RESIDENTIAL SUBDIVISION STUDY

BLUE MOUNTAINS CITY COUNCIL

2002

Blue Mountains City Council

Residential Subdivision Study

Supporting
Draft Local Environmental Plan 2002

Sustainable Environmental & City Planning
City Sustainability Group

Printed by Blue Mountains City Council

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ACORONYMS AND ABBREVIATIONS

DCP Development Control Plan

GIS Geographical Information System

LEP Local Environmental Plan

LGA Local Government Area

1 INTRODUCTION

The purpose of this report is to provide the empirical background and rationale to the minimum lot size requirements proposed under Draft Local Environmental Plan (LEP) 2002. This is required in part because a range of planning, demographic and environmental factors have necessitated a significant departure from the current subdivision controls under Council's current local planning instrument, LEP 4. More broadly, the management of the future production of lots for residential development, which are regulated through subdivision provisions, is a primary function and priority in the development of Draft LEP 2002. On this basis it is important that the justification for these provisions is made explicit and that the anticipated outcomes of the proposed subdivision controls are explained.

Particular focus is given to the minimum lot size requirements proposed for the Living – Conservation and Living – Bushland Conservation zones within the draft plan. The areas proposed to be within these zones presently accommodate the majority of the existing residential population within the City and are fundamental to the overall management of growth in the Blue Mountains. Given the importance of subdivision activity in determining the extent and location of this growth, its analysis has been an important component in the development of Draft LEP 2002.

Specifically, this study aims to:

- Providing an overview of the social, environmental and construction/building trends that underpin current subdivision and development practice;
- Assess the amount and location of lands capable of subdivision under the existing and proposed instrument;
- Forecast the levels of subdivision activity at a range of minimum lot size scenarios to determine the subdivision requirements that best achieve the principal objectives of Draft LEP 2002;

1.1 BACKGROUND TO THE STUDY

In his report on the Public Hearing into Draft LEP 1997, Commissioner Dr Mark Carleton makes a clear and specific recommendation with regard to the subdivision provisions within the Draft LEP. To address an identified shortfall in the draft plan and its supporting documentation, the Commissioner recommended that Council "…conduct additional investigation to support the introduction of a more stringent minimum lot size for subdivision in the Living Conservation zone" (1998: ix). The Commission supported the minimum 1,200m^2 lot size in terms of its ability to satisfy the 'conservation' objectives of the then proposed Living Conservation zone. However, he recommended that Council make explicit the assumptions and assessment that underpin the introduction of new subdivision provisions. In particular he emphasised the link between environmental capacity to sustain development and lot size and density of development (1998: 75). The following report is based on a study that seeks to satisfy this recommendation.

1.2 ASSUMPTIONS

The intention of this study and report is to provide a *notional* assessment of overall subdivision activity. In effect, it seeks to provide a broad, city-wide assessment of future subdivision activity, rather than assessing the myriad of site-specific elements that underpin any subdivision application. Therefore no finding or component of this report should be regarded as an expected development outcome for individual sites, nor should any part of this report be construed as providing an indicative approval for any future subdivision proposals.

This study has assumed that those parcels containing either a whole building or part of a building are likely to retained in the short term (ie. until at least 2007). It also presumes that in the long term (ie. 20-25 years) a proportion of existing buildings may be demolished and sites redeveloped to achieve a higher lot yield. As this study is the first step in an ongoing revision and monitoring process, it does not account for potential 'demolish and rebuild' activity over the next 5 years.

The projections and findings in this report are based on the draft zones proposed under Draft LEP 2002. Therefore, the projections and thresholds within this study cannot account for possible future rezoning or subdivision activity within areas to which LEP 1991 applies.

2 PRINCIPLES AND ISSUES GUIDING SUBDIVISION IN DRAFT LEP 2002

2.1 PLANNING PRINCIPLES

A number of planning, environmental and demographic arguments have underpinned the approach to subdivision taken by Draft LEP 2002. This approach is underwritten by a series of planning principles that emerged in the development of Environmental Management Plan 2 in the mid 1990s and have been maintained through the Public Hearing into Draft LEP 1997 and the development of Draft LEP 2002. These principles, which are documented in Volume 1 of Environmental Management Plan 2002, seek to limit urban expansion and contain development within limits that are compatible with the protection of environment values.

2.1.1 Changing Dwelling Sizes

The size of dwellings currently being constructed are significantly larger than those developed since the Second World War. This is both in gross terms and in relation to the ratio of hard areas (ie. built) to soft areas (ie. natural or garden) on the parcel. For traditional 'quarter-acre' suburban development, this ratio was approximately 1 to 5, whereas current trends for larger buildings on smaller blocks have reduced this ratio to 1 to 2 (Barnett 1998). In terms of the preservation and the maintenance of urban character or environmental values, Barnett relevantly points out that:

> *"...much of the residual open space within the curtilage of these plots is along its margins, it is in all respects of little recreational or cultivational value. In contrast to the earlier model today's typical suburban plot is by its nature hard and inherently unsustainable."*
>
> (1998: 26).

It follows that lots with larger proportions of soft areas (ie. larger allotments) provide greater opportunities for the use of the site in a way that contributes to achieving sustainable outcomes. This is particularly important when considering the maintenance of garden or bushland character elements or for the protection of sensitive environmental components on the site, which are key objectives of the Living – Conservation and Living – Bushland Conservation zones.

These considerations build on the philosophy that underpinned the development of the '8 lots per hectare' requirement for subdivision of land within the Residential Bushland Conservation zone within LEP 1991. The objectives underpinning this zone provide for the maintenance of bushland character and the subdivision of land that was environmentally sensitive and site responsive. However, the statutory subdivision provisions under the Residential Bushland Conservation zone had in some instances failed to achieve these outcomes. In particular, '8 lots per hectare' requirement had lead to lot sizes in some instances as small as 600m² that, when coupled with relatively large dwelling houses, made compliance with stated zone objectives difficult. The preparation of Amendment 25 to LEP 1991 was directed to refining subdivision provisions to ensure that development could achieve these stated objectives and this Amendment has informed the development of subdivision provisions within Draft LEP 2002.

In a manner consistent with Amendment 25, subdivided lots within the Living Bushland Conservation zone are required to allow for at least 750m² of unconstrained development space. Such space is to be free from all those constraints falling within the definition of 'development excluded land' in Draft LEP 2002. This includes land which is zoned Environmental Protection - General, Slope Constraint Areas and Ecological Buffer Areas,

significant vegetation communities and their buffers, threatened species habitats and other significant features of the site.

2.1.2 Preservation of Residential Character

EMP 2002 and the supporting Residential Character Study discuss the concept of residential character and its importance to the urban fabric of the Blue Mountains. Subdivision activity has the potential to erode these values unless it is undertaken in a way that recognises predominant lot configurations and enables an enhancement of the overall development and landscaping themes that characterise a neighbourhood. A clear objective has emerged to maintain the subdivision patterns that have traditionally characterised the garden setting and dominant landscaped allotments in the Mountains. On this basis the introduction of a new minimum lot size for the Living – Conservation zone that retains existing larger allotments must be investigated. This seeks to ensure that larger allotment sizes do not continue to be eroded through subdivision facilitated by the retention of existing minimum lot size provisions.

2.1.3 Inaccessibility to Services and Infrastructure Limitations

The importance of centralized and concentrated service provision in areas in close proximity to public transport nodes is increasingly recognized as a guiding principle for the maintenance of vital and efficient urban centres. As a result, it has been the consistent intention of Draft LEP 2002 to accommodate higher residential densities, commercial activities and public services within the existing core village areas of the Mountains. This is in preference to permitting these activities to devolve to outer areas closer to the urban bushland interface.

Most of the residential development in the LGA occurs on land that is unsuitable for the on-site disposal of sewage using traditional septic systems. New residential subdivisions in the Mountains can only occur where reticulated sewer can be provided. However, reticulated sewer did not service many settled areas in the past. There remains a considerable number of properties that are still not connected to the sewerage system. These smaller unsewered properties pose a significant risk to public health and the environment, as they can pollute local streams and drinking water supplies. While Sydney Water has been undertaking major upgrading works throughout the mountains, there are insufficient resources available to service addition subdivisions on the urban fringes in some localities. On-site effluent disposal is only allowed on lots of at least 4000m² in area where effluent can be retained on site.

The provision of reticulated water across the Mountains is sufficient to service existing development, however the extent of future development will be limited by the capacity of existing systems. This affects several areas, including Katoomba and the Mid Mountains around Springwood. There are other areas that do not have sufficient capacity to service existing residential development, resulting in low water pressure, especially in peak summer periods. These areas include Blackheath, Mount Victoria, Linden and Faulconbridge.

Overall, there is insufficient infrastructure capacity or the resources to provide additional infrastructure to service increased urban density at the village fringes.

2.2 ENVIRONMENTAL IMPACTS

In addition to the impacts created by the limited extent of sewerage services in the Blue Mountains, there is a range of environmental impacts associated with increasing the density of development at the urban-bushland interface. These primarily relate to the quantity and quality of urban runoff, soil erosion and bushfire risk.

2.2.1 Urban runoff

The increasing urbanisation of water catchments usually results in:

- increased peak stormwater discharges
- increased downstream flooding
- declining stormwater quality
- decreased groundwater recharge

All these impacts are directly related to the amount of hard surfaces present in the catchment, which increase as lot sizes decrease.

2.2.1.1 Storm water quantity

Urbanisation of a catchment results in the creation of large areas of hard surfaces such as roofs, paths, driveways and roads, all of which can occupy 25-50% of a standard residential catchment. The majority of the runoff from an urban catchment occurs from these hard areas. The impervious areas decrease rainfall infiltration, leading to increased runoff volumes and accelerated overland flow velocities. With a decrease in lot size comes a concomitant reduction in the proportion of permeable surfaces available for rainfall infiltration. Additionally, the stormwater transport systems in urban areas (e.g. pipes and lined channels) can be more hydraulically efficient than natural watercourses, further increasing flow rates in watercourses. The resulting concentrated peak flows that immediately follow rainfall scour out drainage lines. This in turn often destabilises banks, increasing downstream sediment loads and causing flooding.

While some of these impacts can be ameliorated by the use of infiltration devices such as shallow retention trenches, leaky wells and infiltration basins, these are not often included in urban developments. Other more common infiltration devices such as porous paving have limited application in the Blue Mountains, as they are ineffective if constructed on slopes greater than 5% (Coombes 2001). The urban bushland fringe in the Mountains occupies slopes usually in excess of this gradient.

2.2.1.2 Storm water quality

Urbanisation generally increases pollutant concentrations in streams (O'Loughlin, Young & Molloy 1992), with the increased runoff volumes contributing to the common elevation of pollutant loadings. Although a generalisation, poor stormwater quality in freshwater systems has often been found to result in a reduced diversity of aquatic fauna and flora, and dominance by less ecologically desirable species (EPA 1996). As much of the urban fringe area abuts the World Heritage Area boundary, urban runoff has a significant potential to degrade the National Park's biodiversity.

