP) Housing Development Data (HDD), for the years 2004-2014 was scrutinised for typical levels of redevelopment uptake in each suburb, market area and zone. This dataset supplies the numbers of projects, initial dwellings and net product of these developments.

9. Findings

The capacity calculations provide findings that can be broken down by suburb, zone, and market area. The results can be further broken down by zone within each suburb and/or market area to further aid analysis.

9.1 Redevelopment Potential Index

As discussed in the methodology section above, Redevelopment Potential Index (RPI) was one factor that was used to determine land availability. RPI describes the relationship between the value of land and the capital improved value of the property. When the land value exceeds 70% of the overall capital improved value (RPI >0.7), market pressures will start to make redevelopment more likely. The table below shows the current RPI for the housing stock in Maroondah.

Table 9.1: Current Redevelopment Potential Index

RPI	Current no. of dwellings	Cumulative number of dwellings
0.9+	3,827	3,827
0.8 - 0.9	4,189	8,016
0.7 - 0.8	10,271	18,287
0.6 - 0.7	9,105	27,392
0.5 - 0.6	6,237	33,629
0.4 - 0.5	4,232	37,861
0.3 - 0.4	2,484	40,345
0.2 - 0.3	791	41,136
0.1 - 0.2	42	41,178
Total	41,178	

As shown on the above table, the cumulative number of dwellings that currently have an RPI of more than 0.7 is 18,287. Of this number, approximately 10,000 are fit for redevelopment, taking account of other factors (dwelling age, planning restrictions).

It should however be noted that RPI changes over time and that the RPI of many properties will increase over the coming years. On this basis it is likely that the additional 9,105 dwellings with an RPI of 0.5 - 0.6 will move into the >0.7 bracket over the coming 5 years, with an additional 6,237 dwellings over the following 5 years (10 years from now) and a further 2,484 over the 10-15 year period. Approximately 15,000 more properties will therefore be considered redevelopable by 2031, with roughly half of them having the ability to redevelop at current zonings and lot sizes. However, after this point, the supply of redevelopable dwellings is likely to become more constrained, as new dwellings are built with low RPI's.

While the Redevelopment Potential Index (RPI) provides an indication of when market pressures will start to make redevelopment of a given site more likely, it is based on a calculation of land value as compared to Capital Improved Value. However, the record shows that cheaper land also gets bought up and redeveloped, particularly where larger sites are available. Current capacity may therefore be greater than indicated based on a RPI of >0.7 if larger sites become available.

9.2 Available land

32.8% of Maroondah's residential zoned land is potentially available for redevelopment to accommodate additional housing supply. However, most of that land currently accommodates an existing dwelling. In order to arrive at net capacity, the total number of lots is subtracted from the gross dwelling capacity to reflect the extent to which existing dwellings will be replaced.

Table 9.2: Total Zoned Land and Net Capacity

Zone	Total Zoned Land (ha)	Available land (ha)	Gross Capacity (dwellings)	Net Capacity (dwellings)	Net Capacity (%)
Low Density Residential	43.3	20.9	44	22	0.2%
Residential Growth	30.7	11.6	257	119	1.1%
General Residential 1	2,011.2	714.75	13,549	6,684	64.5%
Neighbourhood Residential 1	109.2	26.4	96	48	0.5%
Neighbourhood Residential 2	488.9	59.4	404	202	1.9%
Neighbourhood Residential 3	812.9	376.1	6,678	3,284	31.7%
Neighbourhood Residential 4	53.2	2.73	17.7	9.7	0.1%
Green Wedge Area	1,68.1	7.75	4	2	0.02%
Total	3,717.5	1,219.6	21,049.7	10,370.7	

The above table indicates that the vast majority of existing capacity lies within the General Residential 1 and Neighbourhood Residential 3 zones, which combined account for a total of more than 95% of available capacity (note: these calculations do not account for capacity in the Commercial 1 Zone, which provided 15% of new residential supply in 2015. Capacity in the C1Z is discussed further below).

Table 9.3: Summary of Dwelling Capacity by Suburb

Suburb	Total Land area (ha)	Available land (ha)	Average existing lot size	Average new lot size	Gross Capacity (dwellings)	Net Capacity (dwellings)	Net Capacity %
Bayswater North	583.7	86.6	800	372	1,895	1014	9.8%
Croydon	1,125.3	356.5	725	371	6,323	3,090	29.8%
Croydon Hills	185.9	38.7	876	552	454	168	1.6%
Croydon North	335.1	74.6	897	386	1,383	785	7.6%
Croydon South	211.5	58.4	748	433	1,072	453	4.4%
Heathmont	347.6	98.1	760	357	2,000	1,058	10.2%
Kilsyth	95.2	19.3	641	372	339	142	1.4%
Kilsyth South	298.0	14.7	993	372	331	207	2.0%
Park Orchards	7.4	4.1	2 for 1	-	20	10	0.1%
Ringwood	805.2	171.6	662	355	3,362	1,559	15.0%
Ringwood East	369.4	123.1	685	374	1,878	855	8.2%
Ringwood North	392.9	71.1	887	471	1,098	517	5.0%
Vermont	15.1	3.2	693	322	71	38	0.4%
Warranwood	268.6	86.4	1,357	569	830	472	4.6%
Wonga Park	11.0	13.4	836	570	1	0	0%
Total	**5,052**	**1,220**		**373**	**21,057**	**10,368**	**100%**

The above table provides a breakdown of current capacity by suburb. Again, the Commercial 1 Zone is excluded, due to the difficulties in estimating future potential yields given the mix of commercial and residential uses and the predominance of apartment type development.

