DRAFT ***ROLLESTON LIVING 1B DEFERRED ZONE*** *STRUCTURE PLAN*

CONSULATION DOCUMENT

March 2009

Selwyn DISTRICT COUNCIL

CONTENTS

1 Summary

This report is concerned with the area of Rolleston outlined in red in the map below. This is the area adjacent to Lowes Road and East Maddisons Road. In 2001, the area was zoned as Living 1B which allows for urban residential subdivision. The zoning was deferred until 1 January 2010, after which the land may be subdivided.

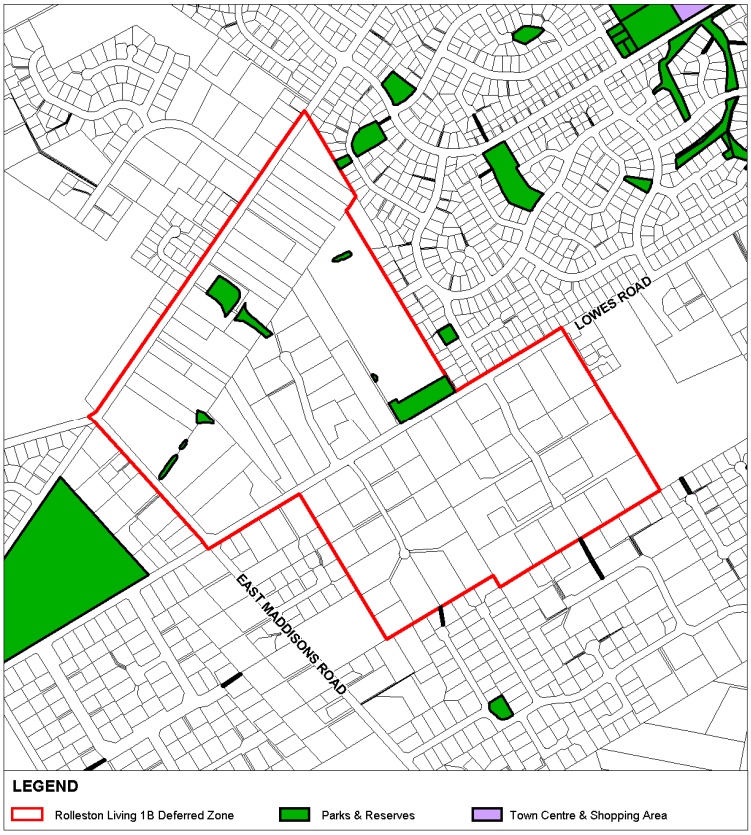


Figure 1: Location of the Living 1B deferred zone area

The Council is concerned about the pattern of subdivision which is likely to occur under the current rules. Without intervention, there are a number of problems which are likely to result. These include:

- A lack of road connections through the area.
- A lack of pedestrian and cycleway connections through the area.
- The creation of public roads which are not pleasant and attractive places to be, due to the presence of many private accessways. These accessways are not attractive or interesting for people to look at (as opposed to front gardens and the fronts of houses). They also reduce the space available for street landscaping such as trees and grass berms.
- Problems with road safety, due to the number of accessways. This results from an increase in the amount of footpath crossings, and an increase in the use of those crossings. Visibility from accessways may not be good and they increase road danger. They are also likely to make pedestrians feel less safe.
- Problems of future maintenance of private accessways and future pressure on Council to manage these. Private accessways also reduce the usability of private space.

- A lack of opportunities for Council to obtain reserves of a suitable size and location to provide for the needs of the community.
- Problems servicing the northern half of the area with sewers.
- Loss of the special character of Waterbridge Way.

In response to these problems, the Council has produced a structure plan. This has two main purposes:

- To ensure development is "orderly" and is designed with a future road network in mind to avoid problems associated with a high number of accessways.
- To provide for roading, walkway and cycleway connections and reserves as the area develops.

The structure plan is shown below. Changes have been made since the original draft proposal was published, due to changes in circumstances and in response to the comments received in 2006.

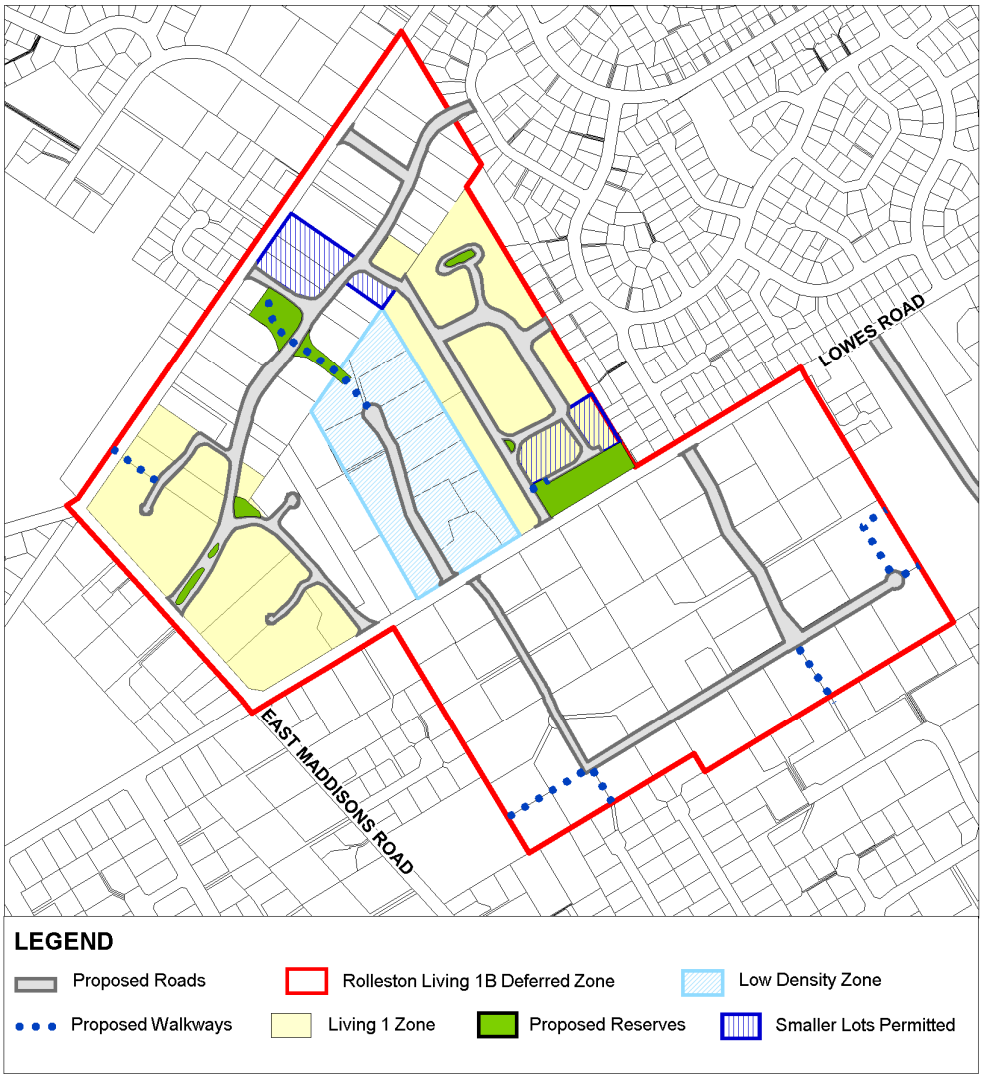


Figure 2: The Living 1B Deferred Zone Structure Plan

For the most part, Council will acquire that necessary land from developers as they subdivide their land. The purpose is to facilitate rather than force development and it is likely to be some time before the connections are established.

Consultation

A consultation exercise was undertaken by Council in 2006 to canvas the views of the residents. This included letters to landowners, two series of open days, newsletters and on-site meetings with landowners. The results of this indicated general support for the principle of a Structure Plan. However, there was some disagreement about what the specific contents should be and in particular about the location of roads, reserves and linkages.

Some amendments have been made to the Structure Plan to address the concerns raised and to take account of changes in circumstances. The pattern of roads and footpaths in the south of the area has been substantially changed.

The new proposals are designed to organize the pattern of development as well as provide connections. There is less reliance on the use of existing access routes for walkways.

The Council wishes to ensure a good development outcome for the future. Regardless of whether a Structure Plan is implemented, the character of the study area will change as it is progressively urbanised. Retention of the existing character is not a likely outcome and decisions on the Structure Plan must be made with this in mind.

Roading, Cycleways and Walkways

The L1B deferred zone is adjacent to the geographic centre of the future Rolleston urban area (as identified by the Rolleston Urban Limits). It will be surrounded on all sides by urban development. It is therefore very important to provide for the needs of those who will need to move within and through the study area in future years.

The Structure Plan provides for a number of connections through the study area. These include:

1. A north-south walkway/cycleway via Waterbridge Way and Jozecom Place.
2. An east-west walkway/cycleway linking East Maddisons Road to the proposed school site and Goulds Road beyond.
3. An east-west road running parallel to Brookside Road
4. A road connection from Lowes Road to Brookside Road

These routes are indicated in Figure 3.

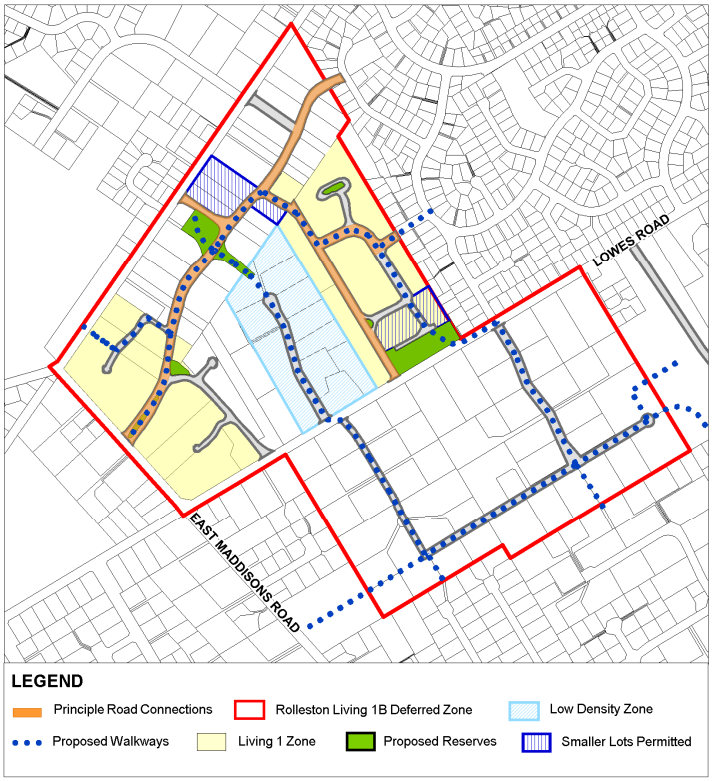


Figure 3: Principle through connections

The Structure Plan also provides opportunities for recreational walking. It would contribute a number of routes on lightly trafficked streets, including circular routes.

Reserves

A new reserve is proposed to the south of Brookside Road adjacent to the water race. This would connect with Waterbridge Way alongside the water race. This site has a high potential for creating amenity and unique character.

A second sizable reserve is proposed on part of the Pineglades Naturist Club site adjacent to Lowes Road, where there are some established trees. There are currently no large reserves within easy reach of this area.

Housing Density

Each subdivision in the study area is required to have an average lot size of 1,200m^2 with a minimum lot size of 750m^2. This means that a 4,000m^2 lot could be divided into three. These could be evenly sized, or a variety of lot sizes could be produced. For instance, one could be 2,500m^2 and the others 750m^2 each.

The possibility of allowing for higher-density subdivision (houses on smaller lots) in parts of the study area was raised during the consultation. Higher density housing has some advantages but also has the potential to create more adverse effects such as shading and the appearance of cramped development. It is more likely to involve two-storey housing.

It would not be appropriate for large areas of higher-density housing to be established. This would certainly undermine the low-key urban character expected for the area. However, small areas of higher density housing, near to reserves and main roads may be appropriate and would help to support public transport and housing choice.

There are two areas which have been identified as being suitable for this type of housing, which are shown on Figure 2.

It is also proposed to rezone two areas as Living 1 for standard residential development. Living 1 zoning allows subdivision at a 750m average and is in place for most of Rolleston. These areas are the Pineglades Naturist Club and two adjoining lots and the area around East Maddisons Road. They are shown in yellow in Figure 2. These areas have large lots which can be more easily subdivided to residential density.

Waterbridge Way

Waterbridge Way has been identified as having a special character due to its spacious character and unique features (landscaped water-races and humpback bridges). In order to preserve this character, which is unique in Rolleston, a lower density of development is proposed. The minimum lot size in this area would be 1,200m^2, with an average of 2,000m^2 required.

Implementation

The structure plan will be implemented through the District Plan. Applications for subdivision consent will need to demonstrate that they have provided for the roads, walkways and cycleways required in Structure Plan.

The building of roads and pathways will be funded through the system of development contributions which are payable by all those subdividing their land. The costs developing the area with the structure plan in place are not expected to be greatly different from the costs of developing the area without it.

2 Introduction

This report is concerned with an area adjacent to Lowes Road to the east of East Maddisons Road. In 2001, this area was zoned as Living 1B which allows for full (urban density) residential use. However, the zoning was deferred until 1 January 2010 to allow the landowners to enjoy the semi-rural character of the area for some further years. Within this report, this area is referred to as the study area.