A study of stormwater management options for Nikkinba Ridge subdivision in Newcastle modelled the difference between a number of stormwater treatments compared with the natural pre-development system (Coombes and Kuczera 2000). Using an urban stormwater model they showed that the suspended solids, nitrogen and phosphate concentrations present in a traditional stormwater system servicing 600m^2 lots were all more than 10 times that in the natural system before development for a 2 year ARI event (Table 1). These results related to the runoff generated by 220m^2 of roof area and 180m^2 of driveway surface for each 600m^2 lot, i.e. hard surfaces accounting for 66% of the site area.

Table 1: Pollutant concentrations in runoff

Scenario	Total Suspended Solids (mg)	Phosphates (mg)	Nitrogen (mg)
Undeveloped land	35 100	126	527
Traditional piped stormwater system*	466 227	1 538	6 859

** all impervious surfaces are connected to a piped stormwater system*

These impacts are particularly problematic in the Blue Mountains as urban runoff has a direct impact on the drinking water catchments servicing both the local communities and the broader Sydney region. Urban runoff can also encourage the growth of weeds in adjoining bushland. Nutrients are transported by stormwater into bushland, where weed growth is encouraged at the expense of native vegetation that generally requires low nutrient conditions. Weed seeds are also transported from residential areas by stormwater, with the higher moisture content at the drain outlets further encouraging weed establishment (Riley and Field 1996). Weed invasion from urban fringe development into the adjoining National Park is a recognised threat to maintaining the integrity and diversity of the World Heritage Area.

2.2.1.3 Ground water recharge

The Blue Mountains is an important area for groundwater recharge, where rainfall enters the groundwater aquifers through porous or cracked sandstone. Groundwater recharge is essential in the Blue Mountains for ensuring dry weather flows into swamp systems and the creeks feeding the area's waterfalls. Without sufficient recharge these systems may suffer in dry conditions. Increased impermeable surfaces and piped stormwater systems within urbanised catchments have little potential to recharge the aquifer which has potential to reduce groundwater recharge and cause long term changes in systems dependant on groundwater seepage.

2.2.2 Soil erosion hazard

Urban capability is the capacity of a parcel of land to support a particular intensity of urban development, without serious erosion and sedimentation occurring during construction, or instability and drainage problems in the longer term. Urban capability, as applied using soil landscapes, has been ranked on the basis of the severity of the limitations that are likely to affect urban land uses (Bannerman and Hazelton 1990). Some areas identified by soil landscape mapping as 'not capable of urban development' have already been urbanised in the Blue Mountains; and these areas suffer from the soil and landscape limitations identified in the mapping (i.e. cracking of roads and building foundations, sedimentation of watercourses, localised flooding etc.).

Mapping of soil landscapes in the Blue Mountains indicates that significant erosion hazard occurs on the steeper land either side of the ridge containing the main transport corridor. These soil landscapes comprise much of the urban fringe area surrounding the villages and typically comprise Hawkesbury, Wollangambe and Warragamba landscapes. As indicated in Table 2 all three are subject to severe water erosion hazard and other significant constraints, limiting their capability for urban development.

Table 2: Limitations to urban development for the more commonly occurring soil landscapes within the urban fringe areas of the Blue Mountains (from King 1994; Bannerman and Hazelton 1990).

Soil landscape	Topography	Urban capability
Wollangambe	**Slope <35%**	**Moderate to high limitations**
	Rounded crests and moderately to steeply inclined side slopes on Narrabeen Group sandstones. Local relief to 100m and slopes usually <35%. Elevation mostly >600 m. Small areas form the chain of towns along the GWH.	Moderate limitations on crests and high limitations on side slopes to urban development, and generally too steep for structural earthworks. High to severe water erosion hazard; steep slopes; localised rock-fall hazard and rock outcrops; shallow soils and high foundation hazard.
Hawkesbury	**Slope 25–70%**	**Severe limitations**
	Rolling to very steep slopes and ridges on Hawkesbury Group sandstone. Local relief from 40 m to 200 m and slope gradients from 25% to 70%. Urban development around Woodford and Hazelbrook.	Very high to severe limitation to urban development due to extreme water erosion hazard; severe foundation hazard; very shallow, stony, highly permeable soils; steep slopes; rock outcrops; mass movement hazard.
Warragamba	**Slope >35%**	**Severe limitations**
	Narrow crests and ridges and steep colluvial side slopes on Narrabeen Group sandstone. Local relief 80–130 m and slopes >35%. Elevation mostly <700 m. Occurs on the edges of towns along the GWH between Blackheath and Woodford.	Severe limitations for urban development, and too steep for structural earthworks. Mass movement hazard; steep slopes; severe water erosion hazard; severe foundation hazard; rock-fall hazard; acid, stony soils of low fertility; rock outcrops.

As noted above, urbanisation tends to concentrate flows while reducing infiltration. Where this occurs in areas comprising soil landscapes with severe water erosion hazard this typically leads to significant sediment transfers further down the catchment. As the World Heritage National Park totally surrounds the urban areas of the LGA, such downstream impacts are to be avoided. Thus the zoning response to these environmental issues is to ensure the density of settlement in the urban bushland interface remains low without precluding development from that land which has the capacity to sustain that development.

2.2.3 Bushfire risk

Bushfire is a constant threat to all development in the Blue Mountains. Draft LEP 2002 continues to recognize that residential development in even the most central village locations is exposed to at least a moderate bushfire risk when compared to other parts of the State. As a result, the assessment of bushfire risk and on-site mediation remains a core requirement for all proposed development (Part 3 Division 5, Clauses 77 and 78). As an important adjunct to this, the planning strategy in the Mountains places strong limitations upon the intensity of development in areas of highest risk. In particular, it is necessary to ensure that higher residential densities are discouraged on and near the urban bushland interface areas on the village fringes. In these areas, bushfire risk is more pronounced due to proximity to the generally undisturbed bushland, steep slopes and associated accessibility problems. Subdivision activity must remain a focus for planning in bush fire prone areas, with particular emphasis given to limiting concentrations of future residential development in highly bush fire prone areas.

Balancing the bushland character of the site with the need to reduce bushfire hazard on residential dwellings necessarily requires the retention of larger lot sizes. This is particularly relevant in village fringe areas where bushfire hazard is high. In these fringe areas, sufficient space needs to be available for Asset Protection Zones (APZ) whilst protecting the aesthetic and environmental qualities of each lot by minimizing the proportion of cleared on-site vegetation. Currently DCP 26 stipulates a 25-metre wide APZ contained within the lot to protect buildings in moderate or high fire hazard areas. The requirements for an APZ specified by the RFS in *'Planning for Bushfire Protection'* (RFS 2001) is dependent on the type of nearby vegetation and the slope between the bushland and the dwelling. The minimum APZ between houses and bushland is 20 metres on flat ground increasing to 70 metres on steep slopes. Larger lot sizes are required to enable the APZ to be wholly located and managed within these properties.

2.3 SUMMARY

To summarise Section 2, a number of considerations have necessitated a review of minimum lot sizes in the Blue Mountains as part of Draft LEP 2002:

- Although dwellings have begun to occupy a greater proportion of total lot areas as a general rule, this has not always produced the most efficient and sustainable use of land, resources and infrastructure, particularly on the urban-bushland fringe. In these areas, more intensive development impacts directly upon the bushland with which it shares an interface (ie. urban runoff, soil erosion, weed infestation, reduced ground water recharge), and requires new services and infrastructure to facilitate this remote development, as existing village services become inaccessible.
- The need to preserve the unique character of residential areas within the each of the villages. This recognises the importance of promoting a 'sense of place' and identity for the residents of the Mountains, and the contribution of character to local visitation and tourism.
- The need to minimise the exposure of new residential development to the threat of bushfire, by not increasing subdivision activity and residential densities in urban fringe areas.

3 ASSESSING EXISTING AND POTENTIAL SUBDIVISION PATTERNS IN THE BLUE MOUNTAINS

Having provided an overview of the guiding development and environmental principles that have underpinned the subdivision requirements of the Draft LEP, the next stage in the study is undertaking a detailed empirical analysis of lot formation within the Blue Mountains. This demonstrates the implications for lot creation and development activity at a range of alternative minimum lot sizes. This in turn underpins the determination of appropriate standards. Commissioner Carleton has identified the need for this analysis as one of 10 specific summary recommendations in his Public Hearing report (1998: ix).

3.1 ANALYSIS OF EXISTING SERVICED LOTS

3.1.1 Methodology

The first component of this analysis required the identification of vacant land parcels suitable for accommodating traditional detached dwelling houses or which are suitable for further subdivision. To assess the extent of vacant land supply within the areas covered by Draft LEP 2002, an analysis was undertaken of all zones within which dwelling houses are permissible. These zones are:

- Employment - Enterprise
- Village – Housing
- Village – Tourist
- Living – General
- Living – Conservation
- Living – Bushland Conservation

Although dwelling houses are permissible in Village - Tourist, Village – Housing and Employment – Enterprise zones, higher intensity developments such as multi-dwelling housing in the Village zones and a number of business and commercial uses in the Employment zones would tend to represent the 'highest and best use' within these zones. Accordingly, the lot yield analysis covered within Section 3.2.2 does not include these zones, rather focusing on the core residential zones of Living - General, Living - Conservation and Living - Bushland Conservation.

Draft LEP stipulates that new subdivision may only be undertaken where development is capable of being connected to the reticulated sewerage system (Part 4 Division 1, Clause 83). Therefore only sewered properties are included as part the analysis covered by this study. To further refine the analysis, lots under 300m² in size and with an area-to-perimeter ratio of less than 3 to 1 (i.e. very narrow lots) have been excluded from further consideration, as their size and configuration is unsuitable for subdivision. These lots typically include subdivision residuals, drainage reserves, access-ways and other small parcels of irregular configuration.

Council data on vacant land parcels was cross-checked against 1999 aerial photographs and then categorised using Council's GIS as being:

- **vacant**, defined as a parcel that does not contain a dwelling, although it may contain ancillary buildings such as garages, sheds, etc (coded V);

- occupied by an entire **dwelling** (coded D); or
- **partially** occupied by a dwelling (coded P).

The typical lot and dwelling configurations that satisfy each of the mutually exclusive categories are illustrated diagrammatically in Figure 1.

