

Greater Christchurch Urban Development Strategy Forum

Report #2 – OPTIONS – 14 September 2004

This report outlines the development of options for the Greater Christchurch Urban Development Strategy. It contains some of the preliminary modelling work and so figures and concepts expressed here are indicative only. The report was taken to the Forum (elected members and external partners) for their endorsement.

1. Background

The UDS Staff Project team, of approximately 20 staff from all participating councils, held a workshop to explore possible options. Four mixed teams with different backgrounds and professions were established (eg traffic engineers, planners, open space, infrastructure, etc.). Material provided at the workshop included:

- A base map of the UDS which included existing zoning, airport noise contours, and the Natural Resources Regional Plan's "Aquifer Protection Zone"
- Map showing current rural subdivision lots
- Map showing flood plains and other natural hazards
- Map showing versatile soils

2. Three Options Explored at the workshop

A. *Concentration*

This option focuses development within Christchurch with limited growth in district townships.

B. *Consolidation*

This option generally contains and consolidates future urban development to existing built areas or with limited expansion into immediately adjacent areas.

C. *Dispersal (or low density development)*

This option is characterized by dispersal of low-density development; separation of homes, jobs, and services; absence of strong urban activity centres; growth occurring adjacent to but outside the city centre with a general outward migration of people.

Common Findings Amongst the Options Explored

The staff workshop findings displayed general agreement on the following points:

1. Accepted constraints relating to Dispersal, Consolidation and Concentration Options include:
 - (a) Airport noise contours largely precluding residential development.
 - (b) Aquifer protection zone outlined in Environment Canterbury's Natural Resources Regional Plan which aims to prohibit intensification to the northwest of Christchurch City.

And that significant consideration needs to be given to the following:

- Port Hills landscape features (no fixed area, although constraint acknowledged)
 - Waimakariri flood plain (no fixed area, although constraints acknowledged)
 - Versatile soils
 - Rural subdivisions
2. Airport and aquifer protection zone could provide for large green/open space (ie, these constraints also provided some opportunity).

3. Description of Options

(a) Concentration Option

The Concentration Option encourages redevelopment at higher densities around focal points and in the central city. Refer the figure below as an indicative outline of the concentration option.

There was also recognition of the need to conduct feasibility studies to determine “amenity sites” capable of density increases and to identify the capacity of existing towns to meet increased growth of the nature identified by the UDS. This option also identified the need for strong policy controls restricting “dispersed” development, including the opportunity/requirements for large areas of open space to support concentrated development.

Concentration Option - Key Features

1. Much higher densities at existing focal points.
2. Particular support for the central city.
3. Higher densities at some high amenity sites, particularly Sumner, New Brighton and Diamond Harbour.
4. A green wedge of open space to control development around the edge of Christchurch or existing towns.
5. Limited new residential development beyond existing zoned areas at the edge of Christchurch.
6. Strong policies supporting redevelopment, including proactive redevelopment agencies and Council facilitation / public works.
7. Improved transport system - including public transport.

8. Large scale open space (refer Consolidation notes).
9. Urban design needs significant improvement.
10. Need to identify capacity of existing towns to meet increased growth.

(b) Consolidation Option

The Consolidation option generally looked to focus development in and around existing towns and urban centres, as well as increasing density in some areas of Christchurch. This option also enables some new development, although “consolidating” that development at the edge of existing built areas. Refer to the figure below for an indicative illustration.



Within existing townships, development opportunities were identified southwest of the City toward Rolleston and Lincoln (Selwyn) and northeast toward Kaiapoi and Rangiora (Waimakariri). The Lyttelton Harbour Basin, in particular Lyttelton and Diamond Harbour, was viewed as an area with development opportunities.

There was also recognition of the potential recreational open space and environmental restoration opportunities inside these new regulatory demarcation boundaries.

Most workshop teams identified green wedges and township buffer zones as a benefit in both acting as a distinct City and township edge and also providing opportunities to further enhance ecological networks and enhance landscapes and views. Consideration was also given to the opportunities and potential requirements of rail and ferry (including suggestions that a car ferry to Diamond Harbour could significantly increase access and development opportunities there).

