11.0 GROWTH OPTIONS

To help focus the preferences of different themes and to prioritise strategic thinking a series of conceptual growth options were developed.

These were based on growth 'pockets' - areas identified on the basis of where logical urban growth could occur in a manner that complimented existing patterns of development. The following broad criteria were used to help inform these pockets:

1.) Highest density residential 'apartment' suitable land: Areas mostly within the Christchurch CBD. These areas are essentially self sufficient, offering residents the widest range of conveniently accessible open space, services, and other amenities;

2.) Medium to high density residential consolidation suitable land: Areas around existing town centres within Christchurch City where greater density would be supported by access to services, amenities, and quality public transport.

3.) Greenfield residential suitable land: Areas of land that would be suitable for new subdivisions while still relating to existing urban forms, nodes, and transport networks.

4.) Rural residential suitable land: Areas of land that could be used as lower-density residential land, or more intensive greenfield residential if needed over time. Suitability was identified by location relative to movement networks, social services, ecological suitability, and other interests.

5.) Employment suitable land: Areas that should be protected from residential development given the need to also provide capacity for economic and employment opportunities for the growing population. These areas tend to be on the periphery, providing for industrial and more 'noisy' activities that may need to re-locate away from centres as these intensify over time. They also must relate strongly to transportation links if they are to be viable from a business perspective.

11.1 growth pockets and yield assumptions

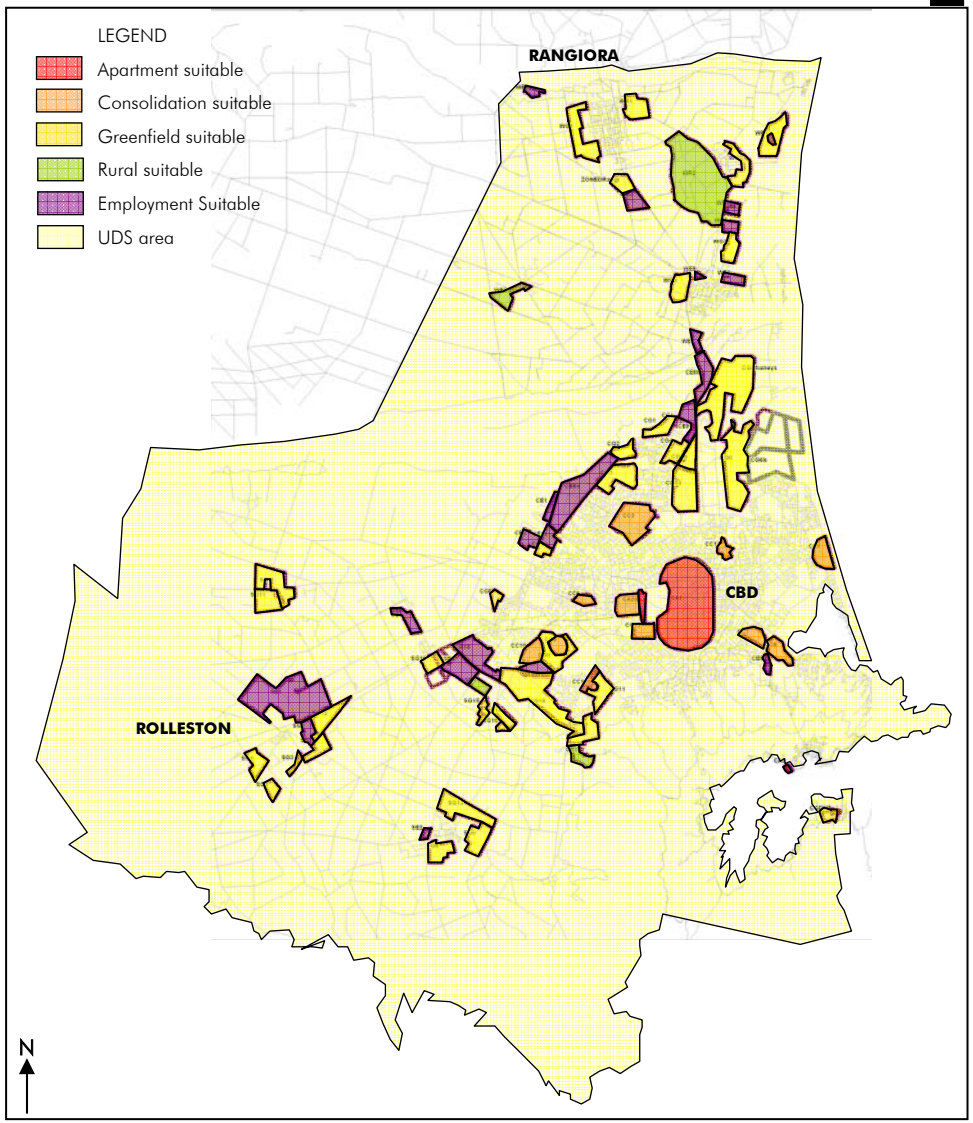
1.) Apartment suitable - these areas have been assumed to have an achievable capacity of a minimum 50 households per gross hectare (average).

2.) Consolidation suitable - these areas have been assumed to have an achievable capacity of a minimum of 30 households per gross hectare (average).

3.) Greenfield suitable - these areas have been assumed to have an achievable capacity of a minimum of 15 households per gross hectare within Christchurch City (average), and 12 per gross hectare (average) in Selwyn and Waimakariri. The differential reflects the greater accessibility to services and amenities residents have within Christchurch City than in the Rural Districts.

4.) Rural suitable - Not used to accommodate necessary population growth

5.) Employment suitable - Not used to accommodate necessary population growth.



ABOVE FIG. 11-1: Identified growth pockets by land use suitability (not to scale). The pockets were identified during the two UDS Inquiry by Design workshops held in 2006.

11.2 Making growth assumptions

Providing for growth is difficult at the strategic level for a number of key reasons:

→ Statistical extrapolation of current trends is not accurate and will be subject to change over time - the actual amount of growth that will occur will not be accurately known until it has happened and been measured;

→ Estimated 'exact' yields possible within any given area are only truly reliable when undertaken at the highly detailed development framework level;

→ Issues of specific market forces at the time of individual development will influence the deliverability of higher or lower densities and various housing types;

→ Local communities may argue for different growth targets during consultation and detailed implementation design (for example through structure plans, centre plans, or plan changes). These need to be respected and reconciled with wider growth objectives;

→ The detailed delivery of any strategic plan at the local level will out of necessity be undertaken in a fragmented, 'piece by piece' manner. The delivery of previous 'pieces' (and in particular their perceived quality) may make communities more or less willing to continue to buy in to the strategy, meaning that delivery can fluctuate over time;

More specific assumptions relative to the 'growth pocket' approach taken in the UDS include:

→ Market incentives between the three local authority boundaries will be equitable in relation to housing delivery (i.e. there will be no cost biases such as development contributions or other levies that distort the desirability of providing a typical household unit within one particular council jurisdiction over another);

→ The strategy should be robust enough so that all projected growth can be theoretically provided within defined areas of consolidation / intensification, or new Greenfield growth pockets. Rural residential and 'latent' intensification - incremental re-development that increases residential densities in the background UDS area outside of the growth pockets and unrelated to any centres / public transport services etc. - will still occur (excluding existing vacant or clearly under-developed sites). But these should not be relied upon to deliver the strategy given issues with their very limited compatibility with the more sustainable 'compact' settlement focus sought by the strategy, as well as their inherent fragmentary nature and management difficulties;

→ Provision for rural residential and 'latent' intensification should still be made such that a democratic choice of lifestyle is retained for communities within the wider framework of pursuing more sustainable patterns of living (supplemented by balanced market pricing that takes the costs of less sustainable lifestyle choices into account). Accordingly while the growth options do not explicitly provide allocations for these types, it is assumed they will still occur in nominal quantities;

→ Minimum, average gross densities have been used, encouraging higher density wherever possible and when compatible with local environmental contexts, and also possibly allowing some parts of developments to likewise have slightly lower densities within an overall target. This approach means that detailed 'master plans', structure plans, or similar mechanisms will be required for each setting before the strategy can be implemented.

