Selwyn District Council

# Rolleston

## Structure Plan

September 2009

Greater Christchurch Urban Development Strategy

AECOM

Boffa Miskell

Report prepared for the Selwyn District Council by AECOM and Boffa Miskell

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Selwyn DISTRICT COUNCIL

EXECUTIVE SUMMARY

# Rolleston

## Structure Plan

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# Executive Summary

## VISION

*It's 2075. Rolleston is a well-established town on the Canterbury Plains, larger than Ashburton or Rangiora. Despite the town's impressive growth in recent years, the town has come together well and the community spirit remains strong. While it has kept a close association with Christchurch, it remains a town in its own right. The town has been successful in drawing a distinctive character from its close associations with the rural landscape in which it discretely sits - you can still catch glimpses of the Port Hills or Southern Alps as you move around the town. Enhancing the natural character of Rolleston has reflected Ngai Tahu's association and identity with the landscape and will also enhance the town's distinctive character.*

*Rolleston is recognised as one of the most desirable places to live and work in the region and businesses are keen to establish themselves here. This has been boosted by the reputation gained by the town's long term approach to sustainable development, which is now frequently used as a successful model by other towns facing the ongoing impacts of energy shortages and climate change.*

*Rolleston's town centre is a thriving and vibrant social hub. Visitors are attracted from throughout the district to the variety of shops, entertainment and community facilities on offer. The various festivals and weekly market are events that gather the community together in the town square on a regular basis. Many combine a visit to the town centre with their trip to see the new exhibition at the art gallery, their kids competing at the nearby Recreation Precinct or following a long walk, bike or horse ride around the town's green belt.*

*The residents of the district find it relatively easy to find just the right place to live as they look to move house within the community they are familiar with, staying close to friends; or to relocate into the town for new work or retirement off the farm. Most places are within an easy walk if parents want to take the kids down to the park to play or dash down to the local shops for milk; if they need a bit more they just catch the bus into town.*

*All in all, residents are pretty proud of Rolleston and what's been achieved over the last few years. It hasn't lost what residents enjoyed about Rolleston when it was smaller, but has grown better as it's matured.*

## BACKGROUND

The Rolleston Structure Plan has been initiated as part of delivering the Greater Christchurch Urban Development Strategy (adopted by Selwyn District Council in April 2007). The Plan seeks to manage the rapid growth that has and will likely occur in Rolleston, which could be a town as large as 50,000 by 2075.

The Structure Plan has been a joint project between the Selwyn District Council, AECOM and Boffa Miskell.

## STRUCTURE PLAN PROPOSAL

The three objectives of the Plan are

- A Sustainable Rolleston
- A Well Designed Rolleston
- A Realistic and Achievable Rolleston

To achieve the vision and these objectives, the Structure Plan proposes the following major developments:

**1. A refocused Town Centre:**

- Consolidated along Rolleston Drive and Tennyson Street and using the existing Rolleston Reserve.
- Improved connectivity within the Town Centre and stronger use of the Rolleston Reserve land.
- A Reserve containing a mix of retail, cultural functions (expanded library, town hall, and art gallery), attractive open space (e.g. botanic gardens and town square), pedestrian friendly access and different housing types.

**2. A New Recreation Precinct:**

- Centred on Goulds Road and Dynes Road.
- Offering indoor and outdoor sports with indoor sports facilities, sports clubs headquarters, outdoor sports fields and potential swimming pool and the Rolleston High School.

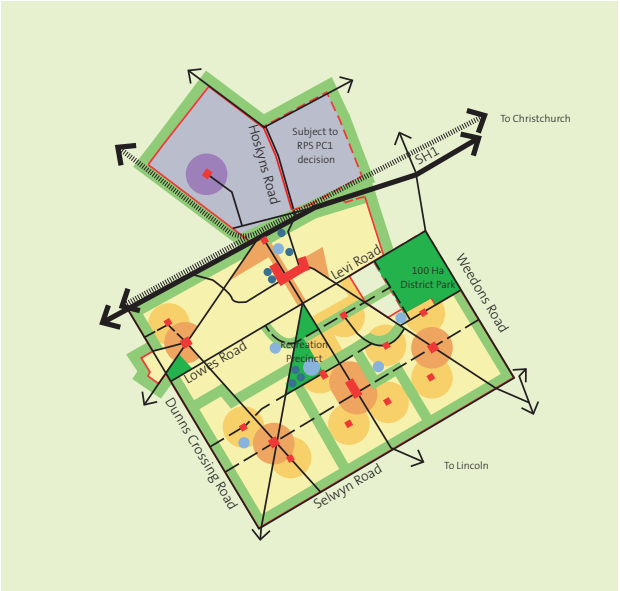
**3. A New 100 hectare Regional/District Park:**

- Used as a district-wide facility.
- Provision of recreational/community activities not located in the Recreation Precinct.
- Potential for district wide facilities, e.g. community gardens, local energy generation, ecological areas, and larger sporting facilities – e.g. equestrian, cycling, golf.

**4. A mix of housing in Rolleston:**

- Improved diversity in the community, and delivering a range of residential housing types which meet community needs.
- For example, small section sizes around 375m$^2$ up to larger sections of around 750m$^2$.


**Rolleston Town Centre Diagram**




**Rolleston Structure Plan Diagram**

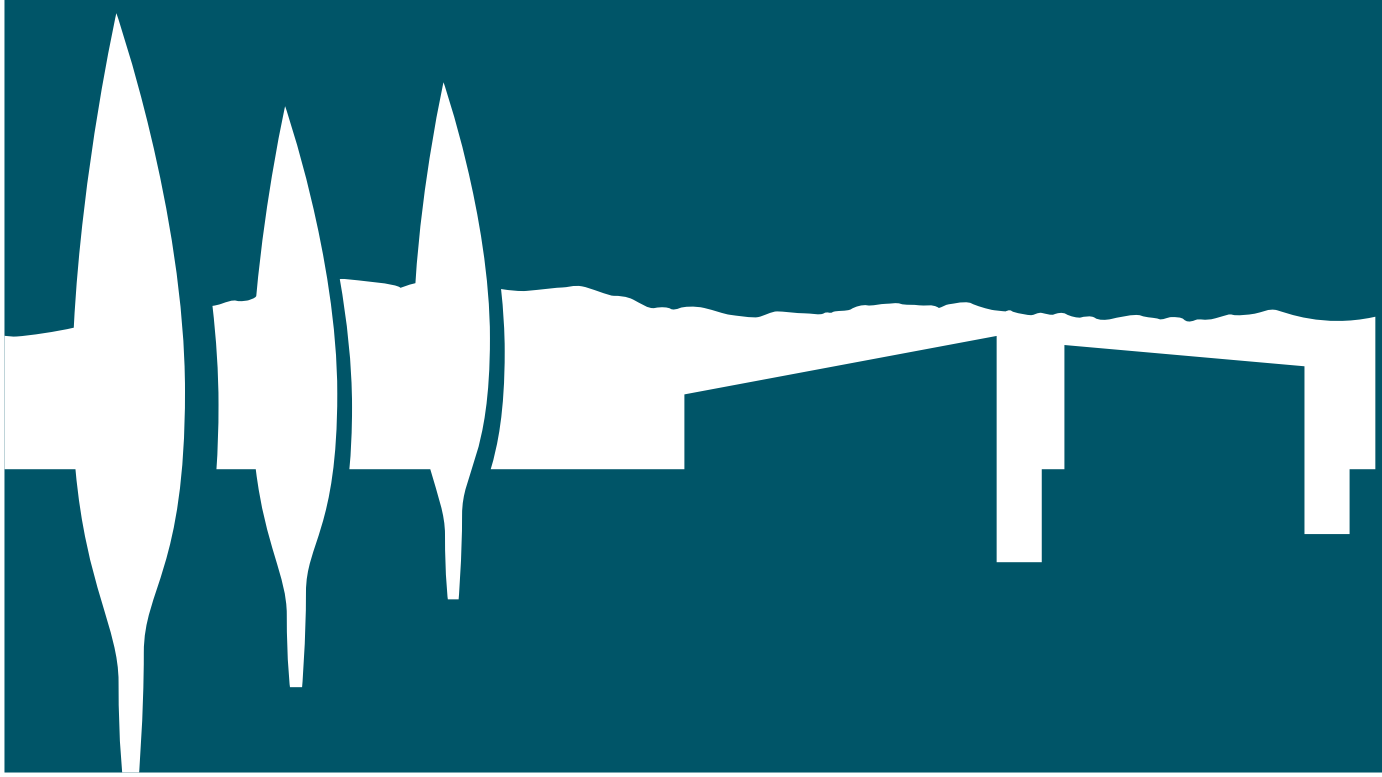
## IMPLEMENTATION

Implementation of the Structure Plan will be crucial in achieving the vision and major developments outlined above. The key objectives are considered within the document with a checklist and implementation tables at each stage along with cost estimates where they are known and any affordability issues that may have been identified.

# 1.0

# Introduction





# 1.1 Background

Rolleston is the largest town in the Selwyn District and is expected to experience significant growth over the next 35 years, from the current population of just over 7,000 to around 20,000 (Figure 1.1). The Rolleston metropolitan urban limit (MUL) has a potential long term land capacity of up to 50,000 should full intensification of existing areas and development of all greenfield areas (886 Ha) occur. This could be accomplished within 70 years. As a result, Selwyn District Council has developed the Rolleston Structure Plan to provide a strategic framework to guide the development process.

The Plan looks at three key time periods: the short term until 2016; the medium term until 2041 (this date is consistent with the Greater Christchurch Urban Development Strategy (UDS) and Regional Policy Statement horizons); and the long term until 2075.

# 1.2 Purpose of the Structure Plan

The Ministry for the Environment defines a Structure Plan as; "a high-level plan that shows the arrangement of land-use types, and identifies public infrastructure, such as streets, schools, rail, reservoirs and natural features." The Structure Plan's purpose is to consider how existing and future development in Rolleston should be integrated in order to ensure that sustainable development occurs and makes best use of natural resources.

The Rolleston Structure Plan is intended to be aspirational, identifying principles for the future development of the town including good urban design and sustainability, whilst ensuring that it is achievable. The Structure Plan does not provide a detailed plan for the town; more detailed spatial planning will follow through the development of individual Outline Development Plans and masterplans.

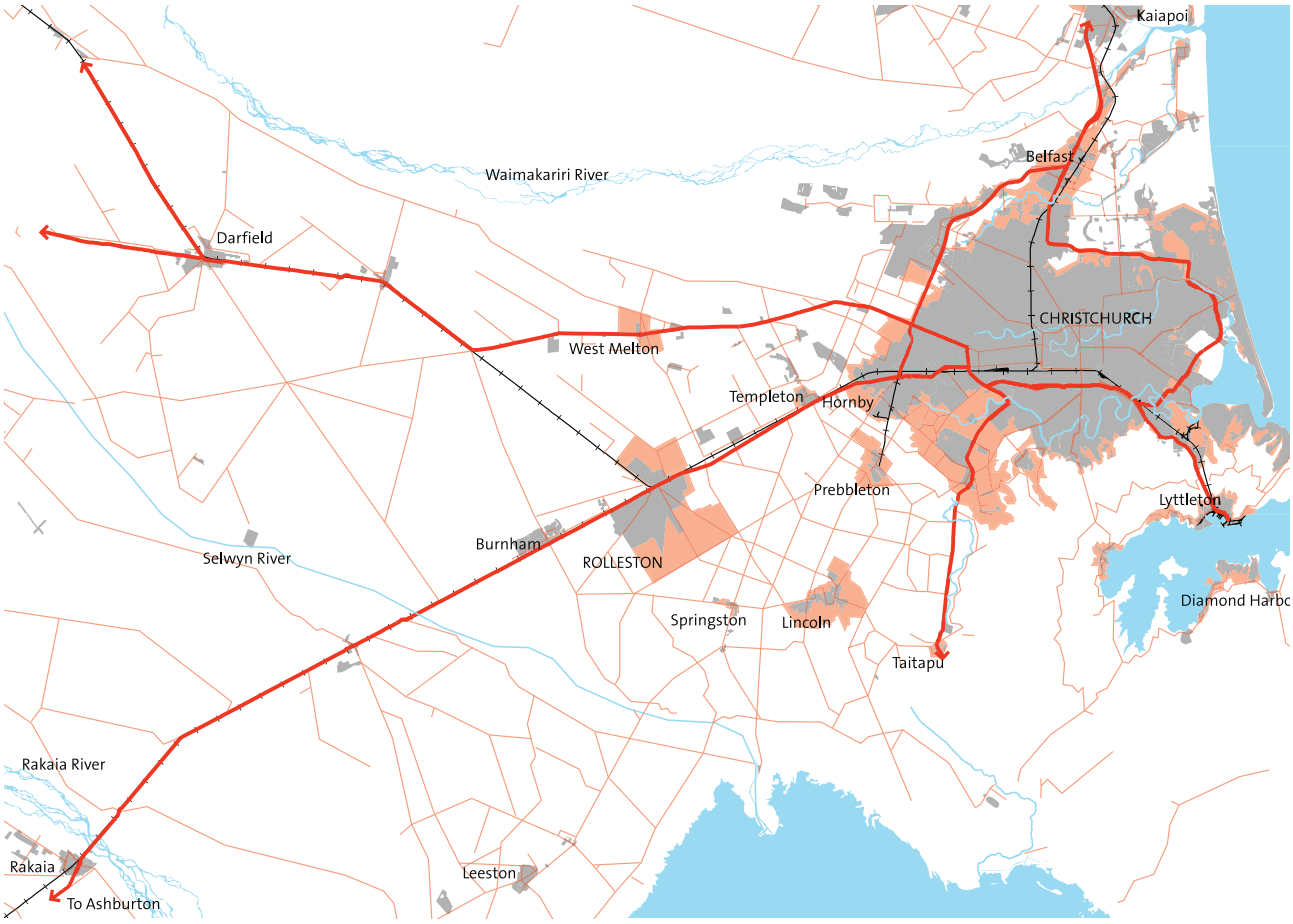



**Figure 1.1: Map Illustrating the Location of Rolleston Relative to the Surrounds**

## 1.3 Structure Plan Area

The Structure Plan therefore creates a framework to guide development and will be used as a basis for:

- Making future changes to the District Plan to cater for residential and commercial development
- Developing infrastructure programmes
- Influencing the Long Term Council Community Plan
- Non statutory guidelines

It will be important to make sure that the recommendations of this plan are delivered on by Council and developers. Therefore, the Structure Plan will be reviewed every 3 to 5 years initially, then periodically to coincide with reviews of Council's Community Outcomes.

The area for the Structure Plan (as shown in Figure 1.2) was determined when the proposed Metropolitan Urban Limit (MUL) for Rolleston was established and formally adopted by Council in July 2008 and was provided to Environment Canterbury to be included in Variation 1 to Proposed Change 1 of the Regional Policy Statement (RPS PC1). The area included in the Structure Plan follows Dunns Crossing Road as the western boundary. Additional land has been included to the eastern boundary between Lincoln-Rolleston Road and Weedons Road, beneath the new airport noise contour. A section of land has been included between State Highway 1 and Levi Road and between Levi Road and Lincoln-Rolleston Road. The southern boundary follows Selwyn Road. The current and anticipated growth area of the Izone Southern Business Hub is also included in the urban limit (subject to RPS PC1). A 100 ha area of land on the intersections of Weedons Road and Levi Road has been identified for a potential District park, this area has been included in the Structure Plan although it falls outside the MUL.

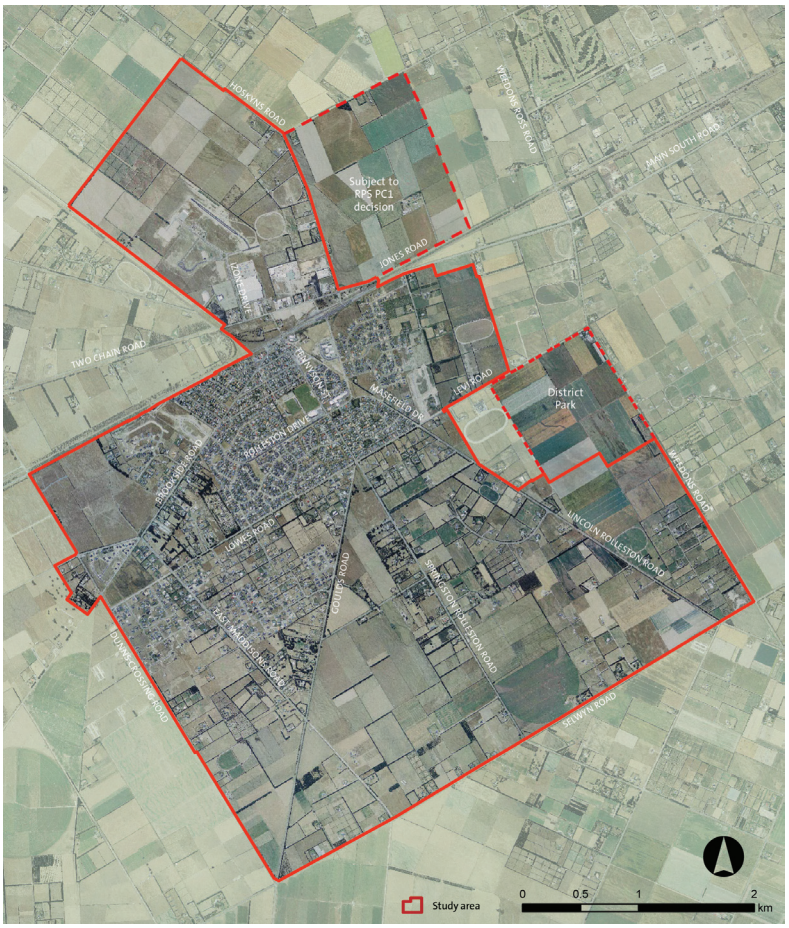



**Figure 1.2: Aerial Photo and Metropolitan Urban Limit of Rolleston**

# 1.4 Structure Plan Methodology

The Structure Plan has been developed in four key layers;

- Centre Strategy (i.e. Town Centre and the use of Neighbourhood and Local Centres);
- Land use, including housing, open space and community facilities;
- Movement networks; and
- Infrastructure.

Alongside early public consultation on the town centre options, regular input from the existing business community, key landowners, Council staff and Councillors has been sought to enable the Structure Plan to best align with community expectations.

The structure of the document is displayed in Figure 1.3 below. Background to the Structure Planning process is established initially along with the vision, key objectives and principles for Rolleston. "Existing context and issues" provides a view of the statutory and planning framework along with a summary of the issues that are being addressed by the Plan. The key output of the Structure Planning process is the map that shows graphically how the four layers of the plan integrate; creating a plan that will lead development for the next 70 years. Each of the layers is then discussed in detail.

Appropriate staging is important to ensure successful implementation of the Structure Plan. An action plan discussing next steps provides the conclusion to the Structure Plan. The key themes of the Plan: sustainability, good urban design and ease of implementation, are considered throughout and discussed at each stage along with cost estimates where they are known and any affordability issues that may have been identified.

Various concept design options have been considered as part of the Structure Plan development, particularly associated with town centre options, location of supporting neighbourhood centres and provision of higher density housing. The Structure Plan will help to inform more detailed master-planning and Outline Development Plans for each of the development areas following its adoption by Council.



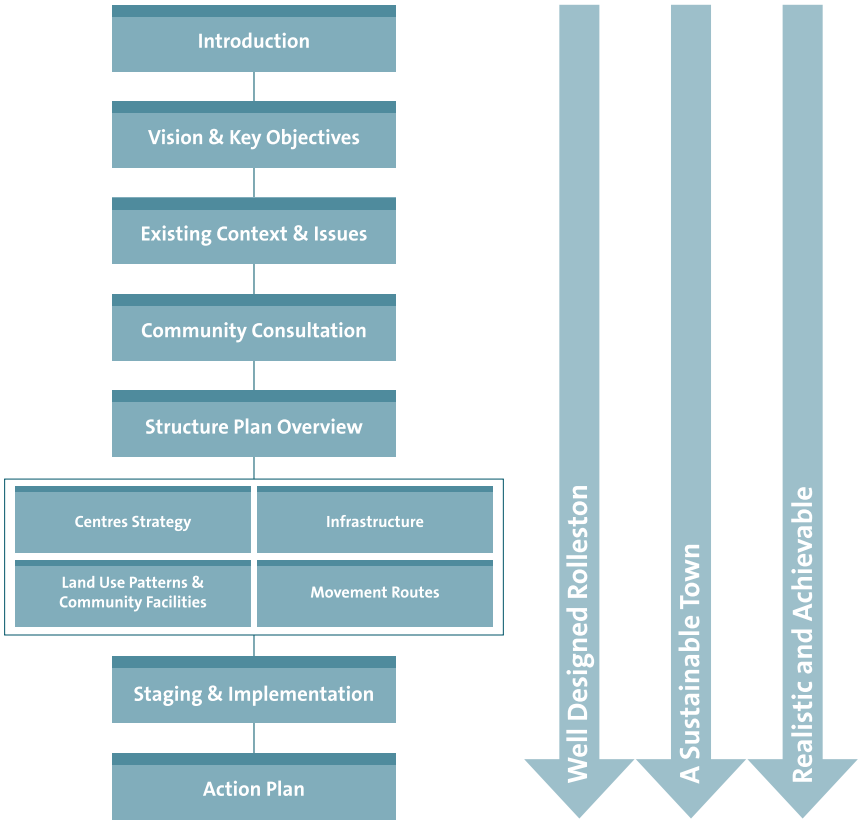
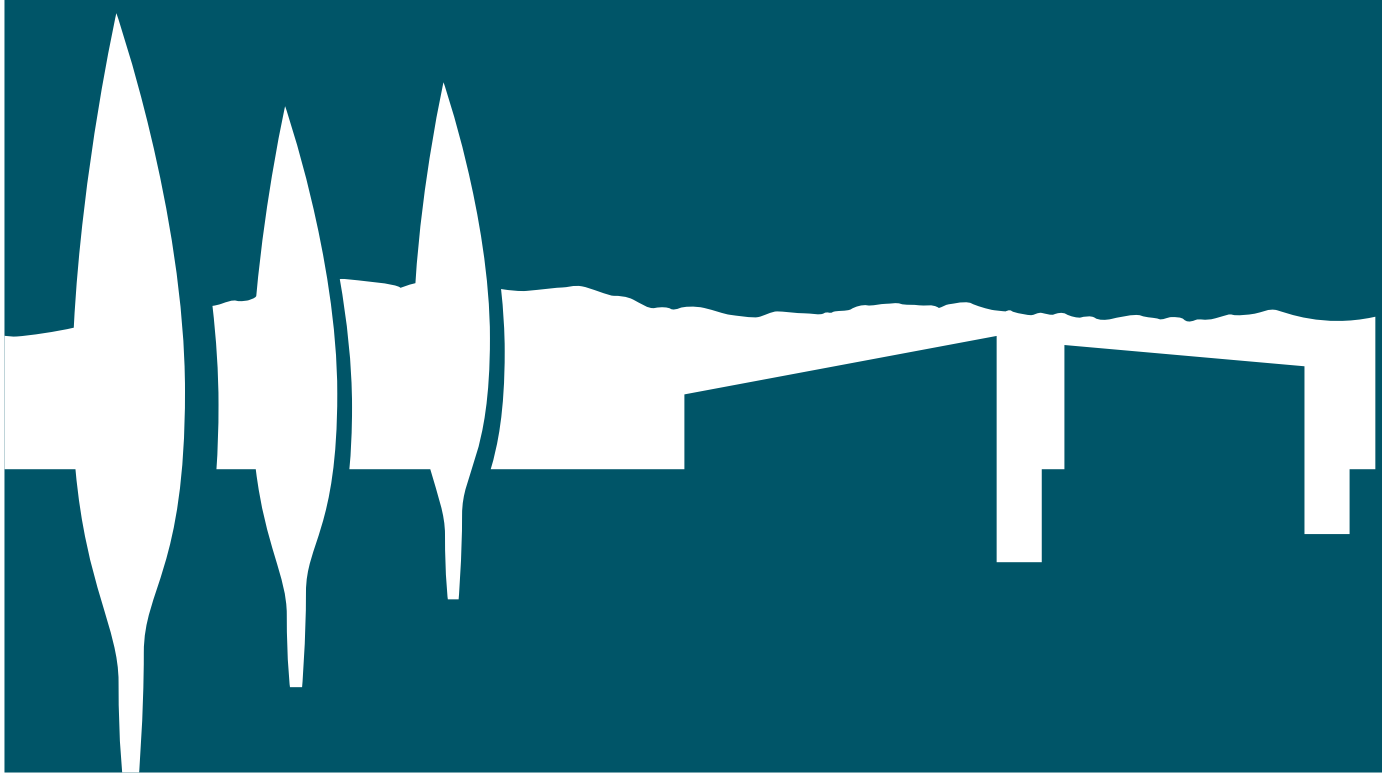



**Figure 1.3: Methodology**

# 2.0

# Vision and Objectives





# 2.1 Our Vision

*"It's 2075. Rolleston is a well-established town on the Canterbury Plains, larger than Ashburton or Rangiora. Despite the town's impressive growth in recent years, the town has come together well and the community spirit remains strong. While it has kept a close association with Christchurch, it remains a town in its own right. The town has been successful in drawing a distinctive character from its close associations with the rural landscape in which it discretely sits - you can still catch glimpses of the Port Hills or Southern Alps as you move around the town. Enhancing the natural character of Rolleston has reflected Ngai Tahu's association and identity with the landscape and will also enhance the town's distinctive character.*

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THOUSE
YOUNG

# 2.2 Key Objectives

The Structure Plan provides an opportunity to shape a common vision for Rolleston. To achieve the vision outlined above, three key objectives have been identified and carried through the structure plan proposals as they have been developed. Each of the Plan sections has then been tested against these objectives to demonstrate the level of alignment within existing constraints. These long term objectives for Rolleston are outlined below:

### 2.1.1 OBJECTIVE 1: A SUSTAINABLE ROLLESTON

As one of the largest greenfield growth areas within Greater Christchurch, there is a significant opportunity to integrate sustainability initiatives over a broad scale and showcase Rolleston as a sustainable town.

Selwyn District Council adopted a set of seven Sustainability Principles for the District that provides a basis for Council activities.

The Structure Plan seeks to build on the seven sustainability principles through three specific development principles:

- Improved Wellbeing
- Drought Ready
- Self Sufficiency

A matrix illustrating the connections between the principles is included in Appendix E.

### 2.2.2 OBJECTIVE 2: A WELL DESIGNED ROLLESTON

Consideration of good urban design is important for the future development of Rolleston, both for infill and intensification within the existing town and additional greenfield growth throughout the wider urban limit. The greenfield nature of future development at Rolleston provides an opportunity to use good urban design to create a high quality urban environment.

SDC became a signatory of NZ Urban Design Protocol in 2008. The Urban Design Protocol has been developed by the Ministry for the Environment with the aim of "making New Zealand towns and cities more successful through quality urban design". The protocol identifies seven design qualities to guide sustainable quality urban design, these are:

- **Context** – the integration and linking of the elements of a town to ensure flow and cohesion
- **Character** – the reflection and enhancement of the character of a town, ensuring neighbourhoods are unique and complement the existing features

- **Choice** – inclusive design fostering diversity and offering choice, flexible and adaptable design creating resilient towns
- **Connections** – providing good connections to sustain healthy neighbourhoods and reduce travel times
- **Creativity** – quality design to add diversity and a point of difference
- **Custodianship** – reducing the impact of the town and ensuring sustainability
- **Collaboration** – creating a common vision that stands the test of time

SDC has also prepared design guides for 'Residential Subdivisions' and 'Medium Density Housing'. The Structure Plan is intended to provide a bridge between the higher level qualities of the Protocol and the more detailed design guides. It achieves this by developing a range of urban design principles tailored specifically to steer the growth of Rolleston into a larger town.

In addition to the Urban Design Protocol, a series of development principles have been created to help guide future development in Rolleston.

A matrix illustrating the connections between the principles is included in Appendix F.

### 2.2.3 OBJECTIVE 3: REALISTIC AND ACHIEVABLE FOR ROLLESTON

The Structure Plan has to be realistic and achievable in practice, to ensure it can be implemented and not disregarded in the future. The Structure Plan must also be sufficiently flexible to enable it to adapt to the changing context and environment.

The Selwyn District Draft Long Term Council Community Plan (LTCCP) 2009-2019 identifies a number of implementation initiatives for Rolleston that cover the early stages of the Structure Plan. These have been incorporated in the Plan along with additional proposals that look much further out. While these may seem a long way off, there are a variety of mechanisms, in addition to the LTCCP, that can be used to start planning for their successful implementation and ongoing management.

The principles used to improve the likelihood of the Structure Plan proposals both being realistic and achievable are:

- Coordinated policy making
- Integrated design
- Engaging the community
- Maintaining and managing quality places
- Timely provision of infrastructure
- Effective participation with tangata whenua at the planning, development of plans, subdivision and development of design phases.

# 2.3 Development Principles

The three key objectives identified above are further defined through a range of principles, which are intended to guide the progressive development of the Structure Plan on the ground. These set the high level requirements which future development proposals, including Outline Development Plans, should have regard for and against which they will be considered. These development principles are described below under each of the key objective headings:

### 2.3.1 A SUSTAINABLE TOWN - PRINCIPLES

Three place-specific sustainability principles have been considered to 'future proof' the Structure Plan. These have been tailored to Rolleston's particular physical location and the sustainability issues it potentially faces during a relatively rapid period of growth. These are:

1. Improved Wellbeing
2. Drought-Ready
3. Self Sufficient

These will be complemented by working with another of the key objectives - 'good urban design', particularly through the approaches to low impact urban design that are described in section 2.3.2.

## Improved Wellbeing

This principle ensures community, environmental, cultural (including Maori) economic and social wellbeing are improved compared to a 2009 baseline (i.e. net environmental and social benefit through a net gain in biodiversity, water quality, air quality, social well being etc.). It also takes into account wider global issues such as greenhouse gas emissions.

Structure Plan aims:

- 'Carbon neutral' town (e.g. achieving energy efficiency, renewable energy generation, efficient public transport infrastructure, and implementing carbon offset projects)
- Ecological restoration and increased biodiversity, including the provision of ecological services in public space
- A sense of place for residents
- Varied and accessible community services that reflect the cultural diversity of the community
- Increased connectivity throughout the town and to the wider district
- Economic Viability
- Recognition and provision for tangata whenua values such as ecological, mahinga kai and cultural values
- Restoration and enhancement of natural / ecological values

## Drought-Ready

This principle ensures Rolleston has a small 'water footprint' and is ready for drier conditions that are predicted with climate change.

Structure Plan aims:

- Stormwater is managed in the landscape (e.g. Rain Gardens and water storage and reuse)

- Managing water use through the Water Demand Management Strategy
- Re-use of water in urban green spaces.
- Landscaping and ecological restoration to consider drought conditions and water restrictions.

## Self-Sufficient

This principle promotes the concept of a self-reliant town that is also well connected to the wider environment. This involves creating a sense of place within the wider rural landscape, and providing opportunities to live, work and play locally. It also promotes the concept of self-sufficiency in water management, waste and energy generation.

Structure Plan aims:

- Provide for local jobs, shopping, recreation and community involvement.
- Recognise and plan for shared infrastructure between Izone and residents for electricity generation and use (e.g. allow for industries that can generate or share excess energy; provide recycling services, etc).
- Ecological services that assist with water and waste management (e.g. using landscaping to absorb compost, mulch and stormwater).
- Create water reuse loops as discussed under 'drought ready' as above.
- Enable food production in the urban environment (e.g. use of allotments and community gardens).
- Create and emphasise connections between town and country (such as jobs, markets, food, energy generation and visual connections).
- Energy production within or near the town, such as solar water heating, wind generation, co-generation (heat / steam / electricity) and waste as energy (biofuel, digesters).

### 2.3.2 A WELL DESIGNED ROLLESTON - PRINCIPLES

The urban design principles outlined in this section are intended to cover both infill and intensification within the existing town and additional greenfield growth throughout the MUL. While a range of constraints need to be managed within the existing town, the undeveloped 'greenfield' area within Rolleston's MUL provides considerable opportunity for developing a high quality urban environment. However, greenfield development will still need to be shaped by, and respond positively to, the landscape and features of the existing rural areas, which will determine the quality of the urban environment and level of distinctiveness that results.

The following principles provide points of departure for the Structure Plan and future development proposals, including Outline Development Plans. It is anticipated that these principles will also set the basis for assessing each individual response to the overall Structure Plan proposals.

## 1 Strong Regional and district linkages

- Link the town with key destinations and major movement routes to provide better integration with the surrounding district and nearby Christchurch City. This benefits residents wanting to directly and easily access employment, shopping areas, schools, recreation facilities and other community services.
- Respond to the unique characteristics of the district to establish a point of difference for promotion of the town and accentuating a sense of place (e.g. rural character, views, distinctive land uses).
- Provide for Ngai Tahu's cultural identity in urban landscape of the district as a key contributor to the town's heritage and sense of place.

## 2 Establish a clear hierarchy of centres

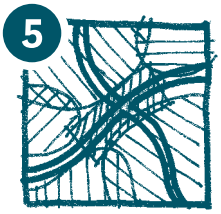
- Provide a wide range of facilities and services to meet the diverse needs of the community within the town;
- Establish complementary centres with the town centre acting as a recognisable community focus and neighbourhood and smaller local centres catering for the basic daily needs of local residents;
- Utilise existing rural roads as the basis for primary movement routes to link the existing town centre with proposed neighbourhood centres.
- Directly link neighbourhood and local centres together in a simple and legible way and to 'stitch' in local residential catchments;

## 3 Integrate land use and movement

- Service key destinations (i.e. centres and community facilities) with good transportation systems (e.g. public transport);
- Provide a range of convenient and pleasant walking and cycling options for linking residents to key destinations;
- Seek ways to reduce the impact of major movement barriers, such as the State Highway and arterial roads, particularly around centres and public open spaces.

## 4 Higher density development at nodal points

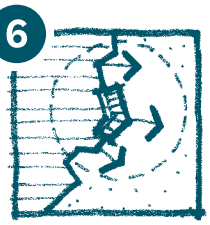
- Closely match the spread of population density to centres and/or key movement corridors, including public transport routes, which require the highest levels of activity and provide the higher quality amenities.
- Establish smaller block sizes within higher density areas to maximise the choice of routes and reduce travel distances.



## 5 Overlapping mix of land uses

- Provide a wide variety of land use activities (e.g. retail, office, community facilities) within comfortable walking distance of the highest population densities;
- Utilise a mix of uses to encourage a diverse and compatible range of activities, particularly in centres;
- Provide a choice of housing typologies to cater for a range of different lifestyles.

## 6 Regenerate existing residential areas through shared amenities



- Locate new centres and community facilities to aid the intensification and infill of existing lower density zoned land within the urban limit;
- Utilise new investment as an opportunity to improve or develop new amenities where deficiencies are recognised and allow new residents to tap into and help sustain existing community facilities.

## 7 Create a continuous network of open space

- Establish an inter-connected network of open space centred on larger public open space reserves, including the Recreation Precinct and 100Ha District Park.
- Provide walking and cycling access and ecological links between larger reserves through the use of linear open spaces, such as green corridors, water races, avenue-style street connections and smaller local parks.

## 8 Create ecological and open space links between town and rural land

- Provide green corridors between larger neighbourhood clusters that link the town's reserves with its rural edges;
- Align secondary and local street network to create strong physical and visual connections between neighbourhoods and the town's broader rural context (e.g. Southern Alps, Banks Peninsula);
- Clearly define the edge of the town through providing a strong buffer that maintains the rural feel beyond the urban limit.

## 9 Provide a public edge to public open space


- Avoid new development 'turning its back' or privatising edges to major landscape features and recreational areas;
- Minimise access barriers to allow for a wide spectrum of the resident population and visitors to physically access or visually overlook these features.

## 10 Utilise existing rural roads and landscape features to develop distinct urban areas

- Use rural and open space features to define neighbourhood edges and inform the development of a diverse range of living environments across the urban limit;
- Use these landscape qualities as generators for distinctive neighbourhood identities.

## 11 Protect and enhance existing landscape features and incorporate into urban form

- Encourage the retention of existing native and exotic vegetation (e.g rural shelter belts) that will help structure and characterise the layout of new developments and lend an established landscape character to the growth areas.
- Incorporate existing rural field boundaries to retain strong links back to historic uses of the land.
- Revegetate water races to provide habitat for native species and minimise adverse effects on the water quality
- Restore and enhance waterways, wetlands, mahinga kai species, and native habitats and species, to support utilisation for traditional mahinga kai practices e.g. raupo, harakeke, totara.
- Establish native riparian planting along all waterways and springs
- Protect, and enhance (where appropriate) natural springs

## 12 Locate large recreation areas at the periphery of dense urban areas

- Locate large recreational areas on the periphery of higher density areas where a balance can be struck between proximity and the impact these large areas have on walkable population catchments to centres.

## 13 Protect views to distant regional landscape features and along rural roads

- Restrict the impact of higher density areas on the rural character by generally containing visual effects within the urban limit;
- Use landscape buffers to minimise reverse sensitivity effects of rural activities on urban land uses.
- Maintain predominantly rural views along roads outside the urban limit through the use of landscape buffers.

## 14 Protect historic and culturally significant sites or features

- Respect and restore known sites and landscape features with strong cultural and tangata whenua associations such as wahi tapu and wahi taonga sites and mahinga kai values
- Maori and Pakeha culture and heritage can be generally perpetuated through retaining familiar landmarks and for tangata whenua recognition and protection of places of significance is very important.
- Maori and Pakeha cultural heritage can also be promoted through non-physical means , such as use of place names or tohu (signs/markers).
- Consult with Ngai Tahu to determine which sites of significance could be recognised and provided for within Rolleston.

## 15 Enhance and promote Maori Cultural Landscapes

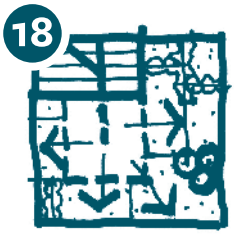
- Provide for effective participation of Ngāi Tahu, as kaitiaki, in urban planning and design;
- Protect and enhance natural and cultural values, such as riparian plantings; habitat restoration for mahinga kai species; protection of wahi tapu and wahi taonga;
- Provide for whanaungatanga (social relationships) and cultural identity in urban design such that tangata whenua identity and social relationship values can be reflected in places (work ,streets, public spaces, leisure facilities, neighbourhoods and residences).
- Respect and provide for wairua (spiritual) values in urban design, e.g., through protection of wahi tapu, springs, freshwater etc.
- Implement the Te Aranga Maori Cultural Landscapes Strategy

## 16 Utilise existing roads where possible

- Reduce environmental impacts and financial costs of building new roading infrastructure where existing road alignments can be used;
- Maintain a degree of familiarity for local residents by retaining historical routes, which are often already well sited;
- Improve integration/ connectivity of existing roads and subdivisions.

## 17 Consider climatic conditions

- Street alignments should maximise the opportunity for properties to gain good sunlight and daylight access. The long end of blocks should be within 20° off north-south to offer the best prospect for buildings to be both energy efficient and address the street.
- Consider other climatic conditions, such as prevailing winds. Rolleston has a temperate climate that requires protection from cold easterlies, strong north-westerly winds and southerly storms.



## 18 Future-proof Structure Plan for further expansion of the town

- Implementation of the Structure Plan and individual developments should allow for good physical integration and service provision to additional neighbourhoods beyond the RPS PC1 period, particularly those identified within the wider urban limit.

### 2.3.3 REALISTIC AND ACHIEVABLE FOR ROLLESTON – PRINCIPLES

In formulating the Structure Plan, careful consideration has been given to balancing design aspirations and deliverable outcomes. While there may be some proposals that still seem unrealistic, the Structure Plan is intended to set in motion further work that can clarify what is possible within the parameters of existing and future constraints. There are a number of practical steps that need to be taken to gradually assess issues, assist decision-making and implement the Structure Plan throughout its projected life. This may include updating the Structure Plan as circumstances change and opportunities arise. The principles for ensuring that the Structure Plan proposals are realistic and achievable are outlined below:

## Coordinated policy making

Policy directions supported across multiple levels, from regional policies (e.g. RPS PC1) to district or town-based policies (e.g. plan changes), which can be clearly interpreted and applied under local circumstances are important to avoid inconsistencies. Policies can also provide opportunities for strong political leadership to raise standards and deliver quality over the long-term, providing they are robust and can be evaluated and interpreted consistently by the community. The Structure Plan aims to provide a clear direction for targeted policy making.

## Integrated design

The Structure Plan can also be clarified by more design development work (e.g. Outline Development Plans or masterplans) that can further analyse and resolve more detailed issues by working at a smaller scale. These are informed by the broader aspirations of the Structure Plan but will be clearly focused on delivery. Design guides are also encouraged where there are common or recurring issues with the quality of delivery over a wider context (e.g. medium density housing).

## Engaging the community

With community support behind proposals there is a greater likelihood that tough decisions can be carried through and that implementation of the Structure Plan runs more smoothly. Raising awareness of the issues and educating people through consultation can allay concerns, establish consensus and often improve proposals. This is also important for harnessing private investment to deliver the Structure Plan proposals and this can be facilitated through closer collaboration, such as public/private partnerships (e.g. exemplar housing schemes) or through other development incentives.

## Engagement with Tangata Whenua

Council has a statutory requirement to consult with tangata whenua under the RMA Act and under section 15 of the Te Rūnanga o Ngāi Tahu Act (1996) this must be with Te Te Rūnanga o Ngāi Tahu and Papatipu Rūnanga. Effective and meaningful participation of tangata whenua with urban planning and design (with Council and developers) will ensure that adequate and appropriate consideration can be given to tangata whenua values, interests and aspirations, and will enable Ngāi Tahu to more effectively express their culture, identity, values and goals.

# Timely Provision of Infrastructure

Land development must be supported by physical infrastructure, such as roads, cycleways, footpaths, water supply, wastewater and stormwater, as well as electricity and telecommunications networks, which are provided by Council and others. It will often be necessary for infrastructure capital investment to occur in advance to facilitate new development (such as an expanded wastewater plant, a new road or a new pipeline into which a new development can connect).

Given the high cost and often long lead-in times needed for new infrastructure (for example, to allow for designation, resource consents and land acquisition processes) it is important that infrastructure providers have a sound understanding of future land-use zoning, timing and land development sequencing.

Furthermore, it is important that both development and infrastructure are as far as possible closely coordinated in order that development proceeds in a logical manner, and that the Council is not exposed to major capital investment and long periods acting as an "infrastructure banker". This means planning for optimal provision of infrastructure, funded through development contributions, and promoting the provision of infrastructure by developers as part of the land development process.

# Maintaining and managing quality places

Implementing high quality developments on the ground is only the start of the process. When developing a Structure Plan that spans generations, it is important to work carefully through the design process and set in place clear management structures early. This ensures the town matures sensitively and avoids any capital investment becoming a liability for the town in later years.

