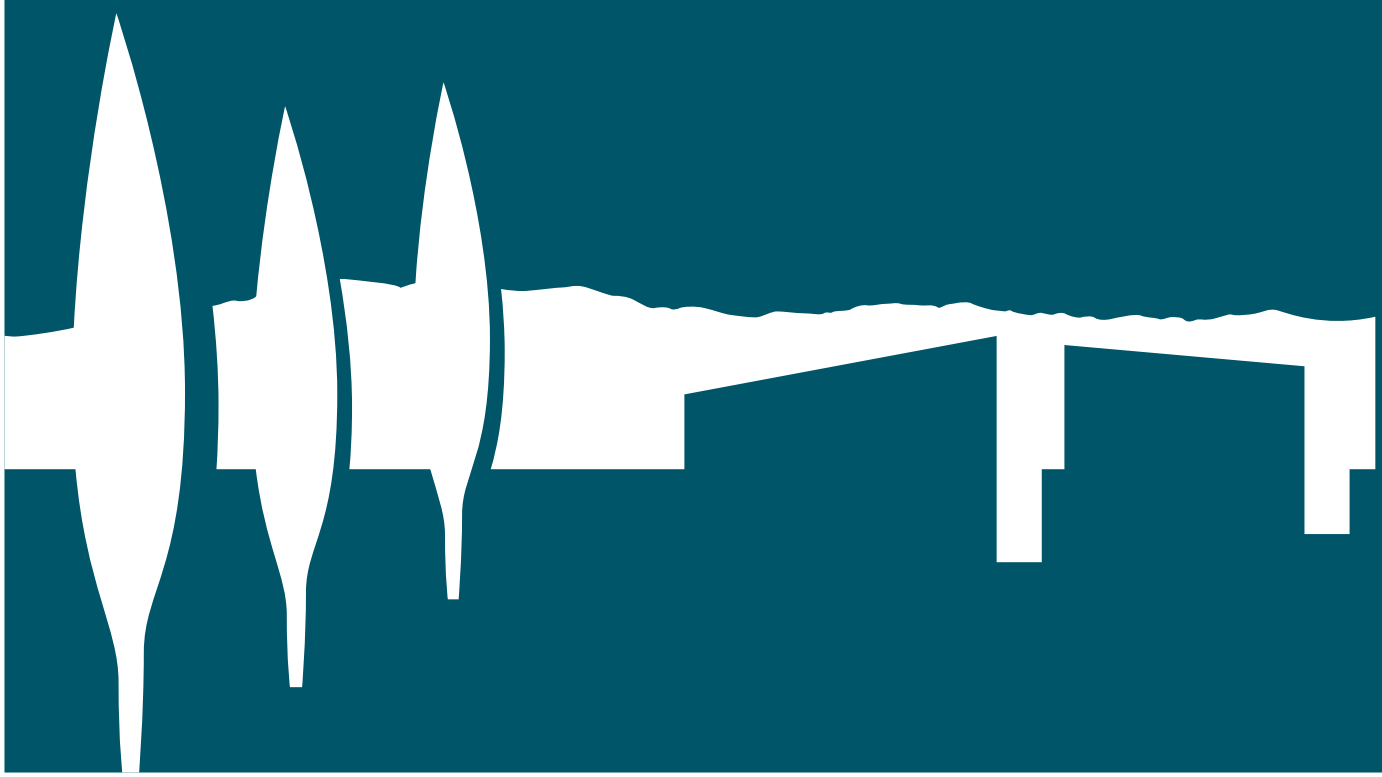
7.0

Land use Patterns and Community Facilities



Rolleston Recreation Precinct

This is discussed in section 7.6.1.

'Brookside Park'

The existing Brookside Park is bounded by Levi, Dunns Crossing and Brookside Roads on the western side of Rolleston. It is approximately 9.7 hectares in size and provides sports facilities such as soccer fields and recently constructed changing and clubrooms, and on-site car parking. This is a new open space recreation area on the outer edge of the MUL.

Figure 7.5: Brookside Park

Figure 7.6: Existing MUL Rural Edge

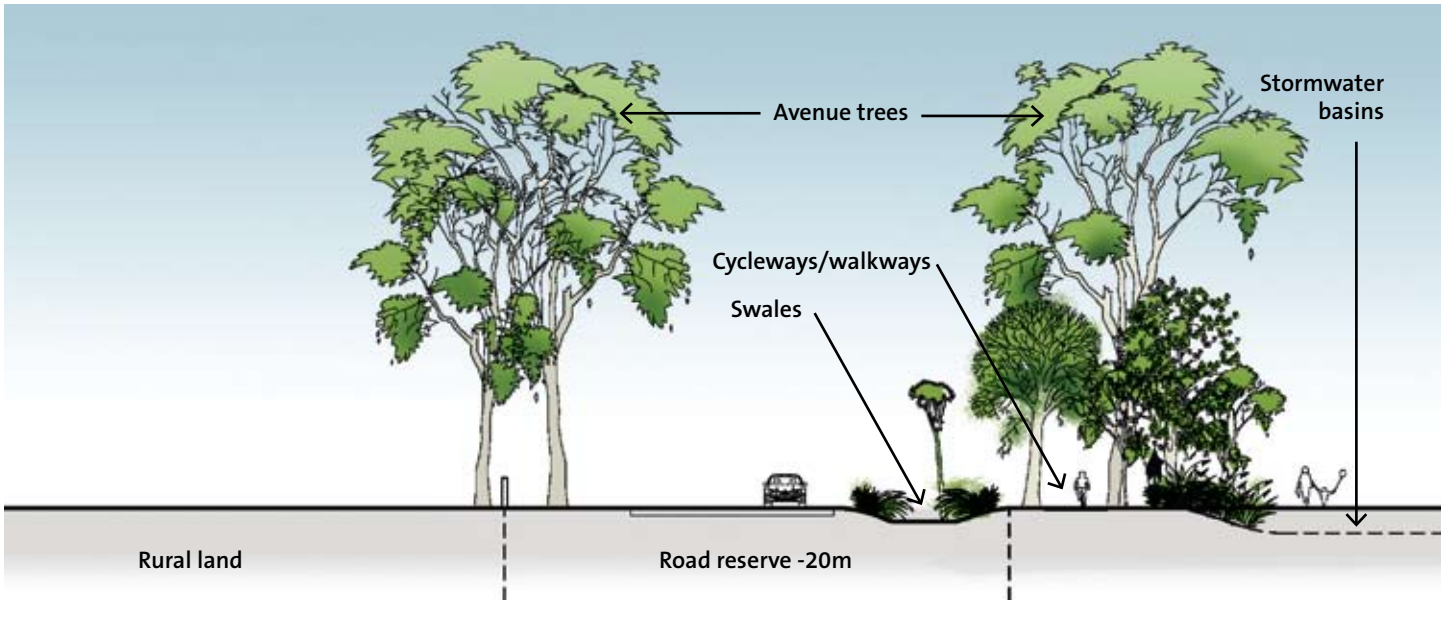


Figure 7.7: Indicative Green Belt cross sections - 1:300

Rolleston 'Green Belt'

A landscape buffer strip will be created between the MUL and the surrounding rural areas. The size and width would be approximately 50 metres. The width may vary to accommodate existing landscape features and linkages into the MUL. The 'Green Belt' concept would incorporate horse riding/cycleways and running/walking tracks, ecological habitat creation, stormwater management areas, specimen and avenue tree planting, shelterbelts for wind protection, and could integrate the road boundary reserve areas into the landscape treatment. The design of planting in the greenbelt should aim to retain distant views where possible while also providing shelter from wind. This design co-ordination between the greenbelt and adjacent roads could also include intersection design and avenue plantings that extend into the town. A strong visual sense of open rural character and amenity in the design of the buffer is important. The greenbelt concept could also mitigate potential reverse sensitivity issues of rural activities on residential living. This open space feature of the structure plan is a unifying landscape element. It would create a clear rural/urban spatial edge to Rolleston providing a distinctive identity to Rolleston, and sense of arrival at the town within the rural plains landscape.

As part of the open space network and 'Greenbelt' concept, it is proposed that the section of State Highway 1 between Dunns Crossing Road and Weedons Road is enhanced with amenity highway plantings. At the turn-off points to Rolleston township (Dunns Crossing, Rolleston Drive and Weedons Roads), further landscape treatment through plantings as 'gateway' entries could be established. Similarly, the proposed 100 hectare Park could be integrated into the Greenbelt landscape treatment providing broad linkages for jogging, mountain biking etc.