But irrespective of these uncertainties, the logic of still making a 'best effort' attempt to comprehensively plan and provide for growth remains highly compelling given the efficiencies, savings, and benefits that can accrue as a consequence of sound spatial planning.

The preferred growth approach to deliver the consulted "Option A" should not be seen as 'fixed'. It is instead an aspiration to aim for but that will vary over time.

11.3 Waimakariri growth pockets

Pockets identified in Waimakariri are centred on the three main towns in the UDS area, as well as the Pegasus settlement approved by the Environment Court.

The most viable pockets are those around Rangiora; those in the vicinity of Kaiapoi lie in conflict with the airport noise contour, meaning their availability for development is not certain (but may still become necessary over time depending on the existence of suitable alternatives). The pockets will result in an enlargement of the existing centres rather than provision for any 'new' towns. This gives the potential for growth to help revitalise and contribute towards the quality within those existing centres.

Employment suitable pockets for more mono-cultural business uses have a cluster at the southern District boundary along the State Highway spine, and otherwise largely dot the main strategic transport routes into Woodend and Rangiora.

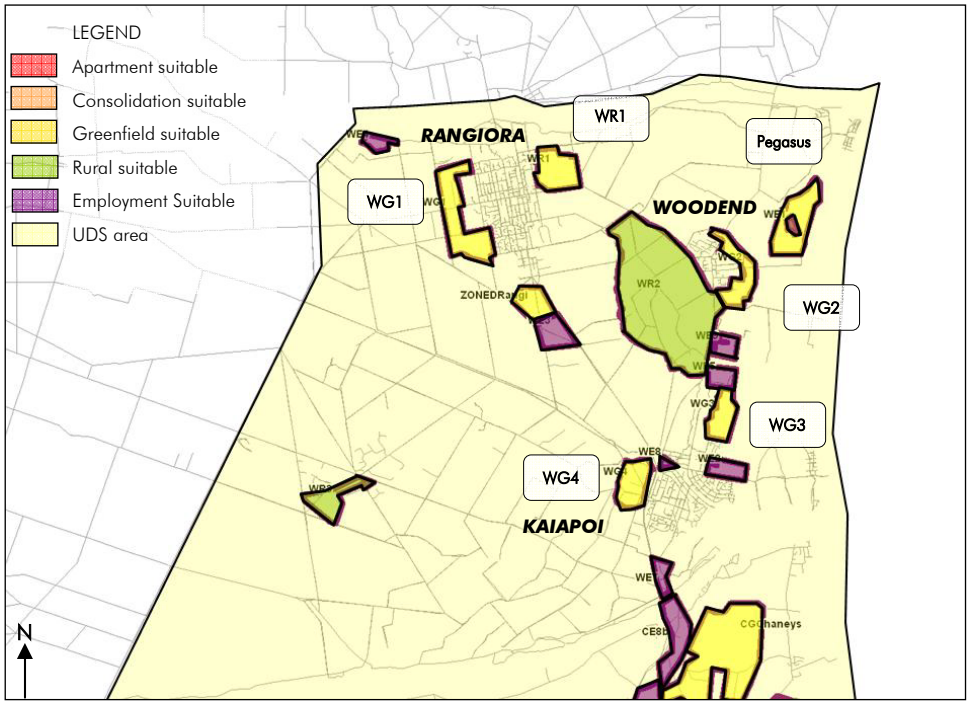
Overall Waimakariri is not considered to have adequate capacity within the identified pockets (including WG4 which given the airport noise contour may not be viable). This means that either higher densities may be required or new pockets identified.

Another alternative could be to 'upgrade' pockets WR2 and WR3 into greenfield. This would guarantee adequate supply were this deemed necessary.

The growth pocket household capacities for Waimakariri have been calculated as follows (households existing within growth pockets have been excluded from the theoretical yields):

GROWTH POCKET NAME	APPROX. LAND AREA USED IN CALCULATIONS	THEORETICAL YIELD AT 12H-HOLDS / HA
WG1	293	3513
WG2	122	1459
WG3	92	900
WG4	104	600
WR1	217	2604
Pegasus	147	1800
Existing vacant	N/A	1000
TOTAL CAPACITY AVAILABLE:	**N/A**	**11876**
PROJECTED NEW (MED-HI) DEMAND 2006-26:	***N/A***	***7,400***
PROJECTED NEW (MED-HI) DEMAND 2006-41:	***N/A***	***12,200***

BELOW FIG. 11-2: the growth pockets identified for the Waimakariri District (not to scale)



11.4 Selwyn growth pockets

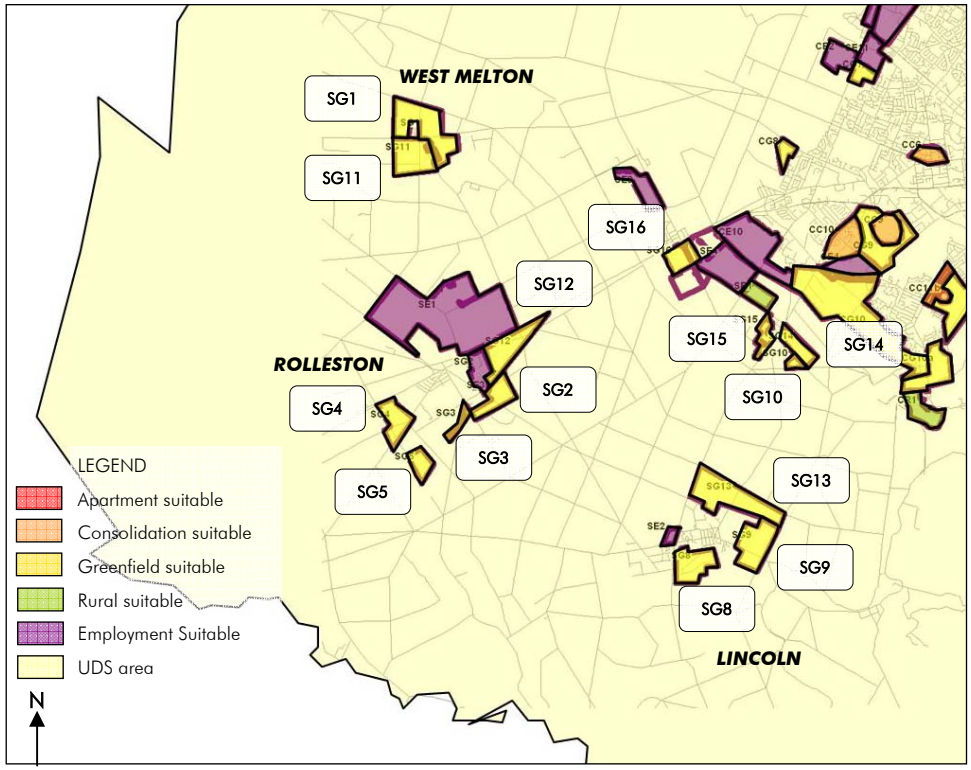
The pockets identified for Selwyn are numerous and relatively small, meaning that there is more ability to comprehensively manage each one individually as one medium-sized subdivision rather than a larger-scale 'zone'.