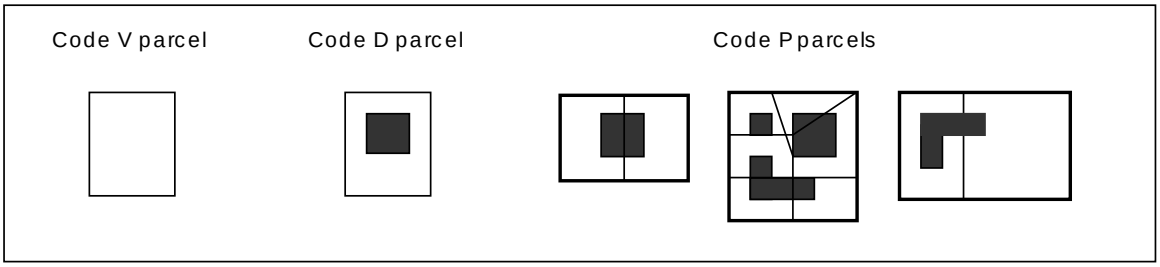


Figure 1: Typical lot scenarios and categorizations

To determine the potential development activity within the existing pattern of residential subdivision, single parcels as well as multiple adjoining parcels in a single ownership were examined. This identified those properties that could be further developed or subdivided to produce an increase in the stock of detached dwellings.

This data was then collated and summarised to provide a snapshot of properties that were both suitable and available for subdivision within each the zones in which detached dwelling houses are permissible.

3.1.2 Results

The analysis of existing lots within the area covered by Draft LEP 2002 was undertaken to determine the existing range of lot sizes and the amount of vacant serviced land capable of being subdivided. The total number of lots subject to this assessment within each of the zones in shown in Table 3.

Table 3: Number of existing lots by zone

Zone	Number of lots	Percentage of total lots
Employment - Enterprise	141	0.4%
Village - Housing	311	1.1%
Village - Tourist	297	1.0%
Living - General	6,557	22.6%
Living - Conservation	4,391	15.1%
Living - Bushland Conservation	17,337	59.7%
Total of above zones	29,034	100%

This assessment provides a preliminary indication of the impact of the draft plan upon total subdivision activity, by identifying the proportion of sites that are of sufficient size to permit further subdivision activity (based on existing and proposed provisions related to minimum lot size). The results of these assessments for each zone are summarised in Figure 2, Figure 3, Figure 4, Figure 5, Figure 6 and Figure 7 respectively.

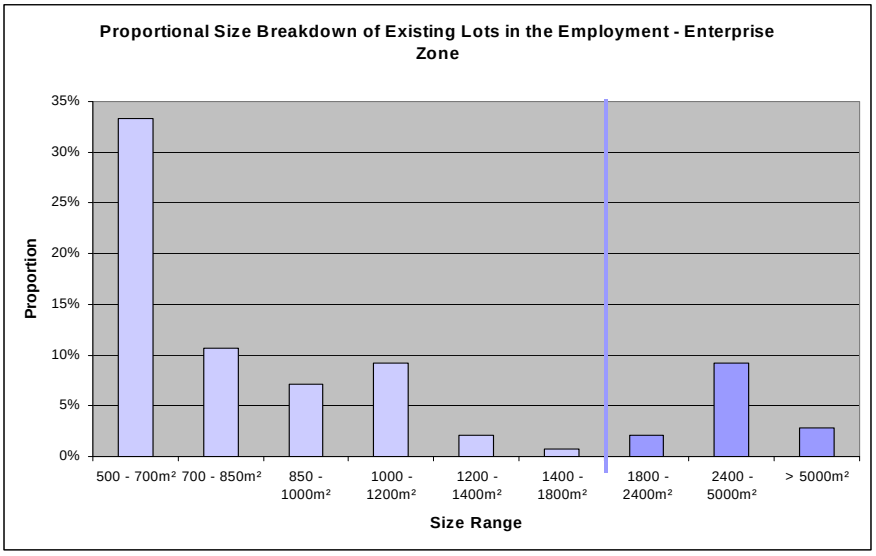


Figure 2: Proportional size breakdown of existing lots in the Employment – Enterprise Zone

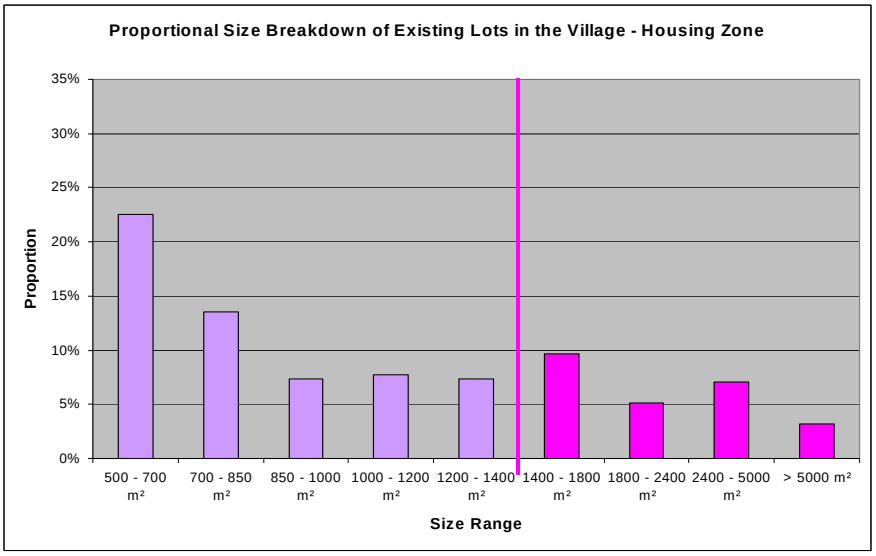


Figure 3: Proportional size breakdown of existing lots in the Village – Housing Zone

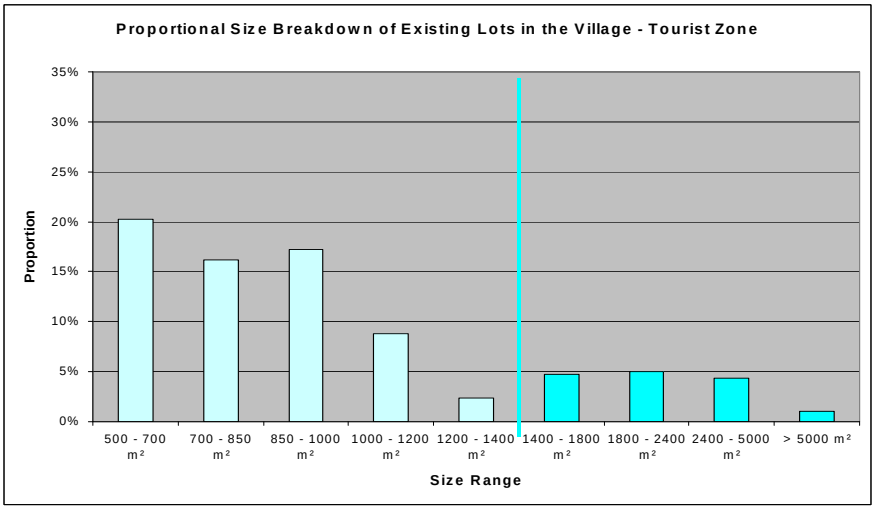


Figure 4: Proportional size breakdown of existing lots in the Village – Tourist Zone

Figure 2 shows that 14.2 percent of lots zoned Employment - Enterprise are capable of subdivision that produces one or more additional lots, while 25.1 percent of Village - Housing parcels and 15.2 percent of Village - Tourist parcels are able to produce one or more additional lots (Figure 3 and Figure 4). These proportions refer to those properties that are shown to the right of the subdivision threshold line within the relevant figures above. Although the Employment – Enterprise, Village – Housing and Village – Tourist zones each contain significant proportion of lots that could be subject to further subdivision activity under Draft LEP 2002, the comparatively limited number of lots in these zones should be considered in assessing potential land supply contributions from these zones. In addition, while these zones are likely to accommodate significant development activity, traditional residential subdivisions are unlikely to eventuate within these zones, as higher intensity uses with greater economic yields are permissible.

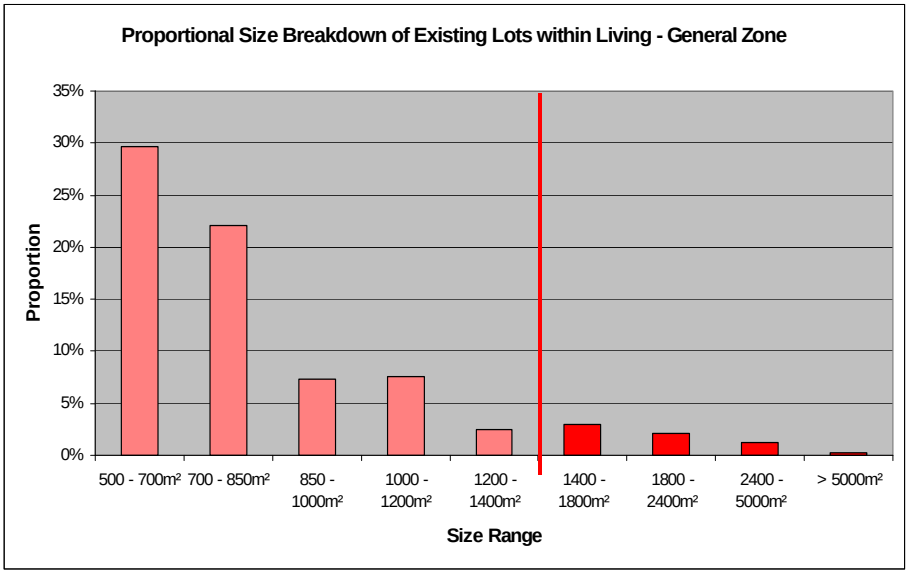


Figure 5: Proportional size breakdown of existing lots in the Living – General Zone

The Living – General zone consists predominantly of smaller lots for traditional detached residential development. Figure 5 indicates that the vast majority of lots within this zone (93.3%) are capable of accommodating a single dwelling house but are incapable of further subdivision. The remaining 6.7 per cent of parcels are capable of being subdivided to create at least one additional lot (ie. parcels right of the subdivision threshold line in Figure 5).