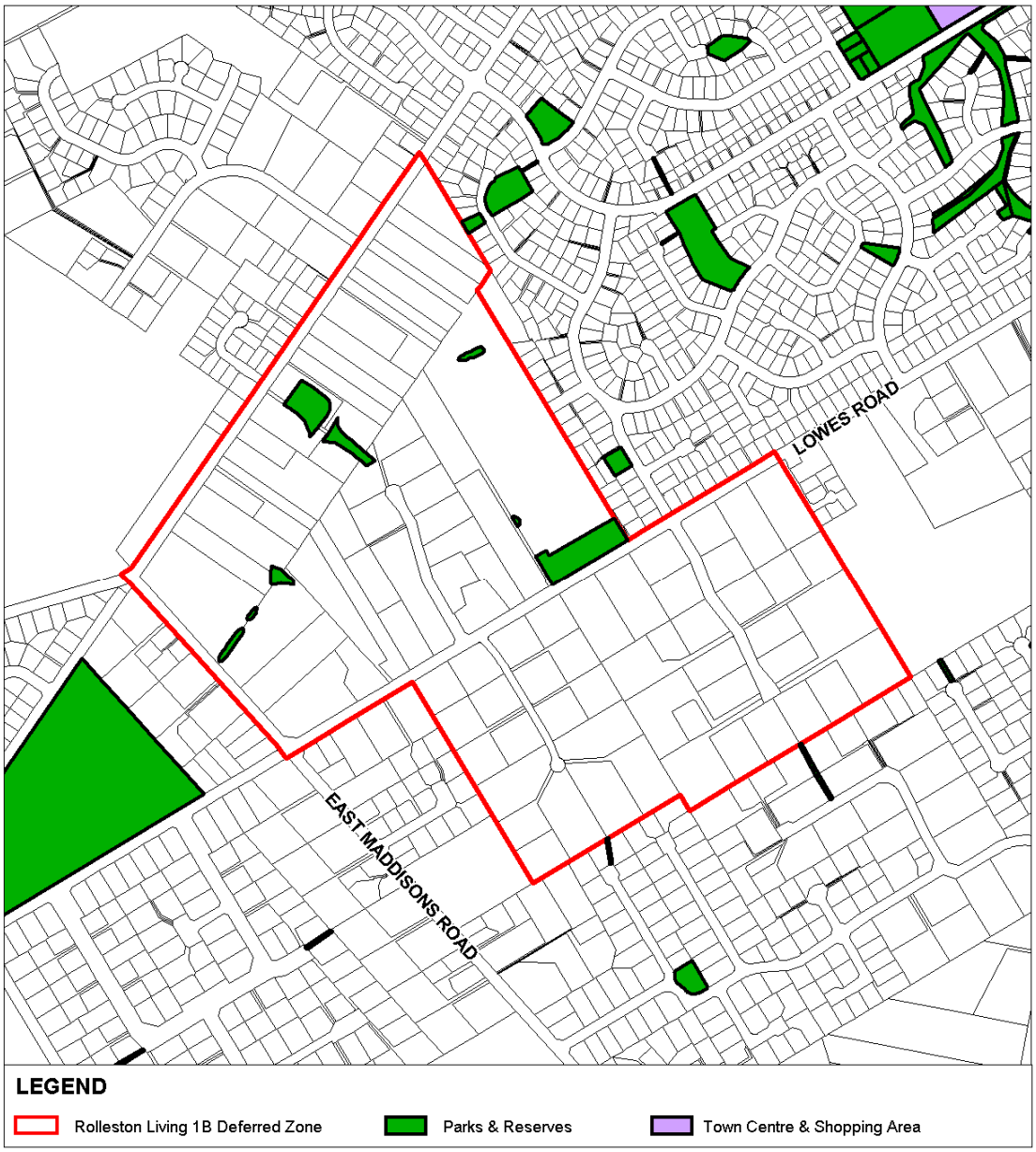


Figure 2.1: The L1B deferred area (the study area)

The need for a structure plan

The study area is held in many different parcels (around 90 in total). If development proceeds without any overall plan, it is likely that it will be piecemeal.

Whilst individual subdivisions may be successful and attractive, they will not collectively provide for safe and attractive public areas and they will not allow for connections through the area.

Structure planning is a tool to enable larger blocks of land that are held in multiple ownership to be developed in an integrated manner. This will allow for the creation of the attractive and spacious public space which is valued by Rolleston residents and which it is likely will be desired by the future residents of the study area. It will also allow for connectivity, which is essential to create a well-functioning town and which is desirable for amenity and environmental reasons.

The Problems of Piecemeal Subdivision

The Council is concerned about the pattern of subdivision which is likely to occur under the current rules. Without intervention, there are a number of problems which are likely to result. These include:

- A lack of road connections through the area.
- A lack of pedestrian and cycleway connections through the area.
- Inefficient development of private land (lower yields)
- The creation of public roads which are not pleasant and attractive places to be, due to the presence of many private accessways. These accessways are not attractive or interesting for people to look at (as opposed to front gardens and the fronts of houses). They also reduce the space available for street landscaping such as trees and grass berms.
- Problems with road safety, due to the number of accessways. This results from an increase in the amount of footpath crossings, and an increase in the use of those crossings. Visibility from accessways may not be good and they increase road danger. They are also likely to make pedestrians feel less safe.
- Problems of future maintenance of private accessways and future pressure on Council to manage these.
- A lack of opportunities for Council to obtain reserves of a suitable size and location to provide for the needs of the community.
- Loss of the special character of Waterbridge Way.

Aims of the Structure Plan

The Council wishes to ensure a good development outcome for the future. Regardless of whether a Structure Plan is implemented, the character of the study area will change as it is progressively urbanised. Retention of the existing character is not a likely outcome and decisions on the Structure Plan must be made with this in mind.

The Structure Plan has been designed to fulfill the following aims:

1. Provision of pedestrian, cycle and vehicle movement within and through the area.

2. Provision of reserves and public amenity within the study area and the creation of a central focus for the area.

3. The creation of safe and attractive public space by implementing an appropriate development pattern and density.

4. Ensuring the area develops in a manner which is compatible with Council's strategic planning aims for Rolleston (as expressed in the Greater Christchurch Urban Development Strategy and Rolleston Urban Limits).

5. Protecting and enhancing historic, natural and other features.

6. Managing reverse sensitivity issues with regard to the Pineglades Naturist Club.

3 The Living 1B Deferred Zone Structure Plan

3.1 Context

The study area is situated south of Brookside Road and to the west of the existing developed area of Rolleston. It has a semi-rural character, with a low density of development and some rural features such as shelterbelts, post-and-wire fencing and the presence of a water race, notably alongside Waterbridge Way. There are several pockets of large trees which provide shelter and contribute to amenity.

The study area is mainly comprised of rural residential sections with an area of between 5,000m^2 and 1ha. However, a large proportion of the sections fronting Brookside Road are slightly smaller and long and narrow in shape.

The predominant use of the area is residential. Other uses are hobby farming, chicken farming and a naturist club.

The area is surrounded by land which has been zoned for residential development: Living 1 to the north and east (allowing for an average density of 750m^2 or more) and lower density Living 1B (1,200m^2 average) to the south and west).

The areas to the north, east and south have substantially been developed to residential densities with the main exception being an area of land owned by the Ministry of Education which is due to be used as a primary school. A new road is proposed to run through this site to link Lowes Road and Goulds Road. Some land remains to be developed to the west.

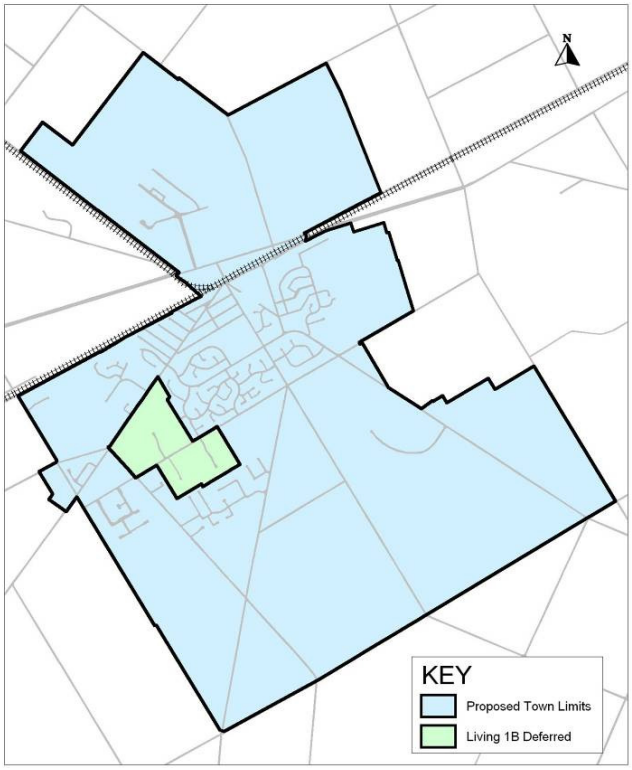


Figure 3.1: Location of study area in context of Rolleston Urban Limit

Within the context of the proposed Rolleston Structure Plan, the south of the area is on the fringe of the geographic centre of the town.

Sub-Areas

The study area can be divided into a number of sub-areas that have different characteristics or which are distinctly separate due to the current road layout and pattern of development.

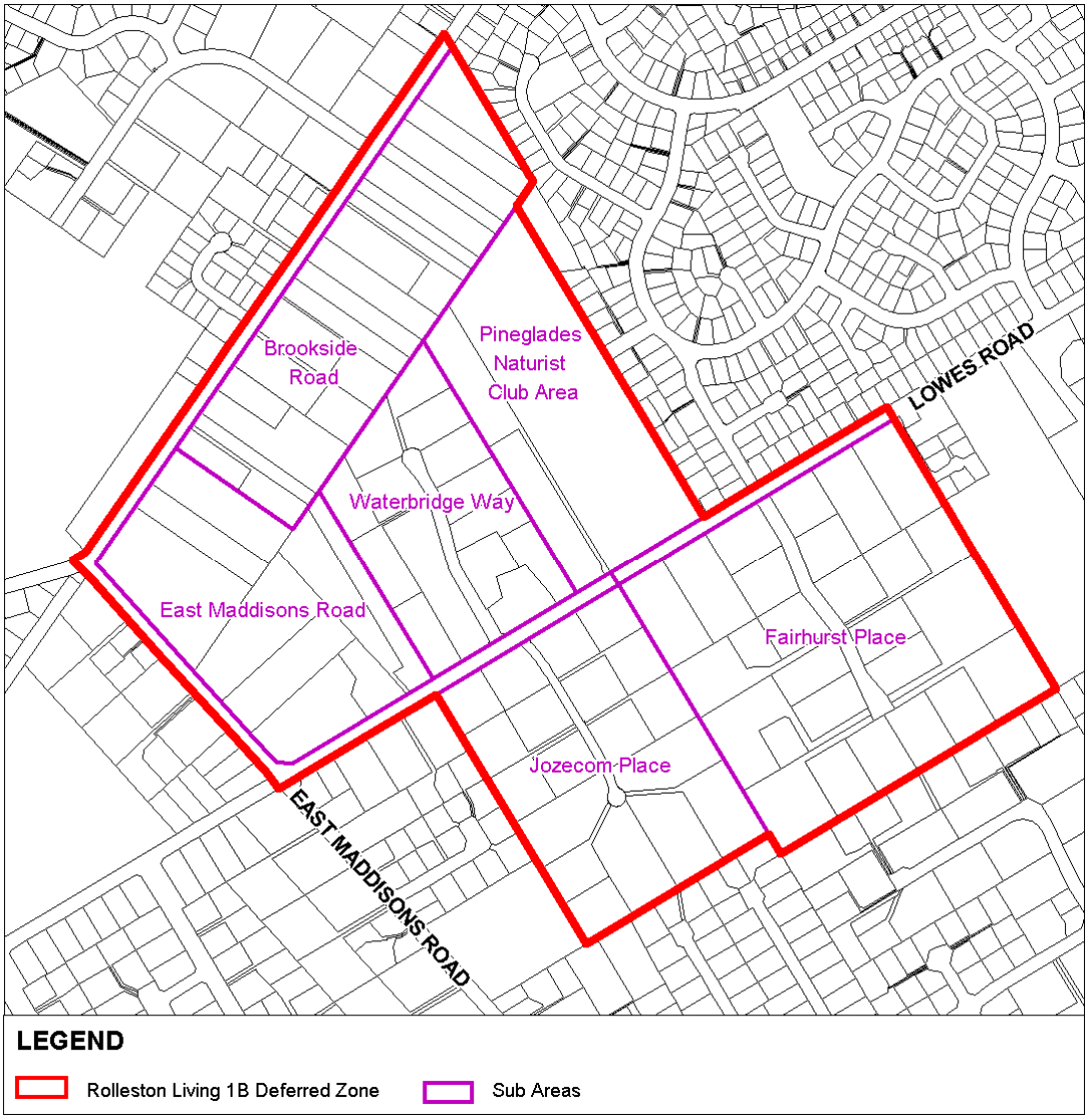


Figure 3.2: Location of Sub Areas

Jozecom Place

The principle characteristics of the sub-area are as follows:

- Allotments are 5,000 m^2 or more and regularly shaped.
- Existing houses are mostly located in the corners of the sections
- There is little large vegetation except for a shelterbelt running east west at the end of the road.
- The street is of a rural standard (no kerb and channel, footpaths or lighting)

There are no pedestrian connections from the street although a link has been taken from Frame Cresent in anticipation of one being provided in future. There is a water race running from north to south around halfway between Jozecom Place and Fairhurst Place.

Fairhurst Place

Fairhurst Place has similar characteristics to Jozecom Place. There is an existing walkway from the end of the road through to Manor Drive.

Waterbridge way

Waterbridge Way is also comprised of rural residential sized sections with a rural type road. However, it has a very distinctive character due to the use of the water race, planting, humpback bridges and open space as development features. There are some trees, notably to the west of the street.

Sections are large and houses are often centrally placed, although the layout of some would allow easy subdivision into urban residential sized lots.

The Pineglades Naturist Club area

The Pineglades Naturist Club area extends from south of Brookside Road to Lowes Road. It has extensive planting, especially on the boundaries, and has been developed with small houses and club facilities.

The Club is held in single ownership and area could be developed in an integrated way. There are also two long thin sections next to the club which have not been developed.

This area is situated adjacent to land which has been developed at standard residential density.

Brookside Road

There are a number of trees throughout this area, including shelter belts as well as clusters of trees. The presence of these makes a significant contribution to the wider amenity of the area. A notable feature of the Brookside Road area is the way it has been developed with long, narrow lots.

East Maddisons Road

This area is much less developed than the majority of the study area, with land being mostly held in large parcels. It has a partially open character, with much of it consisting of large fields separated by mature shelter belts.

3.2 The Story So Far

The expansion of Rolleston was originally conceived by central government in 1973 as a planned town but the concept was abandoned two years later.

In 1994, Council approved Plan Change 10 to allow further residential and commercial development over part of the proposed new town area. A population of 4,400 was projected for this area by 2010.

In 1998 a group of landowners lodged a private plan change to allow further expansion of the town. This resulted in plan change 60 to rezone 542 hectares of land, sufficient for 14,000 residents and 20 years of growth. The plan change became operative in 2003.

As part of Plan Change 60, the Living 1B deferred zone was introduced. This zoned the study area for residential use, but deferred the implementation of the zoning until 2010 because there was no consensus amongst landowners that rezoning should take place.

In 2006 the Council began a consultation exercise on how the development of the area should proceed. A draft structure plan was produced indicating possible routes for roads and walkways and possible reserve locations. The consultation did not indicate a consensus amongst the landowners as to a favoured outcome. The consultation is discussed further in section 3.5.

3.3 Next Steps

This report considers the responses to the 2006 consultation and the likely form of development under different scenarios. It recommends proceeding with a Structure Plan.

The next step is to present a preferred option to the community for consideration. This is the Structure Plan in Section 4 of this report.

Once comments have been received from the community and any changes incorporated into the structure plan, a District Plan change will be formulated to implement the Structure Plan. This will be notified (and have effect) prior to the lifting of the deferral in 2010.

Summary of timelines

Below is an indicative timeline for the project, indicating where this report fits in:

Initial Proposals	*February 2006*
↓	
Consultation (Open days)	*July 2006*
↓	
Selection of preferred option and development of detailed plan	September – December 2008
↓	
Publication of preferred option and opportunity for comment	March – April 2009
↓	
Finalise Structure Plan	May 2009
↓	
Implementation	July 2009

Comments are invited on the revised Structure Plan described in this document. The Structure Plan will be refined in relation to comments received during the consultation period.