The pockets relate to the two main centres of Rolleston and Lincoln as well as placing greater potential emphasis on West Melton.

West Melton presents an interesting challenge as if development is to occur here, more is likely to be better than less given that there is presently insufficient local catchment for many services to locate. A greater population may be desirable to improve this self sufficiency notwithstanding that most residents would still commute for employment and education.

Prebbleton is highly sensitive to growth given its proximity to Christchurch and the desire to retain its authentic 'village' atmosphere. For this reason it will be used to accommodate growth only when necessary given the potential for it to lose identity in the face of Christchurch City's outward growth.

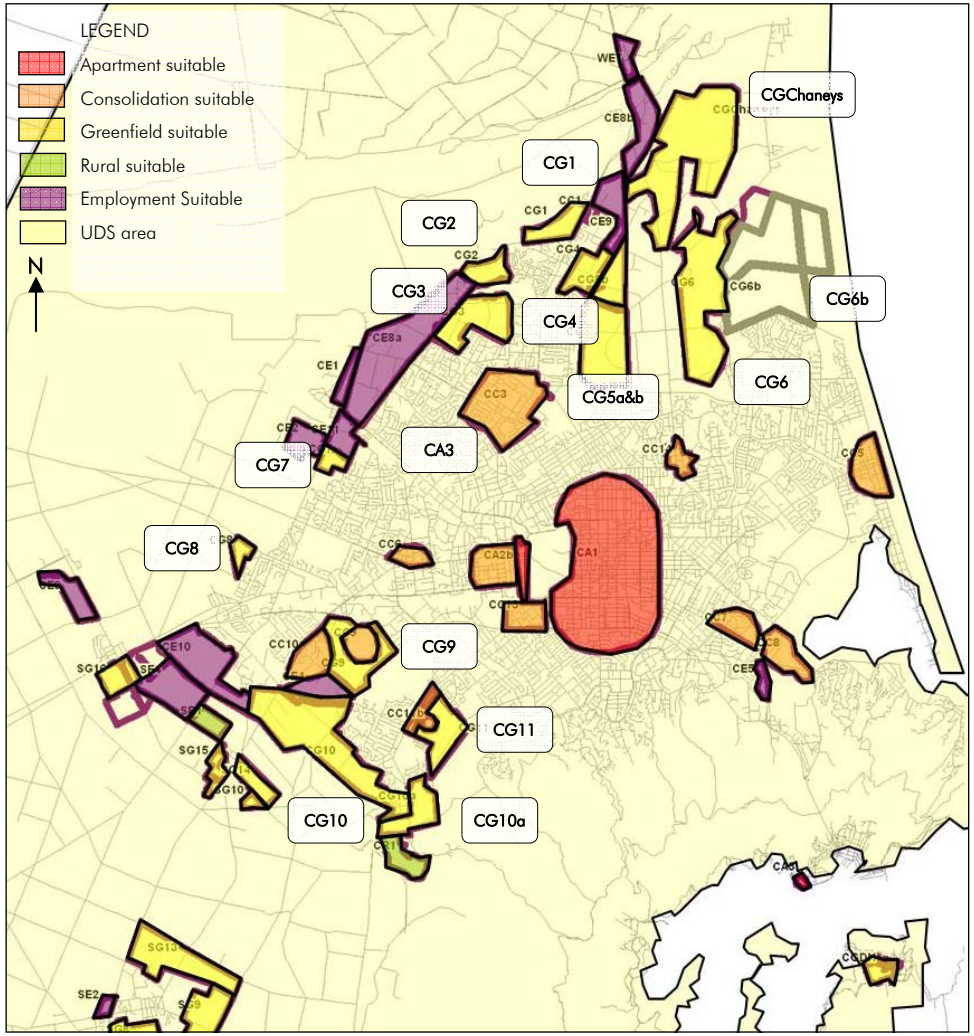
BELOW FIG. 11-3: the growth pockets identified for the Selwyn District (not to scale)



GROWTH POCKET NAME	APPROX. LAND AREA USED IN CALCULATIONS	THEORETICAL YIELD AT 12H-HOLDS / HA
SG1	215	2494
SG2	67	400
SG3	14	0
SG4	84	50
SG5	46	410
SG8	110	870
SG9	135	1613
SG10	15	90
SG11	132	1120
SG12	123	1100
SG13	218	2615
SG14	61	490
SG15	38	380
SG16	73	580
Existing vacant	N/A	1500
TOTAL CAPACITY AVAILABLE:	**N/A**	**13712**
PROJECTED NEW (MED-HI) DEMAND 2006-26:	***N/A***	***8,000***
PROJECTED NEW (MED-HI) DEMAND 2006-41:	***N/A***	***12,600***

11.5 Christchurch City growth pockets

The pockets for Christchurch City emphasise existing town centres and main nodes. No new centres are proposed although if the larger green-field areas were developed they would need their own local centres (allowing opportunity in places for densities greater than the 15 h-holds/ha calculated). Given the airport / aquifer to the northwest and Port Hills / coast to the southeast, land suitable for greenfield development is clustered to the north and south of the existing urban area.



GROWTH POCKET NAME	APPROX. LAND AREA USED	THEORETICAL YIELD AT 50H-HOLDS / HA
CA1	561	12743
CA2b	27	874
CA3	8	416

GROWTH POCKET NAME	APPROX LAND AREA USED	THEORETICAL YIELD AT 30H-HOLDS / HA
CC2a	68	810
CC1	10	191
CC3	184	3314
CC5	53	1062
CC6	27	479
CC7	60	1205
CC8	32	950
CC9	74	2218
CC10	80	1597
CC11a	26	767
CC11b	14	416
CC13	40	799
CC14	32	642

GROWTH POCKET NAME	APPROX. LAND AREA USED	THEORETICAL YIELD AT 15H-HOLDS / HA
CG1	85	1275
CG2	70	1052
CG3	190	2853
CG4	80	1198
CG5a	253	3789
CG5b	93	1387
CG6	526	7890
CG6b	707	10607
CG7	37	549
CG8	33	500
CG9	164	2451
CG10	412	6184
CG10a	120	1796
CG11	142	2132
CGChaneys	635	9500
Existing vacant	N/A	12000
TOTAL CAPACITY:	**N/A**	**93646**
PROJECTED (MED-HI) 2026:	***N/A***	***34,100***
PROJECTED (MED-HI) 2041:	***N/A***	***51,900***

ABOVE FIG. 11-4: the growth pockets identified for Christchurch City (not to scale)

11.6 Pocket suitability analysis

Each of the theme interests undertook an early assessment of the growth pockets, using a simple 'traffic light' ranking system of highly suitable (green) through to highly unsuitable (red) for growth from their position, conditional where appropriate on other pre-requisite factors that would need to also be available were growth to occur.

