

Memo

To: Simon Thurston and Damon Mathfield (Rotorua Lakes Council)

CC: Rachel Morgan and Cam Wallace (Barkers & Associates)

From: Euan Forsyth (GIS Analyst), Susan Fairgray (Associate Director), Natalie Hampson (Director)

Date: 19 May 2022

Re: Capacity of the Rural 2 Zone to Provide for Growth in Demand for Rural Lifestyle Properties

Introduction

The purpose of this memo is to provide analysis to inform Rotorua Lakes Council (and the wider Future Development Strategy (FDS) project team) of the demand and capacity, and therefore potential sufficiency, of the operative Rural 2 Zone to cater for future growth. This is directly relevant for the FDS, as any shortfall of capacity could be considered as part of the district wide growth planning. The analysis can also be used to understand the loss of capacity arising from options that up-zone any existing Rural 2 Zone areas for urban development.

Capacity for Residential Lifestyle Growth

Approach:

The analysis of capacity is based on a relatively simple approach of determining which parcels in the Rural 2 Zone have further subdivision potential once minimum lot sizes are applied.

Key assumptions underpinning this assessment include:

1. That Parcel boundaries are based on the latest LINZ primary parcel data. We have trimmed parcels to just the area within the Rural 2 Zone. These are then referred to as parent parcels/lots for the purpose of this analysis.
2. Where Significant Natural Areas (SNAs) overlap the Rural 2 Zone, SNAs have been excluded from the area with subdivision potential (i.e., removed from the parent parcel area). This is a conservative approach that avoids fragmentation of SNAs. In practice, we assume an SNA could form part of the minimum lot area so long as an appropriate building platform is still available outside of the SNA.
3. This analysis does not take into account the additional subdivision entitlement that is available to landowners who covenant (protect) an SNA, protect gullies or margins of water bodies or reduce nutrient run-off. Any such capacity would be net additional to the findings of this analysis.

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4. That a maximum 20m esplanade setback is applied from relevant streams and the lake itself (for relevant properties where an esplanade reserve has not already been applied). The esplanade area has been excluded from the area with subdivision potential (i.e., removed from the parent parcel area).
 5. That any Outstanding Natural Features or Landscapes (ONFLs) and Sensitive Area overlays covered >50% of a parent parcel in order to be tagged to that parcel. We note, ONFLs and Sensitive Areas have not been treated as a constraint to subdivision in M.E's model *per se* but are tagged to parcels to provide additional context for Council.
 6. The minimum lot size for subdivision in the Rural 2 Zone is 4,000sqm in reticulated areas and 8,000sqm in non-reticulated areas. Subdivision is a discretionary activity. The analysis does not consider the yield that may be achieved through boundary adjustments to increase the size of a parent lot.
 7. The analysis assumes that if the subdividable area of the parent lot is equal or greater than twice the minimum lot size, that this qualifies for subdivision. M.E has not tested subdivision practicality of each site. Rather, it is assumed that the parent lots are sufficiently large to provide some flexibility of subdivision boundaries that work around existing dwellings.
 8. This analysis relies on the Wastewater and Sewerage Scheme maps contained in the Long Term Plan (replicated by M.E in GIS visually off those published images) to inform which Rural 2 Zone areas are reticulated in the short term. No enquiry has been made on whether the reticulated areas (sewerage schemes) have additional capacity for growth or not. This may be a constraining factor – particularly in the Brunswick Sewerage Scheme areas which is a key area for net additional subdivision capacity under a 4,000sqm minimum lot size. The results may be overstated if infrastructure constraints apply.
 9. In addition, Council has advised that the zone area along Tarawera Road is capable of being reticulated and as such has been treated as such in the short term for the modelling. Figure 1 shows the assumed reticulated and non-reticulated areas in the short term.

