

Knox Housing Monitoring Program

Annual Report for 2023

Knox City Council acknowledges the traditional custodians of the City of Knox, the Wurundjeri and Bunurong people of the Kulin Nation.

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Executive Summary

This report seeks to provide the measured progress against the six objectives in the *Knox Housing Strategy 2015* by examining data related to planning approvals, housing construction, and population demographics. This analysis is framed around a set of indicators that seeks to measure different aspects of housing in Knox, particularly new dwellings that have been approved through the planning system in 2023.

Key Highlights

The following are the highlights of the key findings in this report:

- **The trend in the number of new dwellings expected to be constructed has increased slightly since COVID.** The planning and subdivision permits approved in 2023 were 134. Taking into account demolitions, if all these residential planning permits were fully developed, this could potentially result in a net increase of 384 additional new dwellings in Knox. These figures are slightly above the 2021 and 2022 figure of 334 and 373 respectively. However, the 2023 figure was still lower than the housing approvals in the seven years before 2021 (2014-2020).
- **New dwellings approved in 2023 were more consistent with the preferred character nominated in the Housing Strategy 2015 than in previous years.** The overall average percentage of new dwellings approved in 2023 whose typology was consistent with their Housing Strategy Area was 88%. This was a significant improvement over the 2022 figure of 69%. In fact, 2023 had the highest average percentage of dwellings being sited in their preferred Housing Strategy Areas since 2016. The second highest was 78% in 2020, and the lowest was 68% in 2016. The significant improvements in 2023 suggested that the *Knox Housing Strategy 2015* continued to deliver positive results by encouraging appropriate development across the municipality.
- **There was a significant increase in dwelling density within Local Living, but a marginal increase within Bush Suburban, Knox Neighbourhood and Activity Areas, when compared to 2022.** The analysis of approved planning permits by Housing Strategy Area in 2022, with reference to dwelling density per hectare, showed that the Bush Suburban areas and Knox Neighbourhood areas increased by 1 dwelling per hectare each, while Activity Areas increased by 3 dwellings per hectare. However, the dwelling density per hectare in Local Living increased by 15 dwellings per hectare when compared to 2022. These outcomes were in alignment with the *Knox Housing Strategy 2015*, because the strategy encouraged lower density development in Bush Suburban and Knox Neighbourhood areas but supported high density development in the Local Living and Activity Areas.
- **There was a considerable increase in apartment approvals in 2023, compared with previous years, whilst aged care development remained stagnant.** Approved planning permits in 2023 have yielded 59 apartments – a noticeable growth from 2022, where no single apartment was approved (4 apartments were approved in 2021). However, just like 2022, no residential aged-care facility was approved in 2023. This was in sharp contrast with 2021, where 214 beds in residential aged-care facilities were approved.
- **There was a small increase in building permits issued in 2023 when compared to the previous year.** Six hundred and forty-three (643) building permits were issued in 2023 compared with 588 in 2022. But the 2023 figure was still not a marked improvement. In fact, while 2022 had the lowest figure since 2017, approvals in 2023 were the third lowest. As building permits provide more certainty as to what is likely to be built in Knox than planning permits, it is important to track the number of building approvals, as this gives a clearer indication of whether the housing challenge could be addressed within the short term or not.
- **Escalating housing costs, very low availability of affordable rental options, and an identified shortfall in social housing remain critical policy concerns in Knox in 2023.** It was positive to observe that 19 social housing projects were added to the social housing stock in Knox in 2023. This was a noteworthy increase as only four social housing projects were delivered in Knox during 2022. However, a huge shortfall¹ remained between social housing need and

¹ As of 2023, an estimated 584 social and affordable housing are needed in Knox.

social housing supply in Knox. To increase the provision of social housing, Council continues to pursue policies and partnership opportunities to help facilitate solutions that can help address the identified shortfall.

- **VCAT decisions on planning permits was at its lowest in 2023.** With respect to coherence between Council and Victorian Civil and Administrative Tribunal (VCAT) decisions on residential planning permits, VCAT decided 12 residential planning applications for Knox in 2023. This was down from 14 in 2022 and 2021. Since 2012, the lowest VCAT cases recorded in Knox has been in 2023.
- **Environmentally Sustainable Design (ESD) targets for Knox in 2022-2023 were achieved (100%) on both potable water consumption and greenhouse gas (GHG) emissions reduction.** This implied that all permits for applicable new dwellings in 2022-2023 met both targets. This was equally the case in 2021-2022 financial year.

Summary of Key Findings

Objective 1: A diversity of housing is provided in appropriate locations

An analysis of the planning and subdivision permits approved in 2023 revealed that if all permits were fully developed, there would be a net increase of 384 dwellings in Knox within the medium-term. This was a marginal increase over the 2021 and 2022 numbers. For the new dwellings to be built, Knox would record a net loss of 89 detached and four dual occupancy houses – a slight reduction from the net loss of 124 detached and six dual occupancy dwellings in 2022. Like most previous years, no villa units, townhouses, or apartments were demolished to make way for new developments. In total, 88% of the total new dwellings approved in 2023 were the preferred type for their Housing Strategy Area. This was the highest record since 2016, and a significant improvement over the 2022 figure of 69%. Thus, only 12% were of a type that was denser than the preferred dwellings for the residential land on which they were located. However, in each case of these non-preferred houses, the distinctive characteristics of the site and/or proposed development, implied that the required neighbourhood character outcomes could still be met. It is important to state that 17% of the proposed developments were in the Strategic Investigation Sites². This was currently outside the Housing Strategy Areas. However, the *Knox Housing Strategy 2015* does not have an explicit definition of the typology of dwellings that are preferred in the Strategic Investigation Sites.

Also, the planning permits approved in 2023 revealed that the number of dwellings per hectare in the Housing Strategy Areas will produce fewer dwellings per hectare in Bush Suburban (13 dwellings) and Knox Neighbourhood (21 dwellings); and higher dwelling density per hectare in Local Living (54 dwellings) and Activity Areas (70 dwellings). This aligns with the *Knox Housing Strategy 2015*, resulting in higher density dwellings in the Local Living and Activity Areas, and lower density development in Bush Suburban areas and Knox Neighbourhood areas. This respects the neighbourhood character of these areas. A significant increase was observed in the Local Living, when compared to the 2022 dwelling density per hectare of 39 dwellings in the area. However, the three other Housing Strategy Areas recorded marginal increases (of between 1 to 3 dwellings per hectare) when compared to 2022.

Objective 2: Residential development responds to community needs, and allows people to age-in-place

The 2021 census figures from the Australian Bureau of Statistics (ABS) revealed that 45.7% of households in Knox are lone person and couple only households. However, the number of small dwellings (dwellings of two bedrooms or less) approved by Council in 2023, was 32%. This figure, as it has been in other recent years, was below the community's current requirement and the forecasted growth requirement. In 2023, although small dwellings grew noticeably from 2022 by 14%, more improvements are required. A lower number of smaller dwellings could limit the housing choice for ageing residents in Knox looking to downsize, first homebuyers, couple only households or anyone keen to reduce their cost of living, since housing constitutes the biggest cost item on most households' expenditure.

Access to affordable housing opportunities remained a thorny issue in Knox in 2023. A paltry 19 rentals and 1 property sale were affordable to households within the 'very low income' bracket in 2023. Low-income households had slightly

² In specific terms, this is made up of a total of 79 dwellings – 45 apartments and 34 townhouses.

more rentals options, however there were a very limited number of properties available for purchase. For instance, in 2023, low-income households could only purchase about 64 of the 488 (13%) properties sold in Knox. Social housing options were also limited, as the substantial gap between demand and supply of social and affordable housing in Knox, continued to widen. Verified data (as of 30 September 2023) showed that 3,450 people in Knox, were on the waiting list of the Victorian Housing Register, for social or affordable housing. Therefore, the gap between supply and demand stood at 584 in 2023.

Apartments usually yield small dwellings. Approved planning permits in 2023 yielded 59 apartments – a noticeable growth from 2022, where no single apartment was approved (4 apartments were approved in 2021). However, just like 2022, no residential aged-care facility was approved in 2023. This is in sharp contrast to 2021, where 214 beds in residential aged-care facilities were approved. However, residential aged care places in Knox continues to be marginally above the national minimum benchmark.

Objective 3: Energy, water, and waste efficient design are increased in residential dwellings

The Environmental Sustainability Design (ESD) assessments that must accompany planning permit applications for two or more new additional dwellings, indicated that just like in 2021-22, all buildings assessed in 2022-23 met the best practice target reduction for potable water consumption (25%) and greenhouse gas emissions reduction (50%). The ESD data for 2022-23 revealed that in practice an average of 39% of potable water consumption will be reduced (a slight decline from 41.3% in 2021-22). In the same fiscal year, the average greenhouse gas (GHG) reduction would be 61%, for planning applications approved (a marginal improvement from 60.3% in 2021-22). The 2022-23 fiscal year ESD data further suggested that over three million litres of water tank capacity was approved in Knox and 830kW of solar panels were committed to for installation through the planning scheme in Knox within the same period. This will contribute to the reduction of GHG emissions emanating from electricity consumption in residential buildings.

Objective 4: Housing design in Knox better responds to neighbourhood identity and creates a stronger sense of place

One way of assessing the proximity of services to people is to use the Walkscore Index. New residential developments in the high Walkscore areas of Knox are more desirable as residents in those neighbourhoods would have access to critically important amenities and socio-economic infrastructure and services. Almost half (47%) of the net new dwellings approved in planning permits in 2023, were in walkable locations in Knox. This was a considerable improvement over the 2022 and 2021 figures of 32% and 31% respectively. This means 47% of the dwellings had Walkscores of above 70, that is, in “Very Walkable” locations. It is noteworthy to report that the permits approved in 2023 recorded the second highest number of approved net new dwellings located in “Very Walkable” areas of Knox. The highest score was 48% in 2016 and 2019. Also, 56% of approved net new dwellings in 2023 were in areas that were considered more walkable than the average score for their suburb. This was a decline over the 2022 and 2021 figures of 67% and 59% respectively.

Objective 5: Protect and enhance the landscape and environmental values of natural areas of significance

One of the defining features of Knox is its leafy green feel, an aesthetic deeply cherished by the residents. It is therefore increasingly important to ensure that as Knox’s population continues to increase, residential development does not significantly erode Knox’s unique and most valued environmental and ecological resources. The planning permits approved in 2023 established that the number of dwellings per hectare were fewer in the Bush Suburban and Knox Neighbourhood areas. This aligned with the *Knox Housing Strategy 2015*, resulting in higher density dwellings in the Local Living and Activity Areas, and lower density development in the Bush Suburban and Knox Neighbourhood areas.

No new tree canopy data has been captured beyond what was reported in the 2021 and 2022 Housing Monitoring reports. Tree canopy data captured by the then Department of Environment, Land, Water and Planning (DELWP) in 2018 puts Knox’s overall tree canopy coverage at 18%, and the urban areas at 16.3%. The data showed a 6% decline in native vegetation cover in Knox since the late 1980s. Hence, the *Knox Biodiversity Resilience Strategy 2024 – 2034* has recommended that Council should explore and take concrete steps to establish a means of mapping canopy regularly in order to establish and track the success of canopy change over time.

Objective 6: Development responds to neighbourhoods in an integrated and balanced manner

To attain an integrated and balanced development, Council, through the Knox Planning Scheme has outlined explicit policies and strategies for the municipality. Coherence between Council's planning application decisions and the Victorian Civil and Administrative Tribunal's (VCAT) decisions is significantly important in gauging the consistency with the Knox Planning Scheme.

Overall, 12 residential planning cases were decided by VCAT from Knox in 2023. The breakdown revealed that in 5 of the cases, VCAT upheld Council's refusals and in 5 other appeals lodged, the Tribunal overturned Council's refusals. Unlike previous years where VCAT usually affirms all Council's approvals, in 2023 the Tribunal overturned 1 of Council's approvals. Council failed to determine 1 case, and an appeal was lodged at VCAT, and the Tribunal ruled that a permit should be granted. It is important to note that since the adoption and implementation of the *Knox Housing Strategy 2015*, the lowest number of residential cases lodged at VCAT from Knox, was in 2023. Interestingly, 2021 and 2022 also recorded the second lowest VCAT cases lodged from Knox. If this declining trend of fewer appeals submitted to VCAT continues, it could be presumed that either planning permit applicants and neighbours are increasingly becoming satisfied with Council's decisions on planning permits or community members have limited capacity to actively engage in the planning appeal processes.

Table 1. Summary of Progress Towards Housing Strategy Objectives in 2023

Council Initiative is on Track/Achieved		Further Improvement Required	Results do not Indicate a Definite Direction
Objective	Indicative Result of Council's Housing Related Action	Target	Achievement Rating
1	134 approved permits could result in a net of 384 additional new dwellings in Knox	N/A	
	88% of dwellings approved were consistent with their Housing Strategy Area	50%	
	Dwelling density per hectare: Bush Suburban 13, Knox Neighbourhood 21, Local Living 54, and Activity Areas 70	N/A	
2	Dwelling diversity: Small dwellings 32%, 3 bedrooms 23%, 4+ bedrooms 45%	46% small dwellings	
	59 apartments approved in 2023; no residential aged care facility approved in 2023	N/A	
	Residential aged care places in Knox were marginally above the national minimum benchmark	78 RAC ³ places /1000 people 70yrs+	
	Rising housing costs, very low availability of affordable rental options, and a shortfall in social housing remain key policy concerns	584 social and affordable housing needed in 2023	
3	100% of approved development of two or more dwellings met Environmentally Sustainable Design targets in water reduction and Greenhouse Gas emissions in 2023	100%	
4	47% of net new dwellings approved in 2023 were in very walkable locations in Knox	50+%	
5	Tree canopy cover 18% in Knox, and 16.3% in Knox urbanised areas ⁴	30% by 2050	
6	VCAT decided 12 residential planning applications for Knox in 2023	N/A	

³ RAC (Residential Aged Care)

⁴It is important to note that while Knox endorsed the [Living Melbourne: Our Metropolitan Urban Forest \(2019\)](#) target of achieving 30% tree canopy coverage by 2050, there is no current data to accurately assess this target. For a more reliable assessment of this Action, current tree canopy data is required. This explains why the Tree Canopy Assessment Rating has remained grey. Also, currently it is difficult to ascertain how Council is doing with respect to tree canopy target until we get to the year 2050, to determine whether the 30% canopy target has been met or not (For instance, Council can have incremental tree canopy targets for 2025, 2030, 2035, 2040 and 2045). There needs to be incremental canopy targets in the lead up to the 2050. Without this, even if current tree canopy data is available, the *Housing Monitoring Program* report cannot state with certainty whether Council is on track or not with respect to tree canopy cover until we reach 2050.

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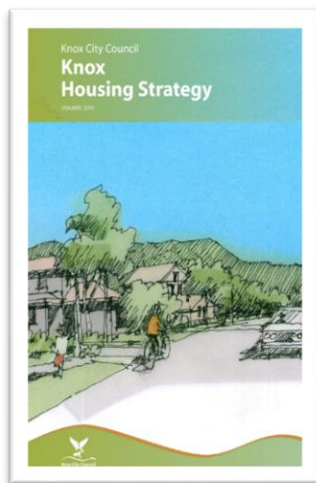
This is the 16th annual Knox Housing Monitoring Program report. It assesses and reports on the performance or the progress made against the six objectives of the [Knox Housing Strategy 2015](#) for the 2023 calendar year.

Policy Context



Plan Melbourne 2017-2050 seeks to integrate long-term land use, infrastructure and transport planning, so as to meet the city's future environmental, population, housing and employment needs. It is the Victorian Government's strategy for supporting employment, housing and transport, while building on Melbourne's distinctiveness, liveability and environmental sustainability. One of the key goals of this policy is to direct new housing toward areas with existing services, jobs and public transport. This Plan has two important effects on housing in Knox. One is to deliver housing efficiently, where the infrastructure and services can best support it. The other is to protect existing neighbourhoods and areas with particular significance from overdevelopment.

The Knox Housing Strategy 2015 is consistent with Outcome 2 of the *Plan Melbourne 2017-2050* by promoting and supporting a scaled, balanced and responsive environmental significance. The overall vision of the *Knox Housing Strategy 2015* is expected to be achieved through six interrelated objectives: an approach to residential development to accommodate population growth and the community's changing housing needs. The adoption of this balanced approach recognises that some parts of Knox will need to accommodate change, and in other areas change should be gradual and limited in order to protect and enhance Knox's green and leafy character and areas of significance.



Objective 1: A diversity of housing is provided in appropriate locations.

Objective 2: Residential development better responds to the community's current and future needs and allows people to age-in-place.

Objective 3: Energy, water, and waste efficient design is increased in dwellings.

Objective 4: Housing design better responds to neighbourhood identity and creates a stronger sense of place.

Objective 5: Protect and enhance the landscape and environmental values of natural areas of significance.

Objective 6: Development responds to neighbourhoods in an integrated and balanced manner.

The *Knox Housing Strategy 2015* divides Knox into four Housing Strategy areas – Bush Suburban, Knox Neighbourhood, Local Living, and Activity Areas (See Map 1 on p.8) – and provides clear guidance on what types of dwellings are preferred and permissible in each area.

Each area has different levels of change anticipated and different types of dwelling preferred:

- **Bush Suburban** and **Knox Neighbourhood** areas are expected to undergo less change, preserving areas of environmental significance (including native vegetation and wildlife habitat), landscape value and neighbourhood character.
- **Local Living** and **Activity Areas** are expected to see more change, accommodating medium and higher density development to provide additional housing capacity and choice, to serve the municipality's changing housing needs.

In 2021, Council adopted a new Community Plan and a new Council Plan which both highlighted the continuing importance of housing as a critical area of focus for Council. A key direction of the [Community Plan 2021-2031](#) and the [Council Plan 2021-2025](#) is "Neighbourhoods, housing and infrastructure". This key direction expressly focuses attention on supporting a greater diversity in the housing mix within Knox, and ensuring better access to public transport among others, as important outcomes. The *Council Plan 2021-2025* commits Council to several actions to achieve positive housing outcomes for the community, including commencing a review of the *Knox Housing Strategy 2015* (this is currently underway), and Council's adoption of the [Knox Social and Affordable Housing Strategy and Action Plan 2023 – 2027](#) to increase the supply of social and affordable housing, as a key and concrete step towards addressing homelessness in Knox.