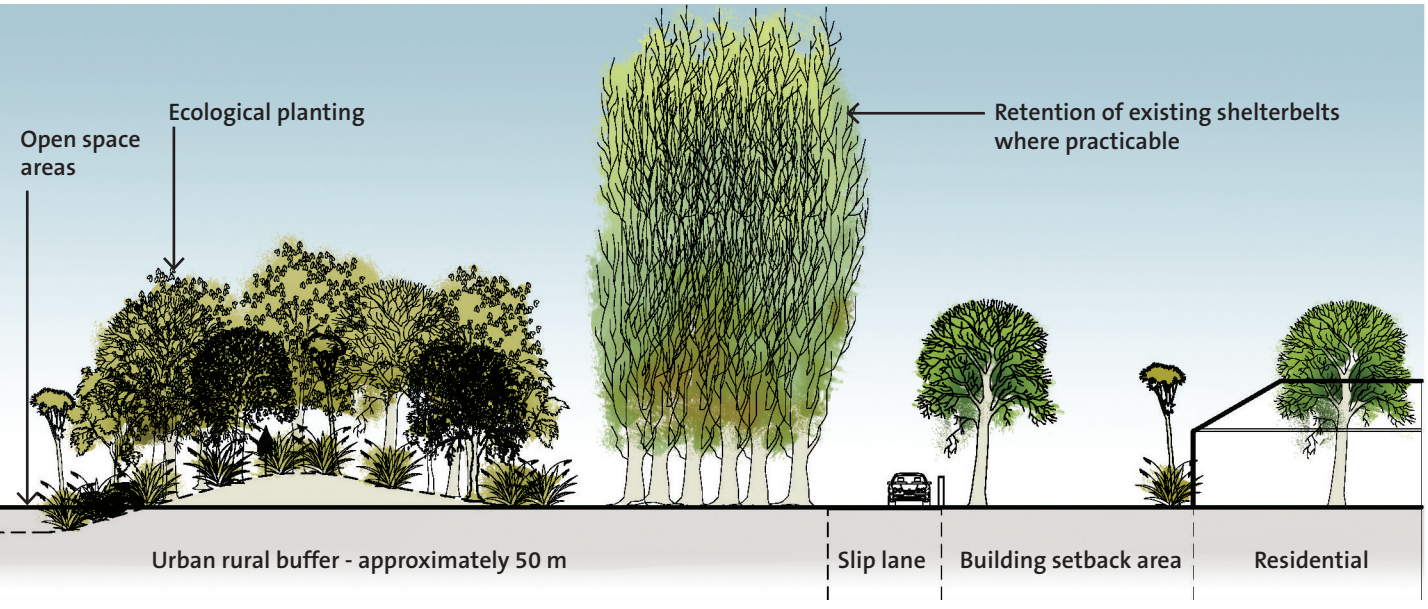
Rolleston 100 Hectare District Park

This is a proposal for a large area of land located adjacent to Levi and Weedons Roads. This area is located within a no-dwelling area due to proposed airport noise contours. In time, proposed access to Rolleston off Weedons Road from SH 1 would benefit from the amenity attributes of the park landscape as a gateway/arrival setting.

Possible district-scaled uses include:

- community gardens
- equestrian
- rowing
- cycling (mountain biking or road riding)
- local energy generation
- ecological areas
- cemetery/ crematorium

It is envisaged that this park would be a district-wide facility that caters for recreational/community activities that may not be in more urban open spaces such as the 'Rolleston Recreation Precinct'. A scoping study and concept plan will be prepared for this park proposal to establish the wider community need, determine what facilities should be provided and feasibility of these options.



7.7.2 SECONDARY OPEN SPACE

These areas are smaller in scale and form part of neighbourhood character areas within the town. They include; playgrounds, neighbourhood reserves, school grounds, dog parks, and neighbourhood centre areas such as squares/plazas, main streets, pocket parks, and courtyards. Some of these may be used as market areas and event spaces. Neighbourhood parks should provide for variety and flexibility of use (i.e. formal/informal, passive/active recreation). Incorporating surface water management areas and existing waterways into parks can help create urban ecosystems.

The location of neighbourhood parks should be spaced to allow for a 400m comfortable walk from within adjoining neighbourhood areas. The size and number of these open space areas should be assessed to accommodate an appropriate allocation of land in relation to the surrounding anticipated residential population.

Neighbourhood parks should be located adjacent to main routes or as part of the pedestrian and cycle network (i.e. between cul-de-sacs) where they will be most used. Parks should also be located where they are bounded by streets or housing fronting onto them. These locations are generally safer due to the informal surveillance provided by passers-by and local residents. Smaller 'pocket' parks or squares could be located in higher density areas where they provide a valuable focal point, and become a substitute for smaller private open spaces. There is also the likelihood of increased market value for surrounding properties by their ability to absorb higher densities and provide a pleasant outlook. The more intense the use of the park, the higher the quality of design, materials and construction needs to be.

7.7.3 OPEN SPACE LINKAGES

A proposed network of open space linkages has been developed as part of the Structure Plan. These include; cycleways, walkways, streets and roads, avenues, waterways, public gateways and green corridors. They can provide for a range of uses such as transportation linkages, amenity enhancement, recreation, ecological corridors, stormwater and waterway management, infrastructure easements, as well as providing green edges to neighbourhood character areas within the overall structure plan. Green corridors provide an ideal opportunity for additional off street walking and cycling opportunities, particularly where they create circular routes. There is also potential to link to areas beyond the urban limit to places outside the MUL (e.g. The Pines Wastewater Treatment Plant, Lincoln, Izone, via the Rail Trail to Little River and Banks Peninsula, etc).

Roads and streets form part of the open space network. These may require the careful design and integration of cycleways/walkways, waterways (stock races), stormwater swales, street tree avenues, safe pedestrian crossing points, planted medians, and other facilities such as seating areas and possibly drinking fountains, into the overall design of the road reserve areas. Early development planning stages should anticipate road reserve widths that allow for multi-use open space linkages to be accommodated within the proposed road reserves and hierarchy of the Structure Plan. It is also important that viewshafts to distant features such as the Banks Peninsula or Southern Alps (see figure 7.8) are maintained in later road designs and proposed alignments.

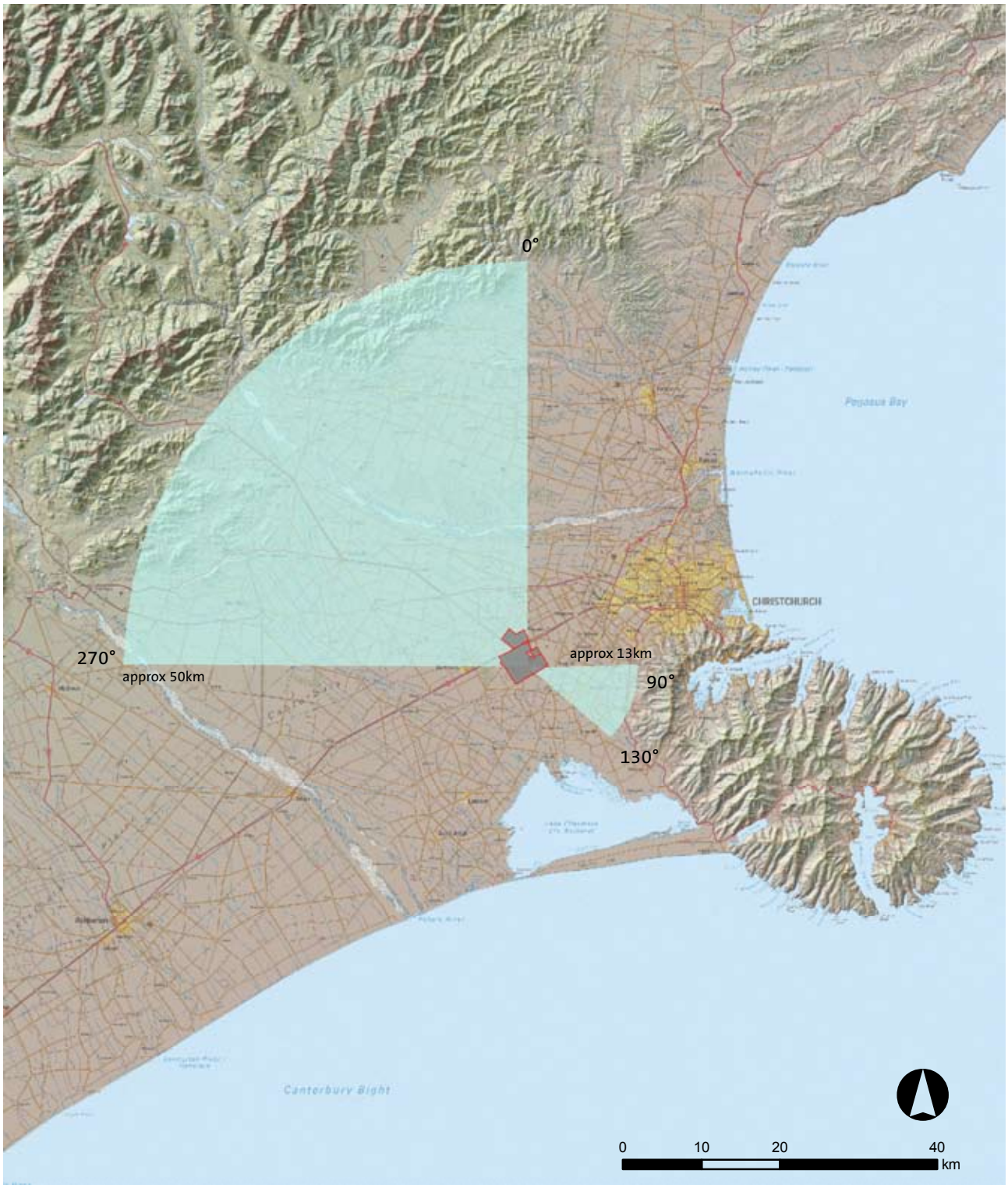


Figure 7.8: Views Diagram

Urban Limit
View Catchment

Road reserves area should be integrated into the open space network of the town. These can form integrated linkage sections of the non-vehicular green space as well as being attractive residential, pedestrian, cyclist and vehicular environments. Indicative cross-sections (figures 7.9, 7.10, 7.11 and 7.12) illustrate the potential to design for shared and designated areas a variety of road reserve users as well as the integration of low impact stormwater management through swales. The landscape treatment shown aims to enhance the amenity of roads and create a legibility of roading hierarchy through the scale and number of tree plantings. These treatments also provide for urban to rural transition of landscape character and amenity.