Council intends that a finalised Structure Plan be notified for inclusion in the District Plan in July 2009. Once the Plan Change is notified, it would be a matter for consideration in subdivision consents. Development would be expected to be designed to provide for the reserves and connections shown on the Plan.

3.4 Plans and Strategies

The Structure Plan would support a number of existing policies which have been adopted by Council. There are also policies under development that it would further. In this way, the Structure Plan will support the strategic direction of Council.

3.4.1 District Plan

Subdivision is controlled by the District Plan. This operates under the legal framework of the Resource Management Act (RMA). The District Plan contains a number of policies and objectives which are intended to ensure that development in the District is well designed. These include policies aimed at ensuring development has a sense of "pleasantness" and contributes to the character and amenity of townships.

3.4.2 Other Plans and Strategies

Council also produces documents (including this one) under the Local Government Act (LGA) for a range of reasons. These are not part of the District Plan, but changes to the District Plan are often guided by them. In this way, the District Plan responds to the policy direction of Council.

There are several documents which are relevant to this Structure Plan. These include the Greater Christchurch Urban Development Strategy (the UDS) which aims to manage urban growth in the Greater Christchurch Area, including Rolleston. The UDS aims to promote compact, sustainable urban form and high quality development. Other relevant documents include the following:

Walking and Cycling Strategy

The draft Walking and Cycling Strategy aims to enable opportunities for walking and cycling (including the provision of improved facilities and environments). It also aims to reduce the use of cars for short trips.

The strategy identifies that land-use planning tools (such as structure plans) can implement these goals. The principles it suggests include the following:

- Designing for walking and cycling is not to be secondary to designing for motor vehicles. The environment should be designed for all modes of transport.
- Land use planning should facilitate ease of travelling by bicycle or on foot.
- Appropriate planning for walking and cycling including provision of improved connectivity.
- Council provision of safe and efficient road, footpath and cycle networks.
- The roading infrastructure around and near schools is to be designed to encourage walking and cycling.

The Structure Plan would facilitate the achievement of these goals by ensuring that good connections are provided. This will ensure that there is a direct and pleasant walking or cycling

route. This in turn will reduce the number of short car trips as there will be a convenient alternative.

The Structure Plan will be particularly helpful in improving walking and cycling near the proposed school to the west of the study area.

The Christchurch, Rolleston and Environs Transportation Study (CRETS)

CRETS identifies Lowes Road as a District arterial. It suggests that the road be upgraded to a 16m carriageway, including cycleways, to accommodate this role.

CRETS also proposes East Maddisons Road and Brookside Road as collector roads. Traffic from local roads (such as the new roads proposed in the structure plan) would be funneled onto these roads.

3.5 Summary of Consultation

A consultation exercise was undertaken by Council in 2006 to canvas the views of the residents. This included letters to landowners, two series of open days, newsletters and on-site meetings with landowners.

The consultation took place in two stages. Residents were first asked about the elements that should be included in a structure plan. Responses to these questions helped to inform the production of a draft plan. Residents were then asked their views on a draft structure plan.

Responses to the process were received from 47 of the 86 landowners in the study area (55%).

A report of consultation was circulated to the community in April 2007. The main points are summarised below:

- Of the 47 respondents, 15 indicated that they were interested in subdividing, 6 that they may be interested in subdividing whilst 13 were not intending to subdivide.

- Most of the respondents indicated that they appreciated the property size and lack of close neighbours. Only five indicated that the potential for subdivision was a reason for buying the land.

- The majority of respondents had a preference for a development pattern based on cul-de-sacs rather than connected streets. A majority supported the retention of the rural-style of the existing roads (no kerb and channel), but supported kerb and channel for new roads.

- Participants in the first round of consultation were very supportive of the principle of walking and cycling through the area. However, when possible routes were shown on a draft plan there was some opposition, with 17 of the Jozecom Place and Fairhurst Place landowners being against the proposals. There was also some support for the proposed walkways.

- There is no clear consensus on the appropriate section size for subdivision. In all, 19 respondents supported section sizes of either 750 or 1000m^2, whilst 13 supported larger section sizes, including 8 who wanted the existing 5000m^2 minimum to remain.

- There was some opposition to the principle of the use of existing private accessways as

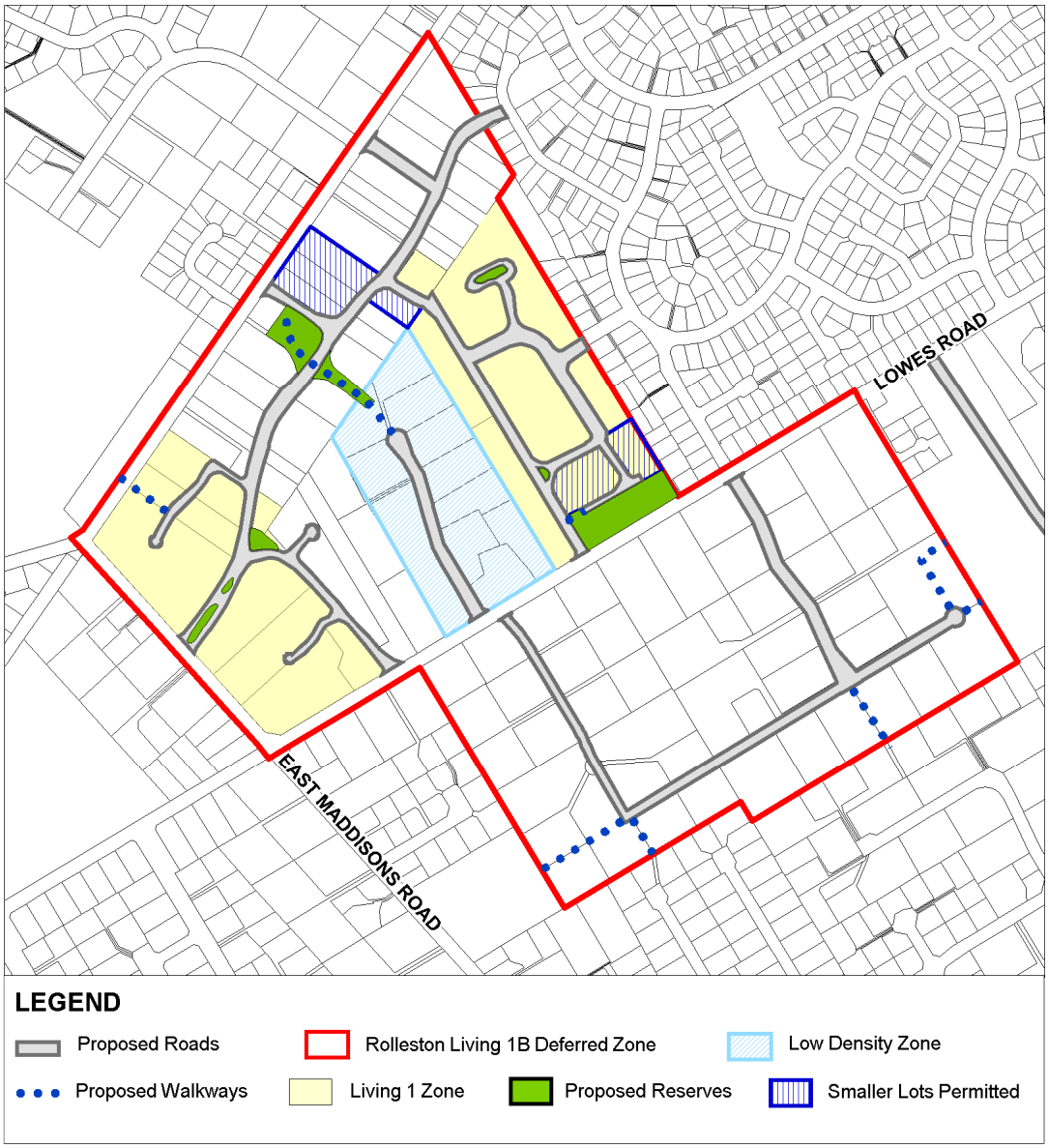
walkway/cycleway routes.

In response to the consultation, and also to changes in circumstances (such as Council policy changes), amendments have been made to the Draft Structure Plan. These include a change in approach away from the use of rights of way for walkways, to a design which is based on the likely future pattern of development. This means more vested roads (rather than relying on private accessways) and shorter lengths of footpaths which are located away from existing houses where possible. This has the advantage of providing connections along routes that will be required for future access.

As before, the connections will be obtained at the time of subdivision as land is brought forward for development.

4 Issues and Options

This section discusses the issues which led to design of the structure plan, shown below.



Through the process of consultation and strategic planning, a number of issues have been identified as being likely to arise out of the development of the study area.

These issues can be divided into *Spatial Issues* and *Detail Issues*. Spatial Issues affect the layout and pattern of development and have implications beyond the study area. Detail issues are those that will predominantly affect the land within the area as it develops. Both will need to be managed to achieve the aims of the Council.

In some cases different issues will suggest conflicting solutions. An example of this is in relation to roading. There is a need to provide for connections through the area but residents have identified that they prefer a pattern of development based on cul-de-sacs. In considering issues such as this, it must be recognized that the subdivision process will fundamentally change the

character of the study area. The wishes of the current landowners must be weighed alongside the needs of the future residents and also the wider town, and an appropriate balance struck.

It is also important to consider the likely development that will occur without a structure plan and to compare this to the preferred option. The retention of the present character is not a likely outcome and is of limited relevance in the consideration of options. This analysis is included in Appendix 2.

The issues are outlined below.

4.1 Spatial Issues

The following spatial issues have been identified:

- Provision of Roads and Walkways
- Provision of Open Space
- Density of Development

4.1.1 Provision of Roads and Walkways

There are two particular issues identified with regard to roads and walkways in the L1B deferred area:

Connectivity refers to the degree to which the networks offer a choice of routes. A well connected network is efficient and convenient.

Legibility refers to how easy it is to find your way around a network. This is facilitated by direct connections, local landmarks, and streets which are visually different.

Roading

New roads are required for a number of reasons, including:

- To provide connections for through-journeys
- To provide for journeys originating in the study area.

The proposed roading network is mostly connected, rather than consisting of cul-de-sacs. It is expected that some developments will create accessways serving a number of lots that will in effect be cul-de-sacs. The Structure Plan is aimed at facilitating direct journeys starting or finishing within the area, whilst allowing some choice of routes for journeys originating outside it.

The study area is of a size which is large enough to contain several hundred households and will generate significant amounts of traffic. There is a need for direct access from within the area to different points of the road network. A layout with long cul-de-sacs, which funnels traffic onto a few roads, will not achieve this. It would create extra traffic as drivers are forced to use elongated indirect routes.

In the south of the area, there will be few roads even after the implementation of the Structure Plan. The network proposed will act as a skeleton for public and private roads (probably cul-de-sacs) to access.

None of the proposed routes are “main” (collector or arterial roads) and none are intended to carry large volumes of traffic.

Changes since the Draft Structure Plan

Since the 2006 draft, the south of the area has been amended to contain more roads and less walkway/cycleway. The connections identified in the original plan will still be provided.

The use of long walkways down existing right of ways was an issue of particular concern in the consultation (due to the potential for anti-social behaviour) and this revised layout should address this issue. The connections are based on the likely pattern of development

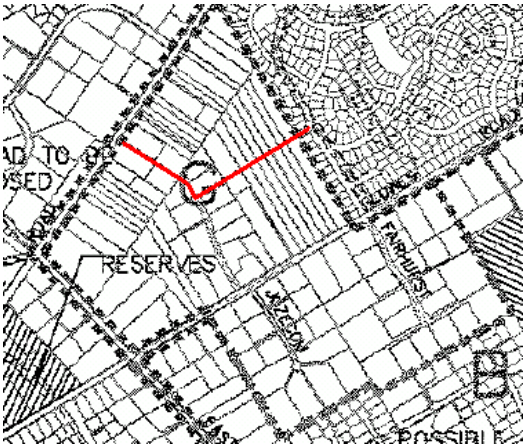
Through Road Connections

At present there is only one connection through the study area (Lowes Road). The study area is large and this lack of permeability is a barrier to movement. In the past this has not been problematic because the study area has been peripheral to the town. However, as more development takes place in the north-west corner of the town, this lack of permeability will affect an increasing number of residents.

Existing District plan policy provides for some connections through the study area which are required at the time of development of the land over which they pass (figure 4.1). These consist of a north/south link from Brookside Road to Lowes Road and an east/west link from Waterbridge Way to Renoir Drive.

The Structure Plan proposes to alter the position of these routes, to extend the East-West link to East Maddisons Road and to provide a number of additional minor connections to the main road network.

The specific routes proposed are discussed in Appendix 1. The roading network attempts to accommodate the wishes of the present landowners for quiet streets and also to provide much needed connections through the area.



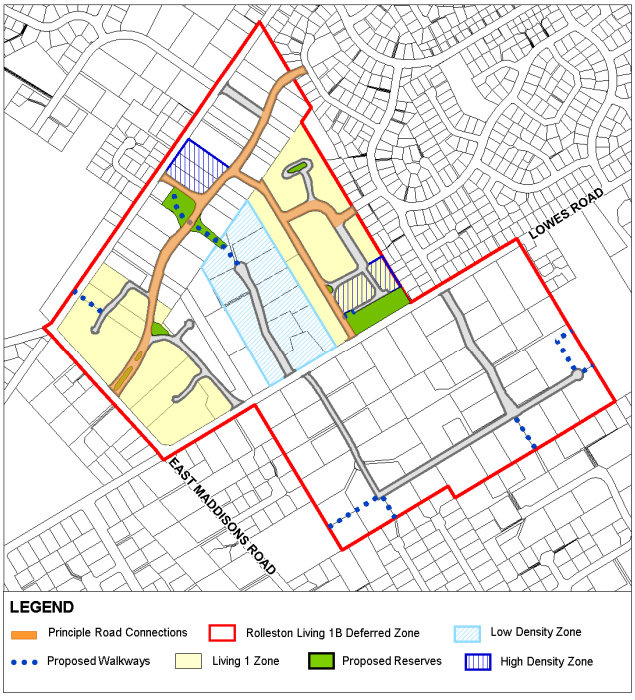


Figure 4.1:

Above - Connections required by the District Plan

Right - Main proposed through connections

New Local Roads

Other proposed roads are a mixture of connected roads and cul-de-sacs, depending on circumstances, to balance the desire for quiet streets and the need for connections. It should be noted that connected streets can offer a high standard of amenity especially if they are well designed.

Since the consultation was held in 2006, a new route has been proposed to link Jozecom and Fairhurst Places. Its function is primarily to organize the pattern of development but it will also provide a link for short journeys within the immediate area and a response to the concerns of residents in relation to the use of walkways.

A new cul-de-sac is also proposed to the west of Fairhurst Place, with the purpose again being to organise development and to provide a combined road/walkway connection to the school and the proposed road beyond.

Walkway and Cycleway Connections

Pedestrians and cyclists are more affected by poor connectivity than drivers. A poorly connected network of footpaths may impose long detours that make the journey highly inconvenient. This may result in extra car journeys as people are discouraged from walking or cycling.