A Remark on Total versus Net Dwelling Changes

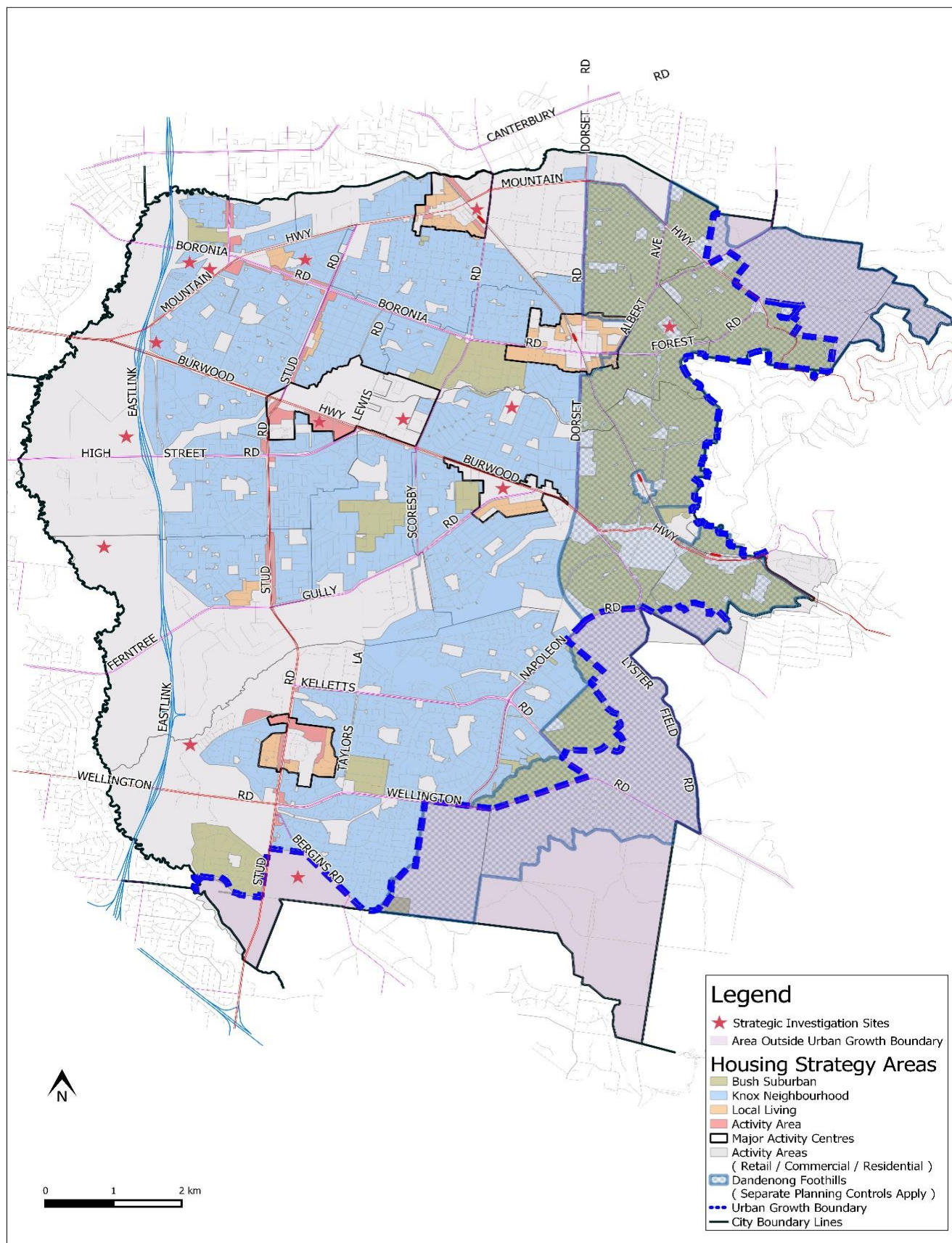
Approved planning permits for subdivisions and additional dwellings (not including planning permits for one new dwelling) are used in this report as an indicator of what dwellings are likely to be built, and where⁵. Two approaches for counting the number of dwellings approved in planning permits are used in this report:

- **Total new dwellings** are all new dwellings possible from approved planning permits. This measure does not account for demolitions and provides the best information about the size and type of dwellings being approved. Total new dwellings are used to demonstrate how permit approvals align with the objectives of the *Knox Housing Strategy 2015*.
- **Net new dwellings** are the increase in dwellings possible from approved planning permits, beyond what exists in Knox already. It subtracts demolitions from total new dwellings. Net new dwellings is a measure of growth in Knox's housing supply.

For example, an approved planning permit to replace a detached house with five new townhouses would be counted as five total new townhouses and an increase of four net new dwellings.

⁵ Approved planning permits are indicative of what may be built, but not all planning permits are enacted. Planning permits usually expire after two years (if not commenced), although extensions can be granted for an additional two years.

Map 1. Residential Areas as defined in the Knox Housing Strategy 2015 and the 14 Strategic Investigation Sites



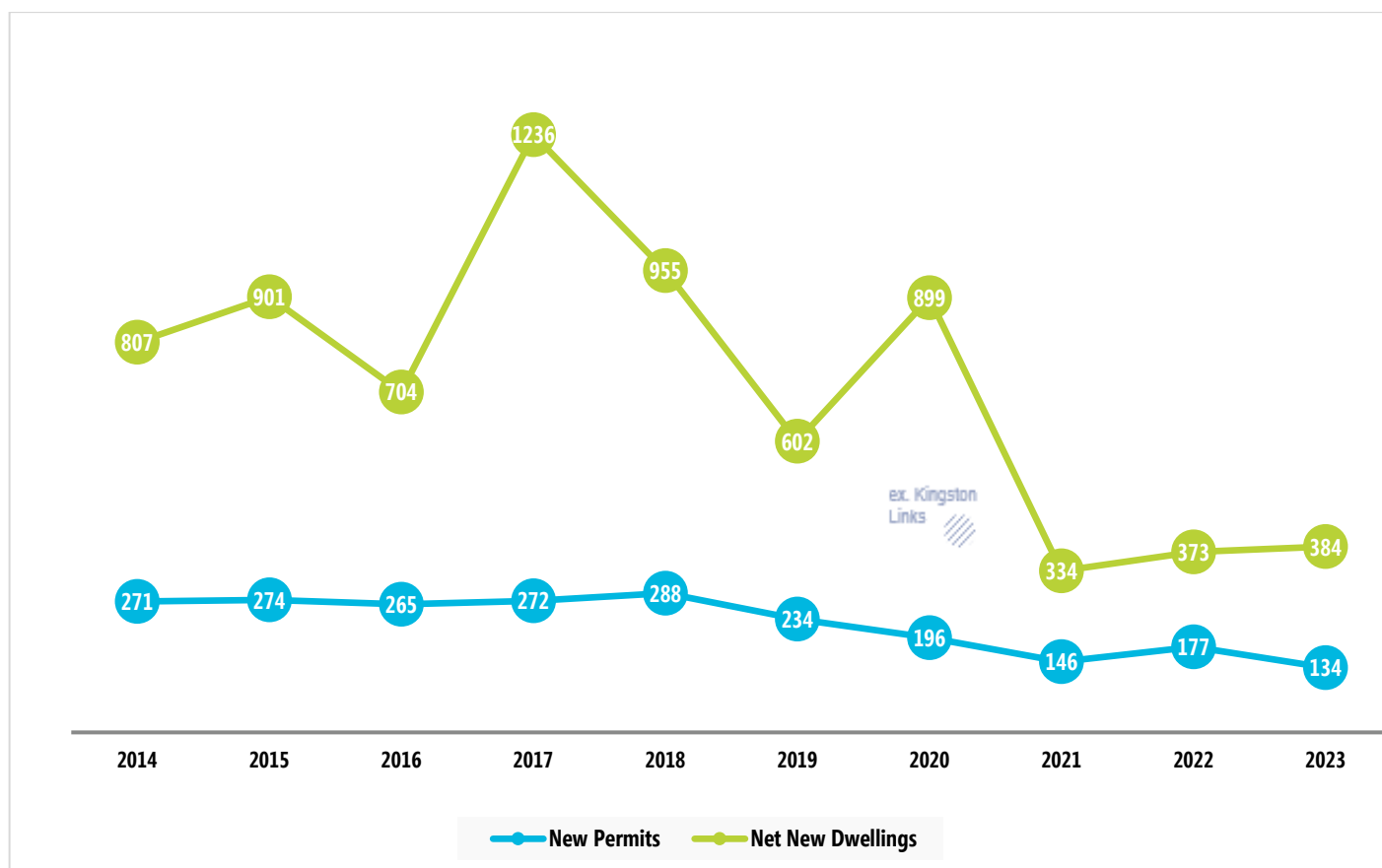
Overview of Planning Permits Approved in 2023

134	planning permits resulting in at least one additional dwelling were approved in 2023. This was the third lowest number since the years following the global financial crisis (2009 and 2010). This decline could probably be attributable to the COVID-19 Pandemic and other factors.
384	net new dwellings are possible from the planning permits approved in 2023, which was slightly above the 2022 figure.
93	proposed demolitions possible from approved permits.
0	beds in residential aged care facilities approved in planning permits in 2023. In 2022, no residential aged care facility was also approved in planning permits.
50%	of net new dwellings possible from approved planning permits were in Bayswater and Rowville. No single dwelling approved in Upper Ferntree Gully and Lysterfield in 2023.
59	apartments approved in planning permits in 2023. This was the highest number of apartments approved in planning permits since 2019, when 105 apartments were approved. In 2022 no apartments were approved in planning permits. Only four apartments were approved in 2021.

From Figure 1 below, the potential net growth in dwellings from planning permits approved⁶ in 2023 was marginally higher than approvals in 2022 and 2021. However, this number is still significantly lower than the net new dwellings approved between 2014 and 2020. There appears to be a gradual growth of net new dwellings being approved in Knox, since the lowest number recorded in 2021.

Figure 1. Approved Planning Permits and possible Net Growth in Dwellings

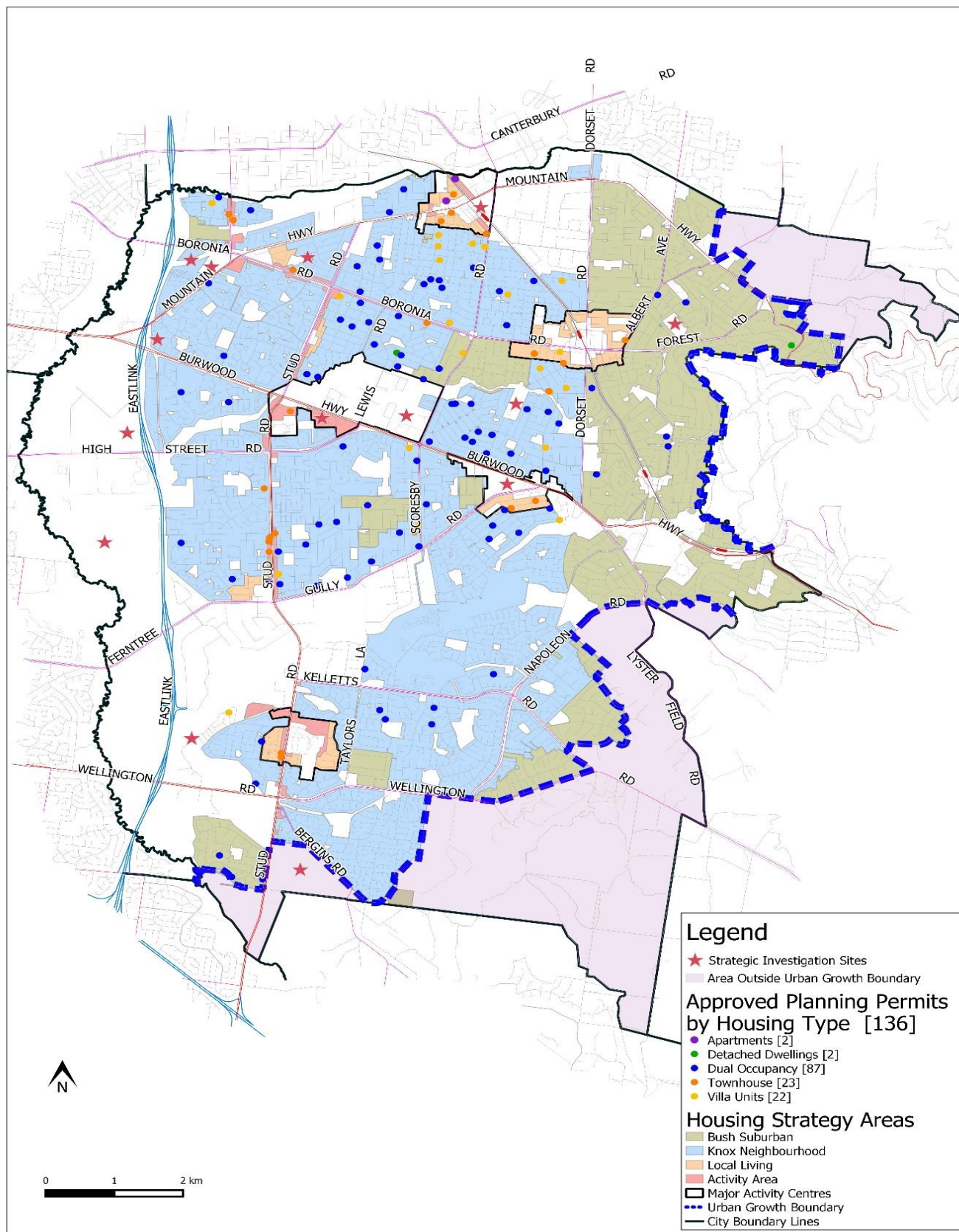
The number of approved planning permits yielding at least one new dwelling, and possible net growth in dwellings from these permits were the third lowest in a decade.



⁶ This includes planning permits approved by Council at the direction of VCAT.

Map 2. Planning Permits Approved in 2023

These permits will yield at least one net new dwelling if enacted.

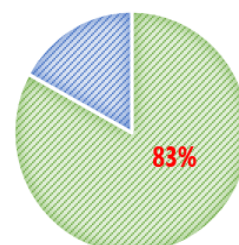


1. A diversity of housing is provided in appropriate locations (Objective 1)

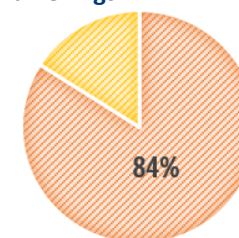
Why is this Objective Important

A diversity of housing is needed to respond to the changes in household sizes and structure Knox is experiencing. Within Knox, 83% of dwellings are detached dwellings with 84% being houses of three bedrooms or more (ABS, 2022). The *Knox Housing Strategy 2015* and the *Council Plan 2021-2025* are addressing this by encouraging the development of diverse types and sizes of dwellings to meet the changing needs of the Knox community. Although the demand for larger detached houses in Knox is likely to continue, having a mix of housing options ensures that Council caters to the needs of present and future residents at all stages of life and of diverse socio-economic status. Council also seeks to protect and improve the “green and leafy” character of Knox that the community values. This requires encouraging the development of diverse housing with increased densities in Activity Areas and Local Living areas (close to transport, shops and services) to provide more housing choices, while discouraging intensive development in Bush Suburban and Knox Neighbourhood areas, to preserve these neighbourhoods’ green and leafy character and areas of environmental significance. In other words, the different types of housing development need to align with the character of the different neighbourhoods. Whilst housing diversity is critically important, the provision of diverse dwelling types should not unduly compromise the character of the neighbourhoods.

In Knox in 2021:



of dwellings are detached dwellings.



**of dwellings had three or more bedrooms.
(ABS, 2022)**

How are we Tracking this Objective?

In 2023, townhouses⁷ accounted for 42% (down from 55% in 2022) of the total new dwellings approved (see Figure 2). Except for 2020, townhouses have always been the dominant housing typology in Knox since 2015. The classification shows that, out of the 24 townhouse developments approved in planning permits, 9 permits were approved for four dwellings or less, and 15 were five dwellings or more. In fact, a third of the 15 permits approved for townhouse development, were for 12 dwellings or more.

The proposed location of approved dwelling applications gives an indication as to whether the preferred sites for the different housing typology is being followed. This report gives a detailed account of this. Table 2 (See p. 14) shows the number of dwellings in approved planning permits and the preferred dwelling typology for each of the four Housing Strategy Areas, as well as areas outside the Housing Strategy Areas and the Urban Growth Boundary. Some villa units were approved in the Bush Suburban and Knox Neighbourhood areas (Lots under 1,000m²), plus townhouses were also approved in Knox Neighbourhood areas (Lots under 1,000m² and Lots over 1,000m²). Although these were not the preferred dwelling types in these areas, the unique characteristics of these sites and/or the proposed developments, could still produce the desired neighbourhood and landscape character outcomes.

⁷ See Attachment 1 for the definition of dwelling type.

The proportion of total new dwellings that were the preferred dwelling type is shown in Figure 3. While Figure 4 shows the total number of new dwellings approved per hectare in each of the four Housing Strategy Areas. See Attachment 2 for the trend in net growth in dwellings, by type, over the past nine years.

Figure 2. Total New Dwellings and Demolitions by Approved Planning Permits

Townhouses are the largest dwelling typology in 2023, it accounted for more than 40% of **total new dwellings in approved planning permits**. All but four **demolitions in approved planning permits** were detached dwellings.

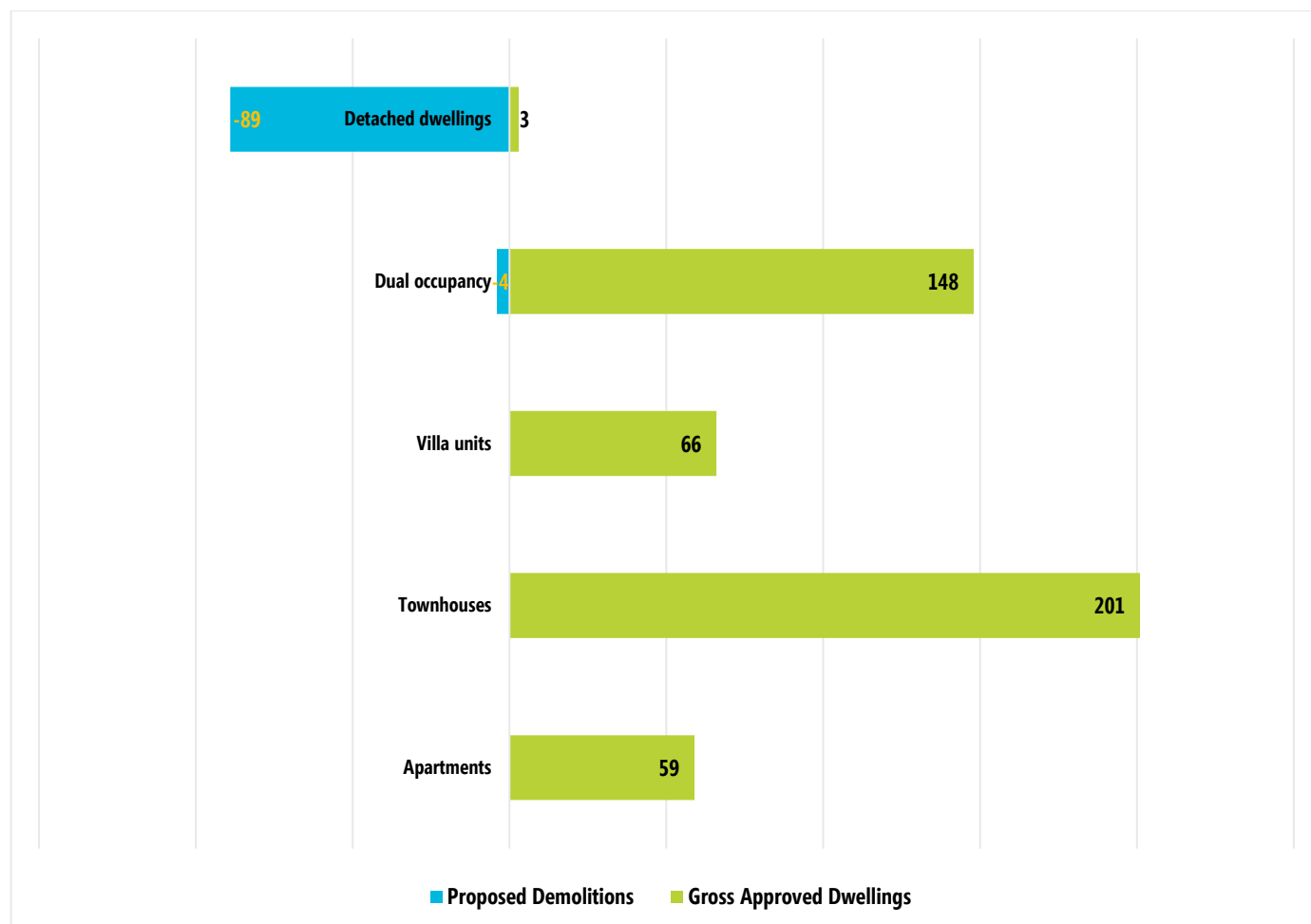


Table 2. Number of new Dwellings by Typology in Knox Housing Strategy Areas




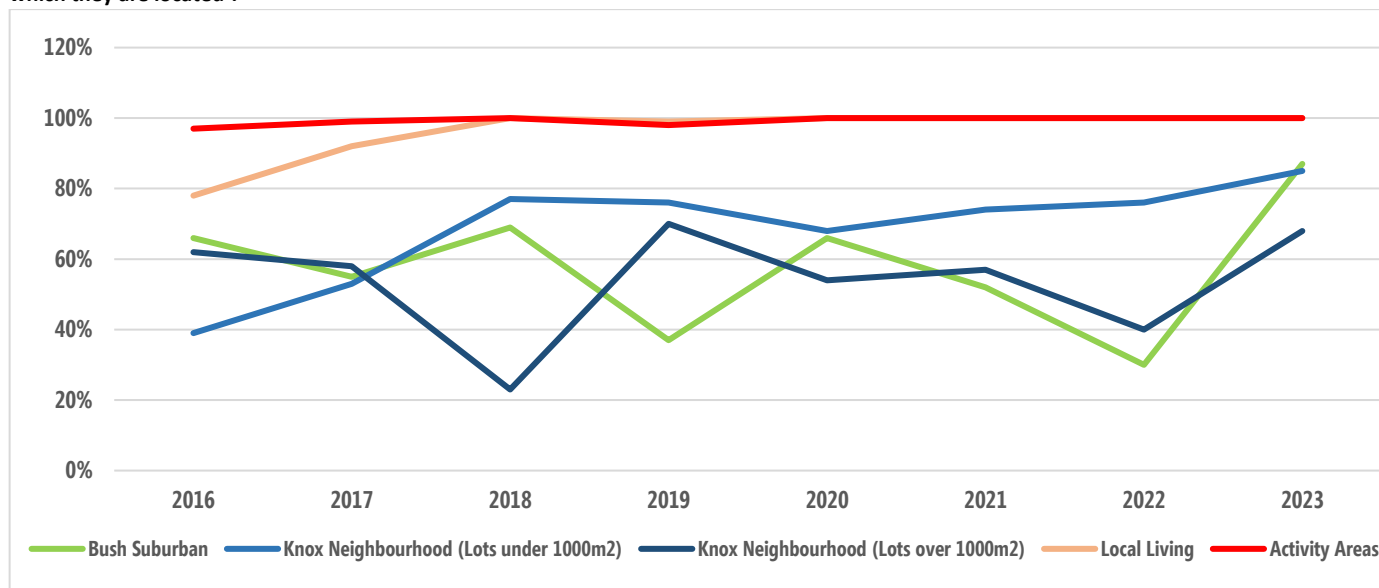
Area Type		Net New dwellings	Total new dwellings	Detached dwellings	Dual Occupancy	Villa units	Townhouses	Apartments /Mixed used
Outside Housing Strategy Areas	All lots - includes rural and other zones	79	79	0	0	0	34	45
Bush Suburban	All lots - min. subdivision	17	23	1	19	3	0	0
Knox Neighbourhood	Lots under 1000m ²	97	149	0	126	20	3	0
	Lots over 1000m ²	54	65	2	1	43	19	0
Local Living	All lots - additional controls	75	88	0	2	0	86	0
Activity Areas	All lots - additional controls from local plans may apply	62	73	0	0	0	59	14
Commercial Areas	All lots - additional controls from local plans may apply	0	0	0	0	0	0	0
 PREFERRED HOUSING TYPE  PERMISSIBLE BUT NOT PREFERRED  NON-PREFERRED HOUSING TYPE								