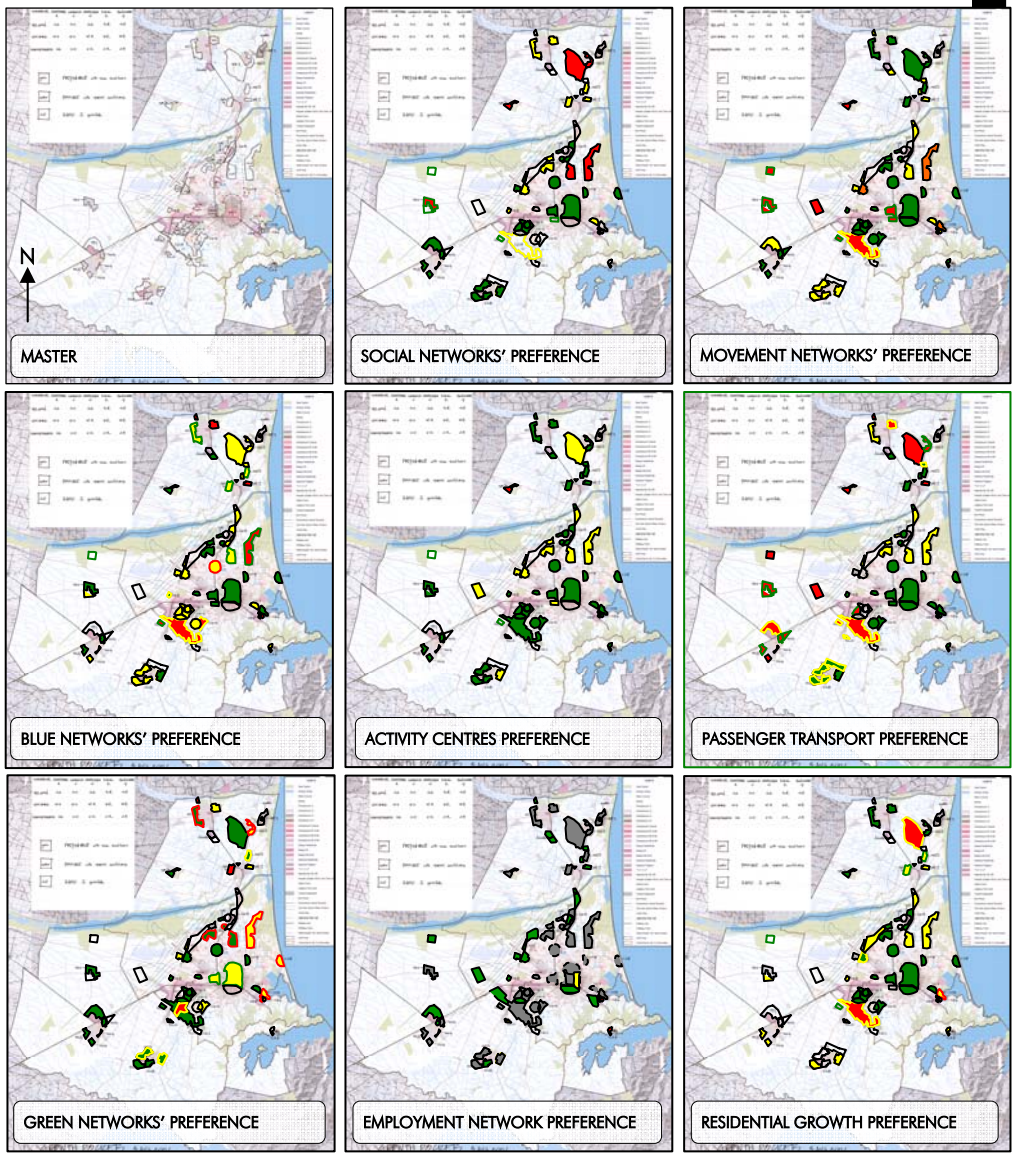
This led to a number of contrasts between groups that once highlighted were able to be worked through.

A number of potential pockets were removed from the 'final' list (hence there is a broken sequence in pocket names in all Districts).

In Waimakariri, a 'rural' pocket (WR1) was upgraded to greenfield; and WG2 by Kaiapoi has been deleted given that it lies under the airport noise contour (although it has been retained for 'backup' purposes given that the sum total of other pockets in this District were unable to accommodate all projected 2041 household requirements).

In Selwyn, a number of pockets were deleted around Lincoln and a number of smaller pockets along the Christchurch City interface (notably around Prebbleton) remain contentious.

Christchurch City has significant capacity although most of this comes from major greenfield opportunities in CG6, CG6b, CG10, and CG Chaneys.



ABOVE FIG. 11-5: Growth pocket suitability assessments by different theme groups (not to scale), undertaken at the UDS Inquiry by Design workshops 2006.

SERVICING - STORMWATER A

'Desktop' examinations of the urban water needs associated with the growth pockets was undertaken. This allowed more informed decisions to be made in instances where anticipated growth can be allocated between a number of pockets.

Pockets that require less costs to enable development could be given favour provided other issues of efficient urban form and sustainability were also managed.

These figures are rough estimates and should not be considered to represent actual costs, or final agreed funding mechanisms.

GROWTH POCKET	WORKS REQUIRED	0-20yr COST	20-40yr COST	FUNDER	COMMENTS
WG1	Retention Ponds	$3million	$3 million	Developer	Flood Plain
WG2	Extend Retention Ponds	$1million	$1 million	30% Council	
WG3	Retention Ponds	$2million		Developer	
WG4	Retention Ponds	$2million		Developer	Includes Significant Fill
WR1	Retention Ponds	$0.5million		Developer	
WR2	Individual Sites	$1million	$4million	Households	Assumes $5,000 / unit
WR3	Individual Sites	$0.5million		Households	Assumes $1,000 / unit
WE1					Allowed for in Consents
WE2	Retention Ponds	$2million	$2million	Developer	Major Flooding Issues
WE3	Retention Ponds	$2million	$2million	50% Council	
WE4	Retention Ponds		$1million	Developer	
WE5	Retention Ponds		$1million	Developer	
WE6					
WE7	Retention Ponds	$1million		Developer	
WE8	Retention Ponds	$1million		Developer	
CG1	Retention Ponds & Outlet	$3million		Developer	
CG2	Retention Ponds & Outlet	$2million		Developer	
CG3	Retention Ponds & Outlet	$4million		Developer	
CG4	Retention Ponds & Outlet	$6million		Developer	
CG5	Retention Ponds & Outlet		$8million	Developer	
CG6	Retention Ponds & Outlet	$5million	$2million	50% Council	Snellings Drain
CG7	Large Retention	$3million		20% Council	Lack of Capacity Network
CG8	Retention Ponds & Outlet	$1.5million		Developer	
CG9	Retention Ponds & Outlet	$9million		Developer	
CG10	Retention Ponds & Outlet	$10million		Developer	
CG11	Retention Ponds & Outlet	$10million		30% Council	
CG Chaney					
CA1	Upgrade System & Treatment	$4million	$4million	50% Council	Lack of Treatment Network

SERVICING - STORMWATER B

GROWTH POCKET	WORKS REQUIRED	0-20yr COST	20-40yr COST	FUNDER	COMMENTS
CA2	Upgrade System & Treatment	$1.5million		Developer	
CA3	Upgrade System & Treatment	$2million		Developer	
CE1	Retention Ponds & Outlet	$1million		Developer	Aquifer
CE2	Retention Ponds & Outlet	$1million		Developer	Aquifer
CE3					
CE4	Retention Ponds & Treatment	$3million		Developer	
CE5	Retention Ponds & Treatment	$1million		Developer	
CE6	Retention Ponds & Treatment	$1million		Developer	
CE7					
CE8					
CE9					
CC1	Upgrade System	$2million	$2million	50% Council	
CC2	Upgrade System	$2 million	$2million	50$ Council	
CC3	Upgrade System	$2 million	$2million	50$ Council	
CC4	Upgrade System	$2 million	$2million	50$ Council	
CC5	Upgrade System	$2 million	$2million	50$ Council	
CC6	Upgrade System	$2 million	$2million	50$ Council	
CC7	Upgrade System	$2 million	$2million	50$ Council	
CC8	Upgrade System	$2 million	$2million	50$ Council	
CC9	Upgrade System	$2 million	$2million	50$ Council	
CC10	Upgrade System	$2 million	$2million	50$ Council	
CC11	Upgrade System	$2 million	$2million	50$ Council	
CC12					
CC13					
SG1	Retention Ponds & Treatment	$0.5million		Developer	
SG2	Retention Ponds & Treatment	$1million		Developer	
SG3	Retention Ponds & Treatment	$1million		Developer	
SG4	Retention Ponds & Treatment	$1million		Developer	