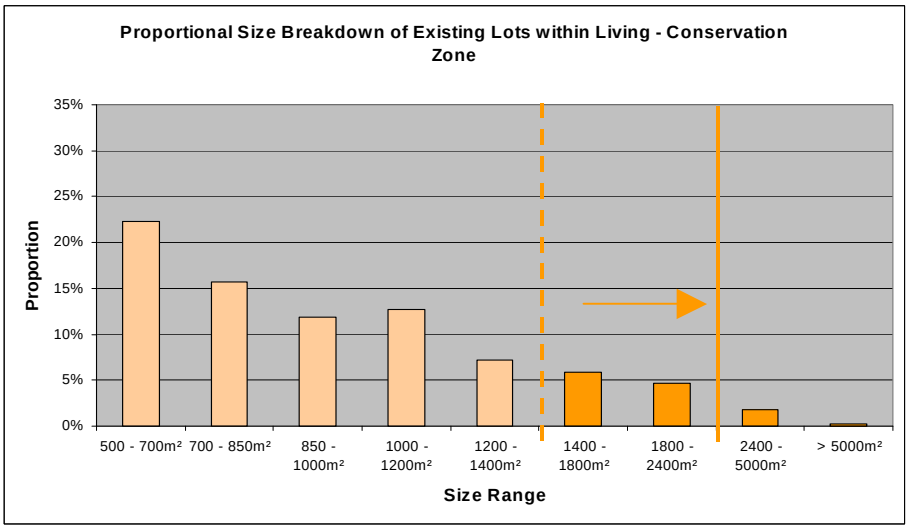


Figure 6: Proportional size breakdown of existing lots in the Living Conservation Zone

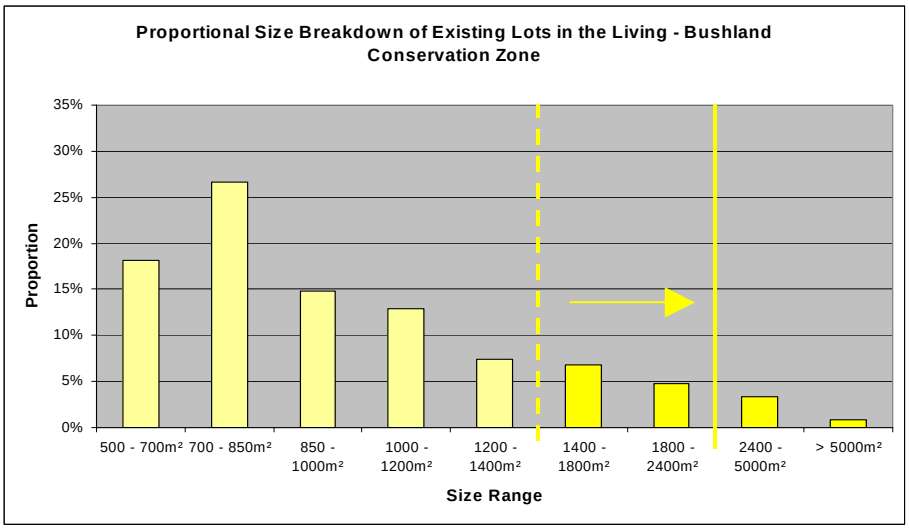


Figure 7: Proportional size breakdown of existing lots in the Living –Bushland Conservation Zone

As can be discerned from Table 3, approximately 75 percent of lots subject to the study are within the Living – Conservation and Living – Bushland Conservation zones. Managing future development activity in these zones is the prerequisite to controlling lot production and population growth in the urban parts of the Mountains, as Figure 6 and Figure 7 illustrate.

Under existing provisions within LEP 4, there is a minimum lot size of 700m², excluding battle-axe subdivisions that require a larger allotment size. Should subdivision activity continue on the basis of these provisions, approximately 549 parcels within the Living – Conservation zone (12.5%) and 2776 parcels within the Living – Bushland Conservation zone (15.7%) are capable of subdivision to produce one or more additional parcels.

As the subdivision threshold lines within these figures are shifted to the right to reflect the proposed minimum lot size as part of Draft LEP 2002, these proportions are reduced substantially and to levels that are commensurate with the Living-General zone. Should this not occur, future subdivision activity will be concentrated in areas:

- where larger allotment sizes help define residential character,
- that are within close proximity to the urban bushland interface, or
- which do not provide reasonable access to services.

Therefore, minimum subdivision sizes have been used as a tool to regulate the extent and distribution of development intensification within the based on various lot size scenarios for these two zones are discussed in more detail in Section 3.2.2.

3.2 POTENTIAL LOT YIELDS

3.2.1 Methodology

The land supply statistics derived using the methodology described in Section 3.1.1 were then used to determine the number of additional lots that could be developed within each of the Living zones at four varying minimum lot size scenarios. Each of the parcels were hypothetically subdivided to ascertain the possible number of lots able to be produced using the following minimum lot sizes:

- 720m² (which equates to the minimum lot size of 700m² permissible under LEP 4);
- 1000m² (being the size of the traditional quarter-acre allotment);

- 1200m² (being the minimum lot size proposed under Draft LEP 2002);
- 1400m² (which would double the present minimum lot size under LEP 4).

A number of assumptions, refinements and conditions have been applied to improve the accuracy of lot yield projections:

- The lot yield analysis assumes that subdivision activity will occur to its fullest potential across each of the Living zones to provide maximum possible lot yield figures for each of the above scenarios.
- All lands coded D or P (ie. contain a whole or part of a dwelling/building) have been assessed separately from lands coded V (ie. totally vacant). This accounts for the yields possible from only the vacant and developable portions of each parcel. Therefore, for lands coded D or P, one of the total number of lots that a land parcel is able to be subdivided into must be subtracted, as the subtracted lot contains a whole or part of an existing dwelling.
- The figures recognise that the number of lots generated from each parcel depend on whether the 'parent' lot is vacant or developed. For example, where a vacant lot is capable of subdivision into three parcels, three lots have been generated for future development. If the same lot of land had development on it, the parcel containing the development was deducted, leaving two lots available for future development.
- Lot yields resulting from subdivision within the Living – Bushland Conservation zone have been corrected to ensure that land containing significant environmental features (as prescribed by Draft LEP 2002) have been discounted as subdividable land, as required under Part 4 Division 1 Clause 82(9). This subclause requires that all subdivision within this zone must produce lots with a minimum of 750m² development space.
- To enable the application of a consistent methodology for each of the Living zones, individual site assessments for potential battleaxe subdivisions (which may offer alternative subdivision possibilities for sites of difficult or irregular lot configuration) have not formed part of these findings. This impacts particularly upon the Living – General zone, as its battleaxe requirements differ from those for conventional subdivision. This reinforces the notional nature of the following results for each of the Living zones.
- All results in Table 4, Table 5 and Table 6 are presented to indicate the number of existing parcels of sufficient size to enable subdivision within the 'Supply' column (adjusted to account for existing dwellings or buildings on the parcel) and the number of additional lots generated within the 'Generate' column.

3.2.2 Results: Minimum lot size scenarios

The above methodology was then used to determine the likely number of lots likely to be produced at a range of minimum sizes within the Living zones. The tables within this section of the report show the anticipated lot yield results for each of the Living zones for both vacant (code V) and developed (code D and P) subdividable parcels.

3.2.1.1 Living – Bushland Conservation

As discussed previously, the Living – Bushland Conservation zone is the most important in terms of managing the overall density and distribution of residential development in the Mountains. The zone is applied to 17,337 lots, constituting 61.1 per cent of land within the "Living" zones. It aims to allow low-density detached residential development within predominantly urban fringe areas in a manner that minimises the impact upon environmentally sensitive areas and retains bushland character. Table 4 shows the projected lot yields for vacant and partially developed parcels within this zone, to assist in determining a lot size that enables a manageable rate of growth whilst protecting these values.

Table 4: *Lot yield scenarios: Living – Bushland Conservation*

Subdividable Vacant Land								
Town	**700 m² (LEP 4 requirement)**		**1000 m² (possible Draft LEP 2002)**		**1200 m² (possible Draft LEP 2002)**		**1400 m² (possible Draft LEP 2002)**	
	Supply	**Generate**	**Supply**	**Generate**	**Supply**	**Generate**	**Supply**	**Generate**
Bell	0	0	0	0	0	0	0	0
Mount Victoria	12	26	1	2	1	2	1	2
Blackheath	23	96	8	28	4	20	3	17
Medlow Bath	0	0	0	0	0	0	0	0
Katoomba	49	155	15	45	9	29	5	18
Leura	37	113	10	21	7	14	6	12
Wentworth Falls	28	129	13	66	10	49	9	39
Bullaburra	12	35	3	6	0	0	0	0
Lawson	12	39	3	6	2	4	1	2
Hazelbrook	21	61	5	15	4	12	3	9
Woodford	9	22	2	4	1	2	1	2
Linden	0	0	0	0	0	0	0	0
Faulconbridge	9	23	2	5	2	5	2	4
Springwood	14	53	4	15	4	13	3	9
Valley Heights	11	33	2	5	1	3	1	3
Winmalee	14	43	0	0	0	0	0	0
Yellow Rock	0	0	0	0	0	0	0	0
Hawkesbury Heights	0	0	0	0	0	0	0	0
Warrimoo	2	4	0	0	0	0	0	0
Blaxland	14	53	4	9	3	6	2	4
Glenbrook	11	105	5	47	5	41	5	38
Lapstone	0	0	0	0	0	0	0	0
Mount Riverview	4	8	0	0	0	0	0	0
Subtotal - Vacant Land	**282**	**998**	**77**	**274**	**53**	**200**	**42**	**159**
Subdividable Developed Land								
Town	**700 m² (LEP 4 requirement)**		**1000 m² (possible Draft LEP 2002)**		**1200 m² (possible Draft LEP 2002)**		**1400 m² (possible Draft LEP 2002)**	
	Supply	**Generate**	**Supply**	**Generate**	**Supply**	**Generate**	**Supply**	**Generate**
Bell	0	0	0	0	0	0	0	0
Mount Victoria	53	123	24	48	19	35	12	20
Blackheath	105	387	52	167	37	132	19	68
Medlow Bath	0	0	0	0	0	0	0	0
Katoomba	259	760	96	305	69	243	37	158
Leura	207	385	56	101	29	63	12	36
Wentworth Falls	181	511	69	252	43	182	34	141
Bullaburra	111	221	51	78	29	45	18	26
Lawson	90	198	27	39	19	26	8	11
Hazelbrook	175	458	52	149	46	125	25	80
Woodford	123	215	24	50	18	35	9	21
Linden	1	2	0	0	0	0	0	0
Faulconbridge	145	359	31	137	21	106	11	82
Springwood	259	748	56	214	44	170	25	121
Valley Heights	51	63	7	8	1	1	1	1
Winmalee	241	494	37	117	23	85	8	59
Yellow Rock	0	0	0	0	0	0	0	0
Hawkesbury Heights	0	0	0	0	0	0	0	0
Warrimoo	49	120	8	35	4	30	2	10
Blaxland	181	462	32	167	25	134	16	100
Glenbrook	136	296	49	76	30	51	10	16
Lapstone	10	13	1	1	0	0	0	0
Mount Riverview	117	183	15	43	7	29	3	21
Subtotal - Developed Land	**2494**	**5998**	**687**	**1987**	**464**	**1492**	**250**	**971**
TOTAL	**2776**	**6996**	**764**	**2261**	**517**	**1692**	**292**	**1130**

Having accounted for the exclusion of environmentally sensitive lands, the yield results indicate a marginally greater scope for subdivision in the lesser-developed Upper Mountains. Wentworth Falls, Leura, Katoomba and Blackheath have a larger supply of vacant and subdividable parcels than in the Lower Mountains. However, the overall growth from this zone can generally be expected to be consistent across the LGA. Hazelbrook, Faulconbridge, Springwood and Blaxland are also capable of adding significantly to the stock of new lots. There is little to no subdivision activity expected within this zone from the smaller villages, which are either near development capacity (such as Lapstone, Hawkesbury Heights and Linden) or have adequate sewerage infrastructure (such as parcels within Medlow Bath).