Figure 1: Assumed reticulated and non-reticulated Rural 2 Zone Areas – Short Term



1. In the HBA, M.E assumed that the Pukehāngi Development Area would be served by network expansions in the medium term (to the boundary). We have assumed that the Rural 2 Zone in the structure plan will be reticulated in addition to the Residential 1 Zone areas by the developer. There is no capacity included in the short term (even at un-reticulated densities) on the assumption that the site has yet to undergo necessary land development.
2. Council have further advised that the zone area adjoining the Mamuku Village is identified for reticulation in the long term. As such the capacity in that location increases between the medium and long term as the minimum lot size changes (and assumes the subdivision is designed in the short and medium term with further subdivision in mind).
3. The Ōwhatiura Development Area – while zoned Rural 2 Zone – does not identify any rural lifestyle lots in the District Plan, and as such, no subdivision yield is counted in that location.
4. There are 2 noticeable existing subdivision plans in the Rural 2 Zone that include shared/common areas. One of these is Parkland Estate and the other is the North Riding Estate (Hamurana). There are a total of 59 lots already provided as part of those subdivisions. M.E has (conservatively) assumed that neither the common area or lots of those subdivisions could be further subdivided and are excluded.
5. The Ōturoa Vista Development Area is located in the Rural 1 Zone and so is not picked up by our spatial analysis. However, the Development Plan provides for 50 rural residential lots. This capacity is assumed to still be available and is added manually to the final data tables.

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6. The analysis relies on current (latest) aerial imagery and building outlines (LINZ) as a cross check to current vacant lots (relevant for results for net additional dwelling capacity). The analysis did not consider any consents for dwellings or subdivision that may have been issued and not yet given effect to.
 7. The analysis has not deducted any land area for roading within large greenfield lots. This means that for the few sites that have a large net additional yield (refer maps), this may be slightly over-stated (as the yield would be less if roading was required within the site). For the significant majority of parent lots that qualify for subdivision, the net additional yield is relatively low and it has been assumed that little (if any) gross land area would be lost to provide suitable access to the new sites.
 8. Last, the Spatial Plan 2018 identified some long term urban areas (mainly around Ngongotaha) that are currently undeveloped Rural 2 Zones. Capacity in these zones is included in the short and medium term, but excluded in the long term (as evident in the maps and tables provided). They are shown in the Spatial Plan Future Urban column in the results table and included in the total column. This may over-state capacity in the short and medium term, as developing these zones for rural residential living may preclude them effectively achieving an urban density in the long term.

Key findings

The following maps show the results for net additional lots yielded by subdivision in the Rural 2 zone¹, based on the assumptions set out above.

¹ The additional capacity of the Owhatiura Development Area is excluded from the maps as its based zone is Rural 1.