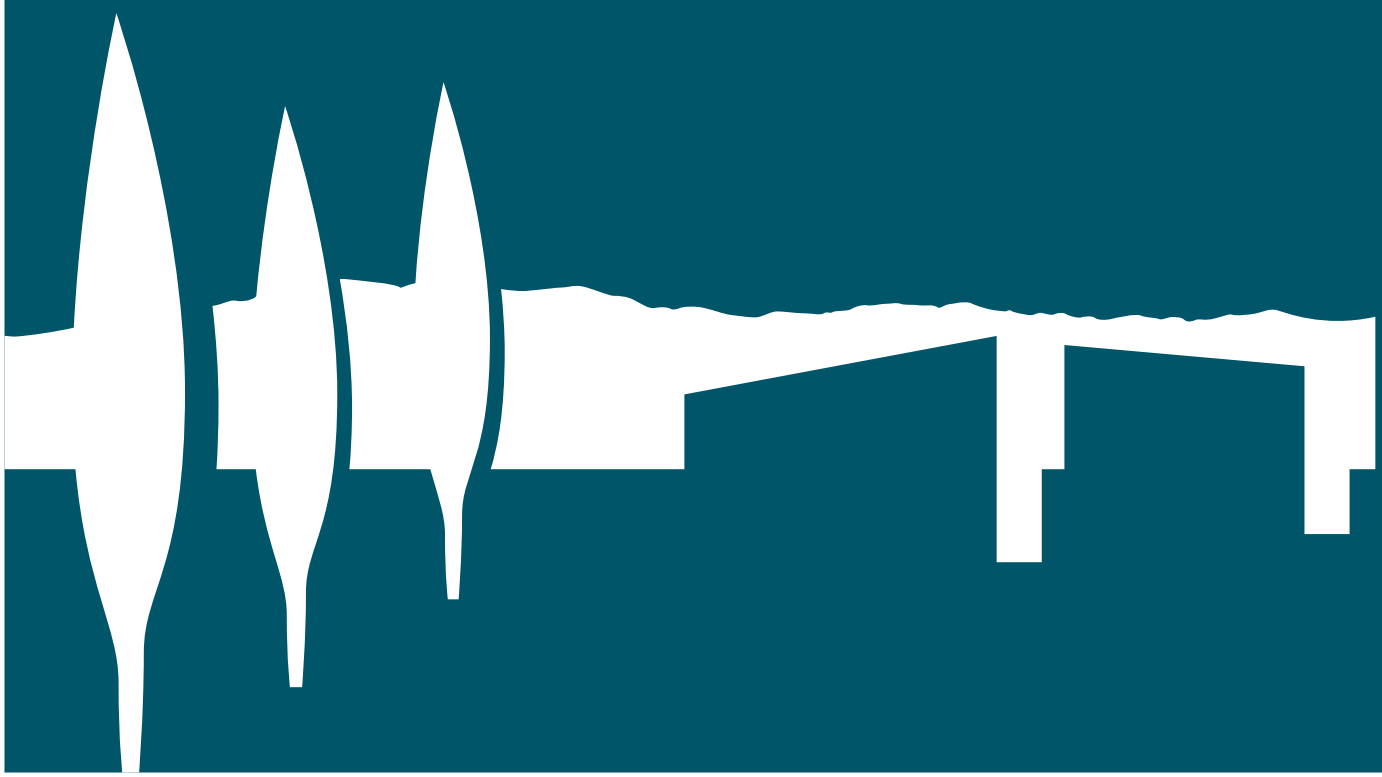
Targets should be set and adequate allowances made for regular review of the Structure Plan and the proposals it delivers to confirm that principles and quality standards are achieved. Setting initial benchmarks (e.g. Sustainable Development Framework) makes measuring targets easier.

The success of important places within the town (e.g. town centre) is dependent on coordinated maintenance (e.g. cleanliness and graffiti removal) and management (e.g. hours of operation and event promotion) and heavily influences future private investment and occupancy levels, on which the Council may choose to take a strong lead.

# 3.0

# Context Analysis





# 3.1 Regional & District Context

Rolleston is located in the Selwyn District, south west of Christchurch on State Highway 1. A key characteristic of Rolleston is its proximity to Christchurch and the role it plays in servicing the rural communities of the District.

Rolleston is the most significant town in the Selwyn District, due to its central location, links to other townships and proposed long term size.

# 3.2 Statutory & Planning Framework

The Greater Christchurch Urban Development Strategy (UDS) seeks to strategically manage growth in Christchurch, Waimakariri and Selwyn Districts until 2041, with an associated action plan. This was adopted by all of the Councils in 2007. The UDS has identified Rolleston as a future growth area and as a Key Activity Centre.

To implement the vision and strategies of the UDS, Environment Canterbury has released Proposed Change No. 1 of the Regional Policy Statement (RPS PC1). RPS PC1 proposes to insert a new Chapter 12A, which determines metropolitan urban limits (MUL), sets residential densities and provides sequencing for development in Rolleston.

Relevant variations to the RPS PC1 include; Variation No.1 which will set the MUL for Rolleston and Variation No 4 which identified a revised airport noise contour of 50 dBA for Christchurch Airport.

The Rolleston Structure Plan will be adopted by Council under the provisions of the Local Government Act (LGA). It is anticipated that the Structure Plan will be implemented through changes to the District Plan and/or the Long Term Council Community Plan (LTCCP) and non-statutory documents. There are also opportunities for private initiatives to be developed.

### 3.2.1 POPULATION GROWTH

The 2008 population of Rolleston is estimated to be 6,800 people, residing in 2,242 households . A high proportion of married couples and young families live in Rolleston, while low numbers of residents aged over 65 were recorded during the 2006 census.

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 households allocated by 2041 (5,435 new households). Further detail is provided in Section 7.2.1.

Selwyn District Council undertook some population prediction modelling for Rolleston that estimated an increase in the number of residents to 18,368 by 2041 with persons per household decreasing from 3.04 in 2008 to 2.63 in 2041.

Using the estimated persons per household and applying these to the RPS PC1 household allocation, a future population range of between 21,100 and 23,300 is estimated for 2041.

In addition to the RPS PC1 allocation for greenfield development, areas within the existing residential zoned land have been identified as likely for intensification and subdivision to occur. Should all the anticipated intensification occur an additional 3,000 households could be built. The actual rate of growth will depend on market demand for new properties.

The possible maximum population has been included in the Structure Plan because it has the potential to affect facility planning, for example the amount of school places that may be required.

The MUL identified by the RPS PC1 includes an area of 886 ha (gross) of greenfield sites for residential development. This area will not be fully developed during the period to 2041. To achieve the desired household densities (discussed further in Section 7.2), development of much of the land inside the urban limit will occur post-2041. With development of all land within the urban limit an anticipated population range of 43,000 to 49,000 is expected; the time at which this population range is reached will depend on market demand for properties within Rolleston.

# 3.3 Strategies and Guidelines of Influence

In addition to the statutory planning and policy documents, there is a series of strategies and guidelines that inform the Structure Plan. These include; the Ministry for the Environment New Zealand Urban Design Protocol, the Crime Prevention through Environmental Design Strategy (CPTED), SDC Subdivision Design Guidelines and SDC Economic and Community Development Strategies.

One of the key inputs to the development of this Structure Plan is The 5 Waters Strategy, in which Seven Sustainability Principles have been adopted to provide direction for long term planning. The 5 Waters Strategy outlines the vision for the District's water supply, waste water treatment and disposal, water races, land drainage and stormwater.

Another key input is the Christchurch Rolleston Environs Transportation Study (CRETS) that provides a transport strategy up to 2021. The strategy seeks to address growth-related issues in the Rolleston and south-west Christchurch area by proposing a roading hierarchy with improved connections. CRETS has identified changes to the junctions connecting Rolleston to the State Highway and key routes into the town.

# 3.4 Existing Physical Context

### 3.5.1 NATURAL ENVIRONMENT

Before the intensification of farming and settlement, the plains in the Rolleston area were probably covered by tussock grasslands growing on the free-draining outwash soils of the plains. Intensification and natural or induced fires have removed the natural patterns of vegetation, but there may have been patches of more diverse grassland or shrubland vegetation. Tussock planting in the urban area reflects this historical cover.

Pastoral land, roadside rough grasslands and shelterbelts of exotic species now grow outside the urban area. There are no natural streams in the area, but the stockwater race system brings water through the town from the Waimakariri River.

The former native vegetation and agricultural water supply can provide the expanding town with a sense of its history as well as guiding design and layout towards patterns and plant species that are best suited to the plains environment.

Rolleston township falls within the takiwā of Ngāi Te Rūāhikihiki ki Taumutu, through Te Taumutu Rūnanga. The takiwā boundaries encompass Birdlings Flat, Upper Riccarton, the Waimakariri River, Black Hill Range, and the Rakaia River, with shared interests south to the Ashburton River. Ngāi Te Rūāhikihiki ki Taumutu hold the customary status of manawhenua, ahi ka and kaitiaki for this takiwā. The natural environment is particularly important to Ngāi Te Rūāhikihiki as it supports and sustains all life, and also because it holds many significant places that connect Ngāi Tahu today with their heritage and cultural practices. The use of public open space and native plantings will restore many values of importance to Ngāi Te Rūāhikihiki.

## 3.5.2 URBAN MORPHOLOGY AND HISTORICAL DEVELOPMENT

Gaining an appreciation of Rolleston's development history helps inform future development strategies. Rolleston's urban form developed in three broad stages:

- Rural roads - accessing the plains (see Figure 3.2)
- Grid pattern - the original housing and commercial activities set on a grid street pattern (see Figure 3.3)
- Piecemeal subdivision - Lower density residential developments accessed largely by looped roads and cul-de-sacs. These have developed independently with poor integration between them and increasing plot sizes

Rural roads and the grid pattern provide a strong basis for future expansion of the town and have guided the Structure Plan approach.

The current zoning provision in Rolleston is shown on Figure 3.4.

**Figure 3.1: Aerial Photo Rolleston 1960s**



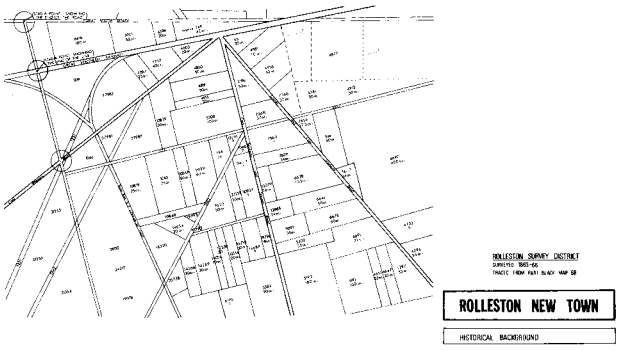



**Figure 3.2: Land Holdings Rolleston 1863-1866**

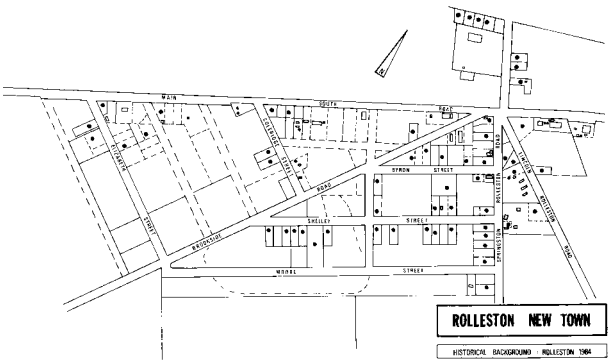



**Figure 3.3: Map of Rolleston 1964**

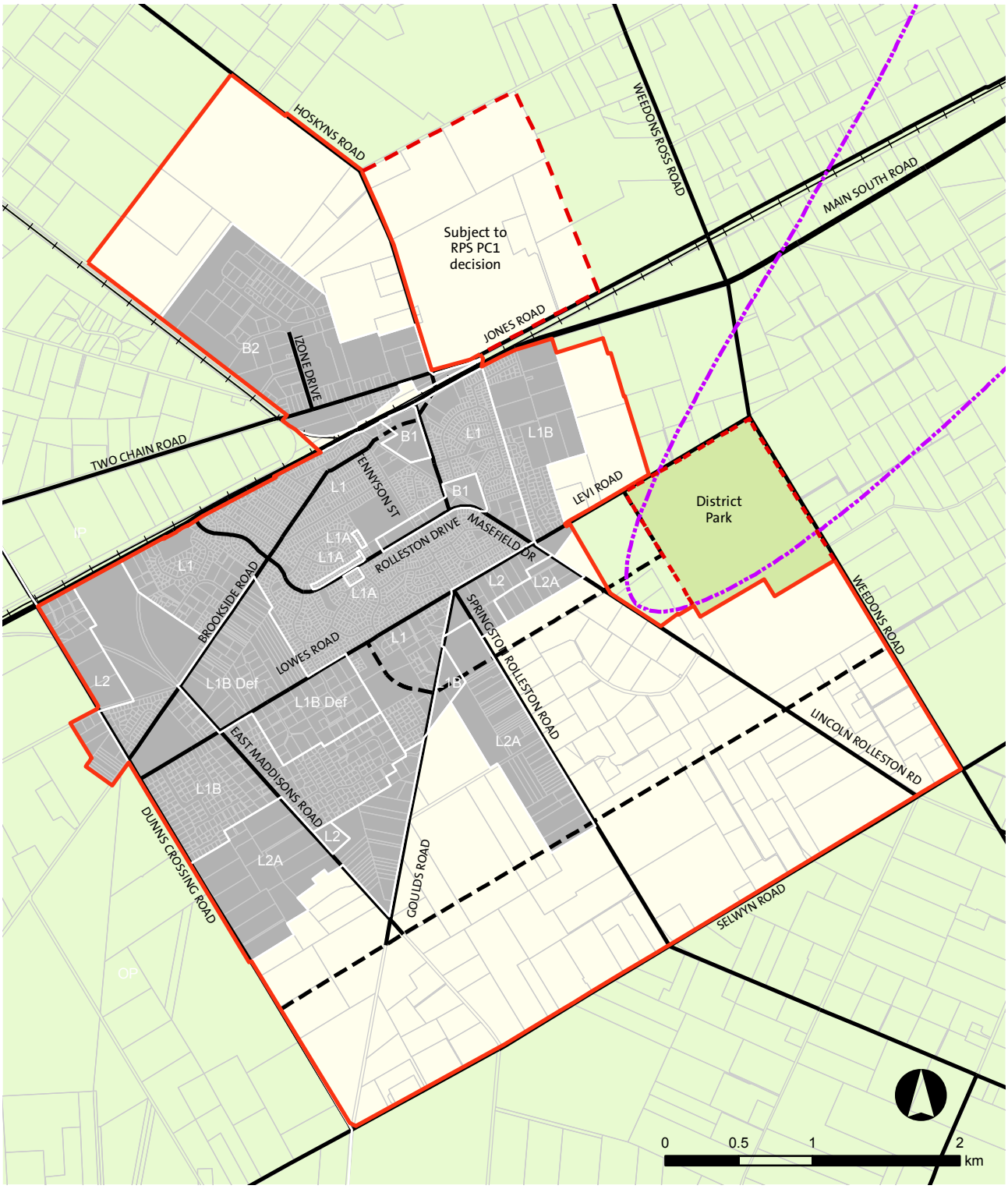



**Figure 3.4: Existing Zoned Lands**

- Study area
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Noise Contour
- Existing Zoned Land
- Proposed Greenfield Development Areas
- District Park
- Rural land

Zoning References:

| | |
|---|---|
| L1: | Living 1 |
| L1A: | Living 1A |
| L1B: | Living 1B |
| L1B Def: | Living 1B Deferred |
| L2: | Living 2 |
| L2A: | Living 2A |
| B1: | Business 1 |
| B2: | Business2 |

## 3.5.4 SOILS AND GEOLOGY

Rolleston is located on the Canterbury Plains which are formed of recent glacial outwash deposits (glacial and interglacial gravel sequences) of the Waimakariri River. The topology of the land inside the urban limit is generally flat, although there is an approximate height difference from the edge of Izone to Selwyn Road of approximately 30 metres. The fall direction is from north west to south east and follows the gentle undulation contours of the alluvial (glacial) outwash channels. The most common soil types in the town are Eyre shallow silt loam, Templeton fine sandy loam and Eyre sandy loam which are well or moderately well drained[1]. The Templeton soils that lie to the east of the town (including the area for the proposed 100 ha District Park), are moderately well drained and versatility class 2 as shown on figure 3.5. Versatility class 2 soils are valued for their high productivity potential and are highly versatile[3].

The soil type is a reflection of the towns location on the Plains, where soils are generally shallow and under laid with free draining gravels[2]. The soils in Rolleston have a medium to low moisture holding capacity (rate at which water can be applied without it running off to waste) which has tended to increase irrigation requirements and effect planting viability. This condition needs to be carefully responded to. At the strategic level, low impact urban design measures should be adopted wherever possible. Careful landscape design in species selection and overall design arrangements is important. Correct site preparation, plant selection, construction management practices and future maintenance and management regimes of landscape areas will also further enable successful planting outcomes.

1 Land Care Research, Canterbury Plains and Downs Soil Database.

2 Ministry of Agriculture and Forestry – Canterbury an overview – http://www.maf.govt.nz/forestry/publications/canterburyrs/rscanterbury01.htm

3 Christchurch City State of the Environment Monitoring Programme, Distribution of Horticultural Versatile Soils in Rural Zones, 2001 - 2008.

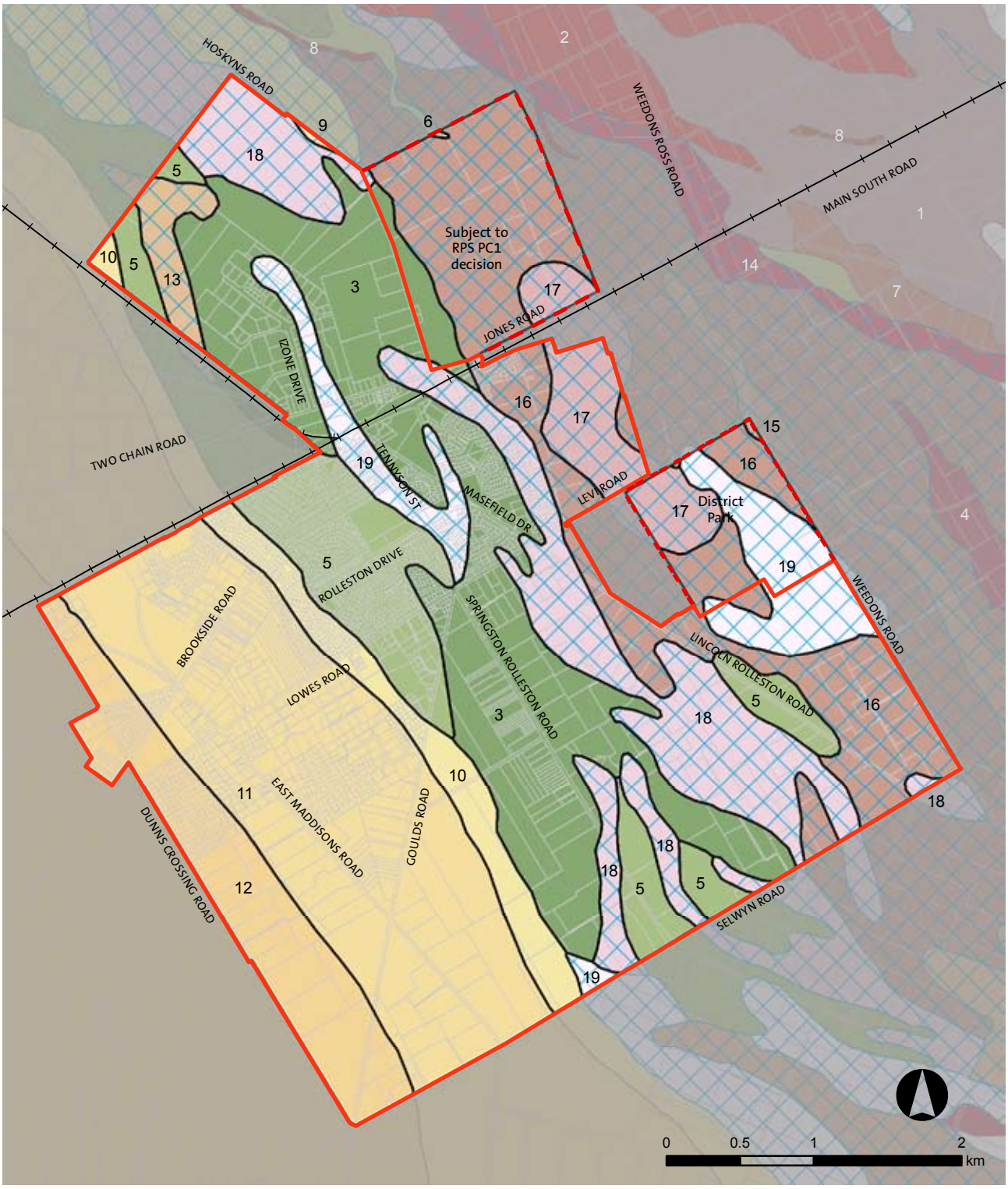



**Figure 3.5: Soils**

- Study area
- Railway
- Versatility Class 2

Soils - Urban Limit

- 3, Eyre shallow sandy loam
- 5, Eyre shallow silt loam
- 6, Eyre stony sandy loam and shallow sandy loam
- 9, Hatfield deep sandy loam
- 10, Lismore shallow silt loam
- 11, Lismore stony and shallow silt loam
- 12, Lismore stony silt loam
- 13, Templeton deep and moderately deep silt loam on sandy loam
- 15, Templeton deep silt loam
- 16, Templeton deep silt loam and silt loam on sand
- 17, Templeton deep silt loam on sand
- 18, Templeton moderately deep fine sandy loam
- 19, Templeton moderately deep silt loam

Soils - Rural

- 1, Eyre shallow and stony sandy loam
- 2, Eyre shallow and stony silt loam
- 4, Eyre shallow sandy loam + Templeton moderately deep fine sandy loam
- 7, Eyre stony silt loam
- 8, Halkett deep sand
- 14, Templeton deep sandy loam on sand

## 3.5.5 KEY ISSUES, CONSTRAINTS AND OPPORTUNITIES

An analysis of the key issues, constraints and opportunities within Rolleston has been summarised in Table 3.1. The Structure Plan aims to tackle these issues considering the constraints identified. A series of opportunities for Rolleston have been highlighted during the development of this Structure Plan, these have been carried forward and incorporated into the Structure Plan wherever possible.

**Table 3.1: Key Issues, Constraints and Opportunities for Rolleston**

| Item | | Key Issues and Constraints | Opportunities |
|---|---|---|---|
| Planning and Urban Design | Urban framework | No overall cohesion or pattern of urban development within the township | Provide a well planned, high quality urban environment in Rolleston that caters for the current and future populations of the town. Large areas of greenfield site with single land owners provide opportunities for comprehensive developments |
| | | Urban growth constrained by MUL and low density household provision | Large greenfield development area of 886 ha (gross) identified for residential development. Provide a range of housing densities within greenfield and existing areas. Utilise areas within the existing residential zones to increase housing densities |
| | | No distinct interface between urban and rural areas of the town | Provide distinctive urban character to the town. Manage the urban rural interface with green buffers providing links and recreation opportunities |
| | | Urban areas are a linear system of imported food, water and energy, and exported waste | Aim to be more self sufficient, by utilising public spaces throughout the town and the district park to treat stormwater, water reuse, assimilate waste (compost), provide ecosystem function and restoration, recreational opportunities, food production, energy generation and amenity |
| | Segregated residential developments | Individual developments within Rolleston are unlinked | Enhance connectivity within Rolleston providing good walking, cycling and vehicle access routes to key facilities within the town |
| Town Centre | Viability, accessibility and functionality | Current town centre does not provide for expected future population | Ability to use vacant blocks of land owned by Council or private developers to expand and enhance the town centre |
| | | Segregated nature of the town centre | To visually and physically integrate the town centre with residential developments using urban design techniques and good linkages. Use anchors such as large stores to draw pedestrians through the town |
| | | Vehicle-centric nature of the town centre | To create good walking and cycling routes and pedestrian priority areas |

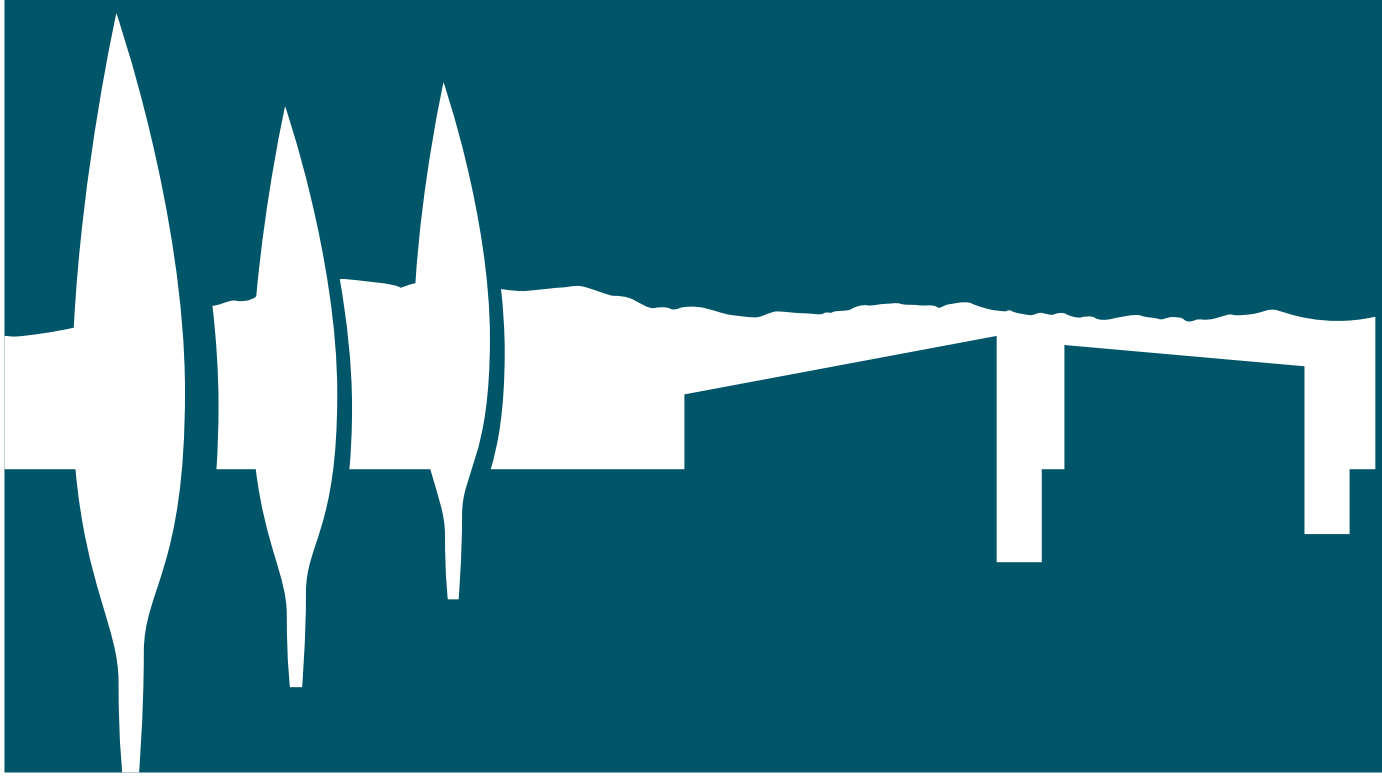
| Item | | Key Issues and Constraints | Opportunities |
|---|---|---|---|
| | | Long distance between town centre and new developments at the southern urban limit | To provide good public transport, walking and cycling routes to the town centre |
| Land-Use | Residential | Lack of mixed density housing to cater for a range of demographic groups particularly single occupants and the elderly | Plan for provision of a range of housing densities |
| | | Conventional housing typologies with conventional water and energy demands | Include design guidelines that address energy efficiency, water efficiency, and sustainable materials, for neighbourhoods and for buildings |
| | Community Facilities | Inadequate school places (primary and high schools) for a growing population | Include development of adequate primary and high schools for Rolleston that are well located and co-located with other community facilities |
| | | Limited medical facilities | To provide integrated medical care facilities that meet the needs of the community |
| | | Need for more structured recreation opportunities | To provide recreational facilities that appeal to the residents of Rolleston and surrounding communities |
| | | Need for expanded community facilities to cater for existing demand and growth | Review the provision of the current community centre and library and plan for expansion where required |
| | | Lack of cemetery in Rolleston; nearest cemetery is located near Springston and has high water table issues | Plan for cemetery provision within Rolleston with ample capacity to cater for residents in and surrounding Rolleston |
| | Airport Noise Contour | Presence of the 50 dBA airport noise contour to the east of Rolleston | Identify other opportunities for land under the contour such as a regional/district park |
| | Open Space | Lack of hierarchy and strong linkages in the open space network | Provide enhanced green network with streetscapes, open spaces, reserves, a green buffer around Rolleston, pedestrian and cycling routes and landscape planted areas |
| | | Low biodiversity or native ecosystem values due to urban developments and intensive agriculture | Aim to improve native biodiversity by providing opportunities in green spaces and water race corridors |
| Movement | Vehicular | High use of private vehicles for access to areas outside and within the town particularly related to commuting | To enhance the walking and cycling network and provide good public transport links. To investigate other sustainable transport options, particularly low carbon alternatives |
| | | High speed rural roads and interface with urban areas | To maintain the rural character of Rolleston's rural roads whilst managing community safety and traffic speeds |
| | | Over-reliance of cul-de-sacs design, poor linkages | To further reinforce the principles of good urban design established as part of SDC's subdivision standards |

| Item | | Key Issues and Constraints | Opportunities |
|---|---|---|---|
| | Cycling & Walking | Increasing use of roundabouts which are not cycle and pedestrian friendly | To consider the most appropriate traffic control mechanisms for all road users |
| | | Lack of defined movement networks for pedestrians and cyclists | To provide an integrated network of walking and cycling routes connecting main nodes within the town |
| | Izone | Segregation of Izone from the rest of the town by the State Highway | To improve linkages between Izone and the town providing good access |
| | Legibility | Current entrance experience into the Township is not clearly defined | To provide legible and attractive entranceways and through routes into and around the town |
| Infrastructure | Water Supply | Rolleston is in the Red (over-allocated) groundwater zone<br>Climate change scientists predict a drier climate in Canterbury over the next century | To incorporate water demand management and water reuse initiatives into future planning<br><br>To incorporate low water demand landscaping, public green space and ecological restoration |
| | Water Courses | A lack of natural surface water courses limits opportunities for ecological restoration and creation of water based recreation facilities/amenity values | To utilise water races for ecological corridors and amenity |
| | Wastewater | Increasing demand for sustainable wastewater treatment for Eastern Selwyn District | To integrate expansion plans for the wastewater network and treatment into strategic planning for the town |
| | Stormwater | Stormwater disposed of to ground without opportunities for reuse | To incorporate the use of sustainable stormwater treatment, reuse and disposal methods into planning for the future of Rolleston |
| | Water Races | Operational water races flowing through the town with periodically poor water quality | Opportunity to maximise amenity value of water races whilst maintaining operational status |
| | Soil | Free draining soil types can lead to high levels of irrigation , and limit landscaping opportunities | To include sustainable stormwater initiatives into the future planning for Rolleston<br><br>To include landscaping and ecological restoration that is suited to the soil and climatic conditions |
| | Energy | Energy is imported into the town. Energy generation contributes to greenhouse gas emissions | Aim for a low carbon town, focussing on energy efficiency and energy generation |

# 4.0

# Community Consultation





# 4.1 Introduction

Consultation plays an important part to a strategic document like this. The Rolleston Structure Plan has gone through three important consultation processes:

- Land Owners & Interested Parties
- Town Centre Discussion Document
- Draft Rolleston Structure Plan

# 4.2 Land Owners & Interested Parties

A number of key stakeholders were identified at the start of the Structure Planning process. Letters were sent to all key stakeholders identified informing them of the process and inviting input, a list of the organisations contacted is provided below:

- Town centre businesses
- NZ Post
- Izone Southern Business Hub
- Ministry of Education
- Telecom
- Telstra Clear
- Orion
- Rockgas
- New Zealand Transport Agency
- Kiwi Rail
- New Zealand Police
- St Johns Ambulance
- New Zealand Fire Service
- OnTrack
- Environment Canterbury
- Canterbury District Health Board

Other stakeholders, such as major land owners, were met with on an individual basis and communication maintained throughout the process.

# 4.3 Town Centre Consultation

The first phase of public consultation was undertaken in January and February 2009 following release of the Town Centre Discussion Document, which was made available to the public on the SDC website and at the Community Centre. A brochure explaining options for the town centre was sent to all residents inside the proposed MUL seeking views from the existing community on:

- What services are most important for a town centre and neighbourhood centre?
- What are the most important factors in determining the location of the town centre?
- The preferred option for the town centre?


A response rate of 14% from the 3,000 town centre brochures distributed was achieved. The results showed that existing residents of Rolleston felt that a supermarket, food and drink and major retailers were the three most important services to be provided in a town centre. Conversely, health facilities and public open space were most important services to be provided in a neighbourhood centre.

Residents felt that the town centre should be located to have good access and be central to the town, and that it is important to make use of existing retail outlets. Over half of the community responses indicated that an enlarged existing town centre was preferred. These public consultation outcomes have informed the development of the Structure Plan. Additional results from this consultation process can be found in the Section 6.0 Centre Strategy. The results of this consultation have been addressed throughout this document.

# 4.4 Draft Structure Plan Consultation

The Draft Rolleston Structure Plan was released on 29 May 2009 for a six week consultation period (which closed on 17 July 2009). The Draft Structure Plan was available to the public through the SDC website, with hard copies at the Council headquarters and Community Centre. Launch of this document was accompanied by media advertising and public displays to raise awareness.

### 4.4.1 PUBLIC DISPLAYS – OPEN SESSIONS

To complement the publication of the Draft Structure Plan, key aspects of the Plan were displayed at the Rolleston Community Centre and the public were invited to come along and ask any question they might have to SDC staff and consultants. The sessions occurred on 28, 29 June and 2 July 2009. Over 120 people attended these sessions.

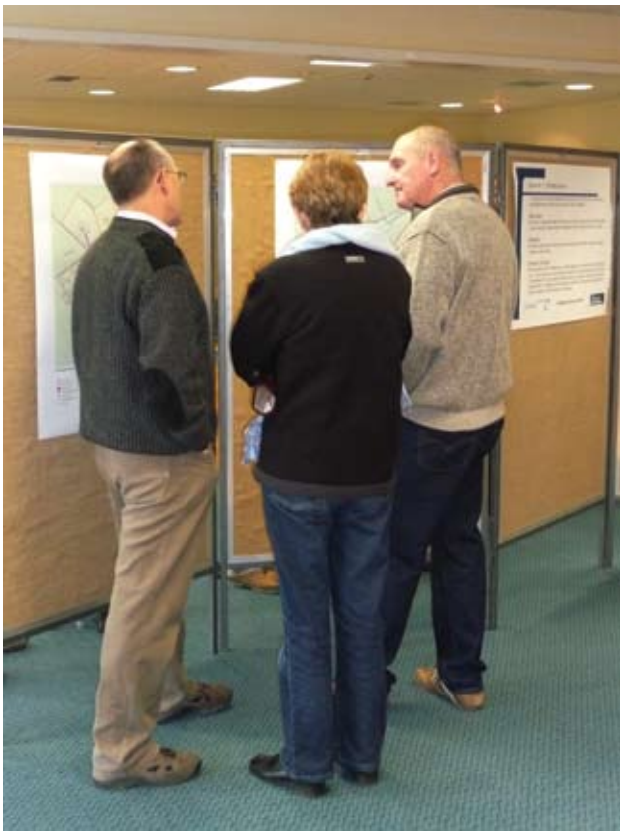


**Figure 4.1: Public Consultation at Rolleston Community Centre**

## 4.4.2 DRAFT STRUCTURE PLAN SUBMISSIONS

As part of the consultation process, the public were able to make submissions on the Draft Structure Plan. 81 submissions were received in total. A summary of the issues raised and how the Structure Plan has dealt with them is addressed in the table below:

**Table 4.1: Summary of Issues raised on Draft Structure Plan**

| Issue | Submission Detail | Recommendation | How it has been addressed |
|---|---|---|---|
| Extend Markham Way to Norman Kirk Drive | Submissions raised issues of increased traffic through Markham Way which could create safety concerns for children and animals | Accept | Link from Markham Way to Norman Kirk Drive has been changed from a road to a walkway/cycleway |
| Rolleston School Land | A number of submissions raised concerns of a road and comprehensive housing proposed on Wilson Field | Accept | Proposed road and housing has been removed from the Wilson Field |
| Recognition of tangata whenua values | Submission was made to seek changes to the vision, objectives and principles to better reflect tangata whenua values | Accept | Changes have been made to the relevant sections of the Structure Plan |

| Issue | Submission Detail | Recommendation | How it has been addressed |
|---|---|---|---|
| Refocused Town Centre | Submissions raised the following issues: | | |
| | Suggestions for district plan rules for businesses wanting to locate to Rolleston | Accept in part | This issue will be considered as part of a plan change to implement the Structure Plan |
| | If further retail development is to occur in Rolleston that it should be "visually pleasing and creating a unique town centre" | Accept | This issue will be considered during the development of a masterplan for the refocused town centre |
| | Retaining the Rolleston Playcentre in the Reserve | Accept | The issue raised will be considered during the development of the masterplan for the refocused town centre |
| | Questioned the location of the new library in the town centre and the purpose of the existing Community Centre once the sports facilities move to the Recreation Precinct | Accept in part | The issues raised will be considered during the development of the masterplan for the refocused town centre |
| | Questioned the need for housing on the current Rolleston Reserve | Reject | The Structure Plan considers that housing on the reserve would be important as it could be well integrated into the refocused town centre (appropriate for younger / older couples wanting to be close to the town centre). However the Structure Plan has retained the existing tennis court in the Reserve. The masterplan will consider how many houses should be included within the Town Centre |
| | Concerns of retail being located in the existing Rolleston Reserve | Reject | It is considered that to develop a compact town centre which is well integrated, that part of the Reserve should be used as retail. Additional reserve space has been included within the Structure Plan to compensate for the loss (e.g. Recreation Precinct) |
| | Rezoning land between Tennyson Street and Rolleston Drive to Business 1 | Reject | This would provide too much business 1 land as outlined in the retail assessment used in the Structure Plan |
| | Improved walking & cycling links throughout the town centre | Accept | The issues raised will be considered during the development of the masterplan for the refocused town centre |
| | Confusion on what Town Centre Deferred means | Accept | Additional text has been added to the Structure Plan to better describe what this means to land owners |

| Issue | Submission Detail | Recommendation | How it has been addressed |
|---|---|---|---|
| Neighbourhood Centres | Submissions raised concerns for the need of neighbourhood centres<br><br>Submissions sought if neighbourhood centres were to be used that they should be complimentary to the town centre | Reject<br><br>Accept | Due to the density sought in the Structure Plan, neighbourhood centres will be required to provide services to the community they serve<br><br>The purpose of the neighbourhood centre is to be complimentary to the town centre. This will be address in the plan change to implement the Structure Plan (including the use of the highway service centre) |
| | Submissions supported the use of neighbourhood centres | Accept | |
| Expansion to industrial land | Submission raised concerns of land to the north of Hoskyns Roads included in the urban limit | Reject | This issue is being dealt through Proposed Change 1 to the Regional Policy Statement |
| Rolleston Community Park | A number of submissions preferred this park to be developed now with some outlining the location of the park should be in the reserve | Reject in part | With the town centre being refocused, the Community Park should be located within the Recreation Precinct |
| Foster Park Dog Exercise Area | A number of submissions raised concerns of moving the park to other locations | Accept | The existing Dog Park will be included in the Recreation Precinct. Additional Dog Parks will be developed in Greenfield areas |
| Rolleston District Park | A number of submissions raised the following issues<br><br>Location of the district park (suggesting an alternative in Branthwaite Drive) | Reject | Initial indications would suggest that the proposed location for the district park in the Draft Structure Plan could be more cost effective than the alternative suggested |
| | Question the soil quality of the proposed location of the park | Reject | Additional information of the soil quality of the proposed district park has been added to the Structure Plan to address concerns raised in submissions. Scoping study will be developed by Selwyn District Council on what should be included in the District Park |
| | | | |

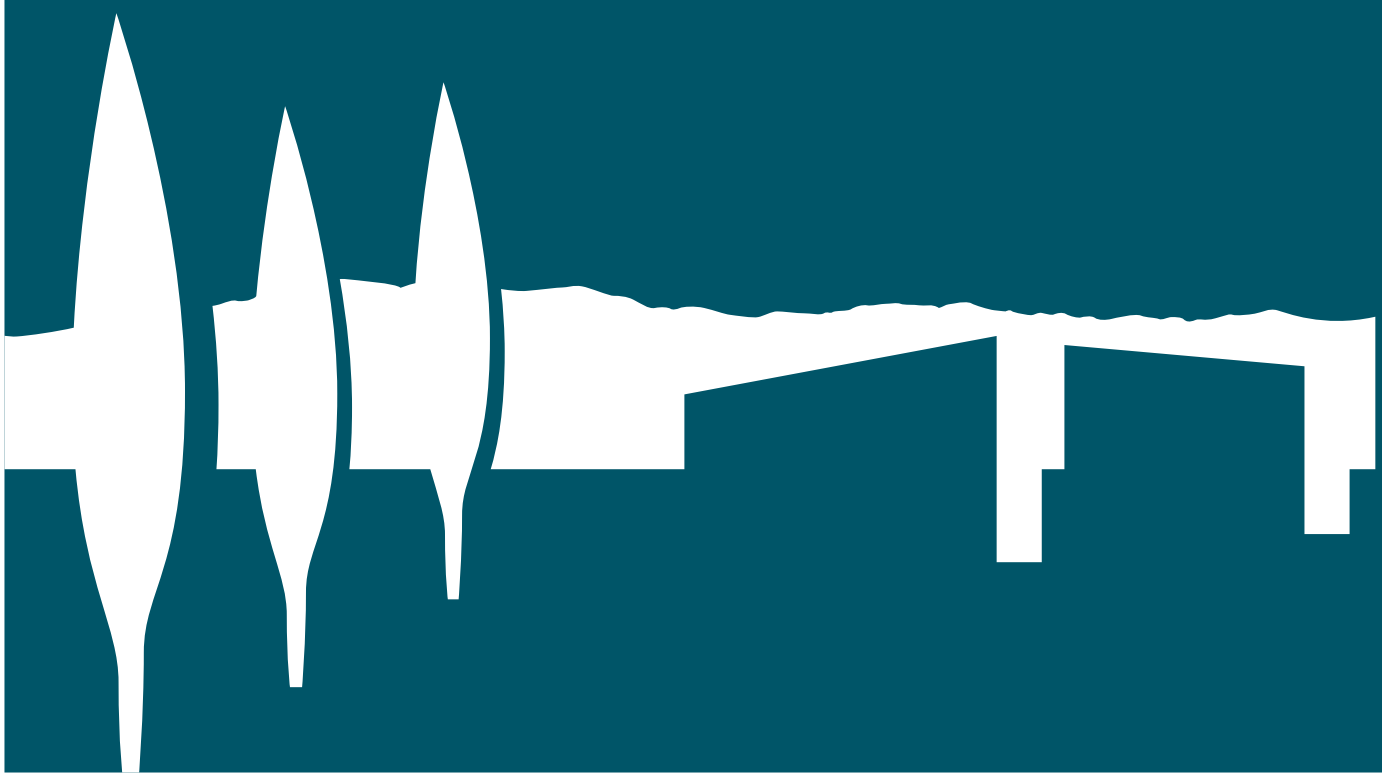
| Issue | Submission Detail | Recommendation | How it has been addressed |
|---|---|---|---|
| Recreation Precinct | A number of submissions supported the precinct<br><br>A number of submissions raised an issue of how much land should be included in the precinct | Accept<br><br>Reject in part | Recreation Precinct will play a key role in the future development of Rolleston<br><br>With the total amount of open space provided for in the Structure Plan, including the land for the Recreation Precinct, this point is difficult to support. As the Structure Plan will be reviewed on a regular basis this will be monitored and considered as part of the review |
| | A number of submissions supported the swimming pool being located in the Recreation Precinct | Accept | The swimming pool will play a key role in the Recreation Precinct being co-located with other recreational and educational facilities |
| Sustainability | Submissions supported the principles and objectives relating to sustainability and suggested some options for how to do it for example;<br>Community gardens in neighbourhoods<br>Native planting of avenues and district park<br>Rural buffer<br>Energy generation | Accept | Council will discuss with landowners how to implement the rural buffer during the development of outline development plans |
| Housing Density | A submission from a group of residents from Branthwaite Drive wanted their land to be sequencing earlier than suggested in the Structure Plan | Accept in part | The Structure Plan as been modified to include 656 households to Branthwaite Drive (land located along Springston Rolleston Road). This area has been identified as SR7 within the 2026-2041 development sequence. The remaining part of Branthwaite Drive would remain as SR8 to be developed after 2041. This has been put forward for consideration as part of Proposed Change 1 to the Regional Policy Statement |
| | Two submissions raised specific issues relating to their land which have also been raised within PC1 process | N/A | These issues will be address by PC1 decision. Once this is released, the Structure Plan will be updated to reflect the decision |
| | A number of submissions suggested that some of the housing within Brookside Road, Byron St, Shelley St and Moore St should be intensified | Accept | This area has been modified to "medium density residential deferred". This will be implemented via a plan change |
| | A submission sought an increase of density to their land between the Main South Road, Rolleston Drive and Overbury Crescent | Reject | This area is noted in the Structure Plan as 10 households per hectare |
| | A number of submissions opposed high housing density in Rolleston | Reject | To generate critical mass of people to support services such as public transport, local shops and schools and to achieve the density target in PC1, higher densities are required in Rolleston |

| Issue | Submission Detail | Recommendation | How it has been addressed |
|---|---|---|---|
| | A submission raised concerns surrounding the loss of character if high density of housing was developed in Rolleston | Reject | Density of housing is not the only factor relating to a town's character. The Structure Plan has considered how to improve on the existing character as Rolleston becomes more urban. (for example additional open space provided like rural buffer, retaining views to the Port Hills etc) |
| Noise issue in Shelley St | A submission raised concerns on noise coming from I-Zone | Reject | This is not an issue that can be address via the Structure Plan |
| Additional use of train station | A submission suggested enhancing the existing train station in Rolleston | Accept in part | As Council does not own the land surrounding the train station this would need to be discussed with Ontrack. There might be opportunity for Council to facilitate some discussions with Ontrack to see what could be done on this issue |
| Manor Drive – link as a walking and cycling network | A submission was made outlining ownership issues relating to the proposed walking and cycling route via Manor Drive | Accept in part | Council will work with landowners to see if a change of ownership relating to the walkway is required, and consider appropriate fencing for this walkway |
| Pavement / Street Lighting down Goulds Road | A submission was made suggesting pavement and street lighting down Goulds Road | Accept | Council is currently looking into this issue |
| Better signage directing people in the town centre / foot bridge across I-Zone to town centre | A number of submissions were made relating to improved signage on the State Highway 1 to better direct traffic into Rolleston's Town Centre | Accept | Discuss how best to address these two issues with NZTA |
| | A number of submissions supported the footbridge across State Highway 1 to I-Zone from Tennyson Street to George Holmes Road | Accept | Footbridge to be included in Structure Plan. Council will discuss with land owners in George Holmes Road on how best to implement this |
| Proposed Roads | Submissions outlined concerns for proposed roads suggested in Structure Plan | Reject | Roads identified in the Structure Plan were only proposed, exact location of roads will need to be addressed in ODP development |
| Water Supply | Council need to show progress towards compliance with the Drinking Water Standards 2005/09 by either establishing security of water sources or providing suitable treatment. | Council Agreement | Council are preparing a Public Health Risk Management Plan for Rolleston that will identify and schedule any works to ensure the water supply is compliant with the Act before the statutory deadline for a medium drinking water supply of 1 July 2013 |

# 5.0

# Structure Plan Overview





# 5.1 Structure Plan Approach

The Structure Plan has been developed with a focus on four main areas; the centres (e.g. town centre, neighbourhood centres and local centres), land use patterns and community facilities, movement network and infrastructure. The following chapters provide greater detail on each of these layers and describe how they have responded to the vision, objectives and development principles outlined earlier. Integrated management of these four layers is critical to the successful growth and development of Rolleston for the next 70 years.