Figure 3. Preferred Dwellings in Housing Strategy Areas

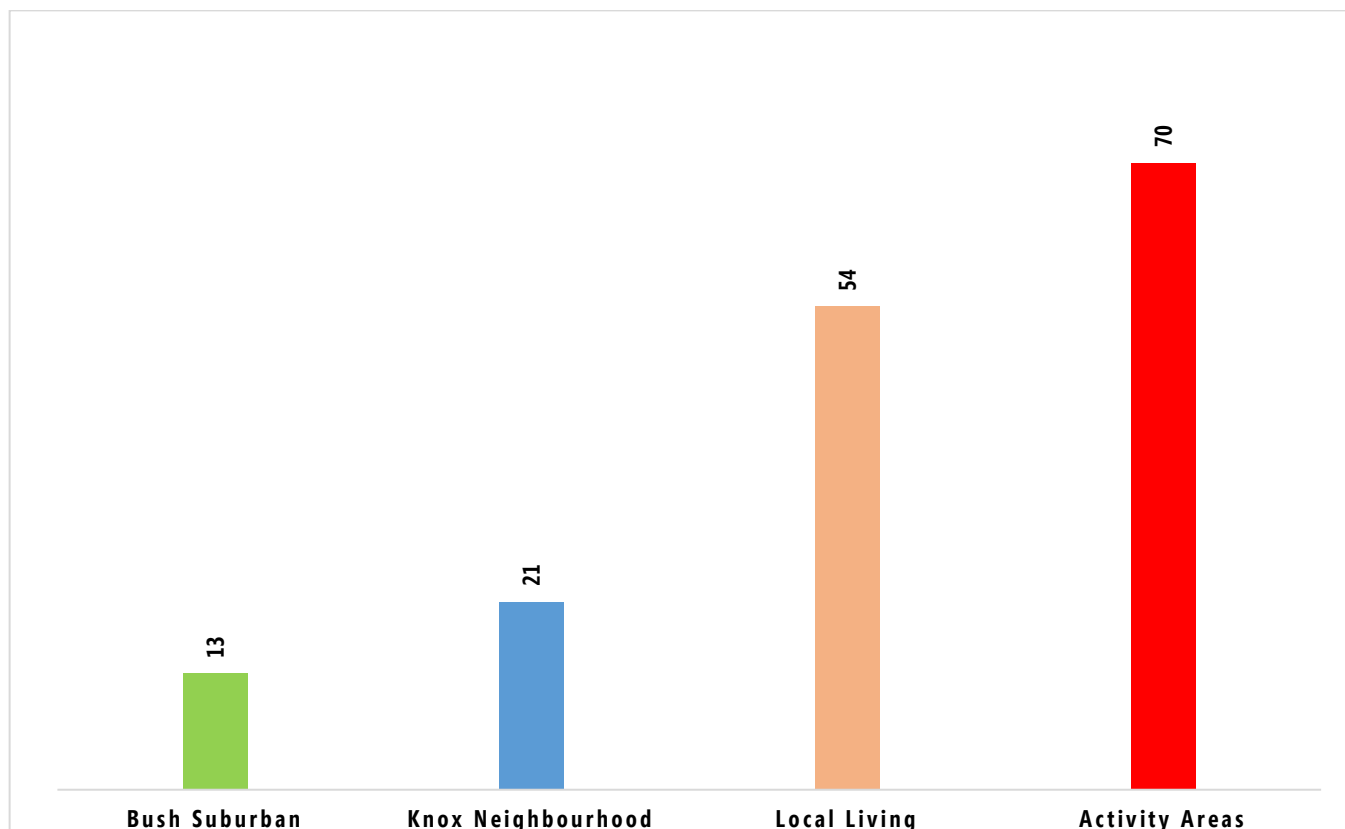
Almost all new dwellings approved in **Local Living** and **Activity Areas** since 2018 have been the preferred type for the Housing Strategy Areas in which they are located⁸.



⁸ It is important to note that the unusually low 2018 figure for large Knox Neighbourhood lots was influenced by a single application for 294 townhouses at the site of the former Wantirna Caravan Park that is inconsistent with the preferred character type for Knox Neighbourhood approved at VCAT after being refused by Council.

Figure 4. Dwelling Units per Hectare in Housing Strategy Areas

The number of total new dwelling units per hectare approved in 2023 was much higher in **Local Living** and **Activity Areas** than **Bush Suburban** area.



The trend in Figure 4 above, aligns with the approach to housing development described in the *Knox Housing Strategy 2015* – where low scale development is encouraged in Bush Suburban and Knox Neighbourhood areas, and high scale development is preferred in Local Living and Activity Areas.

Analysis

Analysis of the planning permits approved in 2023 shows a net loss of detached dwellings. This pattern has continued since 2017, except for 2020 where there was a net growth in detached dwellings (see Attachment 2 for a time series graph). Also, planning permits approved in 2023 recorded the third lowest net loss in detached dwellings since 2015.

Townhouses have been the most common dwelling typology approved in planning permits since 2015. The only break in this trend was in 2020 where the approved subdivision of the former Kingston Links Golf Club site, resulted in approximately 500 new detached dwellings, which effectively put detached dwellings ahead of townhouses for that year⁹. To be specific, 42% of the total new dwellings approved in planning permits in 2023 were townhouses. This is however a decline from the 2022 figure, where townhouses constituted 55% of total dwellings approved in Knox.

Apartments have bounced back in 2023, as no apartments were approved in 2022 and only 4 apartments were approved in 2021. There is a parity between the apartments approved in 2020 and 2023 (in both years, 59 apartments were approved). Similar to 2022, no residential aged care facility was approved in planning permits in 2023. This is a clear departure from the trends in recent years¹⁰.

⁹ Development at Kingston Link is shown in Figure 1. These dwellings were not counted among the 899 approved dwellings in 2020.

¹⁰ There were 230 rooms, 226 rooms and 214 rooms in residential aged care approved in Knox in planning permits in 2019, 2020 and 2021 respectively.

Since 2016, the highest average score of the preferred dwelling typology in Knox was achieved in 2023, where on average 88% of the dwellings approved in planning permits were the preferred typology in their housing strategy areas. The second highest average score was 77% in 2020 and the lowest score was 68% recorded in 2016. This suggests an incremental improvement in dwellings being approved in alignment with their preferred housing strategy areas.

In 2023, the preferred dwellings approved in Bush Suburban areas and large Knox Neighbourhood areas have shown significant improvements over 2022. In fact, in 2023, preferred dwellings approved in the Bush Suburban areas and small Knox Neighbourhood areas have recorded their highest score since 2016.

In line with past trends (except in 2016, 2017 and 2019) all dwellings approved in planning permits in 2023 in Local Living areas and Activity Areas were the preferred dwelling typology.

It is critical to point out that 17% of the proposed development approved in planning permits in 2023 were located outside the four¹¹ main housing strategy areas of Knox, within the Strategic Investigation Sites. As the *Knox Housing Strategy 2015* has no clear guidance as to what dwelling typology is preferred in the 14 Strategic Investigation Sites identified in the *Knox Housing Strategy 2015*, a future Council initiative would be to clearly define the preferred dwelling topology in these sites. This will be addressed as part of the ongoing review of the *Knox Housing Strategy 2015*.

The planning permits approved in 2023 revealed that the number of dwellings per hectare in the housing strategy areas will produce fewer dwellings per hectare in Bush Suburban and Knox Neighbourhood (see Figure 4 for more details). This aligns with 2022 and the *Knox Housing Strategy 2015*, resulting in higher density dwellings in the Local Living and Activity Areas, and lower density development in Bush Suburban areas and Knox Neighbourhood areas. This respects the neighbourhood character of these areas.

In practical terms, a dwelling in a Bush Suburban area is on a larger parcel of land (~797m²) compared to a dwelling in Activity Areas (~142m²)¹². For the associated graph see Figure 17 under Attachment 2. This provides the required space for canopy trees to be retained or planted in the Bush Suburban areas, compared to Activity Areas or Local Living areas. Areas of biological significance will also be protected in the Bush Suburban areas as envisaged by the *Knox Housing Strategy 2015*.

It is worthy to note that between 2022 and 2023, the number of dwellings per hectare have increased by between 4% and 8%, in the Activity Areas, the Bush Suburban and Knox Neighbourhood areas. However, the dwelling density per hectare in the Local Living areas increased markedly by 38% within the same period. If this margin of growth in dwelling density continues in the Local Living areas, the dwelling density per hectare is more likely to surpass the density in the Activity Areas within a decade.

¹¹ Although we have four housing strategy areas, Knox Neighbourhood area is sub-divided into Small (Lots under 1,000m² and Large (Lots over 1,000m²). Different dwellings are therefore preferred in the two.

¹² In 2023, the number of square metres per dwelling unit are as follows: Bush Suburban (797m²); Knox Neighbourhood (467m²); Local Living (186m²) and Activity Areas (142m²).

2. Residential development better responds to the community's needs, and allows people to age-in-place (Objective 2)

Why is this Objective Important?

Knox needs more small houses (one to two bedrooms), now and in the future, to accommodate an increasing number of smaller households. This is necessary because almost 50% of households in Knox will be couple only and lone person households by 2031 ([Forecast.id](#), 2022). This forecast implies that couple only and lone person households will exceed households with children. To address this, the *Knox Housing Strategy 2015* proposes to align the mix of available dwellings with the current and future housing needs of the community – by directly encouraging the development of more small dwellings that can meet the housing needs of small households and improve affordability. Affordability is particularly important as larger detached dwellings are becoming increasingly out of reach for a greater percentage of new homebuyers. Smaller houses tend to be relatively less expensive to buy and maintain, which provides more flexibility and choices for young people looking to get into the housing market, elderly residents planning to downsize, and anyone else looking to reduce their expenditure on housing or the cost of living.



By 2031 almost 50% of households in Knox will be couple only and lone person households
(Knox Forecast.id, 2022)

If a substantial number of smaller houses are provided in Knox, the housing needs of many residents will be met. It is particularly crucial that Knox residents can remain part of their community as they age (aging-in-place), rather than be pushed to relocate or find suitable and affordable accommodation outside the municipality. The provision of smaller dwellings and residential aged care homes, contribute to making housing available to homebuyers seeking smaller dwellings and the elderly, respectively.

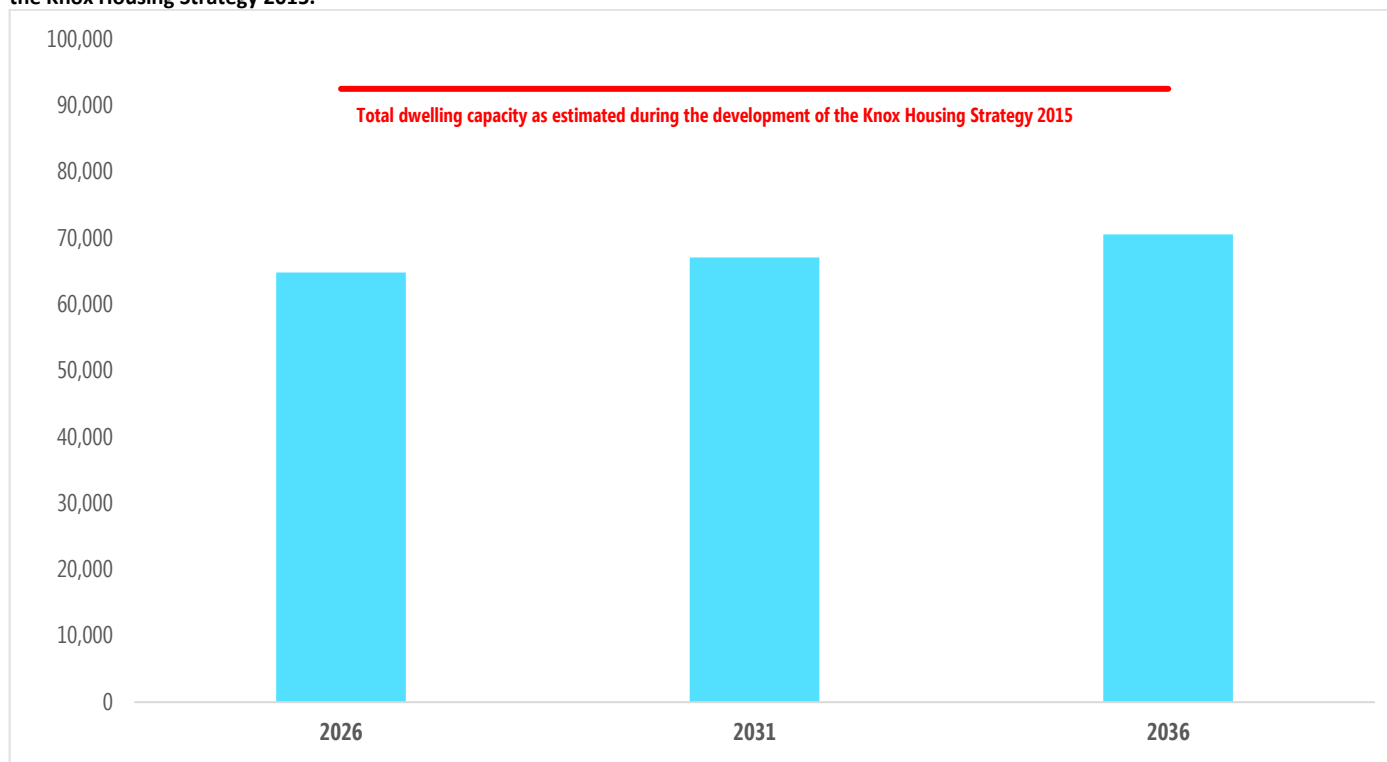
How are we Tracking this Objective?

Knox can benefit by understanding its capacity to accommodate more dwellings in the future. Furthermore, the *Knox Housing Strategy 2015* estimated that theoretically, Knox had the capacity for 36,362 additional dwellings (in addition to the existing dwellings in Knox as of 2015) giving a total of 92,500 dwellings if each lot was developed to its full capacity within the constraints and parameters of the Knox Planning Scheme as of 2015. Based on the Victorian Government's *Victoria in Future* (VIF) projections¹³ ([DTP, 2023](#)), future housing growth can be accommodated within the estimated capacity in the *Knox Housing Strategy 2015* until 2036, and probably beyond (see Figure 5). These capacity estimates are based on broad assumptions made within the policy context of the *Knox Housing Strategy 2015*, the [Knox Residential Design Guidelines 2015](#), the *Knox Planning Scheme* and other relevant Council plans or documents. Therefore, these approximations could change if any of the documents that underpinned or informed the projections were to be revised. As the *Knox Housing Strategy 2015* is currently being reviewed, some future changes may occur.

¹³ VIF dwelling projections are applied here as they are calculated using a top-down approach. In contrast to the forecasting method employed by id Consulting Pty Ltd (abbreviated as .id in some sections of this report) on behalf of Council, in which only local factors are taken into account, the VIF projections include assumptions about state level growth and allocate this to local government areas.

Figure 5. Forecast Dwelling Capacity in Knox

The current VIF forecast dwelling capacity in Knox can be accommodated within applicable planning provisions based on the estimated capacity in the Knox Housing Strategy 2015.



To analyse the projections against reality, forecasted dwelling growth needs to be looked at against actual housing development data in recent years. In this respect, one effective method of assessing the actual number of new dwellings built in Knox against the forecast housing figures, is to analyse the data on building permits in Knox. Building permits affirm that housing development plans and specifications fully comply with building regulations and pave the way for onsite building work to commence. In this purview, building permits are therefore a more suitable and reliable indicator of actual dwelling growth than planning permits. This is because planning permits primarily show what could possibly be built, in the next two-to-four year window, if approved plans are duly enacted.