The central location of the study area makes the provision of direct pedestrian and cycleway connectivity particularly important, for both the future residents of the area and for those who may wish to make through journeys.

The structure plan will introduce basic connections to the study area, but there will be much less connectivity than is the case in most of Rolleston.

A connectivity assessment is attached as Appendix 3. It demonstrates that the structure plan will achieve a moderate level of connectivity in the north of the study area but that even after the introduction of the structure plan, walking connectivity in the south of the area will be poor (although it will be better than it is now). This shows that it is important to obtain the structure plan connections as a minimum.

Figure 4.2: Connectivity Assessment (see Appendix 3).

The Council's Draft Walking and Cycling Strategy and Community Services Asset Plan place some importance on the provision of improved walking and cycling links. They identify that such connections are appropriately obtained during the course of new development. The Structure Plan represents a way to implement this existing Council approach and obtain the links the Community requires in an orderly fashion.

The required linkages are shown in Figure 4.3. The need for each one is discussed in detail in Appendix 1.

For walkways and cycleways, safety and quality are a particular concern. A walkway situated adjacent to an arterial road does not offer the same quality experience as a walkway beside a quiet street. It is less pleasant for the walker and higher traffic speeds (above 35km/h) make the walker feel less safe. But a network of unconnected cul-de-sacs with no through walkways forces pedestrians onto the arterial roads next to the traffic flow.

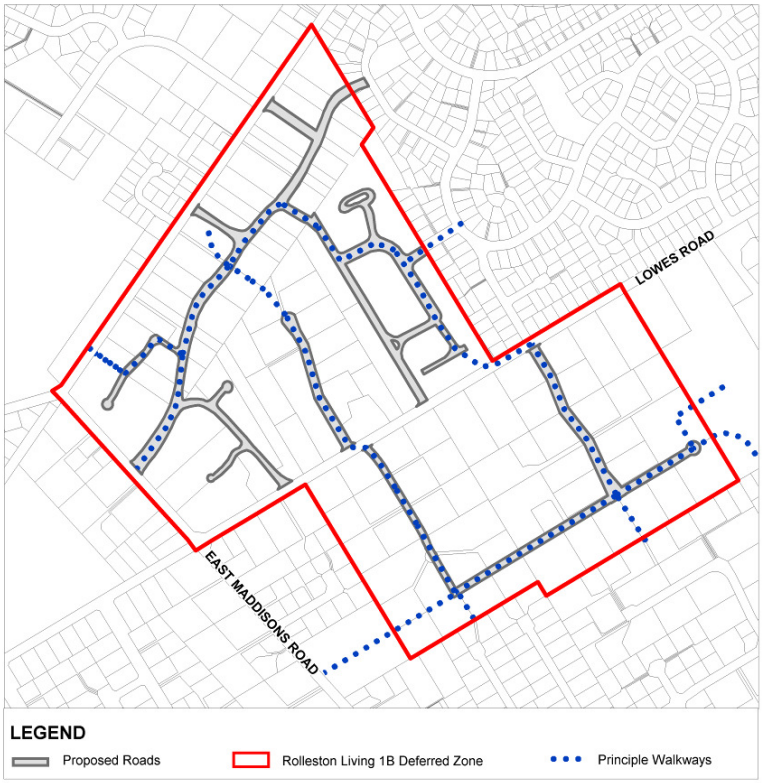


Figure 4.3: Proposed Walkway/Cycleway connections.

Lowes Road has been designated an Arterial Road in the CRETS study, whilst East Maddisons and Brookside Roads are Collectors. These busier roads with a wider traffic-carrying function are likely to have relatively low amenity and will be less attractive for walking and cycling. The provision of alternative routes is desirable and would implement a number of the objectives of the Walking and Cycling Strategy as identified in Section 3.4.2.

Principle Connections

The principle through connections required are a north-south connection from Brookside Road to Oak Tree Lane via Waterbridge Way and an east-west link which will form part of a connection from East Maddisons Road to Goulds Road via the new road proposed through the Ministry of Education site to the East. These connections are shown in figure 4.3. The proposed linkages are in addition to those provided by the road network, and walking and cycling routes are primarily on the road network.

The position of the east west walkway connections has been revised since the 2006 consultation. The original proposal, based on the re-use of accessways, was not popular with residents because of the impact on existing houses.

The new proposal uses short links, with walking and cycling routes now being mostly catered for by roads. These new walkways would not pass adjacent to any existing house. They would be obtained at the time of subdivision and the exact route would be a matter of negotiation between

the Council and the landowner.

In addition to these connections, the link from Fairhurst Place to Manor Drive is important to avoid the need for pedestrians to make long diversions. This link is already in use.

Recreational Walking

Residents may choose to walk for a number of reasons which include recreation and exercise. A connected layout provides opportunities for walking which are not available in a cul-de-sac layout.

The attractiveness of an area for recreational walking depends on the choice of routes and also the quality of the experience. Busy main roads are less attractive than well-designed off-road walkways or streets with light traffic.

The structure plan would contribute a number of routes which would be attractive for recreational walkers. These routes include circular routes on streets not heavily used by cars and through walkways and reserves. These routes contribute to the range of amenities available and will benefit future residents of the study area and surrounding streets.

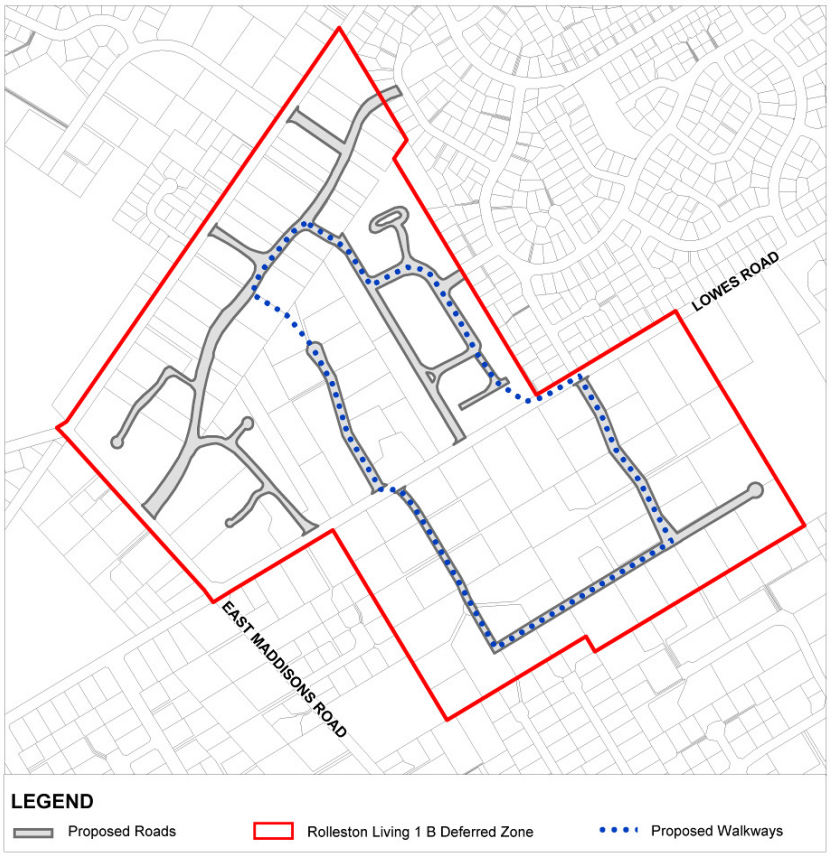


Figure 4.4: Example walking routes.

4.1.2 Provision of Open Space

The study area is of a sufficient size that, once it is subdivided to urban densities, it will require the provision of some reserve land within the area.

A structure plan allows the Council to plan for its desired reserve areas in advance of subdivision and signal to the community where it considers they should be located. They can then be purchased using reserve contributions as and when they become available.

It is proposed that a large central reserve be aquired at a high profile location within the study area, to act as a focal point for the area.

A second possible reserve has been identified at the south of the land owned by the Pineglades Naturist Club. This area contains a number of established trees and is located in an area which is some distance from the nearest alternative park.

It would also be desirable to obtain a third reserve in the south of the area, or on other land to the north of Oak Tree Lane. It is not necessary to include this in the structure plan because there is no particular site which has been identified. By not including it, Council can obtain land on the open market when opportunities arise.

4.1.3 Density of Development

The potential effects of higher density include visual effects (more closely spaced housing, ancillary buildings, fences, driveways etc) and the effects of more intensive use (traffic and noise for instance). Also relevant to this discussion is the legitimate expectation of subdivision rights by landowners.

The study area has been zoned for full residential subdivision since 2003 when the Living 1B zone was introduced. Existing landowners include a mixture of residents who have purchased their sections since the deferred zoning was introduced and those who have resided there for several years. Consultation has indicated a range of views as to the desired density.

Whilst the Council is entitled to consider zoning for any density it feels appropriate, the existence of the deferred zoning has sent a strong signal that residential development could be anticipated. Those who have bought land in the last five years are entitled to expect that they should be allowed to subdivide.

Furthermore, the study area is surrounded on all sides by residential zoned land, much of which has now been developed. The Rolleston Urban Limit has been drawn in anticipation of the area being urbanised. There are many arguments in favour of incorporating the study area into a compact and contiguous urban form.

However, in locations such as the study area, with spacious lots and large houses, intensification can appear incongruous if smaller lots are "crammed" around a large house which was originally designed to relate visually to a large lot.

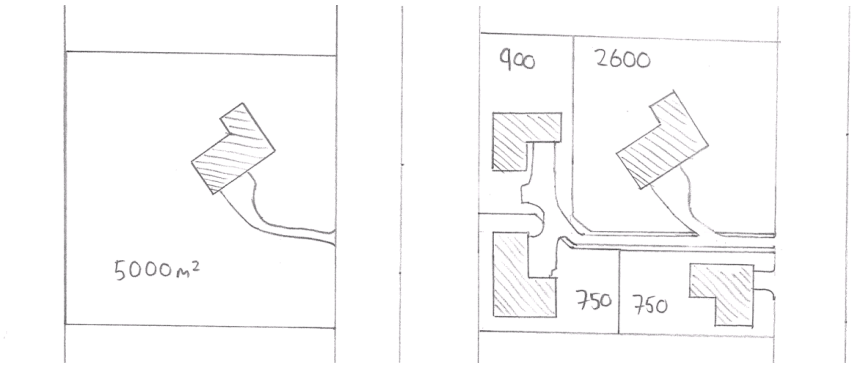


Figure 4.5: Example of how a 5000m^2 lot might be subdivided under L1B zoning.

Whilst in some cases houses appear to have been designed in anticipation of further development, some of the properties have been developed in such a way that it will be difficult to fit higher density development in around them. This is especially the case in Waterbridge Way where large properties, open space and an attractive public realm contribute to a particular unique character.

In view of the above, there may be a case for different densities in different parts of the study area. However, an advantage of the proposed zoning (750m^2 minimum and 1200m^2 average) is

that it will allow for a range of section sizes in a subdivision. It will give landowners the option of retaining their existing house on a large section and subdividing the remainder of the land into smaller parcels.

Waterbridge Way

The character of Waterbridge Way is in part derived from the pattern of housing. Houses are mostly set well back from the road with a degree of separation between them. This contributes to a sense of openness. Houses are also large and placed irregularly on the land.

The special character is also derived from the relationship that the lots have with the road. Areas of land adjacent to the road reserve are open and include water-races. These privately owned spaces contribute to the amenity of the road. The hump-back bridges serve to provide a unique feature.

Whilst some intensification is possible, the spacious character would be adversely affected by subdivision at L1B density. This allows for a mix of lot sizes but is likely to lead to clusters of smaller lots. These would have a low-key urban character which is not inappropriate for the locality, but would not preserve the special unique character of Waterbridge Way.

In order to preserve this character, it is proposed that an average section size of 2000m^2 is imposed, with a minimum of 1200m^2. This would ensure that the separation between dwellings is preserved along with a sense of spaciousness. This would apply to the area shaded blue on the structure plan map.

Standard Residential Housing (Living 1 zoning)

Standard residential zoning (Living 1 in the District Plan) applies across most of Rolleston. This type of zoning allows subdivision with an average section size of 750m^2. There is no minimum lot size.

The strategic direction of council policy encourages more consolidated urban form for a number of reasons. These include:

- Efficient use of resources (land, and other facilities which can be provided close to users)
- More efficient use of infrastructure. This will also cut the cost of development (the costs of providing roads and services will be shared amongst a larger number of sections).
- A higher density of subdivision will provide support for public transport by providing critical mass (more users).

In view of this, it may be appropriate to rezone some of the area as Living 1, where this would not adversely affect the character of the wider area and where lot shape and size would lend themselves to successful development at this density. These areas are shown in figure 4.6.

The Pineglades Naturist Club area would be particularly suitable for this as it is adjacent to existing standard residential. It is also held in consolidated ownership which means that the problem of fitting development in around a number of existing houses, which affects most of the study area, will not apply.

The area adjoining East Maddisons Road may also be suitable as it is also held in large parcels.

Higher Density Housing

The possibility of allowing for higher density (more houses on smaller sections) in parts of the study area was raised by some residents during the 2006 consultation period. Whilst such development is not supported across the study area, it is proposed to allow limited amounts in identified areas.

These areas are shown in Figure 4.6. They comprise an area to north of Lowes Road on part of the Pineglades Naturist Club site and an area to the south of Brookside Road.

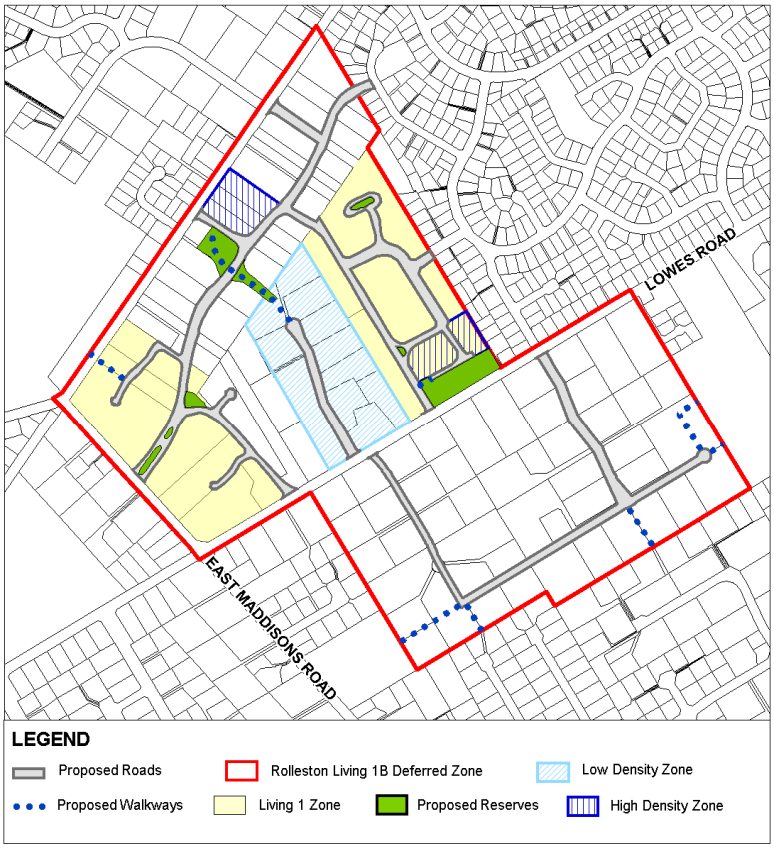


Figure 4.6: Structure Plan

Both of these areas are adjacent to proposed new reserves. They will have access to good outdoor amenity and be close to major roads which are suitable for bus routes. This will also be a more efficient use of land and resources. There is also a limited availability of smaller houses in Rolleston and it is desirable that the range of housing choices is increased.