This chapter provides a summary of the key aspects proposed for the town, its character features, its development and the neighbourhoods that it is intended to be built around. These were developed through consultation, expert advice and the use of current growth projections. Finally, the expectations for the staging of the Structure Plan are explained.

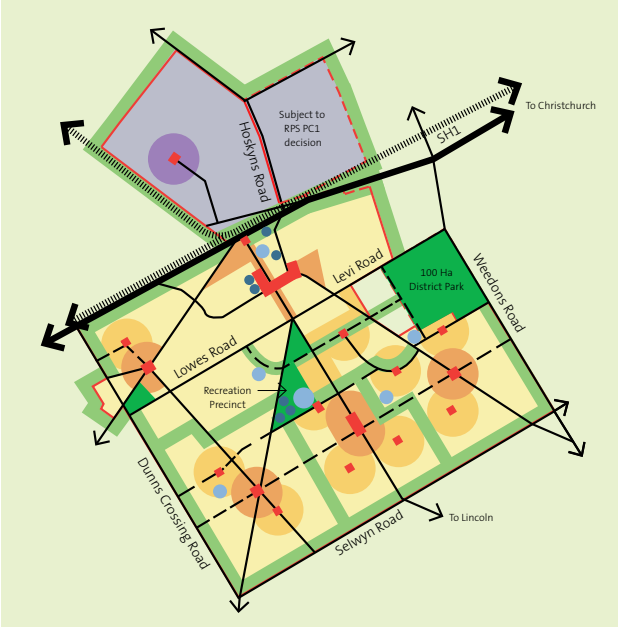



**Figure 5.1: Rolleston Structure Plan Diagram**

# 5.2 Key Aspects of the Structure Plan

Overall, the Structure Plan provides for consolidated, sustainable and coordinated development and the staged provision of all services. Its MUL was developed on non-natural growth boundaries, including State Highway 1 (Main South Road), the proposed airport noise contour, The Pines (wastewater treatment plant) and rural roads. Within the MUL, cadastral boundaries have generally been used to define the growth areas.

The key features of the Structure Plan (see Figures 5.1 and 5.2) are summarised under the four main areas as follows:

**Centres**

1. The existing Rolleston Town Centre is reconfigured with the proposed core focused on the intersection of Rolleston Drive and Tennyson St. This allows for the potential enhancement and intensification of the existing Rolleston Reserve and a strong connectivity with the proposed growth areas of the town.
2. The Town Centre will consist of a mix of uses, including retail, Civic Precinct (e.g. SDC Offices, town hall) and Cultural Precinct (e.g. library, art gallery), high quality open spaces, pedestrian priority areas and comprehensive residential housing.
3. Five neighbourhood centres are proposed, based on the expected densities of the Structure Plan, these are intended to serve the broader residential community and Izone employees without affecting the viability of the town centre. They will also be supplemented by a range of smaller local centres that will provide for the daily needs of the community.
4. A specialist local service centre adjacent to the State Highway is to accompany the BP Service Station and proposed 'Park n Ride' facility adjacent, creating a higher profile address to the town.
5. Anchor developments (retail or community) have been included in the Structure Plan to act as a destination to attract passing trade and draw pedestrian traffic through the key retail areas.

**Land use patterns and community facilities**

6. A mix of living zones will be provided in Rolleston to create diversity in the community and deliver a range of residential housing types to meet community needs. For greenfield areas in Rolleston, the Structure Plan provides a density spread of 20, 15 and 10 households per hectare. In these areas section sizes would range between 375m$^2$ to 750m$^2$. Higher proposed densities are concentrated in close proximity to the town centre and supporting neighbourhood centres, including some comprehensive housing developments within or immediately adjacent to these. Further residential infill and intensification is anticipated in underdeveloped parts of existing zoned land.
7. The Structure Plan achieves an average density approximately 14 households per hectare across the greenfield development areas.
8. A range of community facilities will be provided which include additional primary schools, a high school, extended library, art gallery and a cemetery, with others to be provided by the public agencies or the market as demand increases (i.e. social services, child care, medical centres etc.).
9. Provision of a Recreation Precinct will consolidate both indoor and outdoor sports facilities on a centrally located site near Goulds Road/ Dynes Road. The precinct will offer an indoor stadium and heated swimming pool, sports clubs headquarters and outdoor community (youth) park sports fields & hard courts. The proposed High School will be co-located with the Recreation Precinct.
10. The Recreation Precinct will be the focus of a well connected open space network throughout Rolleston. Green corridors, providing ecological habitat and non trafficked pedestrian and cycle ways, radiate out from the precinct and connect to a Green Belt following Dunns Crossing, Selwyn , Weedons and Hoskyns Roads. Many of these define neighbourhoods and follow water race alignments, where possible.
11. A 100 Ha District Park is proposed for a large rural block under the noise contour along Weedons and Levi Road. This provides for larger more rural based activities, which complement the Recreation Precinct.

**Movement Network**

12. Clear gateway features are to be provided at key entry points into the town with strong avenue planting along primary movement routes leading towards the town centre.
13. A legible hierarchy of movement routes based on existing rural roads, new connections and a number of new roads, which connect between neighbourhood and local centres.
14. An expanded public transport network offering local loops between neighbourhood and local centres, a connection to Lincoln and express connections to Christchurch, including an interchange based around a proposed 'Park n Ride' facility.
15. A range of non-trafficked walking and cycling routes along green corridors and Green Belt within the 100 Ha District Park.
16. Strong physical and visual connections are provided between the town and Izone through the new grade separated interchange and pedestrian footbridge.

**Infrastructure**

17. The infrastructure layer aims for an efficient, sustainable and operable provision of infrastructure assets, staged to meet future needs, and provide opportunities for water re-use.
18. This layer includes water supply, wastewater, stormwater, water races, power, telecommunications and gas.
19. Infrastructure will typically be provided by developers at the time of subdivision, however Council will need to make some significant forward investments especially in wastewater network provision and new water supply wells.
20. New stormwater management principles are to be developed to encourage a more consistent and sustainable approach.

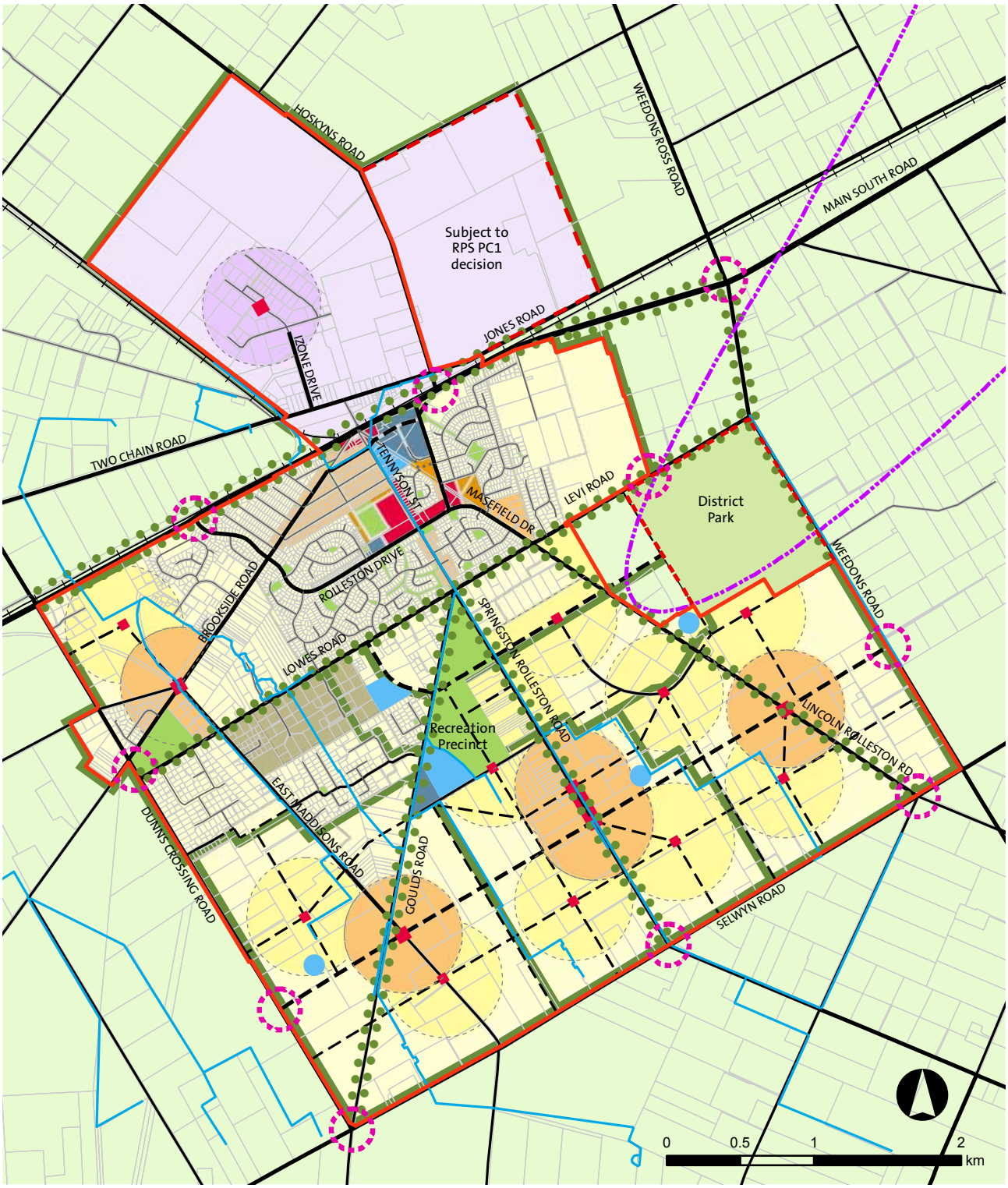



**Figure 5.2: Rolleston Structure Plan**

- Study Area
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Local (secondary) roads
- Proposed local (secondary) roads
- Local (minor) roads
- Walking and Cycling Link
- Town Centre
- Neighbourhood Centre
- Local Centre
- Comprehensive Housing
- Medium Density Residential (20HH/Ha)
- Medium Density Residential (15HH/Ha)
- Low Density Residential (10HH/Ha)
- Low Density Residential (7HH/Ha)
- Community Facilities
- Education Facilities
- Green Corridors and Green Belt
- District Park
- Recreation Precinct and Reserves
- Rural land
- Avenue Planting
- Izone Southern Business Hub
- Water Races
- Noise Contour
- 5 Minute Walk (400m)
- Key Gateways

## 5.2.1 CHARACTER FEATURES DEVELOPMENT DRIVERS AND NEIGHBOURHOODS

One of Rolleston's distinctive features is its "rural town" feel. However, due to its size as the biggest town in Selwyn and close links to Christchurch, the future growth of Rolleston will need to adopt more urban approaches. The Structure Plan aims to strike a balance between the two and seeks to enhance the following rural or existing character features throughout the town:

- **Rural roads** – retain and emphasise their straight and angular alignments, direct views of Southern Alps and Banks Peninsula and their design informality.
- **Water races** – retain, revegetate and celebrate any end points within the town.
- **Shelter belts** – retain along boundaries, within public spaces or as a feature of subdivision design.
- **Vertical elements** (e.g. water towers, windmills, trees etc.) - encouraging where appropriate to contrast the flatness of the topography and provide visual interest.
- **Old town grid** – strengthen and reinforce through adjacent development areas.
- **Vernacular materials** (e.g. river stones) – use in architecture and public realm design to reinforce sense of place.

In addition to these character features there are a number of potential development drivers or 'generators' that could be utilised in the implementation of the Structure Plan to strengthen the overall identity of the town and stimulate long term investment. These create recognisable distinctions for Rolleston and reinforce the town as a key destination and source of pride for residents.

The proposed 100 ha District Park is a prime example of how this can be achieved, as are the town's links to Izone. The proximity of the State Highway can be utilised by improving the approaches to the town and providing high quality highway services, which act as a gateway and an address for the town. Within the town centre, landmark community facilities of high architectural quality, such as the proposed art gallery and extended library, can work alongside the SDC Headquarters to display the forward-thinking nature of Rolleston. The quality of landscape and open space design, led through botanic gardens on the Rolleston Reserve land and vertical sculptural features, could achieve similar goals. Rolleston's potential identity as a 'Sustainable Town', through its innovative approaches to urban design, architecture and landscape, is a significant opportunity and considered critical in the development of the Structure Plan.

As Rolleston develops there is potential to create a range of neighbourhoods based on the existing character features (above), urban form and variations in planned development. These help diversify the experience of travelling within the town, allow residents to navigate through the town and identify with its particular parts. Proposed neighbourhoods can be seen on Figure 5.3 and include:

- **Old Town** (based around the early street grid).
- **Town Centre** (including the Cultural and Civic Precincts).
- **Recent subdivisions** (based around looped roads, cul-de-sacs and green corridors).
- Several **new neighbourhoods** (based on existing rural landscape features such as water races, shelterbelts, existing paddock boundaries, etc.).
- **Izone Southern Business Hub**

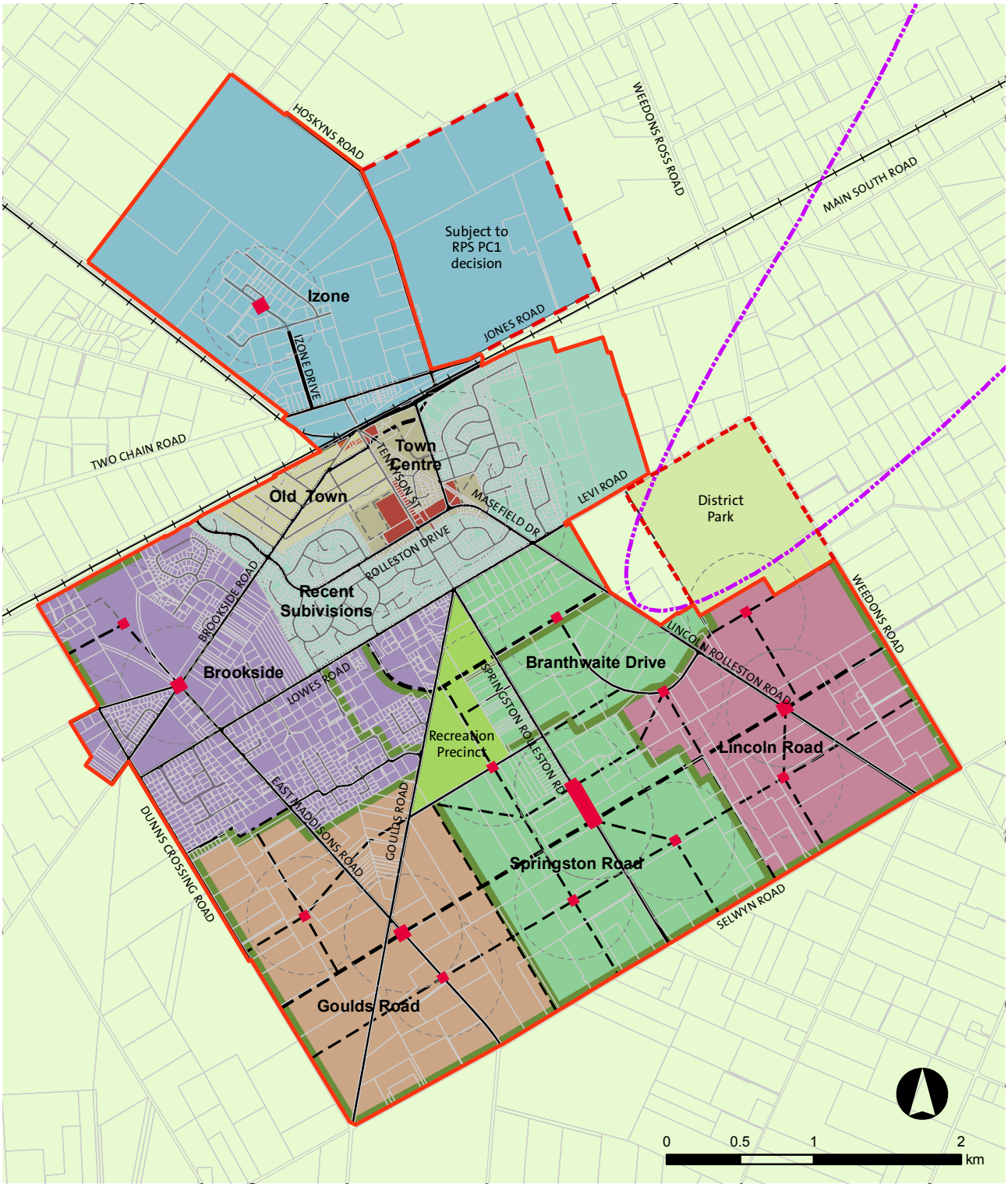



Figure 5.3: Key Neighbourhoods of Rolleston

- Study area
- Noise Contour
- Town Centre
- Neighbourhood Centre
- Local Centre
- 5 Minute Walk (400m)
- Rural land
- Recreation Precinct
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Local (secondary) roads
- Proposed local (secondary) roads
- Local (minor) roads
- Indicative local (minor) roads
- Branthwaite Drive
- Brookside
- Goulds Road
- Izone
- Lincoln Road
- Old Town
- Recent Subivisions
- Springston Road
- Town Centre

# 5.3 Structure Plan Staging

Staging of the Structure Plan is based on the following expectations:

- Encourage the growth of the Town Centre and neighbourhood centres in a logical manner, allowing continuity of social, employment and retail functions within the Town Centre, with the whole Rolleston township growing and developing in a coordinated way.
- Plan for greenfield residential development to occur in a way that encourages neighbourhoods to consolidate around centres and which initially supports the development of the Recreation Precinct.
- In the first stage, provide for greenfield development to grow in a south-westerly direction, between Goulds Road and adjoining existing Living zoned land to the east.
- At the same time, provide for greenfield development in other areas closest to the existing town centre.
- In the next stage, provide for the ongoing development of greenfield land to the south-west, filling out the remaining neighbourhood and providing other facilities to complement the 'centres' – such as an additional primary school.
- Residential development can then proceed from the south-western quadrant in an easterly direction, consolidating around the Springston-Rolleston Road corridor.
- Move in the longer term to the south-eastern neighbourhood around Lincoln-Rolleston Road, this also includes the longer term development of properties in the Branthwaite Drive area.
- Ensure that there is a reasonable spread of comprehensive, medium and low residential density land available at each stage.
- Ensure that there are different land ownerships available in each stage so that there is competition and the avoidance of land banking.
- Ensure the provision of infrastructural services (roading, stormwater, water, wastewater, power, etc.) in a logical, efficient, and cost effective manner.
- Ensure that facilities such as schools are distributed throughout the new township and coordinated in advance of residential growth stages.
- Note that existing vacant Living 1 zoned land may be developed at any time, subject to servicing requirements. Developers supplying more or less of this land to the market may influence the rate of uptake of sections in greenfield sites.
- Furthermore, existing Living 2 zoned land may be intensified at such future times as are currently defined in the zoning rules. Again, this may affect the uptake rate of greenfield land.
- The staging of residential development over time, excluding the development of existing Living 1 and Living 2 zones, is summarised in the following table 5.1 and accompanying figure 5.4.

**Table 5.1: Proposed Residential Staging**

| Residential Development Stage | Description | ODP or Growth Pocket Descriptions | Area (Hectares) | Comments |
|---|---|---|---|---|
| Stage 1: 2007 - 2016 | Short term | SR3, 4 and 6 | 155.91 | Includes Recreation Precinct, High School |
| Stage 2A: 2017 - 2026 | Medium term | SR5, 9, 10 | 189.37 | |
| Stage 2B: 2027 - 2041 | Medium term | SR7, 11 | 107.23 | |
| Stage 3: 2041 - 2075 | Long term | SR8, 12, 13, 14, 15 | 425.2 | |

A map showing the proposed residential staging is provided overleaf in Figure: 5.4

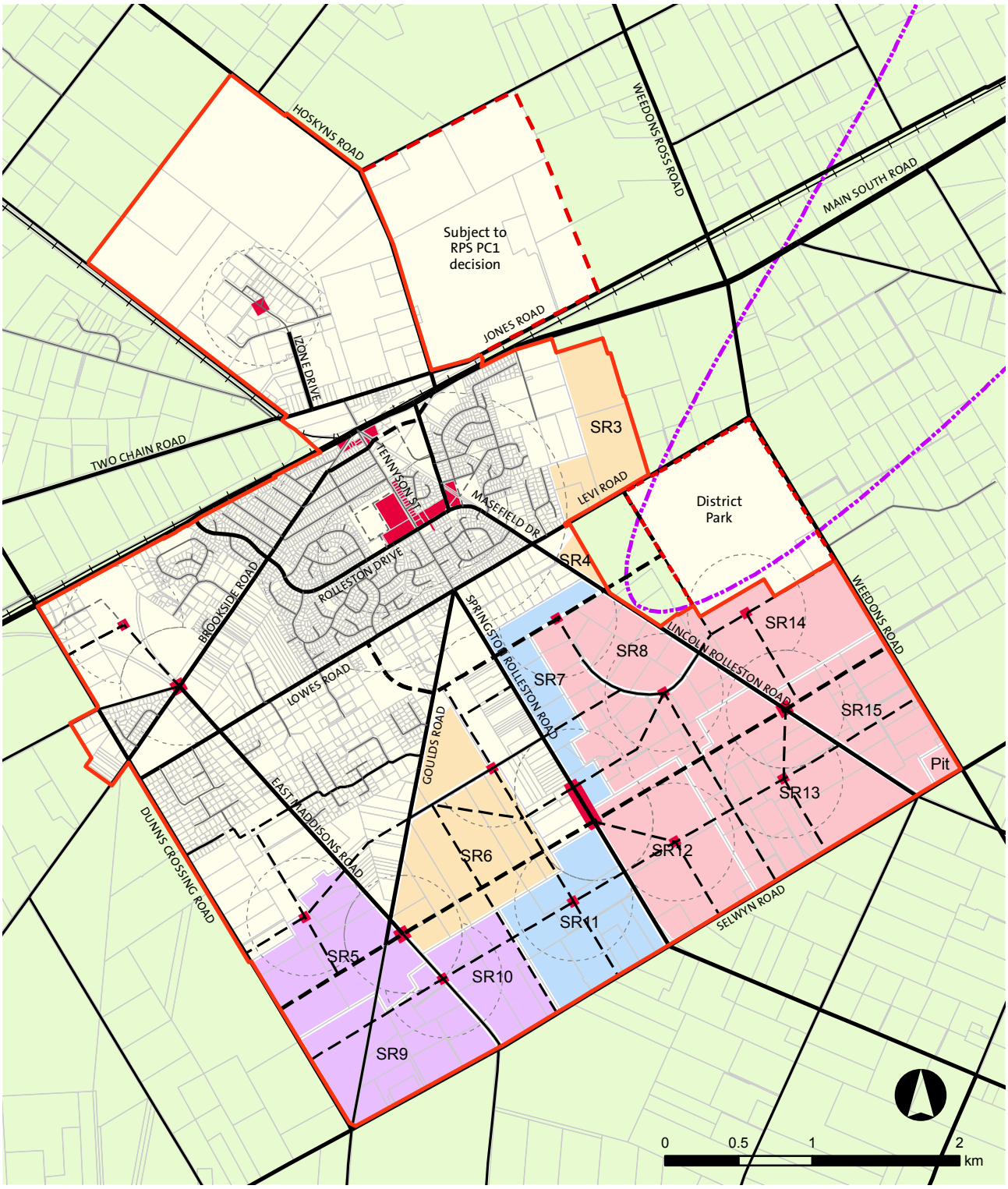



**Figure 5.4: Staging of Greenfield Residential Development**

- 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

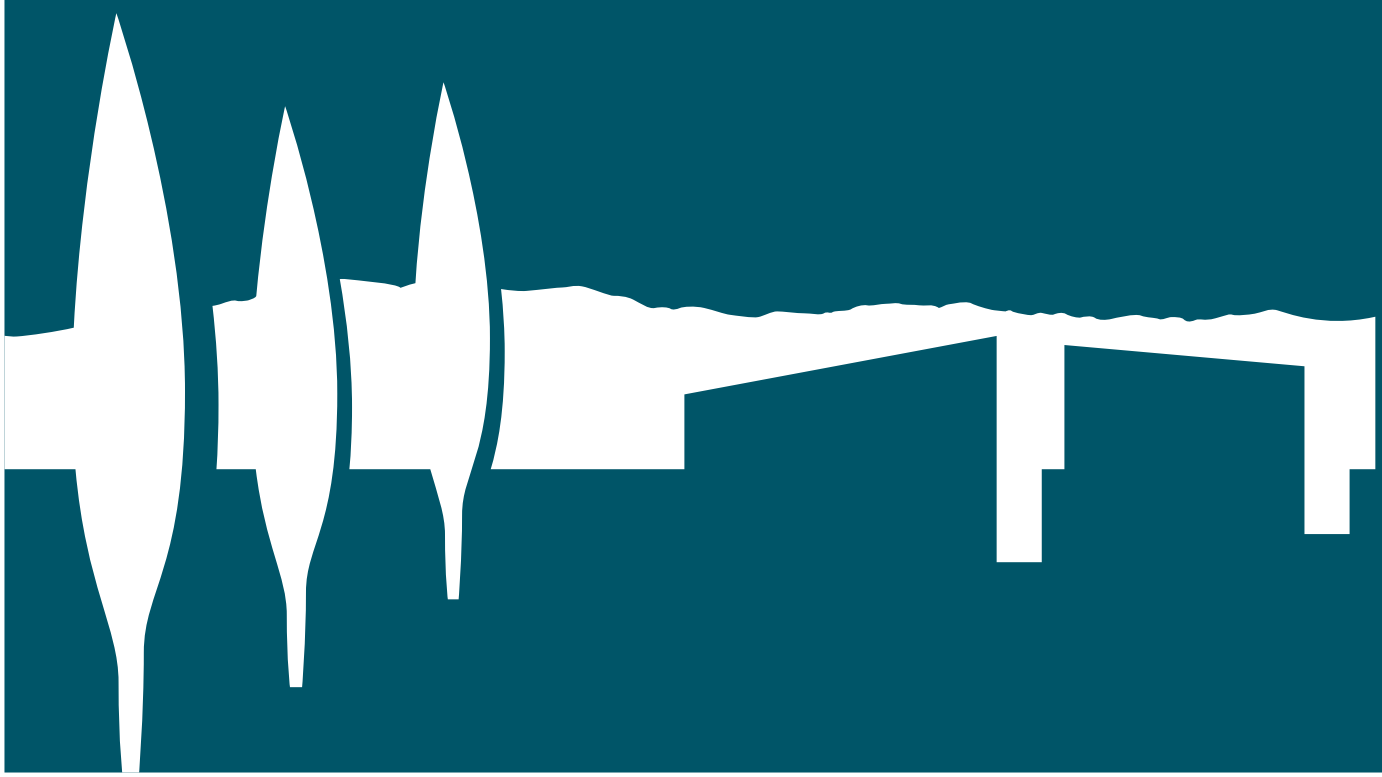
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Local (secondary) roads
- Proposed local (secondary) roads
- Local (minor) roads
- Indicative local (minor) roads

Existing reserves and key routes in Rolleston

# 6.0

# Centre Strategy





# 6.1 Introduction

A centre strategy is an important element in the overall development of Rolleston. It is essential that the population increase earmarked for the town is distributed in an appropriate way and considers the needs and activities of current and future residents and businesses. This section focuses on the centre strategy (e.g. improving the town centre, neighbourhood centres and local centres) and describes the options explored and preferred strategies, including an outline of their key elements.

# 6.2 Previous Public Consultation

In February 2009, the Council released the Rolleston Town Centre Discussion Document. This was accompanied by a public consultation brochure (figure 6.1) containing nine high-level town centre options and sought to gain an understanding of community views. The brochure was distributed to the existing residents of Rolleston to survey the perceptions the community had towards Rolleston's town centre, residents' priorities in locating a town centre and the role of supporting neighbourhood and local centres. The outputs of this consultation are discussed throughout this section.

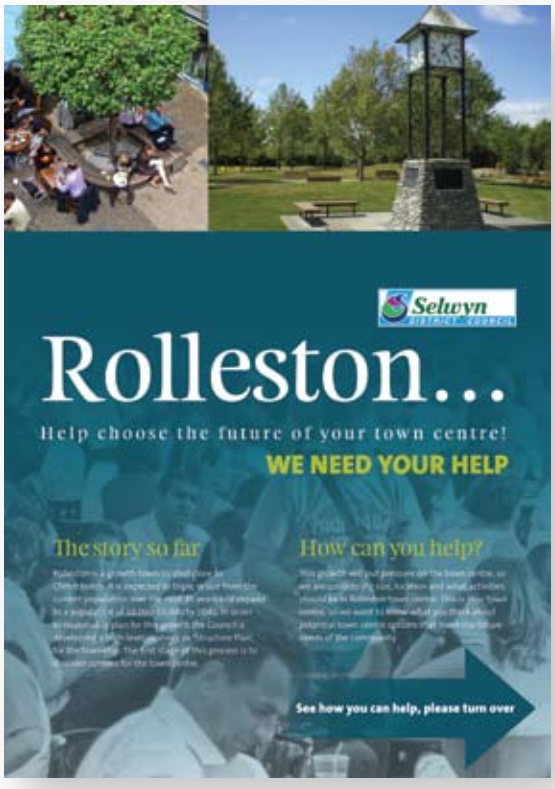



**Figure 6.1: Town Centre Consultation Brochure**

# 6.3 Hierarchy and definitions of town centre, neighbourhood centres and local centres

The Structure Plan aims to establish a legible urban hierarchy, where the town centre and larger neighbourhood centres are located on primary movement routes (main roads). Smaller local centres would be accessed and serviced by a network of secondary routes (local roads).

The town centre is the principal centre of the hierarchy and is designated a 'Key Activity Centre' in the RPS PC1 as defined below.

*'Key Activity Centres: Key existing commercial/business centres identified as focal points for employment and the transport network and suitable for more intensive mixed-use development. These centres are intended to:*

- *provide for the facilities and services necessary to support the planned community, and*
- *encourage economic and business activity and interaction, and broaden the mix of uses appropriate to the centre, including high density residential provision within and adjoining the Key Activity Centre, and*
- *provide major focal points for the community, and*
- *support the development of the principal public transport and cycling networks and the ability to change transport modes, and*
- *encourage pedestrian access to and within these centres.'*

The town centre is anticipated to provide a wide range of facilities and services and act as a focus for the local community. It provides for both employment and living opportunities and would have a combination of commercial and community activities, resulting in a mix of land uses. It should also include a combination of high quality landmark buildings of cultural and civic significance, as well as smaller intensively used public spaces. Its physical form, intended to be mainly street based, and mix of functions makes the town centre different from a shopping mall and provides much of its character and identity. It should also have a high level of accessibility for all the community with pleasant walkable streets and strong public transport connections.

Town centres are typically supported by multiple (two or more) neighbourhood centres, the second tier of the hierarchy. These centres cater for day-to-day needs within comfortable walking distance of residential areas and can vary in size, but provide a small range of shops, eateries and other small business spaces.

The third tier, local centres, generally comprise either a few shops or community facilities (e.g. bus stop or open space) and are located on secondary movement routes, which link the fringe residential areas within each neighbourhood centre. This hierarchy is indicatively illustrated on Figure 6.2 below.

The town centre and neighbourhood and local centres are discussed in greater detail in sections 6.9, 6.10 and 6.11.

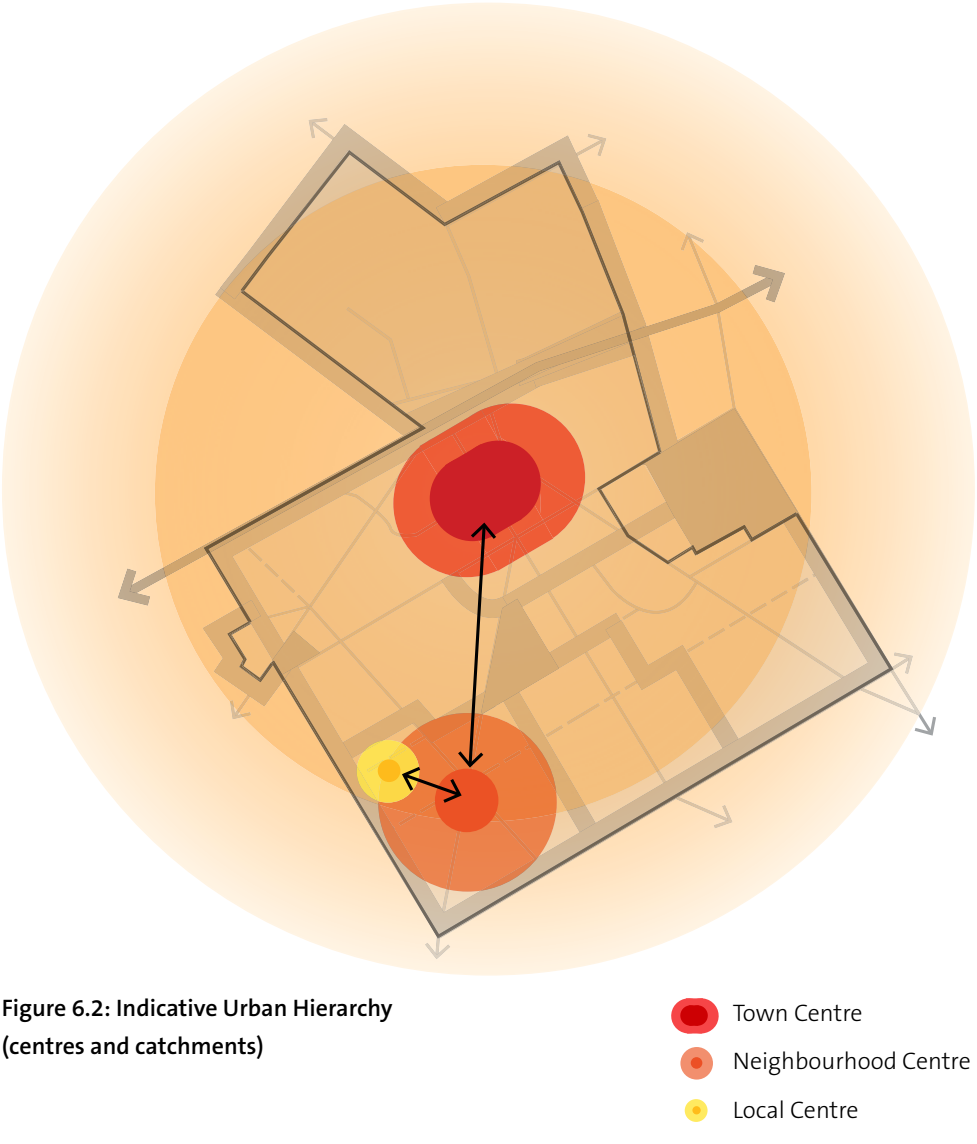



**Figure 6.2: Indicative Urban Hierarchy (centres and catchments)**

# 6.4 Retail Assessments

Retail is one of the primary elements within a town centre; however a number of complementary uses should also be accommodated (e.g. community and civic facilities). Two independent retail assessments have been undertaken for Rolleston by Property Economics Ltd and Livingstones Ltd. These assessments are explained in detail in the Town Centre Discussion Document. For the purposes of the Structure Plan, Council has adopted the Livingstones' assessment targeting a sustainable net floor space of 35,000 m² or gross land area of 10.5 ha for retail in Rolleston up to 2041.

Based on the adopted retail assessment, the table below shows a summary of the existing business land and net floor space of the retail units operating in Rolleston, potential further development within the Town Centre and opportunities for creating further Neighbourhood Centres.

Please note from the table that:

1. For the purposes of the Structure Plan the retail definition used by Statistics New Zealand has been used, which includes bars/pubs, but excludes veterinary services and medical centres.

2. An assumption that the gross land area requirement is three times the net floor space has been applied. This gross land area includes staff and customer parking, landscaping and other such areas.

Based on the below net floor space data, there is a surplus of 4,751 m² of retail floor space, which the Structure Plan is suggesting could be used for the development of 3 new neighbourhood centres to be completed by 2041.

The amount of retail land required within Rolleston is dependent on the amount of customer spend the town is able to retain and the rate of population growth. Requirements for retail land will be regularly reviewed by Council through updates to the independent retail assessments undertaken. The first of these reviews will coincide with the first review of the Structure Plan.