Figure 4: Net Additional Lot Yield in the Rural 2 Zone – Long Term

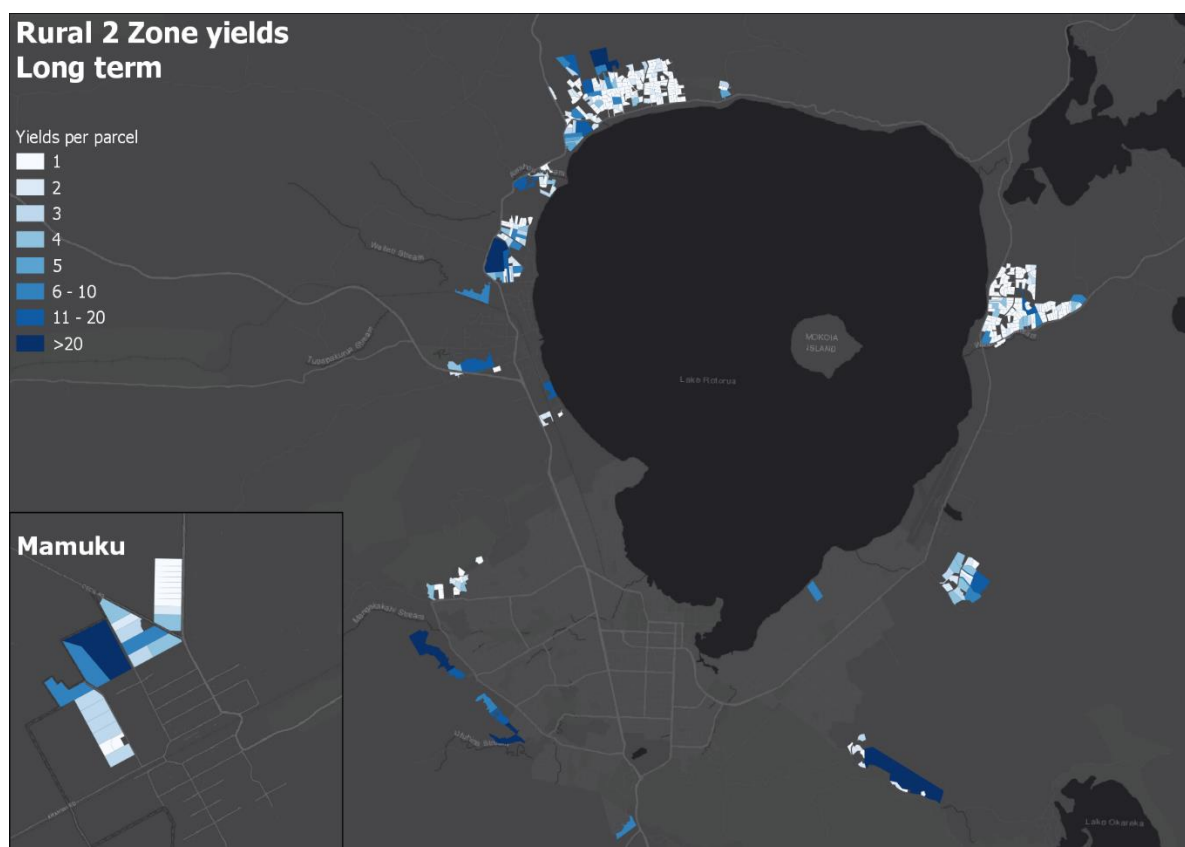


Table 1, below, records the net additional lot yields over time with regards to wastewater reticulation status and the two overlays of Sensitive Area and ONFL, and whether the zone area is within a Spatial Plan Future Urban area. In the short-term, there is estimated capacity for 1,144 net additional rural lifestyle lots increasing to 1,275 in the medium term (largely driven by the addition of capacity in Pukehāngi Heights) and 1,294 in the long term. Into the long-term, this growth is a function of the expansion of the wastewater network into Mamuku. As the network expands into the rural village, the minimum subdividable lot size decreases from 8,000 sqm to 4,000 sqm. The smaller lot sizes naturally enable greater subdivision potential. This long term increase is partially offset by the estimated loss of capacity for 23 net additional rural lifestyle lots if small areas around Ngongotaha are up-zoned in accordance with the Spatial Plan).

An estimated 778 net lots (68%) are unaffected (or unhindered) by any overlay in the short term. This figure drops to 61% in the medium-term (778 lots) before rising to 63% in the long-term (818 lots). This change is driven in the introduction of the Pukehāngi Heights, where many lots are likely to fall within a Less Sensitive Area.

Looking at the pattern of wastewater reticulation status, the distribution of potential net additional lots is consistently in favour of the reticulated areas, which is to be expected given the smaller minimum lot size requirements. In the short term, 972 of 1,144 (85%) potential additional lifestyle lots are located within the serviced areas. This percentage grows over the medium- (87%) and long-term

(91%) as the wastewater network is expanded to encompass the Rural 2 zones in Pukehāngi (medium-term) and Mamuku (long-term).