Avenue plantings could be undertaken prior to development of future growth areas to provide an established landscape character. Bus priority sections could also be created to anticipate potential sections of restricted vehicle flow once the population and demand reaches a critical level.

The network of existing water races through the MUL, provide opportunities for structuring and extending the open space network. The hierarchy of water races and their termination points, in parallel with independent surface stormwater management, provide a 'blue network' structure which could be incorporated in the open space linkages. Many existing water races are used to define the edges of proposed neighbourhood character areas in conjunction with greenspace corridors.

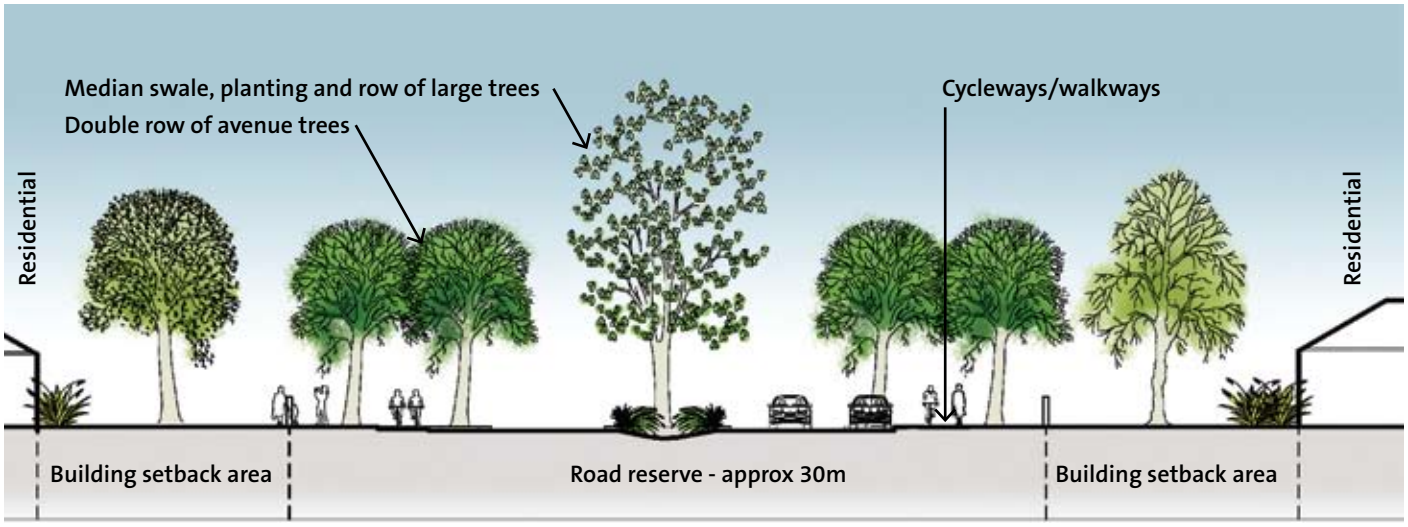


Figure 7.9: Indicative Cross-Section through Rural to Urban Avenue sections - 1:300

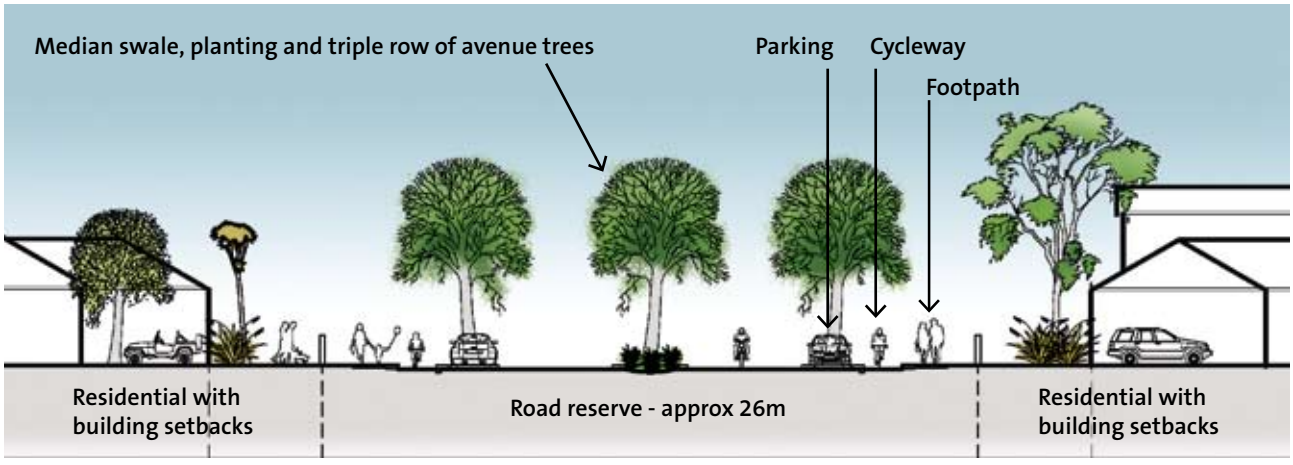


Figure 7.10: Indicative Cross-Section through Town Avenues - 1:300

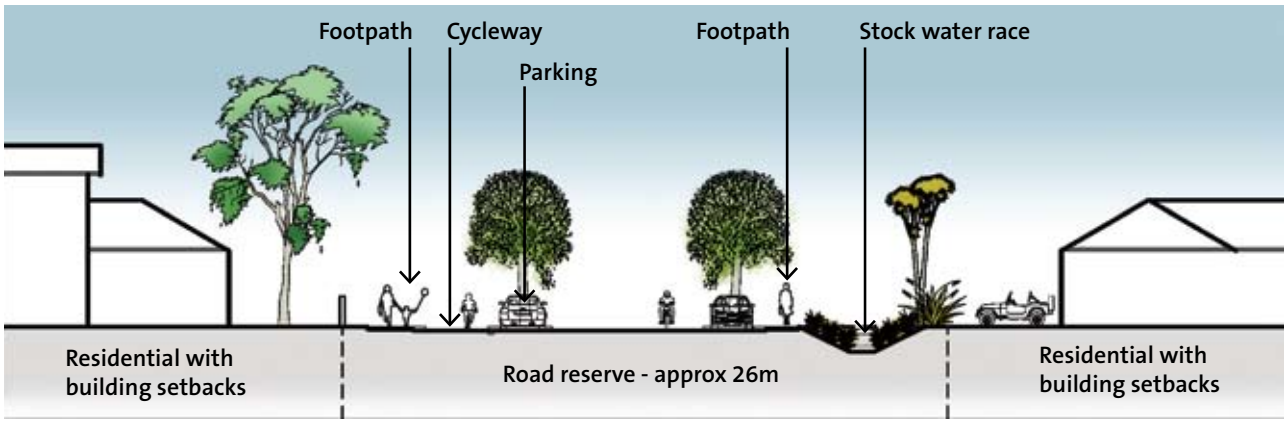


Figure 7.11: Indicative Cross-Section through Town Street (with stock water race) - 1:300

7.7.4 SAFETY AND HEALTH

Well-designed, attractive and inviting urban open space can encourage a wide variety of community users to actively and passively engage with the environment of Rolleston. This contributes to public health and establishing a strong sense of community. It is important that sustainable open space design accommodates a range of users and provides for the accessibility of all users. Well-designed open space can also reduce both the fear of crime and the opportunity for crime to occur, and can encourage positive social interactions. To ensure that open space areas are inviting and safe the following considerations should be taken into account when designing open space areas:

- Buildings should overlook public open spaces.
- Locate main activities along the frontage to maximise natural surveillance.
- Establish narrow transition areas between public and private space to encourage people living/working in adjacent buildings to adopt and maintain the edge of public open spaces.
- Ensure clear sightlines across public open spaces by avoiding blind corners, dense vegetation, hiding places or dark recesses adjacent to pedestrian or cycle routes.
- Provide a good standard of lighting that illuminates pedestrian areas as well as streets.
- Avoid lighting routes that will attract pedestrians into unsafe areas.
- Establish high quality public open space that can easily be maintained and expresses a strong sense of ownership and pride.

7.7.5 PUBLIC ART

Public art offers the opportunity to create a unique sense of place and identity and may provide an additional marketing opportunity. It adds another layer of quality that could reflect on the history of the site, the community, natural features of the area or may simply be part of an aesthetic approach.

Key considerations:

- Integrate public art into the developments early in the design process. Art can be incorporated into the design of buildings, public spaces, street furniture and play structures or as stand alone sculptures.
- Use art to emphasise key views, landmarks or gateways. Art can be memorable and interesting and can be used to improve orientation, reduce perceived journey times and draw people into the development.
- Art can be commissioned as site specific pieces for a particular location or as generic works which could be sited in a variety of locations or part of the design detailing.
- Art can be created through a process of community involvement (schools or other community organisations) that can help link developments with the community.