The table reveals that much of the available capacity is located in and around existing activity centres with strong public transport links. Croydon leads the way with 29.8% of overall capacity, followed by Ringwood with 15% and Heathmont at 10.2%. Ringwood East accounts for 8.2% of capacity. Given policy support for growth in activity centres, this capacity will be valuable going forward.

While the above table indicates that Croydon has more capacity than Ringwood, given the exclusion of the Commercial 1 Zone, the actual capacity of the Ringwood Metropolitan Activity Centre will be significantly higher than shown when the potential for major apartment based projects, particularly along Maroondah Highway, are factored in.

The table below shows land availability and resultant capacity by suburb and zone. The total area of each zone is shown under the 'current' heading. The next three columns apply the criteria for land that is considered developable. That is land that has a Redevelopment Potential Index (RPI) of 0.7 or above, is more than 20 years old and is large enough to be subdivided.

The three categories under 'availability' set out different size requirements for each of the zones where minimums apply. The first column excludes all lots that are less than 700sq.m, as anything smaller is not considered a likely candidate for development, given that the average size of new dwellings (Dwelling Site Ratio or DSR) for the municipality is 373sq.m.

The middle column addresses land located within the NRZ2 area, which has a minimum lot size of 864sq.m and therefore requires a parent site of at least 1,728sq.m in order to create two viable lots.

The third column deals with NRZ1 areas, where the minimum lot size is 2,000sq.m, requiring a parent lot of at least 4,000sq.m for subdivision as well as the Green Wedge areas, which require a lot of at least 4 hectares in order to achieve the minimum required lot size of 2 hectares.

Zones that contribute little to the overall capacity in each suburb have been removed from the analysis for the sake of brevity.

Table 9.4: Land Availability and Capacity by Suburb and Zone.

		Current		Availability						Capacity			
		Total		RPI>=0.7 & Age >20 & Area> 700		RPI>=0.7 & Age >20 & Area>=1728		RPI>=0.7 & Age >20 & Area >4000 (40,000 for GWAZ)		Typical DSR	Avg Lot size	Gross capacity	Net capacity
Suburb	Zone	Ha	Parcel	Ha	Parcel	Ha	Parcel	Ha	parcel				
BAYSWATER NORTH	GRZ1	187	2565	57	633					372	800	1361	728
	NRZ3	77	959	29	247					372	800	531	284
	NRZ4	24	64	1	1					372	800	2	1
CROYDON	GRZ1	456	7376	215	2114					371	725	4131	2017
	NRZ1	37	206					8	14	2 for 1		28	14
	NRZ2	144	1214			24	95			2 for 1		190	95
	NRZ3	218	2998	109	1010					371	725	1974	964
CROYDON HILLS	GRZ1	148	1733	39	286					552	876	454	168
CROYDON NORTH	GRZ1	119	1573	39	348					386	897	809	461
	NRZ1	18	69					3	4	2 for 1		8	4
	NRZ2	45	394			5	18			2 for 1		36	18
	NRZ3	88	1008	28	226					386	897	525	299
	NRZ4	5	14	0	2					386	897	5	3
CROYDON SOUTH	GRZ1	34	534	15	158					433	748	273	115
	NRZ1	13	91					1	2	2 for 1		4	2
	NRZ2	19	189			2	7			2 for 1		14	7
	NRZ3	78	1123	41	452					433	748	781	329

HEATHMONT	GRZ1	85	1335	35	402					357	760	856	454
	LDRZ	1	4					0	1	2 for 1		2	1
	NRZ2	100	1051			14	38			2 for 1		76	38
	NRZ3	110	1521	49	501					357	760	1067	566
KILSYTH	GRZ1	50	773	19	197					372	641	339	142
KILSYTH SOUTH	GRZ1	90	941	15	124					372	993	331	207
PARK ORCHARDS	LDRZ	7	18					4	10	2 for 1		20	10
RINGWOOD	GRZ1	335	4791	102	1062					355	662	1980	918
	NRZ3	131	2110	57	601					355	662	1121	520
	NRZ4	1	3	1	2					355	662	4	2
	RGZ1	31	699	12	138					355	662	257	119
RINGWOOD EAST	GRZ1	170	3236	63	694					374	685	1271	577
	NRZ1	19	99					4	10	2 for 1		20	10
	NRZ2	68	721			8	18			2 for 1		36	18
	NRZ3	67	672	48	301					374	685	551	250
RINGWOOD NORTH	GRZ1	186	2218	58	534					471	887	1006	472
	LDRZ	16	46					5	11	2 for 1		22	11
	NRZ2	113	1273			7	26			2 for 1		52	26
	NRZ3	8	102	1	10					471	887	19	9
VERMONT	GRZ1	11	163	3	33					322	693	71	38
WARRAN WOOD	GRZ1	132	1269	42	279					569	1357	665	386
	GWAZ	13	7					4	1	2 for 1		2	1
	LDRZ	17	20					11	6	2 for 1		0	-6
	NRZ1	21	58					11	18	2 for 1		36	18
	NRZ3	36	246	13	46					569	1357	110	64
	NRZ4	14	30	1	3					569	1357	7	4
	UFZ	9	18					2	4	2 for 1		8	4
WONGA PARK	GRZ1	9	113	13	1					570	836	1	0
Total		**3711**	**45711**	**1105**	**10405**	**59**	**202**	**58**	**84**			**21058**	**10369**

9.3 Housing Market Areas

The Housing Strategy divides Maroondah into housing market areas, based on the local housing market, zoning, administrative boundaries and topography as shown below.