**Table 6.1: Current Retail Area Provision in Rolleston**

| | Net Floor Space | Gross Land (ha) |
|---|---|---|
| Existing Retail within the Town Centre[1] | 7,850 m² | 3.04 ha |
| Existing Neighbourhood Centre | 1,200 m² | 1.20 ha |
| Potential further development within the Town Centre[2] | 21,199 m² | 5.13 ha |
| **Total Retail Space / Land in Rolleston** | **30,249 m²** | **9.37 ha** |
| **Retail Assessment** | **35,000 m²** | **10.5 ha** |
| Potential land available for retail within proposed neighbourhood centres | 4,751 m² | 1.42 ha |

[1] SDC Rolleston Retail Audit 2008
[2] Estimated

# 6.5 Guidelines for Location of Centres

Several guidelines were established to direct the development of centre strategy options and these are listed below:

**Ease of Movement**

1) Centrally located to population
2) Location matched to surrounding higher density/ intensive land uses
3) Connected to multiple local and district-wide routes (including links to Izone)
4) Facilitates efficient public transport services and interchanges
5) Potential for small block patterns around urban centres
6) Potential for a consolidated urban centre to reduce reliance on cars

**Land Use Mix**

1) Supported by a hierarchy of neighbourhood and/or local centres
2) Opportunities for a range of land use types (including public open space and transport infrastructure)
3) Proximity to existing and proposed community facilities that maximises opportunities for co-location
4) Compatibility with existing adjacent land uses and potential to buffer non-complementary activities
5) Potential to create a high quality open space for intensive use

**Environment and Health**

1) Integrated into open space and waterway networks
2) Protection and enhancement of existing natural / character features
3) Adequate public open space provision
4) Ability to provide good aspect and orientation of public spaces

**Character and Identity**

1) Recognisable focal point for locals and visitors
2) Integrates established areas with the new areas of Rolleston
3) Protects and enhances existing character features
4) Provides publicly accessible spaces for community gathering

**Economically Viable**

1) Located to benefit from passing trade and local users
2) Balances existing / initial capital investment with ability to adapt to changing needs
3) Utilises existing and proposed infrastructure
4) Contiguous areas of land available for establishment and future expansion

**Staging**

1) Ability to redevelop, retrofit or relocate existing facilities
2) Capacity to expand incrementally to meet needs of community
3) Potential to stage the provision of services in a well managed way
4) Space to allow for growth, allocating land for future needs

# 6.6 Developing Centre Strategy Options

## 6.6.1 PUBLIC CONSULTATION

As part of the public consultation brochure, the community was asked what factors it considered most important when determining the location of the town centre. The following views were expressed:

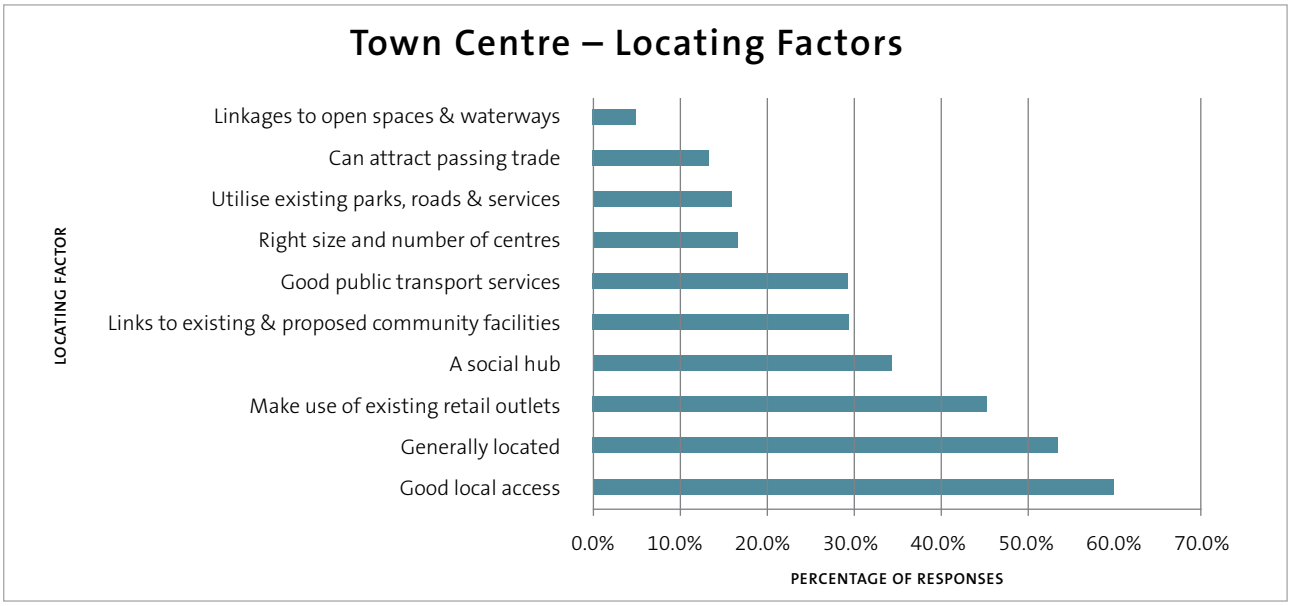



**Figure 6.3: Community Feedback on Location of Town Centre**

The responses showed that the community felt that the town centre for Rolleston should have good access, be centrally located and make use of the existing retail outlets. The desire by the existing community to make use of the current town centre and other outlets was felt to be significant and identified that relocation of the town centre was not a highly favoured option.

The results from the consultation show that the existing community of Rolleston preferred that the existing town centre be expanded within its current location, supported by a network of neighbourhood centres; this is shown by the selection of Option 4 by a majority of 51% of respondents. The next most desired option, the creation of two linked town centres with the support of several smaller neighbourhood centres was selected by 17% of respondents (Option 8). The third most popular selection with 15% of responses was one large town centre to the south of the existing town centre with no supporting neighbourhood centres (Option 3).

The feedback from the public provided guidance for the development of the Structure Plan, but this has been balanced by expert advice and consideration of the needs of future residents who could not be surveyed.

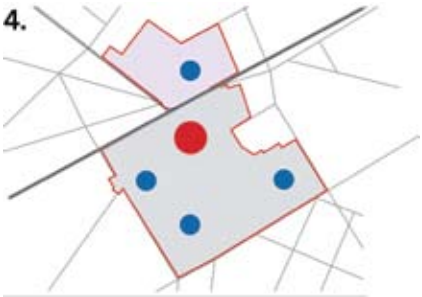



**Figure 6.4: Public Consultation Brochure Option 4**

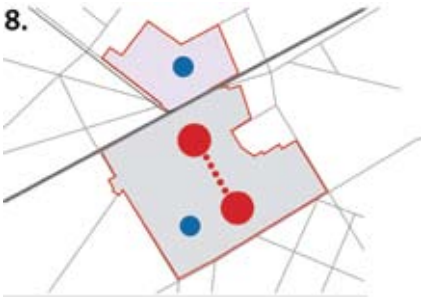



**Figure 6.5: Public Consultation Brochure Option 8**


**Figure 6.6: Public Consultation Brochure Option 3**

## 6.6.2 REGIONAL CONNECTIONS AND ARRIVAL SEQUENCE

Using the guidelines in section 6.5, the overall approach in developing a centre strategy for Rolleston firstly considered the regional context (see Figure 6.7), which prioritised the establishment of strong links between Rolleston and key destinations throughout and around the district. Furthermore, a sense of arrival to Rolleston is important and this is reflected in the strategy through recognising important gateways into Rolleston and utilising existing rural roads as focus for growth (see Figure 6.8).

## 6.6.3 CENTRE STRATEGY OPTIONS

Three potential centre strategy options were developed based on Option 4 from the consultation brochure (see Figure 6.4), which assumes the town centre remains in its current location. These have been identified as, the 'Segmented', 'Two Half' and 'Triangle' approaches. Each of the options explored key issues, such as the distribution, scale and sequencing of neighbourhood centres, considerations of housing densities, walkable catchments and distribution of open space, which could then inform the location of local centres.

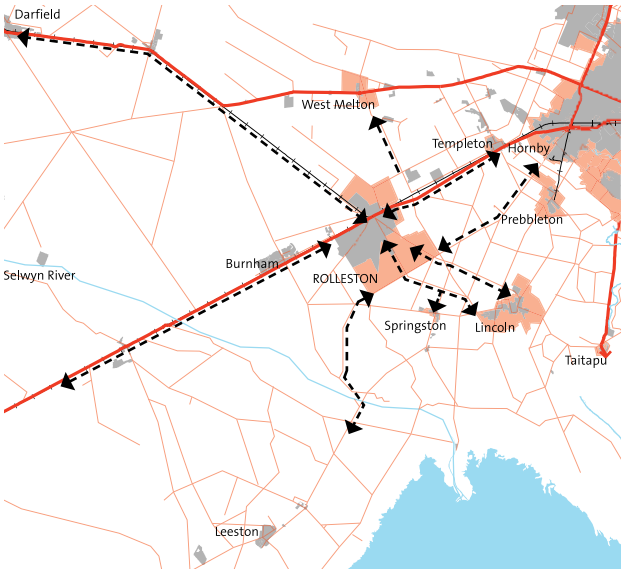



**Figure 6.7: Key Nodes & Routes Regional Context**

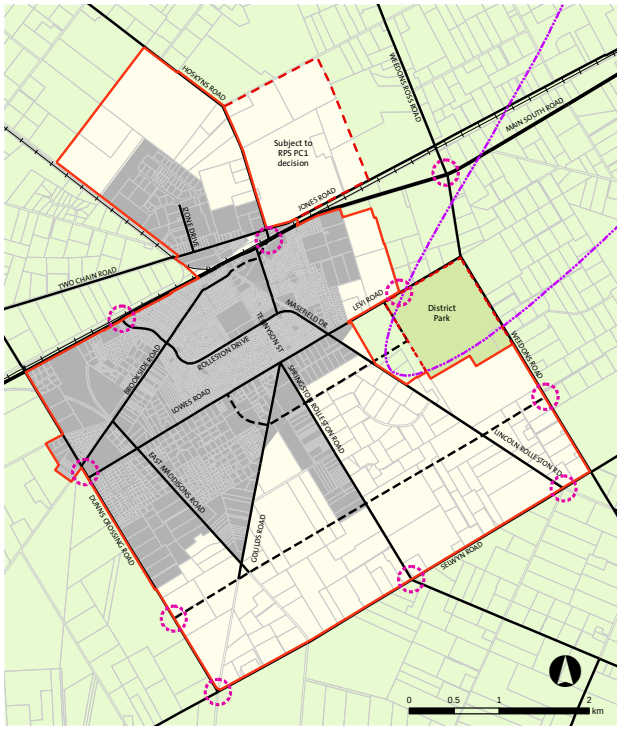



**Figure 6.8: Key Gateways and Routes**

Study area
Railway
National Arterial
Main (primary) roads
Proposed main (primary) roads
Noise Contour
Key Gateways
Existing Zoned Land
New Greenfield Land
District Park
Rural land

## 6.6.4 THE SEGMENTED OPTION

Neighbourhood centres distributed on the key routes into Rolleston were the core of this option. This approach facilitates a public transport circuit between the town centre and its supporting neighbourhood centres with one additional cross link between them. Higher densities of housing would be located within comfortable walking distance of the centres and along the public transport routes. Green corridors would define the four neighbourhood centres allowing them to develop their own distinctive identity.

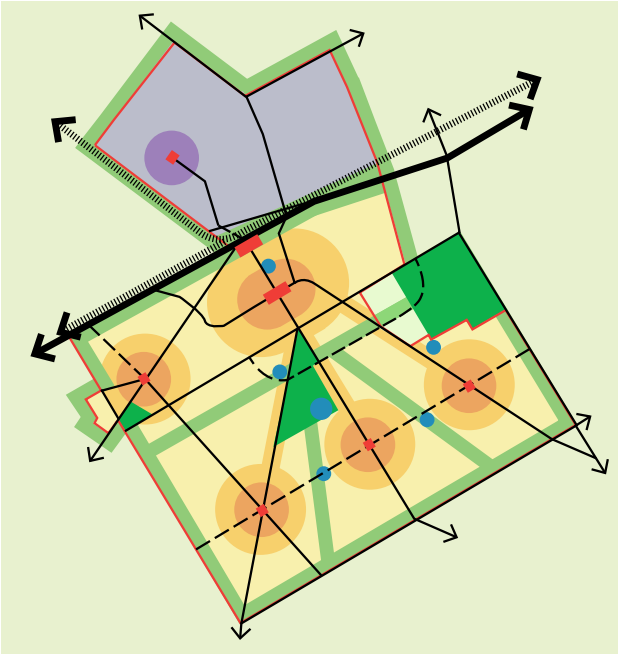


**Figure 6.9: Segmented Approach**

**Advantages**

- Minimises competition with the town centre by allowing a smaller scale of local retail provision to coexist.
- More neighbourhood centres in closer proximity to surrounding residents and a better balance of local centres across Greenfield areas.
- More scope to regenerate older areas due to a broader spread of retail space across the town.
- Better sequencing of development by allowing complete centres to develop more evenly with residential growth.

**Disadvantages**

- Less opportunity to provide a range of retail or a community facility in each neighbourhood centre.
- Smaller centres on primary routes leading to the town centre may impact trade 'caught' from those travelling from the wider district.
- Requires greatest infill and intensification of existing lower density subdivisions south of Lowes and Levi Roads and around Branthwaithe Drive to establish strong connections / corridor to the town centre.

### 6.6.5 THE TWO HALVES OPTION

This option includes larger neighbourhood centre on the Springston-Rolleston Road to the south of the current town centre supported by smaller neighbourhood centres either side. The existing town centre and the new centres to the south are separated by a green corridor of open spaces and lower density residential, giving the impression of a 'new town'. The schools would be located in this area adjacent to proposed sports pitches within the Recreation Precinct. A central higher density residential corridor along Springston-Rolleston Road would be a key link between the town centre and the neighbourhood centres.

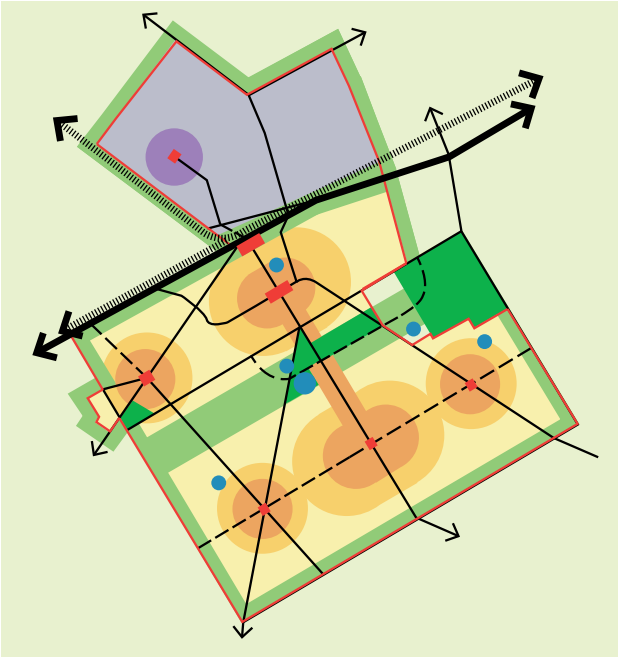


**Figure 6.10: Two Halves Approach**

**Advantages**

- A larger neighbourhood centre central to the future population in the south of the township's MUL with a strong link to the existing town centre.
- Greater opportunity to provide a range of retail and community facilities in a large neighbourhood centre in the south, which closely serves the residential growth areas and existing rural areas to the south.
- Larger green corridor central to the old and new parts of the township that potentially links together the three large reserves of the town (i.e. Brookside Park, Recreation Precinct and 100 ha Regional/District Park).
- Largely accommodates existing lower density subdivisions south of Lowes and Levi Roads.

**Disadvantages**

- The large green corridor through the centre of the town may segregate the new town from the old town, making it difficult to establish a broad sense of community (e.g. 'us and them').
- Potential creation of a large neighbourhood centre, which may impact on the viability of the existing town centre and split the town's community focus or 'heart' in two.
- A larger town centre may 'catch' most of the potential visitors to the town centre arriving from Lincoln and rural areas in the south.
- Difficult to sequence the development of the larger neighbourhood centre, due to the influence of existing lower density subdivisions.

## 6.6.6 THE TRIANGLE OPTION

Two larger neighbourhood centres on Lincoln-Rolleston Road and Goulds Road, which create the form of a triangle with the town centre in the north. Higher densities would be located within walking distance of these centres and along routes from neighbourhood centres to the town centre. Springston-Rolleston Road would form a 'green corridor' to the town centre in contrast to the more urban approaches either side.

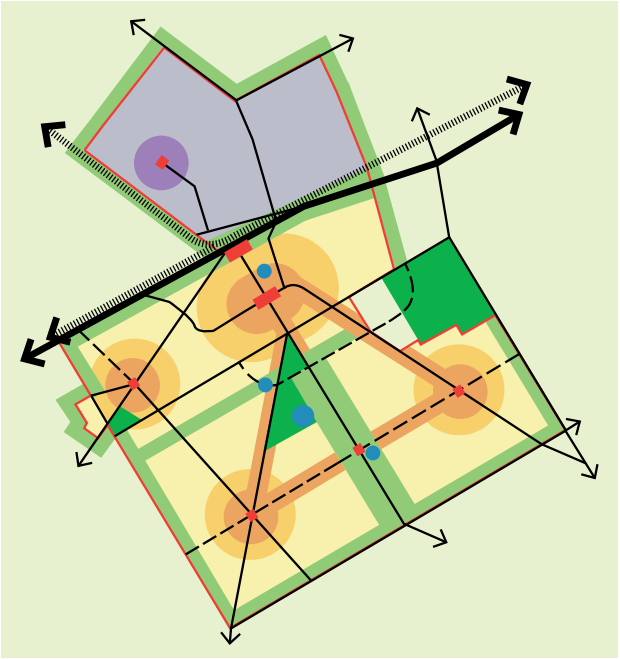


**Figure 6.11: Triangle Approach**

**Advantages**

- Direct route to the town centre from the south without passing through a neighbourhood centre or dense urban area.
- Some opportunity to provide a range of retail and community facilities in each neighbourhood centre.
- Good connectivity between neighbourhood centres and town centre.
- Broad green corridors clearly define each centre and associated residential catchments.
- Could partially accommodate existing lower density subdivisions south of Lowes and Levi Roads.

**Disadvantages**

- Larger neighbourhood centres may impact on the viability of the town centre.
- May result in three distinct parts of the township with a reduced sense of community.
- Potential for some future residents to be far from neighbourhood centres with greater reliance on the provision of local centres or car based travel.
- Difficult to sequence the development of larger neighbourhood centres, due to the influence of existing lower density subdivisions and the need for greater cooperation between developments.

# 6.7 Preferred Option

The guidelines listed in Section 6.5 were again utilised in the assessment of all three options.

Following detailed population calculations and phasing of land development within the MUL, the segmented approach was chosen as the preferred option and has been developed further through the structure planning process. However, there is potential to eventually develop a larger neighbourhood centre on Springston-Rolleston Road over the long term as shown in the Two Halves approach.

The Segmented option spreads the neighbourhood centres more equitably throughout the growth areas and the scale of centres reflects the predicted retail capacity and competition concerns outlined in the retail report prepared for the town. The finer distribution of neighbourhood centres, close to the likely spread of residential population, is more efficient for staging and coordination of developers. The neighbourhood centres are located on primary routes to allow for ease of access between the centres with an additional network of secondary routes sustaining each centre through local movements. This provides for good accessibility by walking and cycling, while not compromising a potential public transport circuit route between each neighbourhood centre and the larger town centre. Visible neighbourhood centres on primary routes capture passing trade from people travelling to / from key destinations, both within and outside the town. The neighbourhood centres would complement the town centre.

Local centres further support each neighbourhood centre with some intended overlap in catchments. A local centre close to the Recreation Precinct is considered necessary to serve a dual function, covering both the needs of its residential catchment and the associated community facilities, particularly the proposed sports stadium/ swimming pool complex and high school.

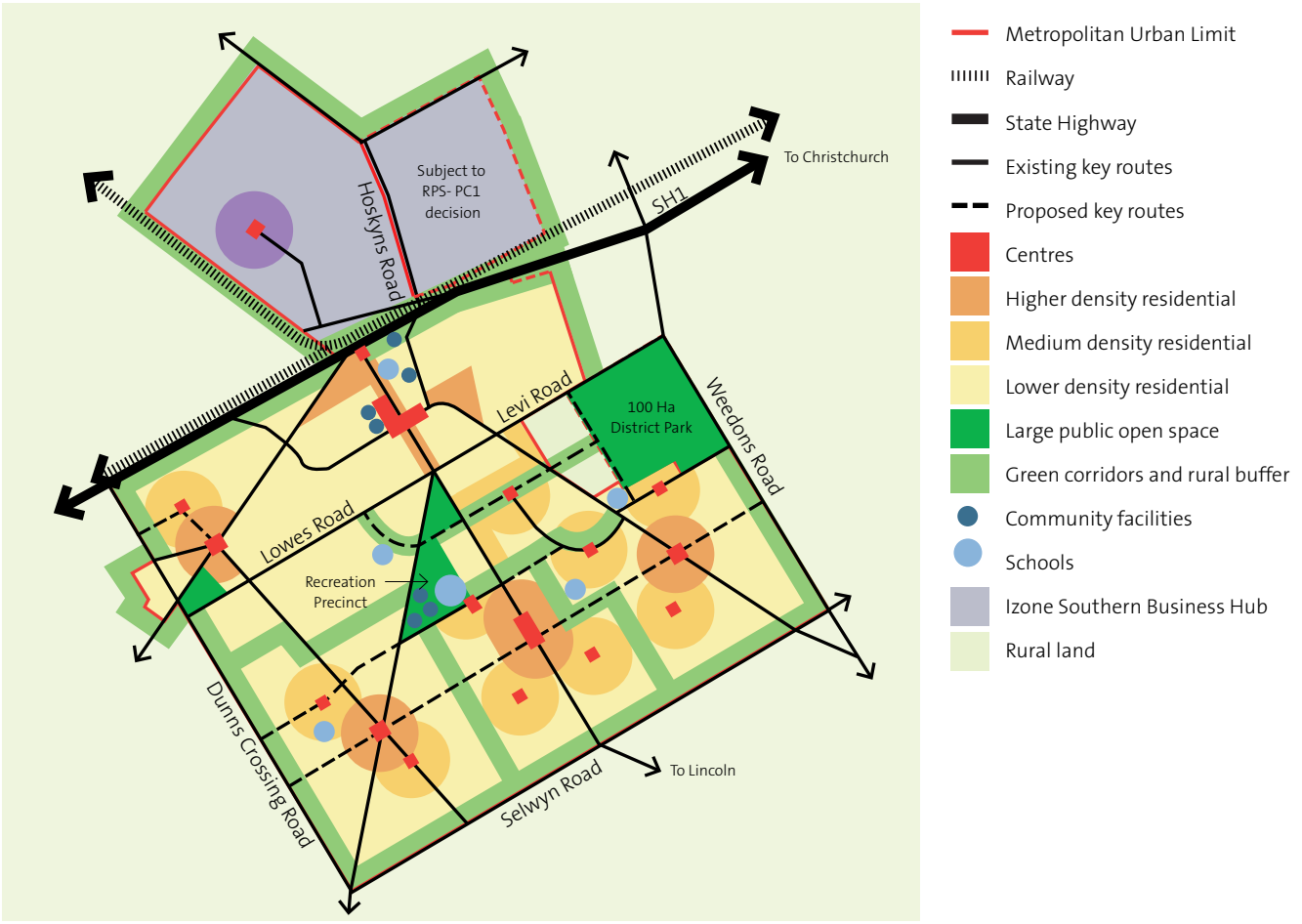



**Figure 6.12: Proposed Rolleston Structure Plan Diagram**

# 6.8 Development of the Existing Town Centre

As part of the overall centre strategy, the existing town centre was examined in greater detail, due to a number of existing constraints within the older parts of Rolleston. These issues are explored below and set the context for its future improvement.

## 6.8.1 ISSUES WITH THE CURRENT TOWN CENTRE

An inventory of the current provisions within the town centre is listed in Town Centre Discussion Document that was previously released by the Council. These are considered together in regard to their configuration and usage within the town centre. The perceived strengths and weaknesses are listed below. Each of these issues was considered when developing town centre options and choosing a preferred approach.

Strengths:

- Located at the focus of two regionally integrated rural roads, close to the State Highway and inner ring road of Rolleston Drive with the potential to serve the district and local residents.
- It is close to Izone, a potential employment hub and source of daytime activity.
- The primary school is located at the edge of the town centre, yet within a walkable distance.
- There is an established supermarket anchor.
- The library / community centre is located within the town centre as the basis for a cultural precinct.
- The civic functions of Selwyn District Council's HQ are in close proximity, employing a large number of staff.
- Rolleston Reserve is underdeveloped and could be more comprehensively and intensively used as a feature of the town centre.
- Greenways through reserves provide alternative routes to walk into the town centre (although, no formal paths currently exist).
- There is available land in key locations for potential refocusing of town centre activities.
- Landowners have been willing to engage in consultation regarding the town centre's development.

**Figure 6.13: Established supermarket anchor - New World**

**Figure 6.14: Selwyn District Council Headquarters**

**Figure 6.15: Rolleston Reserve**

Weaknesses:

- Poorly integrated local routes, where surrounding subdivisions are unsuccessfully connected to the town centre and each other.
- Lacks coherence, with individual retail developments not well integrated together.
- A poor mix of uses with a lack of higher density residential, commercial offices, etc.
- Developments are set back behind car parking or turn their back on adjacent streets and public open space.
- Most developments are car-based and people are not encouraged to walk within the town centre
- Crossings between retail developments are perceived as unsafe by the public, particularly across Tennyson Drive.
- Stark transition between lower residential densities and more intensive town centre activities.
- Clock tower reserve is under utilised and poorly overlooked due to a lack of edge activity and poor access.
- Lack of identifiable heart or community gathering place.
- Little use of north facing aspects.

**Figure 6.16: Internal route parrallel to main route**

**Figure 6.17: Conflict between car parking and walking**

**Figure 6.18: Car based developments**

### 6.8.2 INVENTORY/ RECOMMENDED RETAIL PROVISION

The following facilities could be contained in a mixed use town centre to promote greater vitality and an identifiable character.

- Supermarket and grocery stores
- Major retailers (department stores)
- Other shops (fashion, books, hairdressers, appliances)
- Market (farmers market, arts and crafts)
- Business / Offices
- Community institutions (library, art gallery, churches)
- Living (residential, visitor accommodation)
- Education (primary school, childcare)
- Health care (doctor, physiotherapist, dentist)
- Entertainment & leisure (botanic gardens, cinema)
- Food and drink (restaurants, cafes, pubs)
- Public open spaces (squares, parks, playgrounds)
- Public transport (bus interchanges, 'Park n Ride', railway station)

A vibrant town centre has a mix of uses which contain most or all of the above. The Structure Plan encourages greater diversity to supplement the retail and community facilities currently provided in the town centre. Some rely on Council but others will have to be delivered through private investment based on market demand. However, the Council could take a proactive role to facilitate these.

The results of the public consultation feedback illustrated that the public prioritised retail as the most desired land use within the town centre; 'supermarket', 'major retailers' and 'other shops' were within the top five priorities. 'Food and drink' and 'entertainment' also featured prominently within the desired town centre. The results are shown below:

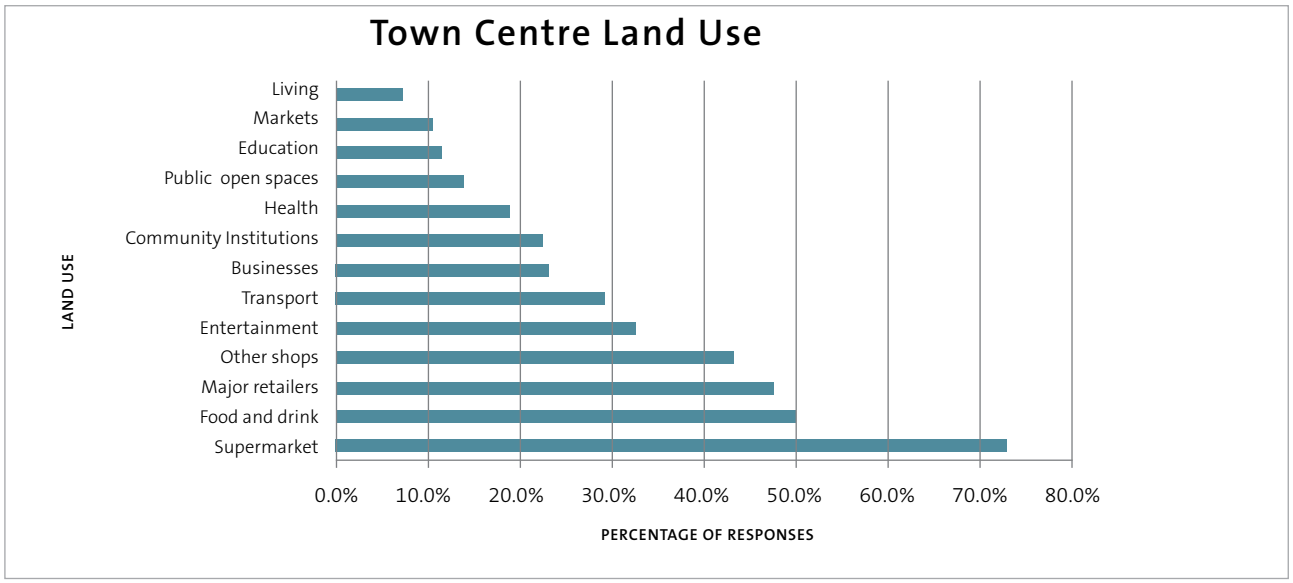



**Figure 6.19: Community feedback on preferred town centre land use**

# 6.9 Town Centre Options

Three potential town centre options were developed, namely the 'Rolleston Reserve Core', 'Masefield Drive Core' and 'Rolleston High Street'. The main consideration guiding these approaches was to provide an holistic, mixed use centre with a community focus (i.e. town 'heart') by integrating an expanded Civic Precinct (i.e. SDC Headquarters and proposed 'Park n Ride' and business development unit) and Cultural Precinct (i.e. community centre/ library/art gallery) with the other retail parts of the town centre.

Furthermore, it is proposed that a specialist local service centre be provided adjacent to the State Highway at the end of Tennyson Street, to accompany the existing BP service station and proposed 'Park n Ride' facility. This would be located between Byron Street and the proposed slip lane off the highway. This has potential for a higher profile 'address' to the town, provided its design is of a high enough quality and adequately managed (i.e. signage, rubbish, etc) over the long term.

The three town centre options investigated are described in the following pages.

### 6.9.1 ROLLESTON RESERVE CORE

This town centre option builds on the present location of the supermarket to create a mixed use core on the adjacent Rolleston Reserve land. This option would seek to redistribute undeveloped land from the most northern parts of the Business 1 zone, opposite Rolleston Drive, to parts of Rolleston reserve along Tennyson Street and backing onto the Supermarket. This new consolidated core could comprise small scale retail, entertainment uses, food and drink outlets, commercial office space and social services, which would complement the larger anchor store and nearby community facilities. This core would have a northern and western aspect opening onto an improved reserve (see Figure 6.20). An upgraded Tennyson Street would be traffic-calmed between Rolleston Drive and the primary school, with new movement connections into it from the new core. Other edges of the reserve which are currently poorly treated would be lined with higher density living overlooking the space. A central town square, to be used for gathering and community events, would also be incorporated or Clock Tower Reserve would be upgraded.

To support the existing retail along the northern edge of Rolleston Drive, a new, second anchor store would be encouraged at the opposite end of the town centre near the current Rolleston Square, preferably on the north west end of Rolleston Drive.

This approach clearly shifts the focus of the town centre onto Tennyson Street, which has direct links to future growth areas, including the proposed Recreation Precinct and neighbourhood centres in the south of the town. In the north, it has direct links to the primary school, highway service centre and Izone, via a proposed pedestrian overpass. With the addition of several new movement connections (e.g. Byron Street), it would also encourage a link to the existing SDC Headquarters and the proposed 'Park n Ride' facility.

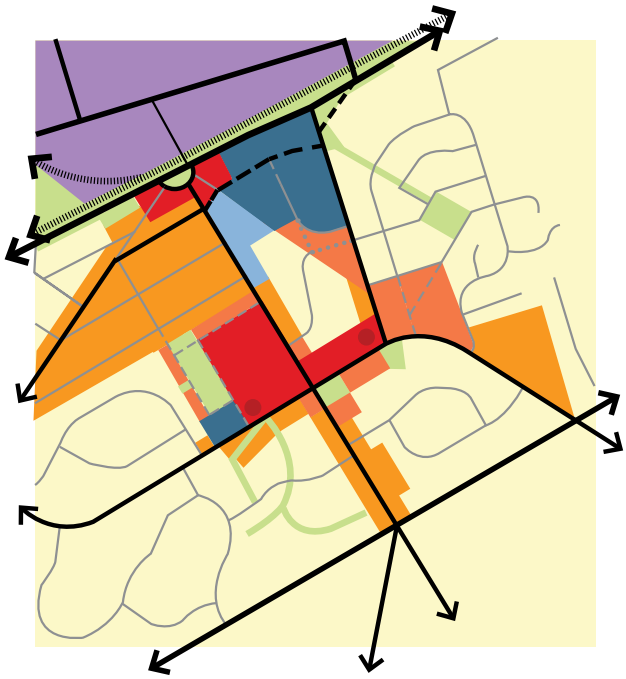


**Figure 6.20: Rolleston Reserve Core**

**Advantages**

- Opportunity to use the Council owned reserve land as a catalyst to consolidate town centre activities around the existing supermarket and community facilities.
- Strengthens the north/south orientation of the town centre and recognises future linking role of Tennyson Street to Izone and southern growth areas.
- Brings the primary school and SDC Headquarters closer to the core of the town centre.
- Town centre is closely integrated with Rolleston reserve activities.
- Retail anchors remain easily accessible to vehicles off Rolleston Drive.

**Disadvantages**

- Large parts of Rolleston Reserve will be redeveloped for town centre and living uses.
- Town centre may compete more with local neighbourhood shops on Brookside Road.
- Only left-in, left-out movements will be possible at the Tennyson Street junction to the State Highway, potentially isolating the core from some passing trade.
- Town centre core further away from Izone vehicle link.
- Rolleston Drive and Clock Tower reserve remain on the edge of town centre activities.

## 6.9.2 MASEFIELD DRIVE CORE

This town centre option places the focus of a consolidated mixed use town centre based on the proposed Masefield Mall land east of Rolleston Drive, a currently undeveloped part of the Business 1 zone. This new consolidated core could comprise small scale retail, entertainment uses, food and drink outlets, commercial office space and social services to complement a new anchor store on the same site. A central town square, to be used for gathering and community events, could also be incorporated.

Links to the primary school and SDC Headquarters and the 'Park n Ride' facility would be encouraged via Rolleston Drive. The existing supermarket would remain as an anchor at the southern end of the existing strip of retail along Rolleston Drive, with the current community centre beyond.

Most of the currently poorly-treated edges of the reserve would continue to be lined with higher density living overlooking the space with better vehicle access provided. This would still reduce the size of the Rolleston Reserve land, but not as much as the previous option.

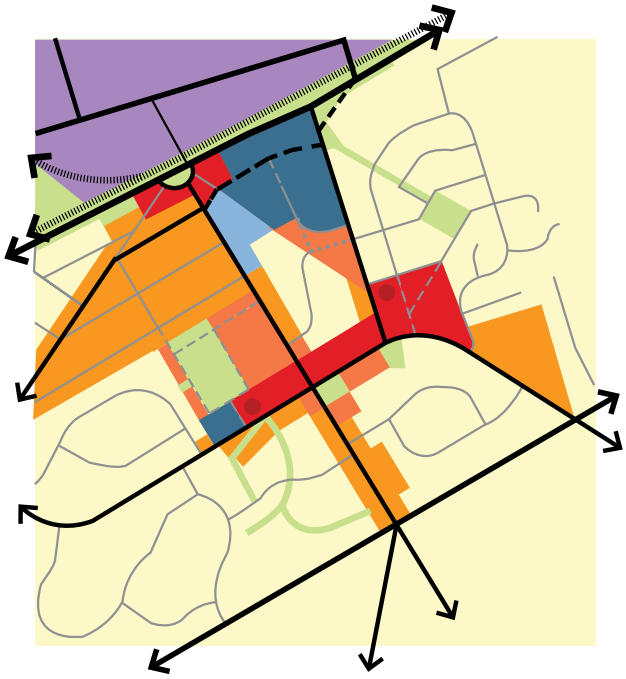


**Figure 6.21: Masefield Drive Core**



**Advantages**

- Opportunity to use undeveloped Business 1 zone land as a catalyst to consolidate town centre activities, providing developers are willing to cooperate with master planning initiatives.
- Town centre core closer to Izone via vehicle link.
- Bring primary school and SDC Headquarters closer to town centre via Rolleston Drive.
- More opportunity for existing local shops on Brookside Road to service the older parts of the town.
- Strong links to one neighbourhood centre (in later phase / post RPS) and Lincoln township via Rolleston-Lincoln Road.
- Retail anchors remain easily accessible to vehicles off Rolleston Drive.

**Disadvantages**

- Focus of town centre located away from Tennyson Street and early stages of growth in south east.
- Town centre core is more isolated from reserve activities and community facilities that could be potential popular destinations, if upgraded.
- The larger area of reserve land continues to limit the potential population density within a comfortable walking catchment to the town centre.
- Rolleston Drive and Clock Tower Reserve remain on edge of town centre activities.

### 6.9.3 ROLLESTON HIGH STREET

This option focuses on Rolleston Drive as a 'High Street'. It uses a 'dumb-bell' approach with an anchor at each end of the high street to create the opportunity for greater footfall in between. Anchors (retail or community) define the entrances to the town centre and associated parking, allowing a more pedestrian-based high street for smaller scale retail in between. Rolleston Drive would be upgraded to provide an east/west orientated high street. Retail and a mix of other complementary uses would be encouraged to line either side. The Clock Tower Reserve could be reconfigured to more effectively cater for gathering and community events as the heart of the town. To achieve this, existing undeveloped Business 1 land on the Masefield Mall site would need to be relocated to the south side of Rolleston Drive with existing residential uses gradually phased out. Further opportunities for higher density living could then be provided on the Masefield Mall land.

As with the Masefield Drive Core option, most of the currently poorly-treated edges of the reserve would continue to be lined with higher density living overlooking the space with better vehicle access provided. This would still reduce the size of the reserve land, but not as much as the initial option.

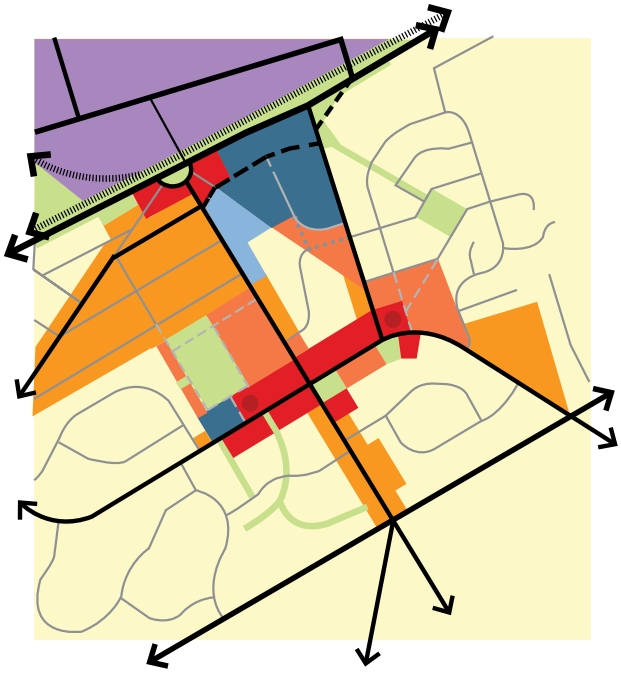


**Figure 6.22: Rolleston High Street**





**Advantages**

- Utilises Rolleston Drive and two key intersections for higher visibility and to capture passing trade.
- Uses most of the existing Business 1 land with the exception of some of the Masefield Mall land.
- Greater inclusion of the Clock Tower Reserve as the community focus of the town centre.
- Creation of a 'high street' with street-based retail and extensive north facing facades.
- More opportunity for existing local shops on Brookside Road to service the older parts of the town.

**Disadvantages**

- Weaker links to southern neighbourhood centres with east-west orientation.
- Reliance on rezoning some existing residential properties along Rolleston Drive.
- Potential heavy reliance on Rolleston Drive, may cause traffic issues.
- The larger area of reserve land continues to limit the potential population density within a comfortable walking catchment to the town centre.

# 6.10 Preferred Town Centre Option

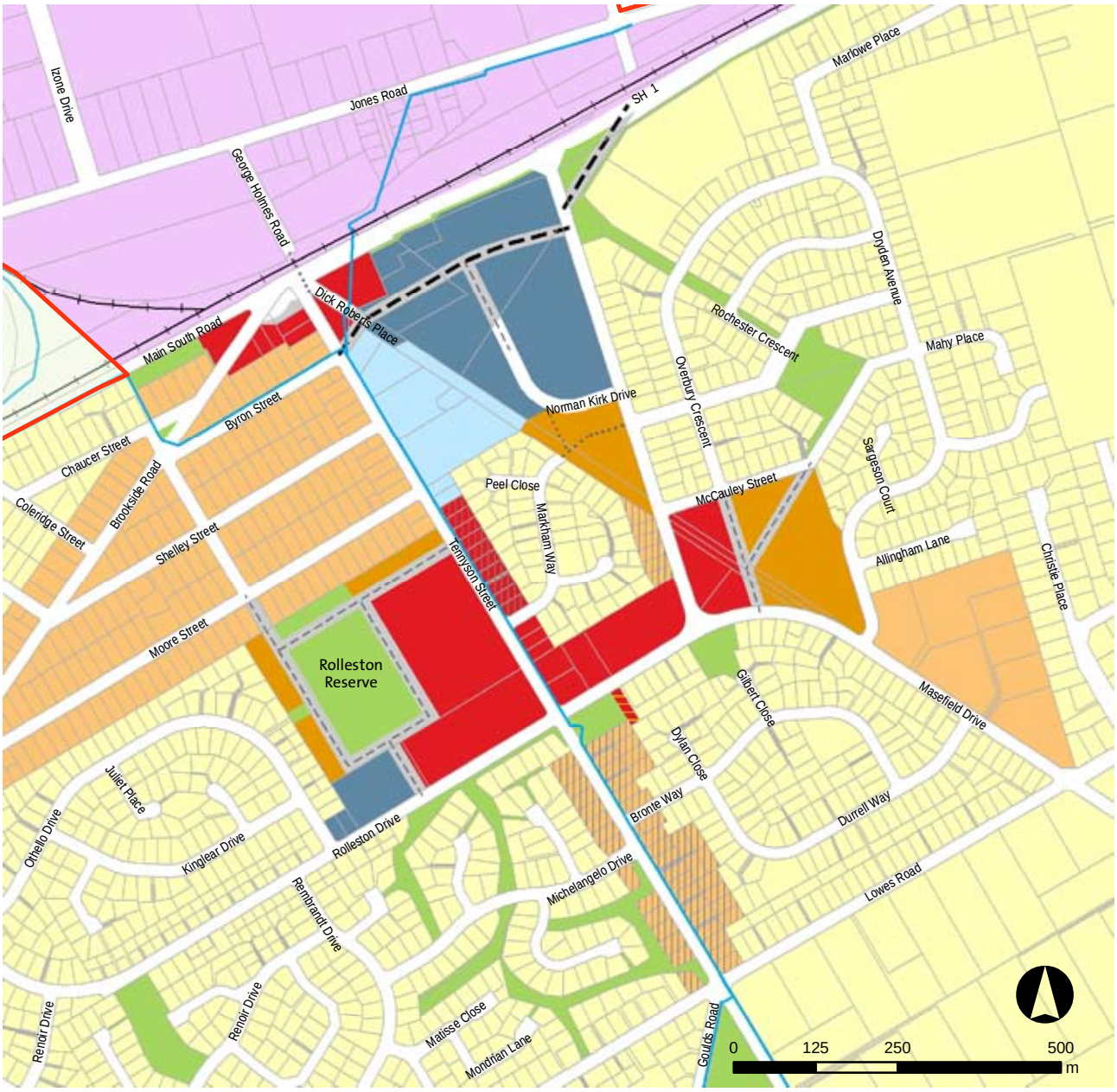



Figure 6.23: Preferred Town Centre Diagram

- Study area
- Railway
- Proposed main (primary) roads
- Proposed local (secondary) roads
- Indicative local (minor) roads
- Walking and Cycling Links
- Water Races
- Rural Land
- Town Centre
- Comprehensive Housing
- Medium Density Residential (20HH/Ha)
- Existing Low Density Residential
- Reserves
- Community Facilities
- Rolleston Primary School
- Izone Southern Business Hub
- Proposed Road Reserve
- Town Centre Deferred
- Medium Density Residential Deferred
- Development on Clock Tower Reserve

The preferred option uses many of the positive elements of the Rolleston Reserve Core approach and was chosen to be developed further. This was considered the best response to enhance the existing uses, manage poor local connections and make the most of opportunities to consolidate the town centre closer to key routes, community facilities (including Rolleston Reserve) and the existing supermarket anchor.