Table 4 highlights the relatively broad scope for subdivision under the current LEP 4 minimum requirement of 700m². There are a total of **6996 lots** (combining the total projections for subdividable vacant and developed lands) that could be produced under the current provisions within the Living Bushland Conservation zone. An examination of these total anticipated lot yields at the various scenarios demonstrates that, in a largely consistent fashion, as the minimum lots size increases from the existing requirement by one increment (ie. from 700m² to 1000m²), a substantial reduction in overall yield to 2261 new lots is the result.

However, the figures show that the *rate* of this reduction in lot production is not as pronounced once minimum lot sizes in excess of 1000m² are imposed. To illustrate this, increasing the minimum size requirement from 1000m² to 1200m² reduces the total yield to **1692 lots** and the increase in size from 1200m² to 1400m² reduces the yield further to 1130 new lots. Therefore, while a degree of low density residential growth is allowed to continue at minimum lots sizes of greater than 1000m, these sizes enable a more manageable rate that takes into account the range of planning and environmental factors that subdivision provisions are required to achieve in the Blue Mountains.

To use an example at the village level, in Wentworth Falls, retaining the existing 700m² minimum requirement as part of Draft LEP 2002 would produce an additional 640 new lots if full subdivision potential is realised, whereas a 1000m² minimum would only produce an additional 318 lots – reducing the total number of new additional lots by 322. By comparison, the difference in new lot numbers between a 1000m² minimum (producing 318 new lots) and a 1200m² minimum (231 new lots) is 87 lots. Another incremental increase from 1200m² to a 1400m² minimum produces a further reduction in the number of additional lots by 51. Therefore, as the minimum size requirement increases beyond 1000m², the total number of additional lots decreases at a decreasing rate, becoming particularly evident around the 1200m² to 1400m² minimum size.

This analysis tends to suggest that a 1200m² minimum lot size requirement represents a reasonable equilibrium point for achieving a controlled and balanced distribution of residential growth. In most villages, the difference in lot yields between a 1200m² and 1400m² minimum lot size is relatively small compared to other possible yields, reflecting the fact that the vast majority of parcels in this zone are comprised of smaller lots that are incapable of subdivision at any minimum requirement (refer Figure 7). Therefore, 1200m² emerges as the least restrictive minimum subdivision area requirement that enables the retention of the environmental attributes and the intended low-density character of development on the urban bushland fringe.

3.2.1.2 Living – Conservation

The proposed Living – Conservation zone has been incorporated into the Draft LEP 2002 zoning scheme with the overarching objective of preserving the residential character that exists within certain parts of the villages. The elements contributing to these 'character areas' typically include large lots with prominent gardens and a prevalence of more traditional building forms. Subdivision activity within this zone, therefore, is primarily concerned with the need to preserve and retain these qualities (refer Section 2.1.2).

Table 5: Lot yield scenarios: Living - Conservation

Subdividable Vacant Land								
Town	**700 m² (LEP 4 requirement)**		**1000 m² (possible Draft LEP 2002)**		**1200 m² (possible Draft LEP 2002)**		**1400 m² (possible Draft LEP 2002)**	
	Supply	**Generate**	**Supply**	**Generate**	**Supply**	**Generate**	**Supply**	**Generate**
Bell	0	0	0	0	0	0	0	0
Mount Victoria	0	0	0	0	0	0	0	0
Blackheath	13	36	5	13	3	8	3	6
Medlow Bath	0	0	0	0	0	0	0	0
Katoomba	1	2	0	0	0	0	0	0
Leura	22	51	5	12	2	5	2	4
Wentworth Falls	16	44	7	20	3	9	3	8
Bullaburra	3	6	0	0	0	0	0	0
Lawson	2	5	1	2	0	0	0	0
Hazelbrook	0	0	0	0	0	0	0	0
Woodford	0	0	0	0	0	0	0	0
Linden	0	0	0	0	0	0	0	0
Faulconbridge	0	0	0	0	0	0	0	0
Springwood	0	0	0	0	0	0	0	0
Valley Heights	0	0	0	0	0	0	0	0
Winmalee	0	0	0	0	0	0	0	0
Yellow Rock	0	0	0	0	0	0	0	0
Hawkesbury Heights	0	0	0	0	0	0	0	0
Warrimoo	0	0	0	0	0	0	0	0
Blaxland	0	0	0	0	0	0	0	0
Glenbrook	6	21	4	14	1	6	1	5
Lapstone	0	0	0	0	0	0	0	0
Mount Riverview	0	0	0	0	0	0	0	0
Subtotal - Vacant Land	**63**	**165**	**22**	**61**	**9**	**28**	**9**	**23**
Subdividable Developed Land								
Town	**700 m² (LEP 4 requirement)**		**1000 m² (possible Draft LEP 2002)**		**1200 m² (possible Draft LEP 2002)**		**1400 m² (possible Draft LEP 2002)**	
	Supply	**Generate**	**Supply**	**Generate**	**Supply**	**Generate**	**Supply**	**Generate**
Bell	0	0	0	0	0	0	0	0
Mount Victoria	0	0	0	0	0	0	0	0
Blackheath	58	141	31	71	18	44	16	33
Medlow Bath	0	0	0	0	0	0	0	0
Katoomba	21	53	11	31	4	19	3	15
Leura	256	395	89	129	38	63	30	43
Wentworth Falls	171	344	89	167	53	94	42	67
Bullaburra	29	47	11	18	5	8	5	6
Lawson	39	65	22	28	9	13	5	7
Hazelbrook	2	3	1	1	0	0	0	0
Woodford	0	0	0	0	0	0	0	0
Linden	0	0	0	0	0	0	0	0
Faulconbridge	11	14	2	2	2	2	1	1
Springwood	24	33	3	7	2	5	2	4
Valley Heights	0	0	0	0	0	0	0	0
Winmalee	0	0	0	0	0	0	0	0
Yellow Rock	0	0	0	0	0	0	0	0
Hawkesbury Heights	0	0	0	0	0	0	0	0
Warrimoo	0	0	0	0	0	0	0	0
Blaxland	0	0	0	0	0	0	0	0
Glenbrook	138	194	52	68	22	31	11	17
Lapstone	0	0	0	0	0	0	0	0
Mount Riverview	0	0	0	0	0	0	0	0
Subtotal - Developed Land	**749**	**1289**	**311**	**522**	**153**	**279**	**115**	**193**
TOTAL	**812**	**1454**	**333**	**583**	**162**	**307**	**124**	**216**

In a similar fashion to the Living – Bushland Conservation zone, the formulation of an appropriate minimum size that enables the retention these character values begins to emerge through an assessment of possible lot yield scenarios. Table 5 details a range of potential lots yield scenarios, derived from the data collated on both vacant and partially developed land within the Living – Conservation zone.

The Living – Conservation zone is the least widespread of the three Living zones, having been selectively applied to only 4391 lots or 15.5 per cent of lots within one of one of the Living zones. As a result, the overall gross yields are significantly lower than those of the other Living zones, particularly given the small proportion of subdividable vacant parcels. However, Table 5 highlights that the majority of additional lot production is expected to come from the subdividable Living – Conservation lands in the Upper Mountains, most notably including Blackheath, Leura and Wentworth Falls. Elsewhere, the supply of additional lots within this zone comes from Glenbrook almost exclusively, given the general absence of this zoning in the Lower Mountains and in a number of the smaller villages.

A comparison of the outcomes for subdivision activity between the Living – Bushland Conservation (Table 4) and Living – Conservation (Table 5) demonstrates the consistent city-wide impact of increasing minimum lot sizes to 1000m² and beyond. Table 5 indicates that the Living - Conservation zone is capable of producing a total of **1454 lots** (comprising 165 from vacant parcels and 1289 from developed parcels) if the current minimum lot size of 700m² is retained as part of Draft LEP 2002. As per the findings for Living – Bushland Conservation, increasing the minimum lot size to 1000m² produces the most significant reduction in overall yield to 583 additional lots. Increase in lot size beyond 1000m² produces more stable rates of new lot production, with the minimum sizes of 1200m² producing **307 lots** and 1400m² producing 216 new lots across the City.

The city-wide lot yield patterns within this zone are also mirrored consistently at the township level. For example, the retention of the 700m² requirement within this zone could potentially produce a maximum of 33 new lots in Springwood. If a 1000m² minimum is considered, the number of new lots is reduced significantly to 7, which is a difference from the 700m² yield of 26 lots. Increasing the minimum lot size from 1000m² to 1200m² reduces the overall number of new lots by 2 to a total of 5 new lots. The incremental increase in the minimum size from 1200m² to 1400m² produces an even less significant change in terms of lot yield, with only 1 additional lot being the difference for the entire village between these two lot size options.

Consistent with the findings for Living – Bushland Conservation, this assessment of the Living Conservation zone demonstrates how the adoption of a minimum lot size lot beyond 1200m² within this zone has a negligible impact upon the number of new lots capable of being created by new subdivision activity. Therefore, 1200m² emerges as the lot size requirement that both allows sufficient space on individual parcels for the preservation of existing neighbourhood character, while acknowledging that the zone is not intended to accommodate the densities of the inner village areas.

Living - General

The Living – General zone under Draft LEP 2002 in essence proposes to retain the objectives and development emphasis of the existing Residential 2(a1) zone under LEP 4, being the accommodation of a broader range of housing and related uses. The Living – General zone is generally applied within close proximity of village centres, where higher density development is encouraged under Draft LEP 2002. The proposed minimum lot size of 720m² therefore reflects both the existing density of these areas adjacent to the village centres and the need to have this level of residential development retained into the future.

For these reasons, the intention of this zone is to maintain the 'status quo' in terms of development densities and subdivision potential. This is in contrast to the zones on the urban fringe, which warrant significantly lower densities. In providing for stable levels of

development within the 'Living' zone proposed under Draft LEP 1997, the provisions in that plan required a minimum unconstrained building space of 180m² occupying no more than 25 percent per parcel, thereby necessitating a minimum lot size of 720m². In investigating the validity of this standard for possible use as part of Draft LEP 2002, the median size of all lots to be zoned Living – General (724.2m²) was found to replicate this proposed minimum lot size, reinforcing the findings of the Draft LEP 1997 investigations. Therefore, this minimum lot size was again adopted as part of Draft LEP 2002 and forms the basis of the lot yield projections that follow in Table 6.