Table 1: Summary of net additional rural lifestyle lots over time by overlay & status

	Sensitive Area	Less Sensitive Area	ONFL	Unaffected	Total	Spatial plan future urban ²
Short-term						
Reticulated	196	117	3	656	972	0
Non-reticulated	0	44	6	122	172	23
Total	196	161	9	778	1,144	23
Medium-term						
Reticulated	196	248	3	656	1,103	0
Non-reticulated	0	44	6	122	172	23
Total	196	292	9	778	1,275	23
Long-term						
Reticulated	196	227	3	749	1,175	0
Non-reticulated	0	44	6	69	119	0
Total	196	271	9	818	1,294	0

M.E have also considered the net additional dwellings that could be accommodated in the Rural 2 Zone (on the assumption of one dwelling per lot). This analysis assigns one lot to every net additional lot created by subdivision, but also identifies any parent lots qualifying for subdivision that do not already appear to contain a dwelling and any sites that do not qualify for subdivision that are still

² This column double counts values from the Sensitive Area, Less Sensitive Area, ONFL, and Unaffected columns, which are unique counts. Therefore, it is not included in the total count for each time step.

vacant. This net additional dwelling yield is the appropriate comparator for demand, as demand is dwelling focussed (Table 2).

Table 2: Summary of net additional rural lifestyle dwellings over time by overlay & status

	Sensitive Area	Less Sensitive Area	ONFL	Unaffected	Total	Spatial plan future urban ³
Short-term						
Reticulated	210	127	5	727	1,069	0
Non-reticulated	0	46	7	131	184	25
Total	210	173	12	858	1,253	25
Medium-term						
Reticulated	210	265	5	727	1,207	0
Non-reticulated	0	46	7	131	184	25
Total	210	311	12	858	1,391	25
Long-term						
Reticulated	210	244	5	822	1,281	0
Non-reticulated	0	46	7	74	127	0
Total	210	290	12	896	1,408	0

Overall, in the short term, there is capacity for 1,253 net additional dwellings in the Rural 2 zone. This is 109 more than the net additional lot yield via subdivision, suggesting that there are still a moderate amount of vacant land parcels in the zone to accommodate growth. The capacity for additional dwellings in the zone if developed to its maximum density rises to 1,391 in the medium-term and to 1,408 in the long-term. As with the net additional lots, this increasing capacity pertains largely to both

³ This column identifies how many dwellings in Ngongotahā are switched to the Future Urban zone under the Spatial Plan 2018



the addition of capacity in the Pukehāngi Heights, and the expansion of the wastewater network into Mamuku.

It is important to acknowledge (within the limitations of this analysis) that this estimated net additional capacity in the Rural 2 zone is the maximum potential capacity for growth. Ultimately, many owners of rural lifestyle blocks may not be interested in reducing their land area and having closer neighbours. Some sites might have physical constraints that limit their potential lot/dwelling yield. Some of the sewerage schemes may not have capacity to sustain the subdivision potential identified. In practice, only a portion of this capacity may ever be realised. That portion is unknown.

Demand for Rural Lifestyle Properties

Approach:

The projected future demand for rural lifestyle properties has been estimated for the Rotorua District. Lifestyle properties are a sub-set of the non-urban, rural environment demand component estimated in the HBA. Other components of the rural environment demand include dwellings in minor settlements and rural dwellings on larger rural properties.

The Spatial Framework component of the base HBA Dwelling Demand Model disaggregates the rural environment demand across the above dwelling categories. The existing structure of rural environment dwellings has been estimated within the model through spatially integrating the parcel level dwellings estimate and descriptors within the Ratings Database with the District Plan zone layers.

The base structure of rural environment dwelling types has been projected forward within the model and equates to a medium growth outlook as preferred by Council in the HBA⁴. This has occurred as a function of the spatial distribution of base dwellings across the district and the localised growth projections within each SA2 area. Within this process, these estimates have been factored to allow for an increased propensity for growth to occur within the urban environment⁵, correspondingly reducing (slightly) the propensity for rural environment demand.

The final output from the rural environment demand modelling provides a projection of district demand for dwellings in minor settlements, rural lifestyle and rural dwellings.

Results:

The total district demand by dwelling type is shown in Table 3 (with figures rounded to the nearest 100). It shows that in 2020, lifestyle properties accounted for around 8% of the district's total dwelling

⁴ I.e., adopts the Infometrics medium projections for resident households at the district level, plus M.E estimates of non-resident dwellings.