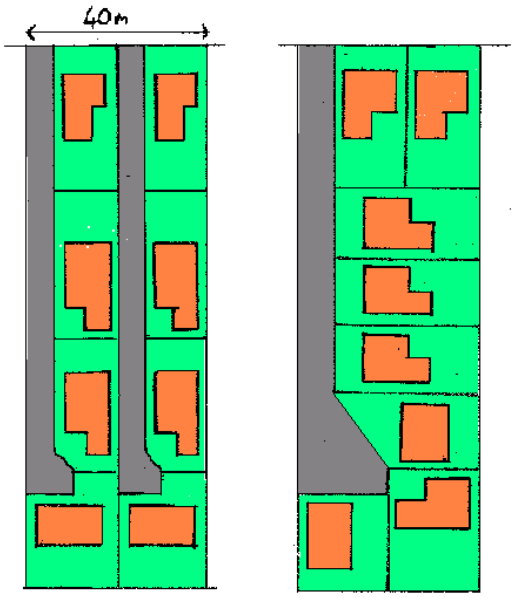
Higher density housing has some advantages but it also has the potential to create more adverse effects, such as shading and the appearance of cramped development. The most important consideration in deciding whether to allow higher-density development in the study area is that will not result in development which is out of character with its low-density surroundings. It would be better not to allow higher-density development than to allow development which was unsuitable.

The type of higher density development proposed for the area is small lot subdivision with a minimum size of 400m^2. This is considerably smaller than the area as a whole, so to ensure a good outcome from development, additional controls would be put in place. These would be aimed at ensuring the development avoids the appearance of being crammed into its surroundings and that it has an attractive frontage when viewed from the street.

The proposed extra controls would include:

- Controls on front fencing (being fencing which is adjacent to roads and accessways)
- A requirement for a minimum private outdoor area of 50m^2 to be located at the side or rear of the house.
- A requirement for a minimum site width prior to subdivision. Adjacent properties may

need to be developed in conjunction with each other to qualify. This allows the creation of an attractive street (or right of way) without the need for front fencing to create privacy (see figure 4.7).



A: Sites developed separately **B: Sites developed as single scheme.**

Figure 4.7 : Small lot subdivision.

4.2 Detail Issues

The following detail issues have been identified:

- Impact of Road Network, walkways and reserves on individual landowners
- Effects of Shelterbelts and trees
- Effects of Rights-of-Way
- Effects of new fencing
- Provision of Infrastructure
- Effect on existing uses (reverse sensitivity)

These are considered in turn below:

4.2.1 Impact of Road Network, walkways and reserves on individual landowners

There was both support and opposition to the location of roads proposed in the initial consultation.

There was a preference amongst landowners for cul-de-sacs as opposed to through roads, for reasons of amenity. This desire must be balanced against the benefits to future residents and the wider community of connectivity. The general approach is that cul-de-sacs are appropriate only for short sections of road. There are also measures which can be put in place to mitigate the traffic effects of through roads.

Whilst the consultation has revealed some general support for the principle of providing walkways,

the specific proposals were not supported because of perceptions of their potential negative effect on property (principally crime and grafitti). By contrast, there was more support for the proposed reserves. Again, the needs of the wider community and the preferences of the existing residents must be weighed when deciding on a preferred outcome.

The proposed walkways have been designed to provide connections for the wider area. Without them, the study area would act as a barrier to movement. The connectivity that they provide is basic and they are essential as a minimum requirement for connectivity as the area develops.

The route of the walkways has been amended in response to residents concerns. It is important to note that they would only be obtained at the time of subdivision. Landowners who do not wish to develop their land will not be compelled to provide access across it.

4.2.2 Impacts of shelterbelts and trees

There are a number of shelterbelts and clusters of trees in the study area. There was some support in the consultation for the retention of these features, which contribute to the general amenity of the area.

However, large trees and shelterbelts can be problematic in urban areas due to shading and it is often the practice of developers to remove all vegetation from a section at the time of subdivision. Even if they are initially retained, it is unrealistic to expect that private landowners will retain them in the long term.

Options include the retention of some of the trees in public areas such as reserves and within the road corridor. This option was supported at the consultation and can be progressed at the time that new roads are designed.

4.2.3 Effects of new Right-of-Ways

Unmanaged development often depends on access to rear lots by rights-of-way. Often, as is the case elsewhere in Rolleston, each lot will be accessed via a separate right-of-way.

This causes a disjointed street scene where multiple private rights-of-way access the road and decreases the opportunities for providing features which enhance the public space (such as street trees).

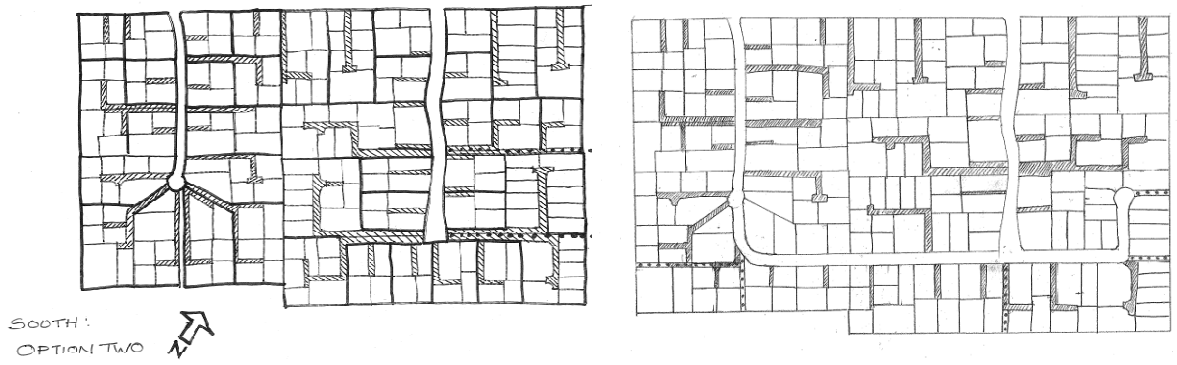


Figure 4.8: Likely patterns of development with and without the structure plan – south of the study area (shaded areas are shared right-of-ways). See also Appendix 1

It causes particular problems with fencing and it can be more dangerous for pedestrians and road-users where the right-of-ways join the street. This is especially a concern around the end of Jozecom Place, where six rights-of-way may access the turning head, some of them being used by six or more lots.

The structure plan provides an opportunity to indicate a preferred road layout so that development can be carried out in an orderly manner. Figure 4.8 illustrates how it will help to organise development in the south of the area.

4.2.4 Effects of new fencing

The urbanisation of an area will usually be accompanied by the erection of closed-boarded fencing, required for privacy. This will have an effect on the character of the area as it will block through views and disrupt the sense of open-ness. Tall fencing is especially problematic around rights-of-way (where it can create a narrow, enclosed corridor, attract grafitti and create a fear for personal safety). Even if the erection of fencing is controlled by covenants it is likely that there will be pressure for new fencing over time and the character of the area will be compromised in the longer term.

The structure plan can help reduce the impact of fencing by reducing the number of private rights-of-way that are required.

4.2.5 Provision of Water and Sewage Infrastructure

There are no technical problems with providing a water supply to the area. However, without the structure plan it will be difficult to service the northern half of the study area with sewers.

There is very little sewage infrastructure in the northern part of the study area. In order for sewage to flow freely, it must be drained from north to south into the Lowes Road sewer main.

The existing sewer on Waterbridge Way has only limited capacity and would not service the whole area. It would also be difficult to obtain easements through the many different land parcels fronting Brookside Road, to connect with this pipe.

The structure plan provides routes for sewers as well as for roads. In the absence of a structure plan, some means would have to be found to provide sewers, or development would be constrained in the northern part of the study area.

4.2.6 Effects on Existing Uses

The principle reverse sensitivity issue is to do with the operation of the Pineglades Naturist club. This long-established facility is surrounded by shelterbelts which would shade the rear of any sections established to its west. However, these provide screening and privacy. For this reason, the Council has proposed to locate a road adjacent to the naturist club. This provides separation for residents and enables screening to be maintained while minimizing the shading of residential property.

Other potential reverse sensitivity relates to a chicken farm operation, which is expected to relocate prior to the urbanisation of the area.

5 Implementation

The Structure Plan would be implemented through a combination of mechanisms. The principle means would be the District Plan but there would also need to be changes in the Development Contributions Policy. Some of the infrastructure may be obtained through designations.

5.1 District Plan

Normal procedure allows for infrastructure such as roads to be obtained at the time of subdivision. This process is incremental. As land is subdivided, the landowner is required to provide to Council any portion of their land which the Structure Plan requires. This is common practice in land development in New Zealand. Over time, this process will result in Council obtaining the land it requires.

Subdivision is a restricted discretionary activity under the District Plan. Within the study area, compliance with the Structure Plan will be an additional matter for discretion. If a developer wished to depart from the Structure Plan, this would only be permitted where an alternative was to be provided which would meet the aims of the Structure Plan.

Because the structure plan would be incorporated into the District Plan along with a set of policies and rules, it would have substantial weight. Council would be able to decline consent for development which would frustrate its intentions (eg by not allowing for appropriate connections).

5.2 Development Contributions Policy

Development causes a need for infrastructure. This can be new sewer or water lines, new roads and reserves or new bulk facilities such as a sewage treatment works.

It is a well established principle that the cost associated with development should be met by the developer. The Local Government Act provides for Development Contributions as a means for this to be done. These are charged to the developer before the issue of title. The amount varies, but in December 2008 the total payable for a new lot in the study area would be $11,500 plus a reserves contribution based on a proportion of the value of the additional lots created (up to 7%).

In most cases, the developer is required to build roads and water and sewer pipes on their land and then vest these in Council as a condition of subdivision. This requirement is in addition to the payment of development contributions.

For the study area, because the land is in many different ownerships, this is unlikely to be practical. Instead, it is likely that Council will build the infrastructure. However, the principle that developers should pay still applies. In effect, the Council will act as a banker for the development, building infrastructure at the time land is first developed and then recovering the cost from developers on a pro-rata basis as land is subdivided.

Whilst this will result in higher development contributions than elsewhere in the District, there will be savings for developers because they will not have to provide as much completed infrastructure. The building of the public roads will also mean that fewer rights-of-way will be required. The cost of developing the area if the structure plan is implemented is likely to be similar to the cost if it was not implemented.

For most of the parcels of land, the land required for connections will be obtained at the time of subdivision and vested in Council as a requirement of the consent. This is equitable as this land will provide access to the lots, that would otherwise have to be provided over private land. For some key connections, Council may purchase land to allow development to progress according to the Structure Plan.

Reserves

A development contribution is payable for reserves at the rate of 7% of the value of additional sections created.

The structure plan provides for 1.6ha of new reserves.

If the land is developed to the maximum permitted under the proposed zoning (excluding higher densities), then it would provide sufficient reserves contributions for the purchase of 1.8ha of land. However, in practice the reserve contribution is also used to pay for the physical works involved in providing new reserves (such as landscaping).

The new reserves have been located to address a shortage of reserves within and to the south of the study area and to take advantage of existing features (being mature trees within the Pineglades site and the water race north of Waterbridge Way).

5.3 Designations

For some of the roading and infrastructure, a risk has been identified that it may never be completed because this would require every lot to be subdivided; something that may never happen. This applies particularly to the "spine road" which runs parallel to Brookside Road.

In these cases, Council may choose to designate the road and purchase the land compulsorily. This provides certainty that a link can be provided and it also allows the provision of that link in a timely manner without waiting for the subdivision of all blocks of land.

Appendix 1

Evaluation of Specific Options for Roads, Walkways and Cycleways

The proposed new pathways, roads and reserves are illustrated in figure 1. The proposal represents a compromise. It attempts to accommodate the wishes of the present landowners for quiet streets and also to provide much needed connections through the area.

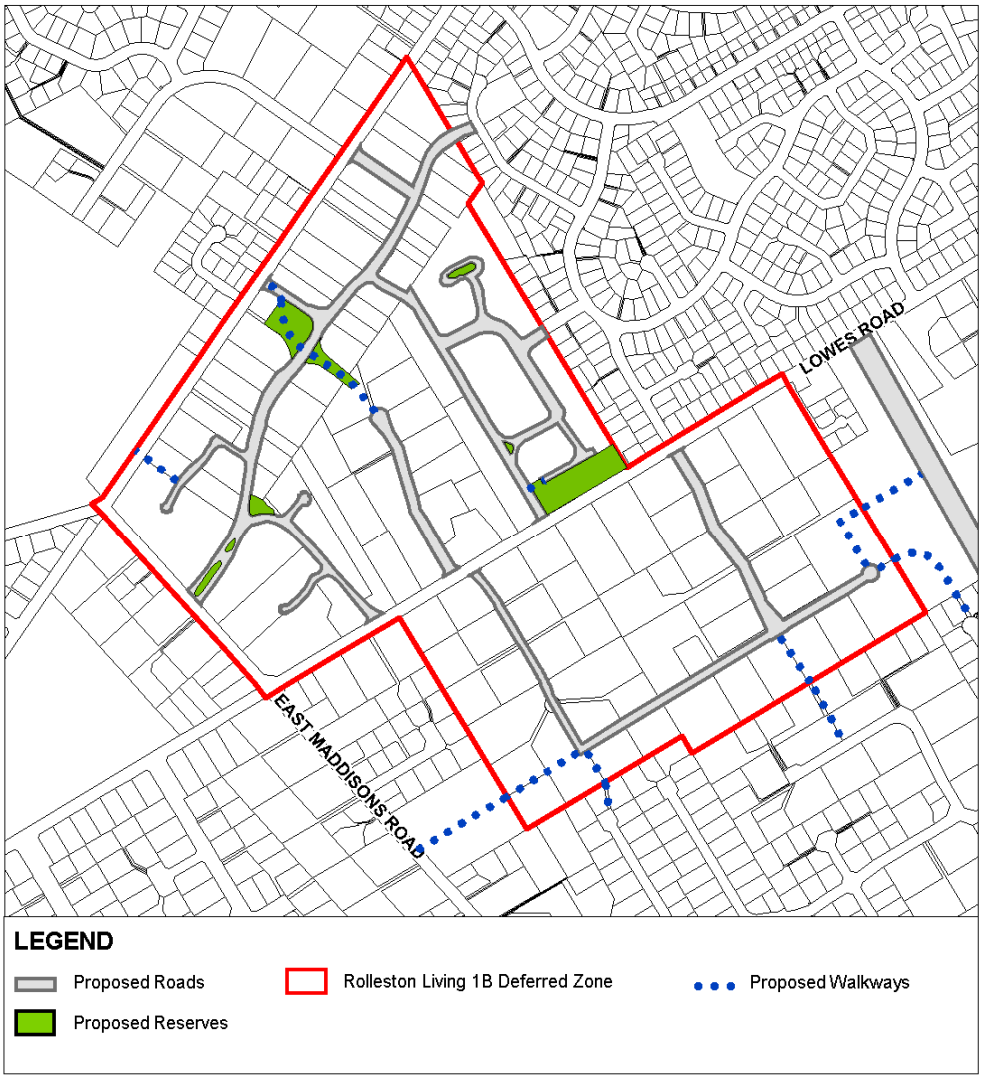


Figure 1: Study Area Connections

In balancing these conflicting objectives, it must be recognized that the subdivision process will fundamentally change the character of the area. It will take many years to complete and create a form of development which is likely to persist for a hundred years or more. The needs of the future residents of the area and also the wider town must be considered along with the wishes of the current landowners.