Table 6: Projected Lot Yields: Living - General

Subdividable Vacant Land		
Town	**720 m² (Draft LEP 2002 requirement)**	
	Supply	**Generate**
Bell	0	0
Mount Victoria	1	5
Blackheath	2	12
Medlow Bath	0	0
Katoomba	4	9
Leura	0	0
Wentworth Falls	2	4
Bullaburra	0	0
Lawson	6	16
Hazelbrook	0	0
Woodford	0	0
Linden	0	0
Faulconbridge	1	2
Springwood	4	8
Valley Heights	0	0
Winmalee	1	2
Yellow Rock	0	0
Hawkesbury Heights	0	0
Warrimoo	0	0
Blaxland	5	12
Glenbrook	0	0
Lapstone	0	0
Mount Riverview	0	0
Subtotal - Vacant Land	**26**	**70**

Subdividable Developed Land		
Town	**720 m² (Draft LEP 2002 requirement)**	
	Supply	**Generate**
Bell	0	0
Mount Victoria	17	60
Blackheath	29	64
Medlow Bath	0	0
Katoomba	41	67
Leura	10	14
Wentworth Falls	26	41
Bullaburra	0	0
Lawson	14	25
Hazelbrook	20	20
Woodford	0	0
Linden	0	0
Faulconbridge	25	76
Springwood	41	166
Valley Heights	0	0
Winmalee	14	27
Yellow Rock	0	0
Hawkesbury Heights	0	0
Warrimoo	0	0
Blaxland	67	134
Glenbrook	30	39
Lapstone	0	0
Mount Riverview	1	1
Subtotal - Developed Land	**335**	**734**

TOTAL	**Supply**	**Generate**
Vacant + Developed	361	804

Table 6 indicates that there are a total 361 existing Living – General lots capable of subdivision, expected to produce **804 lots** within this zone across the Mountains. Given the restricted availability of vacant subdividable land close to the village centres, the majority of these additional lots will result from small subdivisions of existing developed lots into two or three lots. This is particularly evident in well-established low-density villages such as Leura, Glenbrook and Winmalee, where opportunities for further subdivision close to the village centres are limited.

The presence of large partially developed parcels in Blaxland, Springwood, Faulconbridge and Mount Victoria may add a significant number of new lots within the Living – General zones of these villages. However, the number of additional lots has the potential to increase in each of the villages containing a Living – General zone to varying extents. The residential

areas of a number of the smaller villages that do not contain a Living – General zone (ie. Subdividable Developed Land where Supply = 0) cannot produce a yield.

While it is important to acknowledge the capability of the Living – General zone to accommodate subdivision activity and steady growth, this study places the highest priority upon the assessing a range of development projections within the urban fringe areas of the City. Therefore, the significance of retaining the lot size requirement within this zone is to emphasise this objective for maintaining current growth rates and providing housing choice closer to village centres. This is in contrast to the more pro-active provisions applied to control densities in the relatively inaccessible, environmentally sensitive and character-significant parts of the urban area.

3.3 SUMMARY

The analysis in Section 3 of this report has highlighted the following key points:

- The majority of allotments capable of accommodating detached dwellings (ie. within the Employment – Enterprise, Village – Housing, Village – Tourist and Living zones) are of insufficient size to accommodate further subdivision under existing instrument, LEP 4. Despite significant vacant developable lands within the Employment – Enterprise, Village – Housing and Village - Tourist zones, these are not expected to add significantly to overall subdivision activity, as higher intensity land uses are permissible and are likely to be more favoured as development options within these zones.
- The larger minimum lot size requirements proposed for the Living – Conservation and Living – Bushland Conservation zones as part of Draft LEP 2002, being the zones occupying the outer areas of the villages, will significantly reduce the proportion of lots capable of further subdivision in comparison to the proportion subdividable under existing LEP 4 provisions.
- In assessing the projected yield of additional lots from the Living zones across the City, a minimum lot size of 1200m² emerges as the least restrictive minimum lot size that adequately ensures that the environmental objectives of the Living – Bushland Conservation zones are met and adequately ensures the retention of urban character attributes within the Living – Conservation zone. Should this minimum lot size not be introduced within these zone, future subdivision activity would become concentrated in these zones rather than in the Living-General zone.
- The minimum lot size of 720m² for the Living – General zone under Draft LEP 2002 remains consistent with that of the current LEP 4 subdivision provisions, ensuring that residential densities are retained in areas readily accessible to village services.

4 IMPLICATIONS FOR CITY- WIDE SUBDIVISION ACTIVITY

The analysis in the previous section outlines the range of possible residential development futures that are likely to occur dependent upon the minimum lot size requirements adopted within Draft LEP 2002. The lot sizes analysed have an important bearing upon the eventual distribution of densities throughout both the urban areas and the surrounding natural environment.

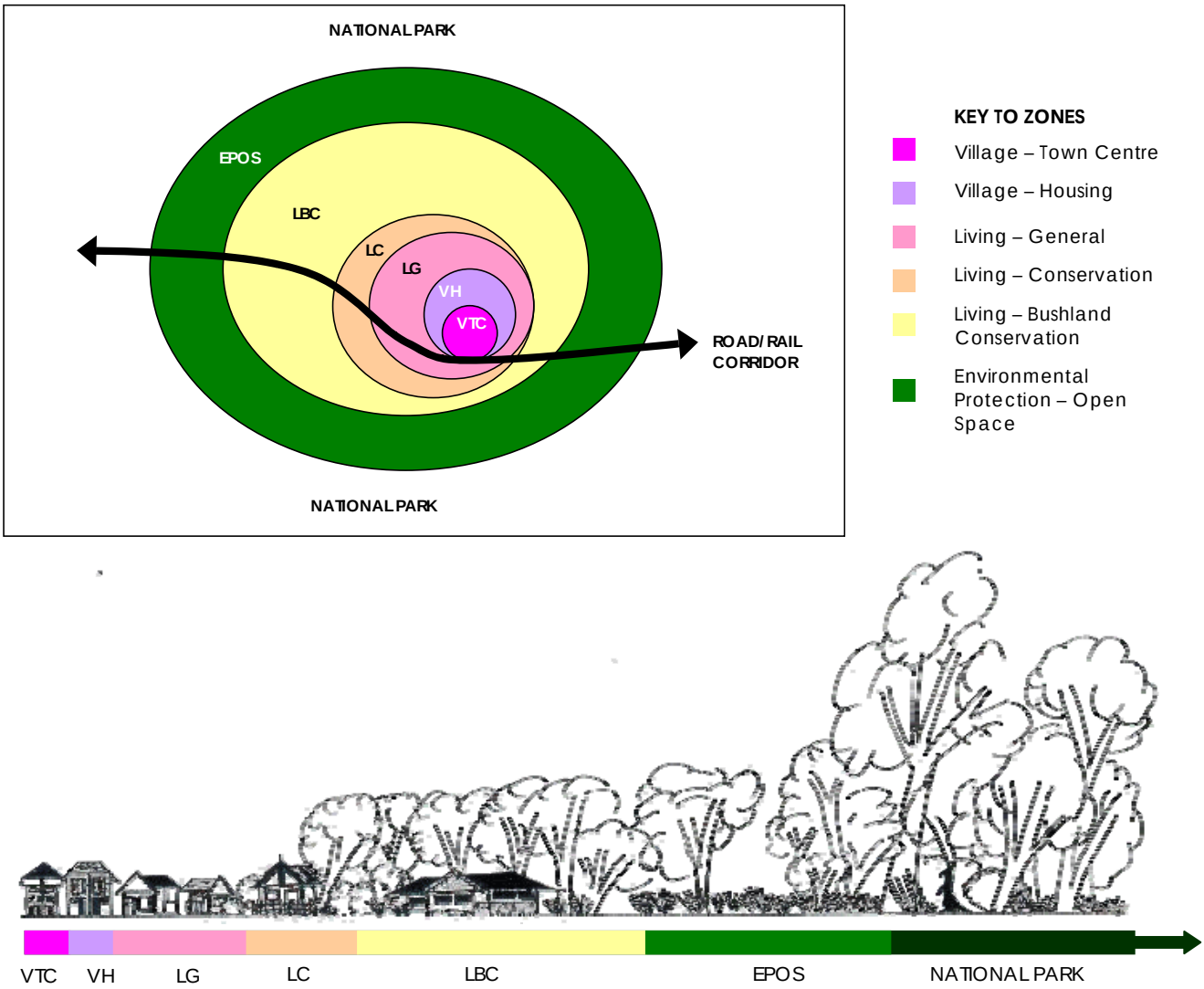


Figure 8: Proposed residential density scheme under Draft LEP 2002

Figure 8 shows the proposed residential density scheme proposed under Draft LEP 2002. The model promotes higher development densities within, and in close proximity to village centres in order to address the planning, environmental and demographic issues outlined in Section 2 of this report. For the most part past development activity in the City has replicated this model, with only a limited number of examples of higher residential densities located on urban fringe.