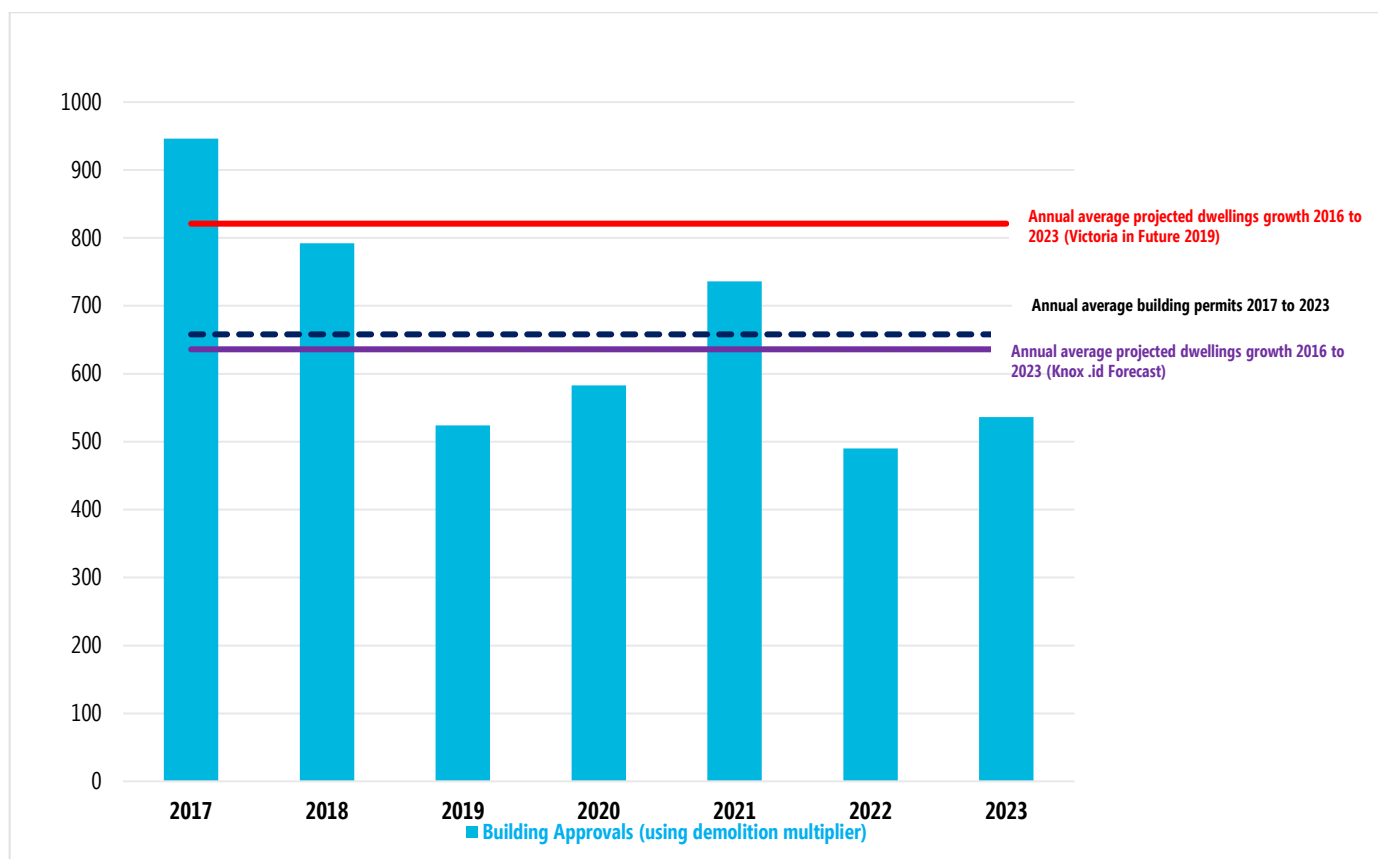
Building approvals data from the Australian Bureau of Statistics (ABS) demonstrates that building permits were granted for the construction of a total of 5,530 dwellings in Knox between 2017 and 2023 (ABS, 2024). This figure is equivalent to an annual average of 790 dwellings per year. However, this building approval figure is misleading as it overestimates the real increase in dwellings because the ABS building permit data does not take into consideration demolitions¹⁴. To determine the actual number of dwellings to be built, it is therefore essential to estimate the number of dwellings that were demolished within the same period. To estimate the number of houses that were demolished to make space for the new dwellings in building permits, the correlation between new dwellings and demolitions in approved planning permits has been used as a proxy in this report.

¹⁴ But from the planning permit we know that some existing dwellings are demolished for the construction of new ones.

In Knox there was one dwelling demolished for every six dwellings approved in planning permits over the last seven years, that is 2017 to 2023. Applying this rate to building permits produces an annual average of 658 new dwellings per year, constructed within Knox between 2017 and 2023. It is important to comprehend that this figure falls between the forecast of 821 new dwellings annually by the Victorian Government in the *Victoria in Future* projections and the forecast of 636 new dwellings per year calculated by id Consulting Pty Ltd¹⁵ on the Council's behalf (See Figure 6)¹⁶. This suggests that the estimate applied in this report is reliable¹⁷.

Figure 6. Annual Average Building Permits Growth versus Projected Dwellings Growth in Knox

The number of new dwellings based on building permits (adjusted to account for demolitions) in Knox remains broadly in line with dwelling growth projected by the Victorian Government and an independent forecast projection derived on behalf of Council.



The ABS Census (2021) data revealed that lone person and couple only households are almost half (45.7%) of all households in Knox. Yet, over the past six years, dwellings of four or more bedrooms were more prevalent in approved planning permits than other dwelling sizes. In 2023, for instance 68% of approved net new dwellings were large dwellings – three or more bedrooms (See Figure 7). This is an improvement over 2022, where over 80% of net new dwellings were large dwellings.

In terms of actual numbers, a net total of 122 small dwellings (two bedrooms or less) were approved in planning permits in Knox in 2023. This represents 32% of approved net new dwellings. Compared to previous years, this is the fourth lowest figure since 2016 (Figure 8), but a marked increase over 2022.

¹⁵ id Consulting Pty Ltd is abbreviated as .id in some sections of this report.

¹⁶ The significant alignment between building permit data and the dwelling forecasts prepared by the Victorian Government on behalf of Council is anticipated because building approvals are taken into consideration in computing these forecasts.

¹⁷ Using the planning permits to demolition ratio and transferring that to building permits.

Figure 7. Net Growth in Dwellings by Bedrooms

The planning permits approved in 2023 would see 32% of net growth, being small dwellings (two bedrooms or less).

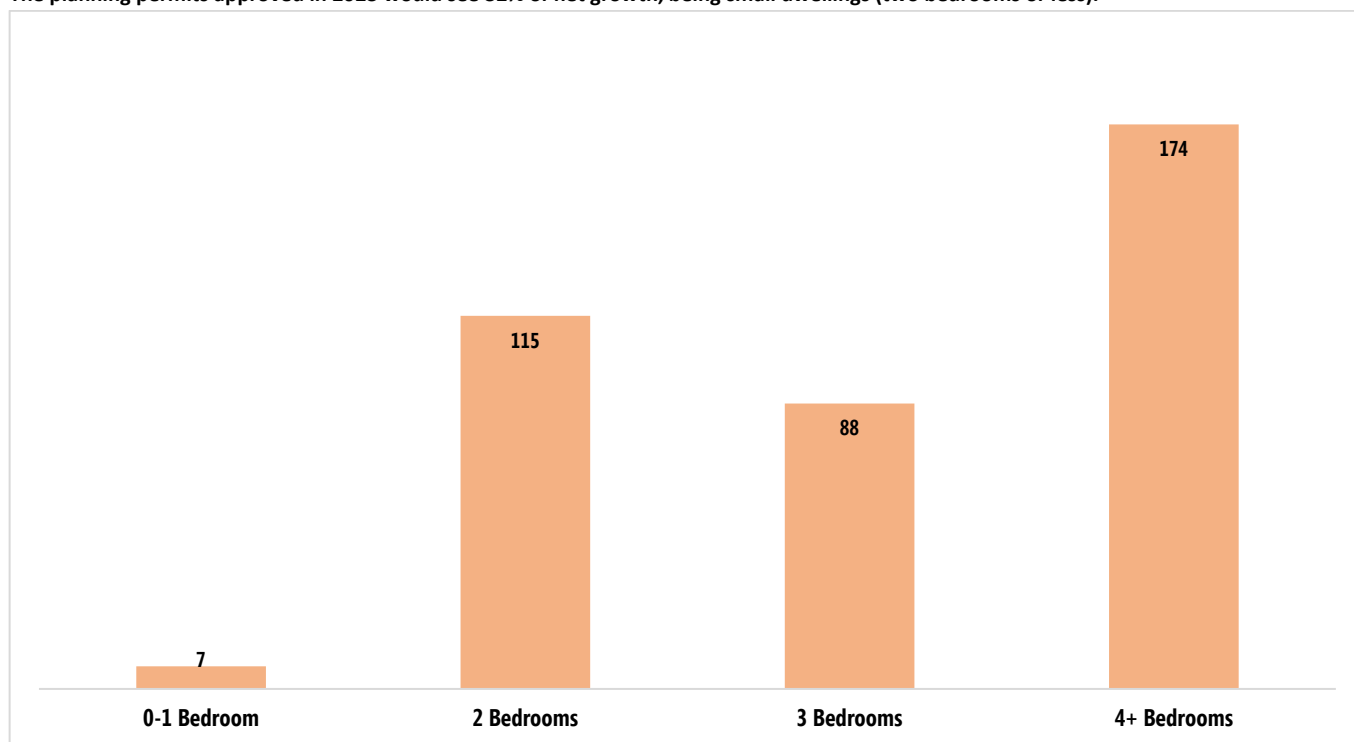
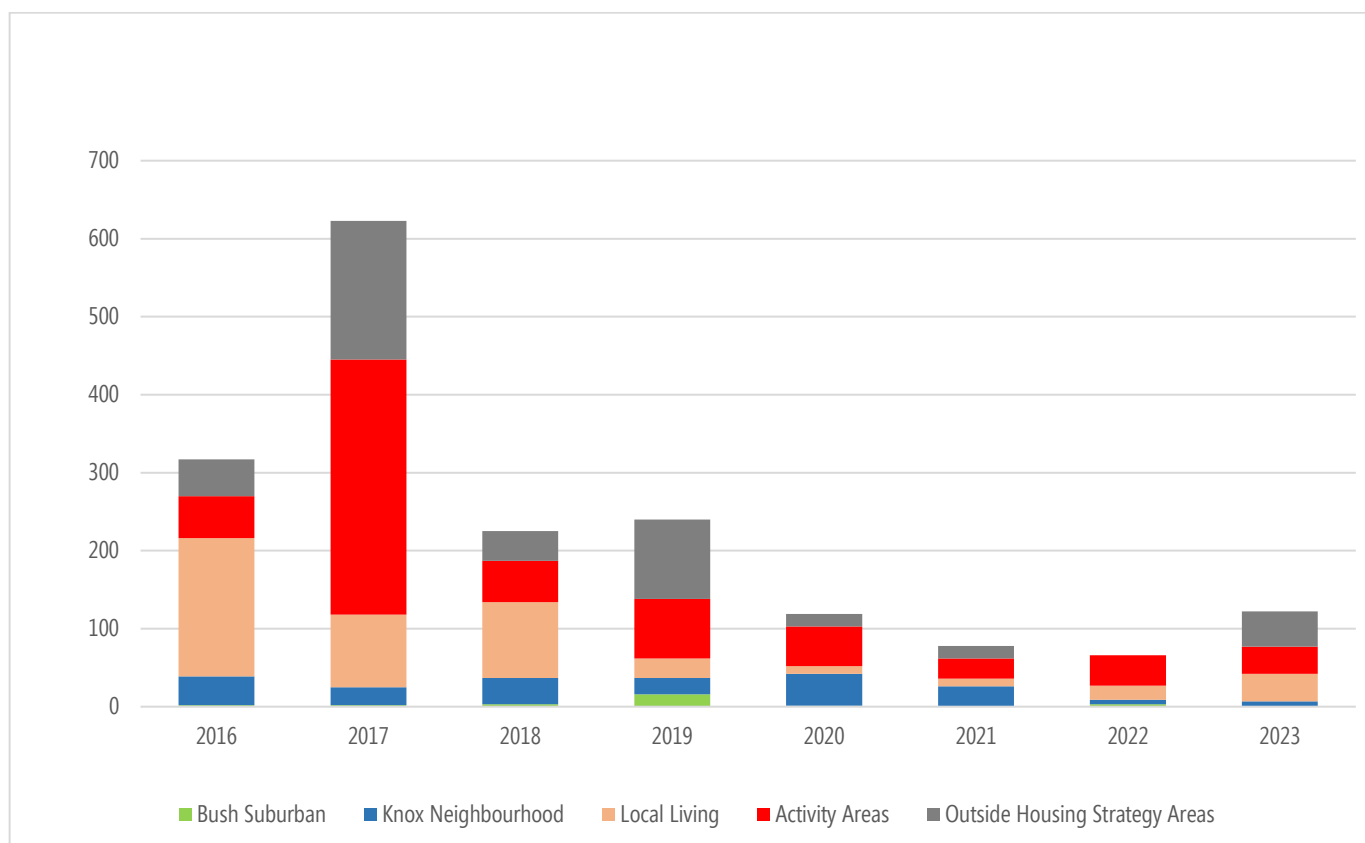


Figure 8. Net Growth in Small Dwellings

Over the last eight years, approved planning permits in 2023 produced the fourth lowest number of net new small dwellings (two bedrooms or fewer)

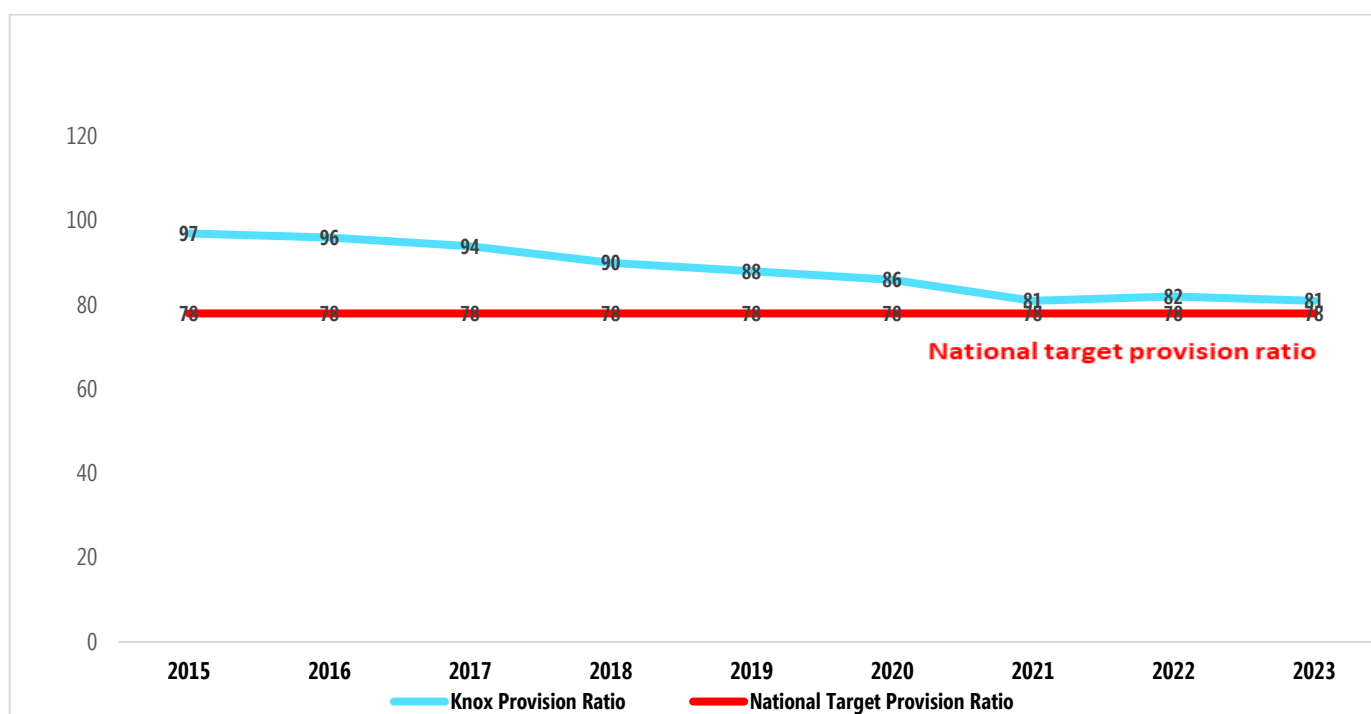
– Apart from 2017, the net growth in small dwellings has consistently been lower than forecast growth for small households.



Residential aged care facilities play a vital role in providing dignified accommodation for the elderly. As Knox's population continues to age, the provision of residential aged care facilities to accommodate the increasing population of senior citizens will be critically important. The available data showed that as of June 2023, Knox had 1,618 places, usually a single room with an ensuite (AIHW, 2024). Updated population estimates by the ABS showed that the number of people aged 70 years and over in Knox was 20,197 (ABS, 2023). This gives a ratio of 81 places in residential aged care facilities per 1,000 residents aged 70 and above (See Figure 9). The 2023 ratio, and that of 2021 were the lowest compared to previous years, since 2015. Meanwhile, the Australian Government's target provision ratio for operational residential aged care places continues to be 78 places per 1,000 people aged 70 years and over (ACFA, 2021, p iv, 17)¹⁸. Therefore, Knox has marginally exceeded this target in 2023 by 3 residential aged care places (See Figure 9). In fact, the target has been exceeded since 2015. While the 2023 ratio is a positive outcome, Knox is very close to the minimum national provision ratio.

Figure 9. Residential Aged Care Places in Knox in 2023

There were approximately 81 residential aged care places in Knox per 1,000 residents aged 70+ in 2023



Social housing provides affordable housing for low-income households. Knox has 1,522 social housing dwellings as of June 2023¹⁹ (Homes Victoria 2023). This amounts to an increase of 19 dwellings between July 2022 and 30th June 2023. Comparatively, this is a measurable improvement over the previous years. This is the case, as Knox rose by only four social housing dwellings between July 2021 and 30th June 2022. Using DFFH's accessible data on social housing and affordable housing lettings, the deficit in social and affordable dwellings in Knox was estimated to be 584 in 2023. In

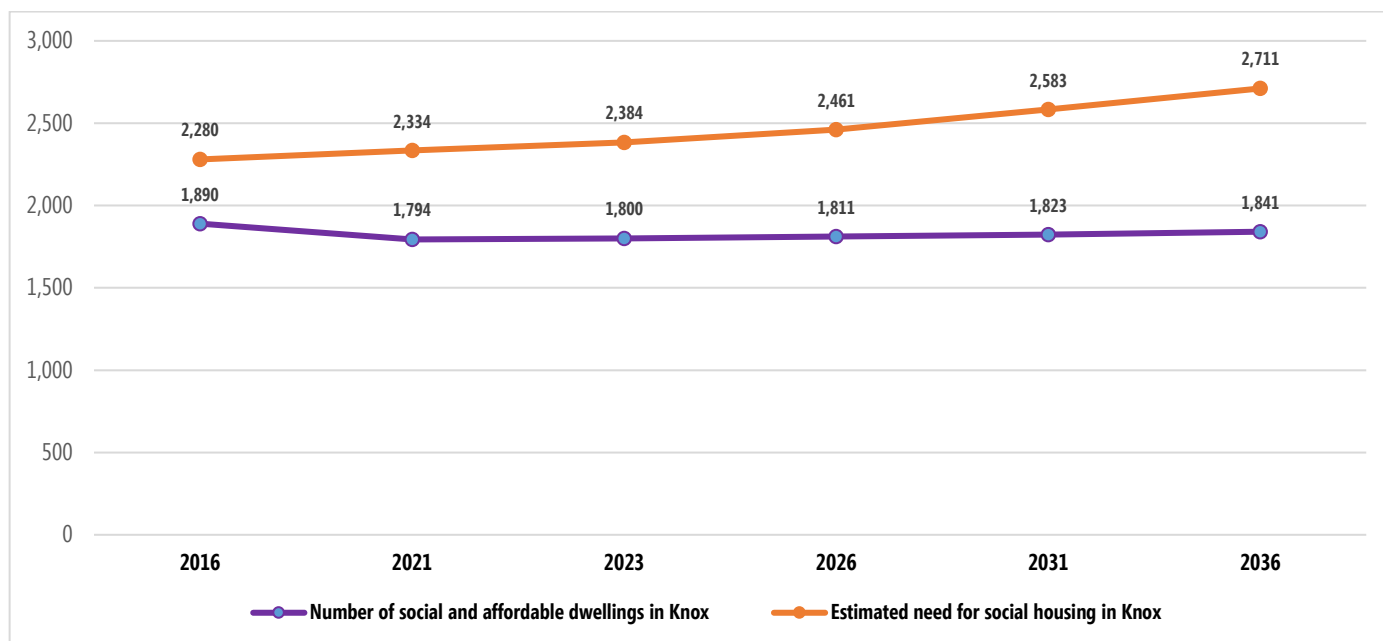
¹⁸ The national target for home care is 45 per 1,000 residents 70 years and over. However, the home care target ratio has already been exceeded, reaching 53.6 mainstream home care packages available for every 1,000 people aged 70 and over as of 30 June 2020 (ACFA, 2021). The residential aged care places per 1,000 people aged 70 years and over was reduced from 86 places per 1,000 residents aged 70 and over to the current 78 places per 1,000 people 70 years and over. This report has cited the most current [ACFA report](#).