7.8 Land Use and Community Facilities Summary

Table 7.4: Key Issues, Constraints and Opportunities Relating to Land Use

Item		Key Issues and Constraints	Design Outcome
Land-Use	Residential	Lack of mixed density housing to cater for a range of demographic groups particularly single occupants and the elderly	Plan for provision of higher density housing clustered around the town's amenities. Use of undeveloped land in greenfield and existing zoned land
	Rural/Urban Interface	Future issues integrating urban and rural edges of Rolleston	Provide a green buffer between the rural edge of Rolleston and surrounding rural areas
	Community Facilities	Inadequate school places (primary and high) for a growing population	Second primary school planned for 2010. Site being sought for a high school with good access and opportunities for co-location of recreational facilities and open space. A third primary school planned for by 2041. Additional schools will be required for growth post 2041
		Limited medical facilities	Facilitate expanded provision
		Need for more structured recreation opportunities	Inclusion of the Recreation Precinct in the Structure Plan which will include a swimming pool, sports fields and courts, indoor recreation and landscaped reserve
		Need for expanded community facilities to cater for existing demand and growth	Expansion of the community centre and library following relocation of sporting facilities to the Recreation Precinct Cemetery provision in Rolleston
	Airport Noise Contour	Presence of the 50 dBA airport noise contour to the east of Rolleston	MUL for Rolleston has been designated to complement the noise contour, alternative land uses such as the 100 ha regional/district park are being investigated for the land under the contour
	Open Space	Lack of hierarchy and strong linkages in the open space network	Provision of enhanced green network with streetscapes, open spaces, reserves, green buffer areas, pedestrian and cycling routes and landscape planted areas. Creation of a 100 ha regional/district park Use of water race network to create linkages, recreation opportunities and features
Planning and Urban Design	Urban framework	No overall cohesion or pattern of urban development within the township	Plan for urban design framework with; i) hierarchy including town centre, Recreation Precinct and neighbourhood centres ii) integrated road and transport layout iii) well located anchor developments iv) developed open space network v) maintained rural character
	Segregated residential developments	Individual developments within Rolleston are unlinked	Enhanced transport and open space linkages within the urban design, and avoidance of layouts with long cul-de-sacs

7.9 Implementation

7.9.1 ACTION PLAN

The likely land requirements, approximate timelines and cost implications of implementing the land use and community facilities aspects of the Structure Plan have been assessed. The sequence of development of these facilities is related to both the rate of population growth and subdivisional activities, and therefore subject to change. Some actions may need to be undertaken ahead of development occurring in order to provide appropriate connections.

Table 7.5: Land Use - Implementation Issues and Costs

Layer Component	Action	Land Requirements	Time Frame	Cost Implications
General	Sustainable Design Guidelines or standards for public spaces buildings	Nil	Short Term	To be scoped
Residential	Pilot comprehensive housing schemes within Rolleston Reserve, Civic Precinct and/or Masefield Mall land (following land swap)	1.5Ha –5 Ha depending on land availability	Short Term	Public/ Private partnership with capital costs met by developers
	Plan change for intensification of Living 2 or Living 2a zoned land	No land requirement	Short Term	Developed by Council
Schools	Second Primary School	3 ha	Short Term	Ministry of Education
	High School	6-8 ha	Short to Medium Term	Ministry of Education
	Third Primary School	3 ha	Medium Term	Ministry of Education
	Additional Primary Schools	3 ha each	Long Term	Ministry of Education
	Additional/expanded High School	Up to 6 ha	Long Term	Ministry of Education
Recreation Precinct	Recreation Precinct inc Swimming Pool	0.6-1.0 ha	Short Term	$7-8 million for pool
	Indoor sports/recreation	0.6-1.0 ha	Short Term	Potentially significant, no LTCCP provision
	Sports fields & Courts and related facilities	20-25 ha	Short Term	Potentially significant, no LTCCP provision
	Community (youth) Park	0.6 ha	Short Term	$200,000 identified for 2009
	BMX/MotorX Track	tbc	Short Term	Identified for funding from development contributions
Cultural/ Community	Extended library	To be developed on existing community centre site	Short term	To be scoped through masterplan
	Social Services	Inc in Community Centre	Short Term	Minor cost
	Art Gallery	To be determined	Medium Term	Potentially significant not yet provided for
	Integrated Medical Care Facilities	To be determined	Short term, then ongoing	Developer funded

Layer Component	Action	Land Requirements	Time Frame	Cost Implications
	Cemetery	8 ha	Medium to Long Term	No provision as yet
Open Space	Develop town square for community events and market space	800-1000sqm	Short Term	To be scoped through masterplan
	Passive Neighbourhood Parks	28-42 ha	Staged with development	Developer funded
	Playgrounds	26-29 ha	Staged with development	Developer funded
	District Park	100 ha	Land Purchase – Short Term Development – Short-Medium Term	Land purchase likely to be several million dollars, not yet provided for. Development likely to be significant, not yet provided for. Scoping study proposed
	An ecological restoration plan addressing Te Ara Kakariki and other regional ecological values.	Implementation within green space land allocations	Short term planning implementation over all periods	To be scoped
	Green Belt & Green Corridors		Staged with development	Negotiation between Council and developers
	Dog Parks		Staged with development	Negotiation between Council and developers
	Water Race enhancement		Staged with development	Negotiation between Council and developers

Short term – to 2016, Medium term – 2017-2041, Long term – 2042 - 2075

7.9.2 CHECKLIST

Well Designed Rolleston

RPS PC1 sets a minimum household density of 10HH/Ha to be applied in Rolleston, however this Structure Plan proposes, in line with best practice guidelines, a range of densities from 10 HH/Ha to 20 HH/Ha in the new ODP development areas with average densities of 14 HH/Ha.

The key community facilities offered within Rolleston; the Recreation Precinct, art gallery and higher density suburb centres, will create a character distinctive to Rolleston and provide a thriving and liveable town.

Open spaces of varying size, uses and qualities will be integrated into all aspects of the Structure Plan, from high quality intensively used spaces in the town centre to more informal provisions in the 100Ha District Park. These are linked together via green corridors or feature avenues along existing rural roads. Indicative cross sections provided through open spaces, including the green belt, ensure there are public edges to all surrounding developments for accessibility and safety.

Existing rural character features (i.e. shelter belts, water races) have been incorporated into green corridors or their retention has been encouraged throughout all developments. Similarly, the maintenance and enhancement of strategic views to the Southern Alps and Banks Peninsula have also been promoted.

The large Recreation Precinct is located centrally within the MUL, yet on the fringes of a number of more intensively developed neighbourhoods that cluster around it.

A Sustainable Town

Locating higher residential densities closer to neighbourhood centres and public transport stops will encourage people to adopt walking or cycle modes for short trips. This outcome is also more energy efficient and reduces pollution, contributing to a low carbon town.

The development of facilities within Rolleston such as a High School, swimming pool and recreation centre will reduce the need to travel to obtain these services and help build a stronger community

A green belt, green corridors and 100 Ha park have been incorporated in the Structure Plan to provide ecological services, capacity for local energy generation, food production (e.g. community gardens) and strong links to the rural hinterland. Enhancement of existing water races provides additional biodiversity capabilities. The provision of 'green space' can be in conflict with a drought ready and carbon neutral town. Therefore all public open space landscaping is promoted to be drought tolerant, including the proposed botanic gardens on Rolleston Reserve near the town centre that will act as an exemplar for new development. Stormwater is intended to be filtered and stored for irrigation using low impact urban design methods.

The creation of open space linkages will provide the community with viable and pleasant alternatives to vehicle travel, facilitating social interaction and building a thriving and sustainable community. Co-location of community facilities with open space, particularly in the Recreation Precinct provides opportunities for health promotion and general community wellbeing.

Realistic and Achievable Rolleston

The facilities to be provided within the neighbourhood centre should be complementary to the rate of residential provision.

Densities can be achieved through good design and good architectural response. Selwyn District Council may develop example schemes on sites close to the town centre. The sections developed at 20 HH/Ha densities are encouraged to be designed comprehensively according to SDC medium density residential guidelines using best practice urban design techniques.

The Council will have a role in facilitating the provision of social services and integrated medical facilities within Rolleston. Provision of community facilities that have an impact on rate payers will be subject to public consultation. Where provision for planned facilities has yet to be budgeted for, Council will need to make provision for these facilities in future LTCCP's.

The allocation of land for a Recreation Precinct in the short term will allow it and the town centre to develop in a complementary way and ensure continuity of provision for active sports. Co-location with other facilities allows for an integrated design and management. A critical mass of users is able to be established to support a local centre and initiate more intense, higher quality, development in close proximity. Other open spaces can be rolled out as development progresses. Although, more policy and design work will be required around the provision of the 100 Ha District Park and Green Belt.

The gateway and avenue features are indicated in the short term to quickly establish a maturity for the town and coordinate with planned upgrades for key rural roads within the MUL.

7.1 Land Use

7.1.1 LAND USE AIMS

The key future land use aim for Rolleston is to provide for sustainable retail, commercial, community facilities and residential growth through intensification and diversification. This will help to create increased activity and vibrancy. To achieve this, appropriate land use zoning is required which also incorporates compatible land uses.