Map 9.1: Local Housing Markets and Activity Centres

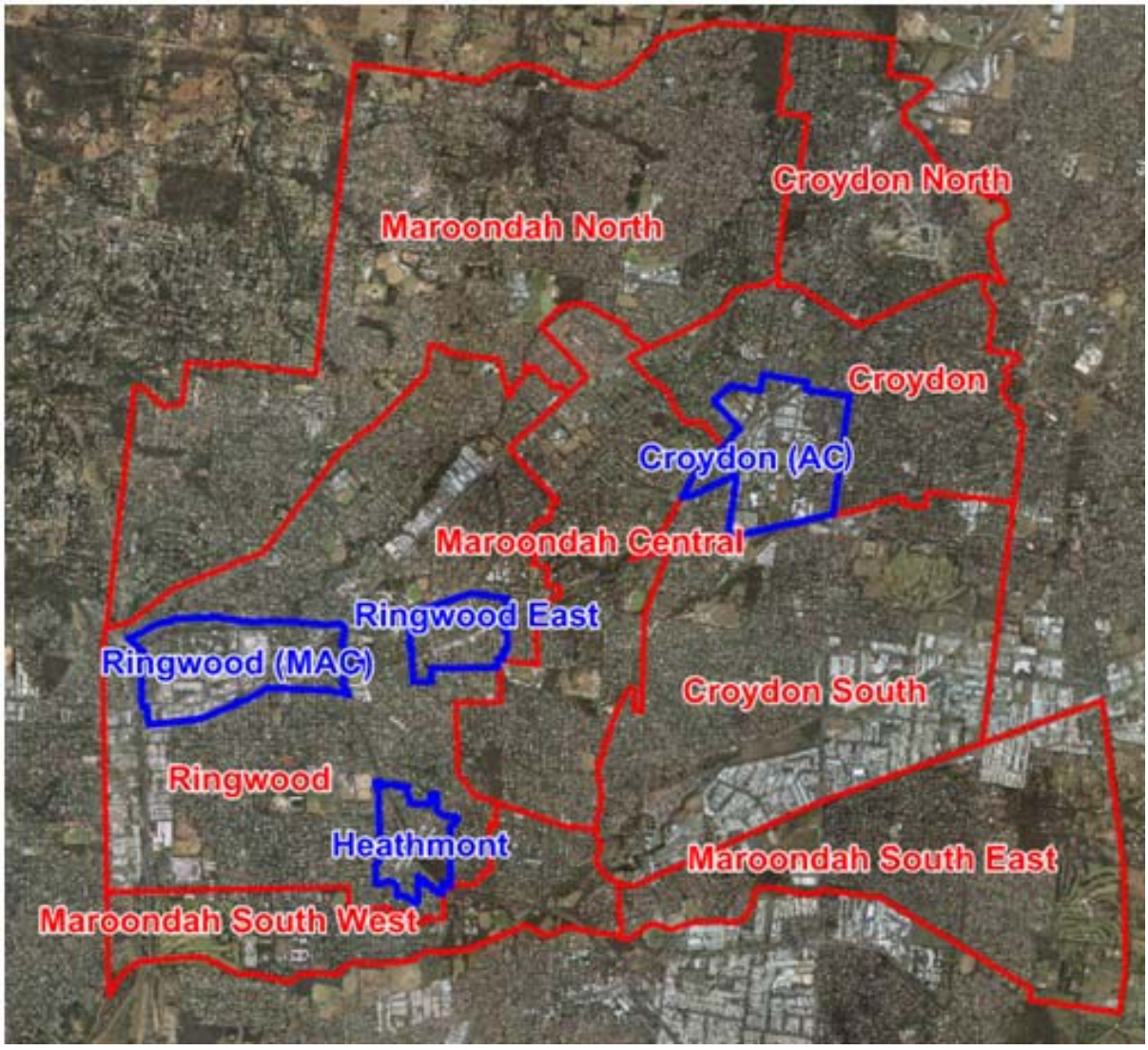


Table 9.5: Summary of dwelling capacity per Housing Market Area

Housing Market Area	Total Land area (ha)	Available land (ha)	Gross Capacity (dwellings)	Net Capacity (dwellings)	Net capacity %
Croydon	474.7	166.6	2,645	1,177	11%
Croydon North	290.1	105.7	1,969	1,004	9.4%
Croydon South	800.1	155.8	2,666	1,076	10%
Maroondah Central	422.8	118	1,538	825	7.7%
Maroondah North	1,198.9	262	3,363	1,600	14.9%
Maroondah South East	526.7	65.5	1,490	782	7.3%
Maroondah South West	272.4	46.2	829	472	4.4%
Ringwood	1,066.5	286.4	6,926	3,798	35.4%
Total	**5,052.3**	**1,206.2**	**21,426**	**10,734**	**100%**

The above table reveals that the Ringwood housing market area (HMA), which includes both Ringwood East and Heathmont, has by far the most available capacity at 35.4%. As with the analysis by suburb, the Croydon HMA has significant capacity available (11%). After Ringwood, the Maroondah North HMA has the most capacity at 14.9%, reflecting the large geographical area covered. The table below shows overall land availability for all HMA areas, broken down by zone. As with the suburb analysis, the middle columns account for minimum lot sizes within zones as well as an overall minimum of 350sq.m, based on current development trends.