It is also important to consider the likely development that will occur without a structure plan and to compare this to the preferred option. The retention of the present character is not a likely outcome.

The road and walkway network will take many years to complete. It is likely to be aquired incrementally from landowners as each parcel of land is subdivided. But the layout has been designed with the future function of the zone and the town in mind as much as the present needs and this is not necessarily a problem.

An assessment of connectivity has been included in appendix 3. The assessment concludes that while Rolleston as a whole has moderate connectivity, the L1B area has very poor connectivity and currently functions as a barrier to movement. Even with the structure plan in place, connectivity would still be significantly worse than the town as a whole.

The location of the zone in close proximity to the geographic centre of the Rolleston Urban Limits is significant. This central area consists of a triangle of land bounded by Goulds Road, Dynes Road and Tennyson Street. Whilst the function of this area is yet to be determined, it is likely that District facilities would be located here. Good access to this area from the wider town is therefore of considerable importance.

Road and pathway layouts usually last longer than buildings. Whilst the connection may take some time to be established, it is likely to be in place for a hundred years or more. It is important that the opportunity to establish linkages is taken whilst it can be.

1.1 New Roads

New roads are required to provide for movement and to organise development. In terms of movement, the structure plan has been designed to:

- provide connections for through-journeys
- provide logical (not convoluted) routes for journeys originating in the study area
- provide for direct pedestrian and cycleway movement

As regards the need to organise development, the structure plan roads are intended to

- avoid untidy and potentially dangerous streets dominated by right of way accesses
- To allow efficient development (avoid wastage of land on multiple rights of way).

The need for the structure plan is illustrated by figure 3 which shows two development scenarios for the north of the area. These have both been designed to illustrate how the area would look if developed to the maximum permitted under the plan rules. Whilst in reality each exact scenario is unlikely to be built over the entire area, they do give an indication of the type of development that may happen. None of the individual developments are unrealistic.

A Without Structure Plan

B With Structure Plan

Figure 3: Subdivision Scenarios for the North of the Structure Plan area

The first of these (A), without a structure plan, is dominated by long rights of way, frequently over 150m in length. These are an inefficient use of land, can be unattractive, unsafe and are expensive to build.

Figure 3B shows that the structure plan will effectively remove the need for many of these rights of way and allow a tidier form of development.

Figure 4 illustrates the same principle for the south of the area. The impact of the structure plan is most evident around the turning heads of Jozecom and Fairhurst Places.

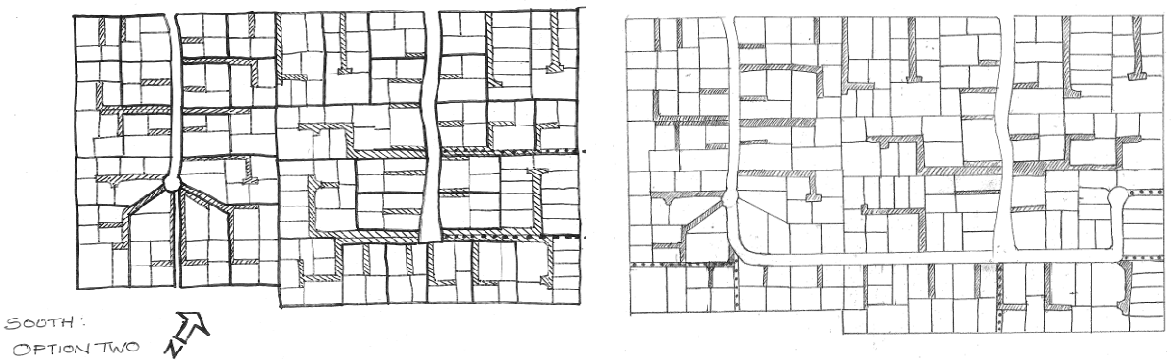


Figure 4: Likely Pattern of Development without structure plan (left) and with structure plan (right).

1.1.1 Specific Connections Required

The specific roads required are illustrated in figure 5 and discussed below.

1 Connections to Brookside Road

The structure plan proposes two new connections to Brookside Road.

One connection will facilitate a reasonably direct route to Lowes Road via the Spine Road. This is regarded as essential to provide for the increased travel demands that development will cause and to help resolve the shortage of direct routes in the study area.

A second connection is likely to funnel traffic more quickly onto Brookside Road and reduce the amount of traffic on Road 2. This would be beneficial to both traffic flow and amenity.

These connections are also fulfilling a requirement of the District Plan (Appendix 23 Subdivision Design Guidelines for Rolleston). This signals the intent of Council to obtain a north south connection through the area.

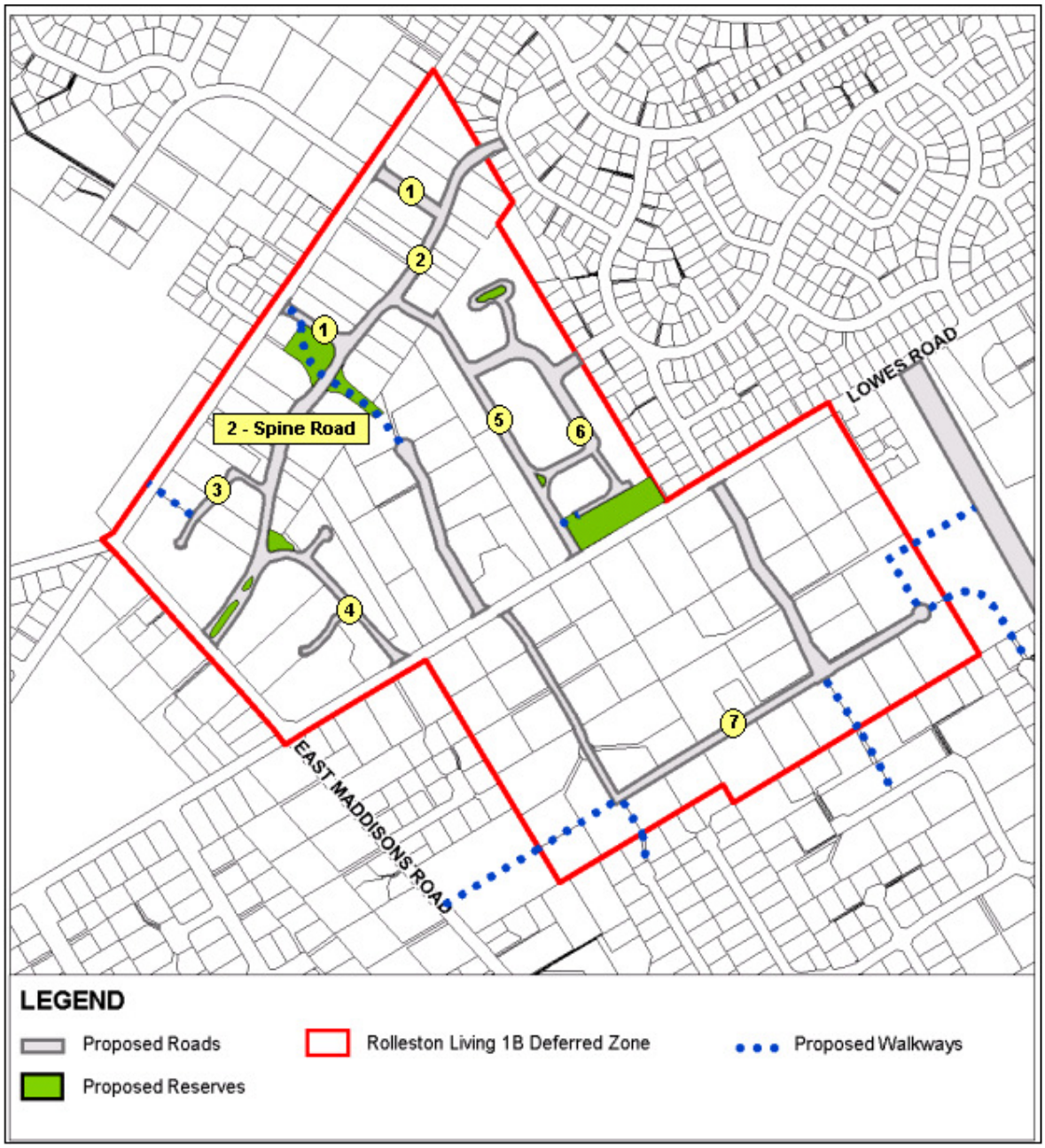


Figure 5: Individual roads required

2 The Spine Road from East Maddisons Road to Campion Place

This spine road is required for four reasons:

- This road is key to the functioning of the road network and providing for internal connectivity. It will provide important connections within the structure plan area. Key connections include to Brookside Road via proposed road 1, to Campion Place and East Maddisons Road and to proposed roads 4 and 5 which connect with Lowes Road. Without it, journeys will have to be accommodated by the existing main road network which will not provide for direct journeys.

- The road provides organization within the area. Without it, newly created sections must be accessed via right of ways. Sections adjoining Brookside Road are frequently long and thin and there would be a multitude of right of ways accessing onto the South side of Brookside Road. This is undesirable for the reasons identified in section 4.2.3. Figure 3A illustrates how the area might develop if the structure plan was not implemented

- The spine road provides for some East/West through connectivity from Brookside Road to Campion Place and helps to accommodate some north/south through traffic. Given the central location of the study area, this is an important linkage.

- The road is also critical for providing pedestrian linkages through the area, especially important for access to the geographic centre of the Rolleston Urban Limit.

- The road provides a route for sewer and water connections. Additional sewer and water capacity is required if the area is to be developed. This cannot be provided from the existing mains located around the perimeter of the area for technical reasons.

The provision of connectivity has been identified as being central to the future success of Rolleston. A spine road providing through connections is critical to this.

There are problems inherent in the proposed route. It passes through a large number of sections in many different ownerships. It would bisect some separating the front from the back. Some landowners are opposed to the road because it would reduce their privacy and the sense of ruralness. Obtaining the land may be difficult, although Council has the option of compulsory purchase through land designation.

A number of alternatives have been considered, both during and prior to the consultation period. A road running parallel to proposed road 2, along the rear of the sections fronting Brookside Road, would be an alternative (avoiding cutting sections in two) but would not provide good road frontage for new sections and would not be the best solution going forward into the future. The issue of many rights of way accessing onto Brookside Road (and also the new road) would remain.

An alternative layout using two cul-de-sacs was also considered. This layout, without a complete spine road, would improve the amount of road frontage available but would not provide good connections within the area. Whilst it would help satisfy some of the landowners, it would not be a good option for the future of the area.

There does not appear to be a satisfactory alternative to the proposed road, which would link up to Campion Place via land which has been aquired for the purpose.

Figure 6: Alternative layout without spine road

3 New cul-de-sac

This road provides an organizational function to avoid problems accessing the newly created sections. It would also form the basis for a walkway/cycleway connection through to Brookside Road.

4 New connection to Lowes Road and cul-de-sacs

The connection between the Spine Road and Lowes Road is important to provide for some connectivity within the area. It is likely to be used mostly for journeys within the structure plan area but would form an alternative north/south connection to the proposed road 5. It is important as a pedestrian link as well as a roadway.

As with other roads, it performs an organisational function and the inclusion of the cul-de-sacs will ensure development can occur without excessively long rights-of-way being required.

This road also provides a route for a north-south sewer connection which is required if the area is to develop.

5 Connection from Lowes Road to new "spine road"

This road is also essential to allow the development of the area adjacent to its route as access would not be possible from Waterbridge Way.

This is the main north/south link and it implements the requirement for such a connection in the District Plan.

This road is likely to provide for some limited through traffic but would not be the most direct route for most journeys, so it would be principally a local road. This route also has the advantage of avoiding existing houses, minimising the effect on residents.

A connection to the north and south is essential to provide for internal connections and also to ensure that an overly long cul-de-sac does not result. This link also provides a route for the required sewer connection.

The link has been positioned to avoid conflict between the Pineglades Naturist Club and future sections. If residential lots were positioned directly adjacent to the naturist Club, it is likely that there may be pressure for the removal of screening which is valued by the club.

6 Local roads within the Pineglades Naturist Club site connecting to Renoir Drive

The Pineglades Naturist Club is under single ownership and if developed is expected to be subdivided in one stage. This means that the roads can be designed in an integrated manner when they are required and that there will be no conflict between development and existing owners.

The connection to Renoir Drive would provide another local connection in the road network which would be especially important for providing a direct pedestrian and cycle route. This connection is required by the existing District Plan provisions.

7 New Road connecting Jozecom Place to Fairhurst Place and new cul-de-sac from Fairhurst Place

The draft structure plan did not propose any new road connection between Fairhurst Place and Jozecom Place. However, analysis has shown that the draft structure plan is likely to result in a very poor outcome for the future urban development of this area, especially around the turning heads of each of the roads, as is shown by figure 4 earlier in this discussion.

If the area is allowed to develop under the original structure plan (or without it), it is likely that there will be many right-of-ways opening onto the end of each road, many of them serving a number of sections. The disadvantages of multiple right of ways are covered elsewhere in this report, but it is likely that both Fairhurst and Jozecom Places will become dangerous and unattractive places, especially for pedestrians and cyclists.

The purpose of the proposed roading is to shorten journeys between the two cul-de-sacs and to organize the subdivision of land in such a way that fewer rights-of-way are required around the turning head areas. Figure 4 shows the likely pattern of development with the proposed road and without it. It demonstrates that the road will be a very effective way to improve access to the southern part of both cul-de-sacs.

Disadvantages of the proposal include resistance from landowners in both roads who may prefer the present cul-de-sac arrangement and from those directly affected by the link road.

Objections to the link are likely because consultation shows that residents enjoy the quiet character of the area. They consider that character is in part due to the roads being cul-de-sacs. However, a crescent road as would be formed by the link would not attract through traffic and would not be a busy street.

Additionally, concerns are often expressed about crescents being used as a race track. This does not appear to be a problem in Rolleston at present, but there are design solutions that can make this unlikely by forcing cars to slow down. These include narrow link sections, pinch points and tight corners. In view of this, the change in street character is likely to be minor when compared to the change in character which is likely if the link road were not installed.