With this overall intention, the land use aims of the Rolleston Structure Plan are to:

a) Facilities Planning

- Provide an urban design framework that accommodates retail, commercial, residential, community, open space and industrial land uses. The urban design framework also provides a hierarchy of centres that complements Rolleston Town Centre serving its neighbourhoods and the surrounding District.
- Provide for facilities which will be required to meet the needs of the future community, with appropriate timing to ensure viability.
- Create neighbourhood centres of mixed land use, of higher residential densities, with strong linkages to the Town Centre, and easily accessible by all means of transport, including walking and cycling.

b) Retail and Commercial

- Provide for retail and commercial activities in key areas such as the Town Centre and neighbourhood centres.

c) Commercial & Industrial

- Provide for commercial and industrial areas in Rolleston (e.g. Izone area).

d) Education

- Provide for/identify location for future Primary Schools, and for Rolleston's first High School.

e) Community Facilities

- Create a Recreation Precinct for leisure and sports activities.
- Create a cultural Town Centre of mixed uses, which consolidates existing retail and business activities whilst providing for future growth. This centre would be the civic heart supporting the community centre and library, promoting a diversity of users, and containing a higher residential density.

f) Open Space

- Provide for existing and future open space to establish a large green network with strong linkages.

g) Residential

- Provide for residential zoning that offers a range of housing densities to cater for the needs of the future demographics of Rolleston.

h) Waterways

- Protect and enhance the water race system within the open space and green network to provide amenity to users.

7.1.2 URBAN GRAIN

New housing developments in Rolleston will fit into an overall structure, which identifies important links and areas where a tighter urban grain with smaller lot sizes and shorter blocks are most appropriate. The most compact patterns are intended to occur closer to town and neighbourhood centres with more relaxed patterns on the fringes. This approach matches the increase in population within walking distance of the centres, providing greater permeability and variety of routes, while also increasing the choice of lot sizes and housing typologies within the town.

The Structure Plan sets down a broad framework of primary and secondary movement routes, with which individual subdivisions should integrate with or establish as an integral part of the development. The primary routes are based on existing rural roads, and extensions of them, or proposed new routes identified in CRETS. These provide direct connections to the main centres and wider district destinations. Secondary routes will generally be newly formed and will be defined by the primary routes. A deformed grid is intended to match the character of the rural roads, which tend to be angled to connect various destinations or strictly follow field boundaries. There is an opportunity to use this approach to link neighbourhood and local centres together and accentuate views to the Southern Alps and Banks Peninsula.

7.2 Residential

7.2.1 POPULATION AND HOUSEHOLD PROJECTIONS

As outlined in the introductory chapters, the population of Rolleston is predicted to grow significantly from its current population of 6,800 persons to approximately 22,000 persons using greenfield land designated through RPS PC1 by 2041. Variation No.1 to RPS PC1 determines target future household growth allocations for Rolleston. The growth has been staged into three phases until the year 2041 with a total of 7,677 potential households allocated by 2041 (5435 new households), see Table 7.1. The development pockets and sequence shown in Figure 7.1 reflects the desire to have higher density housing as detailed later in this section.

Table 7.1: RPS PC1 Household Growth Targets for Greenfield Sites

Phase	Outline Development Plan	Household Numbers	Total
1 (2007-2016)	SR3	468	
	SR4	73	
	SR6	1100	
			1641
2 (2017-2026)	SR5	1008	
	SR9	712	
	SR10	471	
			2191
3 (2027-2041)	SR7	665	
	SR11	937	
			1602
4 (2042-2075)	SR8	1472	
	SR12	1042	
	SR13	1483	
	SR14	908	
	SR15	706	
			5611

This combined with continuing development and intensification of existing zoned land within Rolleston and further growth within the MUL, beyond 2041, indicates that there is a potential land capacity for approximately 50,000 persons overall.

This Structure Plan considers all land within the MUL when calculating population and household increases for the purpose of planning for a range of land use and infrastructure needs; even though not all land will be developed during the RPS PC1 timeframe.

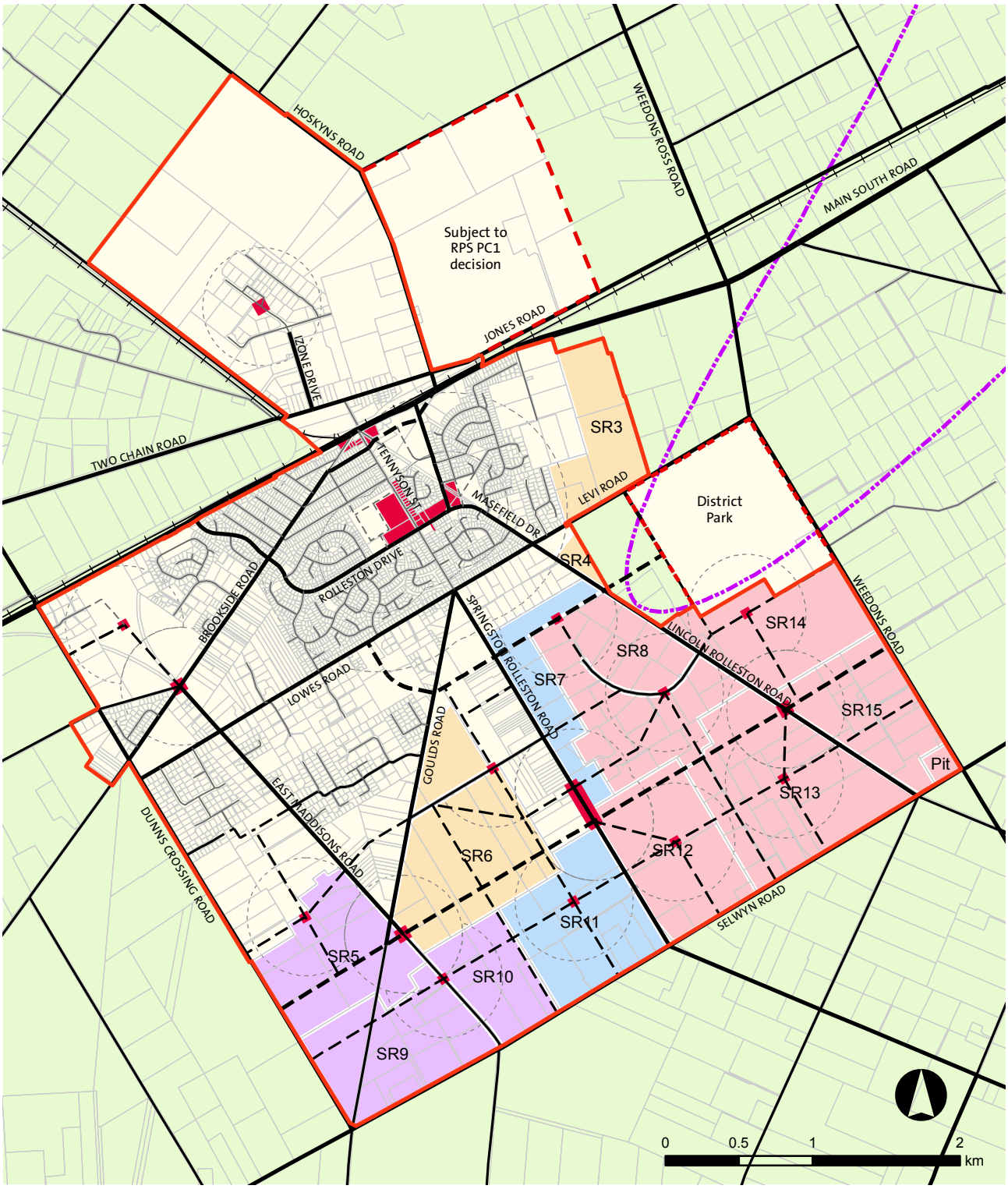


Figure 7.1: Rolleston RPS PC1 Development Sequence

- Study area
- Noise Contour
- Town Centre
- Neighbourhood Centre
- Local Centre
- 5 Minute Walk (400m)
- Rural land

Residential Development Stage

- Stage 1: 2007-2016
- Stage 2A: 2017-2026
- Stage 2B: 2027-2041
- Stage 3: 2041-2075

- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Local (secondary) roads
- Proposed local (secondary) roads
- Local (minor) roads
- Indicative local (minor) roads

7.2.2 MEASURING RESIDENTIAL DENSITY

One measure of residential density is the number of households per hectare of land (HH/Ha). The density is calculated by dividing the number of households by the land area. Population can be calculated by applying an average number of persons per household. This can be expressed as either gross or net density. The RPS PC1 specifies net density which is measured by removing land for strategic facility provision in accordance with the definition detailed below:

"Net Density: is the number of lots or household units per hectare. The area (ha) includes land for:

- *Residential purposes, including all open space and on-site parking associated with residential development*
- *Local roads and roading corridors, including pedestrian and cycle ways, but excluding State Highways and major arterial roads*
- *Local (neighbourhood) reserves*

The area (ha) excludes land identified for or that is:

- *Stormwater retention and treatment areas*
- *Geotechnically constrained (such as land subject to subsidence or inundation*
- *Set aside to protect significant ecological, cultural, heritage or landscape values*
- *Set aside for esplanade reserves or access strips that form part of a larger regional or sub-regional reserve network*
- *Identified for commercial or business use or for schools, hospitals or other district, regional or sub-regional facilities"*

The definition above lists a number of exclusions in Rolleston. It is assumed that the following provision of land has been allocated accordingly outside of the housing density calculations, totalling 60.2 Hectares:

- Landscape buffer along the edge of the MUL up to 50m in width (approximately 46 hectares along the edges of the urban limit and 24 hectares to be developed to RPS PC1 timeframe)
- Swimming pool: 0.6 hectares
- High school: 6 hectares
- Primary school: 3 hectares
- District sports fields including sports stadium: 25 hectares
- Commercial and business 1-1.6 hectares

Using the RPS definition of net density to calculate the lot sizes on the remaining land, it is assumed that 25% of the land area contains the roads, local reserves and other services specified. The average lot size is calculated from the remaining 75% land balance.