¹⁹ The Department of Families, Fairness and Housing (DFFH) notes that more than 6,300 social housing dwellings are being completed or are under way across Victoria. If these homes are completed the social housing stock in Knox will increase. This is because 159 dwellings funded by Homes Victoria is being built in Knox (KCC, 2023). But the updated data at the end of February 2024 on [Homes Victoria website](#) shows that 149 houses were funded in Knox; 29 have been completed and 120 are underway.

comparison to 2022, this is an increase of 26 dwellings²⁰. This growing trend is projected to continue without significant interventions in the provision of social and affordable housing in Knox (See Figure 10).

Figure 10. Gap between Supply and estimated Need for Social and Affordable Housing in Knox

There is a growing gap between **supply** and **estimated need** for social and affordable housing in Knox.



Housing affordability is fundamentally determined by rental and house prices. Within the twelve months prior to June 2023, the median house price was \$946,000 and the median unit price was \$651,000 ([Knox Housing .id](#)). This means that only 65 (13%) of the 488 dwellings²¹ sold in Knox were considered affordable to households within the very low and low-income brackets²². Similarly, only 1,636 (36%) of the 4,545 rental properties in Knox were affordable to households in the very low and low-income groups (See Figure 11). Thus, the affordability of housing and rental properties has slightly worsened as compared to 2022 where 14% of housing and 38% of rental properties were affordable to people of the same income brackets respectively.

²⁰ The gap between the 2021 and 2022 increased by 18 dwellings.

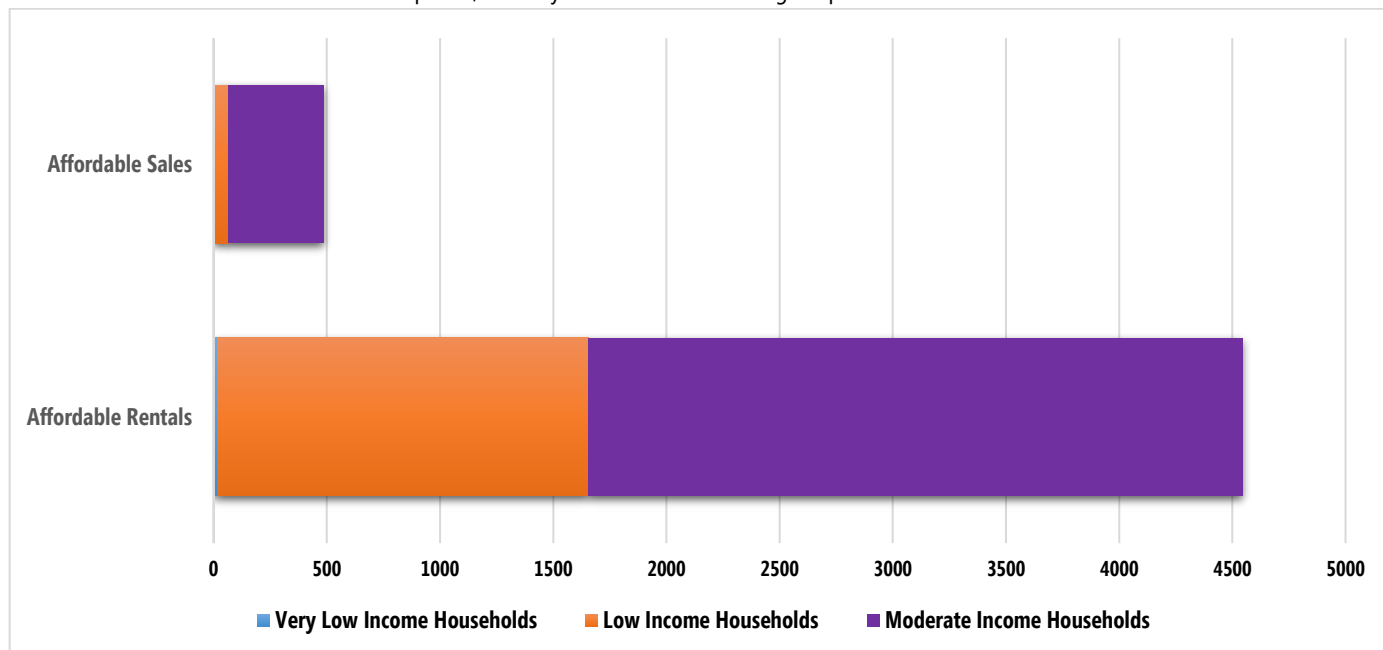
²¹ The 488 dwellings were considered affordable to the very low, low and moderate-income brackets. Thus, the moderate-income group could afford 87% of the houses or units sold within Knox within the period under consideration.

²² This Report follows the Department of Infrastructure and Knox City Council in defining Affordable Housing as a "Well-located housing, appropriate to the needs of a given household, where the cost (whether mortgage repayment or rent) is no more than 30% of that household's income. Exceeding the mark places one under 'housing stress,' particularly in the lower 40% of the income distribution scale" (Department of Infrastructure, 2002, p.182; Knox City Council, 2015, p.6). In this report, very low income is household income of less than \$53,900 per annum. Low income is a household income of between \$53,900 to \$86,230 per annum. Moderate income households ranges from \$86,230 to \$129,350.

Figure 11. Affordable Sales and Rentals in Knox in 2023

In the year preceding June 2023, only 1 sale and 19 rentals were affordable to households on a [very low-income](#).

[Low-income](#) households had more rental options, but very few affordable dwellings to purchase.



Analysis

The updated Victorian Government's population and dwelling projections (*Victoria in Future - VIF, 2023*) showed that it is possible for Knox to accommodate more population and dwellings. To be specific, the Victorian Government's updated dwelling growth for Knox from 2026 to 2036, as captured in the VIF, can be fully accommodated within the estimated dwelling capacity that the Knox municipality can house as outlined in the *Knox Housing Strategy 2015*. Based on the projected population, by 2036 there will be a difference of nearly 14,000 people between the updated population forecast by the Victorian Government and id Consulting Pty Ltd (in June, [2023](#)). This disparity might be due to shifts in the population in many Melbourne suburbs across Australia, because of the recent COVID-19 Pandemic. Interestingly, the higher estimate of 191,530 people documented in the Victorian Government VIF, can be accommodated almost entirely (96%) in Knox by 2036, if Knox is developed to its full capacity (92,500 dwellings) by 2036, and if each dwelling accommodates at least two residents on average.

Residential dwelling approvals in Knox showed positive signs of recovery, following the lowest building permit approvals in 2022, compared to the previous five years. This is good news for Knox as the media ([that used ABS data](#)) reported that Victoria had the lowest building approvals compared to the previous 10 years. This was foreshadowed by the Victorian Building Authority – VBA (2022) as it noted that building approvals increased during the 2021-2022 financial year for other building activity, but residential building approvals reduced as compared to the 2020-2021 financial year across Victoria. Although Knox's building approval numbers have rebounded, it may take a few years for approved building permits to be translated into dwellings on the ground. Therefore, the effects of the low building approvals in 2022, might still translate into low building activity in Knox in the next couple of years.

Growth in small dwellings, two bedrooms or less, has fallen behind the rising numbers of small households in Knox. It is anticipated that lone person and couple only households will constitute nearly 50% of the Knox population by 2031 (ABS, 2022). From the planning permits approved in 2023, approximately nearly one-third (122 dwellings of 384 net new dwellings) of the dwellings approved were small dwellings. Despite this, the 2023 figure is a 14% improvement over the 2022 record of 18% small dwellings approved in Knox. A trend analysis shows that in years where larger subdivisions were approved in planning permits, a larger number of smaller dwellings were approved. When

apartments were approved in significant numbers in planning permits in a particular year (i.e. 2019, 2020 and 2023), this increased the number of smaller dwellings. While 59 apartments were approved in 2023, no apartments were approved in the planning permits in 2022. If the approval of apartments could be sustained, the rising gap between supply and demand for small dwellings in Knox, will be gradually reduced in the medium to long term.

Just like 2021, no small dwelling was approved in the Bush Suburban area in 2023. Small dwellings have consistently been approved in low numbers in the Bush Suburban areas. In contrast, over 85% of small dwellings are in the Activity Areas and Local Living areas, in most years²³. These areas have nearly an equal number of small dwellings and usually have greater proximity to shops and public transport. This makes these locations ideal for the elderly and lone person households. The provision of high-density dwellings (in the form of apartments/small dwellings) in the Activity Areas and Local Living areas is in line with the objective of the *Knox Housing Strategy 2015*.

The provision ratio regarding residential aged care facilities in Knox has marginally exceeded the Australian Government's national target. Although Knox is currently still above the minimum target, aged care places in Knox have been declining progressively since 2015. This suggests that within the next decade, Knox could fall below the minimum target provision ratio of 78 residential aged care places per 1,000 people aged 70 and over, if the current number of aged care places remains unchanged. This is because people aged 70 and over in Knox are increasing. For example, people aged 70 and over increased from 10.2% in 2016 to 12.4% in 2021 (ABS, 2022).

In the past two years (2022 and 2023), no residential aged care facility was approved in a planning permit. However, a few residential aged care facilities were approved in planning permits within the last five years. These include a 214-bed residential aged care facility approved in 2021, and three other residential aged care facilities approved in 2019 and 2020. If these facilities are developed soon, Knox could maintain its position above the national minimum provision ratio for residential aged care places. To ensure that Knox does not fall below the Australian Government minimum provision threshold for residential aged care places within the next decade, Council may need to work with private developers of aged care facilities, to address the landscape and environmental concerns that previous proposed residential aged care facilities posed (especially in 2022 planning permits applications).

A significant share of a household's budgets goes toward housing costs. Therefore, housing affordability is a major determinant of both the cost of living and the standard of living. In Knox, very few dwellings and units were affordable to households in the very low-income brackets (below \$53,900 per annum) to rent or purchase. This was the case, because a paltry 19 rentals and 1 property sale were affordable to households within the 'very low income' brackets in 2023 ([Knox Housing.id](#)). Low-income households (\$53,900 to \$86,230 per annum) have slightly more rentals options, however only a limited number of property options to purchase. In the 12 months prior to June 2023, low-income households could only purchase approximately 64 of the 488 properties on the market ([Knox Housing.id](#)). As of 30th September 2023, the Victorian Housing Register recorded 3,450 Priority Access and Register of Interest applicants who were on the waiting list for social housing within Knox²⁴ ([Homes Victoria, 2024](#)). This number had declined by 559 applicants, from 4,009 in December 2022. The high number of applicants for social housing is a testament to the housing affordability challenge (Pawson, 2022). The current housing affordability challenge has largely pushed many potential renters out of the rental market in Knox.

²³ In 2023, small dwellings were only 57% in Local Living and Activity Areas. This could be because almost 37% of the small dwellings were approved outside the Housing Strategy Areas (Strategic Investigation Sites).

²⁴ It is important to note that *as applicants can select up to five location preferences; a single applicant can therefore be counted anywhere from one to five times in the data set*. On average, an applicant selects 2 to 3 location preferences.

Knox has responded to the housing affordability predicament through a new housing strategy. The central focus of the *Knox Social and Affordable Housing Strategy and Action Plan 2023-2027* is to expand the supply of social housing²⁵. The provision of more social housing could partly address the housing affordability challenge. However, the gap between social housing demand and supply is continuing to widen in Knox (see Figure 10). The *Knox Housing Strategy 2015* has highlighted that Council could influence the social housing market through a partnership with social housing providers. It also signals that although it is difficult to influence the private housing market, opportunities could be explored by Council to define a minimum supply of social or affordable housing, to be constructed by private developers. In addition, further negotiating with permit applicants whose applications would produce a large number of dwellings, could increase a developer's contribution to the social and/or affordable housing supply. In fact, a 5% voluntary contribution to social housing by private developers has been proposed in the *Knox Social and Affordable Housing Strategy and Action Plan 2023-2027*. If these proposals are fully explored and implemented, the provision of social and affordable housing could improve within Knox.

The rate at which new social housing dwellings are added to the current stock within Knox, could be a pointer to how soon the deficit could be reduced. The social housing tally in Knox grew by 19 dwellings between 2022 and 2023. This is a noticeable improvement, since only four social housing dwellings were added to Knox's stock between 2021 and 2022. Excitingly, the Department of Families, Fairness and Housing indicates that over 6,000 social housing projects are either completed or being built in Victoria (DFFH, 2022). It has been identified in the *Knox Social and Affordable Housing Strategy and Action Plan 2023-2027*, that 159 homes financed through Homes Victoria are under development in the Knox municipality²⁶. If these houses are completed, the social housing stock in Knox will improve substantially. It is also important to note that additional opportunities equally exist for new social housing provision in Knox. These include a proposal to negotiate with developers for a voluntary contribution to social housing in private land developments. Again, as part of planning applications, negotiating with permit applicants whose applications would produce large dwellings to contribute to social and/or affordable housing supply in the Knox local government area, are some of the other opportunities highlighted.

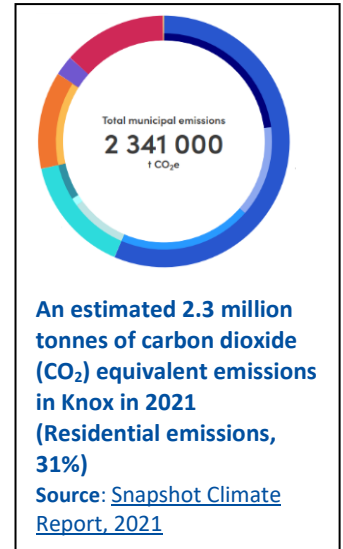
²⁵ The *Knox Affordable Housing Action Plan 2015-2020* equally highlighted the need to increase social and affordable housing in Knox: <https://tinyurl.com/mr3haub5>

²⁶ The 159 (slightly revised down to 149) homes are likely to be Knox's share of the 6,300 social housing projects under development across Victoria.

3. Energy, water, and waste efficient design are increased in dwellings (Objective 3)

Why is this Objective Important?

The Knox [Climate Response Plan 2021 – 2031](#) notes that 37% of emissions come from residential and commercial stationary energy, which mainly refers to the consumption of electricity. Therefore, more sustainable and efficient housing is needed in Knox to improve the comfort for residents, reduce emissions and their impacts on the environment, and minimise living costs. In this regard, the adoption of acceptable Environmentally Sustainable Design (ESD) standards in new residential buildings would improve efficiency in energy and water usage, as well as ensure that dwelling designs are waste efficient. This will deliver better quality, more accessible and more sustainable housing in Knox. These actions will directly minimise the adverse impact on the environment and the ecology, and substantially mitigate the effects of residential development on the changing climate. The Knox *Climate Response Plan 2021–2031* provides some strategies to making dwellings in Knox more environmentally friendly, climate responsive and sustainable.



How are we Tracking this Objective?

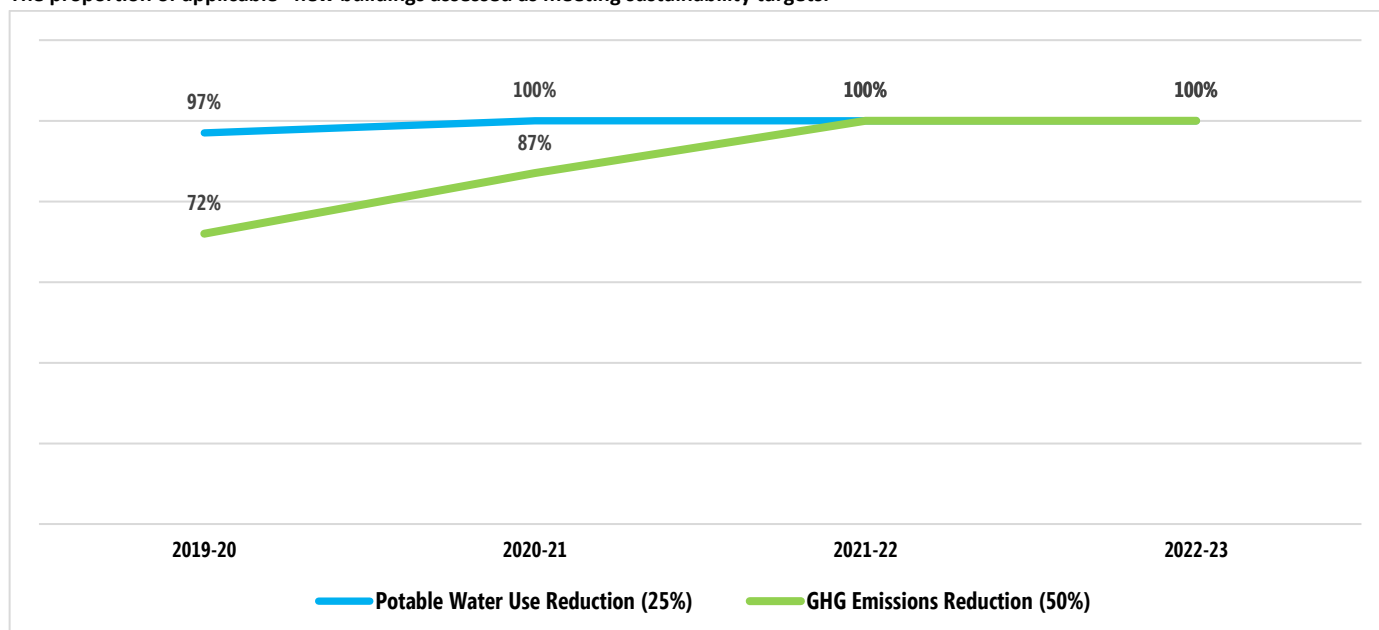
Properly designed and resource efficient buildings and developments are critical to creating more sustainable and liveable cities. Council seeks to make Knox a sustainable and climate responsive municipality. Through the *Knox Housing Strategy 2015*, Council is encouraging all residential developments to utilise sustainable design features, including water sensitive urban design. In fact, Council requires that all developments of two or more dwellings, undergo a Sustainable Design Assessment (SDA) before a planning permit is issued. This measure is to ensure that new residential buildings meet the satisfactory environmental performance and efficiency standards, in relation to water usage, greenhouse gas (GHG) emissions, among other key sustainability standards. In specific terms, the SDA report must encapsulate two key indicators of sustainability, these being measures for reducing potable water consumption and GHG emissions. From the Built Environment Sustainability Scorecard (BESS) data for the 2022-2023 financial year²⁷, the best practice target of a 25% reduction in potable water consumption and the greenhouse gas emissions target of a 50% reduction, was achieved in all cases²⁸ (100%) (See Figure 12).

²⁷ BESS is an initiative of the Council Alliance for a Sustainable Built Environment (CASBE); this data is current to 30 June 2023. It is important to clarify that this is the first time BESS data is directly reported more broadly in the Housing Monitoring Report. Previous Reports have used Knox's internal ESD data. However, this is currently unavailable fully for the 2022-23 financial year. We have reported this data in this year's Report because the Knox ESD Team notes that "We have done a general cross check with internal data to make sure it has a number in line with what our internal data says." The ESD Team further acknowledges that "The data in this report (BESS) is not perfect, as there are a few projects that were done but not approved, and some projects that were approved, but have probably not yet been built. I would say the BESS report is fit for purpose for our aim of reporting on ESD measures achieved through the planning process."

²⁸ It is worthy to note that application for elevated ESD requirements has been submitted to the Minister for Planning. When the new ESD requirements are approved they will be tracked and reported in future Housing Monitoring Program Annual reports.

Figure 12. Applicable new Buildings Assessed as meeting Sustainability Targets

The proportion of applicable* new buildings assessed as meeting sustainability targets.