The main community focus of the town centre will be the Tennyson Street and Rolleston Drive intersection and the Rolleston Reserve. This refocused area will create the heart of the town and allow for gathering and community events. This is intended to be enlivened through providing a mix of uses around its edges and developing on parts of the reserve itself. This will be achieved through a land swap of some of the existing vacant business land (between Rolleston Drive and Masefield Drive) with parts of the existing Rolleston Reserve. Existing sportsfields, currently located on the reserve, will move to the new Recreation Precinct (see section 7.6.1).

This new core with the existing New World Supermarket sets the foundations for a future 'High Street' along Tennyson Street and the northern side of Rolleston Drive. A new anchor (retail or community), in addition to the current supermarket, will be located close to the eastern entrances to the town centre at the corner of Rolleston Drive and Masefield Drive. A large area of parking could be concentrated away from the high street activities to service the refocused town centre. This promotes the dumb-bell approach that utilises anchors at each end of the town centre to create greater footfall in between.

The town centre will be a 'pedestrian priority' area with a streetscape design approach that reflects this. Traffic calming measures (such as permanent narrowing at specific places interspersed with sections of roadside parking) will be accompanied by tree planting to ultimately create a pedestrian-friendly environment whilst maintaining vehicular access.

Adjacent to the existing supermarket, an additional mix of land uses would be placed on part of the Reserve land with the remainder of the Reserve containing enhanced open space uses overlooked by higher density living around its edges.

This preferred approach considers Tennyson Street as key town centre street. This enables direct pedestrian, cycle and vehicle links along Tennyson Street to future growth areas and the Recreation Precinct in the south and to the primary school, highway service centre, Izone, SDC Headquarters and the 'Park n Ride' facility in the north.

The features of the preferred option of the town centre are:

- Town centre core to be focused on the intersection of Rolleston Drive and Tennyson St, both of which are integrated into key district-wide routes off State Highway 1, Hoskyns Road, Lincoln-Rolleston Road and Springston-Rolleston Road.
- A greater north/ south orientation to establish strong links to proposed neighbourhood centres along primary routes.
- Part of Rolleston Reserve used for consolidated mixed use town centre, closely linked to existing supermarket. This will be achieved via a land swap with existing vacant Business 1 zone land.
- Retained parts of Rolleston Reserve used to develop a high amenity feature (e.g. botanic garden or town square), which will be closely linked to town centre activities.
- Undeveloped Business 1 zoned land used for second anchor (e.g. supermarket) and additional higher density housing.
- Expands existing community centre into a wider Cultural Precinct, including the proposed addition of a landmark art gallery, town hall and expanded library.
- Remaining underdeveloped areas of the town centre used for higher density living (i.e. comprehensive housing) and community facilities with improved amenities and outlook. Development of the town centre deferred areas would only occur if Council purchased the properties when and if they come up on the property market.
- A specialist highway service centre located at the end of Tennyson Street alongside the state highway. This incorporates the existing BP service station and a 'Park n Ride' public transport interchange accessed off a highway slip road or the Byron Street extension.

- Creates new vehicle, cycling and pedestrian links, from Tennyson Street to a Civic Precinct comprising SDC Headquarters, Rolleston Primary School and proposed commercial office complex (e.g. business incubator units).
- Provides greater walking, cycling, vehicle linkages to surrounding residential areas through the Rolleston Reserve land. The roading connections shown are indicative and will be explored in greater detail in the masterplan.
- A new pedestrian footbridge is planned to connect the Izone Southern Business Hub with the town centre over the State Highway and railway line, providing non-vehicular access that does not currently exist.
- Encourages higher density living around the walkable parts of town centre and future transition of existing housing, particularly along Tennyson Street.
- Enhances north facing aspects of the town centre along the southern edge of Clock Tower Reserve and around the larger Rolleston Reserve land.
- Embraces Clock Tower Reserve as a key open space and better activates its edges.

The town centre concept diagram (Figure 6.23) is a guide to the future development of the town centre. A detailed master plan is recommended to coordinate public and private investment and the future detailed development and management of the centre.

Issues to be considered in the master plan are, inter alia:

- Catalysts to promote the town centre as a destination and encourage private investment.
- Cultural Precinct (e.g. extended library, art gallery, etc.)
- Civic Precinct (e.g. Town hall, SDC Headquarters, commercial offices etc.).
- Public open space provision (e.g. reconfiguration of Rolleston Reserve, Clock Tower Reserve, community square, market / event spaces etc.).
- Clarify role of large format stores (e.g. limited number of anchors only, wrapping of smaller scale retail, relationships with public open spaces).
- Integration of existing businesses / features within reconfigured a town centre.
- Social service provision (e.g. Work & Income and other Government agencies).
- Highway service centre and relationship to existing local shops and Izone.
- Upgrades of Tennyson Street and Rolleston Drive (including intersections).
- Public transport (e.g. 'Park n Ride', express bus services, allowance for future commuter rail).
- Parking provision (e.g. location, private/ public ownership, co-location, management).
- Defining Comprehensive housing and town centre deferred areas
- Development controls (e.g. mixed use provisions, design and appearance rules, building heights, bulk and mass, public space amenity issues).
- Future proofing town centre growth (e.g. deferred zoning/ flexible and adaptable building design).
- Ongoing management arrangements (e.g. amenity, markets, events, festivals, etc.).
- Monitoring of retail provision.

# 6.11 Neighbourhood and Local Centres

## 6.11.1 PUBLIC CONSULTATION

The neighbourhood centres are intended to be complementary to the town centre and provide facilities for the immediate residential neighbourhood, but not be at a scale that would compete with the town centre.

Public consultation was undertaken to determine which facilities were most desired within the neighbourhood centres. The preferences were for options focused more on community facilities than on retail facilities. The results are shown below:

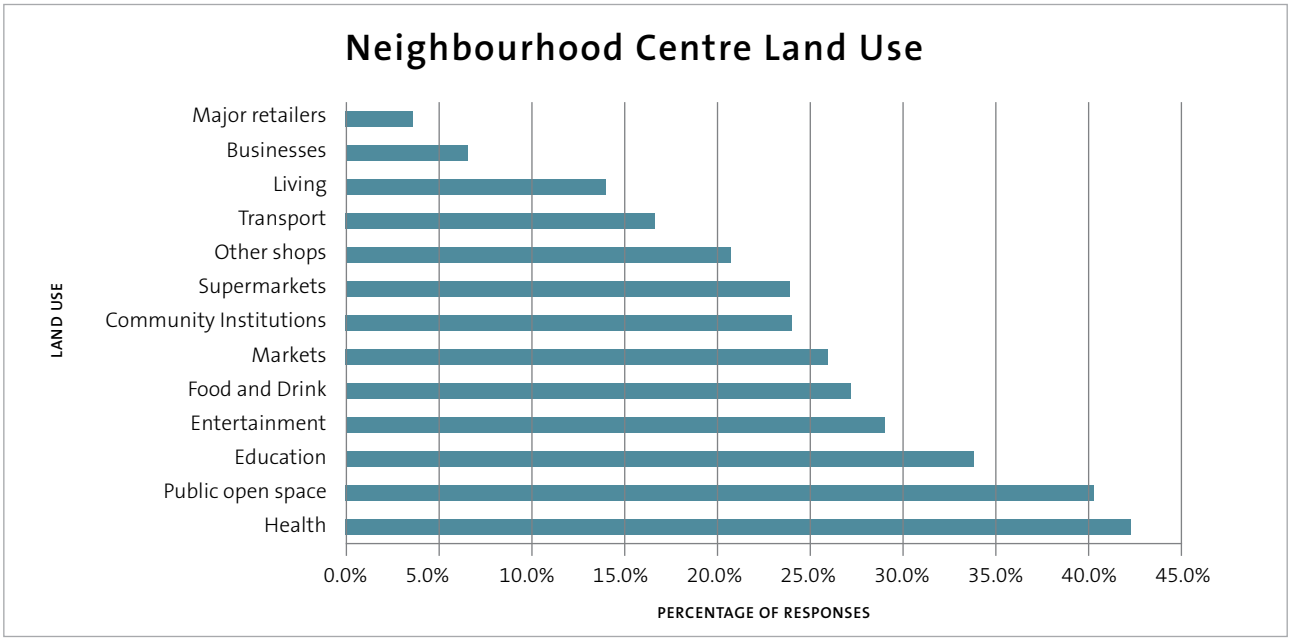



**Figure 6.24: Community feedback on preferred neighbourhood centre land use**

Best practice shows that a neighbourhood structure should have the following characteristics:

- Size and shape of its population catchment generally defined by a five-minute walk from the neighbourhood centre to its perimeter, typically 400m to 450m;
- The centre acts as a community focus with a compatible mix of uses, including retail, which provide for a range of daily needs and may include community facilities and urban open spaces such as a small square;
- To assist retail exposure and accessibility, the centre is located on or at the intersection of relatively busy local streets and is served by public transport;
- An interconnected street network focused on the centre, and with strong links between the neighbourhood centre and its related town centre, providing good accessibility, route choice and detailing to make walking and cycling pleasant, efficient and safe; and
- A range of residential densities and variety of housing types that increase toward the neighbourhood centre.

Neighbourhood centres generally would be expected to contain:

- A small grocery store and/or a small groups of shops of a local or specialist nature
- Additional non-retail services, such as childcare and small businesses
- Smaller community facilities and/or social services
- An associated small public open space (i.e. square or pocket park)
- A distinctive anchor (retail or community facility)

Local centres would be more modest in size and could contain:

- Small shops (e.g. corner dairy)
- Small childcare facilities
- Cafes

A certain level of residential density is required to support neighbourhood centres and associated public transport provision. This is discussed in greater detail in Section 8. However, it is possible that higher living densities (i.e. comprehensive housing) could feasibly be developed in combination with business uses, either vertically or horizontally, as part of a mixed use approach within centres.

Public transport routes should be configured to travel between the town centre and the neighbourhood and local centres as they develop to improve accessibility and movement between centres.

The total amount of land to be set aside for neighbourhood centres is discussed in Section 6.4. It is anticipated that neighbourhood centres developed in the greenfield areas will be larger than those provided within the existing town. This is due to higher residential densities, improved access and greater ability to coordinate their provision with residential growth.

The land to be developed beyond 2041 would also be supported by several other neighbourhood centres as illustrated in Figure 5.4. The size of these will be identified later in the town's development, following retail advice and monitoring of existing centres.

A comparative study of other New Zealand towns was undertaken to see what provision is made and how it correlates to Rolleston's predicted population size. The outputs of this study are contained in Appendix B and show the average population threshold at which facilities are provided in towns of a similar size. A range of population sizes has been examined as a guide to the requirements for Rolleston, relative to its predicted growth rate. The proximity of Lincoln and Christchurch is likely to influence the range of facilities considered necessary for Rolleston, although as the population grows more local provision would be desirable.

The comparisons generally show a higher level of provision than currently anticipated for Rolleston. However, as Rolleston's population grows, SDC will monitor the requirements of the population and plan accordingly through revisiting the retail assessment for the town on a regular basis. Table 6.2 provides a breakdown of the proposed neighbourhood and local centre provision:

**Table 6.2: Neighbourhood & Local Centre Provision**

| Neighbourhood Centre | Location | Retail Floor Space (sqm) |
|---|---|---|
| Neighbourhood Centre 1 | Brookside Park/ CDL | -500 |
| Neighbourhood Centre 2 | Goulds Road | 1500-2000 |
| Neighbourhood Centre 3 | Springston-Rolleston Rd | 2500 - 3000 |
| Neighbourhood Centre 4 | Lincoln-Rolleston Rd | post 2041 |
| Neighbourhood Centre 5 | Izone | Subject to specific District Plan provisions |

| Local Centre | Location | Retail Floor Space (sqm) |
|---|---|---|
| Local Centre 1 | Highway Service Centre | 1200 |
| Local Centre 2 | Recreation Precinct/ Dynes Road | Subject to criteria to be defined in District Plan |
| Local Centres 3 -10 | Refer to Structure Plan Map | Subject to criteria to be defined in District Plan |

# 6.12 Centre Strategy Summary

**Table 6.3: Key Issues, Constraints and Opportunities Relating to the Centres Strategy**

| Item | | Key Issues and Constraints | Design Outcome |
|---|---|---|---|
| Town Centre | Viability, accessibility and functionality | Current town centre does not provide for expected future population | Expansion and potential reorientation of the town centre, with use of some areas of Rolleston Reserve. Creation of new Recreation Precinct. Implementation using underdeveloped Rolleston Reserve, vacant blocks of land owned by Council and developers. Large blocks of land owned by single land owners provides opportunities to integrate facilities |
| | | Segregated nature of the town centre | Visual and physical integration using urban design techniques and good pedestrian links, reorientation of town centre |
| | | Vehicle focused nature of the town centre | Use of good urban design to create pedestrian priority areas and encourage walking and cycling. Use of anchors to draw movement through the town centre and encourage people out of their cars<br><br>Location of parking and main access ways to promote walking within the town centre, increasing social interaction |
| | | Long distance between town centre and new developments at the southern urban limit | Provision of smaller neighbourhood and local centres and shops to provide basic amenities within reasonable walking distance for all areas of the town |

# 6.13 Implementation

## 6.13.1 ACTION PLAN

The likely land requirements, approximate timelines and cost implications of implementing the centre strategy aspects of the Structure Plan have been assessed. The sequence of development of these centres are 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.

It is important to note that a number of actions required to achieve the centre strategy are incorporated into the following chapters (eg community facilities, open spaces, movement connections etc.) Table 6.4 summarises the implementation issues and costs relating to refining and monitoring a centre strategy.

**Table 6.4: Centres - Implementation Issues and Costs**

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications |
|---|---|---|---|---|
| Town Centre | Masterplan for the town centre: as per section 6.10 which outlines the elements to be considered in the masterplan.<br><br>Further invertigate opportunities for land swaps | Business 1 land swap between Masefield Mall land and Rolleston Reserve (approximately 3.5 Ha) | Short Term | $40,000 - $60,000 |
| | Upgrade of Tennyson Street and Rolleston 'High Street' for pedestrian priority | Nil | Short term | To be scoped through masterplan |
| | Develop town square for community events and market space | Nil | Short term | To be scoped through masterplan |
| | Establish a second anchor store along Rolleston Drive | Provided by developers | Short Term | Capital costs met by developers |
| | Business incubator units and offices | Provided by SDC adjacent to Park 'n' Ride facility | Short Term | Public/ Private partnership with capital costs met by developers |
| | Pilot comprehensive housing schemes within Rolleston Reserve, Civic Precinct and/or Masefield Mall land (following land swap) | 1.5 –5 Ha depending on land availability | Short Term | Public/ Private partnership with capital costs met by developers |
| | Establish town centre promotion and management structures | Nil | Short Term, then ongoing | To be scoped, but could be contributed to by retail operators |
| Neighbourhood and Local Centres | Incorporate centres within ODP areas, where applicable | Refer to Table 6.2: Neighbourhood & Local Centre Provision | Staged with development | Expect to be almost entirely met through development. |
| | Plan Change and Design Guidance for Highway Service Centre | Provided by developers | Short term | To be scoped |
| General | Retail Assessment Review | Nil | Short Term, then ongoing | $20,000 – $30,000 |

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications |
|---|---|---|---|---|
| | Sustainable Design Guidelines or Standards for public spaces and buildings | Nil | Short term | To be scoped |
| Residential | Plan Change for deferred medium density (old town) and comprehensive (around town centre) housing | | Short term | To be scoped |
| | Design Guidelines for comprehensive housing and social housing | Nil | Short term | To be scoped |

## 6.13.2 CHECKLIST

**Well Designed Rolleston**

A clear hierarchy of centres has been established, with centres closely correlated with key movement routes and positioned at nodal points for ease of access. A mix of land uses has been provided for within urban centres, including open space and comprehensive housing. Some centres are positioned within existing zoned land or close to existing housing to encourage gradual intensification and knit old and new communities together. Climatic considerations have been considered in the reconfiguration of the town centre by creating more north facing facades and favouring Tennyson Street, which is better protected from cold easterly winds.

**A Sustainable Town**

Urban centres have been strategically located to facilitate public transport loops around the town, most of which are within a comfortable walk. Centres are centrally positioned within neighbourhoods to allow for green corridors either side to connect between central parts of the town and the Green Belt/rural land. Community well being is enhanced by providing accessible centres that can act as hubs for informal social interaction and to build a sense of place.

**Realistic and Achievable Rolleston**

A neighbourhood-by-neighbourhood approach has been taken, which allows incremental expansion of the town into the future.

The need for a town centre masterplan has been indicated to coordinate the RPS PC1 policy for a Key Activity Centre in Rolleston with existing private investment and land availability. This will be followed up with statutory processes, including plan changes.

Key land owners within the town centre have been consulted throughout the Structure Plan development and this is intended to continue for this and other urban centres. A collaborative approach is encouraged both in the design and future implementation of the town centre masterplan and promotion and management structures to be put in place by the Council.

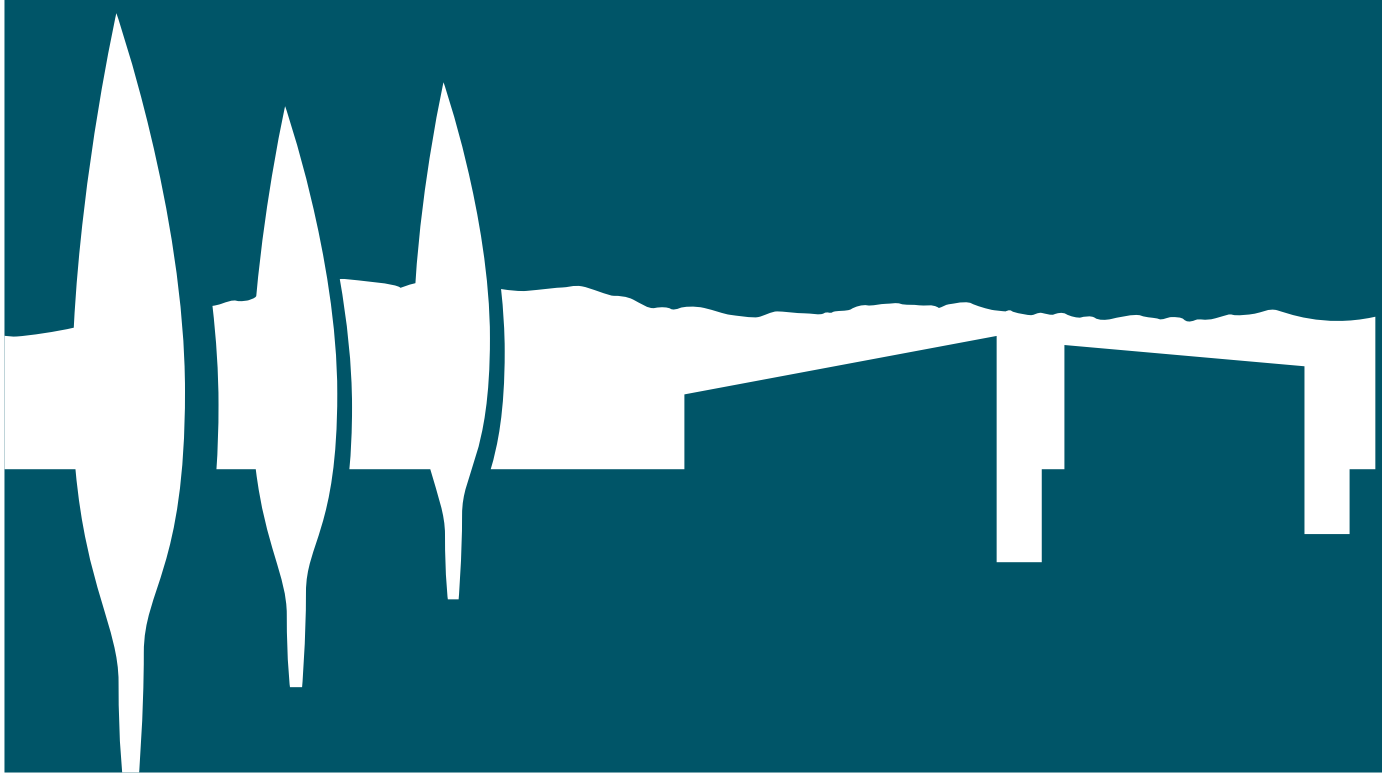
The masterplan will consider the staged infrastructure provision for the town centre in coordination with private development initiatives and ensure continuity of existing public facilities, such as the active sports pitches currently on Rolleston Reserve.

Ongoing managment arrangement and monitoring of retail provision have been considered and will be explored more thorough the materplanning stage.

# 7.0

## Land use Patterns and Community Facilities





# 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.

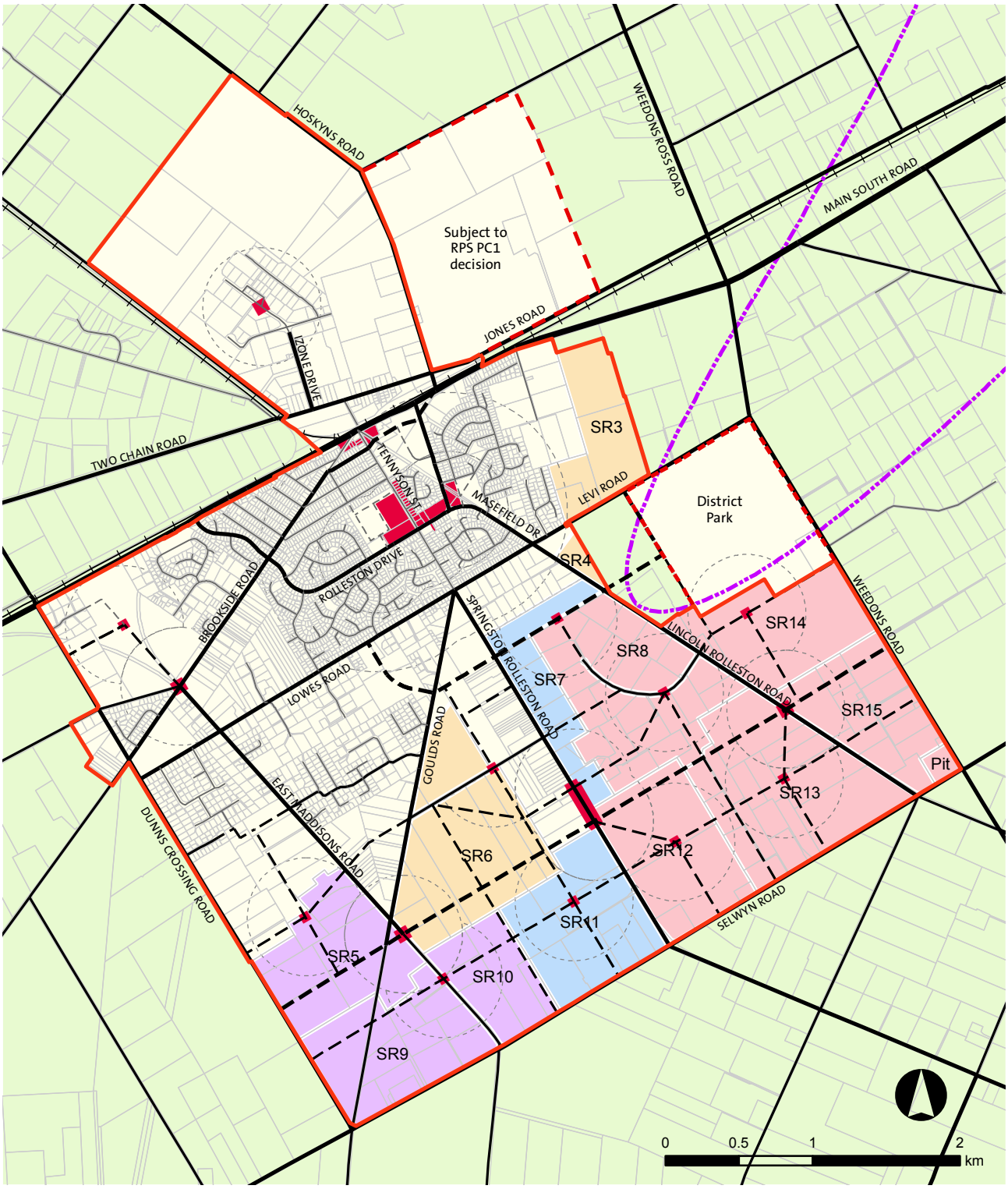



**Figure 7.1: Rolleston RPS PC1 Development Sequence**

- 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.

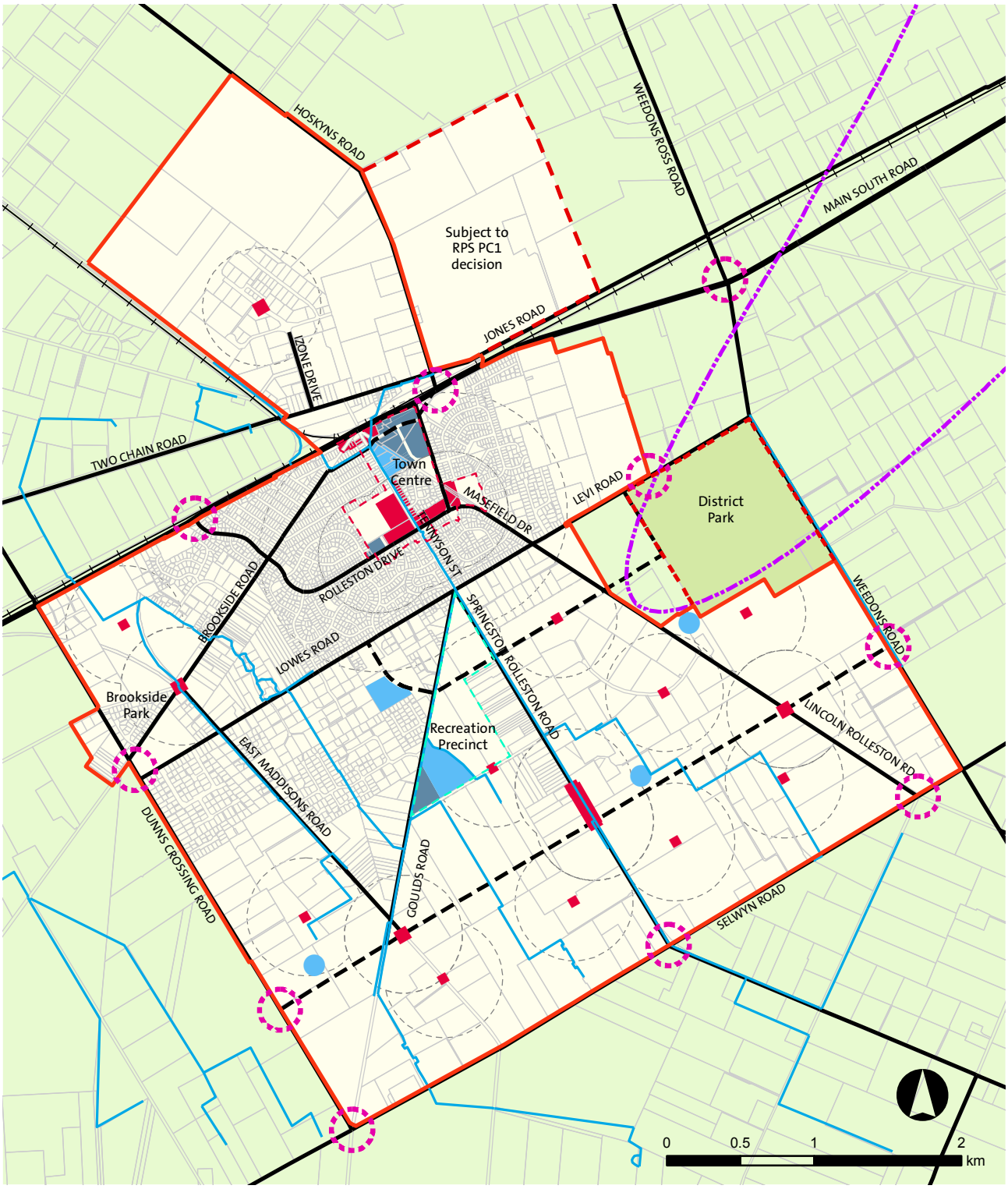



**Figure 7.2: Community Facilities**

- 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

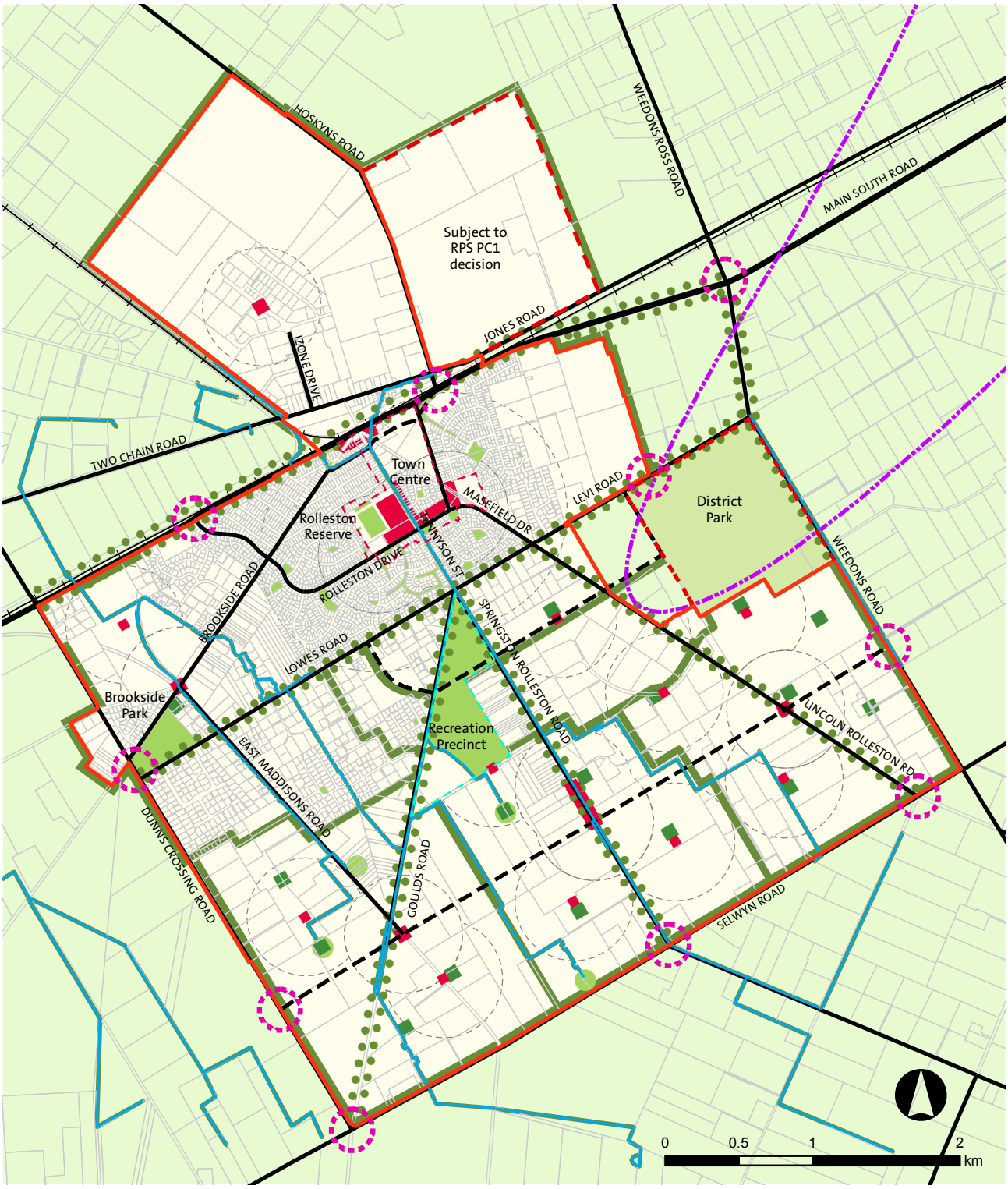



Figure 7.3: Public Open Space

- 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**

**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**

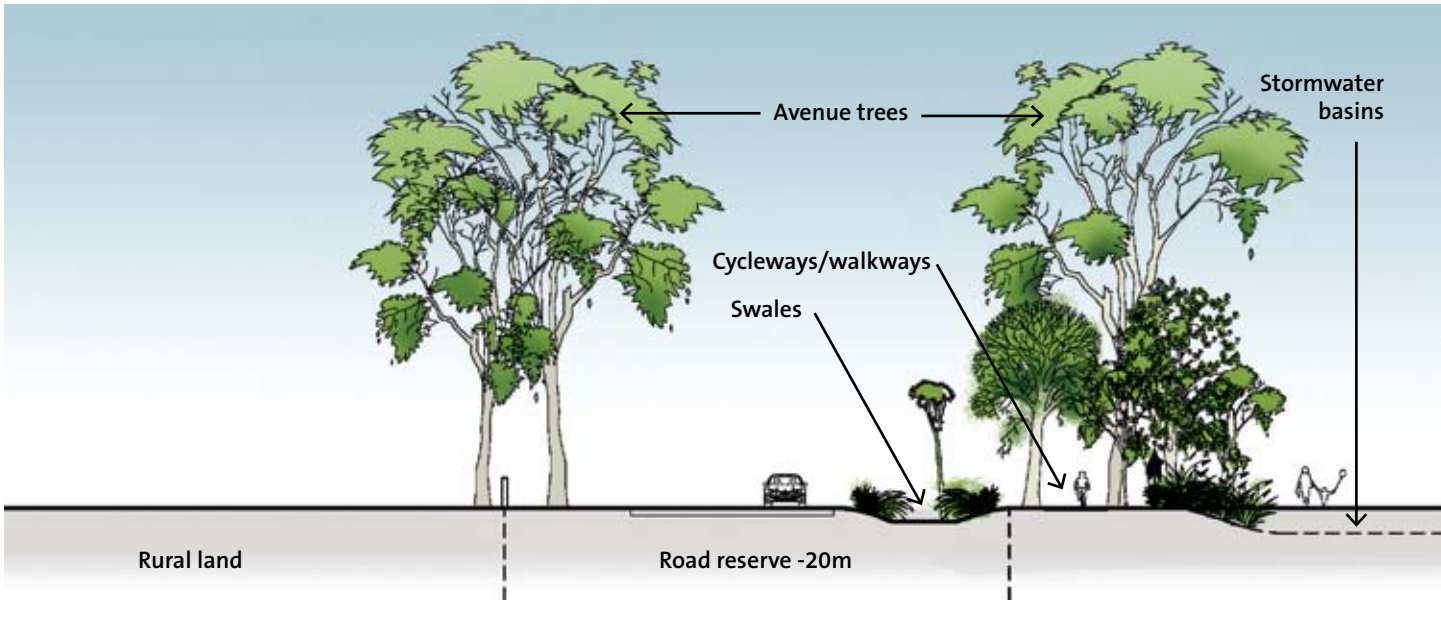



**Figure 7.7: Indicative Green Belt cross sections - 1:300**

**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.

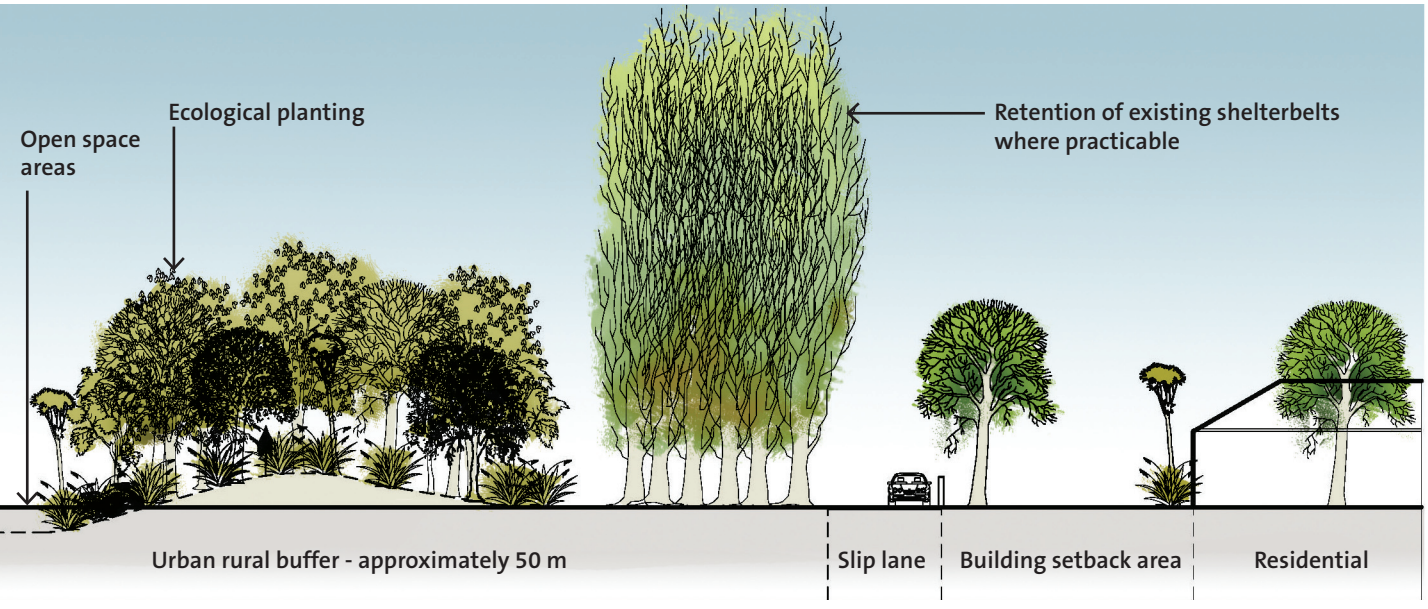
**Rolleston 100 Hectare District Park**

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.

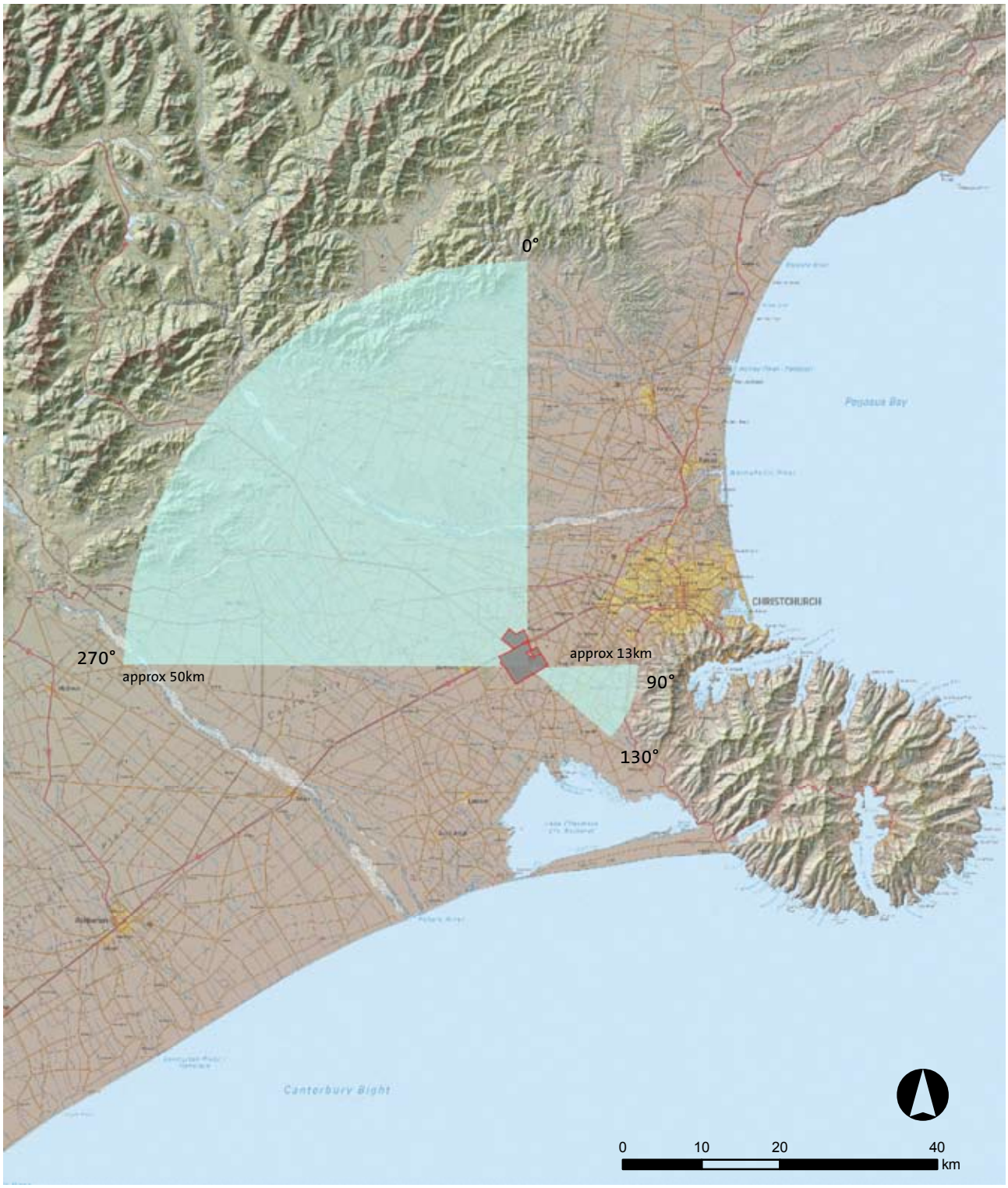



**Figure 7.8: Views Diagram**

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.