7.2.3 CURRENT DENSITIES WITHIN ROLLESTON

There is a range of densities currently provided for within the Selwyn District Plan and evident in Rolleston (as illustrated on Figure 3.4). Each Living Zone is outlined below alongside their minimum lot sizes and approximate net density (HH/Ha) where applicable:

- Living 1A: 300sq.m. lot size (25 HH/Ha)
- Living 1: 750sq.m. lot size (10 HH/Ha)
- Living 1B: 750-1,200sq.m. (6.25-10 HH/Ha)
- Living 2: 5,000sq.m.
- Living 2A: 10,000sq.m.

Living 1A and 1 are the only zones currently provided for in Rolleston that conform to the RPS PC1 Policy 11 'Residential Density' that sets a minimum net density of 10 HH/Ha to be applied to greenfield developments within Selwyn District. However, these zones are currently being reviewed by SDC through the Plan Change 7 "Strategic Growth of Townships" to the Selwyn District Plan, which aims to set residential density ranges for greenfield land affected by RPS PC1 for part of the district which falls under the UDS. The Plan Change proposes three broad residential density ranges, including a 'comprehensive development' (no minimum lot size with design and appearance controls), medium density (range of 350sqm to 550sqm lot sizes) and low density (range of 550sqm to 750sqm lot sizes), all of which comply with RPS PC1.

The Structure Plan largely complies with the density ranges proposed in Plan Change 7 with further refinement to the spread of density specifically tailored to Rolleston. The methodology to achieve this is discussed in further detail later in this section and also considers RPS PC1 Policy 7 Development Form and Design, which advises that *'development of Activities in Greenfields, Intensification Areas, and Key Activity Centres should give effect to urban design best practice.'*

7.2.4 BENEFITS OF HIGHER DENSITIES

There are many benefits of higher density housing being located close to town and neighbourhood centres. Higher densities enhance the viability of the centres due to a larger population within a comfortable walking distance. Public transport services are also more feasible when there are concentrations of people close to bus stops and interchanges along transport corridors. An increase in walking to shops and usage of public transport reduces dependency on the car, which in turn creates less pollution, less demand for parking and greater health benefits.

On greenfield developments it is important to set reasonable target densities early and not rely on piecemeal infill to increase density over time. After residential areas have established, there is often difficulty in managing transition issues over time. This is due to expectations of existing residents being accustomed to lower density amenities and other constraints to intensification, such as land acquisition and infrastructure capacity. In a town expansion like Rolleston, it is prudent to provide opportunities for higher density living and growth around centres during the initial development stages, before such issues arise.

7.2.5 PROPOSED DENSITY SPREAD

A range of densities is provided for in the Structure Plan. Higher densities / smaller lot sizes are intended to be located close to neighbourhood centres or local shops on primary movement routes close to public transport. The specific locations of the neighbourhood centres are discussed in greater detail in Section 6. In applying variations in density to growth areas of Rolleston the approach espoused by the policies and guidance referenced below have been followed.

Selwyn District Council's Subdivision Design Guide supports a minimum walking distance to public transport of 400m. Furthermore, RPS PC1 Policy 7 Development Form and Design, states that a '*provision for a range of areas of residential densities and lot sizes, with higher residential densities located within walking distance of Key Activity Centres and commercial centre's needs to be considered'*.

Housing New Zealand outlines '*acceptable travelling*

time as walking distances of 5 minutes to walk 400m and 10 minutes to walk 800m, as well as 5 minutes to local convenience stores and bus stops and ten minutes travel time to town centre or larger transport hub. Driving times can also be important.'

These policies form the basis for defining the spread of density. To determine the actual target density within these areas a benchmarking exercise was undertaken to identify thresholds for retail and public transport viability. A sample of density policies is contained in Appendix C.

Due to Rolleston's 'rural town' character the densities on the lower end of the benchmarking spectrum are more relevant: however they illustrate that the minimum density required close to urban centres and public transport is approximately 15HH/Ha.

The Structure Plan proposes a density range for the RPS PC1 Outline Development Plan (ODP) areas of Rolleston from 10 HH/Ha to 20 HH/Ha with relative lot sizes reflected in Table 7.2 below. The RPS PC1 Policy 11 sets a minimum density of 10 HH/Ha to be applied in Rolleston. If the future greenfield area is developed in accordance with the Structure Plan, the average density in the greenfield area would increase to approximately 14 HH/Ha within the land up to 2041.

It is worth noting that higher household sizes in Rolleston allow for slightly lower densities to achieve similar populations within catchments. The current household size in Rolleston is approximately 3 persons per household. In some of the benchmarking examples, the average may be lower (e.g. 2.6 in Australia, 2.2 in the U.K.) Therefore, fewer households would be required in Rolleston to achieve the same population within similar walking catchments.

In areas within 5 minutes walking distance (400m) of the neighbourhood centre, a density of 20 HH/Ha is proposed. Further from the centre, but less than 10 minute walking distance a reduction proportionate to distance is considered and 15 HH/Ha is used as an interim density between the higher density and the minimum density. 15 HH/Ha is used as a standard in a number of the comparison policies highlighted in the benchmarking exercise.

Table 7.2: Proposed Densities and equivalent lot sizes in the RPS PC1 areas of Rolleston

Density	20 HH/Ha	15 HH/Ha	10 HH/Ha
Lot sizes (at 75% land area)	375sq.m.	500sq.m.	750sq.m.
Percentage of HH allocation	25%	44%	31%

To calculate the population in accordance with the household sizes, a range of household rates are used. These reflect an anticipated drop in household size from the current rate, given national and international trends of decreasing household sizes.

The lowest household rate (persons per household) of 2.63 used is based on Selwyn District Council household size predictions up to 2041. The current household rate of 3.04 is also applied; therefore Rolleston's population will likely be somewhere in between the two figures contained in Table 7.3 depending on how household sizes change over time.

Beyond 2041, the remaining land within the urban limit is assumed to continue to develop in accordance with the Structure Plan diagram illustrated on Figure 5.2.

Table 7.3 outlines the total population projections within the MUL based on the total land supply at the densities and household rates indicated. However, while this is important for the overall Structure Plan, the projected population within the RPS PC1 period for Rolleston (i.e. housing demand to 2041) is much less. The distribution of population will be monitored over this period.

Table 7.3: Rolleston Population Projections within urban limit beyond 2041

Rolleston Population Prediction to 2041	Predicted Households	at predicted household rate 2.63	at current household rate 3.04
A: Current Population		6,813	6,813
B: RPS predictions Greenfield Land[2]	5,435	14,295	16,523
Total possible range of population (A+B)		21,108	23,336
C: current zoned lands (undeveloped) [1]	3,015	7,929	9,166
Total possible range of population (A+B+C)		29,037	32,502
Rolleston Population Prediction beyond 2041	Predicted Households	at predicted household rate 2.63	at current household rate 3.04
Remainder of Lands SR8, SR12, SR13, SR14, SR15[3]	5,611	14,756	17,056
Total possible range of population (A+B+C+D)		43,793	49,558

1 This is calculated on the assumption that undeveloped zoned lands in Rolleston are developed at an average density of 10 HH/Ha.

2 RPS PC1 sets a target household allocation for Rolleston of 5,435 up to 2041.

3 The densities applied to SR8, SR12, SR13, SR14 & SR15 which may be developed beyond 2041 correspond to the Structure Plan diagram and relevant densities. SDC in conjunction with ECan and UDS partners will review this every 5-10 years to determine when these ODPs will come online for development.

The population predictions contained in this table are used in estimating a number of Structure Plan provisions (e.g. schools, parks, etc) required in Rolleston in the future. These are explored in more detail in the following sections.

7.3 Retail (Business 1)

Retail provision on Business 1 land is covered in detail in Section 6.0 Centres Strategy.

7.4 Commercial & Industrial (Business 2)

The Izone Southern Business Hub currently occupies 120 ha of Business 2 land north of the State Highway. Izone represents a major employer for Rolleston and could ultimately employ between 6,000 and 7,500 people. As part of the Structure Plan improved connections for both vehicles and pedestrians and cyclists from Izone to the Town Centre and neighbourhood service area are planned. Public transport links will connect to Izone from within and outside the town. As a major employer links to and the integration of Izone into the town are important for its future success as a major employer.

Although there is potential for local services to be offered within Izone, the Structure Plan has not catered for a significant neighbourhood centre within Izone.

7.5 Education

7.5.1 PRIMARY SCHOOLS

In addition to the existing Primary School located on Tennyson Street close to the Council headquarters, a second Primary School will be located on the 10.6 ha block of land purchased by the Ministry of Education between Lowes Road and Goulds Road. The new school site is located so as to be accessible to the areas of new development, with good access to main routes. The new school site will also be serviced by an additional collector road between Lowes Road and Lincoln Rolleston Road.

By the end of the planning horizon for the Structure Plan (2075) additional Primary Schools will be required to cater for the projected population of 50,000 people. It is anticipated that up to 5 primary schools will be required depending on their size and rate of population growth. Primary schools will be distributed across the town and will be located in each of the major suburbs to reduce travelling distances and create a core for each of the suburbs.

7.5.2 HIGH SCHOOL

With population growth there is increasing demand for a high school within the town. It should be located centrally in a 6-8 ha block with good road, walking and cycling links. There are several advantages to co-locating the high school with other recreational facilities such as sports fields, swimming pool and indoor sports facilities, enabling enhanced levels of facilities to be offered to the community as a whole. As such the proposed high school will be located adjacent to the Recreation Precinct.