SERVICING - WSTORMWATER C

GROWTH POCKET	WORKS REQUIRED	0-20yr COST	20-40yr COST	FUNDER	COMMENTS
SG5	Retention Ponds & Treatment	$1million		Developer	
SG6	Retention Ponds & Treatment			Developer	
SG7	Retention Ponds & Treatment			Developer	
SG8	Retention Ponds & Treatment			Developer	
SG9	Retention Ponds & Treatment			Developer	
SG10	Retention Ponds & Treatment			Developer	
SG11	Retention Ponds & Treatment	$0.5million		Developer	
SG12	Retention Ponds & Treatment			Developer	
SG13	Retention Ponds & Treatment			Developer	
SR1	Retention Ponds & Treatment			Developer	
SE1	Retention Ponds & Treatment			Developer	

SERVICING - WASTEWATER / WATER A

GROWTH POCKET	WORKS REQUIRED	0-20yr COST	20-40yr COST	FUNDER	COMMENTS
WG1	New Network & Connect	$1million	$1million	Developer	
WG2	New Network & Connect	$1million	$1million	Developer	
WG3	New Network & Connect	$1million		Developer	
WG4	New Network & Connect	$1million		Developer	
WR1	New Network & Connect	$2million		Developer	
WR2	Extend Existing Network	$0.5million	$2million	30% Council	Public Good
WR3	Extend Existing Network	$1.5million		Developer	
WE1					
WE2					
WE3					
WE4					
WE5					
WE6					
WE7					
WE8					
CG1	New Network & Connect	$3million		Developer	Into Belfast System
CG2	New Pump & Connect	$5million		70% Council	Northern Relief
CG3	New Pump & Connect	$5million		70% Council	Northern Relief
CG4	New Main Line	$10million		Developer	Impact Treatment Works
CG5	New Network & Connect		$20million	Developer	New Network & Trunk Upgrades
CG6	New Network & Connect		$40million	Developer	New Treatment Works
CG7	New Network & Connect & Storage	$10million		70% Council	
CG8	New Network & Connect	$2million		Developer	
CG9	Extend Pumping Main	$2million		Developer	
CG10	New Network & Connect	$15million	$15million	Developer	New Treatment Works
CG11	New Network & Connect	$2million		Developer	Halswell Pumping Main
CG Chaney	New Network & Connect		$50million	Developer	Upgrade to Ocean Outfall
CA1	Upgrade Systems	$20million	$20million	50% Council	

SERVICING - WASTEWATER / WATER B

GROWTH POCKET	WORKS REQUIRED	0-20yr COST	20-40yr COST	FUNDER	COMMENTS
CA2	Upgrade System	$1.5million		Developer	
CA3	Upgrade System	$3million		Developer	Pump to Christchurch City
CE1	New Network & Connect	$0.5million		Developer	
CE2	New Network & Connect	$1million		Developer	
CE3					
CE4	New Network & Connect	$1million		Developer	
CE5	New Network & Connect	$1million		Developer	
CE6	New Network & Connect	$1million		Developer	
CE7					
CE8					
CE9					
CC1	Upgrade System	$2million	$2million	50% Council	
CC2	Upgrade System	$2million	$2million	50% Council	
CC3	Upgrade System	$2million	$2million	50% Council	
CC4	Upgrade System	$2million	$2million	50% Council	
CC5	Upgrade System	$2million	$2million	50% Council	
CC6	Upgrade System	$2million	$2million	50% Council	
CC7	Upgrade System	$2million	$2million	50% Council	
CC8	Upgrade System	$2million	$2million	50% Council	
CC9	Upgrade System	$2million	$2million	50% Council	
CC10	Upgrade System	$2million	$2million	50% Council	
CC11	Upgrade System	$2million	$2million	50% Council	
CC12					
CC13					
SG1	Sewer / Water System Upgrade	$4million		Developer	All Sewer to Rolleston
SG2	System Upgrade	$4.5million		Developer	Combined cost SG
SG3	System Upgrade	$4.5million		Developer	
SG4	System Upgrade	$4.5million		Developer	

SERVICING - WASTEWATER / WATER C

GROWTH POCKET	WORKS REQUIRED	0-20yr COST	20-40yr COST	FUNDER	COMMENTS
SG5	System Upgrade	$4.5million		Developer	
SG6					
SG7					
SG8	System Upgrade	$1.5million		Developer	
SG9	System Upgrade	$1million		Developer	
SG10	System Upgrade (Sewer)	$0.5million		Developer	
SG11	Sewer / Water System Upgrade	$4million		Developer	Combined with SG1
SG12	System Upgrade	$4.5million		Developer	
SG13	System Upgrade	$1million		Developer	
SR1	Underway			Developer	
SE1	System Upgrade	$3million		Developer	

11.7 OPTION 1 - Greenfield Only Growth

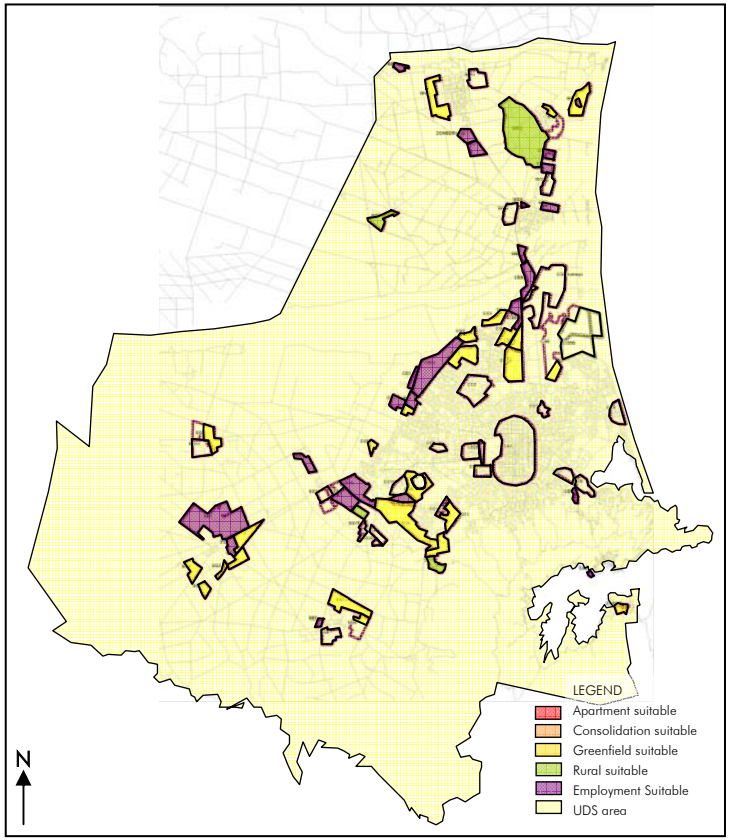
This Option is an examination of the outcomes that would result if attempts to consolidate or intensify were resisted by the community / market, or similarly discarded by the local authorities. The following key assumptions apply:

- → Each Council provides for the individual growth targets provided in the medium-high projection
- → Theoretical capacities are fully met within each pocket
- → Waimakariri growth pocket WG3 is not used given its location under the airport noise contour (up to 600 household capacity)
- → Household provision in the pockets identified as suitable for apartments or consolidation is nominal

This approach not consistent with "Option A" although it does at the least provide greenfield growth in locations that are as compatible as possible with existing urban form patterns and networks. The use of the 'large' greenfield pockets in Christchurch City would also mean that new nodes would be required in both the south and north of the City.