Table 9.6: Land Availability and Capacity by Housing Market Area and Zone.

		Current		Availability						Capacity			
		Total		RPI>=0.7 & Age >20 & Area> 700		RPI>=0.7 & Age >20 & Area>=1728		RPI>=0.7 & Age >20 & Area >4000 (40,000 for GWAZ)		typical DSR	Avg Lot size	Gross capacity	Net capacity
		ha	parcels	ha	parcels	ha	parcels	ha	parcels				
Croydon	GRZ1	222	3841	101	945					372	668	1697	752
	NRZ2	55	512			11	44			2 for 1		88	44
	NRZ3	91	1163	55	477					372	668	857	380
	NRZ4	0	6	0	2					372	668	4	2
Croydon North	GRZ1	122	1738	67	655					368	751	1337	682
	NRZ2	21	183			2	10			2 for 1		20	10
	NRZ3	96	1310	36	298					368	751	608	310
	NRZ4	5	11	0	2					368	751	4	2
Croydon South	GRZ1	181	2629	70	716					433	726	1200	484
	NRZ3	171	2239	86	872					433	726	1462	590
	NRZ4	5	44	0	2					433	726	3	1
Maroondah Central	GRZ1	58	1077	22	211					393	946	508	297
	NRZ1	66	381					13	26	2 for 1		52	26
	NRZ2	155	1429			21	66			2 for 1		132	66
	NRZ3	94	1058	62	410					459	946	846	436
Maroondah North	GRZ1	649	6957	187	1533					531	1014	2929	1396
	GWAZ	18	11					4	1	2 for 1		2	1
	LDRZ	41	84					21	27	2 for 1		54	27
	NRZ1	40	130					13	22	2 for 1		44	22
	NRZ2	158	1667			12	44			2 for 1		88	44
	NRZ3	102	1055	22	129					563	1014	232	103
	NRZ4	20	61	1	3					622	1014	5	2
	UFZ	10	19					2	4	2 for 1		8	4
Maroondah South East	GRZ1	246	3163	65	708					372	783	1490	782
Maroondah South West	GRZ1	46	649	13	127					356	892	318	191
	LDRZ	3	8					0	1	2 for 1		2	1
	NRZ2	52	551			9	23			2 for 1		46	23
	NRZ3	61	818	23	205					396.5	892	461	256
	NRZ4	19	5	1	1					445.5	892	2	1
Ringwood	C1Z	52	497	0	2					355	600	3	1
	GRZ1	487	8566	175	1970					355	600	3330	1360
	NRZ2	48	500			5	15			2 for 1		30	15
	NRZ3	197	3096	93	1003					355	600	3330	2327
	NRZ4	1	3	1	2					355	600	0	0
	RGZ1	31	699	12	138					355	600		95
Total		**3791**	**46276**	**1093**	**10411**	**59**	**202**	**83**	**162**	**55**	**84**	**21426**	**10734**

9.4 Sensitivity Analysis

While the above calculations by suburb and housing market area (HMA) show theoretical capacity based on a range of exclusions, not all viable lots will be redeveloped, due to the preferences and attitudes of owners and the suitability and desirability of land.

While the financial benefits of redeveloping or subdividing may be apparent, all landowners won't necessarily want to pursue these options. This may be due to a range of factors, such as not wanting to move away from the family home and/or a preference keep the existing larger block for personal use. These attitudes affect the market uptake of available redevelopment opportunities. The below sensitivity analysis therefore examines the propensity for development, or how much real capacity is likely to exist, given that many viable sites will remain undeveloped. To achieve this, the analysis examines scenarios whereby 50% and 30% of lots are taken up for redevelopment.

Table 9.7: Sensitivity of Suburb/Zones model at 100%, 50% and 30% uptake

		100%			50%			30%		
Suburb	Zone	Net additions	Total housing	% Increase	Net additions	Total housing	% Increase	Net additions	Total housing	% Increase
BAYSWATER NORTH	GRZ1	728	3293	28%	364	2929	14%	218	2783	9%
	NRZ3	284	1243	30%	142	1101	15%	85	1044	9%
	NRZ4	1	65	2%	1	65	1%	0	64	1%
CROYDON	GRZ1	2017	9393	27%	1009	8385	14%	605	7981	8%
	NRZ1	8	214	4%	4	210	2%	2	208	1%
	NRZ2	95	1309	8%	48	1262	4%	29	1243	2%
	NRZ3	964	3962	32%	482	3480	16%	289	3287	10%
CROYDON HILLS	GRZ1	168	1901	10%	84	1817	5%	50	1783	3%
CROYDON NORTH	GRZ1	461	2034	29%	230	1803	15%	138	1711	9%
	NRZ1	12	81	17%	8	77	12%	4	73	5%
	NRZ2	18	412	5%	9	403	2%	5	399	1%
	NRZ3	299	1307	30%	150	1158	15%	90	1098	9%
	NRZ4	3	17	19%	1	15	9%	1	15	6%
CROYDON SOUTH	GRZ1	115	649	22%	57	591	11%	34	568	6%
	NRZ1	1	92	1%	0	92	0%	0	92	0%
	NRZ2	7	196	4%	4	193	2%	2	191	1%
	NRZ3	329	1452	29%	164	1287	15%	99	1222	9%
HEATHMONT	GRZ1	454	1789	34%	227	1562	17%	136	1471	10%
	NRZ2	38	1089	4%	19	1070	2%	11	1062	1%
	NRZ3	566	2087	37%	283	1804	19%	170	1691	11%
KILSYTH	GRZ1	142	915	18%	71	844	9%	43	816	6%
KILSYTH SOUTH	GRZ1	207	1148	22%	104	1045	11%	62	1003	7%
PARK ORCHARDS	LDRZ	4	22	23%	2	20	11%	1	9	6%
RINGWOOD	GRZ1	918	5709	19%	459	5250	10%	276	5067	6%
	NRZ3	520	2630	25%	260	2370	12%	156	2266	7%
	NRZ4	2	5	58%	1	4	29%	1	4	17%
	RGZ1	119	818	17%	60	759	9%	36	735	5%
RINGWOOD EAST	GRZ1	577	3813	18%	289	3525	9%	173	3409	5%
	NRZ1	4	103	5%	2	101	2%	1	100	1%
	NRZ2	18	739	2%	9	730	1%	5	726	1%