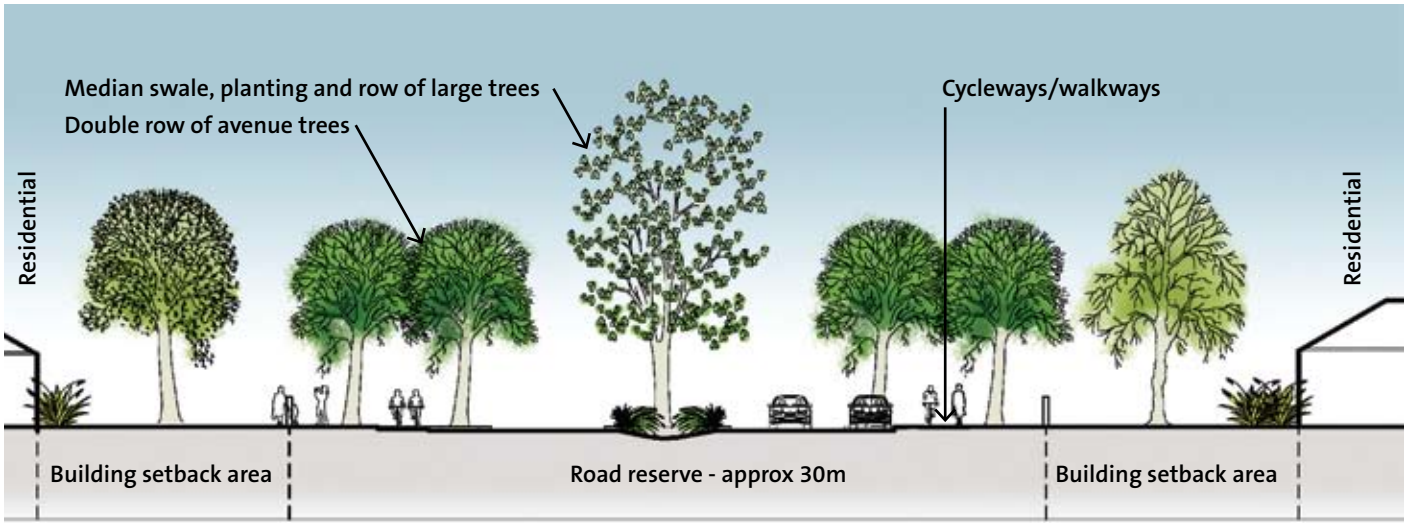



**Figure 7.9: Indicative Cross-Section through Rural to Urban Avenue sections - 1:300**

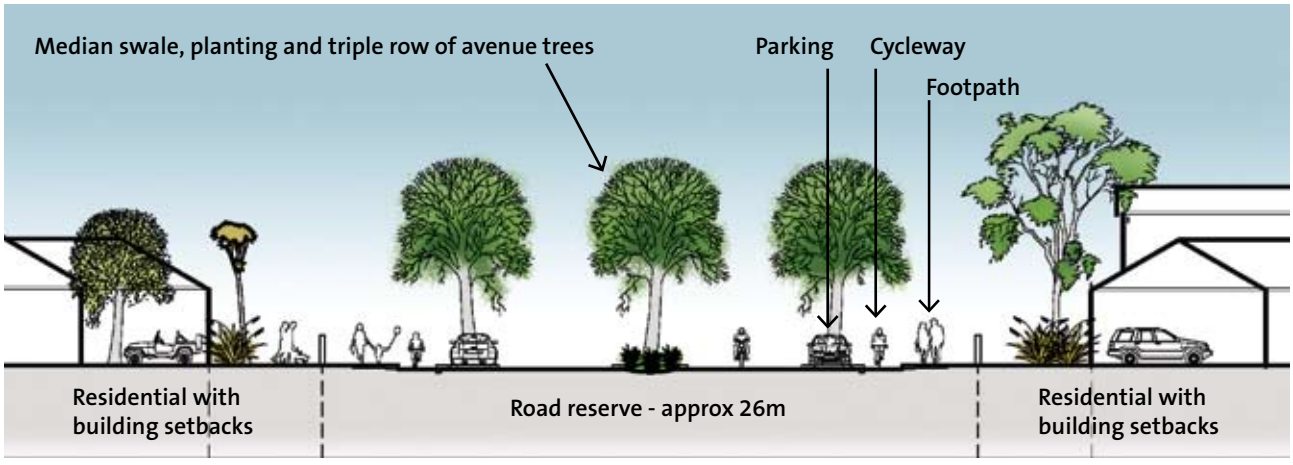



**Figure 7.10: Indicative Cross-Section through Town Avenues - 1:300**

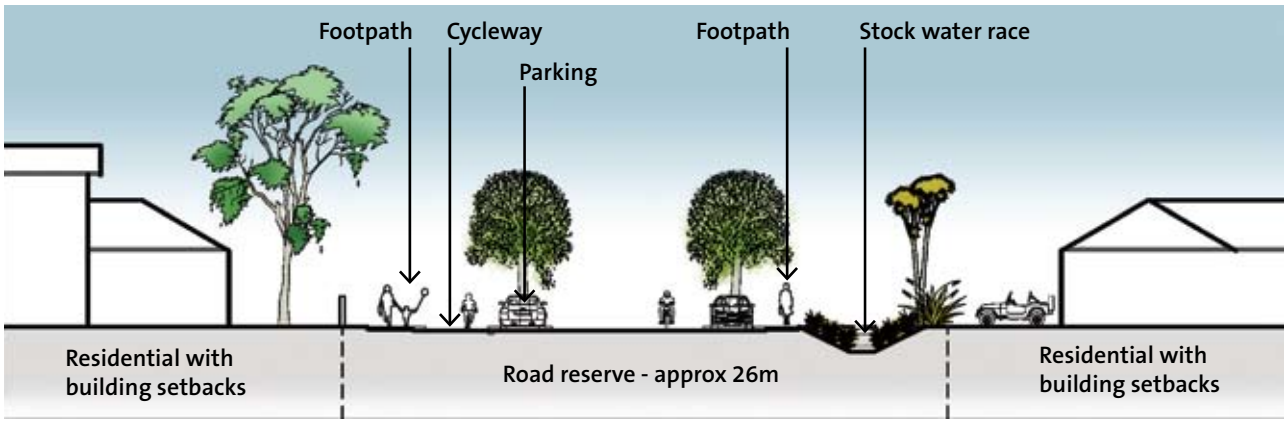



**Figure 7.11: Indicative Cross-Section through Town Street (with stock water race) - 1:300**

## 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<br>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.<br>Creation of a 100 ha regional/district park<br>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;<br>i) hierarchy including town centre, Recreation Precinct and neighbourhood centres<br>ii) integrated road and transport layout<br>iii) well located anchor developments<br>iv) developed open space network<br>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.

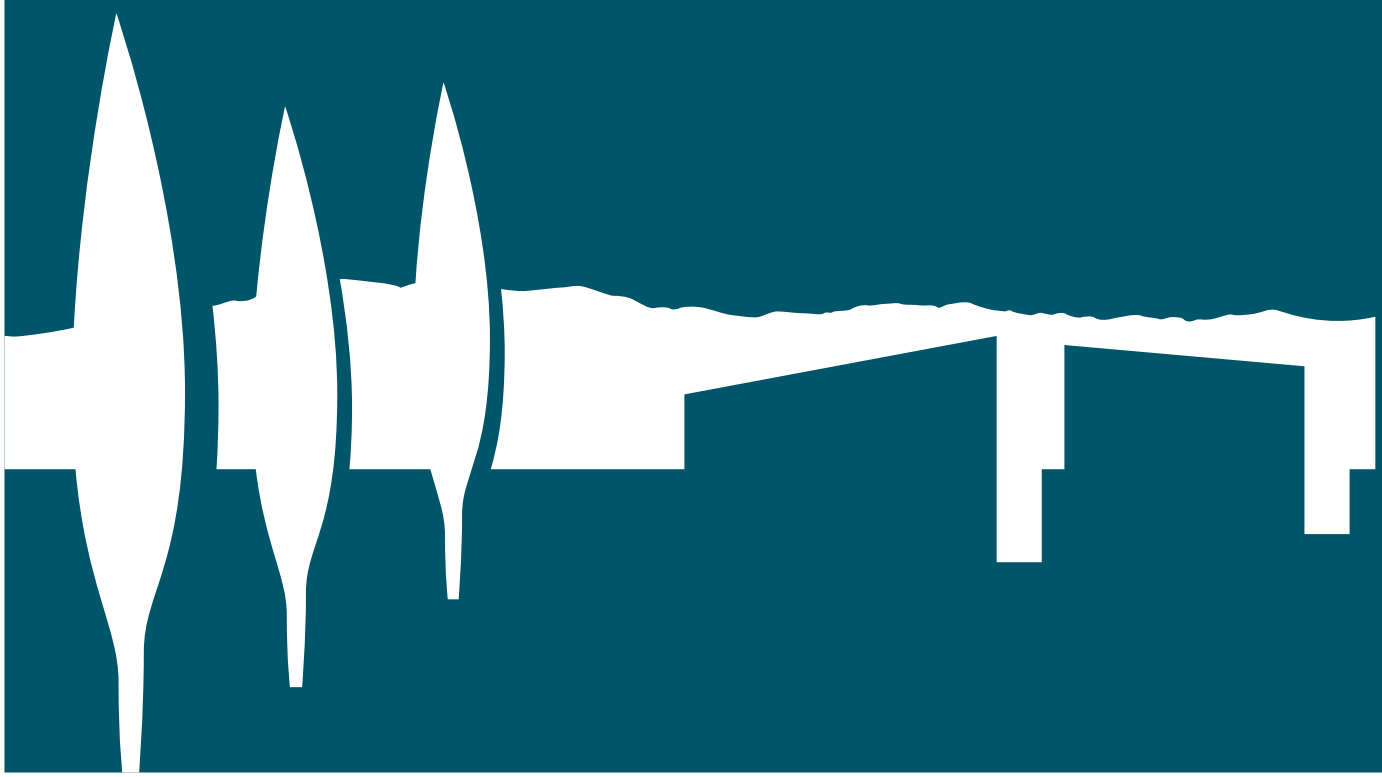
The allocation of land for a Recreation Precinct in the short term will allow it and the town centre to develop in a complementary way and ensure continuity of provision for active sports. Co-location with other facilities allows for an integrated design and management. A critical mass of users is able 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.

# 8.0

# Movement Network





# 8.1 Introduction

A cohesive and efficient movement network is required for vehicles, pedestrians and cyclists. The new movement routes created as Rolleston develops will integrate with existing routes, providing effective linkages and efficient movement for all types of travel. There will be a focus on encouraging the community to use alternative transport methods reducing the use of private vehicles. Movement by walking, cycling and public transport reduces energy consumption, reduces greenhouse gas emissions, increases social interaction and helps build healthy communities.

### 8.1.1 MOVEMENT NETWORK AIMS

A key objective of the movement network is to route traffic (vehicle, cycle and pedestrian) on the most efficient and desirable routes. An efficient movement network is essential to ensure economic viability and community well-being. Movement routes can also be used to increase vibrancy and create a sense of place within the town.

The movement network aims of the Rolleston Structure Plan are to:

- Provide efficient and safe routes for vehicles, cyclists and pedestrians connecting other locations to Rolleston and within the urban area.
- Reduce vehicle dependency and encourage the community to adopt walking, cycling and public transport modes reducing the environmental impacts of travel.
- Route through-traffic away from the town centre and onto inner and outer by-pass routes.
- Manage traffic speeds on the rural/urban interface to ensure residents' and road users' safety.
- Use the existing road network to provide continuity for future expansion of the town.
- Create liveable streets that embrace CPTED principles.
- Integrate a cohesive open space network of parks, reserves, streets, walkways and cycleways.
- Create attractive entrances, road corridors and streetscapes that provide amenity for all users and reflect the character of Rolleston.
- Create a legible way finding system within the urban area for roadways, streetscapes, open spaces, and pedestrian and cycleway routes. This system should integrate signage, sculpture, artwork and landscape features into the urban fabric, allowing easy navigation by all users, and create amenity for the Rolleston community.


**Figure 8.1: Transport Network – CRETS Road Hierarchy and State Highway Connections**

- Urban limit
- Full Intersection - all movements
- Grade Seperated Interchange
- Grade Seperated Link
- Restricted Access (left in, left out only)
- Existing Local Road
- National Arterial
- District Arterial
- Collector (Distributor)
- Collector (Distributor) Proposed
- Proposed Collector in Southern Rolleston Transportation Strategy
- Possible Connections (road \ cycleway)
- Railway

# 8.2 Road Hierarchy

A road hierarchy defines different classifications, functions and standards for roads, ranging from arterial roads which cater mainly for through traffic movement to local roads whose primary function is local access. The Structure Plan identifies a network of "main roads" which will connect key locations within Rolleston, including current and future neighbourhoods, and use the existing grid pattern. This network of "main roads" will be complemented by a "local roads" network which is intended to provide a high level of connectivity within neighbourhoods and a high level of accessibility for residents.

The road hierarchy provides a mechanism for integrating urban design principles with the engineering requirements of a road network.

At the "local roads" level, Council is planning for three road standards within urban townships, ranging from a "major" local access function to a "minor" local amenity function, in addition to a range of walking / cycling routes and public transport provision.

The Structure Plan signals the pattern of main roads development within the township, but does not specify the detailed form and location of local roads other than to provide for those connections that are considered significant.

The Christchurch, Rolleston and Environs Transportation Study (CRETS) included a hierarchy for the wider area, and an indication of a suitable approach for Rolleston. Given that a significant amount of analysis has been conducted as part of the Structure Plan process, while the Plan looks out much further in time than CRETS, it is appropriate for Council to use the CRETS hierarchy as a starting point for defining the future hierarchy and classification of road standards for Rolleston. The network will be developed to provide a good level of functionality of arterial and collector roads within the expanded township.

CRETS also resolved the ultimate form and location of key intersections linking Rolleston with State Highway 1. The map in Figure 8.1 shows these along with the CRETS road hierarchy. The map also shows the general location of an additional "cross-town" collector route to the south of existing development, and the proposed and indicative pattern of road and cycling connections in the vicinity of the second primary school, as envisaged in the South Rolleston Strategic Transportation Report.

Another important influence is the UDS, which signals a range of actions relating to strategic transport projects, walking and cycling, public transport and travel-demand management across the wider UDS area.

# 8.3 Key Entrances

## 8.3.1 ACCESS POINTS

The key road access to Rolleston is via State Highway 1 from locations to both north and south. There is also a network of rural two-lane district arterial roads connecting Rolleston with other Selwyn townships, including Springston, Darfield, Kirwee, Leeston, Lincoln, Prebbleton and West Melton.

CRETS anticipated the State Highway being 4-laned by 2021.

The intersections with State Highway 1 will be further developed over time, as envisaged in CRETS and as traffic demands require, generally as follows:

- A grade separated interchange at Weedons/Weedons Ross Road will form the main entrance into the town from SH 1 and Christchurch. Construction of the interchange is expected to be an NZTA responsibility, likely to occur in the medium term, beyond 2016. Timing relates to the development of the Rolleston Drive over-bridge to Izone .
- A grade separated link across the State Highway, extending Rolleston Drive to connect Izone with the rest of the town. This will occur when the existing traffic signals reach capacity and are removed, so the new bridge will improve highway traffic flows and safety. There will be no access from Rolleston Drive to the State Highway when this occurs. SH1 may be depressed under a near at grade connection between Rolleston Rd and Hoskyns Rd. This relates to issues with proximity to the railway level crossing. This work is expected to be a shared responsibility between SDC and NZTA, occurring in the medium term.
- Restricted access (left turn in and left turn out only) from the State Highway to Tennyson Street, the Brookside Road service area and the BP garage. Preliminary roading plans have been developed for this area and timing could be in the short term (pre 2016).
- Restricted access (left turn in and left turn out only) from the State Highway onto Rolleston Drive (south) through the Catherine Fields subdivision. This will occur as and when significant traffic problems arise from the current form of the intersection, with work to be undertaken by NZTA.
- A "full at-grade" controlled intersection at Dunns Crossing Road, providing for all turning movements.
- Heavy vehicles accessing Izone from the State Highway will be encouraged to use the two "outer" intersections, and the Jones Road / Two Chain Road route.

An extension to Byron Street is planned and Council has purchased land to enable this to occur. The extension will mitigate the effects of the restriction at the Tennyson Street/Brookside Road connection to the State Highway and provide much improved east-west connectivity within this part of the town. It will also enable good access to the proposed future 'Park n Ride' site.

## 8.3.2 ENTRANCE CHARACTER

The key entrances to Rolleston are significant opportunities to create distinctive landscape corridors, tree lined avenues, threshold or landmark features that reinforce the character of Rolleston as a regional urban centre. Notable entrance corridors are;

- Entry routes from State Highway 1 to Rolleston (Rolleston Drive south, Weedons/Levi Rd and Dunns Crossing Rd). The route could be developed as a landscaped Avenue along Weedons and Levi Roads creating an attractive and very legible entranceway.
- Lincoln-Rolleston Road, where traffic will enter from Christchurch (south via Shands Rd and Selwyn Rd) and Prebbleton. The route from the Metropolitan Urban Limit (MUL) to Lincoln is the "alternative modes corridor" for public transport and cycling. Vehicular traffic will be encouraged to use Springston-Rolleston Road to access Lincoln. Landscaping will be used on Lincoln-Rolleston Road within the MUL to create a pleasant walking and cycling environment and signal the route as a key entranceway into the town.
- Springston-Rolleston Road, where traffic will enter Rolleston from the south, from Lincoln and Lincoln University.
- Goulds Road, where traffic will enter Rolleston from the south west, from townships such as Leeston.

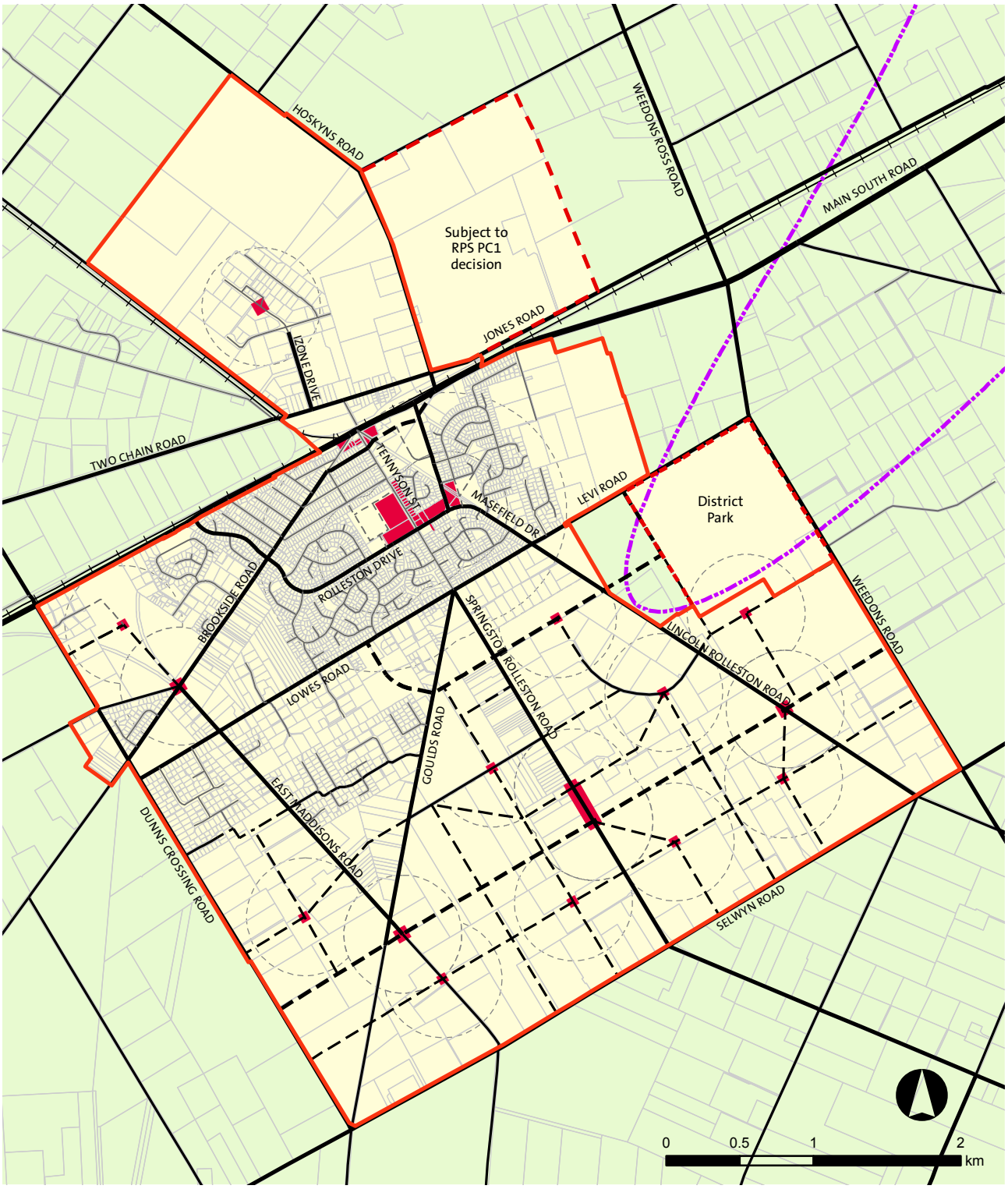



**Figure 8.2: Main Roads - Primary Network**

- Study area
- Noise Contour
- Town Centre
- Neighbourhood Centre
- Local Centre
- 5 Minute Walk (400m)
- Rural land
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Local (secondary) roads
- Proposed local (secondary) roads
- Indicative local (minor) roads

# 8.4 Main Roads (Primary) Network

The main roads network consists of arterial and collector roads as defined by hierarchy (see figure 8.2). The existing network forms a radial pattern from the existing town centre, with strong linearity, linking to other localities within the area. The linear and rural nature of the existing network creates a high speed environment with the need for management at intersections.

CRETS recommended the use of a ring road pattern for Rolleston, to reduce through traffic volumes in the town centre and maintain efficient access routes around and throughout the town. There are several levels at which this will operate. To facilitate use of these routes, intersection improvements will be required, in particular roundabout or priority controls.

An inner ring road will provide access to the town centre using Rolleston Drive.

Moving outwards, a series of ring routes uses the intersections with the State Highway at Weedons and Dunns Crossing Roads, connecting to Lowes and Levi Roads, the new CRETS collector road (ultimately connecting Weedons and Dunns Crossing Roads) and Selwyn Road. The route also extends across the State Highway using Two Chain Road and Jones Road to link the Izone Southern Business Hub.

Some of the roads within the town centre, such as Rolleston Drive, have a high amenity and town centre value and will as such be less focussed on efficient vehicle flows than other roads. Although vehicle access will be maintained, these roads will focus more on creating a safe and pleasant public space for pedestrians and cyclists. Lowes Road also has a particular focus on good walking and cycling links.

CRETS recommended intersection treatments throughout the current and future urban area. Typically, roundabouts and signed priority controls are envisaged, and these will need to be developed as the township grows or safety issues become of concern. The current speed environment of 100km/hr on the rural network will require careful management, particularly at urban / rural interfaces and where new community/recreational facilities are to be built.

A new roundabout has recently been installed at the Rolleston Drive/Tennyson Street intersection. The intersection of Masefield Drive and Rolleston Drive also presents a particular challenge for traffic management. This intersection divides two of the retail areas of the town and therefore must be pedestrian friendly and provide safe passage for cyclists, whilst allowing Rolleston Drive to function in its capacity as a collector road.

Traffic signals are not considered appropriate at this time, but in future as traffic levels grow and if cyclist / pedestrian safety concerns eventuate they may be used in place of roundabouts and in 'pedestrian priority' areas such as the core Town Centre.

The CRETS road will largely be built through new subdivision development. It has been shifted slightly to the south of the route indicated in the CRETS reports. This will avoid the creation of a potentially complex junction at the intersection of East Maddisons and Goulds Roads. Depending on its final location, it may pass through land on the west side of Tennyson St which is already zoned, and this may require designation. The route will be developed in stages as outlined in Table 8.1.

Table 8.1: CRETS route staging

| Growth Pocket | Linkage | Time Period | Construction Method |
|---|---|---|---|
| SR6 | Goulds Road to eastern edge of SR6 | By 2016 | Subdivision |
| Private land | Eastern edge of SR6 to Springston Rolleston Road | By 2016 | Designation/ property acquisition may be required |
| SR5 | Dunns Crossing Road to Goulds Road | 2017-2026 | Subdivision |
| SR12 | Springston Rolleston Road to boundary SR12 & SR13 | Long term, beyond 2041 | Subdivision |
| SR13 | Boundary SR12 & SR13 to Lincoln Rolleston Road | Long term, beyond 2041 | Subdivision |
| SR15 | Lincoln Rolleston Road to Weedons Road | Long term, beyond 2041 | Subdivision |

Management of access onto the main roads network is important for safety and efficiency reasons. The number of entry points onto the outer ring route (namely, Dunns Crossing, Selwyn and Weedons Roads) needs to be managed to maintain a higher speed environment. The Structure Plan provides for a green buffer between these key roads and housing, with walking and cycling and parallel internal local access roads.

Landscaping and entrance treatments will also be used to differentiate and identify those roads that are main access routes from those that form entranceways to residential areas.

# 8.5 Local Roads (Secondary) Network

Within Rolleston the main roads form a grid pattern with additional diagonal links which provide a good level of connectivity between neighbourhoods (see figure 8.2). The nature of previous growth in Rolleston has resulted in many areas of development not being well linked, where there are many long, poorly linked cul-de-sacs.

Future development of the local roads network in Rolleston will build on the linear nature of the existing primary network, while also recognising the urban character of existing developments. The local roads network will provide for a variety of road forms to be developed, including low speed environments and changes in direction to create interest. "Major" local roads will be more linear in nature to provide connectivity and better integrate with the main roads network.

The Structure Plan provides for connections between Neighbourhood Centres and local centres in a largely grid based pattern with some diagonal routes reflecting the existing angular character. The network also provides for additional connections between ODP areas and the main roads network, including the outer ring route comprising Dunns Crossing, Selwyn, and Weedons Roads. It is expected that all of these roads will be provided by developers as part of subdivision.

This pattern will provide a high level of connectivity within the new areas of the township, and be complemented by a denser, interconnected local roads network as subdivisional development occurs. This will be controlled through SDC's Subdivision Design Guidelines and District Plan provisions, which will also limit the maximum length of cul-de-sac.

# 8.6 Town Centre

The preferred option for the town centre involves the redevelopment of Rolleston Reserve and the creation of additional local roads. Some of the local town centre connections, particularly those connecting to the reserve are indicative at this stage and will be developed further during the master planning stage. The new road, cycling and walking connections discussed in section 8.7 will need to be developed or facilitated by Council, given Council ownership of land. Some of this will be required for higher density housing development, so it should be feasible to fund some of the infrastructure through the sale of medium to high density residential sites.

The core town centre will be a distinctive movement zone with a focus on retail, civic open space and higher density residential character, as described in Section 6. The streetscape design within this core will reflect the requirements of this land use and function, and reinforce the civic character of the Rolleston community. Streetscape design will integrate street furniture, lighting, signage and landscaping.

The proposed master plan for the Town Centre will be highly relevant to further development of the movement network in this area. (see diagram below)

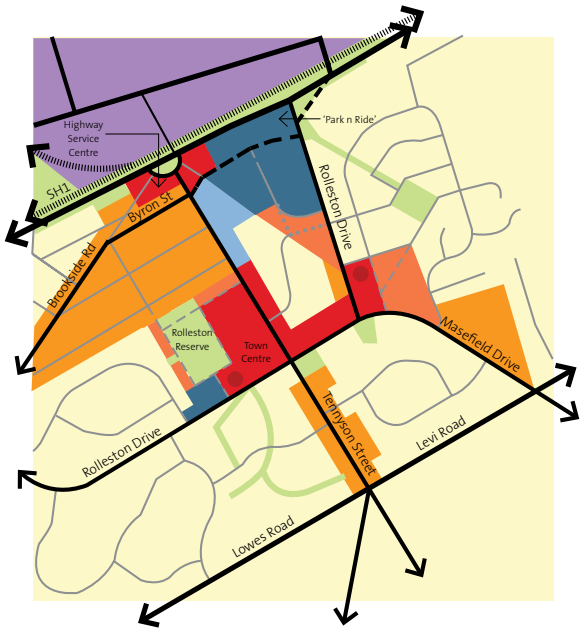



**Figure 8.3: Town Centre Diagram**

# 8.7 Cycling & Pedestrian Networks

To help Rolleston achieve its objective of being a sustainable town, provision of alternative transport methods including walking and cycling, are central to the movement network proposed as part of the Structure Plan. As an expanding town Rolleston requires additional provision for all transport types. Currently, pedestrian safety in Rolleston is a concern; long, straight, roads which currently have a rural character attract high speeds and have limited footpaths. The town's facilities are generally located on arterial and collector roads for easy access; however the higher speeds, increased road width and traffic volumes associated with these roads can present a safety issue. Road network design needs to incorporate a pedestrian and cycling network with crossing points that are fully integrated into the overall urban fabric of street furniture, lighting, signage and landscaping of the town.

Existing road reserves within Rolleston are generally wide and can provide opportunities to incorporate walking and cycling to further expand Rolleston's movement network. Walking and cycling routes may also be separate to vehicle routes, improving safety, as part of open space provision and landscape treatments to enhance amenity. "On road" cycle routes need to be on either appropriately designed streets or roads with specific cycle lanes. A problem with cycleways beside road carriageways (rather than being part of them) in urban areas is the safety issue with property entranceways and conflicts between cyclists and vehicles exiting properties. Mostly in Rolleston, the "built road environment" can cater for cyclists but "off road" facilities are also important to the network.

New development should also provide for interconnected walking and cycleway routes, integrated with open space and proposed green corridors and water races wherever possible, providing benefits for social and environmental well-being.

New walking and cycling routes will connect to a wider network which includes Lincoln-Rolleston Road and Boundary Road and is promoted as part of an alternative modes corridor in CRETS to connect Lincoln and Rolleston. A further important route will extend the network from the second primary school eastwards, ultimately connecting with the new regional 100ha Park.

All walking and cycling routes will be well signed and provide a pleasant experience for users. Roundabout design will consider pedestrian and cyclist needs to ensure continuity of the walking and cycling network.

The walking and cycling network in Rolleston will be designed to meet the objectives and action plan of the Selwyn District Walking and Cycling Strategy. The strategy aims for Selwyn to be a place "where more people walk and cycle safely for transportation and enjoyment." One of the key aims of this strategy is to reduce car journeys of less than 2km. The action plan within the Strategy details standards by which the walking and cycling network will be designed.

The action plan also includes several key initiatives, which are included in the LTCCP for the 2009-2019 period, including:

- Rolleston to Lincoln cycleway development
- Rolleston to Templeton cycleway development
- Lowes Road cycleway
- Linkage between Rolleston and Izone
- Cycling and walking developments in the Recreation Precinct area and its environs

In addition to the initiatives detailed in the LTCCP the Structure Plan proposes to provide a walking and cycling link connecting Markham Way to Norman Kirk Drive to provide access to the Primary School and Council Head Quarters.

A localised grade separated pedestrian/cycle crossing connecting Izone Southern Business Hub with the town centre over the State Highway and Railway line is also proposed. This will connect George Holmes Road and Tennyson Street. The overbridge will link to the planned cycle routes providing north/south access across the town. The overbridge will provide safe access across the state highway and railway line from the rural residential areas to the north of Rolleston to the schools and amenities within the town. The overbridge provides an opportunity to create an iconic structure that land marks Rolleston on the State Highway which can be used to link the design elements of the 'Park n Ride' facility and Izone.

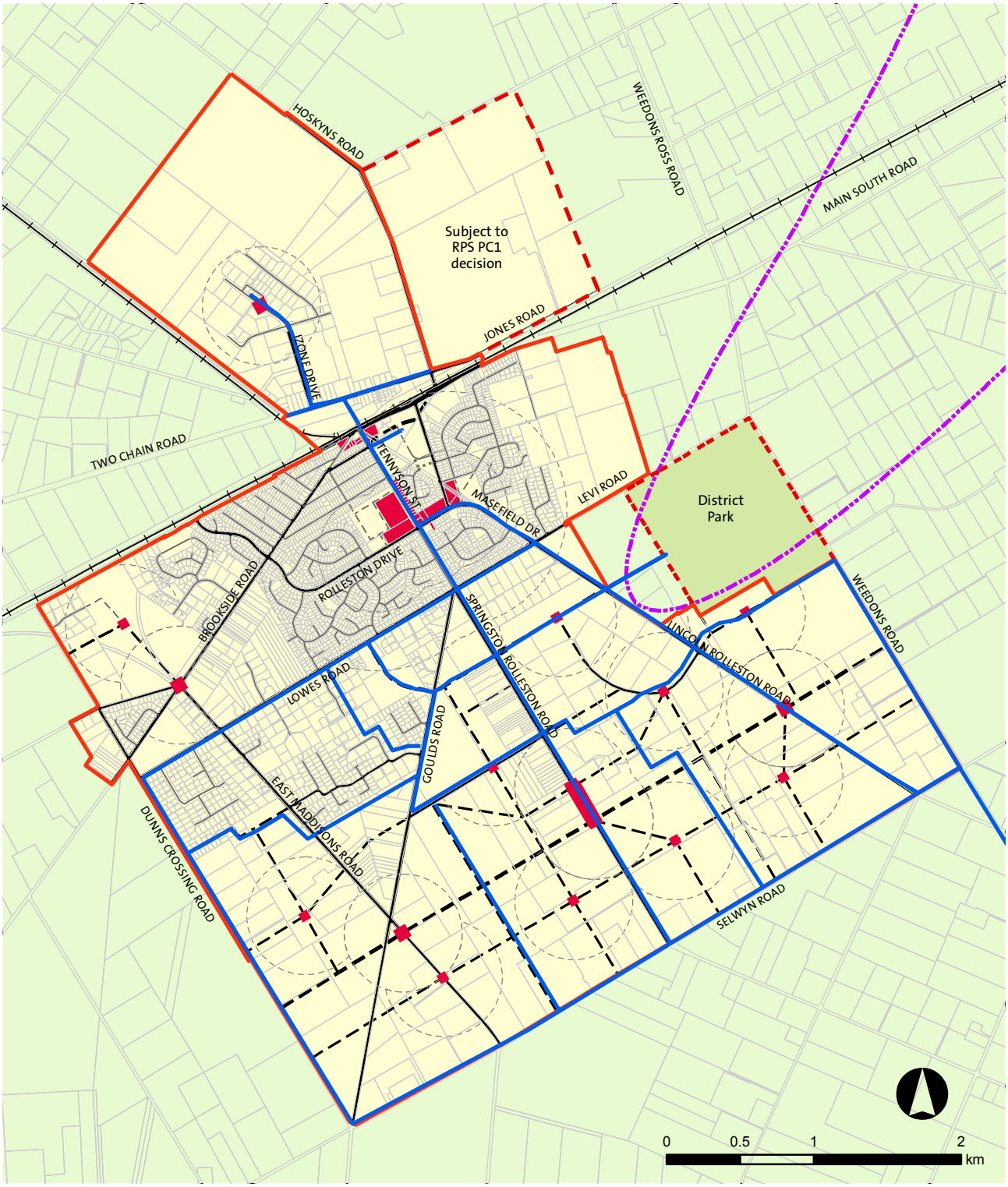



**Figure 8.4: Cycleway Routes**

- Study area
- Noise Contour
- Town Centre
- Neighbourhood Centre
- Local Centre
- 5 Minute Walk (400m)
- Rural land
- Cycle Routes
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Local (secondary) roads
- Proposed local (secondary) roads
- Local (minor) roads
- Indicative local (minor) roads
- Walking and Cycling Link

# 8.8 Public Transport

## 8.8.1 BUS SERVICES

Over time, as Rolleston grows, bus services will be expanded, connecting to the main nodes within the town; town centre, Izone, schools, neighbourhood centres, local centres and the Recreation Precinct. The internal bus network will connect to the 'Park n Ride' facility and provide links to neighbouring towns such as Lincoln, Hornby and an express service to Christchurch City. The bus service will, with increased demand, provide a viable alternative to private transport with regular services and good connections.

The expected development of bus service routes is shown in figure 8.5. This will develop over time as development occurs.

## 8.8.2 RAIL SERVICES

Expansion of rail to include provision of passenger rail services could be a possible longer term future addition to Rolleston's public transport network. The UDS team is currently conducting studies into the viability of long term passenger transport services for Greater Christchurch, including rail systems. It is unlikely that Rolleston will have the population and trip demand necessary to make a specific service viable for some time, unless part of a wider integrated service with Christchurch.

## 8.8.3 'PARK N RIDE' FACILITY

A 'Park n Ride' facility has been planned for siting adjacent to State Highway 1 near the Selwyn District Council offices. This would provide for commuters to park their vehicles and use public transport to access Christchurch City and other major locations. Such a facility would also provide for residents from outside Rolleston to park on a major access route and use public transport or pedestrian facility to access amenities within the town. There would also be provision for cyclists with secure cycle parking.

Pending further investigations and confirmation through the UDS public transport review process, financial provision has been allocated in the 2009-2019 LTCCP.

There are also longer term opportunities to expand 'Park n Ride' to cater for potential passenger rail extensions. This expansion could be in the form a separate parking facility across the State Highway or through provision of a pedestrian overpass.

# 8.9 Rail Freight

Rolleston is located close to a node of the two main South Island railway corridors, connecting Invercargill to Rolleston/Christchurch and Greymouth to Christchurch/ Lyttelton. Currently these railway lines are mainly used for freight transport, especially coal from the West Coast.

Future extension of the railway network to provide rail services in Rolleston would provide increased opportunities for the Izone Southern Business Hub, which will help to create and retain viable and sustainable businesses. An appropriate railway siding is needed to make use of the rail network for freight in Rolleston, and planning is presently underway in scoping this.

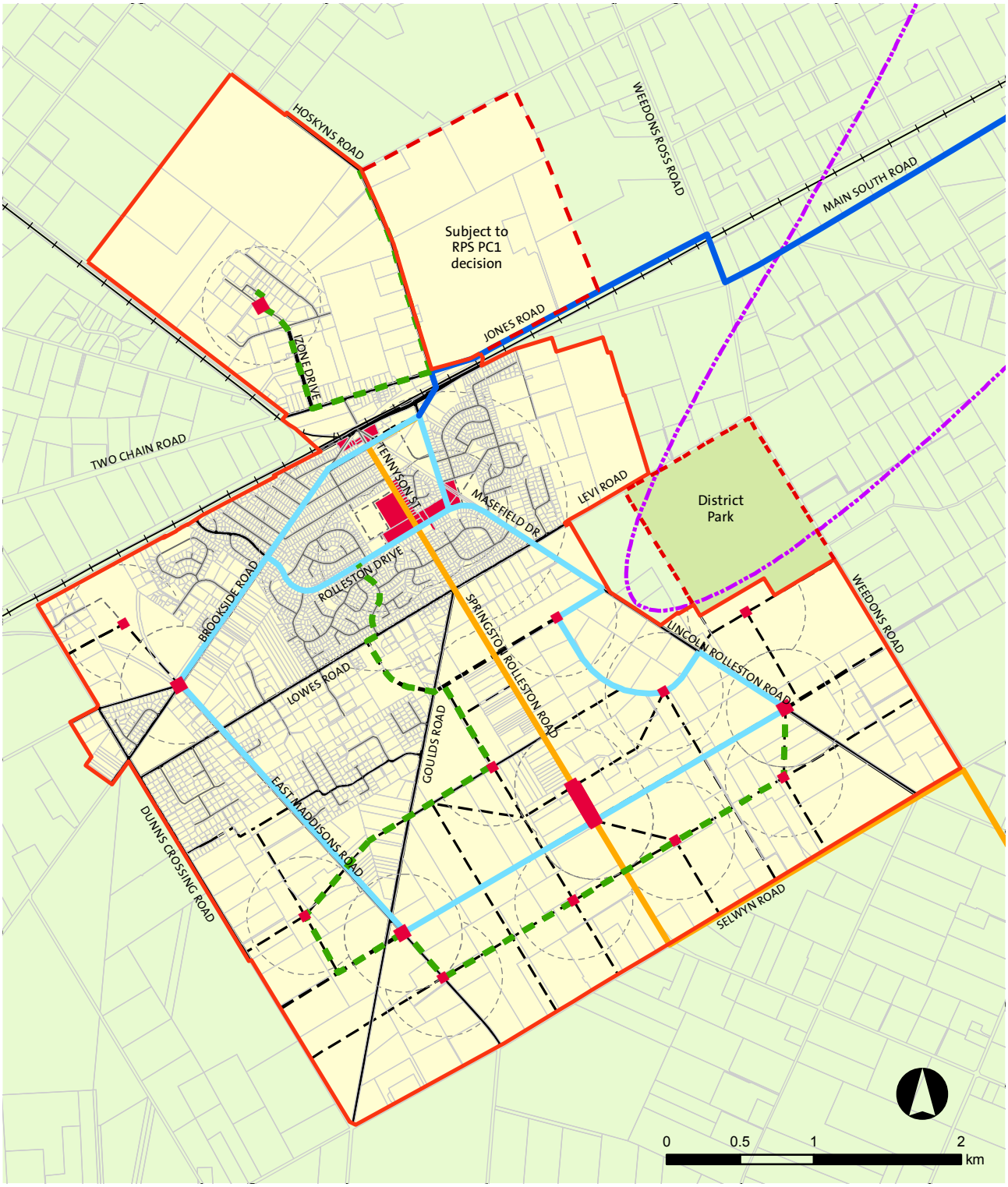



**Figure 8.5: Public Transport Route Patterns**

- Study area
- Noise Contour
- Town Centre
- Neighbourhood Centre
- Local Centre
- 5 Minute Walk (400m)
- Rural land
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Local (secondary) roads
- Proposed local (secondary) roads
- Local (minor) roads
- indicative local (minor) roads
- Destination Service to Lincoln
- Destination Service to ChCh
- Orbital Service
- Potential Service

# 8.10 Movement Network Summary

Table 8.2: Key Issues, Constraints & Design Outcomes

| Item | | Key Issues and Constraints | Design Outcomes |
|---|---|---|---|
| Movement | Vehicular | High use of private vehicles for access to areas outside and within the town particularly related to commuting | Enhanced walking and cycling network<br>Good public transport links<br>Long term consideration of passenger rail to Christchurch |
| | | High speed rural roads and interface with urban areas | Rural roads are part of the current character of Rolleston<br>Traffic controls, landscaping and narrowing in urban areas will be needed to manage speeds |
| | | Road hierarchy is not clear to road users creating navigation difficulties | Urban design incorporating hierarchy of street design to assist legibility; use of signs and visual aids |
| | | Over-reliance of cul-de-sac design, poor linkages | Application of SDC's subdivision standards which limit the lengths of new cul-de-sac |
| | Cycling & Walking | Increasing use of roundabouts which are not cycle and pedestrian friendly | Consideration of most appropriate traffic control mechanisms for all road users; providing crossing points and facilities for pedestrians |
| | | Lack of defined movement networks for pedestrians and cyclists | Design of integrated network of walking and cycling routes that offer where possible segregated routes connecting main nodes within the town |
| | Izone | Segregation of Izone from the rest of the town by the State Highway | Physical and visual connections to link both sides of the township including intersection improvements and provision of pedestrian and cycle access |
| | Legibility | Current entrance experience into the Township is not clearly defined | Design of entrance boulevard along Levi Road and enhancements of entrances along Dunns Crossing Road, Lincoln Rolleston and Springston Rolleston Roads. |

# 8.11 Implementation

## 8.11.1 ACTION PLAN

The likely land requirements, approximate timelines and cost implications have been assessed. The rate of development of the movement network is related to both the rate of population growth and subdivisional activity, and therefore subject to change. Some actions may need to be undertaken ahead of development occurring in order to provide appropriate connections.