Key limitations with this option relate to the provision of health and educational services within Christchurch City - current planning indicates that no new facilities would be planned locally with the new development, significantly increasing the use of (and need for) increasingly 'highway-like' commuter roads into the CBD and inner suburbs.

UDS 2026



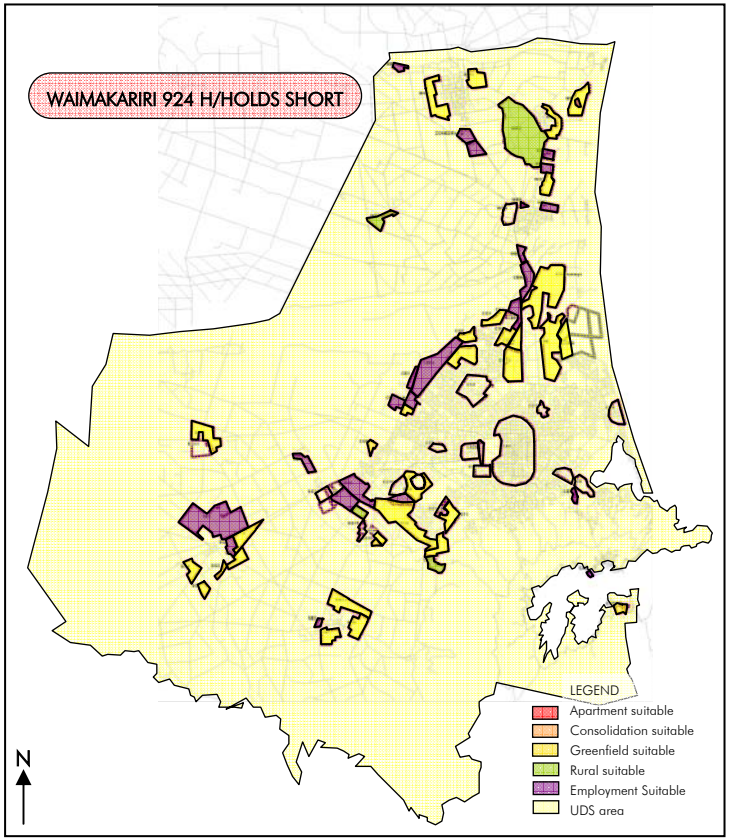
ABOVE FIG. 11-6: Option 1 (Greenfield-only growth) to 2026, not to scale. Key features of this options include that 98% of growth is greenfield, with only around 1-2% being intensification, infill, or consolidation (predominantly via existing vacant lots within the urban areas rather than redevelopment).

WAIMAKARIRI: Pegasus and Rangiora absorb most of the 7,400 new households.

SELWYN: Rolleston is emphasised with some growth at Lincoln and West Melton.

CHRISTCHURCH: New development to the north and south occurs closest to new employment land.

UDS 2041



ABOVE FIG. 11-7: Option 1 (Greenfield-only growth) to 2041, not to scale. Key features of this option include that 98% of growth is greenfield.

WAIMAKARIRI: Rangiora and Woodend are developed to capacity, Kaiapoi growth is focussed around infill of vacant sites. A total shortfall of 924 households exists, which will be provided elsewhere (including possibly as rural residential).

SELWYN: Growth focuses around Lincoln, with overflow provided at West Melton and Prebbleton. Almost all available capacity is now used.

CHRISTCHURCH: Growth continues to the north into the largest available growth pockets. Capacity for growth beyond 2041 remains in CG6b (10,600 households) and the CBD / other consolidation areas (up to 29,000 households).

11.8 OPTION 2 - Consolidation Only Growth

This option tested the outcomes that would occur if greenfield development did not occur at all, with all growth focussed on intensification, consolidation or infill. It became immediately apparent that this approach would be incompatible with the rural Districts, and Christchurch would likely run out of capacity sometime into 2030.

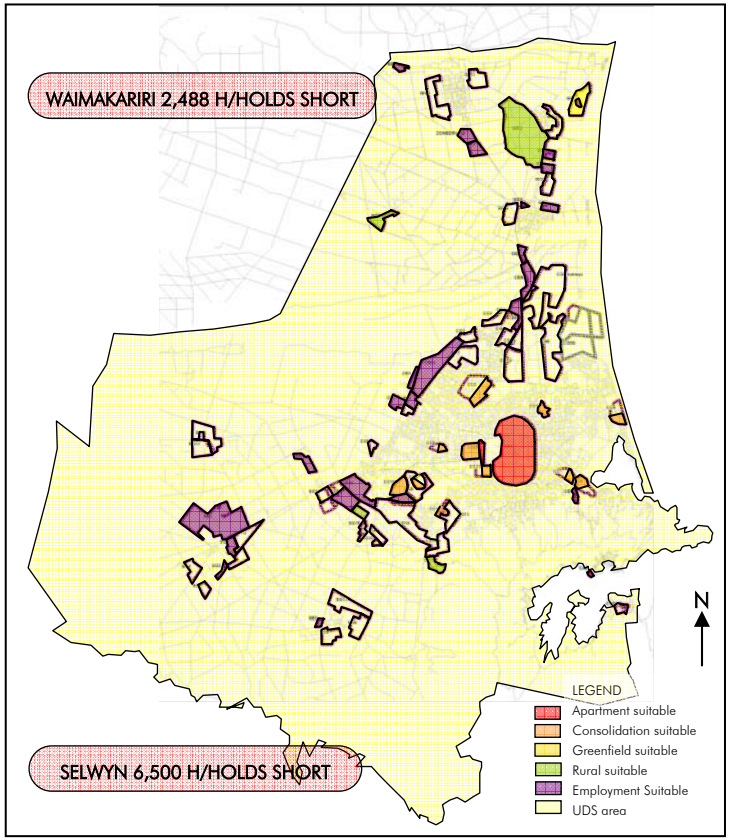
- → Each Council provides for the individual growth targets provided in the medium-high projection
- → Theoretical capacities are fully met within each pocket
- → No greenfield growth occurs other than Pegasus in Waimakariri, which is in the early stages of construction

Currently intensification or consolidation accounts for no more than 30% of new household growth. It is considered unfeasible that the scale of consolidation sought in this option would be palatable with the community or achievable under current housing market conditions (including significantly developer / builder expertise and funding mechanisms).

This approach is considered to be socially and economically deleterious for the UDS area were it pursued. It demonstrates that greenfield development is still critical to delivering growth targets and that consolidation alone - no matter how desirable - is physically unable of delivering the growth targets.

Critical issues around where the 39% of total projected households *not* provided for in this option will go are significant (less-suitable locations that could worsen vehicle dependence, accessibility etc.).