Should population growth increase to a capacity of up to 50,000 post 2041, additional high school capacity will be required. This can be met through planning for an additional high school or through expansion of the initial facility. Adequate land should be allocated to enable future expansion to meet the growing population.

7.6 Community Facilities

7.6.1 RECREATION PRECINCT

A Recreation Precinct for Rolleston has been included in the Structure Plan. The purpose of this precinct is to provide a focal point for recreation within the town, a centrally located, well connected facility, co-located with the proposed high school, close to the second primary school and serviced by good public transport. The precinct will house the new swimming pool, indoor recreation facilities such as sport halls, fitness gyms and indoor squash courts, outdoor netball and basketball courts and sports fields.

In addition a community park will provide a facility for young people to undertake passive recreation in a safe environment. The community park will provide additional facilities that are less focussed on traditional sports and fixed play equipment. The community park was originally planned to be developed within Rolleston Reserve. It is felt that the Recreation Precinct is a more suitable long term location for this facility, and construction of the Park in its new location will be a short term implementation issue for the Structure Plan.

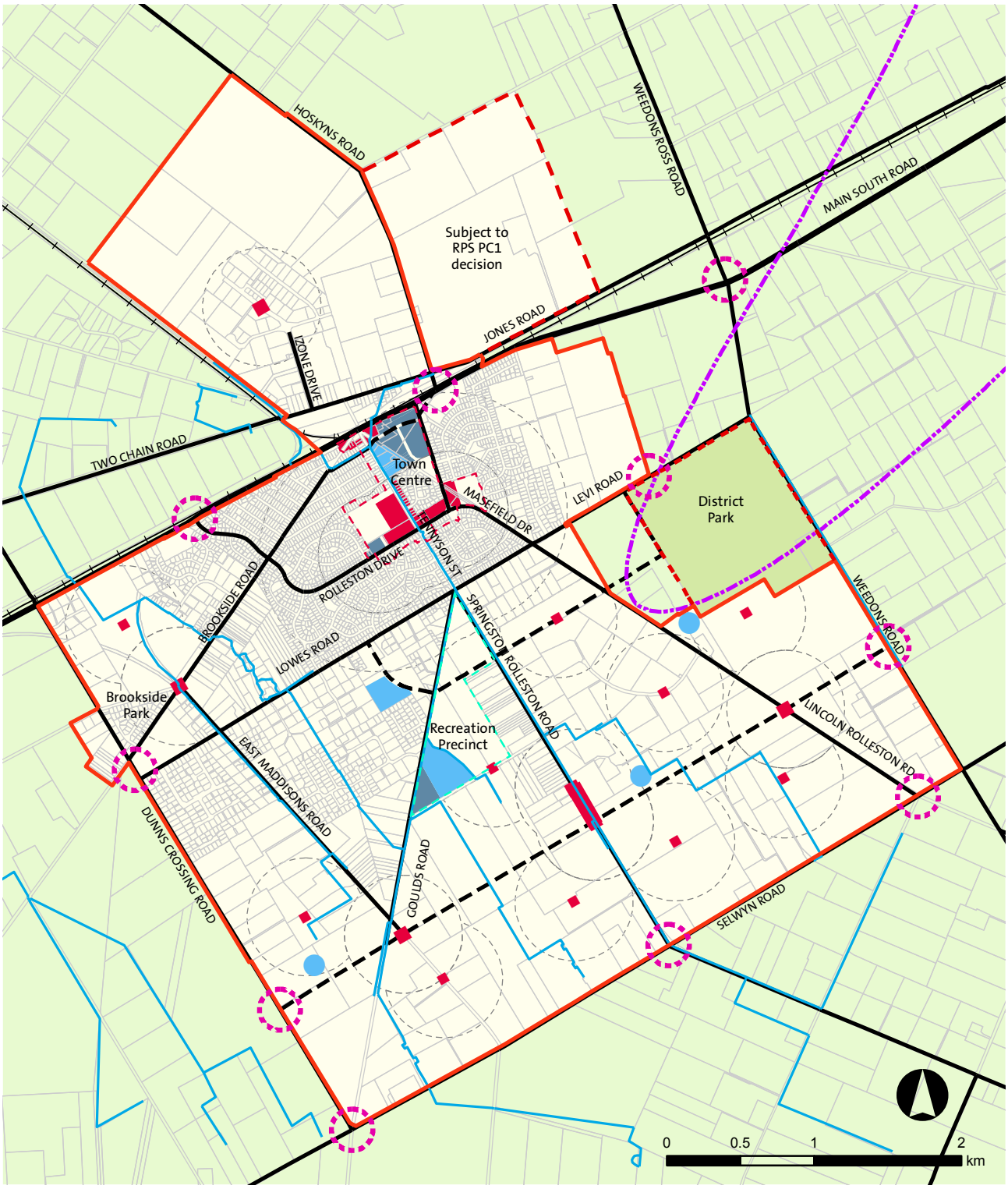


Figure 7.2: Community Facilities

- Study area
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Water Races
- Noise Contour
- Key Gateways
- 5 Minute Walk (400m)
- Town Centre
- Neighbourhood Centre
- Local Centre
- Community Facilities
- Education Facilities
- District Park
- Rural land

The Recreation Precinct will also offer passive recreation opportunities catering for a wider demographic with landscaped park areas offering walking, running and cycling routes.

Co-locating these active and passive recreation facilities together provides increased scope for after school activities and weekend sports where multiple family members can participate in activities together. The Structure Planning process has determined that 33 ha of land will be required for the Recreation Precinct which will be located within the 102 ha area known as SR 6 and the adjoining zoned land all owned by Foster Holdings Ltd. This area has been identified as the most suitable location for the Recreation Precinct for the following reasons:

- Greenfield site providing sufficient land and allowing for future expansion
- Single land owner enabling cohesive development
- Centrally located to the town under the proposed MUL
- Well located for access to main road routes that connect well both within the town and to the outer ring road routes
- Opportunities to provide strong connections to the town centre
- Ease of implementation due to single land ownership

The new Recreation Precinct is likely to comprise of the following features;

- New indoor recreational centre 0.6 - 1.0 ha
- Outdoor sportsfields 20 - 25 ha
- Indoor swimming pool 0.6 - 1.0 ha
- High school 6 ha
- Community Park with a focus on youth activities 0.6 ha

This proposed combination and co-location of activities aims to efficiently utilise facilities as a recreation/ education hub for Rolleston. It is proposed that the focus of building entrances would be off Dynes Road, near the corner of Goulds Road. Their central location also provides opportunities to be well-connected to surrounding residential neighbourhoods, public transport and potential green corridors with walkways and cycleways, proposed schools and a proposed local centre.

The community uses of the Recreation Precinct (e.g. Stadium, Swimming Pool and High School) are generators of considerable daytime and evening activity. This level of activity potentially equates to a sizable residential catchment which should be serviced by some retail uses. With the correct configuration of these facilities (e.g. location of entrances, built form, active frontages, etc.) the Recreation Precinct will form the core of a successful local centre at this location.

7.6.2 COMMUNITY CENTRE & LIBRARY

The current community centre although relatively new has reached capacity. The community centre currently provides a range of services to the community including recreational activities. With the development of the Recreation Precinct there is an opportunity to relocate and enhance these activities and free up space on the existing community centre site.

The community centre site has scope for extension which will enable it to continue to provide for the community over the next 35 years. The centre will provide meeting rooms, community rooms and an area from which social service organisations can operate from. It could also be used as a Town Hall for the community to hold concerts or other such activities.

An extension to the Library facilities is necessary to cater for future growth. It is considered important to retain the library facilities within the town centre to appeal to all sections of the community, with good transport links and social interaction particularly for families with young children and the elderly. The expanded library will be located in the town centre close to the community centre and will continue to be an anchor attracting people to the western end of the town centre.

7.6.3 ART GALLERY

Provision of an art gallery for Rolleston has been included in the Structure Plan. The art gallery will be located in the Town Centre adding to its cultural focus of the town centre. The art gallery will also play a role as an anchor attracting the local community and visitors to the Town Centre.

7.6.4 MEDICAL FACILITIES

The anticipated increase in population will create demand for additional medical facilities. The existing Medical Centre on Brookside Road and Dental Centre in Rolleston Shopping Centre will need to be supplemented.

The evolving needs of the community of Rolleston will be assessed to ensure the most appropriate community-driven health services are provided. Medical facilities will be aimed at providing continuity of care for the community in an integrated manner. As Rolleston grows consideration will be given to demand for the following services:

- Physiotherapy
- Podiatry
- Additional General Practitioners
- Practice nurses
- Mental Health provision
- Needs assessors
- Retirement/rest homes

In Rolleston there are opportunities to co-locate medical facilities to provide the community with access to the full range of services in one location. There is scope to co-locate these facilities at one of the neighbourhood or local centres along with opticians, pharmacies, dentists and social services to provide a core catering for community well-being. Medical facilities should be located near major nodes with good public and private transport links, where higher density housing, retail and education establishments are clustered.

The medical facilities discussed above are operated as private businesses and are therefore subject to market forces. The Structure Plan has identified that the anticipated population growth will create demand for additional medical facilities in Rolleston which it is hoped will establish as demand grows. The Structure Plan seeks to facilitate the provision of primary and community health services based on the needs of the community.

7.6.5 SOCIAL SERVICES

A need has been identified to provide an area from which for social services can operate from in Rolleston. These services could include; Work & Income, Citizens Advice or Family and Community Services. These organisations are an important support service for the current and future population of Rolleston.