Consolidation Option - Key Features

1. Increased density at specific focal points (Christchurch City) and in existing towns in the districts (refer Appendix for a list of selected focal points for Christchurch and district townships).
2. Improve transport networks connecting focal points.
3. Large green/open space opportunities:
 - (a) under airport noise contours and over the aquifer protection zone; Port Hills; possible green wedge to South West to create town buffer and recognizable separation between City and rural; Waimakariri flood plain as other open space; strong green links between focal points and large forests/open space.
4. Limited rural residential.
5. Select areas for new subdivision including:
 - (a) Vacant land in Christchurch - South West and North East.
 - (b) South West in Selwyn, particularly around towns and new development areas.
 - (c) North East across Waimakariri - around existing towns and new development areas.
 - (d) Lyttelton Harbour basin particularly North-facing slopes (Diamond Harbour) requires transport (e.g. fast car Ferry).
6. A recognised need for improved urban design to support intensification.

(c) Dispersal Option

The Dispersal Option provides for a greater degree of decentralisation and dispersal of households throughout the rural area than other options. Lifestyle choice and a market driven rural-residential housing market are key factors encouraging decentralization of both residential and commercial activity. This dispersal option is indicatively shown in the figure below.



Dispersal Option - Key Features

1. Increased residential development in rural areas to the south-west between the City and Rolleston/Lincoln and north of the Waimakariri River.
2. Increased residential development in the Lyttelton Harbour Basin.
3. Limited expansion of rural towns.
4. Christchurch held at current zone boundaries/commitments.
5. Limited redevelopment "infill" in Christchurch.

4. Population and Household Assumptions

Population growth

The report utilises two projection periods, vis:

- (a) *2001 - 2021*. This projection is based on the Statistics New Zealand medium population projection.¹
- (b) *2001 - 500,000 ("endstate population")*. This projection would be reached between 2031 and 2036 under Statistics New Zealand's high projection or after 2051 under a mix of the medium and high projections.

Numbers of households

The number of households at 2001 and 2021 was calculated by dividing the projected population by the territorial local authority-specific persons per households for that year. The number of households for a population of 500,000 was calculated using the local authority-specific persons per household under the *high* projection for 2021.

The number of persons per household which has been used as the basis for the projections in this report was provided by Statistics New Zealand in 2000 based on the 1996 Census.² It is understood that a new set of household projections will be released by Statistics New Zealand on 27 August 2004. In the meantime, this set of projections for the draft options has been prepared to assist in making decisions on the most appropriate way to represent each option.

Base Case or Business as Usual

The "base case" or "business as usual" (2001 and 2021) represents the current population projection by area unit released by Statistics New Zealand April 2003. For Waimakariri and Selwyn Districts, the base case (2021) has been adjusted to accommodate known zoning commitments and service constraints.³ Overall, the forecast assumed in the base case takes account of "recent trends" by giving greater weighting to population growth patterns between 1996 and 2003 across the UDS area.

¹ Statistics New Zealand "Subnational Population Projections 2001 (base) - 2021", November 2002 and area unit projections released April 2003.

² Statistics New Zealand May 2000 projection series (in "Update and Documentation of the Base Future Land Use Scenario including Staging for the Greater Christchurch Metropolitan Region for use in the CTS Traffic Model and the Metropolitan Christchurch Urban Development Strategy" Version 2004/1(Dave Robinson, CCC), 8 March 2004).

³ "UDS: Household projections (medium projection)" 12 March 2004 (corrected 8 July 2004) report by Max Barber for the UDS Project Team.

5. Household Projections And Land Requirements

(a) Households

The distribution of household growth by territorial local authority and between urban centres and rural areas in the districts is summarised in Table 1 below.

TABLE 1: Household Forecasts by Option for 500,000 Population (indicative only)

Geographic Division	Increase in Households from 2001 to "Endstate population of 500,000"					
	Dispersal		Consolidation		Concentration	
	No.	% incr.	No.	% incr.	No.	% incr.
Christchurch City						
Central Core	6,418	10%	21,450	34%	31,735	51%
Suburban Ring	14,977	24%	21,451	34%	20,497	33%
Rural	3,610	6%	977	2%	902	1%
Total	25,005	40%	43,878	70%	53,134	85%
Waimakariri District						
Urban	7,172	12%	9,356	15%	4,849	8%
Rural	3,917	6%		0%		0%
Residential ¹	5,279	8%	909	1%	357	1%
Rural						
Total	16,368	26%	10,265	16%	5,206	8%
Selwyn District						
Urban	4,950	8%	6,413	10%	3,102	5%
Rural	5,361	8%		0%		0%
Residential ¹	7,223	12%	1,261	2%	515	1%
Rural						
Total	17,534	28%	7,674	12%	3,617	6%
Banks Peninsula District						
Urban	380	1%	694	1%	554	1%
Rural	3,224	5%				
Residential ¹						
Rural	0 ²	0% ²	0	0%	0	0%
Total	3,604	6%	694	1%	554	1%
UDS Total	62,511	100%	62,511	100%	62,511	100%

¹ Includes low density residential ("rural residential") around towns; only applies for Dispersal.