**Table 8.3: Movement Network Action Plan**

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications |
|---|---|---|---|---|
| Road Network | Confirm road hierarchy within the MUL and for external connections to other destinations | N/A | Short term | Planning action, no capital cost |
| | Construct CRETS 'cross-town' main road connection | Part of the route may require designation | All periods, staged | Largely developer provided SDC may need to construct part through private property |
| | Develop new local roads network as per Structure Plan | Provided by subdivisions | All periods | Developer funded |
| | Upgrade rural arterial road connection Christchurch to Rolleston: Lincoln-Rolleston and Selwyn Roads | Nil to minor | Short term | LTCCP provides for a $4m upgrade 2009-2012 |
| | Byron St extension | SDC ownership | Short term | LTCCP provides for Rolleston network upgrades |
| | Develop concepts for Gateway entrances to Rolleston, e.g. Avenue Planting, signage, lighting etc | Possible | Short term | No provision yet. Cost depends on design |
| | Rolleston Drive / SH 1 changes | SDC ownership | Likely to be Medium Term | NZTA driven |
| | Tennyson St / SH 1 changes | Underway | Likely to be short term | NZTA driven with SDC input |
| | Upgrade intersection controls, typically roundabouts | Possibly for corner splays | All periods, staged | LTCCP provision or developer provided |
| | General road improvements, including widening | To be identified | Short term, then ongoing | LTCCP provides a district wide programme |
| | Signage, lighting, streetscape provision – develop standards | Nil | Short term | Planning action, no capital cost |
| Town Centre | New walking and cycling connections to Norman Kirk Drive – further discussion, confirm feasibility and funding | School land and SDC land | Short term | No provision, to be determined |
| | Tennyson St and Rolleston Drive upgrades | Nil | Short term | To be confirmed through master planning process |

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications |
|---|---|---|---|---|
| Walking & Cycling | Develop internal walking and cycling networks, especially Lowes Rd, Recreation Precinct, schools, Izone | May require negotiation with developers | Short term, then ongoing | Partly developer provided, partly SDC<br>LTCCP has provision |
| | Provision of a walking/cycling over-bridge over the state highway and railway line connecting Izone to Tennyson Street | Minor | Medium term | Provided by NZTA in conjunction with SDC. Funding likely to be identified in the next 10 year plan |
| | Cycling connections to Lincoln and Templeton | On road | Short term | LTCCP has provision |
| | Review SDC footpaths policy for Rolleston and increase numbers of footpaths | Nil | Short term | Developer funded for new subdivisions<br>LTCCP funding for dual footpaths on busier roads |
| Public Transport | Improved Public Transport Service, including liaison with ECan | N/A | Ongoing | ECan funds services, SDC will need to fund infrastructure (shelters etc) |
| | 'Park n Ride' facility, to be confirmed through UDS PPT planning | 2 ha, SDC ownership | Short term | LTCCP provision |

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

***Note:*** *implementing the above will also involve best practice urban design or placemaking principles.*

## 8.11.2 MOVEMENT - DEVELOPMENT PRINCIPLES CHECKLIST

**Well Designed Rolleston**

A cohesive and well planned movement system which caters for all modes (i.e. vehicular, pedestrian, cyclists and public transport services) will support future growth of the urban area. An efficient and well planned movement network is essential to the economic and social well-being of the community.

This integrated movement framework will provide effective Regional and District linkages, that place Rolleston at the heart of the Selwyn community with strong links to the rural communities.

The movement network provision has been designed to utilise and complement the existing roads where appropriate.

**A Sustainable Town**

Achieving a compact transport system which includes a connected open space network of walkways and cycleways and efficient public transport, will contribute to improving overall community well-being. Reducing reliance on vehicle use, creating safe, walkable neighbourhoods and reducing fuel consumption has multiple benefits for the community. Developing and maintaining good movement connections will help local businesses develop and thrive, delivering economic sustainability for the town.

These benefits will be further increased as the transport system adopts low impact urban design approaches and integrates public transport modes such as bus, shuttle and rail.

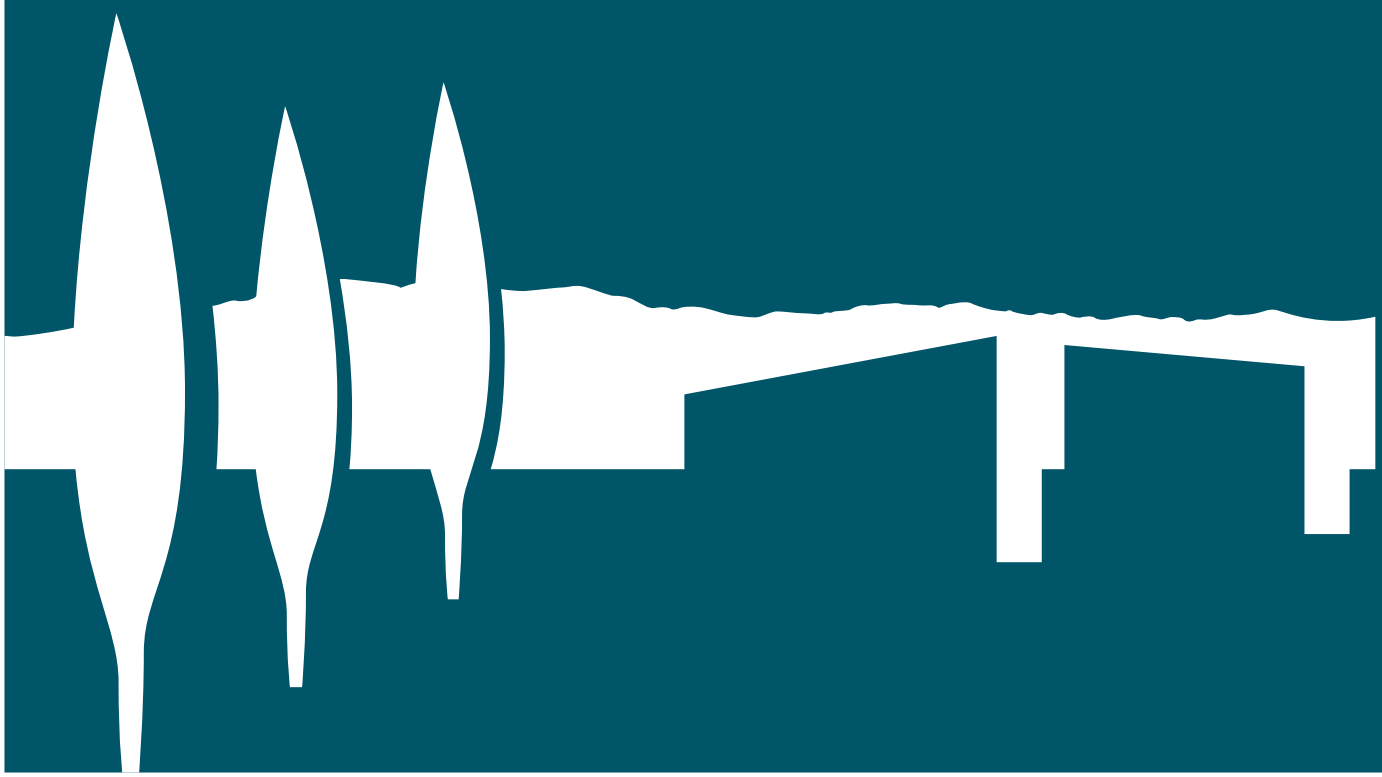
**Realistic and Achievable Rolleston**

The short term actions required to implement the proposed movement network can largely be achieved through provisions in the 2009-19 LTCCP, with much of the infrastructure being provided by developers as the township grows. There are some actions which require further planning effort and this may lead to designations being sought. Close and ongoing liaison with key stakeholders, such as Council's UDS partners (CCC, NZTA and ECan), will also be necessary.

# 9.0

# Infrastructure





# 9.1 Introduction

The aim of this section is to illustrate how appropriate infrastructure networks are to be developed to service Rolleston with key utility services, such as water supply, wastewater, stormwater, power and telecommunications.

### 9.1.1 INFRASTRUCTURE AIMS

A successful infrastructure network provides an efficient and reliable service to the community, whilst being part of the urban fabric of the town and, where possible, realises opportunities to provide additional amenity value.

With this overall intention, the aims of the Rolleston Structure Plan in relation to infrastructure are to:

- Provide an equal and appropriate level of service to all areas of the town
- Incorporate the "Five waters" design philosophy for sustainability and Structure Plan development principles into infrastructure planning from the start
- Ensure future networks meet the expectations of the future population of Rolleston
- Manage infrastructure networks in such a way as to mitigate environmental impacts and enhance aesthetics and ecological value
- Integrate infrastructure into the urban fabric of the town, particularly into the green networks, to maximise amenity and efficiency opportunities
- Pursue opportunities for low impact design solutions particularly associated with stormwater and its reuse
- Ensure demand management techniques and technology are incorporated at the design stage for all new developments and subdivisions

# 9.2 Water Supply

Water supply for Rolleston is sourced from five deep groundwater wells as shown on Figure 9.1. Water quality is high and treatment is not provided. Households are connected to an on-demand supply, all properties are metered and billed on a volumetric basis with an element of fixed charge.

To meet increasing demand in Rolleston, new wells connecting to the confined aquifer will be required. These will be subject to obtaining resource consent.

Water demand in Rolleston is high, particularly in summer. Competition for water resources across the Canterbury Plains is high, the needs of various users need to be balanced to ensure continuity of service. To meet the Structure Plan principles of a 'drought ready' Rolleston and ensure adequate resources for future generations demand management measures in Rolleston and across the District are required. Council has developed a water demand management strategy that alongside water loss reduction programmes and consumption studies will help to manage demand. The demand management strategy establishes a target to reduce demand in Rolleston to 85 litres/person/hr.

Recent resource consents gained for Rolleston have required Council to take all reasonable steps to avoid leakage from pipes and structures. The demand reduction targets will be carried forward into future consents. It is expected that all future consents will require such targets as the demand for water increases across the Region, and as climate change brings uncertainty in relation to supply.

Effective demand management will reduce consumption, therefore delaying infrastructure investment and conserving supplies. It is expected that increasingly stringent resource consent conditions will be applied in the future for new consents, therefore demand management measures should be implemented across Rolleston for new and existing development.

Domestic and commercial water metering with volumetric charging is applied to all properties within Rolleston. There is scope to further manage demand by optimising volumetric charging mechanisms should this be required in the future.

The Structure Plan proposes a significant increase in open space and planting as part of the overall design. In order to mitigate the impacts of these plantings on water demand, these areas should be planted with drought resistant species. During the driest periods some irrigation will be required and alternatives such as use of stormwater and water re-use can be considered to limit the impact of potable water resources. Opportunities such as water re-use for irrigation of parks and reserves will be used to manage peak water consumption as part of a wider water demand management strategy, subject to cost benefit analysis.

As development occurs, opportunities for increasing network interconnectedness will be sought to further improve the management of peak demands and increase resilience of the network. Developers will be responsible for reticulation within their developments, and for providing reticulation linkages to adjoining developments as required by Council.

Being able to distribute water from a number of wells across the town will ensure continuity of supply and maintain system turn over. Some pipelines may require capacity upgrades in time and this will be determined through hydraulic modelling of the system. Growth related upgrades and network expansions will be funded through development contributions.

A Public Health Risk Management Plan (PHRMP) is being developed for Rolleston to identify and schedule any necessary works to ensure the water supply is compliant with the Health Drinking Water Amendment Act before the statutory deadline for a medium drinking-water supply of 1 July 2013. The PHRMP and associated improvement plan will give regard to the projected increases in the population of Rolleston.

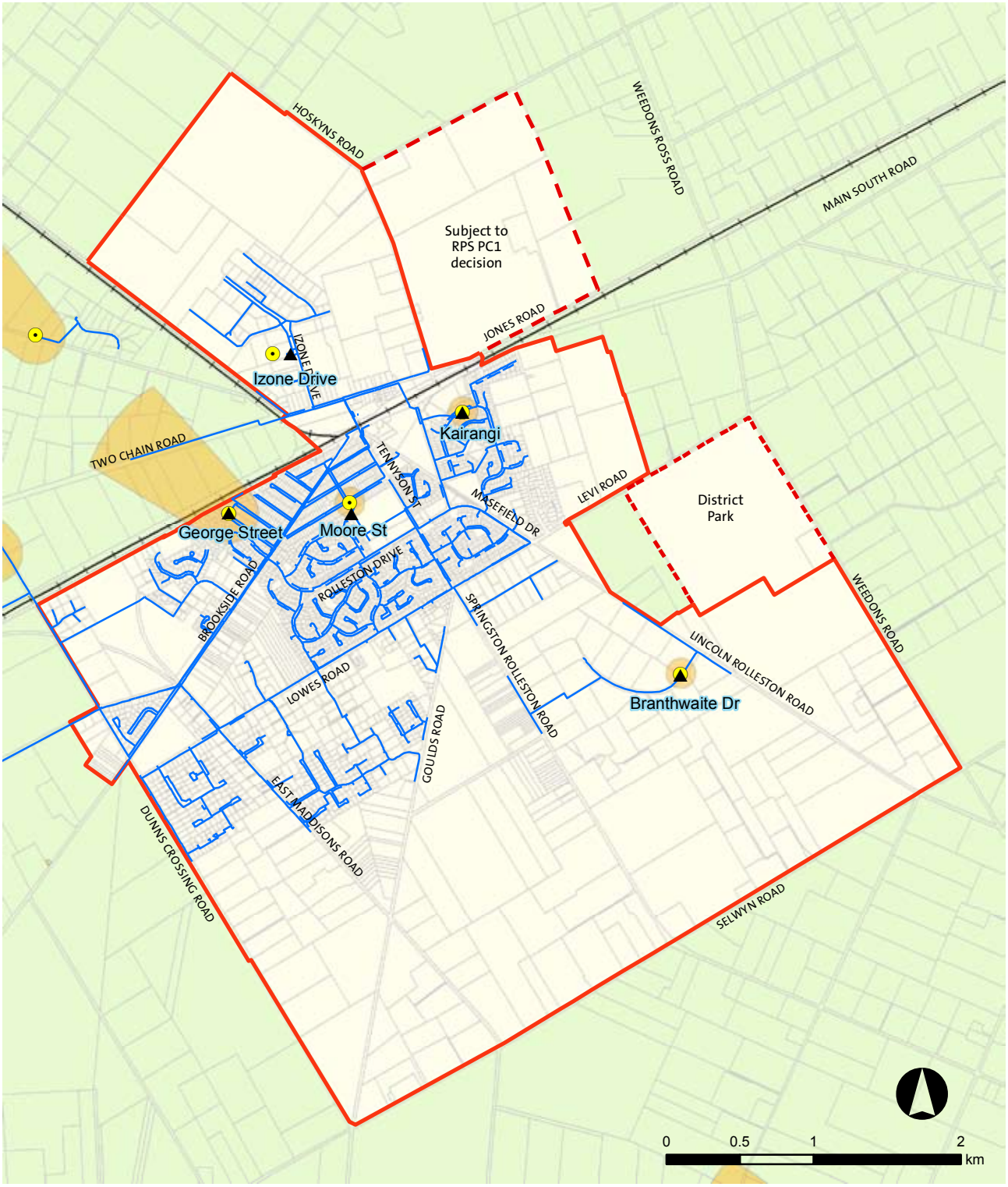



**Figure 9.1: Existing Water Supply for Rolleston**

Study area
Rural land
Railway
Water Pump Station
Water Main
Community Well
Community Well Protection Zone

# 9.3 Wastewater

Wastewater from Rolleston is treated at 'The Pines' activated sludge plant located west of Rolleston on Burnham School Road. Effluent is collected through a reticulated network and pumped directly to the treatment plant where treated effluent is discharged to ground by spray irrigation.

The Pines treatment plant is located on an 84 ha site and expansion of the plant is planned in three stages, to cater for growth in Rolleston and redirection of wastewater from Lincoln, Springston and Prebbleton. The first phase of expansion is planned for completion in 2009/10 which includes the installation of the new Southern Rolleston Pumping Station. Until this first phase of expansion is operational, further development in Rolleston is restricted.

Izone has an independent reticulation and pumping station for transferring wastewater flows to The Pines. Further development of the network in Izone is the developer's responsibility.

The layout of the reticulation is set out in a master plan for the Eastern Selwyn district .

A large proportion of wastewater in Rolleston will in future be conveyed by gravity mains to the new Southern Rolleston pumping station, located at the intersection of Springston-Rolleston and Selwyn Roads. Gravity mains running east/west will collect wastewater from new subdivisions and convey it via a trunk main which will run from Lowes Road along Springston-Rolleston Road to the Southern Pump Station. From there it will be pumped via a pressurised rising main along Selwyn and Dunns Crossing Roads to the treatment plant.

To enable development of the greenfield areas in Rolleston, sequencing of wastewater network extensions will complement residential staging as can be seen in Figure 9.2. The areas known as SR3 and SR4 fronting Levi Road are the first areas identified for development, to 2016. These areas, if they develop before the new infrastructure is constructed, will as an interim measure be served using the existing sewer network, and will utilise all remaining system and treatment capacity.

The installation of the trunk main along Springston-Rolleston Road, connecting to the Southern Rolleston pumping station, is essential to enable reticulation servicing all other growth pocket areas connecting into it to be installed in conjunction with sequenced subdivisional development. It will also enable permanent service connections to be provided to SR3 and SR4.

The areas known as SR6 is also part of the first stage of development and will be linked to the primary trunk main via new west to east mains, likely to be laid along Dynes Road and the new CRETS collector road. Because SR6 is some distance from Springston-Rolleston Road, the Council will need to provide or fund reticulation from that road to the boundary of each development area. The mains route following the CRETS road will depend on the final location of the new road, and may require a designation in existing zoned land to the west of Springston-Rolleston Road.

The sequencing of major wastewater infrastructure within the MUL, along with indicative responsibility for construction, is illustrated in Table 9.1 overleaf.

Table 9.1: Sequencing of Major Wastewater Infrastructure

| Asset Description | Areas Serviced | Time Period | Construction By |
|---|---|---|---|
| South Rolleston Pumping Station (SRPS) | All new development in MUL, plus other SDC townships | Immediate - Short term | SDC |
| Rising main from SRPS to The Pines | All new development in MUL, plus other SDC townships | Immediate - Short term | SDC |
| Springston-Rolleston Rd trunk main from Lowes Rd to SRPS | All new development in MUL, some direct, some via other mains | Short term | SDC |
| Levi Rd, Lincoln-Rolleston Rd to Helpet | SR3, SR4 plus intensification | Short term | Part SDC, part subdivision |
| Helpet to Springston-Rolleston Rd (if capacity issues arise) | SR3, SR4 plus intensification | Short term | SDC |
| Dynes Rd to & inc part of Goulds Rd | SR6, plus intensification | Short term | Part SDC, part subdivision |
| Goulds Rd to new CRETS road | SR6 plus intensification | Short term | SDC |
| CRETS road, Springston-Rolleston Rd to Goulds Rd | SR6 | Short term | Part SDC, part subdivision |
| CRETS road, Goulds Rd to Dunns Crossing Rd | SR5 (part), SR9 (part) | Medium term (2017-2026) | Subdivision |
| East Maddisons Rd (N), inc to Dunns Crossing Rd | SR5 (part) | Medium term (2017-2026) | Part SDC (EM Rd), part subdivision |
| East Maddisons Rd (S) | SR9 (part), SR10 (part) | Medium term (2017-2026) | SDC and/or subdivision |
| Selwyn Rd (W) to SRPS | SR9 (part), SR10 (part), SR11 (part) | Medium term (2017-2026) | Part SDC, part subdivision |
| Selwyn Rd (E) to SRPS | SR12 (part), SR13 (part) | Long term (beyond 2041) | SDC and/or subdivision |
| Internal main to SR12 | SR12 (part) | Long term (beyond 2041) | Subdivision |
| Internal main & connection to Lincoln Rolleston Rd | SR13 (part), SR15 | Long term (beyond 2041) | Subdivision |
| Connecting main, Springston-Rolleston Rd to Branthwaite Drive | SR8, SR7 (part) | Long term (beyond 2041) | Subdivision |
| CRETS road, Springston-Rolleston Rd to Lincoln-Rolleston Rd | SR12 (part), SR13 (part), SR14 | Long term (beyond 2041) | Subdivision |
| Lincoln-Rolleston Rd, CRETS road to Levi Rd | SR8 (part), SR14 | Long term (beyond 2041) | SDC and/or subdivision |
| Additional trunk reticulation to be confirmed – may be internal or follow Weedons Rd, Selwyn Rd | SR14 (part), SR15 (part) | Long term (beyond 2041) | SDC and/or subdivision |

Note that the 2008 Wastewater Master Plan did not allow for SR14 or SR15, so decisions will need to be made about which of the above mains will be used to service these areas, or whether to install additional mains.

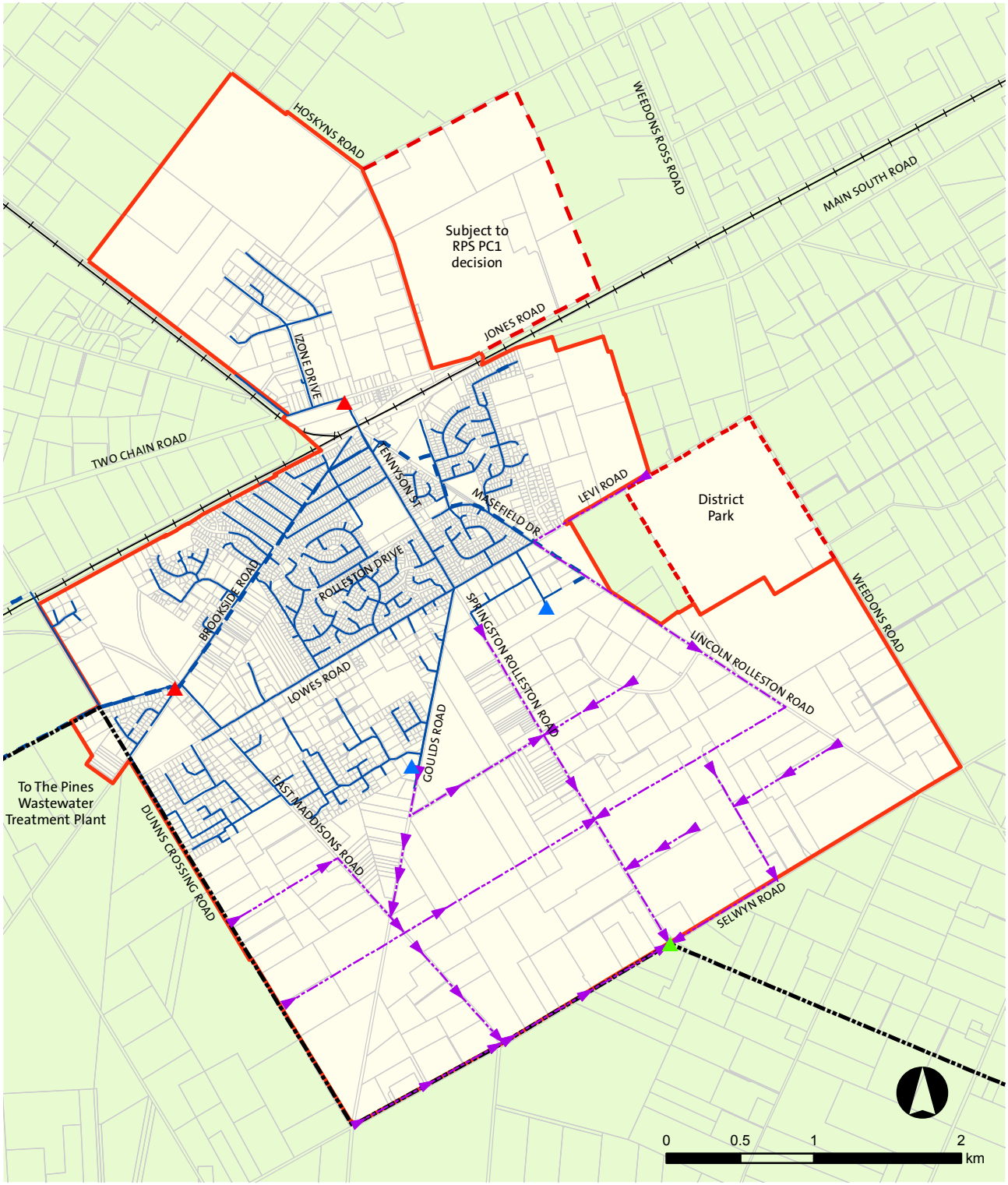



**Figure 9.2: Wastewater Masterplan for Rolleston**

- Study area
- Rural land
- Railway
- Abandoned Sewage Pump Station
- Existing Sewage Pump Station
- New Sewage Pump Station
- Proposed Public Main
- Proposed Rising Main
- Existing Main
- Rising Main

The location of the proposed wastewater mains are indicative and show approximate location for illustrative purposes only.

The capital costs of wastewater network development undertaken by Council will be recovered via development contributions. This includes the Southern Rolleston pumping station, rising mains to The Pines, the trunk main along Springston-Rolleston Road, and any connecting mains to development boundaries that are needed to service growth pockets (such as to SR3, SR4, Dynes Road and the CRETS road routes, and others tabulated above). Infrastructure that serves both Rolleston and surrounding towns, such as Lincoln and Springston, will be funded via development contributions from all benefiting settlements. This includes the pumping station and rising mains to The Pines.

In addition to the capital works planned, Council are developing a long term plan to manage wastewater flows and losses in the network as part of the 5 waters demand management policy. The policy seeks to manage demand based on changes to the network/systems and consumer behaviour. This strategy will delay future investment and ensure sustainable use of resources.

# 9.4 Stormwater Treatment, Use and Soakage

## 9.4.1 STORMWATER MANAGEMENT

Stormwater runoff in Rolleston is currently disposed of to ground via the free draining soils underlying the township. There are no surface watercourses within the town for stormwater to discharge into, and the few piped stormwater systems in the township are short and end in local discharge soakage points.

Each residential subdivision in Rolleston has its own stormwater treatment and disposal system with individual discharge consents granted by Environment Canterbury. This makes compliance with resource consent conditions a challenge for the Council adding additional costs for operation, monitoring and consents administration.

The Council will manage future development of the stormwater system in Rolleston by establishing principles for stormwater management and providing guidance and standards for developers. This is intended to avoid the proliferation of different management methods, some of which are considered inappropriate in an urban setting.

Stormwater will continue to be managed at a local, rather than "township" level, and there are no plans to develop integrated catchment management plans or seek global discharge consents. Developers within each ODP area will establish the amount of land required for stormwater treatment, flow paths and any retention ponds using the principles and standards established by Council, and obtain the necessary consents. It is expected that some efficiencies will be able to be obtained by considering cross boundary solutions with respect to adjoining subdivisions and developments in each ODP area. Plan Change 7 will be influential in determining how stormwater will be managed within Rolleston to mitigate any adverse effects to surface and underground waters.

The Council's 5 Waters Strategy seeks to identify opportunities and work towards integrated stormwater planning outcomes, assisted by appropriate design standards. There is an opportunity to adopt low impact urban design methods as Rolleston develops. Low impact urban design measures include the minimization of

earthworks and land form change, creating natural areas to manage stormwater quantity and quality whilst adding amenity and the use of water sensitive urban design (WSUD).

WSUD promotes the integration of stormwater, water supply and sewerage within a development precinct . WSUD approaches encourage:

- Detaining rather than rapidly conveying stormwater through an area
- Treating stormwater runoff using 'at surface' methods (such as bio-retention swales, constructed wetlands, green networks etc) integrated into the landscape design
- Capturing and using rainwater and stormwater as alternative water sources to conserve potable water
- Using vegetation to filter water
- Water efficient landscaping
- Promoting water-related environmental, recreational and cultural values
- Harvesting local water for various uses including irrigation
- Maintaining natural hydrological areas such as wet or soakage areas
- Reusing water
- Localised wastewater treatment systems
- Maximising solar energy

Use of these techniques will reduce demand on aquifer supplies and help to move Rolleston towards its desired status as a 'drought ready' town.

## 9.4.2 'AT-SURFACE' APPROACH TO STORMWATER MANAGEMENT

An 'at surface' approach to stormwater management in Rolleston is considered appropriate. This technique resolves some of the issues faced with traditional treatment methods when used at flat sites and can reduce infrastructure costs. The following diagram (figure 9.3) is indicative only, it illustrates how stormwater runoff from roads and buildings can be captured at surface and using a combination of small pipes and conveyance trenches be held and used within the road corridor to support vegetation and planting.

Localised treatment and infiltration sites can also be used before stormwater enters a pipe network or is discharged to groundwater. Planting can be used to filter and treat stormwater (such as in rain gardens, bio-retention ponds and vegetated swales). The plantings are easily integrated into the green network of the urban fabric. Stormwater can be retained at a local level, reducing the need to irrigate landscaped areas. As Rolleston has a dry climate and free draining soils, further measures can be used to further slow infiltration of any stormwater collected during long summer droughts and assist reuse for irrigation.

Street and subdivision design should accommodate and integrate at surface stormwater collection, transport, treatment, end use and ultimate disposal.

**Figure 9.3: Capturing street runoff 'at-surface'**

# 9.5 Paparua Water Race Network

The Paparua Water Race network flows from the Waimakariri River in the north, to the south and through Rolleston. The network dates back to 1884 and is still used for stock water purposes outside of the town boundary. Water races add to the rural character of Rolleston and will be enhanced and redirected where appropriate to create a feature. The races are generally narrow and feature on prominent roads such as Tennyson Street, Springston, Rolleston Road and Goulds Road.

Water races are the only open waterways within the Rolleston Structure Plan area. Although these races are not natural waterways they possess many of the same characteristics as streams, attracting birds, fish and supporting a range of plants. Intensive maintenance can limit the attractiveness and ecological value of the races, however the Structure Plan provides opportunities to increase their amenity and ecological value. Landscaping with suitable planting can create attractive green walkways and access corridors linking to public amenities and increasing opportunities for public access within and connecting to Rolleston.

The water race network also provides a visual corridor along which views of the Port Hills and the Southern Alps can be appreciated.

Access to the water's edge and resting places provide additional recreational opportunities. Direct recreational contact with race water such as swimming, should not however be encouraged at present. Water quality samples from water races show high concentrations of coliform bacteria and other contaminants on occasions. Summer is a particular concern for contamination and for possible public access and contact recreation if races are enhanced. ECan's waterways enhancement programme recognises this contamination and seeks to reduce it. As part of its 5 Waters sustainability programme, Council could consider working with ECan to facilitate edging of water races with riparian vegetation to provide natural filtration, discourage direct recreational use and improve the ecological value of the races. Fencing of rural races to prevent direct access of large stock with accessible drinking bays will also reduce bacterial load and improve water quality.

# 9.6 Energy

## 9.6.1 POWER

Power is supplied by Orion to Rolleston through overhead lines, drawn from Transpower's Springston substation (GXP, or Grid Exit Point), typically via high voltage 66kV, 33kV and 11kV lines. Within the Rolleston MUL a number of currently rural roads have 11kV voltage overhead reticulation as well as 400V local supply lines, namely Dunns Crossing, Selwyn, Weedons, Brookside, Dynes (part), Goulds, Springston-Rolleston, and Lincoln-Rolleston Roads. East Maddisons Road has a 33kV line. Orion is also planning to install a 66kV line on Weedons Road in the near future.

As urbanisation occurs, it is reasonable to assume that the public would expect many of these lines to be undergrounded. This is a costly undertaking, and depending on the configuration of high voltage and 400V lines in a road corridor the capital cost would be several hundred dollars per metre. This would total several million dollars over the whole MUL area. It is unlikely that Orion would undertake this undergrounding at its cost, so the costs would need to be met by developers. It is also unlikely that Council would wish to contribute such a magnitude of cost.

Expansion of the network will also be required to service the expected growth in Rolleston. This will involve the provision of new underground reticulation in new urban streets, in addition to new substations and other necessary infrastructure. Reticulation is typically provided by Orion as part of the land development process, with network strengthening (such as new substations) also being an Orion cost – which is ultimately passed on to consumers.

There are no high voltage Transpower lines within the Rolleston MUL.

### 9.6.2 GAS

Some parts of Rolleston have gas reticulation provided by Rockgas. Rockgas has plans to extend this network to provide supplies for residential and commercial purposes within the town.

### 9.6.3 ALTERNATIVE ENERGY SOURCES

The Structure Plan provides an opportunity to consider and optimise the use of alternative forms of energy production, within or near the town such as solar, wind or bio fuel digesters. Biodiesel manufacturing is currently undertaken at Izone. Electricity and gas are at present the most practical, readily available and commercial energy sources, however alternatives will need to be sought over time. There are also opportunities to ensure that all practical demand management steps are taken as part of the new development to reduce the long term carbon foot print of Rolleston.

## 9.7 Telecommunications

Provision of a reliable and high speed telecommunications service in Rolleston is important for both residential and commercial customers. To encourage businesses and residents to locate in Rolleston, high levels of service are required, particularly relating to broadband internet connections. It is expected that additional telecommunications infrastructure will be required to meet the needs of the growing population.

New infrastructure within subdivisions is typically provided by telecommunications providers as part of land development, with network improvements or strengthening also being funded by that sector. In future more providers are also likely to provide infrastructure, such as Vodafone mobile telephony and potentially other communications technology.

On existing rural roads, as described above, telecommunications cables are typically located on the Orion above-ground system. If this is undergrounded there is also a component of telecommunications cost to be met.

## 9.8 Gravel Extraction

Active gravel extraction is not currently undertaken in Rolleston. The gravel pit that occupies the south-east corner of the MUL is active, however supplies have been depleted. This site has potential for re-use as a recreational facility such as an off-road cycle area, which will provide amenity value and improve the area aesthetically.

A gravel extraction facility to serve the Rolleston/ Selwyn area will be required. Due to the high cost of transportation, gravel needs to have localised sources, which will reduce the environmental impacts. A gravel management strategy was created for the District that identified two areas in Rolleston as potential sites in addition to other areas further from the town.

# 9.9 Infrastructure Summary

Table 9.2: Key Issues, Constraints & Design Outcomes

| Item | | Key Issues and Constraints | Design Outcome |
|---|---|---|---|
| Infrastructure | Water | High water demand putting a strain on aquifer resources | Use of demand management techniques, water metering and water re-use to reduce the effects of increased demand on the aquifer |
| | Wastewater | Increasing demand for sustainable wastewater treatment for Eastern Selwyn District | Expansion of The Pines wastewater treatment plant to cater for growth in Rolleston and surrounding towns |
| | | Required expansion of the wastewater network | Implementation of eastern Selwyn Sewerage Scheme which includes collection, treatment and disposal upgrades |
| | Stormwater | Stormwater disposed of to ground with no integrated management | Use of 'at surface' stormwater management techniques, using natural vegetation to treat stormwater and retention to enable re-use |
| | | Free draining soil types require high levels of irrigation with impacts on landscaping opportunities | Use of stormwater retention and water re-use to limit irrigation requirements using aquifer water. Landscape design using selected tree/plant species which are drought tolerant but achieve amenity requirements (e.g. greening of streets, provision of shade & seasonal colour, attract birds etc) |
| | Water Races | Operational water races flowing through the town with periodically poor water quality | Landscaping and if appropriate diversion of water races to retain rural character of Rolleston<br>Fencing of upstream water races with drinking bays to improve water quality |
| | | A lack of natural surface watercourses limits opportunities for enhancement and creation of water based recreation facilities/ amenity values | Use of water races to create waterway features and enhance green linkages |

# 9.10 Implementation

## 9.10.1 ACTION PLAN

The likely land requirements, approximate timelines and cost implications have been assessed. The rate of development of infrastructure is related to both the rate of population growth and subdivisional activity, and therefore subject to change. Some actions may need to be undertaken ahead of development occurring in order to provide appropriate connections.

**Table 9.3: Infrastructure - Implementation Issues & Costs**

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications |
|---|---|---|---|---|
| Water Supply | Implementation of demand management strategy to manage current and future demand | Nil | Short to medium term | Various initiatives signalled in LTCCP |
| | Loss Reduction Leakage management | Nil | Ongoing | Signalled in LTCCP |
| | Obtain resource consents and construct new wells | Possible – for headworks sites | Short term | LTCCP provision in place |
| | Hydraulic modelling to confirm reticulation needs | NA | Short term | Planning actions |
| | New reticulation | None identified | All periods | Expect to be almost entirely met through development |
| Wastewater | Implementation of Eastern Selwyn Sewerage Scheme, which includes upgrades to "The Pines', new SRPS, rising mains, detailed planning and network extensions in each ODP area. | Mostly achievable on existing roads and within new subdivisions. Some designations possible | All periods | Bulk funding of ESSS provided in LTCCP ($84m over 13 years) Further SDC funding likely beyond that time Recovery through development contributions |
| | Cost benefit analysis of water reuse options | Likely achievable within existing network corridors | Short term | To be determined during further investigations |
| Stormwater | Confirm principles and standards for stormwater management within subdivisions in Rolleston | NA | Immediate | Planning actions |
| | Encourage the application of low impact and water sensitive urban design (LIUD & WSUD) principles by developers | Provided by developers | Ongoing | Assess ongoing operating costs to SDC as part of the consent approval process |

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications |
|---|---|---|---|---|
| | Include "at source" and 'at surface' techniques in subdivision design guidelines and engineering code of practice | Provided by developers | Immediate | Planning actions |
| | Encourage developers to coordinate stormwater management within ODP (or parts thereof) areas | Developer's responsibility | All periods | Capital costs met by developers |
| Water Races | Water race enhancements. Include guidance for water race enhancement in sub-division guidelines | Yes – if redirection proposed | All periods | To be scoped |
| Power | Develop SDC policy for undergrounding | NA | Short term | Could be significant if SDC contributes |
| Telecommunications | Promote new technology | NA | Ongoing | Telecommunications providers |
| Gas | Liaise with Rockgas re proposals for new services | NA | Short term | None identified |
| Gravel Extraction | Seek suitable location for extraction facility in Rolleston/Selwyn area. Beautification of depleted gravel pit on corner of Selwyn and Weedons Roads considering recreational uses | Yes – for new sites | Short term | To be scoped |
| Energy | Carbon and energy management strategy (energy efficiency, renewable energy generation, greenhouse gas emissions and sequestration) | Green space, public space, buildings | Medium term | To be scoped |

## 9.10.2 INFRASTRUCTURE - DEVELOPMENT PRINCIPLES CHECKLIST

**Well Designed Rolleston**

Provision of a well designed infrastructure network will ensure that appropriate services are available for future generations. Asset management principles will be applied to ensure that the long term costs of provision of infrastructure are shared equitably over time. This will also take into account the projected needs of the future population whilst managing demand to conserve natural resources for future generations.

Above ground infrastructure assets will be integrated into the urban fabric of Rolleston in line with the urban design principles. In particular, protection and enhancement of the water race network will strengthen amenity values along movement routes and within proposed green corridors, creating a shared landscape and ecological asset for the community.

**A Sustainable Town**

Infrastructure will be provided by Council in line with the design philosophy for sustainability outlined in section 2.3.1. In particular infrastructure will be provided in a manner that will help Rolleston be self sufficient and drought ready. An important aspect of future infrastructure provision is demand management. While new infrastructure can be provided to meet the needs of the growing population it is important to ensure that natural resources are used in the most efficient manner and wastage is minimised.

Further investigation of new methods and technologies such as water reuse "at source" and 'at surface' stormwater design techniques is desirable. These methods amongst others will identify means of applying low impact urban design to Rolleston's natural water cycle.

The use of building and neighbourhood guidelines, will help to ensure the most suitable infrastructure is provided through future works. Energy efficiency and on-site energy generation opportunities will contribute to self sufficiency and a carbon neutral town.

**Realistic and Achievable Rolleston**

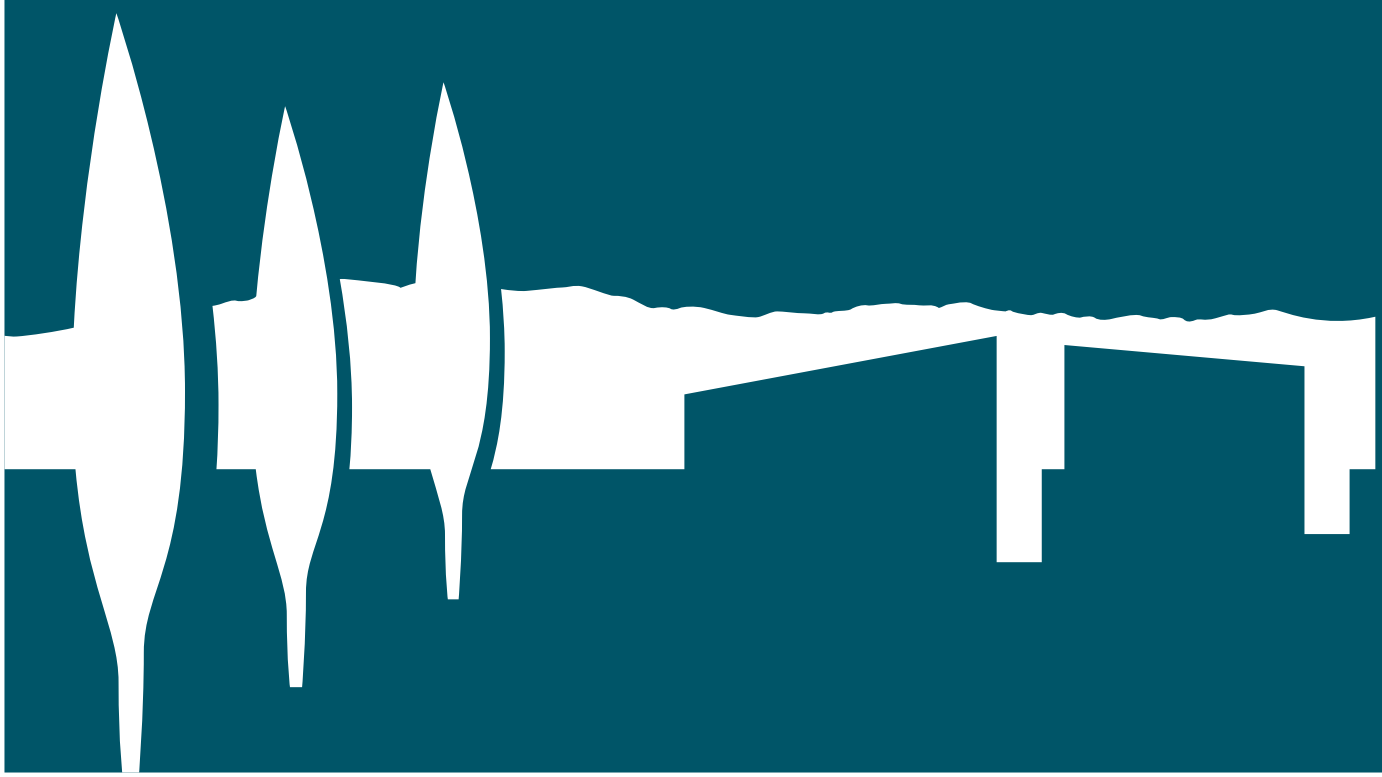
Significant SDC investment in the wastewater network in particular is a feature of this plan, even though much of the infrastructure will be provided as part of subdivision development. The 2008 wastewater master plan includes indicative sizing and costs for the new network, and these will be reviewed and more detailed planning and design work undertaken in advance of final decisions needing to be made on individual components.