The Ministry of Social Development is promoting a new way of working with and in the community. It seeks to provide an integrated service called a Community Link, where people can get help for a range of needs by a variety of social services and agencies centrally located in one place.

The recent opening of the Linwood Link in Christchurch (May 2008) provides an example of the successful integration of social services into one centre where government and non-government organisations can work alongside each other, eliminating the need for the community to visit a number of different locations. The Linwood Link provides a base for Work and Income, Housing New Zealand, the Department of Building and Housing, Career Services, ACC, Workbridge and Child, Youth and Family.

The development of this Structure Plan provides an opportunity to plan for the provision of an integrated health and well-being centre providing a support network for the community that includes both health and social services.

7.6.6 CEMETERY

Rolleston does not have a cemetery; the closest cemetery is located near Springston Weedons Road 3 km east of Springston. Although land has been identified for expansion of this site, there are issues with a high water table that may block resource consent.

Based on the size of the expected population in Rolleston provision of a cemetery for the town has been included in the Structure Plan. A plot of approximately 8 ha would be required to ensure longevity of the site. There is scope to plan for a cemetery on the southern edge of the MUL in the green buffer zone, most notably on the corners of Lincoln Rolleston Road and Selwyn Road. There are also options to include a cemetery in the Regional/District Reserve should it be created under the airport noise contour on Weedons/ Levi Road.

7.6.7 DOG PARK

A community dog park has recently been completed at the corner of Springston, Rolleston and Goulds Roads. This park will be included in the Recreation Precinct and further dog parks should be included in other Greenfield areas.

7.6.8 OTHER

As Rolleston grows additional facilities will be provided that cater for a wide range of demographics these include:

- Churches
- Veterinary services
- Residential care for the elderly

7.7 Open Space

The following section outlines the proposed components, opportunities and benefits of an integrated open space network in the Rolleston Structure Plan. Public open space in the Structure Plan refers to the following;

- District Parks
- Green corridors and rural buffers
- Active sports fields
- School grounds
- Botanical Gardens
- Town squares/plazas
- Reserves (including dog parks)
- Playgrounds
- Streetscapes (including avenues)
- Gateways
- Lakes, ponds and constructed wetlands
- Landscape character features such as shelterbelts, water races, etc

In the Structure Plan, open space is considered to be should be multi-functional, fulfilling much of the recreation, conservation, amenity and utility needs of the neighbourhood. Current thinking is to design open space to be as flexible as possible; integrate them into the movement network; provide opportunities for play beyond formal equipment and younger age groups; and use these spaces to enhance urban ecology and surface water treatment.

While the layout of open space should aim to utilise naturally fertile areas that provide for effective plant growth, it is also important that the open space network is well integrated with good urban design principles. To achieve this, a green network approach has been taken that establishes a hierarchy of open space and linkages. Some open space elements are key structural "anchors" that draw many users to them as a destination. Other elements provide for linkages and movement corridors. The Structure Plan open space network has been broken down into the following hierarchical components;

1. Primary Open Space
2. Secondary Open Space
3. Open Space linkages

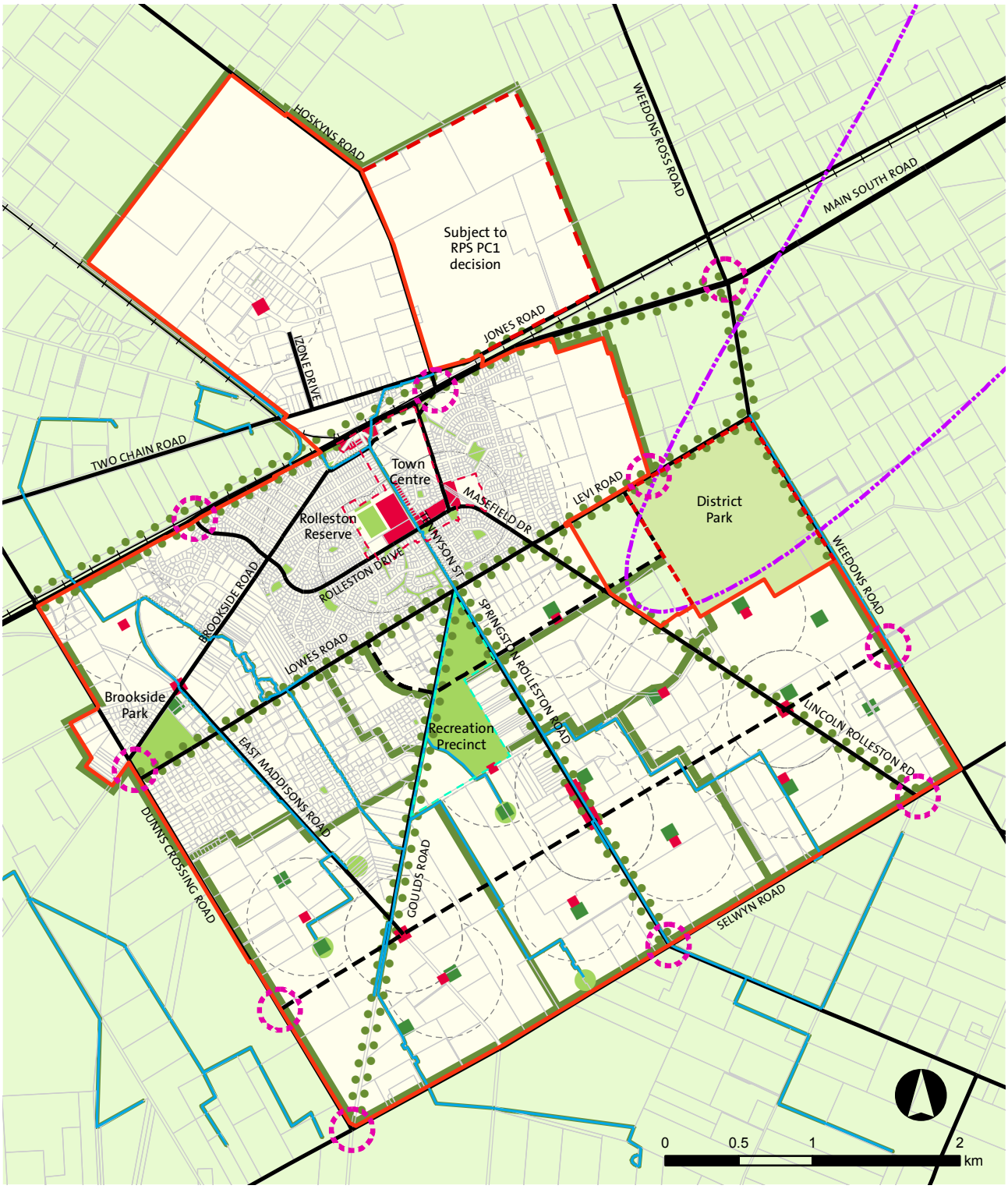


Figure 7.3: Public Open Space

- Study area
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Water Races
- Noise Contour
- Key Gateways
- 5 Minute Walk (400m)
- Town Centre
- Neighbourhood Centre
- Local Centre
- Neighbourhood Parks
- Green Corridors and Green Belt
- District Park
- Recreation Precinct and Reserves
- Rural land
- Waterway Reserve
- Avenue Planting

7.7.1 PRIMARY OPEN SPACE

Primary open space provides for major recreation and amenity facilities for the Rolleston community as a whole. These large open space areas provide opportunities to co-locate compatible community facilities within open space areas (e.g. swimming pool, stadium, high school). This would enable the multiple and efficient use of community facilities as well as sharing of car parking facilities, and access and roading (to potentially reduce traffic effects). The co-location of facilities can also potentially reduce costs for the community in providing combined land areas, and shared maintenance and renewal of facilities. The following identified primary open space areas in the Structure Plan are large areas of co-located facilities that will draw many users to them. A proposed Greenbelt has also been included as a primary open space due to its scale and the cohesion and linkages it would contribute to the town.

Rolleston Town Centre

This area currently comprises an interconnected cluster of open spaces. These include; Rolleston Reserve, Rolleston Square, Rolleston 'High Street', Rolleston Primary School grounds, Clock Tower Reserve, and a series of nearby smaller community parks and green neighbourhood linkage routes. Large areas of undeveloped land and car parking space also form part of the open space network but often do not contribute positively to its character. The 8.5 ha 'Rolleston Reserve' is currently considered part of the town centre, and provides for a range of sporting activities.

Rolleston Town Centre is intended to be the economic, cultural and social hub of the town. As such, high quality of open space character and design is very important for community prosperity, identity and enjoyment. There is potential to reduce the size of Rolleston Reserve and intensify (as well as upgrade) the use as a key destination. New buildings facing onto open space areas should provide active and attractive facades. This should be reinforced with appropriate high quality landscape design that encourages building users to engage with the surrounding open space. Passive surveillance of open space from buildings also improves security and a sense of safety in open space areas. All town centre open space areas should be designed and audited with Crime Prevention Through Environmental Design (CPTED) criteria in mind.

An additional element that could contribute to the amenity and cultural character of the town centre is the proposition of establishing a high quality 'Rolleston Sustainable Botanical Gardens' (using exemplary sustainable garden design) appropriate to the local conditions and thus a model for residents' own gardens. Market squares, event spaces, public artworks, and pedestrian friendly traffic routes, would also contribute to the vitality of the Town Centre and link the open space network around the town together. Small event spaces that are intermittently used for community events could be coordinated as part of Town Centre management.

Figure 7.4: Rolleston Reserve