Analysis

It is pertinent to note that Council revised its approach to ESD permit conditions and endorsed sustainability measures on developments in 2019-2020. This revision was to ensure that ESD commitments on approved development plans were delivered upon construction. This means that the ESD data on potable water reduction and GHG emissions reduction for the 2019-2020 (reported in Figure 12 above) are not comparable with the ESD data of the subsequent years (2020-2021 to 2022-2023) presented in Figure 12. Therefore, the ESD data from the 2020-21 to 2022-23 financial years are consistent and comparable. The ESD outcomes for 2022-2023 demonstrated that approved permits of two or more dwellings in Knox had met (100%) or exceeded the best practice target of 25% reduction in potable water consumption. Similarly, in the same financial year, approved development of two or more dwellings in Knox had reached (100%) or surpassed the best practice target of 50% reduction in greenhouse gas emissions reduction. This implied that all permits for applicable new dwellings²⁹ in 2021-2022 and 2022-2023 met both targets. This was not the case in both ESD targets in 2020-2021, where the target for potable water consumption reduction was achieved, but the GHG emissions reduction benchmark was not realised.

The ESD data for 2022-2023 revealed that in practice an average of 39% of potable water consumption was reduced. This constituted a 2% decline from the 2021-2022 figure of 41.3%. Similarly, in the same financial year, the average GHG reduction was 61%. This was a marginal improvement over the 2021-2022 GHG emissions reduction figure of 60.4%.

The BESS data identified that over three million litres of water tank capacity of water was approved in Knox in the 2022-2023 fiscal year, plus 830kW of solar panels were committed to for installation. This would contribute to a reduction of GHG emissions, emanating from electricity consumption in residential buildings.

Over time, further analysis would show more explicitly how Knox is progressing on these two ESD benchmarks. The time series analysis will likely show that the “best practice” definition is not fixed, rather it varies as standards shift.

²⁹ Applicable new dwellings mean additional new dwellings of two or more

Hence, an approved development that meets the best practice target in potable water consumption and greenhouse gas emissions in 2022-2023 for instance, may miss the best practice benchmark in subsequent years. For example, on 21st July 2022, Knox was part of 24 Councils in Victoria that lodged an application for a planning scheme amendment with the State Government, requesting to introduce planning policy that elevates sustainability requirements for new buildings and encourages a transition towards net zero carbon development. The application for the elevated ESD requirements is still pending a decision by the Minister for Planning. If this application is approved, altering the “best practice” benchmark, it will make it difficult to consistently track the ESD benchmarks and analyse progress over time.

4. Housing design is improved to better respond to neighbourhood identity and create a stronger sense of place (Objective 4)

Why is this Objective Important?

Over the decades the Knox municipality has been known for its green and leafy neighbourhoods, quiet streets, and a mix of city and country feel. The low scale and low-density residential development patterns in Knox are responsible for the quiet streets, green and leafy character and natural feel that have attracted many people to the Knox municipality. However, this form of residential development has largely made Knox a car dependent city, leading to increasing air pollution and reduced access to amenities, services, and social infrastructure for the residents. As land values have significantly increased over the years, redevelopment has introduced new housing typology into the housing mix in Knox's neighbourhood. This change is altering the look and feel of the municipality.

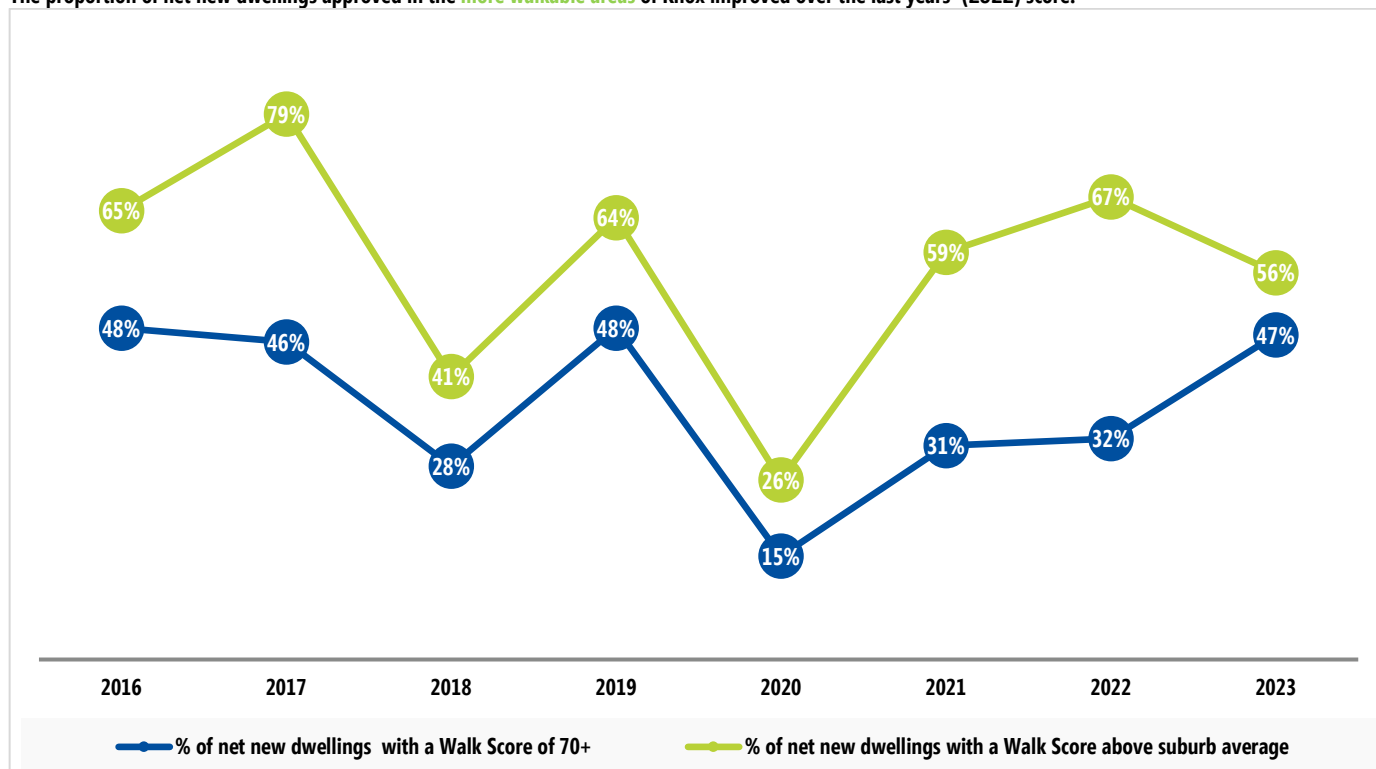
How are we Tracking this Objective?

One way of assessing the proximity of services to people is to use the [Walkscore Index](#). Walkscore is an index developed to estimate the 'walkability' of a place. It examines the proximity of local shops, services, schools, entertainment and jobs, to develop a walkability score on a scale of 1 to 100 (Steiniger et al. 2019). Areas that score below 50 are classified as "Car Dependent", those with scores of 51-70 are categorized as "Somewhat Walkable", scores of 71-90 are considered as "Very Walkable", and places that score over 90 are regarded as a "Walker's Paradise".

The Walkscore website can be used to determine scores from individual addresses and by suburbs or neighbourhoods (Steiniger et al. 2019). Therefore, the Housing Monitoring Program report examines the individual Walkscores for each of the planning permits approved, as well as how they compare against their suburb's average score. New residential developments in high Walkscore areas of Knox are more desirable as residents in those neighbourhoods would have access to critical amenities and socio-economic infrastructure and services.

Figure 13. Proportion of Dwellings Approved in Walkable Areas of Knox

The proportion of net new dwellings approved in the **more walkable areas** of Knox improved over the last years' (2022) score.



Another important measure outlined in the *Knox Housing Strategy 2015*, under the neighbourhood identity objective, is loss of trees and backyard space in Bush Suburban and Knox Neighbourhood areas. Tree canopy data published by the Department of Environment, Land, Water and Planning in 2022 (DELWP now known as DEECA – Department of Energy, Environment and Climate Action) indicated that there were about 250,000 trees on residential zoned land in Bush Suburban and Knox Neighbourhood areas (DELWP 2022). Future releases (if any) of this data may offer an indicative measure of change over time.

It is imperative to note that the results presented in Figure 4, which validated that low numbers of new dwellings per hectare were approved in Bush Suburban and Knox Neighbourhood areas, supported Council's decision-making process to minimising tree loss, thus maintaining a green leafy natural environment.

Analysis

Figure 13 above shows that nearly half (47%) of the net new dwellings approved in 2023 in Knox had Walkscores of above 70, that is, in "Very Walkable" locations. This was a noticeable improvement over the 2022 figure of 32%. It is interesting to state that the permits approved in 2023 recorded the second highest number of approved net new dwellings located in "Very Walkable" areas of Knox. The highest was 48% in 2016 and 2019. Intriguingly, 56% of approved net new dwellings in 2023 were in areas that were regarded more walkable than the average score for their suburb. This is a decline over the 2022 figure of 67%. Since 2016, approved planning permits in 2023 recorded the third lowest score, where new dwellings were located in more walkable areas than the average score for their suburb. This implies that there were relatively more permit approvals in areas closer to activity centres in 2023.

Even though 59 apartments were approved in 2023, the percentage of net new dwellings with a walkability score above their suburb average in 2023 was lower than in 2022, where no single apartment was approved in a planning permit. Apartment buildings normally accommodate a large number of dwellings, compared to other dwelling

typologies, and are usually located in or near activity centres where walkability tends to be high. Therefore, each approved apartment development often contributes significantly to increasing the number of very walkable dwellings approved. It was somewhat surprising to observe that approved dwellings in 2022 where no apartments were approved, recorded the second highest walkability score compared to their suburbs and outperformed 2023 where 59 apartments were approved. This clearly suggested that while apartments usually improved Walkscores, other dwelling typologies can equally improve walkability if they are located closer to services, such as shops, schools, health facilities, plus sports and recreational facilities.

It was refreshing to note that the majority (47%) of the net new dwellings approved in 2023 were in “Very Walkable” locations and a quarter (25%) were in “Somewhat Walkable” areas. This was in contrast with 2022 where the majority of the net new dwellings were in “Somewhat Walkable” areas. In 2023, 28% of the approved net new dwellings were sited in “Car Dependent” areas, in comparison to 24% (a lower share) in 2022. The fact that nearly half of all approved net new dwellings were located in “Very Walkable” areas was a positive development, and thus, responds strongly to the *Knox Housing Strategy 2015*, which places emphasis on accessibility and locating more dwellings in close proximity to services, shops and schools.

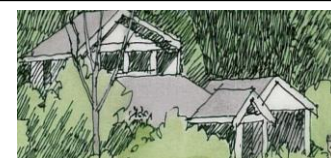
The Basin, Lysterfield, Rowville, and Upper Ferntree Gully have been generally categorised as “Car Dependent” suburbs by Walkscore. However, some approved net new dwellings were still identified in “Somewhat Walkable” and “Very Walkable” areas in these suburbs. For instance, a quarter of the approved net new dwellings in Rowville in 2023 were in “Very Walkable” areas and 10% were in “Somewhat Walkable” locations, although Rowville is broadly categorised as a “Car Dependent” suburb. Therefore, the specific location of a dwelling is more important than the suburb in which it is located.

5. Protect and enhance the landscape and environmental value of natural areas of significance (Objective 5)

Why is this Objective Important?

One of Knox's defining features is its leafy green feel, an aesthetic cherished by the community. The municipality enjoys a unique natural setting, located at the foot of the Dandenong Ranges, traversed by creeks and wetlands which provide a tranquil habitat for native animals and a serene ambiance for residents. These characteristics bring the feel of bushland and natural spaces into Knox's neighbourhoods, which is valued by Knox residents. However, this green and leafy character of Knox is seen to be under threat from development. As the Knox population grows, residential development will increase as well. Therefore, it will be critically important to ensure that new development does not deplete Knox's unique and most cherished sources of environmental and ecological value over time.

The Knox [Biodiversity Resilience Strategy 2024 – 2034](#) notes that there are 118 sites of biological significance identified across the Council that serve to protect areas of remnant and indigenous vegetation. While Knox enjoys a spectacular natural setting, native vegetation covers just under 5% of Knox's municipality ([Lorimer, 2010](#)). Unfortunately, over a quarter of the native plant species found in Knox are at risk of extinction within one to two decades, if effective preventative measures are not taken. To protect the green and leafy character of Knox and respond to endangered species, Council has a well-established policy³⁰, in addition to planning controls on vegetation and residential design, to protect and preserve the significant landscape and environmental values of the area. More importantly, in January 2024 Council adopted the [Biodiversity Resilience Strategy 2024 – 2034](#), which clearly outlines important goals and actions for sustaining biodiversity resilience in Knox over the next decade. The strategy approaches and seeks to sustain biodiversity resilience through the three-pronged primary focus areas: tree canopy and vegetation cover, habitat connectivity and climate change resilience (BRS³¹, 2024).



13 dwellings were approved per hectare in Bush Suburban Areas in 2023.



Knox has 118 Sites of Biological Significance; native vegetation covers less than 5% of Knox (Lorimer, 2010).

How are we Tracking this Objective?

There are distinctive and significant biological and landscape values in the Bush Suburban areas, consisting of flora and fauna that is critically important to both Knox and Greater Melbourne. The *Knox Housing Strategy 2015* prioritises the protection of the natural environment over urban development in the Bush Suburban areas, which resulted in only 13 dwellings per hectare in the Bush Suburban areas in 2023 (See Figure 4). This represents the lowest number of dwellings per hectare, compared to the other housing strategy areas. In comparative terms, the Activity Areas had 70 dwellings per hectare in 2023.

The Dandenong Foothills area is part of the Bush Suburban area, which has long held an important place in Knox. The Foothills area has had its own special set of planning controls since 2006. This has successfully preserved the unique

³⁰ The *Knox Housing Strategy 2015* notes that the *Knox Residential Design Guidelines 2015 (updated 2019)* aim to enhance the 'green and leafy' image of Knox.

³¹ Biodiversity Resilience Strategy (BRS)

nature of the area. The *Knox Housing Strategy 2015* stresses the need to maintain a very low scale of change in the Dandenong Foothills (see Map 1). The dwellings per hectare in the Bush Suburban area also applies to the Dandenong Foothills, so it experiences a lower scale of change compared to all the other housing strategy areas.

Native vegetation provides a habitat for plants and animals and makes land more productive and contributes to human well-being. The *Knox Housing Strategy 2015* encourages the planting of native and indigenous vegetation. This is important as it is difficult to maintain native and indigenous vegetation and tree canopy, during multi dwelling development, which usually leads to the removal of large canopy trees to make way for multi-dwelling developments. The associated reduction in private open space tends to limit tree planting prospects and suppresses good tree health. Outside of the urban and built-up areas, Knox's native tree cover has declined by an estimated 6% (about 112 hectares) since the late 1980s (DELWP, 2019a).

Overall, tree canopy coverage has been declining in Knox. The decline in total tree canopy coverage has been concentrated in the northern suburbs of the municipality, which aligns with long-term land conversion from native trees to urban and built-up areas since the late 1980s (BRS, 2024). With respect to tree canopy in Knox's urban areas, there was an overall loss of 115 hectares between 2014 and 2018, equivalent to a reduction of 6.5%. Within the same period the urban areas of the Eastern Region³² witnessed a loss of 9.2% of its canopy trees (DELWP, 2020).

The Department of Environment, Land, Water and Planning's (DELWP, now the Department of Energy, Environment and Climate Action DEECA) latest tree canopy data was published in 2021³³. Tree canopy is defined in that dataset as "woody vegetation over approximately two metres in height"³⁴. This dataset showed that about 16% of Knox's housing strategy areas were covered by tree canopy. Map 3 below gives a graphical representation of the distribution of the tree canopy. A trend analysis is not possible, as it was the first publication of the data. Future releases of this data will be monitored, however there is no commitment to publish a subsequent version at this time.³⁵

³² The Eastern Region includes the municipalities of Knox, Manningham, Maroondah, Monash, Whitehorse and Yarra Ranges.

³³ This data was captured mainly in early 2020.

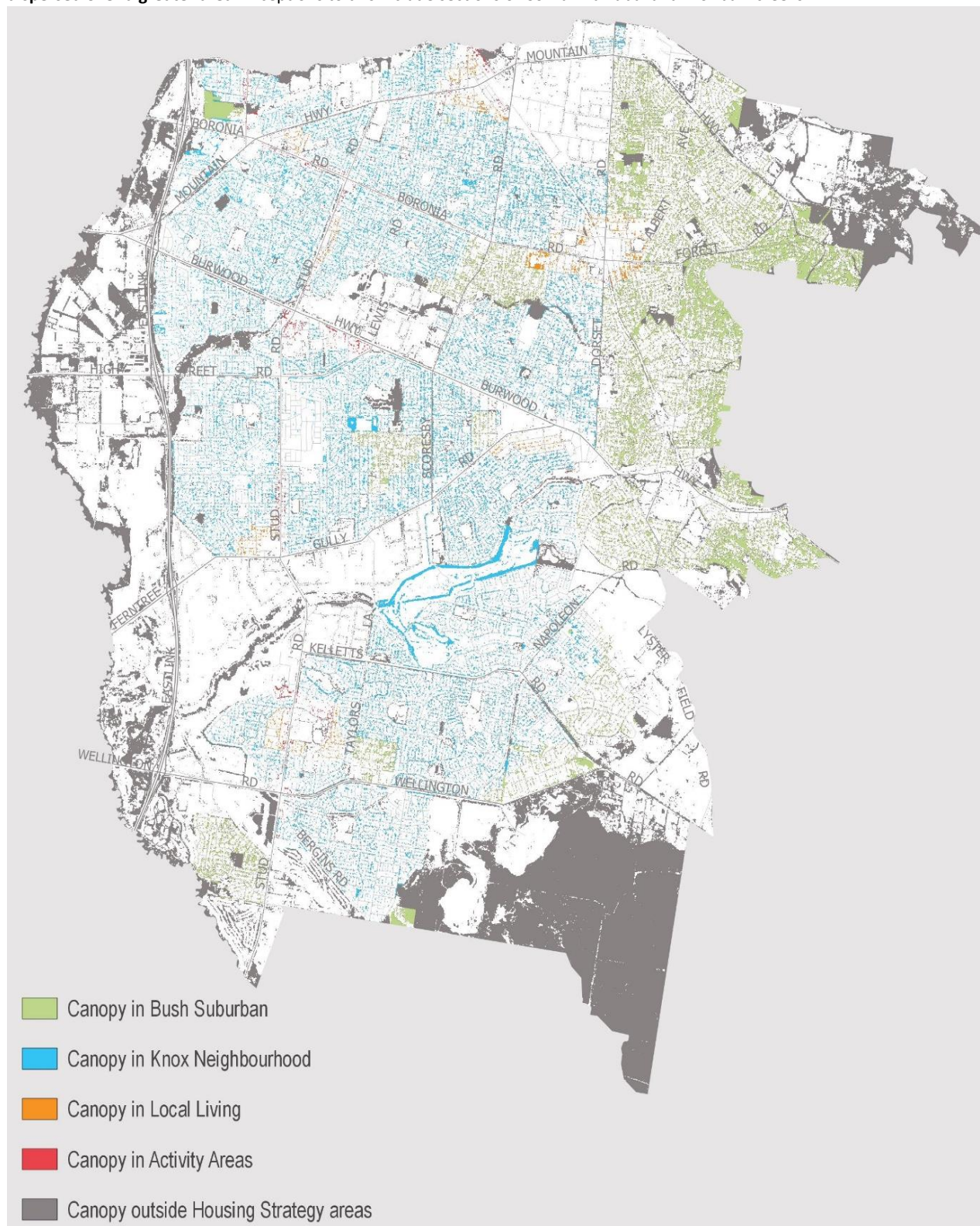
³⁴ It is important to note that this data is not comparable to the tree canopy data that DELWP published in 2019 (DELWP 2019b), which was reported on in previous Housing Monitoring Reports.

This data (2021) was also reported on in a previous Housing Monitoring report.

³⁵ DEECA suggests that a regular update of the data is unlikely as the data published in 2021 was ad hoc.

Map 3. Tree Canopy Cover in Knox

Although Bush Suburban and Knox Neighbourhood areas have a similar amount of tree canopy cover, the canopy in Knox Neighbourhood is dispersed over a greater area. Exceptions to this include sections of Corhanwarrabul and Monbulk creeks.