	NRZ 3	250	922	37%	125	797	19%	75	747	11%
RINGWOOD NORTH	GRZ1	472	2690	21%	236	2454	11%	141	2359	6%
	LDR Z	5	51	11%	2	48	4%	1	47	2%
	NRZ 2	26	1299	2%	13	1286	1%	8	1281	1%
	NRZ 3	9	111	9%	4	106	4%	3	105	3%
VERMONT	GRZ1	38	201	23%	19	182	12%	11	174	7%
WARRANWOOD	GRZ1	386	1655	30%	193	1462	15%	116	1385	9%
	GWA Z	2	9	29%	2	9	21%	1	8	9%
	NRZ1	11	49	18%	5	63	9%	2	60	3%
	NRZ 3	64	310	26%	32	278	13%	19	265	8%
	NRZ 4	4	34	14%	2	32	7%	1	31	4%
	UFZ	2	20	12%	1	19	6%	0	18	0%
WONGA PARK	GRZ1	0	113	0%	0	113	0%	0	113	0%
		10,369	56,016	23%	5,171	50,818	11%	3,101	48,748	7%

Based on the above calculations, under a scenario of 50% uptake, capacity currently exists for an additional 5,171 dwellings, or more than 10 times what the market has been delivering in recent years. At a 30% rate of uptake, capacity exists for an additional 3,101 dwellings based on current RPIs and housing age (excluding Commercial 1 areas). The table below repeats the sensitivity analysis by housing market area (HMA) rather than by suburb.

Table 9.8: Sensitivity of Market Areas by Zone at 100%, 50% and 30% uptake

		100%			50%			30%		
		Net additions	Total housing	% Increase	Net additions	Total housing	% Increase	Net additions	Total housing	% Increase
Croydon	GRZ1	752	4593	20%	376	4217	10%	226	4067	6%
	NRZ2	44	556	9%	22	534	4%	13	525	3%
	NRZ3	380	1543	33%	190	1353	16%	114	1277	10%
	NRZ4	2	8	27%	1	7	13%	0	6	8%
Croydon North	GRZ1	682	2420	39%	341	2079	20%	205	1943	12%
	NRZ2	10	193	5%	5	188	3%	3	186	2%
	NRZ3	310	1620	24%	155	1465	12%	93	1403	7%
	NRZ4	2	13	19%	1	12	9%	1	12	6%
Croydon South	GRZ1	484	3113	18%	242	2871	9%	145	2774	6%
	NRZ3	590	2829	26%	295	2534	13%	177	2416	8%
	NRZ4	1	45	3%	1	45	2%	0	44	1%
Maroondah Central	GRZ1	297	1374	28%	149	1226	14%	89	1166	8%
	NRZ1	78	459	20%	39	420	10%	23	404	6%
	NRZ2	66	1495	5%	33	1462	2%	20	1449	1%
	NRZ3	436	1494	41%	289	1347	27%	173	1231	16%
Maroondah North	GRZ1	1396	8353	20%	698	7655	10%	419	7376	6%
	GWAZ	2	13	18%	1	12	9%	1	12	5%
	LDRZ	27	111	32%	14	98	16%	8	92	10%
	NRZ1	22	152	17%	11	141	8%	7	137	5%
	NRZ2	44	1711	3%	22	1689	1%	13	1680	1%

	NRZ3	103	1158	10%	59	1114	6%	35	1090	3%
	NRZ4	2	63	3%	1	62	2%	1	62	1%
	UFZ	4	23	21%	2	21	11%	1	20	6%
Maroondah South East	GRZ1	782	3945	25%	391	3554	12%	235	3398	7%
	GWAZ	2	66	3%	1	65	2%	1	65	1%
Maroondah South West	GRZ1	191	840	29%	96	745	15%	57	706	9%
	LDRZ	1	9	13%	1	9	6%	0	8	4%
	NRZ2	23	574	4%	12	563	2%	7	558	1%
	NRZ3	256	1074	31%	154	972	19%	93	911	11%
	NRZ4	1	6	20%	1	6	15%	0	5	9%
Ringwood	C1Z	1	498	0%	1	498	0%	0	497	0%
	GRZ1	1360	9926	16%	680	9246	8%	408	8974	5%
	NRZ2	15	515	3%	8	508	1%	5	505	1%
	NRZ3	2327	5423	75%	346	3442	11%	208	3304	7%
	NRZ4	0	3	0%	1	4	23%	0	3	14%
	RGZ1	95	794	14%	48	747	7%	29	728	4%
Total		**10734**	**56946**	**23%**	**4681**	**50893**	**10%**	**2809**	**49021**	**6%**

9.5 Future Land Availability and Capacity

The above figures are a snapshot of the current housing capacity situation in Maroondah. As time passes, the Redevelopment Potential Index (RPI) will increase on properties not as yet in the 0.7 and above range and more properties will exceed the 20 year mark and so fall into the 'developable' category.