Construction of an innovative and successful 'at-surface' stormwater management pilot scheme will be considered in order to demonstrate the benefits and feasibility compared to traditional, ad-hoc stormwater disposal methods used in Rolleston. Obtaining community participation in the design process, construction and maintenance of the water race enhancements will be a key to its future success.

# 10.0

## Implementation Plan





# 10.1 Introduction

This section brings together the action plans from previous sections and identifies the methods which could be used by Council in implementing these plans thus giving effect to the Structure Plan.

Comments are also made on key aspects, such as funding, affordability and master-planning.

# 10.2 Implementation Methods

There are several methods or approaches available to Council, including:

1. Statutory planning and District Plan mechanisms. The significance and importance of this mechanism is further explained below.
2. Investment in land, infrastructure and Council owned facilities and services, to facilitate, enable and support growth.
3. Participation in the 'market', either directly or in association with the private sector, for example in a possible 'demonstration project' for high density comprehensive housing using Council owned land.
4. Other direct actions by Council, such as investigating proposals, developing guidelines and standards, operational policies, etc.
5. Indirect actions by Council, such as coordinating, liaising, encouraging, promoting or facilitating action by others.
6. Requiring action by others, such as developer provided infrastructure.
7. Actions that other parties are expected to take for their own reasons.

The methods proposed for each action are identified in the tables later in this section.

# 10.3 Statutory Planning

## 10.3.1 OVERVIEW

The Structure Plan is an expression of intent by the Council which provides a strategic framework for urban growth in Rolleston. It is also a record of the partnership and consultation process between SDC and the Rolleston community. Implementation of the Structure Plan will require many of the actions to be translated into statutory documents.

## 10.3.2 DISTRICT PLAN

In order to implement the Structure Plan, a review of existing objectives and policies within the District Plan will be needed. Plan Changes may be needed which incorporate elements of the Structure Plan into the District Plan, and rezoning of some areas. The District Plan should contain strong specific policies that stage land use and facility development to ensure Rolleston will develop as a compact, well connected and appropriately serviced township as outlined in this Structure Plan. This should include a review of existing rules with consideration of good urban design principles, also referencing the Design Guide for Residential Subdivisions, and further development of rules around the new zones as required.

# 10.4 Funding & Affordability

Many of the actions in this Implementation Plan are significant new capital projects which require Council funding, some early and some spread over the planning horizon of the Structure Plan. These include new and improved roads, cycleways, wastewater systems, aquatic facilities and many other key assets. Some of these costs will be recoverable from developers, thus representing Council's 'forward investment' in the future growth of Rolleston, with a significant proportion of cost being ratepayer funded.

Furthermore, all new capital projects involving assets and facilities involve ongoing streams of operational expenditure – for day to day operations, the maintenance of assets and also their longer term refurbishment and renewal as they reach the end of their life. Naturally, as the population grows, so too does the rating base and the ability to service these costs. However, it is important to keep this in balance and long-term, inter-generational affordability must be a key consideration of this Structure Plan.

A number of the facilities proposed, such as the aquatic facility and the 100ha regional park, represent an increased level of service not only for the residents of Rolleston but also the wider District. Such proposals will therefore need to be tested through consultation processes, including through this Plan.

Furthermore, achieving higher quality 'urban spaces', with green corridors and buffers, enhanced streetscapes, enhanced water races, and so on, will all require additional operating costs to be budgeted over time.

Activity Management Plans, the Long Term Council Community Plan (LTCCP) and annual budgeting processes will all be vital in enabling these matters to be properly considered and funded, covering all of the expenditure requirements in implementing the Structure Plan. This will enable the Council to prioritise the allocation of funds, reflecting the values that the community places on the different aspects of this Structure Plan.

Sources of funds that may be available to Council for implementing the Structure Plan include:

- Development Contributions – where the cost of the growth related component of any capital work undertaken by Council in Rolleston can be directly recovered from new subdivisional developments in the town
- SDC Rates – where the activity benefits the community and is to be funded by it
- SDC Reserve Funds – if available and appropriate to the purpose
- NZTA Financial Assistance – available for agreed transportation projects and operations
- Regional funding – where a project has wider benefit to the region outside of the District, it may be possible to seek funding from other local authorities or other parties. For Rolleston regional funding could be sought to support the purchase and maintenance of the proposed 100ha 'regional' park

# 10.5 General Actions

The following are generic 'cross-layer' actions that will support the ongoing implementation of the Structure Plan:

- Coordination – a key to ensuring successful, ongoing management of future growth and the achievement of sustainability principles. This includes Council scheduling the provision of infrastructure and facilities in relation to the planned staging of urban, retail and residential zones in a timely fashion to support integrated growth
- Prioritisation – determining an approach to prioritising funding allocation for key projects (e.g. Town Centre, Tennyson/Rolleston Drive Intersection, key streetscape zones, Recreation Precinct, Clock Tower Reserve area, etc)
- Liaison – establishment of an ongoing liaison group within Rolleston including community and stakeholder representatives
- Master Planning and design guidance – see below

# 10.6 Master Planning & Design Guidance

Further development of design is appropriate for key areas or sites poised for redevelopment. This includes a Sustainability Development Framework for the entire structure plan boundary, Master Plan for the Town Centre, landscape concept proposals for key developments, and design guidelines for streetscapes and open space networks.

A Sustainable Development Framework will provide strategic guidance to masterplanning and infrastructure planning, by putting in place detailed goals and performance measures, in alignment with the sustainability principles of the Structure Plan, the Seven Sustainability Principles of the 5 Waters Strategy, and other Council and project related benchmarks. Along with the master plan, it would inform and direct the design guidelines, detailed design, planning, consent processes, and other council processes.

The landscape concept proposals and design guidelines would involve reviewing the SDC Design Guide for Residential Subdivisions against the Structure Plan, to identify any additional requirements that should apply specifically to Rolleston.

Such additional measures would help to ensure that future development successfully integrates the community's aspirations at a detailed scale, and also promotes a sense of place for Rolleston by utilising good place-making principles. It also achieves the vision of a sustainable town.

# 10.7 Summary Action Plan

## 10.7.1 GENERAL ACTIONS

Table 10.1: Implementation- General Actions

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications | Method |
|---|---|---|---|---|---|
| NA | District Plan change to implement Structure Plan | NA | Immediate | Planning related | 1, 4 |
| NA | District Plan provisions required for proposed new zonings | NA | Immediate | Planning related | 1, 4 |
| NA | Prioritisation of Council provided infrastructure and capital projects for Rolleston | Refer individual layers | Immediate | Planning related | 4 |
| NA | Coordination of facility and infrastructure provision for Rolleston across Council activities | Refer individual layers | Ongoing | Planning related | 4, 6 |
| NA | Maintain and extend external liaison, in order to engage the Rolleston community and key stakeholders in implementing the Structure Plan | NA | Immediate, then ongoing | Planning related | 4, 5 |
| NA | Undertake master planning in order to achieve multiple RSP outcomes and / or engagement of multiple stakeholders | May lead to specific land requirements | Immediate | Planning related | 4 |
| NA | Sustainable Development Framework | NA | Immediate | $30-$40,000 | 4 |
| NA | Integration of the 5 Waters Strategy | NA | Immediate | To be scoped | 1, 2 |
| NA | Carbon management strategy (energy efficiency, renewable energy generation, greenhouse gas emissions and sequestration) | NA | Short term planning, implementation over all periods | To be scoped | 2, 4 |
| NA | Implementation committee | NA | Immediate | Planning related | 4 |

## 10.7.2 CENTRES LAYER

Table 10.2: Implementation - Centres Layer

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications | Method |
|---|---|---|---|---|---|
| Town Centre | Masterplan for the town centre: as per section 6.10 which outlines the elements to be considered in the masterplan. Further investigate possibilities for land swaps | Business 1 land swap between Masefield Mall land and Rolleston Reserve (approximately 3.5 Ha) | Short Term | $40,000 - $60,000 | 1, 4 |
| | Upgrade of Tennyson Street and Rolleston 'High Street' for pedestrian priority | Nil | Short Term | To be scoped through masterplan | 4, 2 |
| | Develop town square for community events and market space | 800-1000sqm | Short Term | To be scoped through masterplan | 4, 2 |
| | Establish a second anchor store along Rolleston Drive | Provided by developers | Short Term | Capital costs met by developers | 7 |
| | Business incubator units and offices | Provided by SDC adjacent to 'Park n Ride' facility | Short Term | Public/ Private partnership with capital costs met by developers | 1, 3 |
| | 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 | 3, 5 |
| | Establish town centre promotion and management structures | Nil | Short Term, then ongoing | To be scoped, but could be contributed to by retail operators | 4 |
| Neighbour-hood and Local Centres | Incorporate centres within ODP areas, where applicable | Refer to Table 6.2: Neighbourhood & Local Centre Provision | Staged with development | Expect to be almost entirely met through development. | 1, 6, 7 |
| | Plan Change and Design Guidance for Highway Service Centre | Provided by developers | Short Term | To be scoped | 1, 4 |
| General | Retail Assessment Review | Nil | Short Term, then ongoing | $20,000 – 30,000 | 4 |
| | Sustainable Design Guidelines or standards for buildings and public spaces | NA | Short Term | To be scoped | 4 |
| Residential | Plan Change for deferred medium density (old town) and comprehensive (around town centre) housing | | Short Term | To be scoped | 1, 4 |
| | Design Guidelines for comprehensive housing and social housing | | Short Term | To be scoped | 1, 4 |

## 10.7.3 LAND USE LAYER

Table 10.3:Implementation- Land Use Layer

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications | Method |
|---|---|---|---|---|---|
| General | Sustainable Design Guidelines or standards for public spaces and buildings | NA | Short Term | To be scoped. | 4 |
| 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 | 1, 3, 5 |
| | Plan change for intensification of Living 2 or Living 2a zoned land | No land requirements | Short Term | Developed by Council | 1, 4 |
| Schools | Second Primary School | 3 ha | Short Term | Ministry of Education | 7 |
| | High School | 6-8 ha | Short to Medium Term | Ministry of Education | 5, 7 |
| | Third Primary School | 3 ha | Medium Term | Ministry of Education | 7 |
| | Additional Primary Schools | 3 ha each | Long Term | Ministry of Education | 7 |
| | Additional/expanded High School | Up to 6 ha | Long Term | Ministry of Education | 7 |
| Recreation Precinct | Recreation Precinct inc Swimming Pool | 0.6-1.0 ha | Short Term | $7-8 million for pool[1] | 1, 2 |
| | Indoor sports/recreation | 0.6-1.0 ha | Short Term | Potentially significant, no LTCCP provision | 1, 2 |
| | Sports fields & Courts and related facilities | 20-25 ha | Short Term | Potentially significant, no LTCCP provision | 1, 2 |
| | Community (youth) Park | 0.6 ha | Short Term | $200,000 identified for 2009 | 2 |
| | BMX/MotorX Track | tbc | Short Term | Identified for funding from development contributions | 2 |
| Cultural/ Community | Extended library | To be developed on existing community centre site | Short term | To be scoped through masterplan | 2 |
| | Social Services | Inc in Community Centre | Short Term | Minor cost | 5, 7 |
| | Art Gallery | To be determined | Medium Term | Potentially significant not yet provided for | 2 |
| | Integrated Medical Care Facilities | To be determined | Short term, then ongoing | Nil | 5, 7 |
| | Cemetery | 8 ha | Medium to Long Term | No provision as yet | 4, 2 |

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications | Method |
|---|---|---|---|---|---|
| Open Space | Develop town square for community events and market space | 800-1000sqm | Short Term | To be scoped through master plan | 4, 2 |
| | Passive Neighbourhood Parks | 28-42 ha | Staged with development | Developer funded | 6 |
| | Playgrounds | 26-29 ha | | Developer funded | 6 |
| | 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 | 2 |
| | An ecological restoration plan addressing Te Awa Kakariki and other regional ecological values. | Implementation within green space land allocations | Short term planning, implementation over all periods | To be scoped. | 4 |
| | Green Belt and Green Corridors | Implementation within green space land allocations | Staged with development | Negotiation between Council and developers | 3 |
| | Dog Parks | Implementation within green space land allocations | Staged with development | Negotiation between Council and developers | 3 |
| | Enhancement of Water races | Implementation within green space land allocations | Staged with development | Negotiation between Council and developers | 3 |





## 10.7.4 MOVEMENT LAYER

**Table 10.4: Implementation - Movement Layer**

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications | Method |
|---|---|---|---|---|---|
| Road Network | Confirm road hierarchy within the MUL and for external connections to other destinations | N/A | Short term | Planning action, no capital cost | 4 |
| | Construct CRETS 'cross-town' main road connection | Part of the route may require designation | All periods, staged | Largely developer provided. SDC may need to construct part through private property | 2, 6 |
| | Develop new local roads network as per Structure Plan | Provided by subdivisions | All periods | Developer funded | 6 |
| | Upgrade rural arterial road connection Christchurch to Rolleston: Lincoln-Rolleston and Selwyn Roads | Nil to minor | Short term | LTCCP provides for a $4m upgrade 2009-2012 | 2 |

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications | Method |
|---|---|---|---|---|---|
| | Byron St extension | SDC ownership | Short term | LTCCP provides for Rolleston network upgrades | 2 |
| | Develop concepts for Gateway entrances to Rolleston, e.g. Avenue Planting, signage, lighting etc | Possible | Short term | No provision yet. Cost depends on design | 4, 2 |
| | Rolleston Drive / SH 1 changes | SDC ownership | Likely to be Medium Term | NZTA driven | 7 |
| | Tennyson St / SH 1 changes | Underway | Likely to be short term | NZTA driven with SDC input | 2 |
| | Upgrade intersection controls, typically roundabouts | Possibly for corner splays | All periods, staged | LTCCP provision or developer provided | 2, 6 |
| | General road improvements, including widening | To be identified | Short term, then ongoing | LTCCP provides a district wide programme | 2 |
| | Signage, lighting, streetscape provision – develop standards | Nil | Short term | Planning action, no capital cost | 4 |
| Town Centre | New walking and cycling connections to Norman Kirk Drive – further discussion, confirm feasibility and funding | School land and SDC land | Short term | No provision, to be determined | 4, 2 |
| | Tennyson St and Rolleston Drive upgrades | Nil | Short term | To be confirmed through master planning process | 4, 2 |
| Walking & Cycling | Develop internal walking and cycling networks, especially Lowes Rd, Recreation Precinct, schools, Izone | May require negotiation with developers | Short term, then ongoing | Partly developer provided, partly SDC LTCCP has provision | 2, 6 |
| | Cycling connections to Lincoln and Templeton | On road | Short term | LTCCP has provision | 2 |
| | Review SDC footpaths policy for Rolleston and increase numbers of footpaths | Nil | Short term | Developer funded for new subdivisions LTCCP funding for dual footpaths on busier roads | 4, 6 |
| | Provision of a walking/cycling over-bridge over the state highway and railway line connecting Izone to Tennyson Street | Minor | Medium term | Provided by NZTA in conjunction with SDC Funding likely to be identified in the next 10 year plan | 4, 7 |
| Public Transport | Improved Public Transport Service, including liaison with ECan | N/A | Ongoing | ECan funds services, SDC will need to fund infrastructure (shelters etc) | 5, 2 |
| | 'Park n Ride' facility, to be confirmed through UDS PPT planning | 2 ha, SDC ownership | Short term | LTCCP provision | 5, 2 |

## 10.7.5 INFRASTRUCTURE LAYER

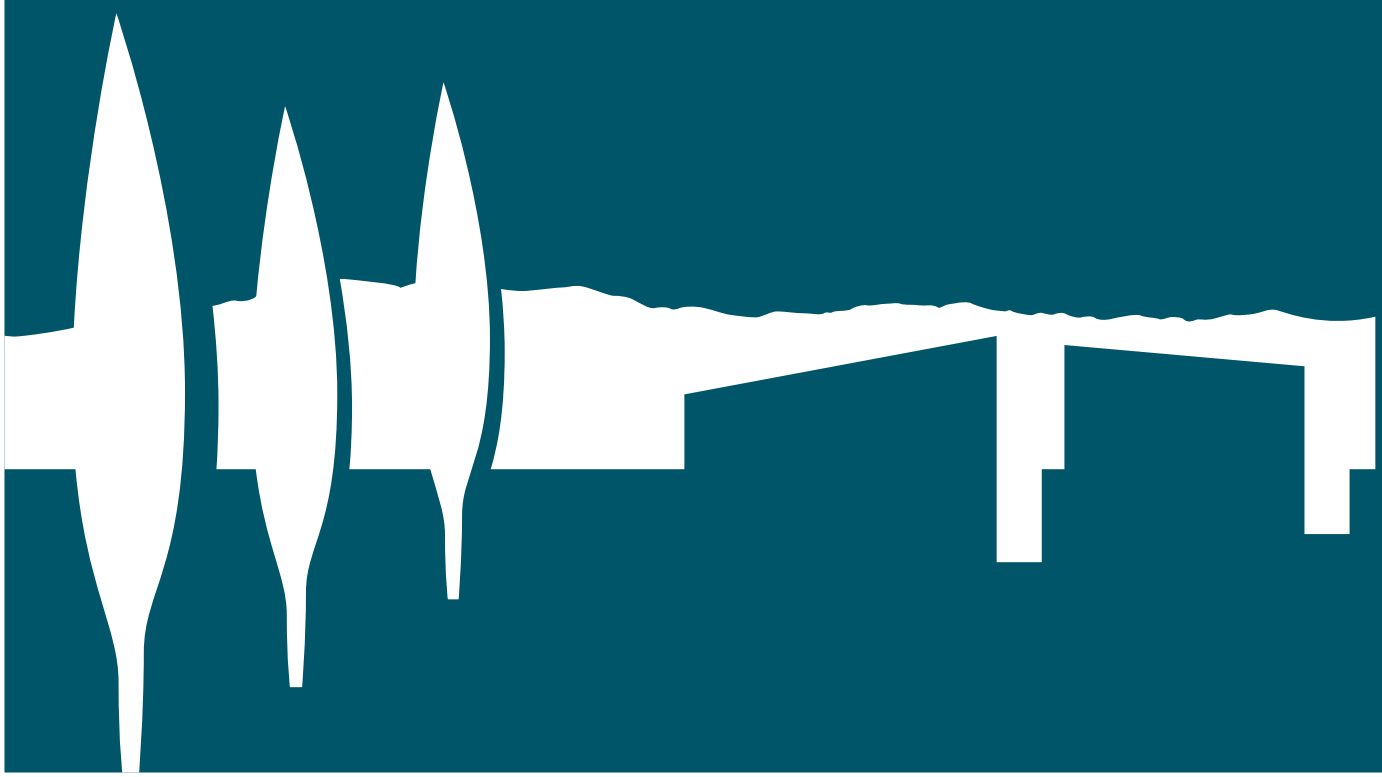
**Table 10.5: Implementation- Infrastructure Layer**

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications | Method |
|---|---|---|---|---|---|
| Water Supply | Implementation of demand management strategy to manage current demand | Nil | Short to medium term | Various initiatives signalled in LTCCP | 4, 2 |
| | Leakage management | Nil | Ongoing | Signalled in LTCCP | 2 |
| | Obtain resource consents and construct new wells | Possible – for headworks sites | Short term | LTCCP provision in place | 4, 2 |
| | Hydraulic modelling to confirm reticulation needs | NA | Short term | Planning actions | 4 |
| | New reticulation | None identified | All periods | Expect to be almost entirely met through development | 6 |
| Wastewater | Implementation of Eastern Selwyn Sewerage Scheme, which includes upgrades to "The Pines', new SRPS, rising mains, detailed planning and network extensions in each ODP area | Mostly achievable on existing roads and within new subdivisions. Some designations possible | All periods | Bulk funding of ESSS provided in LTCCP ($84m over 13 years).<br>Further SDC funding likely beyond that time.<br>Recovery through development contributions | 2 |
| | Cost benefit analysis of water reuse options | Likely achievable within existing network corridors | Short term | To be determined during further investigations | 2 |
| Stormwater | Confirm principles and standards for stormwater management within subdivisions in Rolleston | NA | Immediate | Planning actions | 4 |
| | Encourage the application of low impact and water sensitive urban design (LIUD & WSUD) principles by developers | Provided by developers | Ongoing | Assess ongoing operating costs to SDC as part of the consent approval process. | 5 |

| Layer Component | Action | Land Requirements | Time Frame | Cost Implications | Method |
|---|---|---|---|---|---|
| | Include 'at surface' techniques in subdivision design guidelines and engineering code of practice | Provided by developers | Immediate | Planning actions | 4, 5, 6 |
| | Encourage developers to coordinate stormwater management within ODP (or parts thereof) areas | Developer's responsibility | All periods | Capital costs met by developers | 5, 6 |
| Water Races | Water race enhancements.<br>Include guidance for water race enhancement in sub-division guidelines | Yes – if redirection proposed | All periods | To be scoped | 2, 5 |
| Power | Develop SDC policy for undergrounding | NA | Short term | Could be significant if SDC contributes | 4 |
| Telecommunications | Promote new technology | NA | Ongoing | Telecommunications providers | 5 |
| Gas | Liaise with Rockgas re proposals for new services | NA | Short term | None identified | 5 |
| Gravel Extraction | Seek suitable location for extraction facility in Rolleston/Selwyn area<br>Beautification of depleted gravel pit on corner of Selwyn and Weedons Roads considering recreational uses | Yes – for new sites | Short term | To be scoped | 4, 2 |
| Energy | Carbon and energy management strategy (energy efficiency, renewable energy generation, greenhouse gas emissions and sequestration) | Green space, public space, buildings | Medium term | To be scoped | 2 |

# Appendices





# Appendix A
# Glossary of Terms & Acronyms

**Accessibility** The ease with which a building, place or facility can be reached by people and/or goods and services. Accessibility can be shown on a plan or described in terms of pedestrian and vehicle movements, walking distance from public transport, travel time or population distribution. (The Councillor's Guide to Urban Design, CABE, 2004)

**Business 1 Zone** A commercial District Plan Zone (including both retail and non-retail)

**Business 2 Zone** A commercial District Plan Zone (The Southern Business Hub - Izone)

**CPTED** Crime Prevention through Environmental Design; a crime prevention strategy.

**CREDS** Canterbury Regional Economic Development Strategy

**CRETS** Christchurch Rolleston and Environs Transportation Study; a transport strategy for the Rolleston and south west Christchurch area

**dBA** Decibels, a measure of sound intensity

**Izone** Izone Southern Business Hub

**HH/Ha** Households per Hectare

**LGA** Local Government Act

**LIUDD** Low Impact Urban Design & Development

**LTCCP** Long Term Council Community Plan

**MUL** Metropolitan Urban Limit; the limit; the proposed limit of future development of Rolleston (beyond 2041 to about 2075)

**NRRP** Natural Resources Regional Plan; a plan for the sustainable management of natural resources in Canterbury

**ODP** Outline Development Plan

**RPS PC1** Plan Change 1 to the Regional Policy Statement

**PEL** Property Economics Limited; author of Business Land Demand Assessment

**'Park n Ride'** A facility that provides parking and access to direct bus routes within Rolleston and to Christchurch. These facilities are often targeted at shoppers and commuters.

**PPD** Person per Dwelling

**RMA** Resource Management Act

**RPS** Regional Policy Statement; resource management strategy

**SDC** Selwyn District Council

**SR (1, 2, 3, etc)** Development staging sequence as determined in the RPS

**UDS** Urban Development Strategy; a growth management strategy for the greater Christchurch area

**Walkability** The extent to which the built environment is walking friendly.

**WSUD** Water Sensitive Urban Design

# Appendix B
# New Zealand Town Comparison

B1: Comparison of other New Zealand towns

| Town | Feilding | Ashburton | Whakatane | Levin | Masterton | Timaru | Blenheim |
|---|---|---|---|---|---|---|---|
| Population (2006 Census) | 13,890 | 16,836 | 18,024 | 19,134 | 19,494 | 26,886 | 28,527 |
| Nearest Urban Large Centre | Palmerston North (19km) | Christchurch (86km) | Tauranga (90km), Taupo (89km) | Palmerston North (50km) | Wellington (100km) | Christchurch (160km) Dunedin (200km) | Nelson (116km) |
| Supermarkets | New World Woolworths Other | New World Countdown Supervalue | New World Countdown Superette x2 | New World Countdown | New World x 2 Woolworths – quickstop Woolworths Pak n Save 2 others | Woolworths Countdown Pak n save 1 other | Countdown Supervalue Freshchoice 2 others |
| Other Major Retail | The Warehouse | The Warehouse Farmers Harvey Norman | The Warehouse Farmers | The Warehouse Farmers | The Warehouse Farmers | The Warehouse Farmers Ballantynes | The warehouse Briscoes Smith City Harvey Norman |
| Railway Station | Yes | | | Yes | Yes | | |
| Third Level Education | | | | | | Yes | Yes |
| High Schools | 1 | 1 | 2 | 2 | 3 | 5 | 2 |
| Intermediate Schools | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| Primary Schools | 4 | 4 | 4 | 7 | 7 | 10 | 9 |
| Pre-schools | 8+ | 7+ | 11+ | | 8+ | 13+ | 12+ |
| Major Parks | 5+ | 5+ | 8+ | 7+ | 7+ | 8 | 10 |
| A&P Show grounds | | Yes | | Yes | Yes | Yes | Yes |
| Swimming Pool | 2 | 1 | 2 | 1 | 1 | 2 | 2 |

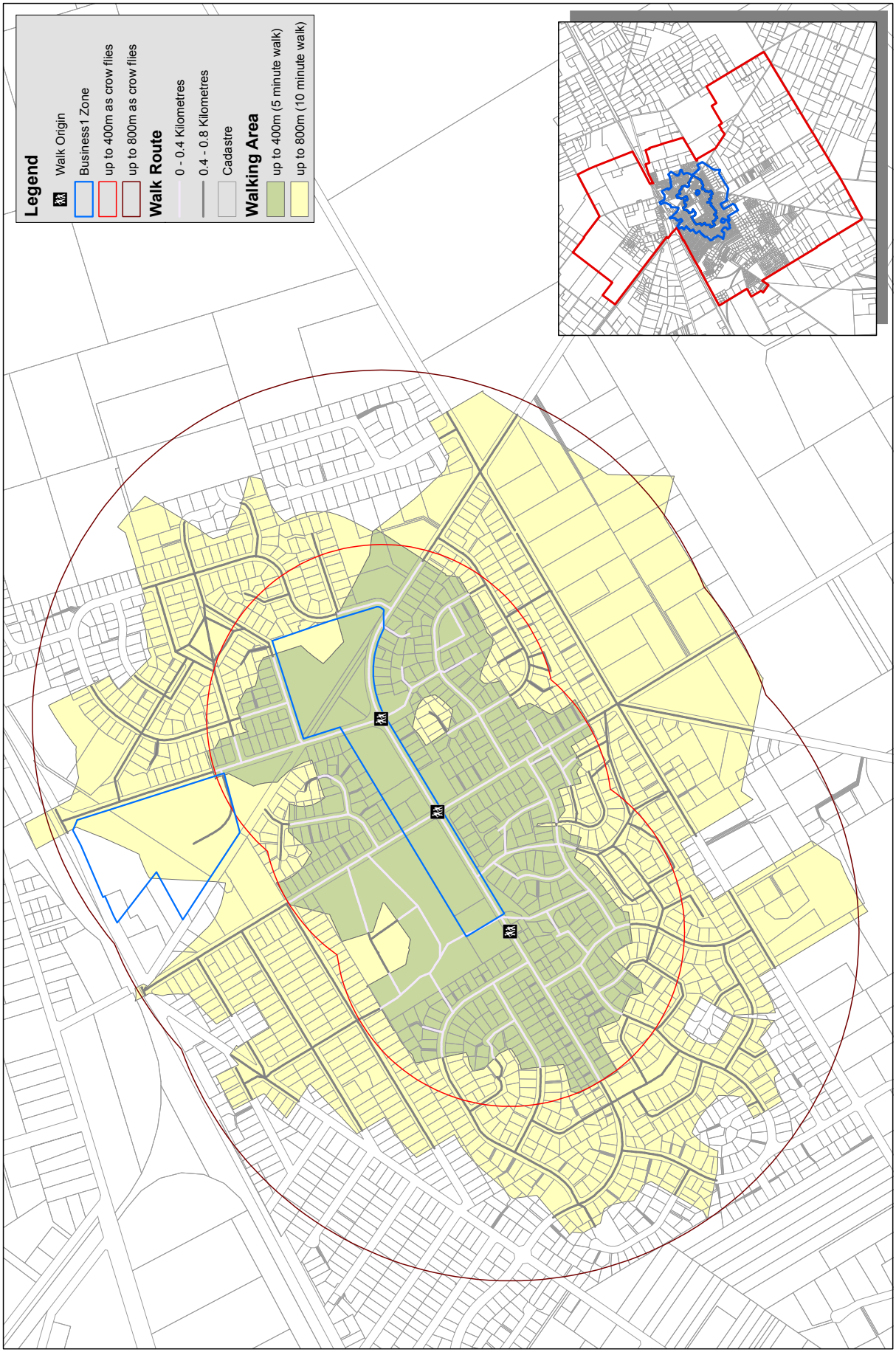
B2: Average provision from the above table applied to Rolleston

| | Population | Primary School | High School | Major Supermarket |
|---|---|---|---|---|
| Current population | 6,813 | 2.02 | 0.63 | 0.88 |
| Zoned lands (non RPS) at 2.63 persons per HH | 7,456 | 2.21 | 0.69 | 0.97 |
| RPS lands at 2.63 persons per HH | 14,420 | 4.28 | 1.34 | 1.87 |
| Remainder of land within MUL in SR13,14,15 | 8,187 | 2.43 | 0.76 | 1.06 |
| **TOTAL** | **36,876** | **10.95** | **3.42** | **4.79** |

# Appendix C
# Comparison of Density Policies

| Author | Document | Policy Provisions |
|---|---|---|
| Auckland Regional Council | Auckland Urban Density Study | To provide for a local bus service residential density (gross) of 20 HH/ Ha required (within 800m) |
| Western Australia Planning Commission | Liveable Neighbourhoods (2000) | To support a neighbourhood centre within a five minute walk 400m (average residential density 22 HH/Ha) to 450m (average residential density 20 HH/Ha) |
| State Government of Victoria | Melbourne 2030 (2005) | Achieve a gradual but significant increase in housing densities in growth areas, from the current average of 10 HH/Ha to around 15 HH/Ha, with the highest densities located in or close to activity centres and the Principal Public Transport Network (PPTN) |
| | New Urbanists USA (new urban news 2001-2002 Ed. new urbanism: comprehensive report and best practices guide) | Aim to attain net densities of 15-50 HH/Ha |
| English Partnerships | Urban Design Compendium | To support a good bus service 45 HH/Ha within 800m (10 minute) walk at a household rate of 2.2 persons. (Note: current Rolleston average is 3.04 persons per dwelling (ppd) for same population 33 dph and at 2.63 ppd equates to 37 HH/Ha) |
| Department of Environment (Ireland) | Sustainable Residential Development in Urban Areas | Centrally located sites (30-40+ HH/Ha), edge of centre sites (20-35HH/Ha) and edge of small town / village (15-20 HH/ Ha - but not more than 20% of housing within this category) |
| | Shaping Neighbourhoods | 50 HH/Ha within 400-500m of a town centre |

# Appendix D
# Walkability from Town Centre



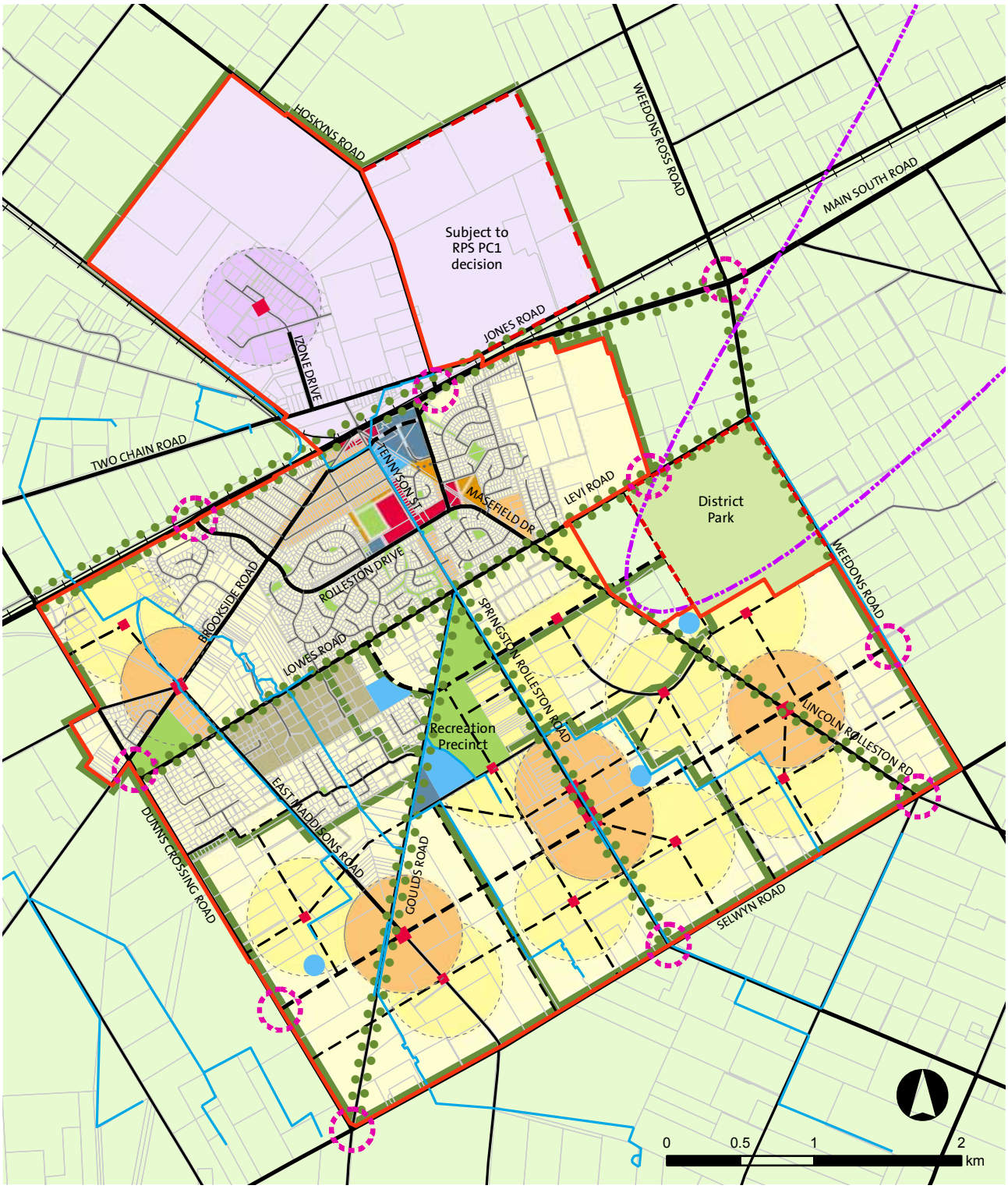
# Appendix E
# Seven Sustainability Principles Matrix

| Structure Plan Sustainability Principles: | Self Sufficient | Drought Ready | Improved wellbeing |
|---|---|---|---|
| Principle 1: Make decisions based on the four aspects of wellbeing | | ✔ | ✔ |
| Principle 2: Observe the precautionary Principle to provide contingency and enable adaptability of our community | | ✔ | |
| Principle 3: Seek 'intra-generational' and 'inter-generational' equity | | ✔ | ✔ |
| Principle 4: Internalise environmental and social costs | ✔ | | ✔ |
| Principle 5: Foster community welfare | ✔ | | ✔ |
| Principle 6: Act to halt the decline of our indigenous biodiversity and maintain and restore remaining ecosystems | | | ✔ |
| Principle 7: Consider, and promote, the sustainability of our neighbouring communities and work with governing bodies for sustainable outcomes. | ✔ | | |

# Appendix F Urban Design Principles Matrix

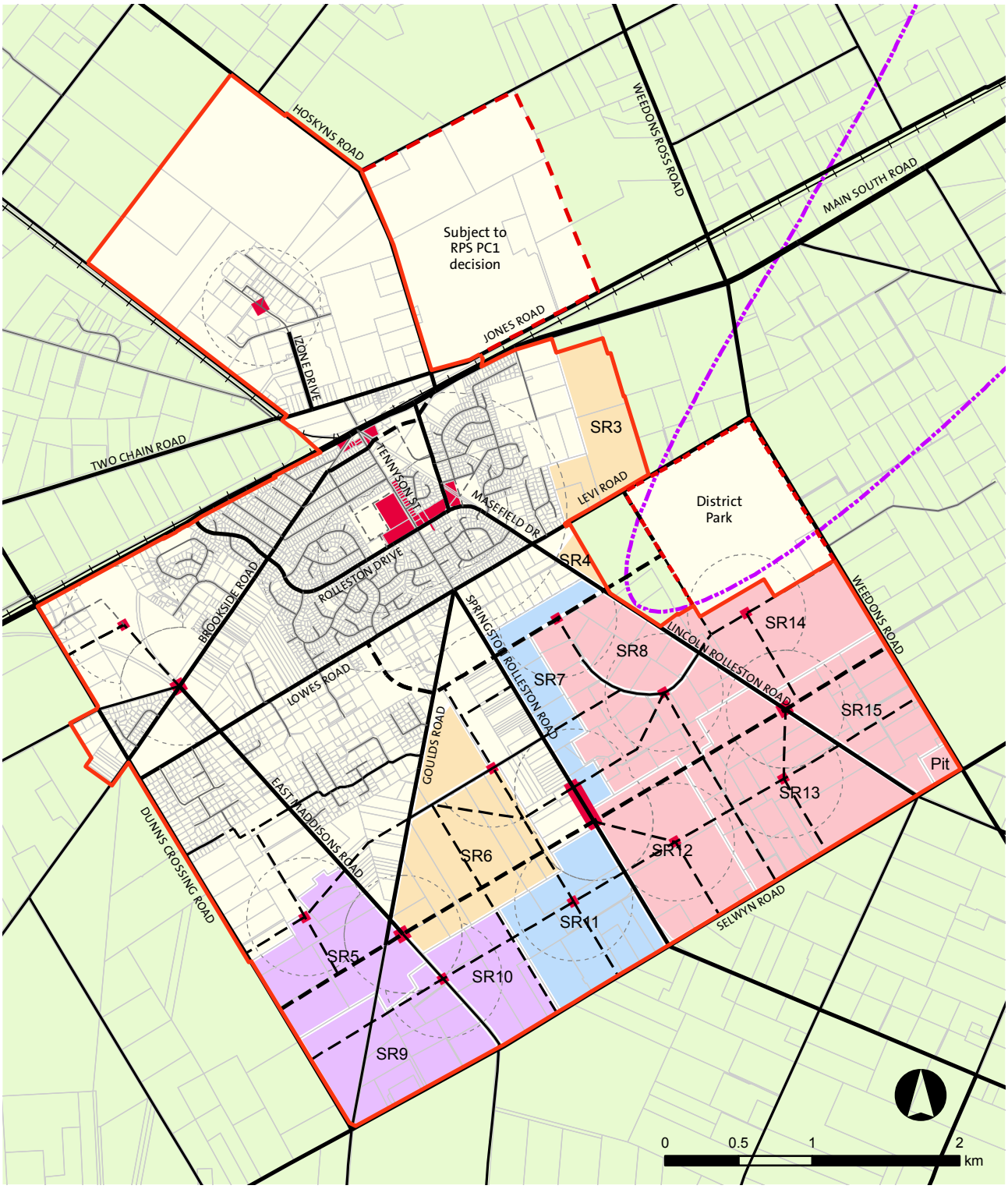
| | New Zealand Urban Design Protocol - Seven Design Qualities | | | | | | |
|---|---|---|---|---|---|---|---|
| Structure Plan - A Well Designed Town Development Principles | Context | Character | Choice | Connections | Creativity | Custodianship | Collaboration |
| 1. Strong regional and district linkages | ✔ | | | ✔ | | ✔ | |
| 2. Establish a clear hierarchy of centres | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3. Integrate land use and movement | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | |
| 4. Higher density development at nodal points | ✔ | ✔ | | ✔ | ✔ | | |
| 5. Overlapping mix of land uses | | ✔ | ✔ | | ✔ | ✔ | |
| 6. Regenerate existing residential areas through shared amenities | ✔ | ✔ | | | ✔ | ✔ | ✔ |
| 7. Create a continuous network of open spaces | | | ✔ | ✔ | ✔ | ✔ | ✔ |
| 8. Create ecological and open space links between town and rural land | | | ✔ | ✔ | ✔ | ✔ | |
| 9. Provide a public edge to public open space | | | | | ✔ | ✔ | |
| 10. Utilise existing rural roads and landscape features to develop distinct urban areas | ✔ | ✔ | | ✔ | ✔ | | |
| 11. Protect and enhance existing landscape features and incorporate into urban form | ✔ | ✔ | | | ✔ | ✔ | |
| 12. Locate large recreation areas at the periphery of dense urban areas | | | ✔ | | | ✔ | |
| 13. Protect views to distant regional landscape features and along rural roads | ✔ | ✔ | | ✔ | ✔ | ✔ | |
| 14. Protect historic and culturally significant sites or features | ✔ | ✔ | | | | ✔ | ✔ |
| 15. Utilise existing roads where possible | ✔ | ✔ | | ✔ | | | |
| 16. Consider climatic conditions | ✔ | | | ✔ | ✔ | ✔ | |
| 17. Future proof the Structure Plan for further expansion of the town | | | | ✔ | ✔ | ✔ | ✔ |
| 18. Enhance and Promote Maori Cultural Landscapes | ✔ | ✔ | | | | ✔ | ✔ |

# Appendix G Key Maps




**Rolleston Structure Plan**

- Study Area
- Railway
- National Arterial
- Main (primary) roads
- Proposed main (primary) roads
- Local (secondary) roads
- Proposed local (secondary) roads
- Local (minor) roads
- Walking and Cycling Link
- Town Centre
- Neighbourhood Centre
- Local Centre
- Comprehensive Housing
- Medium Density Residential (20HH/Ha)
- Medium Density Residential (15HH/Ha)
- Low Density Residential (10HH/Ha)
- Low Density Residential (7HH/Ha)
- Community Facilities
- Education Facilities
- Green Corridors and Green Belt
- District Park
- Recreation Precinct and Reserves
- Rural land
- Avenue Planting
- Izone Southern Business Hub
- Water Races
- Noise Contour
- 5 Minute Walk (400m)
- Key Gateways




**Staging of Greenfield Residential Development**

- 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