Source: This tree canopy data is part of the Vicmap Vegetation – Tree Extent dataset produced by the Victorian Department of Environment, Land, Water and Planning in 2021 (<https://www.land.vic.gov.au/maps-and-spatial/spatial-data/vicmap-catalogue/vicmap-vegetation>).

Analysis

The tree canopy data published by DELWP in 2019 points to a decline in native tree cover in Knox by about 6%³⁶. The *Knox Housing Strategy 2015* encourages the planting of native and indigenous vegetation, but this has not reversed the loss of native vegetation. To reverse the declining trend, more effective efforts and strategies would be needed, to ensure that more native and indigenous vegetation was planted. The *Knox Biodiversity Resilience Strategy 2024 - 2034* has made practical recommendations aimed at reversing the continuous decline of native and indigenous plants. Also, Council may require stronger regulations in the planning permit approval regime to achieve a better outcome in this sphere.

The Bush Suburban area which includes the Dandenong Foothills has the lowest number of dwellings per hectare in 2023, and in the previous years. This low scale of change has emanated from the *Knox Housing Strategy 2015* which is focused on directing development away from Bush Suburban areas, particularly the Dandenong Foothills, with the view to maintaining a leafy green environment – which has been a well-known character of this housing strategy area. If this is sustained, the Dandenong Foothills will continue to undergo a low scale of change. Thus, the unique bushland feel and aesthetic appeal of Knox will be retained.

Tree canopy data published by DELWP in 2019 puts Knox's overall tree canopy coverage at 18%, and the urban areas at 16.3% (DELWP 2019b). The data published in 2021 also cited (above) in this report was not directly comparable with the data published in 2019, due to the differences in the height of the canopy trees used, and a range of other factors including different data creation methods and geographical aggregations³⁷. Therefore, there is a need to explore and establish a means of mapping canopy regularly with a consistent data capture methodology in order to accurately record canopy changes over time.

Knox City Council has over the years implemented policies and plans to protect the green and leafy character of Knox's neighbourhoods, using various policy tools including the *Knox Housing Strategy 2015*, the Knox Planning Scheme (Residential Zone Schedules – Tree Canopy Controls, Vegetation Protection Overlays, the Dandenong Foothills Policy, and others), and the *Biodiversity Resilience Strategy 2024 – 2034*. Council has only had an indirect ability to control canopy loss on private property. Despite this, Council is still focused on exploring measures to increase tree canopy cover. The *Knox Community Plan 2021 – 2031* considers an increase of tree canopy cover as one of the indicators of success, on the natural environment and sustainability key direction.

The *Knox Biodiversity Resilience Strategy 2024 – 2034* notes that the loss of canopy trees on private land remains a key challenge to increasing tree canopy coverage in Knox. As such, it is recommended in the *Biodiversity Resilience Strategy 2024 – 2034* that there should be a review of how vegetation is protected on private land and/or property to reduce the opportunity of canopy cover loss. It also calls for the exploration of community campaigns to support vegetation management within the Knox municipality.

³⁶ This data was captured in 2018.

³⁷ In the data published in 2019, a tree of 3+ metres was captured as a canopy tree by DELWP, but in 2020 data, a tree of 2 metres was categorized/used as a canopy tree. The heights used by DELWP fell short of the *Knox Housing Strategy 2015* definition of a Canopy Tree as "a perennial woody plant that reaches more than five (5) metres in height." (KCC, 2015, p.4).

6. Development responds to neighbourhoods in an integrated and balanced manner (Objective 6)

Why is this Objective Important?

To develop liveable, inclusive, and safe cities, that consider the complex urban environment, integrated planning is needed. An integrated approach to planning and delivery of development, infrastructure, services and activities for local areas and neighbourhoods promotes better outcomes. This approach considers not only the physical and economic determinants of neighbourhoods, but also the social, cultural, community, and health and wellbeing attributes that help define a place and contribute to its liveability. To attain an integrated and balanced development, Council, through the Knox Planning Scheme has outlined explicit policies, goals and strategies for the development of the municipality. The Knox Planning Scheme is the official instrument for all decisions regarding planning made by Council, planning officers, and the Victorian Civil and Administrative Tribunal (VCAT). To ensure that planning decisions are effective and deliver quality outcomes to the residents of Knox, it is important to have consistency between Council policy, the Knox Planning Scheme, and Council's decision-making processes.



VCAT decided 12 residential planning applications for Knox in 2023. A reduction from 14 in 2021 & 2022; 26 in 2020; 32 in 2019; and 43 in 2018.

How are we Tracking this Objective?

As noted above, coherence between Council's planning application decisions and VCAT decisions is critically important in gauging the consistency with the Knox Planning Scheme. Planning applications that are decided by Council can be appealed at VCAT, which hears the case and makes a final ruling on whether a permit should be issued or not, based on the Knox Planning Scheme. Appellants could be landowners appealing Council's refusal of a permit, neighbours objecting to Council's approval of a permit, or either party seeking variations to the original permit conditions. In making the ruling VCAT mainly considers the provisions in the Knox Planning Scheme as the key reference document. VCAT states that it also considers supporting documents and other matters in making its ruling on planning permits ([VCAT Website, 2024](#)). It is important to note that the number of cases that go to VCAT and the percentage of decisions that are overturned are an indicator of the degree of consistency between Council policy, the Knox Planning Scheme, and Council's decision-making process. This report highlights trends regarding the consistency between the VCAT decisions and Council decisions on planning matters.

Figure 14 and Figure 15 report VCAT's decisions on residential planning permits that would yield at least one net new dwelling in Knox if enacted. Figure 14 below illustrates that VCAT upheld and overturned the same number (five in each case) of Council's refusals and Council's approvals of planning permits in 2023. This has departed from the usual trend since 2018, where VCAT largely overturned most of Council's refusals. The only exception was in 2021 where VCAT upheld most of Council's refusals.

Figure 15 shows that VCAT upheld none of Council's approvals in 2023 – an outcome that is not consistent with the trend since 2014. VCAT rather overturned one of Council's approvals in 2023. This is depicted in Figure 14. In most years Council's approvals were affirmed (except 2014 and 2018) by VCAT (See Figure 15).

Figure 14. VCAT Decisions on Residential Planning Applications

In 2023 VCAT Overturned more Council Refusals and Approval than it Upheld Council's Refusals

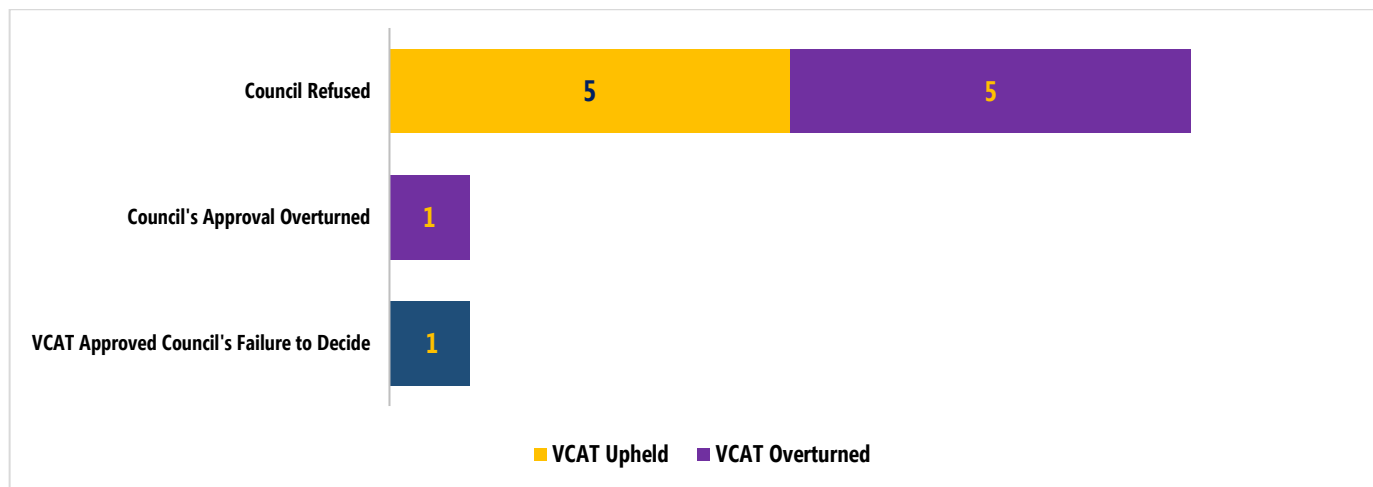
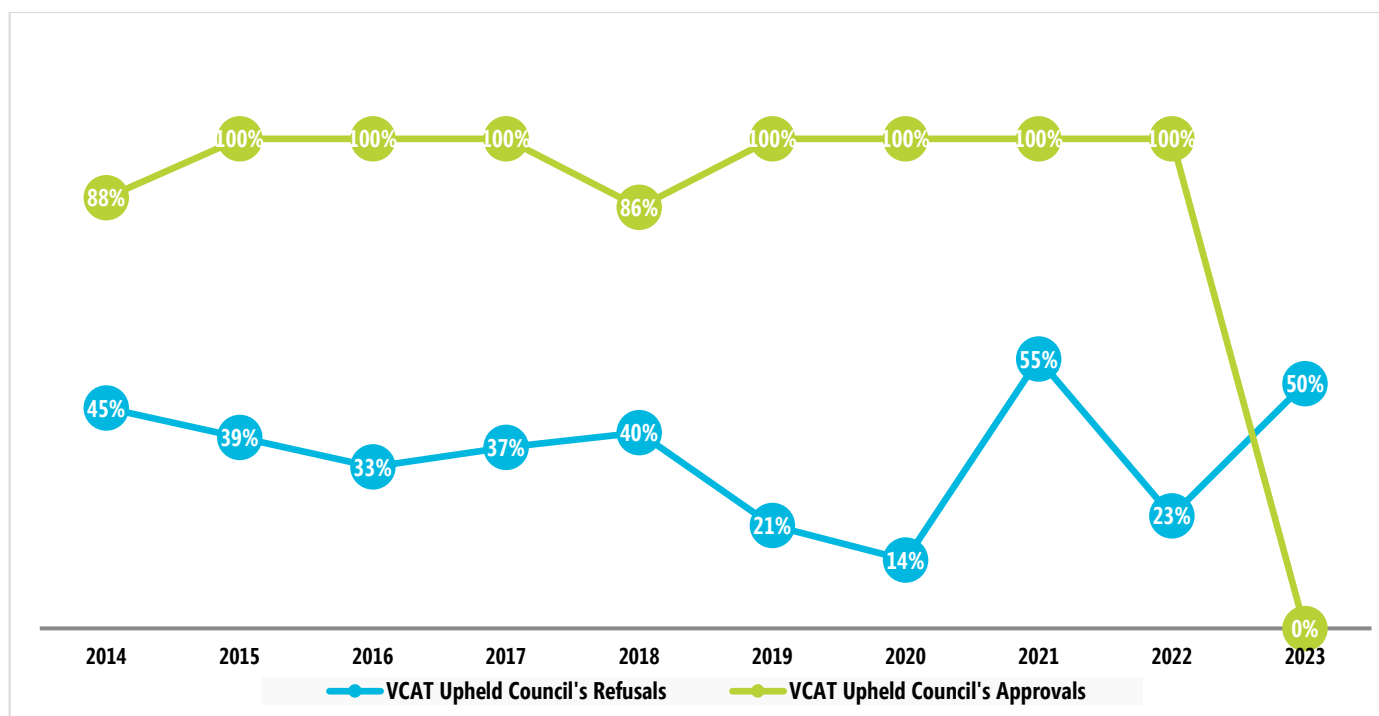


Figure 15. Trend Analysis of VCAT Decisions on Residential Planning Applications

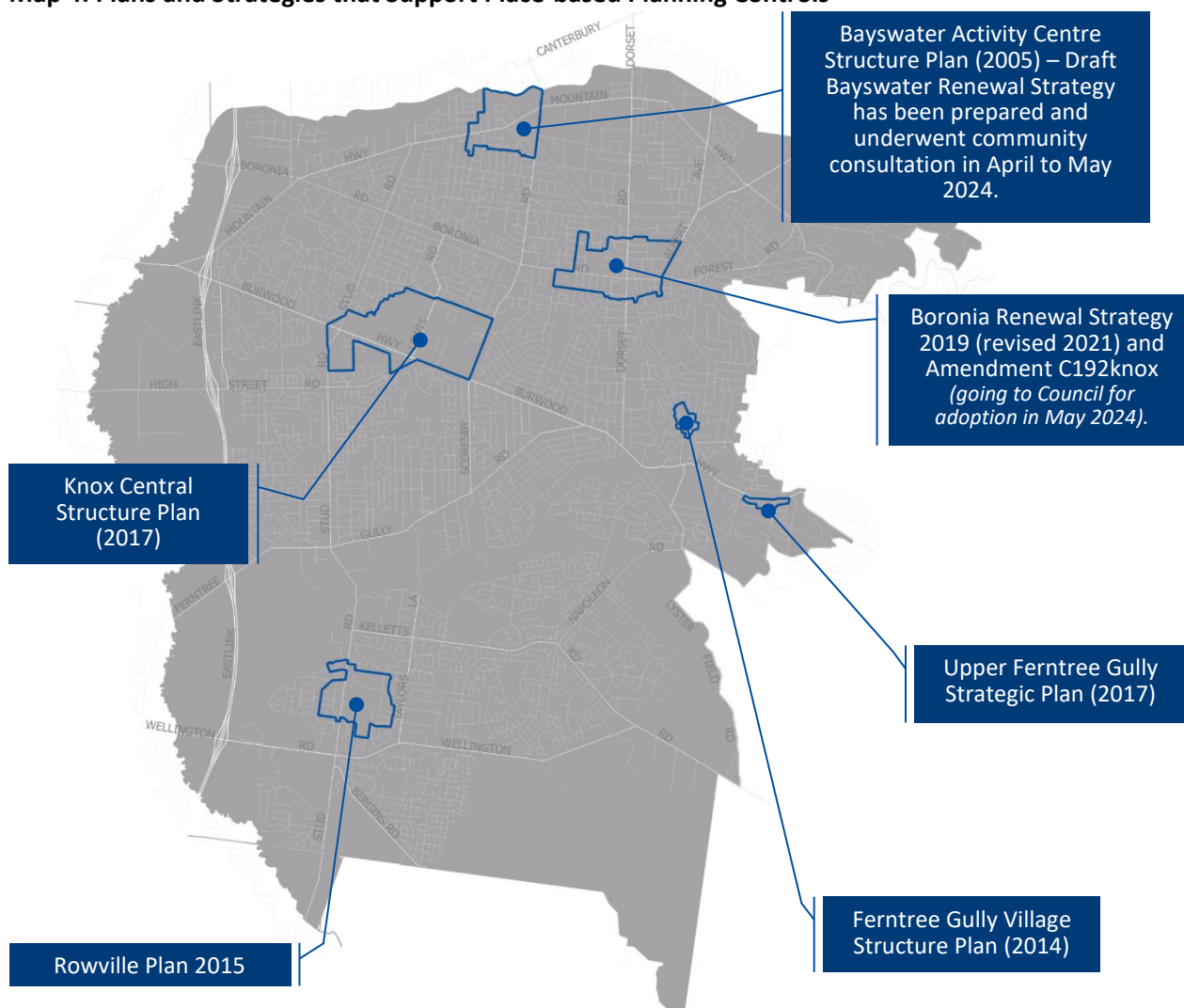
VCAT upheld 50% of Council's Refusals but no Council's approval was upheld in 2023



Place-based planning enables meticulous development of social infrastructure that provides services targeted to a specific community, rather than using a generic or 'one-size-fits-all' approach. This approach is applied to respond to complex, interrelated or challenging issues. Knox City Council undertakes integrated place-based planning initiatives in activity centres and other key places across the municipality. Structure plans and other local strategic plans developed through extensive consultation with the local communities, provide specific directions and guidance for future decisions on planning controls, infrastructure provision and the delivery of community services (See Map 4). The place-based planning approach empowers stakeholders by fostering partnerships between the Council and the community, local businesses, and other key stakeholders. This improves the understanding and ownership of place-specific plans within the community, thereby facilitating outcomes that meet community aspirations. Place-based

planning delivers infrastructure and has multiple and compounding benefits to the Knox community beyond its primary purpose.

Map 4. Plans and Strategies that Support Place-based Planning Controls



Knox City Council’s place-based planning initiatives has led to the creation of six activity centres, giving residents of the municipality easy access to a wide range of major retail, community, government, entertainment, cultural and transport services. The activity centres also offer local employment opportunities and support local economic development. These activity centres support the growth of high-density housing and align with the *Plan Melbourne 2017-2050* goal of developing 20-minute neighbourhoods (DELWP, 2017).

Analysis

In total, 12 residential cases were decided by VCAT in 2023. Ten of these cases were initially refused by Council. In the remaining two cases, one of the cases was an approval by Council that VCAT overturned (a situation that is inconsistent with previous VCAT decisions on Council’s approvals). In the other case, Council failed to determine a planning application, so an appeal was lodged at VCAT, and that application was granted. Council refused 10 cases that were later taken to VCAT, where five of Council’s refusals were upheld by VCAT, and five of Council’s refusals were overturned by VCAT (Figure 14). Overruling a Council refusal was consistent with VCAT’s past rulings, but VCAT usually affirmed all Council’s approvals.

Council failed to determine one case, and the applicant lodged an appeal at VCAT and the Tribunal directed that a permit be issued. This application was for a lot subdivision.

One of Council's approvals was set aside by VCAT. The application was approved by Council and a 'Notice of Decision' to Grant a Planning Permit was issued. An objector to the application lodged an appeal at VCAT against the decision to approve the application. VCAT overturned Council's decision to grant a permit on the grounds that the proposed design of the application was not respectful of the neighbourhood and landscape character of the area. The Tribunal also found that the application would result in poor amenity outcomes for residents of some of the proposed dwellings.

The five overturned permits yielded at least nine net new dwellings³⁸. Council was supportive of VCAT's ruling in four of the five cases but remained opposed on one case (although amended plans were submitted by the applicant). In this particular application Council was not persuaded as the amendments did not resolve all the concerns raised by Council.

The remaining five residential planning permits that were refused by Council were affirmed by VCAT. In four³⁹ of the five cases, VCAT upheld Council's decision that the proposed developments did not respect the landscape character of the area. This solidified that residential development must respect the existing character of the site and that this factor is critically important and respected by both Council and VCAT.

Since the adoption and implementation of the *Knox Housing Strategy 2015*, the lowest number of residential cases lodged at VCAT from Knox was in 2023. Interestingly, 2021 and 2022 also recorded the second lowest VCAT cases lodged from Knox. If this trend of fewer appeals submitted to VCAT continues, it could be presumed that either planning permit applicants and neighbours are increasingly becoming satisfied with Council's decisions on planning permits or community members have limited capacity to actively engage in the planning appeal processes. The time and effectiveness of this third-party appeals process could also be one of the reasons for the low VCAT cases in 2021 to 2023.

³⁸ Ten developments that were initially refused by Council but overturned by VCAT in 2022 produced 37 net new dwellings.

³⁹ The four proposed developments would have added 20 total/gross new dwellings to Knox if they were approved.

7. Action Areas and Advocacy Opportunities for Council

Based on the key findings in this report – the 2023 Annual Report of the Knox Housing Monitoring Program could promote potential action areas as well as advocacy opportunities, for residential development and matters related to meeting the diverse housing needs of the various segments of the Knox community. As Council has four important interrelated responsibilities in the housing sector, as a planner, provider, partner and as an advocate, it has the leverage to initiate actions and take advantage of available opportunities to engineer transformative changes in the housing sector within Knox.