⁵ This approach allows the modelling to reflect generally faster rates of urbanisation within a district. It ensures that the sufficiency assessment within the HBA remains conservative through assuming a higher share of urban demand.

demand. This equates to around 2,400 dwellings and amounts to nearly half (46%) of the rural environment dwellings. The remainder of rural environment dwellings were in the minor settlements (2,500 dwellings) and on rural properties (400 dwellings).

Table 3 shows that demand for lifestyle dwellings is projected to increase by an additional 100 dwellings in the short-term (to 2023), by 300 dwellings in the medium-term (to 2030), and by 600 dwellings in the long-term (to 2050, medium growth outlook). This equates to a total long-term lifestyle dwelling demand for around 3,000 dwellings in the long-term.

Lifestyle dwellings are projected to account for around 4% of the district's total short-term dwelling demand growth, and nearly half (45%) of the rural environment dwelling demand growth. This is projected to increase slightly to 5% of the projected medium and long-term total district demand growth and 46% of the long-term rural environment demand growth⁶.

Table 3: Projected Total District Dwelling Demand by Type: Short, Medium and Long-Term

Demand Type	Total Dwelling Demand				Net Change in Dwelling Demand		
	2020	2023	2030	2050	2020-2023	2020-2030	2020-2050
Urban Environment ¹	24,700	28,300	30,900	34,400	3,600	6,200	9,700
Rural Environment							
Minor Settlement	2,500	2,600	2,800	3,100	100	400	600
Lifestyle	2,400	2,500	2,800	3,000	100	300	600
Rural	400	400	400	400	20	50	90
<i>Total Rural Environment</i>	<i>5,200</i>	<i>5,500</i>	<i>6,000</i>	<i>6,600</i>	<i>300</i>	<i>800</i>	<i>1,300</i>
Total District	29,900	33,800	36,900	41,000	3,900	7,000	11,100

Source: M.E HBA Rotorua Dwelling Demand Model, 2021.

¹ Urban Environment demand includes latent demand and competitiveness margins.

Sufficiency of Rural Lifestyle Capacity

The total projected demand for lifestyle dwellings in the short, medium and long-term has been compared to the estimated capacity for net additional lifestyle dwellings within Rotorua's Rural 2 Zone (Table 2). This assesses the sufficiency of capacity to accommodate the projected future demand.

The sufficiency assessment of capacity across the short, medium and long-term is contained below in Table 4. The upper portion of the table shows the estimated capacity for additional lifestyle dwellings taken from Table 2 – but also rounded to the nearest 100. Capacity is disaggregated into parcels affected by sensitive areas and outstanding natural features ("affected capacity") and parcels unaffected by these potential constraints ("unaffected capacity"). This shows the extent to which sufficiency is reliant upon parcels affected by these features.

⁶ Note that the shares of growth include latent demand and the competitiveness margin within the urban environment component. If these were excluded, then the lifestyle dwelling share would increase slightly to 6% of the total district in the medium and long-term. The net growth would remain the same as that stated in Table 3.



The middle portion of the table contains the projected demand for lifestyle dwellings across the short, medium and long-term. In addition to the base projected demand above, a further demand projection has been included that has a competitiveness margin applied⁷. While it is not an NPS-UD requirement to apply a competitiveness margin outside of the urban environment, this has been included as a sensitivity test of the sufficiency of capacity.

The lower portions of the table contain the sufficiency assessment. Here, the projected demand is subtracted from the estimated dwelling capacity. The figures represent the net difference between demand and capacity, where net dwelling figures greater than zero indicate the extent to which capacity exceeds demand. The sufficiency assessment has been conducted across both unaffected and total capacity as well as base demand and demand with an additional margin.

The final section of the table expresses the demand as a percentage of estimated dwelling capacity under each combination. The demand share of capacity excluding a margin on demand forms the most useful comparison as it is closer to the likely growth of lifestyle properties. The inclusion of a margin already makes some allowance within the sufficiency assessment for other factors affecting the availability or uptake of capacity.