² Included in Diamond Harbour and Governors Bay area units.

Geographic Division Definitions (in the table above include):

Christchurch City:

- *Central Core* - generally includes those areas developed prior to 1946;
- *Suburban Ring* - includes areas developed after 1946;
- *Rural* - includes all other areas in Christchurch

Waimakariri, Selwyn, Banks Peninsula:

- *Urban* - generally the "townships",
- *Rural* - all other residential development

General Assumptions

Under the Dispersal Option, approximately 40% of household growth will occur in Christchurch, compared to 70% in the Consolidation Option and 85% under the Concentration Option.

Most of the variation is accounted for by the difference in the household growth in the Central Core. The household growth in the Suburban Ring does not vary significantly between the options because of the capacity provided by the existing zoning pattern which is assumed to remain relatively constant for all options.

Outside Christchurch, there is greater variation between the options in the rural area. This is partly because of the existing capacity already available in the rural towns, which it is assumed will be largely taken up under any of the options. The wide variation in the rural area is also a result of the underlying assumptions for the options where it is assumed that approximately two thirds of the household growth in the districts will be accommodated in rural areas.

The main "growth areas" outside Christchurch in the Consolidation option are Rangiora and Rolleston.

(b) Land requirements

The land requirements by option are summarised in Table 2 below. The method and assumptions for urban residential land requirements for each option and the Base Case are available in a separate draft report.

TABLE 2: Comparison of urban residential land requirements by option (indicative only)

Option	2001 - 2021		2001 - 500,000	
	Households	Residential land requirement	Households	Residential land requirement
Base Case (recent trends)	33,850	2,670 ha	62,510	4,925 ha
Dispersal Option	33,850	3,710 ha	62,510	6,850 ha
Consolidation Option	33,850	2,115 ha	62,520	3,900 ha
Concentration Option	33,850	1,140 ha	62,510	2,110 ha

Table 2 shows that by 2021, if the present locational and housing preferences are maintained in a "business as usual" sense, that is the Base Case modified for recent trends, about **2,670 ha** of land will be required to accommodate the urban housing needs of the forecast population. If the assumptions on location and housing preferences are varied following the options outlined, there is similarly a variation in future land requirements.

If development occurred in accordance with the assumptions in this report: under the Dispersal Option **3,710 ha** of land would be required to accommodate future urban residential development, whereas under the Consolidation Option **2,115 ha** would be required, and under the Concentration Option **1,140 ha** would be required.

In addition, it is important to note that these figures estimate land for residential take-up and exclude any "land cushion" for the market. Consideration needs to be given for land to be available in advance of house construction because of the length of the development process (up to 7 years) and to allow for other factors such as land not available for development and market choice. The practice in Christchurch is to maintain a margin of safety, or "cushion", of about 1,000 ha. This "cushion" is not included in the figures above.

APPENDIX - Consolidation Option - Focal Points

The Consolidation Option recognises existing development opportunities and constraints on the expansion of Christchurch and outlying towns and seeks to encourage future development at a number of urban centres or "focal points". This option identified the following focal points:

Christchurch (Focal points):

- City centre (Central core)
- Eastgate/Linwood (Central core)
- Woolston/Ferrymead (Central core)
- Riccarton (Central core)
- Northlands/Papanui/Belfast (Central core/Suburban ring)
- North-east ie Palms/Shirley/Burwood/Marshlands (Suburban ring)
- New Brighton (Suburban ring)
- Sumner (Suburban ring)
- Hornby (Suburban ring)
- South-east/Halswell (Suburban ring)

Districts (Focal points with new residential development):

- Waimakariri District:
 - Rangiora
 - Kaiapoi⁴
 - Woodend/Pegasus Bay
- Selwyn District:
 - Rolleston
 - Lincoln
 - Prebbleton⁴
- Banks Peninsula District:
 - Lyttelton
 - Diamond Harbour

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⁴ Confined to existing zone boundaries because of development constraints limiting peripheral growth potential.