Action Areas

Action areas that the findings in this report might trigger are as follows:

- The findings in this report may assist Council to take measures to explicitly define the preferred housing typology in each of the 14 Strategic Investigation Sites. Appendix B of the *Knox Housing Strategy 2015* only listed the “Likely future housing types” of the Strategic Investigation Sites. It does not have an explicit definition of the typology of dwellings that are preferred. This report notes that 17% of the proposed developments approved in planning permits in 2023 were in the Strategic Investigation Sites⁴⁰. This is currently outside of the housing strategy areas. The *Knox Housing Strategy 2015* does not have an explicit definition of the typology of dwellings that are preferred in these Strategic Investigation Sites. This lacuna will continue to grow as more dwellings are approved in the Strategic Investigation Sites in the future. But more importantly, the Housing Monitoring Program Report is unable to assess the suitability of dwellings sited in Strategic Investigation Sites, since there is no categorisation of the dwellings preferred and as such there is no established benchmark.
- A closely related action that could also emanate from the findings of this report, is that Council could work with landowners within Strategic Investigation Sites, toward the residential development of apartments that usually produce many small dwellings. The 2023 Annual report, like previous Housing Monitoring Program reports, has flagged the limited availability of small dwellings in Knox. By working with landowners, the diversification of the housing stock in the municipality may be able to be increased, particularly the availability of one and two-bedroom dwellings. This will also partly address the housing needs of the 45.7% (which is projected to increase) of lone person or couple only households in Knox.
- As the *Knox Housing Strategy 2015* is currently undergoing review, the findings and data within this report could provide relevant data and perspectives, which could inform and enrich the review. In fact, one of the actions that emanated from the [2022 Housing Monitoring Program Report](#) is that the City Strategy and Planning team, who are currently managing and leading the review of the *Knox Housing Strategy 2015*, have confirmed that “As part of the project scope, the findings of the most recent Knox Housing Monitoring Program Report will be considered.”
- The findings in this report will also reinforce some of the findings in the *Knox Social and Affordable Housing Strategy and Action Plan 2023–2027*. This report and previous reports have highlighted that a critically significant policy concern in Knox, are the rising housing costs, coupled with very low availability of affordable rental options, plus a shortfall of social housing. A potential action in response to this, is for Council to re-look at its policies and their effectiveness in the social and affordable housing domain.

⁴⁰ In specific terms, this is made up of 79 dwellings – 45 apartments and 34 townhouses.

In response to Officer's Recommendation 3 of the [2022 Housing Monitoring Program Report](#) and Action 2.1 of the *Knox Social and Affordable Housing Strategy and Action Plan 2023-2027*, four advocacy actions are being undertaken to increase resources for the provision of social and affordable housing in Knox.

The findings in this report might also inform some of the proposals and actions regarding housing in the upcoming *Council Plan 2025 – 2029*. Similarly, the findings in this report might also lead to revisions of some of the actions of the *Knox Community Plan 2021–2031*. Even though the community plan is for a 10-year period, it is monitored to ascertain how the key targets and benchmarks are progressing. In this regard, the data and findings in the *2023 Housing Monitoring Program Report* could be used to track the progress of the objectives under the 'Neighbourhoods, housing and infrastructure' Key Direction of the *Knox Community Plan 2021 – 2031*. This report will also complement the *State of Knox 2024* report. In addition, some of the findings in this report will assist in answering questions likely to be asked at Council's various housing-related community engagements, plus assist in the design of survey instruments that seek to assess how the community's needs are being met.

Advocacy Opportunities

Council's advocacy in the housing sector could lead to practical actions that could ameliorate identified challenges and shortfalls in the housing domain in Knox. In this respect, based on the findings in the *2023 Housing Monitoring Program Report*, some advocacy opportunities have been highlighted for Council to consider. These include:

- This report has identified that Knox is only three places above the Australian national benchmark in relation to the provision of aged care places. Despite this, the recent intercensal growth rate of Knox residents who are 70 years or above is growing (at 2.2%) and as such the share of this segment of the population is rising faster than the growth in residential aged care places. In view of this, Knox could fall below the Australian national provision benchmark for aged care places in less than a decade, if the provision of residential aged care places is not significantly increased. In response to this, Council could use these finding as the basis to effectively advocate for and possibly attract residential aged care facility providers from all sectors (public sector, not-for-profit, private) into the Knox municipality. If this succeeds, Council's advocacy could increase residential aged care places and thus address the emerging housing needs of this most vulnerable cohort.
- This report has established that couple only and lone person households stand at 45.7% in 2021, and that this figure is projected to reach nearly 50% by 2031. However, net growth of small dwellings (two bedrooms or less) in planning permits in 2023 was less than the share of lone person and couple only households. Based on this, Council could undertake advocacy campaigns with the objective of making private developers aware that the demand or market for small dwellings in Knox is high and is likely to grow in the future. An effective and sustainable campaign could encourage some private housing developers to invest in the construction of small dwellings (particularly apartments). This proposed advocacy is not without the acknowledgement of the complexities involved in the provision of small dwellings in a profit-driven property market.
- This report has identified that Council has set a tree canopy target of 30% by 2050. However, sourcing current data to assess how the Knox municipality is progressing with respect to this target, is unavailable. Hence, this report has resorted to outdated tree canopy data published in 2019. That data puts Knox at 18% tree canopy coverage⁴¹. It is important to acknowledge that improving tree canopy coverage is also a key direction of *Plan Melbourne 2017-*

⁴¹ A new tree canopy data published by DELWP in 2021 only covered Knox Housing Strategy areas and not the entire Knox. Also, the 2019 data and 2021 data were not comparable. In the 2019 data, a tree of 3+ metres was defined as a canopy tree by DELWP, but in 2021 data, a tree of two metres was categorized as a canopy tree.

2050 to ‘make Melbourne cooler and greener’. However, it may be difficult to achieve this target if Council cannot regularly measure and monitor Knox’s tree canopy coverage. The Knox *Biodiversity Resilience Strategy 2024 – 2034*, has recommended that Council take concrete steps to establish a means of mapping canopy regularly in order to track canopy change over time. The *2023 Housing Monitoring Program Report* (and previous reports) have also expressly identified the need for current tree canopy data. The importance of this data highlights an advocacy action for Council. This report therefore recommends that Council⁴² collaborates with the Municipal Association of Victoria (MAV) and related stakeholders to advocate for State Government’s support and funding to regularly capture tree canopy data.

- This report has recognised the importance of dwelling location being in close proximity to community facilities and services, as less than half (47%) of the dwellings approved were in “Very Walkable” areas. Since 2016, an average of 37% of approved dwellings in planning permits were in “very walkable” areas of Knox. Thus, more than half of the dwellings approved in Knox over the past seven years were not in “Very Walkable” areas. This signals that critical socio-economic infrastructure and services are not in close proximity to many Knox residents. Therefore, Council could use this finding to advocate for State Government’s support in the provision of essential social and economic infrastructure and services such as public transport, local shopping centres, health facilities and services, local schools, etc. If this succeeds, Knox could achieve the *Plan Melbourne 2017-2050* goal of creating 20-minute neighbourhoods, where most essential daily needs and services could be accessed within a 20-minute walk, cycle or local public transport trip.

⁴² The Environmental Advisory Committee of Knox could advise Council on how to go about this advocacy opportunity.

8. Summary of Key Findings

This report seeks to measure the progress against the six objectives in the *Knox Housing Strategy 2015* by examining data related to planning approvals, housing construction and population demographics. This analysis is framed around a set of indicators that measures different aspects of housing in Knox, particularly new dwellings that have been approved through the planning system in 2023.

The following are the highlights of the key findings in this report:

- The trend in the number of new dwellings expected to be constructed has increased slightly since COVID.** The planning and subdivision permits approved in 2023 were 134. Taking into account demolitions, if all these residential planning permits were fully developed, this could potentially result in a net increase of 384 additional new dwellings in Knox. These figures are slightly above the 2021 and 2022 figure of 334 and 373 respectively. However, the 2023 figure was still lower than the housing approvals in the seven years before 2021 (2014-2020).
- New dwellings approved in 2023 were more consistent with the preferred character nominated in the Housing Strategy 2015 than in previous years.** The overall average percentage of new dwellings approved in 2023 whose typology was consistent with their Housing Strategy Area was 88%. This was a significant improvement over the 2022 figure of 69%. In fact, 2023 had the highest average percentage of dwellings being sited in their preferred Housing Strategy Areas since 2016. The second highest was 78% in 2020, and the lowest was 68% in 2016. The significant improvements in 2023 suggested that the *Knox Housing Strategy 2015* continued to deliver positive results by encouraging appropriate development across the municipality.
- There was a significant increase in dwelling density within Local Living, but a marginal increase within Bush Suburban, Knox Neighbourhood and Activity Areas, when compared to 2022.** The analysis of approved planning permits by Housing Strategy Area in 2022, with reference to dwelling density per hectare, showed that the Bush Suburban areas and Knox Neighbourhood areas increased by 1 dwelling per hectare each, while Activity Areas increased by 3 dwellings per hectare. However, the dwelling density per hectare in Local Living increased by 15 dwellings per hectare when compared to 2022. These outcomes were in alignment with the *Knox Housing Strategy 2015*, because the strategy encouraged lower density development in Bush Suburban and Knox Neighbourhood areas but supported high density development in the Local Living and Activity Areas.
- There was a considerable increase in apartment approvals in 2023, compared with previous years, whilst aged care development remained stagnant.** Approved planning permits in 2023 have yielded 59 apartments – a noticeable growth from 2022, where no single apartment was approved (4 apartments were approved in 2021). However, just like 2022, no residential aged-care facility was approved in 2023. This was in sharp contrast with 2021, where 214 beds in residential aged-care facilities were approved.
- There was a small increase in building permits issued in 2023 when compared to the previous year.** Six hundred and forty-three (643) building permits were issued in 2023 compared with 588 in 2022. But the 2023 figure was still not a marked improvement. In fact, while 2022 had the lowest figure since 2017, approvals in 2023 were the third lowest. As building permits provide more certainty as to what is likely to be built in Knox than planning permits, it is important to track the number of building approvals, as this gives a clearer indication of whether the housing challenge could be addressed within the short term or not.
- Escalating housing costs, very low availability of affordable rental options, and an identified shortfall in social housing remain critical policy concerns in Knox in 2023.** It was positive to observe that 19 social housing projects were added to the social housing stock in Knox in 2023. This was a noteworthy increase as only four social housing

projects were delivered in Knox during 2022. However, a huge shortfall⁴³ remained between social housing need and social housing supply in Knox. To increase the provision of social housing, Council continues to pursue policies and partnership opportunities to help facilitate solutions that can help address the identified shortfall.

- **VCAT decisions on planning permits was at its lowest in 2023.** With respect to coherence between Council and Victorian Civil and Administrative Tribunal (VCAT) decisions on residential planning permits, VCAT decided 12 residential planning applications for Knox in 2023. This was down from 14 in 2022 and 2021. Since 2012, the lowest VCAT cases recorded in Knox has been in 2023.
- **Environmentally Sustainable Design (ESD) targets for Knox in 2022-2023 were achieved (100%) on both potable water consumption and greenhouse gas (GHG) emissions reduction.** This implied that all permits for applicable new dwellings in 2022-2023 met both targets. This was equally the case in 2021-2022 financial year.

⁴³ As of 2023, an estimated 584 social and affordable housing are needed in Knox.

9. Next Steps: Future Housing Monitoring Program

The *Knox Housing Strategy 2015* specified that the performance of the strategy will be monitored and reported on annually. In keeping with this, the Housing Monitoring Program Report will continue to be published annually. As new data sources become available, other indicators will be developed and refined, to accurately track and monitor the performance of the *Knox Housing Strategy 2015*.

Future disaggregation of building permit data would provide more certainty around what is more likely to be built in the imminent future. Looking at planning approvals only tells us what might be built, as not all planning permits result in new residential development. Building permit numbers have been reported in the *2023 Housing Monitoring Program Report* and in the previous reports. The challenge with the building permit data is that, unlike the planning permit data, the building permit data does not identify the number of bedrooms of approved residential developments. This makes it impossible to ascertain the dwelling size of a residential development from the building permit. It is hoped that future ABS or building permit data may be further disaggregated into bedrooms.

Mapping tree canopy regularly would help to monitor tree canopy coverage change. Council is exploring various means of accessing consistent, comparable, and reliable data sources for tree canopy measurements. In the meantime, some tree canopy data from the Department of Energy, Environment and Climate Action (DEECA) have been presented in this report. However, DEECA has not made any firm commitments regarding the release of subsequent tree canopy coverages in the near future. Therefore, to enable future reports to examine changes in tree canopy cover in Knox over time, Council needs to expedite action and take concrete and timely steps to map and measure changes in tree canopy in Knox.

In a related publication, the *Knox Biodiversity Resilience Strategy 2024 – 2034* has recommended that Council set incremental canopy milestones in the lead up to the 2050 target of 30% canopy cover in Knox. This recommendation is important because it is currently impossible to ascertain how Council is doing with respect to the tree canopy target until we get to the year 2050, to determine whether the 30% canopy target has been met or not⁴⁴. Without incremental targets, even if the tree canopy data becomes available, the *Housing Monitoring Program Report* cannot state with certainty whether Council is on track or not with respect to tree canopy cover until we reach 2050.

Lastly, over the past few years, Council has been considering the possibility of creating an interactive Power BI dashboard to enhance data visualization and real-time reporting on the key targets and indicators as part of the *Knox Housing Strategy 2015*. Dashboard creation has commenced; however, it is important to note that the proposed interactive dashboard will not replace the annual *Housing Monitoring Program Report* but will instead complement the report with housing related data fed from Council's databases.

⁴⁴ For instance, Council can have incremental tree canopy targets for 2020, 2030 and 2040.

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Attachment 1: Definition of Housing Types

Table 3. Housing types as defined in the Knox Housing Strategy

Housing Type Definition	Indicative Lot Layout: Perspective View
<p>Detached dwelling: one dwelling on a lot.</p>	
<p>Dual occupancy: two dwellings on a lot (can include retention of an existing dwelling).</p>	
<p>Villa units: three or more dwellings on a lot with no shared walls.</p>	
<p>Townhouses: three or more dwellings on a lot sharing a wall or roof.</p>	
<p>Apartments: development of three or more stories in a single mass or multi-unit dwelling, usually with a common entrance.</p>	

For further details, see the [Knox Residential Design Guidelines 2015 – revised 2019](#) (p.24-28).

Attachment 2: Net growth in dwellings by Typology, 2015 to 2023

Figure 16. Net Growth in Dwellings by Typology

Townhouses remain the predominant dwelling type in terms of net growth since 2016⁴⁵

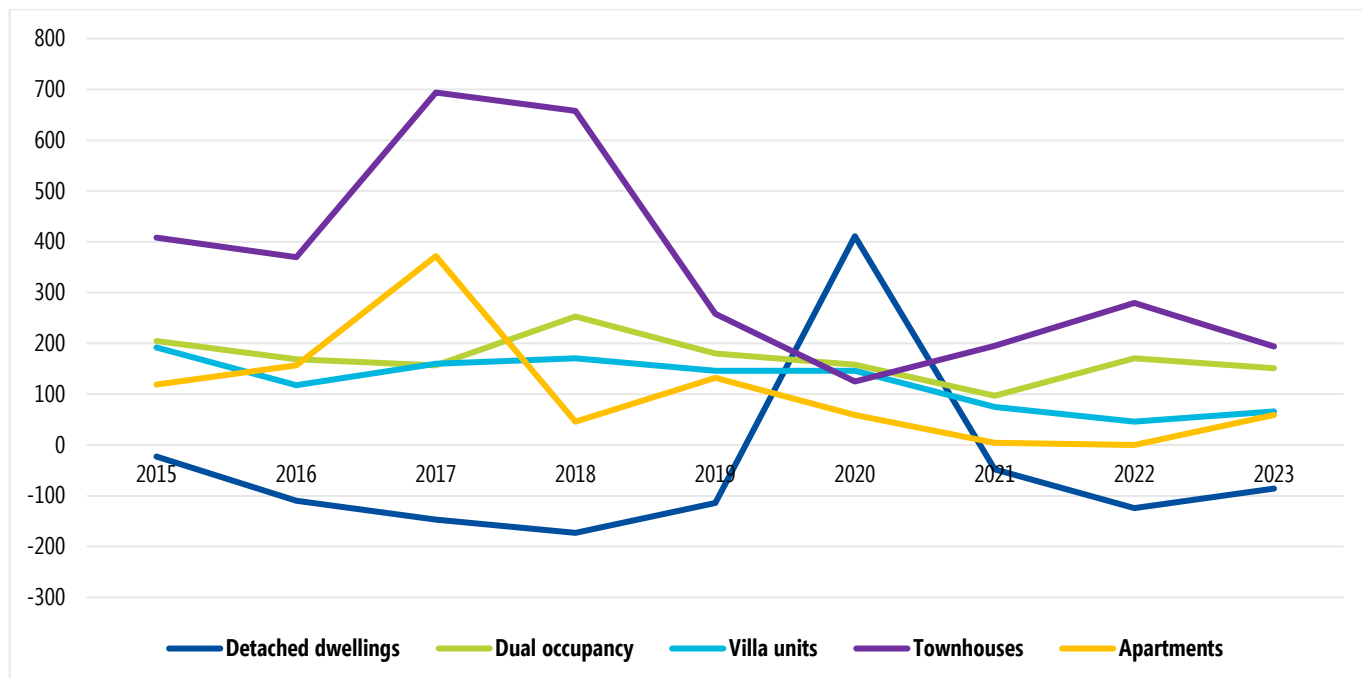
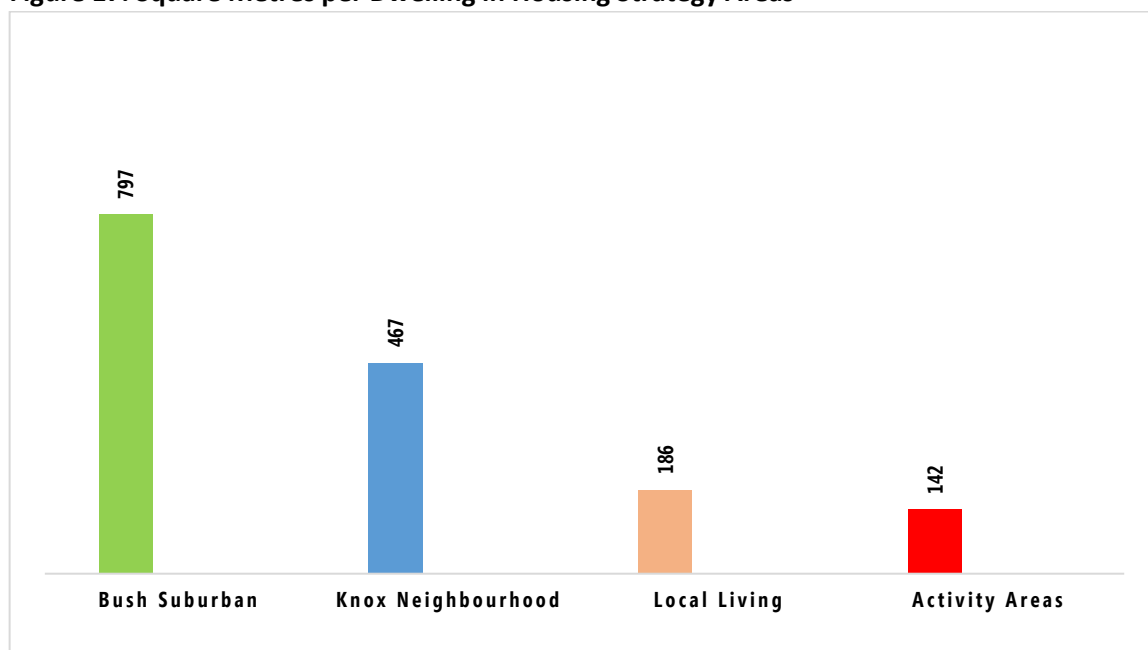


Figure 17. Square Metres per Dwelling in Housing Strategy Areas



The only exception to this trend was in 2020, where detached dwellings was the dominant typology.

⁴⁵ From 2015 to 2018, calculations of net growth by type are based on an assumption that all demolished dwellings were detached dwellings. Analysis of demolitions data from 2019 to 2022 suggests that this was accurate of 96.5% of demolitions.