Table 4 shows that the estimated capacity exceeds the projected demand for lifestyle dwellings across the short, medium and long-term. The capacity exceeds demand in terms of both unaffected capacity only, as well as with the inclusion of a margin on demand. In the short-term, there is an estimated capacity surplus of between 700 and 1,100 dwellings. In the medium-term, the surplus decreases to between 400 and 1,000 dwellings as demand increases. In the long-term, the surplus equates to between 200 and 800 dwellings. The smaller surplus occurs under the scenario of lowest capacity (i.e., unaffected capacity only) and highest demand (i.e., the inclusion of a margin).

In evaluating the calculated sufficiency, it is also important to take account of the share of capacity that is likely to be required to meet future projected demand. It is unlikely that all of the plan enabled capacity will become available for development or be taken up and developed as lifestyle properties.

The final section of Table 4 shows that in the short-term, around 11% of the total capacity would need to be taken up to meet demand, or 16% of capacity if affected sites were excluded. In the medium-term, this increases to one-quarter (25%) of total capacity, and two fifths (40%) of unaffected capacity. In the long-term, the rates are reasonably high at closer to half (43%) of total capacity and just over two-thirds (68%) of unaffected capacity. This assumes no margin is applied to demand.

⁷ The margin is consistent with that applied to the urban environment dwelling demand in the Rotorua HBA. It amounts to an additional 20% on the short and medium-term net increase in demand, and an additional 15% on the net increase in demand that occurs between the medium and long-term.

Table 4: Estimated Sufficiency of Capacity for Lifestyle Dwellings in Rotorua District: Short, Medium and Long-Term

	Short-Term (2020-2023)	Medium-Term (2020-2030)	Long-Term (2020-2050)
Type	Capacity (net additional dwellings)		
Unaffected	900	900	900
Affected	400	500	500
Total	1,300	1,400	1,400
Type	Demand (net additional dwellings)		
No Margin	100	300	600
Incl. Margin	200	400	700
Sufficiency			
	Net Difference: Capacity - Demand		
	Base Demand - No Margin		
Unaffected Capacity	700	500	300
Total Capacity	1,100	1,000	800
	Base Demand - With Margin		
Unaffected Capacity	700	400	200
Total Capacity	1,100	1,000	700
	Demand as % of Capacity		
	Base Demand - No Margin		
Unaffected Capacity	16%	40%	68%
Total Capacity	11%	25%	43%
	Base Demand - With Margin		
Unaffected Capacity	19%	48%	80%
Total Capacity	13%	30%	51%

Source: M.E Rural Lifestyle Capacity Analysis, 2022 and M.E Rotorua HBA Dwelling Demand Model, 2021.

Nearly half (44%) of the net additional lot capacity (31% of unaffected capacity) is on parcels of 5 ha or greater. This suggests that these areas are not yet subdivided into potential future lifestyle lots. As such, there is less certainty over the potential future subdivision intentions of the landowners. Around one-quarter (24%) of the net additional lot capacity is on lots that are up to 1 ha in size. A share of these are occur in lifestyle areas that have previously been developed at larger lot sizes, with capacity occurring through the potential for further subdivision. The ability for wastewater or other infrastructure networks to accommodate a higher density of development within these areas (when already reticulated or planned to be reticulated) has not been assessed.

The required rate of capacity uptake to meet long-term demand and the patterns of capacity indicate that it may be appropriate to consider providing additional capacity for rural lifestyle development within the FDS in the long-term. This is particularly relevant if Council consider that the actual potential capacity is lower than estimated here (for reasons unknown to M.E such as infrastructure constraints) and/or the FDS growth scenarios plan to include more areas of existing Rural 2 zone as future urban growth areas than already identified by the Spatial Plan. Doing so would remove some of the capacity



identified in this analysis. A recalculation of capacity and sufficiency based on FDS growth scenarios can be carried out as an additional piece of work if this issue is likely to arise.

If you have any further questions on the analysis and findings, please do not hesitate to contact us.

Kind regards

Euan, Susan and Natalie