This proposed road replaces a proposed walkway connection in the original structure plan. If the road is not provided, then a walkway will be required in its place.

1.2 New Walkways / Cycleways

New walkways proposed would provide for direct pedestrian and cyclist connections. They would be formed to Council standards which require a width of at least 6m and landscaping. A relatively large number of walkways are required around Jozecom and Fairhurst Places because of the smaller amount of roading in this area.

The pathway network includes four important through-connections. These are:

1 A north/south link from Brookside Road to Frame Crescent (allowing access to Oak Tree Lane)

2 An east/west connection through Jozecom and Fairhurst Places allowing a link between East Maddisons Road and the geographic centre of the Rolleston Urban Limit area.

3 The connection from Fairhurst Place to Manor Drive.

4 The connection from Brookside Road to the Spine Road via new road 3.

These connections are shown in figure 7.

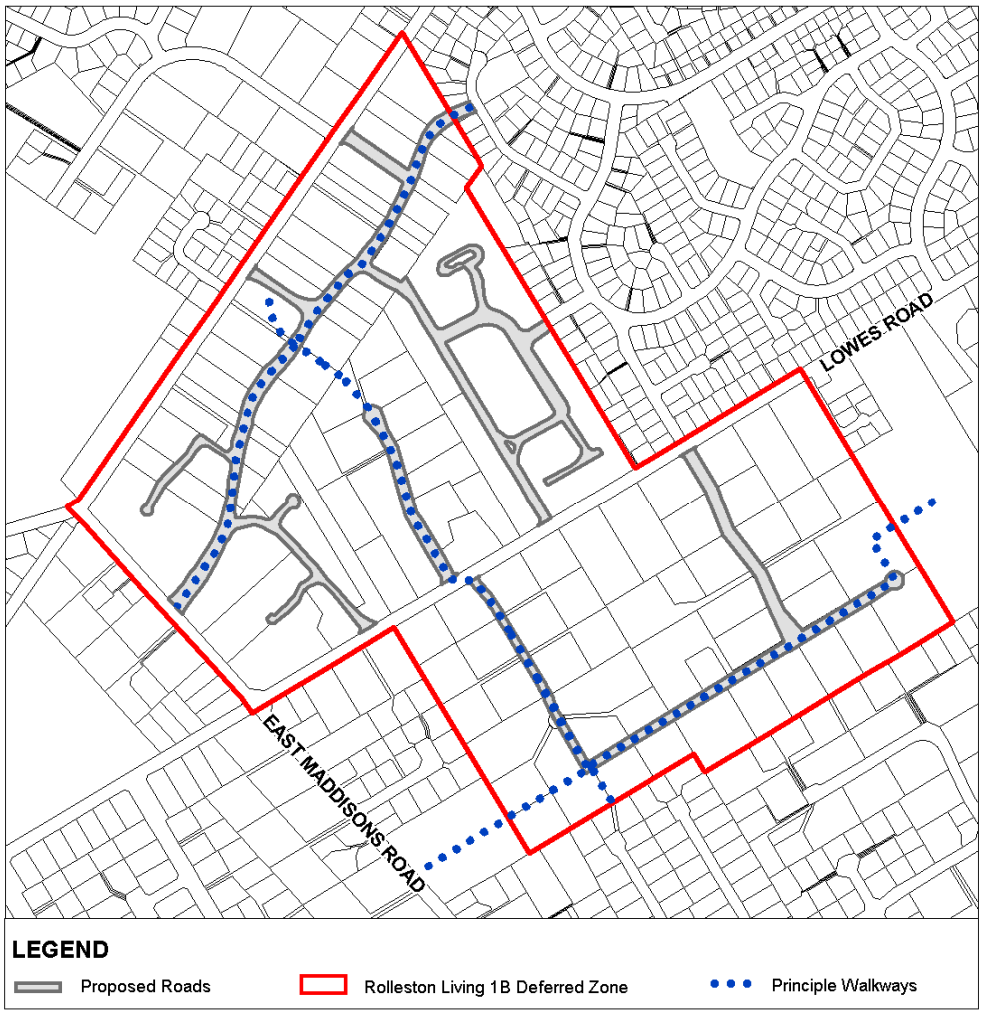


Figure 7: New Walkway/Cycleway connections

Without all of these connections, there will be a shortage of direct links through the area and pedestrians and cyclists will be forced to divert long distances. These connections have been designed to provide a basic amount of connectivity.

These through connections also make use of the roads within the study area. If the proposed link between Jozecom and Fairhurst Place is not provided then a walkway will be required in its place.

The need for these connections is considered in detail below

1.2.1 The North/South Connection

The link between Waterbridge Way and Brookside Road walkway provides for a high-quality direct connection alongside the water race.

The purpose of this link is to provide for amenity as well as connectivity, the majority of it being located within a proposed reserve. It will connect the central amenity feature (the reserve) to an attractive walking route through Waterbridge Way. It is likely that the water-race will be landscaped to provide a feature for the reserve and walkway.

The link from Jozecom Place to Frame Crescent would provide a high quality connection to Oak Tree Lane. Very long diversions may be required without it. Land has been taken from the turning head in Frame Crescent in anticipation of this link being provided.

1.2.2 The East/West Connection

This important link will in time provide access from East Maddisons Road to the school site and beyond to the geographic centre of Rolleston. Without it, there would be a shortage of direct links through the area and pedestrians and cyclists will be forced to divert long distances, sometimes along arterial roads which may not have a high standard of amenity.

This route has been substantially revised since the 2006 draft. It is now proposed that it is comprised mostly of roads, with short pedestrian linkages. This is partly in response to the strong opposition of consultees to the use of rights of way for walkway/cycleways, but also a recognition of the need to organize development in this area. The roads reflect the likely pattern of development.

Two short walkway connections are proposed to the East of Fairhurst Place, both of which would connect to the new school and a new north-south road planned to link Lowes Road with Goulds Road.

The southern-most connection would lead through the proposed school. Access through the school site would be possible, but would be at the discretion of the Ministry of Education. In the longer term, a legally protected route is desirable and for this reason the structure plan proposes a second connection to the north of the school site, from a new cul-de-sac.

Some connection to the school is essential from Fairhurst Crescent. The alternative is a diversion of more than a kilometer. This has a substantial effect on the ability to walk to school which has been identified as a priority of the Walking and Cycling Strategy. The effect on walkability for the proposed school of a link is profound and can be illustrated by a walkability analysis.

A walkability analysis shows the distance from a point (in this case the school) that can be reached within an average ten minute walk (800m), given the connections that are available. In the comparison below (figure 8), the areas within the blue perimeter are those within an

800m walk. The additional area served by the walkway/cycleways covers a substantial area in the study area and the area immediately to the south. Under the current and deferred zoning, this area could accommodate around 180 households, which would otherwise not be within an easy walk of the school.

1.2.3 Fairhurst Place to Manor Drive

This link is already in place although access through some of it is due to the goodwill of the landowners rather than any formal agreement. This provides a through connection to Lowes Road from Manor Road, Goulds Road and the geographic centre of the town area.

1.2.4 New Road 3 to Brookside Road

A pedestrian/cycleway link would provide a reasonably direct connection for pedestrians from road 2 to 3 and avoid the need for long diversions.

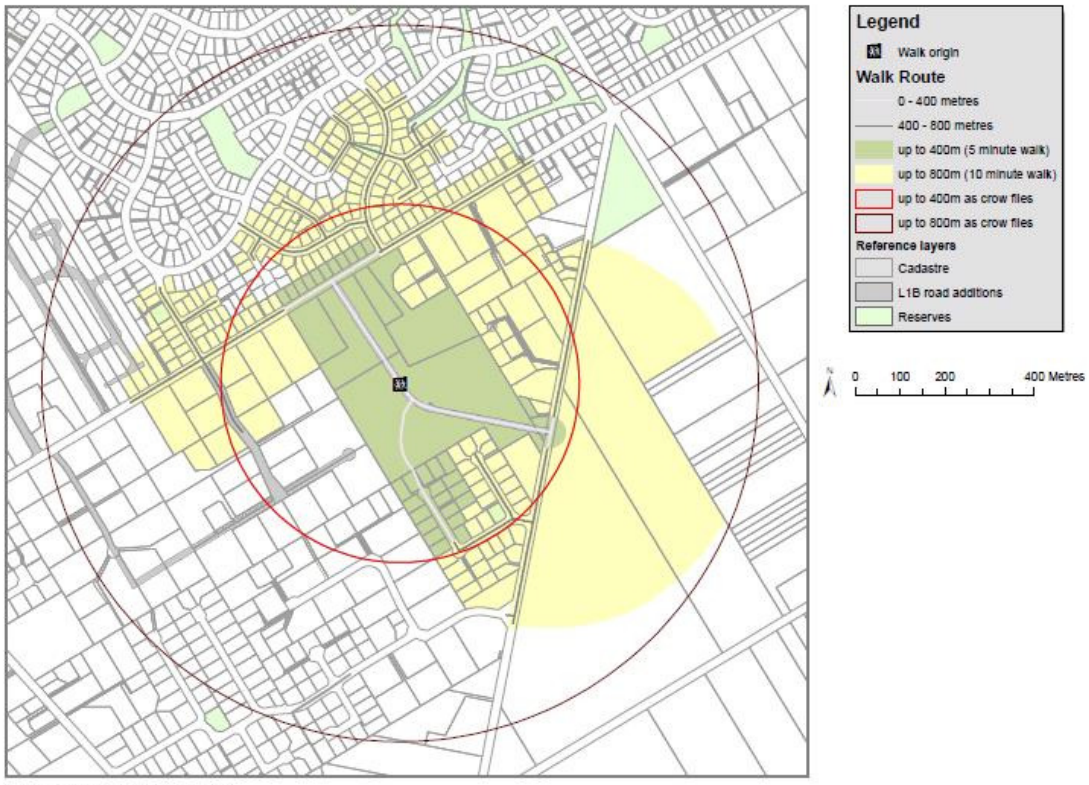


Figure 8: Walkability assessment *(mapping provided by Boffa Miskell Ltd)*

New Reserves

A number of new reserves have been identified with two being of significant size and likely to be used for recreation purposes. These have been located to take advantage of existing features within the study area.

A third reserve in the South of the area would be desirable to serve the south of the study area and also Frame Crescent and Oak Tree Lane, parts of which are over 1km from the nearest reserve.

The Community Services Asset Management Plan contains a target level of service for neighbourhood reserves to be within 400m of all households. It also aims for reserve provision of 1.2ha per 1000 people. A total area of 1.6ha is proposed to serve a projected population of around 1,250 people, which would also meet this target. It should be noted that the target level of provision would be applicable on a Rolleston–wide basis and include large central reserves as well as neighbourhood parks. The structure plan would therefore ensure that the area was well-served with reserves.

The northern reserve alongside Brookside Road has been located to include the water race and also a number of existing trees. This reserve would connect with Waterbridge Way via a walkway and a "green corridor". The site has a very high potential for the creation of amenity and unique character.

It is also widely accessible, being within 400m actual walking distance of most of the northern half of the study area (assuming the proposed connections are provided), and also to sites along Brookside Road.

The southern reserve on Lowes Road would enable the retention of a number of trees which it is likely would be lost if the area is developed. This is especially desirable as mature trees are rare in urbanised parts of Rolleston. This reserve is also very accessible.

In addition to these reserves, it would be desirable if an additional reserve could be provided to the south of the study area, adjacent to the Road 7 linking Jozecom and Fairhurst Places. Lots in this area are further than 400m from the nearest reserve, as are those in Manor Drive which would be connected to this area. Council may attempt to purchase such a reserve from a willing seller if the opportunity arises.

Appendix 2

Evaluation of Options

In response to the consultation and the issues identified in Section 4, four alternative options have been considered, ranging from abandoning the structure plan to extending it to include additional matters such as additional roads. These options are described below along with their advantages and disadvantages.

Option 1: Do nothing and allow deferral to be lifted

This option would see the abandonment of the structure plan. The deferral would be lifted on 1 January 2010 and subdivision would be permitted from then on at L1B density.

Advantages

- Less cost to Council
- Clarity for developers over zoning

Disadvantages

- Lack of road connectivity within and through the study area.
- Lack of pedestrian connectivity within and through the study area.
- Problems servicing new lots with sewers.
- No certainty for the community about the provision of reserves.
- Low quality streetscape due to large number of rights of way.
- Pedestrian hazard due to large number of rights of way.
- Future maintenance issues with rights of way.
- Inflexible development form means development will not be future-proof. Does not allow for future intensification or other unknown future needs.
- Will not preserve the special character of Waterbridge Way

Option 2: Retain the existing zoning

This option would abandon the change in zoning entirely and retain the existing low-density semi-rural character with a minimum section size of 5,000m^2.

Advantages

- Certainty that existing spacious character will be retained, including Waterbridge Way.

Disadvantages

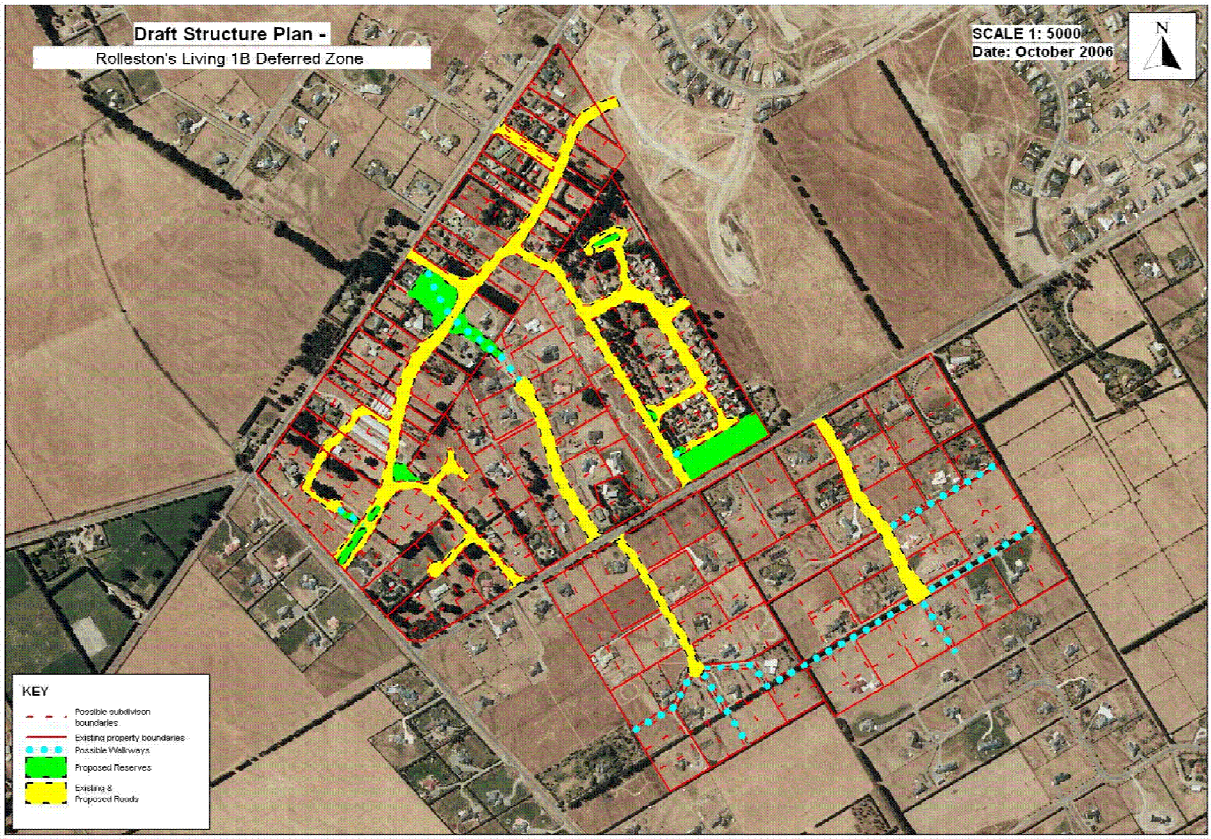
- Unfair to those who have bought or held land in the expectation of development rights.
- Lack of road connectivity within and through the study area.
- Lack of pedestrian connectivity within and through the study area.
- Inefficient (sprawling) urban form in central area of town. Results in more dispersed

population, increased travel times and costs and increased vehicle emissions.