UDS 2026



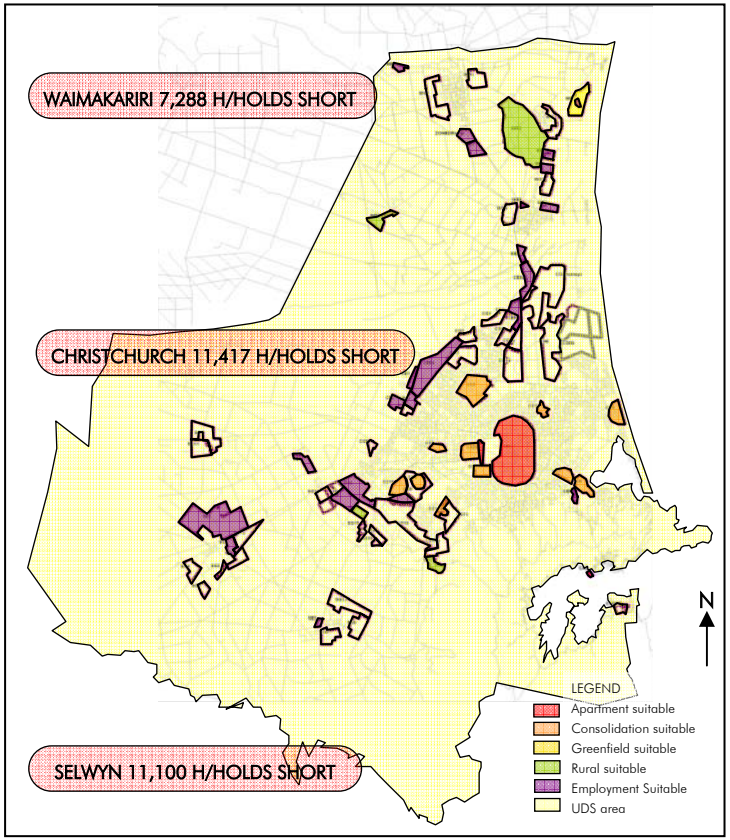
ABOVE FIG. 11-8: Option 2 (Consolidation-only growth) to 2026, not to scale. Key features of this option are that only Christchurch City has the ability to accommodate required growth. Both Selwyn and Waimakariri have shortfalls, which would be either located elsewhere or be delivered in other ways (outside the UDS area, or in rural lifestyle blocks). 98% of growth is consolidation, but only 82% of the total growth target can be delivered.

WAIMAKARIRI: Growth in Pegasus and some limited development of existing vacant sites within centres occurs.

SELWYN: Very limited growth occurs, infill and uptake of currently vacant sites in the centres only.

CHRISTCHURCH: All required growth can be delivered, with CBD transformed dramatically.

UDS 2041



ABOVE FIG. 11-9: Option 2 (Consolidation-only growth) to 2041, not to scale. Key features of this option are that significant household shortfalls exist in all areas. While 98% of growth is intensification / consolidation, only 61% of projected growth can be physically accommodated.

WAIMAKARIRI: Virtually no new growth, economic decline possible

SELWYN: Virtually no new growth, economic decline possible

CHRISTCHURCH: Limited growth until capacity exhausted.

This approach would not be able to meet growth targets , meaning that large-scale alternatives would be needed of growth was to be retained within the UDS area.

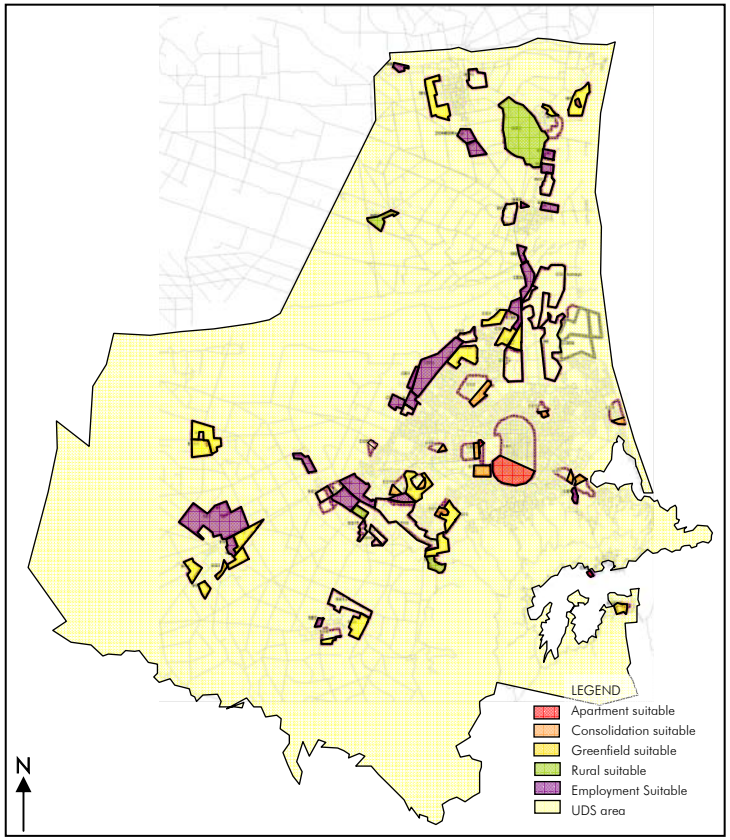
11.9 OPTION 3A - Consolidation Dominant Growth

This approach sought to have a focus on intensification / consolidation as a preference, with greenfield being treated as an 'overflow'. The growth delivered in centres was tempered with assumptions over exactly how much was in fact deliverable based on community acceptance, funding, and other implementation issues. Key assumptions are:

- → Each Council provides for the individual growth targets provided in the medium-high projection
- → Theoretical capacities are fully met within each pocket
- → Waimakariri growth pocket WG3 is not used given its location under the airport noise contour (up to 600 household capacity)
- → Intensification / consolidation will become much more feasible in the window 2026-2041 than the immediate 2006-2026 window based on the Council undertaking numerous preparation strategies between now and then that could obtain both community and market buy-in for these areas.

This option delivered 48% consolidation, over 2/3rds of that conceptually sought by the preferred 'Option A'. It is unlikely that this can be further increased without significant intervention and higher densities within centres and the CBD.

UDS 2026



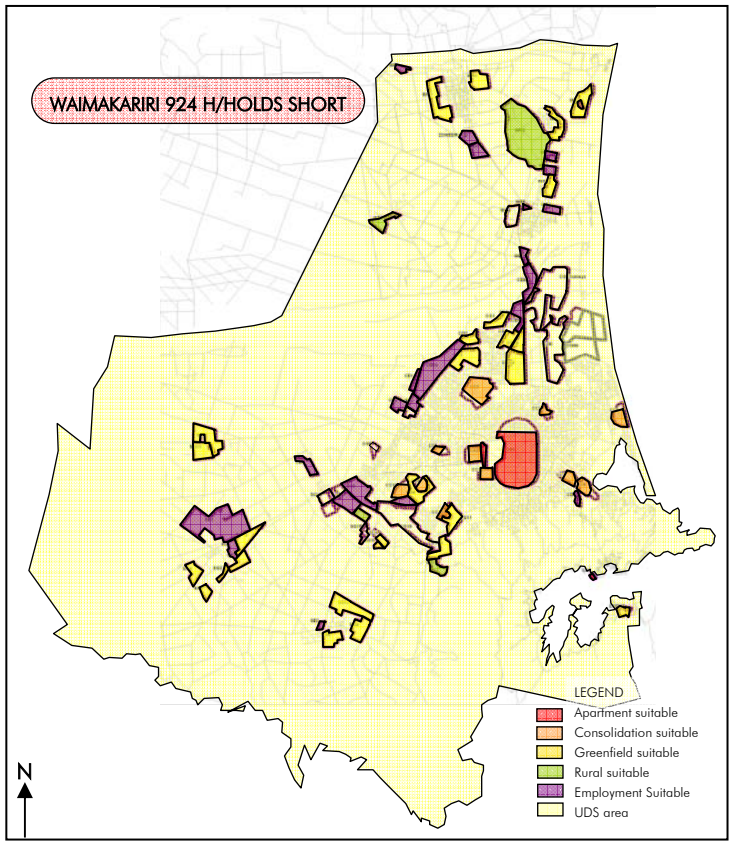
ABOVE FIG. 11-10: Option 3A (Consolidation-preferential growth) to 2026, not to scale. This option delivers the anticipated 49,500 households at a ratio of 21% consolidation and 79% greenfield. It is not considered that a greater realisation of consolidation would be possible in this period without massive intervention (with or without community buy in) by the Councils.