As discussed previously, it is likely that an additional 9,105 dwellings with an RPI of 0.5 - 0.6 will move into the >0.7 bracket over the coming 5 years, with an additional 6,237 dwellings over the following 5 years (10 years from now) and a further 2,484 over the 10-15 year period. Based on the proportion of dwellings that currently meet that criteria, approximately half are likely to be developable, based on lot size, zoning, etc.

Approximately 15,000 more properties will therefore be considered redevelopable by 2031, with roughly half of them having the ability to redevelop at current zonings and lot sizes. However, after this point, the supply of redevelopable dwellings is likely to become more constrained, as new dwellings are built with low RPI's.

On this basis, there will be capacity for approximately an additional 7,500dwellings in the period up to 2031, or 18,000 in total. After that, capacity is likely to become more constrained.

9.6 Housing in the Commercial 1 Zone

Housing capacity in the Commercial 1 zone is more difficult to estimate, given that land can be used for a variety of commercial uses as well as, or instead of, residential uses. As a consequence, housing capacity in commercial areas can be better estimated on the basis of detailed planning studies undertaken in these areas than on a lot by lot calculation.

The Ringwood Metropolitan Activity Centre Masterplan covers the area generally bound by the railway line/ Bedford Road to the south, the Ringwood bypass to the north, the Eastern Freeway to the west and the Marrondah Highway/ Maroondah Lake to the east. The MAC boundary includes all of the commercially zoned land in the area, as well as areas of residential growth zone (RGZ).
The Ringwood MAC Masterplan is currently undergoing detailed review by Council in partnership with the Metropolitan Planning Authority (MPA). The review includes a detailed analysis of a number of possible development scenarios for both commercial and residential land uses.

The analysis estimates that in a theoretical maximum development scenario, capacity exists for up to 14,869 additional dwellings by 2030, based on maximum building heights and other built form requirements in the Commercial 1 Zone (e.g. commercial/ retail uses at ground floor, parking, etc.). In a medium development scenario, this estimate is reduced to 3,277 additional dwellings by 2030, which is considered to be a more likely outcome.

Additional dwellings could also be constructed in other areas of the municipality where the Commercial 1 zone has been applied. For example, shop-top housing is supported in the Ringwood East and Heathmont Activity Centre structure plan areas. Croydon too is expected to experience housing growth in the Commercial 1 zone areas. While the quantity of additional dwellings in these areas will be subject to market demand and other development constraints, such as issues associated with fragmented land ownership patterns, the potential nonetheless exists for additional housing to be delivered in these locations.

The table below takes all C1Z land and shows the dwellings that could be achieved if all were developed at various DSRs. The capacity will be one of the figures below, dependant on the additional stories and the size of new dwellings

Table 9.9: Capacity in the Commercial 1 Zone

Capacity (dwellings)			
	DSR 125 (3 bed apt)	DSR 100 (2 bed apt)	DSR 75 (1 bed apt)
1 additional story	1,810	2,262	3,016
2 additional stories	3,620	4,524	6,032

9.7 Alignment of Housing Demand and Capacity

The Housing Demand Study (Spatial Economics, May 2015) projects annual demand for new dwellings in Maroondah to be approximately 500 dwellings per year in the period up to 2031. This equates to a total requirement of 7,500 new dwellings over a 15 year period.

The table below sets out the annual demand per housing market area (HMA) as compared to the current housing capacity in those areas. The final column in the table shows how many years capacity exists based on current capacity (capacity will increase going forward) by housing market area (HMA).

Table 9.10 Supply (Years)

Housing market area	Annual demand	Demand to 2031	Net capacity (30% uptake)	Supply (years)
Ringwood	195	2,925	1,139	5.8 years
Croydon	104	1,560	353	3.4 years
Croydon North	37	555	301	8.1 years
Croydon South	49	735	323	6.6 years
Maroondah North	57	855	480	8.4 years
Maroondah Central	23	345	247	10.7 years
Maroondah southwest	13	195	142	10.9 years
Maroondah southeast	20	300	235	11.7 years
Total	498	7,470	3,220	6.5 years

As shown above, capacity varies from HMA to HMA. While capacity appears to be most constrained in Ringwood and Croydon, the above figures do not take account of capacity in the Commercial 1 zone, which has the potential to deliver additional capacity in the form of shop-top apartment type development in both locations, particularly in Ringwood

along the Maroondah Highway. The above figures will need to be reviewed over time to ensure that capacity does not become restricted.

Existing lower density areas of the municipality such as Maroondah North, Central, southwest and southeast have approximately a decades worth of capacity based on current figures.

As discussed previously, more lots will become developable over time, increasing capacity as time goes by. This will occur as more lots achieve a Redevelopment Potential Index (RPI) of more than 0.7 and the existing housing stock ages. However, while ample capacity exists in the coming 10-15 years, it is likely to become more constrained thereafter.