- Inefficient use of town infrastructure.

Option 3: Implement the 2006 draft Structure Plan

This option would see the implementation of the structure plan as proposed in the 2006 consultation. The structure plan would set the location of roads, footpaths and reserves throughout the area, as shown in the diagram below.



The 2006 L1B Structure Plan

Advantages

- Provides good pedestrian connectivity through the area, well matched to potential demands.
- Provides good road connectivity in the north of the area.
- Provides certainty about the position of roading for subdividors and the community.
- Provides a central feature to the area in the form of the reserve between Brookside Road and Waterbridge Way.
- Reduces the area required for rights of way.
- Provides a more "future-proof" layout due to improved access.
- Preserves key features such as significant trees.

Disadvantages

- Poor road connectivity to the south of Lowes Road through to key central sites to the east.
- Difficulties in obtaining northern connector road due to fragmented ownership. It may be some time before the road is complete and sections will have to have legal access to other roads in the meantime.
- Will not preserve the special character of Waterbridge Way.
- Some landowners may wish to develop their land in other ways.
- Some landowners feel disadvantaged by the proposed roads and footpaths through and adjacent to their land.

Option 4: Implement a revised Structure Plan

A number of amendments are proposed to the structure plan as a result of the consultation process, development that has occurred since 2006, the emergence of the *Greater Christchurch Urban Development Strategy,* and the endorsement by Council of the Rolleston Urban limits. This option would update the Structure Plan to respond to these matters.

Changes proposed under the updated Structure Plan scenario are as follows:

- The provision of a road running from the end of Jozecom Place to Fairhurst Place. This is located on the same route as the previously proposed walkway
- The northernmost walkway from Fairhurst Place to the currently vacant adjacent land to be relocated.
- A new short walkway linking Brookside road to the spine road at the western end of the zone.
- A low density area to be implemented around Waterbridge Way with a minimum section size of 1200m^2.
- Rezoning some land to L1 and also providing for some higher density townhouse development.

Advantages

- Provides good pedestrian connectivity through the area.
- Provides improved road connectivity throughout the area including the south of the area through to key central area in the east.
- Provides certainty about the position of roading for subdividors and the community.
- Provides a central feature to the area in the form of the reserve between Brookside Road and Waterbridge Way.
- Reduces the area required for rights of way.
- Reduces the adverse effects of multiple rights of way in Fairhurst Place and Jozecom Place and along Brookside Road.
- Preserves key features such as significant trees.
- Provides a more “future-proof” layout due to improved access.

- Preserves the special character of Waterbridge Way
- Will allow increased density around Fairhurst Place compared to the 2006 option.
- Makes more efficient use of land and infrastructure.
- Provides for more housing choices

Disadvantages

- Difficulties in obtaining the northern spine road due to fragmented ownership. It may be some time before the road is complete and sections will have to have legal access to other roads in the meantime.
- Some landowners may wish to develop their land in other ways.
- Some landowners will feel disadvantaged by the proposed roads and footpaths through and adjacent to their land.

Preferred Option

The preferred option is option 4.

It is clear that option 1 would lead to a highly unsatisfactory form of development with very little connectivity and poor amenity. This would be a very unsatisfactory outcome especially in view of the study area's key central location.

There are a number of disadvantages with option 2, the main being the inefficient use of land and infrastructure within the central urban area. The problems of poor connectivity also persist.

It is also considered important that Council has clearly signalled its intention to allow subdivision and that landowners have legitimately based their decisions on this District Plan provision. To reverse this zoning would only be justified by compelling circumstances.

Option 3 addresses many of the identified issues including connectivity and the position of roads and reserves. It would substantially improve the pattern of development. However, it has a number of shortcomings, which are increasingly significant within the context of the continuing urban expansion of Rolleston.

Option 4 addresses the shortcomings of option 3, providing for better connectivity and allowing an improved form of development and more attractive public realm.

Appendix 3

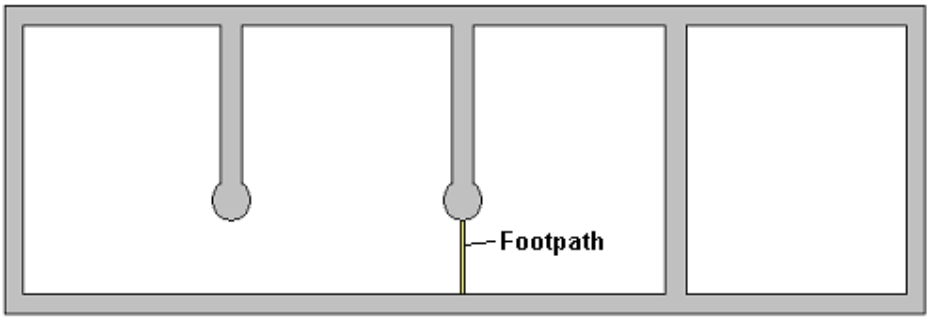
Connectivity Assessment

Connectivity refers to the number of connections available in an area. It is a good indication of the degree to which there is a choice of routes through an area.

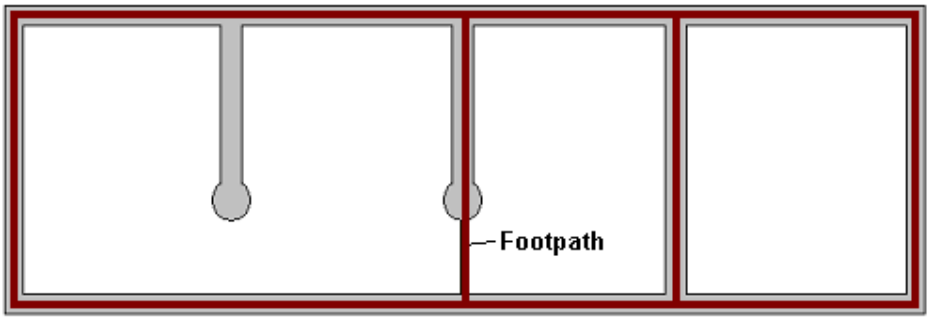
This study uses the concept of a walkable block as a tool for assessing the amount of connectivity in Rolleston.

A walkable block is defined as the smallest land segment which it is possible to walk entirely around a city block on publically accessible land. Publically accessible land can be a road, footpath, reserve or other land to which the public has permanent and legal access.

The diagram below shows an example of a city block layout.



A connectivity assessment of this example would divide the area into three walkable blocks. Each block is the smallest unit which it is possible to walk entirely around on publically accessible land:



Traditionally, suburbs were built with blocks of around 600m (being 200m by 100m). With widespread ownership of cars, block sizes have tended to increase in recent years and urban areas have become less walkable.

A block size of 800m (being an average 10 minute walk) is regarded as giving a reasonable amount of connectivity. Where the block size is larger than this, there is a limited choice of routes and walking trips become elongated and less convenient. Larger blocks become obstructions to direct walking routes.

Figure 1 shows the above analysis as applied to Rolleston, with the blocks colour coded according to size. Green areas, with block size below 800m offer good connectivity. Yellow areas indicate moderate. Orange and red areas, with larger block sizes above 1000m, indicate that connectivity is poor.

The urban area of Rolleston is comprised of a variety of block sizes.

Within the central area, around the town centre, connectivity is predominantly good or moderate. Whilst there are some blocks of above 1000m and some above 1200m, these do not dominate the land area. However, these red and dark orange areas can be a significant barrier to movement

In some cases, it is expected that larger blocks will be subdivided in future and that the opportunity will be taken to improve connectivity. This particularly applies to the land behind the Council Offices on Norman Kirk Drive (A) as well as to the L1B deferred zoned area (B). It is also worth noting that land adjacent to the town centre (C) is currently vacant and accessible. It should be possible to obtain a permanent connection through this site when it is developed.

There is little opportunity to provide more connectivity in other red coloured areas as these have now been fully developed.

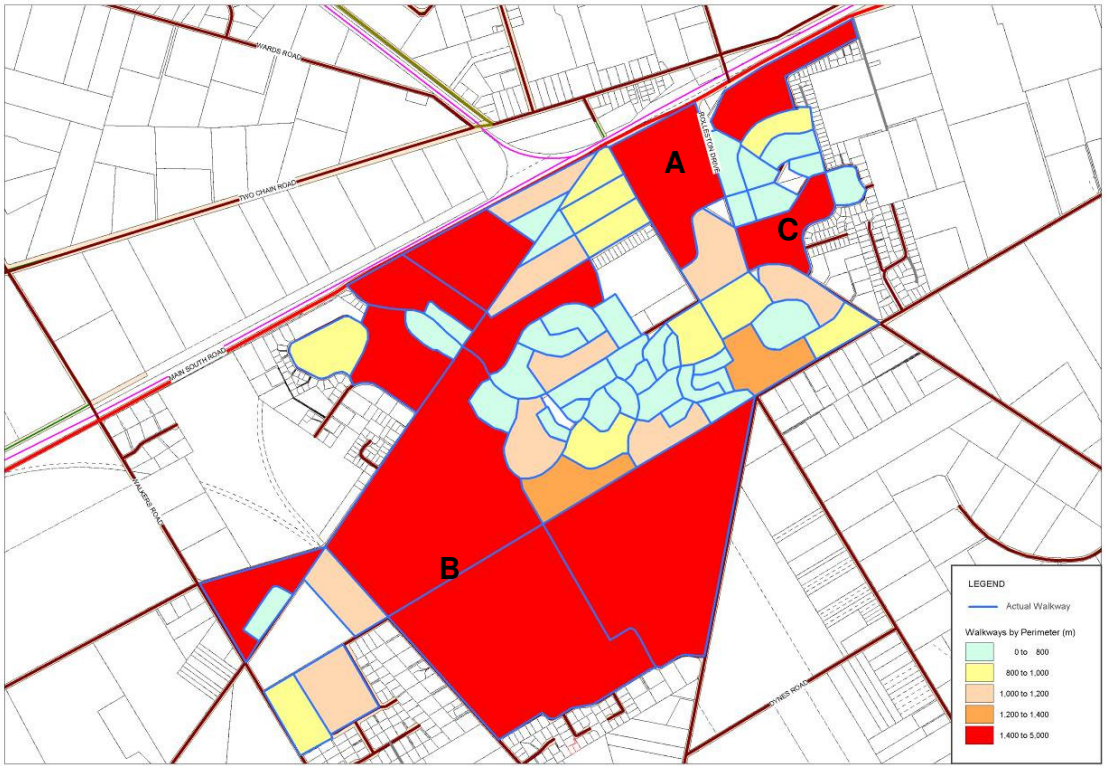


Figure 1: Walkable blocks in Rolleston

Figure 2 shows a projection of how the L1B structure plan will affect connectivity. It shows that within the north of the area, connectivity would still be mostly quite poor, albeit that it would be a substantial improvement on the present situation.

Within the south of the area, connectivity would be poor, with most blocks being above 1400m perimeter. This is a reflection of how difficult it is to retrofit connections into an area like the study area.

This assessment demonstrates the need to obtain the connections proposed by the structure plan as a minimum.

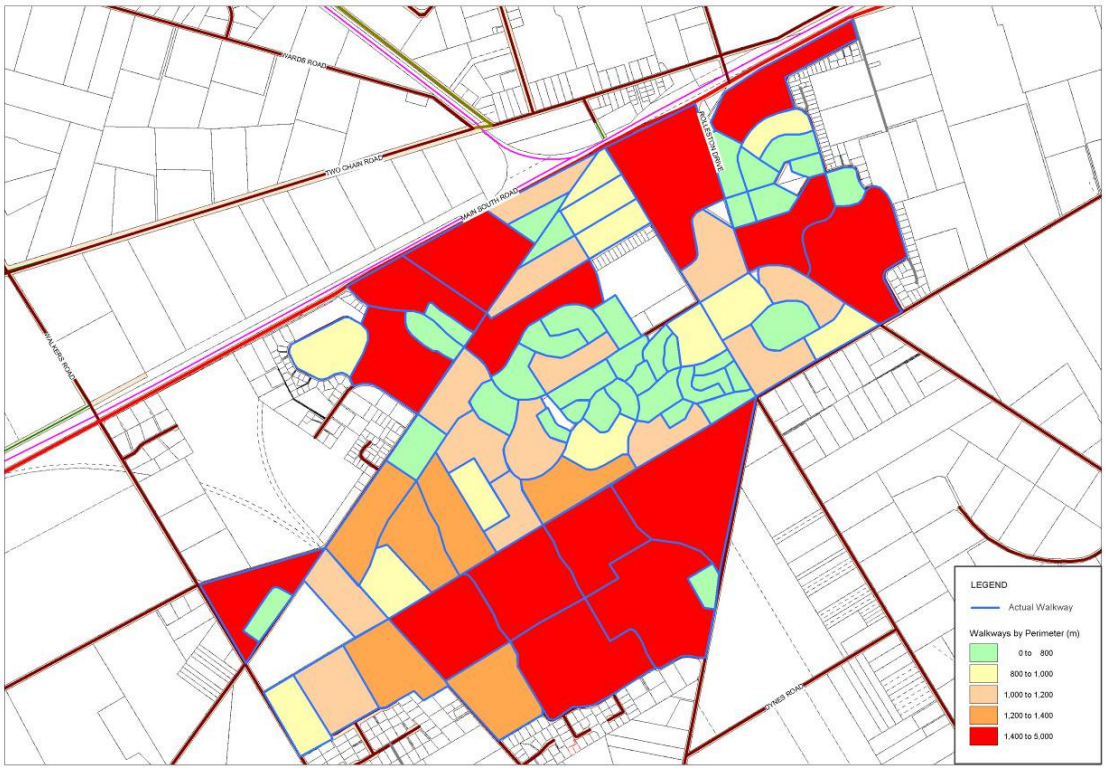


Figure 2: Walkable Blocks in Rolleston (after implementation of structure plan)