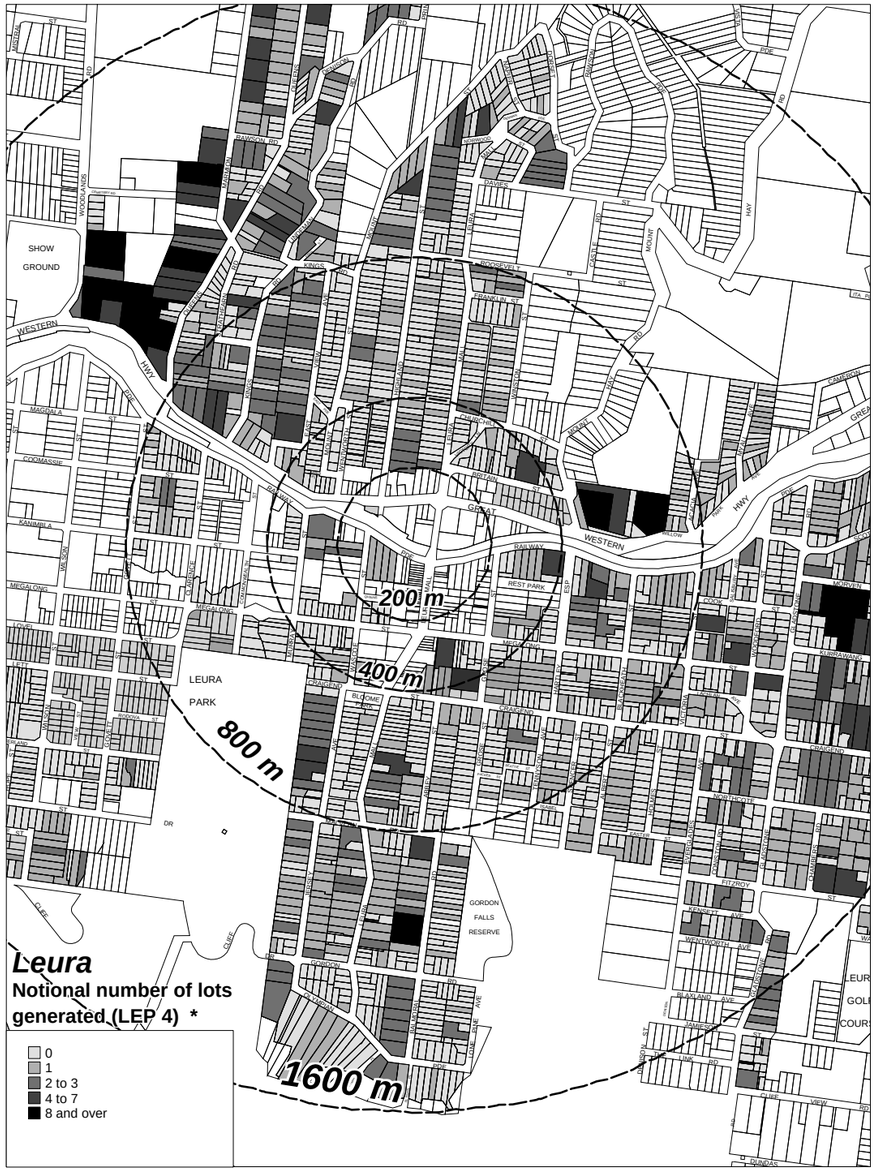
The gradual decrease of residential and general development densities in areas away from the core village areas is a central premise of the Draft LEP 2002. It underpins some of the principal objectives of the draft plan and has informed the development of the proposed subdivision provisions and zone application within the draft plan. In terms of built form and

development densities, this scheme ranges from the highest density forms of residential development in the Village – Town Centre and Village – Housing zones, through to the Living zones, which gradually decrease in density away from the village centres. Beyond these residential zones the Environmental Protection zones and the National Park define the bushland fringe, where there are significant constraints to conventional development.

The primary focus of this study has been to forecast notional rates of growth that are likely to occur at a range of scenarios, with a particular emphasis upon subdivision activity within the Living – Conservation and Living - Bushland Conservation zones. These zones, which house almost 80 per cent of the existing population of the Mountains, hold the key for providing sustainable levels of development. Managing population and environmental impacts in the Blue Mountains context requires the limiting of development on the fringes of the urbanised areas and redirecting it toward core village areas. As the lot yield findings in Section 3 highlight, a minimum lot size of 1,200m² ensures that low densities are maintained in these areas and that the bulk of higher density subdivision and development activity occurs in the more centralised urban areas (ie. Village zones and the Living – General zone).

4.1 CASE STUDIES

Examples from both the Upper and Lower Mountains provide a useful visual examination of the impacts of the new minimum lot size requirements proposed under Draft LEP 2002 compared to the possible level of subdivision activity capable at existing LEP 4 lot size of 700m². Figure 9, Figure 10 and Figure 11 show the physical and geographical implications for the shift toward a minimum 1200m² on the outer parts of the villages (ie. the Living – Conservation and Living – Bushland Conservation zones), while retaining the higher density 720m² requirement in the inner residential parts of each village.



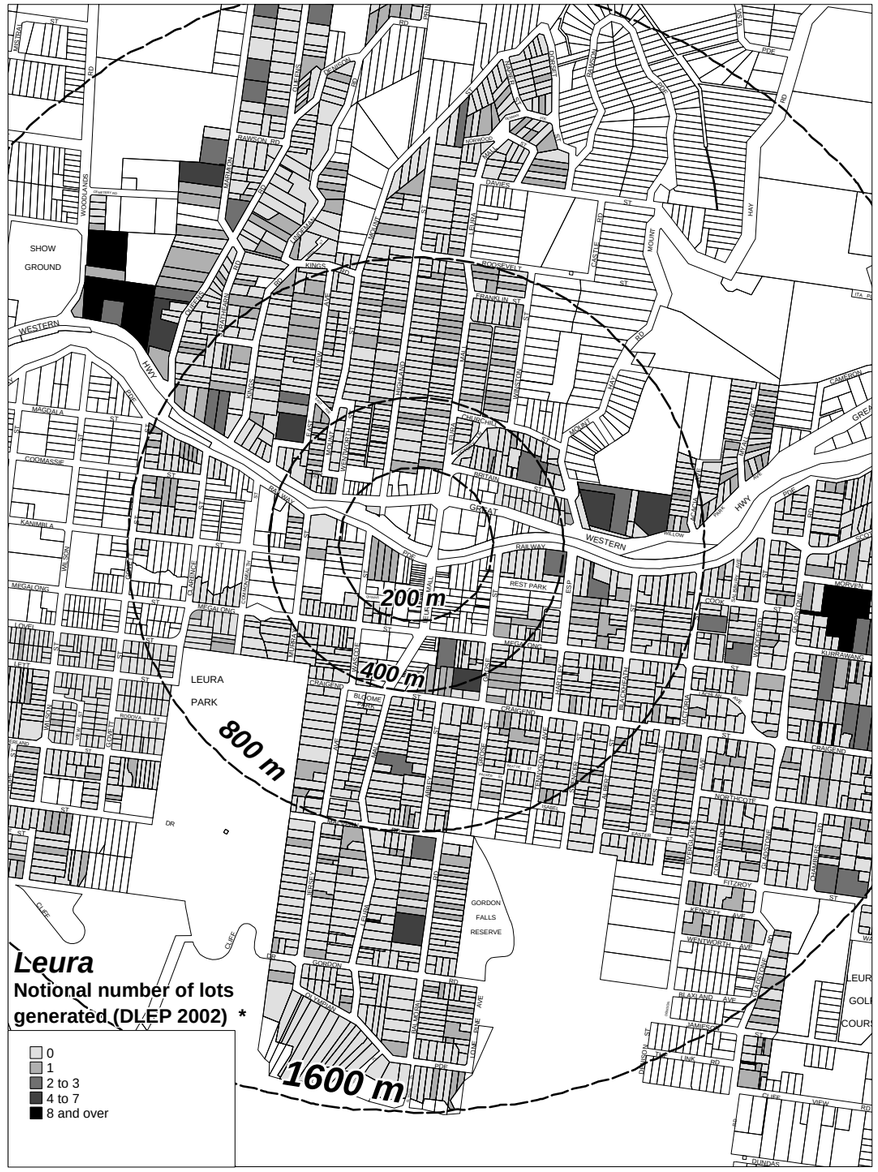
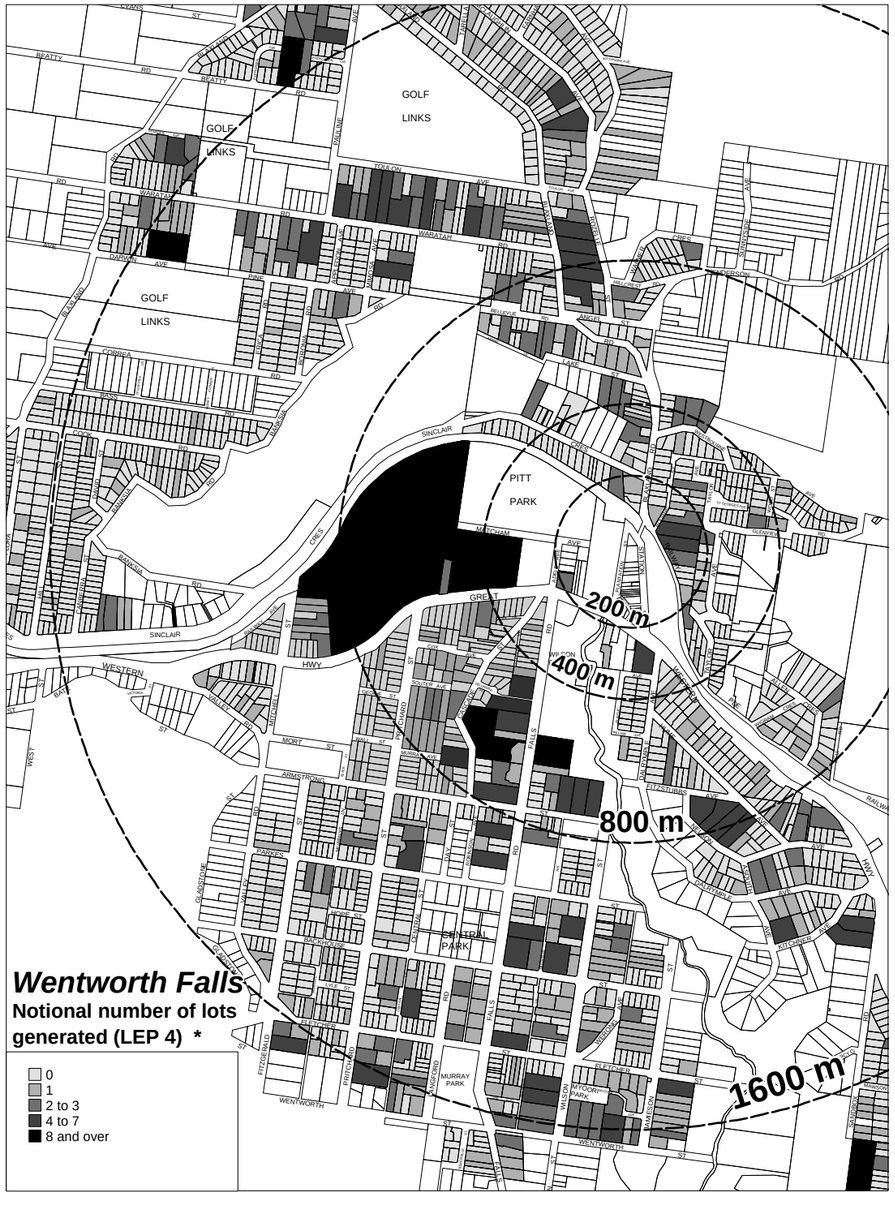