9.8 Publicly owned land

There are various parcels of land within the study area that may provide additional opportunities for housing. Much of this land is currently within a Public Use Zone (PUZ) and owned by a public agency (VicTrack, VicRoads, Melbourne Water, Department of Education, ADF, etc.) or Council (including void space above car parking).

Maroondah City Council owns 603.25ha of land. Of this 83.5ha is zoned Residential, Industrial or Commercial. Roughly 25% of this is zoned incorrectly, being roads, paths and waterways etc. Anecdotal evidence suggests that all this land currently has some use, such as car parks and day-care centres, however, none of this land has a rateable value, so a lot-by-lot inquiry is required to determine the use of land parcels.

Should the residential, commercial and industrial land be developed it could achieve the following capacity (at current redevelopment levels).

Table 9.11: Publicly Owned Land

Suburb	Land area (ha)	DSR	Capacity (dwellings)
BAYSWATER NORTH	5.6	372	151
CROYDON	9.2	371	249
CROYDON HILLS	7.8	552	143
CROYDON NORTH	5.6	368	153
CROYDON SOUTH	1.5	433	35
HEATHMONT	3.2	357	90
RINGWOOD	15.5	355	439
RINGWOOD EAST	2.3	374	63
RINGWOOD NORTH	12.7	471	270
WARRANWOOD	8.8	569	155
Total			**1,747**

10. Policy Initiatives

A range of policy options are available that would impact on capacity within the municipality. A number of potential options are discussed below:

10.1 Greening the Greyfields

Researchers at Swinburne University are investigating options for boosting development yields in the outer suburbs, while also improving design outcomes and liveability. The Greening the Greyfields initiative investigates potential outcomes where a number of smaller lots are amalgamated, as compared to the current market based approach, whereby lots that are large enough to be subdivided are gradually being taken up on an ad-hoc basis.

A geographical analysis has revealed some of the benefits of utilising this type of approach. For example, one query run through GIS software compares development yield around Maroondah's activity centres based on the current lot layouts as compared to what development yield might be achieved in an optimised, amalgamated lot layout scenario.

The Ringwood HMA contains the neighbourhood activity centres of Ringwood East and Heathmont. Shop-top housing as well as medium density housing is supported in these locations through endorsed structure plans, which should further support capacity in the Ringwood HMA.

An analysis of the current high RPI land around other neighbourhood activity centres also shows potential for housing growth.

Table 10.1: Capacity around Neighbourhood/ Local Centres

Centre	Suburb	Avg lot size	Avg dev. DSR	Projected Units / lot	RPI >= 0.7	# high RPI and area > avg.	Capacity at BAU DSR (100%)
Burnt Bridge SC & PO	CROYDON	725	371	2.0	217	72	141
Canterbury Gardens	BAYSWATER NORTH	799	372	2.1	46	9	19
Bedford Rd	RINGWOOD EAST	686	374	1.8	290	195	358
Kallay Street Shops	CROYDON	725	371	2.0	146	97	190
McAdam Square	CROYDON	725	371	2.0	189	173	338
Merrindale SC	CROYDON SOUTH	749	433	1.7	141	137	237
North Croydon Shopping Plaza	CROYDON NORTH	897	368	2.4	167	56	137
North Ringwood	RINGWOOD NORTH	888	471	1.9	192	46	87
Total							**1,506**

The above table demonstrates the potential to achieve housing growth around existing neighbourhood activity centres. However, this still only results in the equivalent of three years capacity, so assuming existing practices are continued, even areas designated for significant regeneration are somewhat lacking in redevelopment potential and lot size to be significant contributors to housing. However, a policy initiative that encouraged lot consolidation to optimise development outcomes could potentially boost capacity further, as demonstrated by the table below.

The table below recalculates the NAC analysis from above but rather than calculating capacity in a lot-by-lot fashion, it assumes an optimisation of cadastral parcels, which almost doubles the capacity (2,722 compared to 1,506 dwellings) at existing DSR levels. Due to some level of central massing through precinct scale development occurring, capacity has been provided at a variety of DSRs.

Table 10.2: Capacity around Neighbourhood/ Local Centres, Optimised Layouts

NAC	Avg lot size	RPI >= 0.7	Total area (sqm)	BAU DSR (sqm)	Capacity				
					BAU DSR (detached housing)	DSR200 (large townhouse)	DSR 100 (Small Townhouse)	DSR 50 (Walk up apartment)	(5 story apartment)
Burnt Bridge SC & PO	725	217	157,325	371	424	786	1573	3146	7866
Canterbury Gardens	799	46	36,754	372	99	183	367	735	1837
Bedford Rd	686	290	198,940	374	532	994	1989	3978	9947
Kallay Street Shops	725	146	105,850	371	285	529	1058	2117	5292
McAdam Square	725	189	137,025	371	369	685	1370	2740	6851
Merrindale SC	749	141	105,609	433	244	528	1056	2112	5280
North Croydon Shopping Plaza	897	167	149,799	368	407	748	1497	2995	7489
North Ringwood	888	192	170,496	471	362	852	1704	3409	8524
Total					**2,722**	**5,309**	**10,618**	**21,236**	**53,090**

Similarly, Heathmont has been re-examined using the same logic producing 22% better outcomes (purely at business-as-usual redevelopment levels). As per above, the capacity has also included calculations at increasing densities. While the above analysis focuses on the areas around activity centres, a similar principle could be applied in other residential areas to improve yields and amenity outcomes.