Figure 9: Projected subdivision patterns, Leura



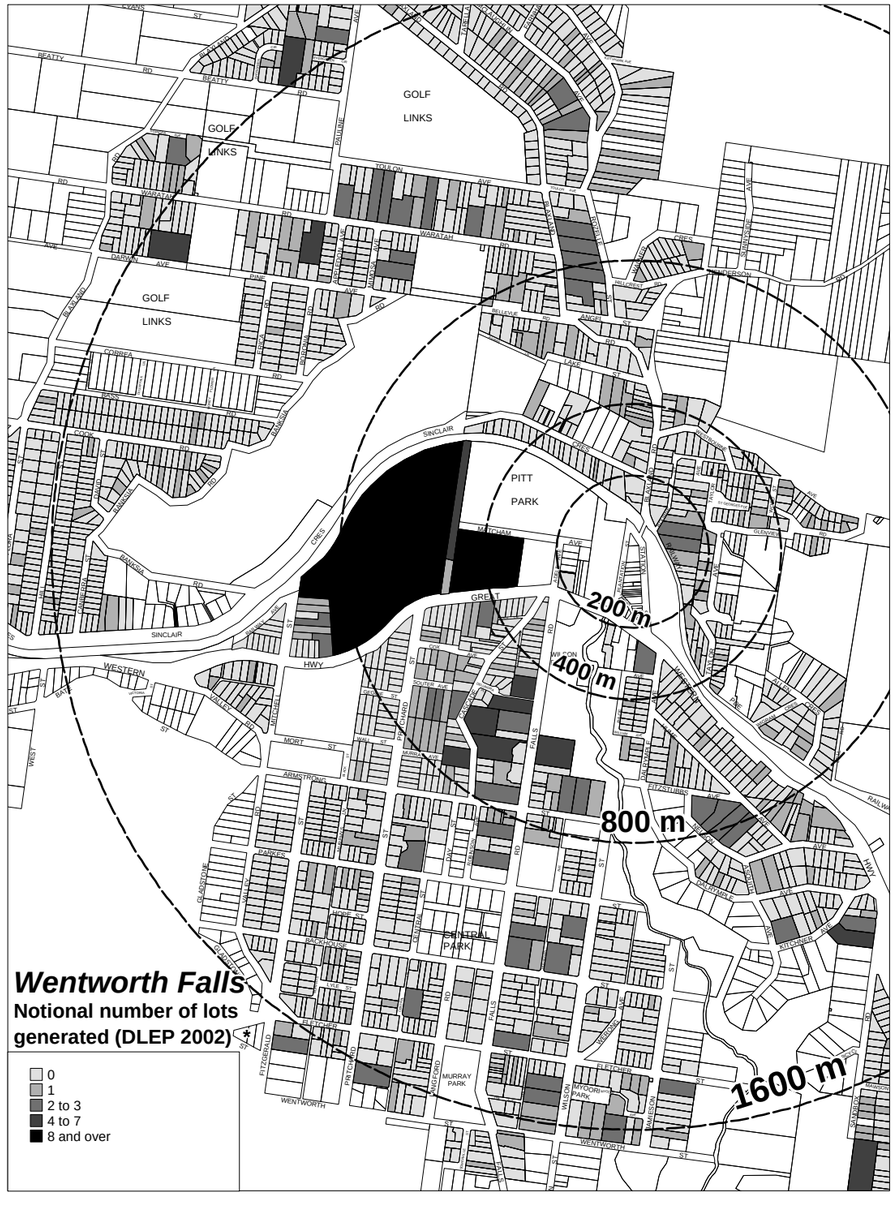


Figure 10: Projected subdivision patterns, Wentworth Falls

Figure 11: Projected subdivision patterns, Glenbrook

4.1.1 Leura

Figure 9 illustrates the impact of the new subdivision provisions under Draft LEP 2002 for Leura in comparison to the patterns projected if the provisions under LEP 4 continued to apply. While the village has a smaller overall capacity for new subdivision when compared to other parts of the Mountains, there remains significant land supply for the creation of new lots across the village.

This visual representation begins to demonstrate how the Draft LEP subdivision provisions promote the intent of the residential density scheme described in Figure 8. Specifically, the most noticeable implications of the new provisions are witnessed to the north-west (between Queens and Lindeman Roads), to the east (immediately surrounding Gladstone Road) and to the south (between Leura Park and Gordon Falls Reserve) of the village centre. Each of these areas, which are located beyond the 800 metre walkable catchment of the village centre, contain a number of existing lots that were capable of intensive subdivision into four or more lots under LEP 4.

The new lot size requirements under Draft LEP 2002, however, restrict the number of additional lots to levels that recognise the distance of these areas from the village centre and their strong environmental and character attributes. Similarly, much of the identified character area to the immediate south east of the village (around Grose, Megalong, Craigend and Blackheath Streets) are capable of producing one or two additional lots under LEP 4. However, the subdivision requirements under Draft LEP 2002 will prevent this intensification, in keeping with the objectives of the Living – Conservation zone. Conversely, the relatively smaller minimum lot size for the Living – General zone ensures that a number of the parcels capable of larger yields (ie. 2 or more additional lots) are still concentrated within the more centralised parts of the village. This allows higher subdivision yields to occur in locations that are easily accessible to the commercial functions and services of the Leura village centre and its immediate surrounds.

4.1.2 Wentworth Falls

Figure 10 shows the distribution and intensity of subdivision activity within Wentworth Falls village. Under LEP 4 intensive subdivision activity is capable throughout the village, with large tracts of undeveloped residential land still common within this village. Specifically, a significant number of opportunities exist to undertake multiple-lot subdivisions, extending to the escarpment in the south and the areas surrounding Wentworth Falls Golf Course in the north. This level of subdivision activity would produce a dispersed distribution of new population within Wentworth Falls, with significant growth occurring beyond a sustainable 800-metre walking catchment of the village centre. However, the subdivision provisions proposed under Draft LEP 2002 will control the distribution of these larger yield subdivisions, with the majority of parcels capable of creating four or more new lots being restricted to this 800-metre threshold.

The impact of the new subdivision requirements is most evident on the larger lots around Central Park and toward the escarpment in South Wentworth Falls. Many of these parcels are still subdividable to produce one to three additional lots, though the extent of growth is such that new proposals will more appropriately reflect the size of existing lot sizes in the area. Similarly, growth in the area to the north of the Great Western Highway would be restricted in comparison to the projections under LEP 4, intentionally ensuring that the existing development densities and bushland character of these areas are retained. These examples highlight the ability for these new subdivision requirements to control the distribution of subdivision activity whilst ensuring the existing urban character and environmental features of these areas are best preserved.

4.1.3 Glenbrook

A substantial difference in subdivision potential is also evident under LEP 4 and the Draft LEP 2002 for Glenbrook, as Figure 11 illustrates. The majority of opportunities for subdivision under LEP 4 are over 800 metres from the village centre, and enable the creation of four or more allotments in many locations. However, the Draft LEP 2002 subdivision provisions limit most of the subdivision potential for land beyond 800 metres from the village centre to the creation of between two and three allotments, although there are a number of large sites where subdivision may still create more than four allotments.

The properties along Olivet Street and Stone Bridge Drive north of the village provide another example of the effect of the proposed Draft LEP 2002 lot size requirements. A number of allotments that can currently be subdivided to create two or three new allotments are not capable of subdivision, or will only create one new lot, under Draft LEP 2002. A similar effect can be seen along the northern and western boundaries of Wilson Park, where under LEP 4 a number of single lot subdivisions could occur. The Draft LEP provides opportunities for only two of these properties to be subdivided, creating only one new allotment each. Further reduction in subdivision potential can be seen on the southern and eastern outskirts of the village, particularly in the areas over 400 metres from the village centre. A number of properties that could previously produce more than two allotments each are reduced under Draft LEP 2002 to a single lot subdivision, or have no subdivision potential at all.

These outcomes are in line with the outcomes from community consultation undertaken with the Glenbrook community after Draft LEP 1997 was exhibited. The subdivision controls of Draft LEP 2002 will enable Glenbrook to retain its small village character and will prevent the overdevelopment in inappropriate parts of the village. The effect of these controls on land over 800 metres from the village centre will contribute to the sustainability of future development, by reducing the potential for increased development beyond walking distance from services and facilities – a principle intended for application to all villages within the Mountains.

4.2 SUMMARY

Draft LEP 2002 has incorporated the residential density scheme as the vehicle for improving the sustainability of residential development in the Blue Mountains. It has been developed to ensure that future low-density development occurs in a manageable fashion while ensuring that higher densities occur in well-serviced locations that do not erode environmental or urban character values.

The minimum lot size requirements of 720m² for Living – General zoned land and 1200m² for both the Living – Conservation and Living – Bushland Conservation zones are necessary in order to control the amount and distribution of these densities in a manner consistent with the broad framework set by Draft LEP 2002. The case studies of Leura, Wentworth Falls and Glenbrook demonstrate the potential impact of these new subdivision requirements compared to the scenario if the provisions of LEP 4 were retained. Overall, the number of additional lots produced is significantly reduced. More importantly, however, the pressure for subdivision on the village fringe is relieved and redirected toward the well-established and well-serviced parts of the village.

5 CONCLUSIONS

The formulation of appropriate minimum lot size requirements for the Blue Mountains is in response to a range of factors that underpin sound urban land management, including:

- the need to use our land supplies in a sustainable manner, with minimal disruption to the natural environment,
- recognising that land is an important economic resource and its future release for urban development needs to be equitably and transparently managed through a public planning process,
- the need to conserve and develop a 'sense of place' and civic identity,
- the need to promote the efficient use of the resources and infrastructure of our towns, while promoting access to these resources.

In the Blue Mountains context balancing these considerations with the highly limited supplies of developable land and the risks associated with bushfire makes this task all the more important.

The maintenance of minimum lot sizes of 720m² in the Living – General zone and 1200m² in the Living – Conservation and Living - Bushland Conservation zones is the result of a study process that has examined each of these issues, together with a number of scenarios that test a series of potential lot yield outcomes. In summary, the key findings of the study are as follows:

- The Draft LEP 2002 minimum lot size requirements for the Living – Conservation and Living – Bushland Conservation zones will significantly reduce the proportion of lots capable of further subdivision in comparison to that which is subdividable under LEP 4.
- The minimum lot size of 1200m² for the Living – Conservation and Living – Bushland Conservation zones sets a more responsible and manageable growth threshold, ensuring that environmental and urban character attributes of the outer parts of the villages are maintained.
- The proposed minimum lot size requirements have been formulated in order to minimise the intensification of residential densities in inappropriate locations. Therefore, these new requirements aim to address both the extent and distribution of residential densities throughout the Mountains.
- The minimum lot sizes for each of the three Living zones operate within an overall scheme that promotes a gradual decrease in residential densities away from the village centres.

The development of the subdivision provisions proposed under Draft LEP 2002, and the documentation of the process that gave rise to those provisions, is important for two reasons. In the first instance, it contributes to a broader public understanding and evaluation of the proposed provisions within the draft plan. In the longer term, however, the approach to subdivision leaves opportunities open for future residents to re-evaluate the needs for additional land release through their planning schemes.

This can continue to be informed by an assessment of community needs and aspirations as presented at that time, coupled with increased understanding of the impacts of development on sustainable management of the natural and built environment. More than any other urban activity, the effects of subdivision and the release of residential land are difficult to reverse. Therefore, its management remains a central concern in the development of a planning framework within the Blue Mountains.

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