10.2 Minimum Lot Size/ Density Controls

In 2014, Hill PDA prepared a report that looked specifically at possible development controls to apply in the NRZ3 area, in order to achieve given outcomes. The main controls considered were the use of minimum lot sizes or minimum density requirements (dwellings per hectare), either on a pro rata per lot basis or on a precinct basis, as is commonly used in the growth areas.

Minimum lot sizes

The capacity calculations for much of the municipality are calculated on the basis of dividing lots by the Development Site Ratio (DSR) for each suburb. The DSR is the average size of new lots being brought to the market in a given area. For example, the DSR for Bayswater North is 372sq.m and 569sq.m for Warranwood. Therefore, any lot that is more than double the area of the DSR in a given suburb is considered a possible candidate for subdivision where assessing capacity.

However, in the NRZ1, NRZ2 and GWAZ areas, lots that may be suitable for subdivision are calculated on the basis of being double minimum lot size set out in the planning scheme (2,000sq.m for NRZ1, 864sq.m for NRZ2, 20,000sq.m for GWAZ. Any reduction in the mandatory minimum lot sizes in these areas would increase capacity in these areas. Conversely, any increase in minimum lot sizes, or the introduction of minimum lot sizes in other areas, would reduce overall capacity.

Minimum lot sizes were examined in the Hill PDA report as a possible control for the NRZ3 area. However, the report noted possible unintended consequences that can stem from

this type of planning control, such as precluding attached and semi-detached housing forms such as town houses.

Residential Density Requirements

Minimum density requirements aren't currently in operation in Maroondah, however, the Hill PDA report observes that dwelling density is the most widely used urban density measure currently in use in Australia. The intent of minimum density controls is generally to improve access to public transport and community infrastructure, while the aim of maximum density controls is to protect private space amenity. Density requirements can be applied either:

- At a development precinct level, allowing for flexibility in dwelling sizes, assuming the density standard is met across the wider area;
- On a lot-by-lot basis, which still allows for flexibility in dwelling sizes as well as for the potential to incorporate common areas for access, maintenance, etc.

There are potential advantages and disadvantages to both approaches. Where a lot-by-lot control is applied, an additional restriction must be placed on the subdivision of the resultant lots to avoid further subsequent subdivision. This can be addressed by requiring the application for the subdivision to identify any future planned subdivision. A note to this effect would be required on the title or permit.

The precinct scale control is considered more appropriate in growth areas, where greenfield planning is the norm, as it become distorted in an existing urban environment and precinct boundaries can be hard to determine.

11. Conclusion

This report has examined the potential for new housing development in Maroondah.

Properties were considered to have the potential for redevelopment if they have a Redevelopment Potential Index (land value divided by capital improved value) of greater than 0.7, satisfied the lot size requirements for subdivision and were greater than 20 years old.

The methodology has primarily focused on a lot-by-lot geographical analysis, from which findings about the potential for new subdivision can be extracted. The report generally defers to previous and ongoing structure planning work where the potential for housing in the Commercial 1 Zone is concerned.

The main findings of the analysis are as follows:

- Maroondah has a current theoretical development capacity of in excess of 10,000 dwellings.
- When the propensity for development, or the willingness of landowners to develop is factored in, likely capacity is reduced to approximately 3,000 dwellings.
- Capacity will rise over the coming years as more properties achieve an RPI of greater than 0.7 while their building stock also ages. It is likely that an additional 9,000 properties will move into this category over the next 5 years (an additional 2,700 properties based on a 30% propensity for development);
- An additional 8,700 properties are likely to move into the redevelopable category between 2021 and 2031 (2,610 at 30% propensity).
- The Ringwood MAC area has the capacity to produce an additional 3,277 dwellings by 2030 in shop-top apartment type developments, primarily along the Maroondah Highway.
- Projected demand for housing is for an additional 7,500 dwellings by 2031 (Spatial Economics Housing Demand Paper, May 2015). Based on the above figures, there is likely to be capacity to produce this number of dwellings (capacity for a total of approximately 11,500 dwellings by 2031 at 30% propensity for development).
- Additional capacity is likely to emerge from this housing typology in Croydon, Ringwood East and Heathmont in Commercial 1 areas, although a figure hasn't been adopted in this report, given the difficulty of predicting potential supply for land that could have either a commercial or residential use.
- Although capacity exists for projected development in the period up to 2031, capacity is likely to become more constrained thereafter due to the number of lots that will have already been subdivided and redeveloped. Policy initiatives could be considered to optimise capacity in the shorter term to alleviate longer term constraints. Monitoring review is recommended on a five yearly basis to ensure that capacity doesn't become constrained.
- Capacity could be boosted through policy initiatives that support the consolidation of lots prior to redevelopment. An analysis of the areas around Maroondah's neighbourhood centres or whole precincts indicates that capacity could be increased by up to 55% (from 1,506 to 2,722 dwellings) in an optimised lot layout.

12. Further Work

The following future work is recommended to develop and refine the capacity picture further and to gain a deeper understanding of issues:

- Investigate further the role that the Commercial 1 Zone is likely to play;
- Identify the likelihood of shop-top housing being developed and how it might be facilitated;
- Investigate capacity that could be released through a Greening the Greyfields initiative;
- Investigate landowners intentions and interest in a Greening the Greyfields initiative;
- Investigate infrastructure capacity constraints;
- Investigate the link between housing capacity and the local economy;
- Further investigate the types of housing that is required, so that capacity constraints within given housing typologies can be identified;
- Investigate the potential to use void space over existing surface car parking.



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