WAIMAKARIRI: Growth is focussed on Rangiora and Pegasus, with some at Woodend.

SELWYN: Rolleston and West Melton (to enable the best possible public transport and business catchment here) have strong growth, with some at Lincoln.

CHRISTCHURCH: Greenfield development around Belfast in the north and also to the south; consolidation occurs as much as possible subject to quality control by the Council.

UDS 2041



ABOVE FIG. 11-11: Option 3A (Consolidation-preferential growth) to 2041, not to scale. This option, due to a shortfall in Waimakariri, delivers only 26,276 of the 27,200 new households needed in this period. Of that however, up to 55% could be delivered through consolidation or intensification provided sufficient enabling mechanisms have been implemented. Overall for the total growth between 2006 - 2041 (assuming that the Waimakariri shortfall is accommodated in greenfield development elsewhere in the UDS) up to 48% of growth can be delivered via consolidation and intensification.

In Waimakariri, growth continues around Rangiora and Woodend. Alternative provision may be used to reduce the housing shortfall, including the use of WG3 or new growth pockets. Selwyn sees growth focus around Lincoln with some overflow needed in Prebbleton (although this is avoided as much as possible). In Christchurch consolidation becomes a major source of new households with greenfield growth in the north of the city supplementing this.

11.10 OPTION 3B - Consolidation Dominant Growth, Southern Bias

Option 3B delivers the same quantity of new households for each of the local authorities as Option 3A, however has a greenfield bias within Christchurch City to the south.

This represents a strategic possibility that could see an emphasis on focussing the provision of new services in one geographic part of the City.

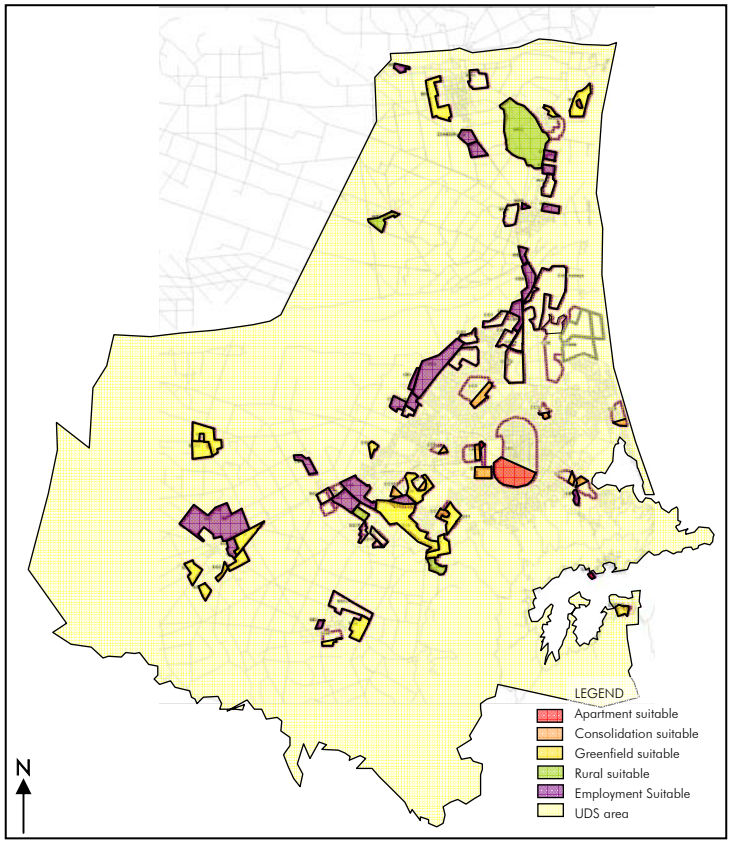
This approach cannot entirely work, and after 2026 greenfield land in the north of Christchurch is still necessary.

This option may also create externalities for the rural districts - Selwyn could receive numerous advantages from a new, large population in proximity to its boundary that Waimakariri would not enjoy (at least until after 2026 with development at Belfast).

Key assumptions underpinning this option are as with Option 3A.

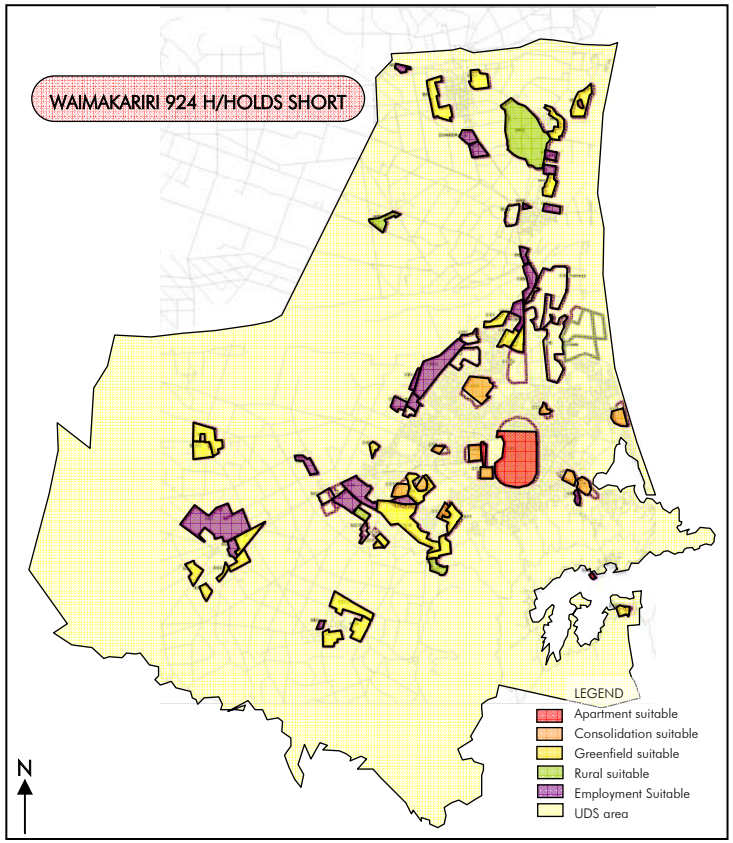
In the rural Districts, the sequencing of growth has given a preference to Rolleston and Rangiora. Particularly in Selwyn, there is the opportunity to manipulate the exact delivery of growth, such that it could be split between Lincoln and Rolleston 50/50 between 2006—2041, or otherwise distributed according to the direction suggested by more detailed future examination.

UDS 2026



ABOVE FIG. 11-12: Option 3B (Consolidation-preferential growth) to 2026, not to scale. This option delivers Option 3A with a strategic greenfield emphasis to the south of Christchurch City. This could for instance concentrate development around key infrastructural or regeneration projects and help to provide new nodes and consolidation areas not otherwise specifically identified in these growth calculations.

UDS 2041



ABOVE FIG. 11-13: Option 3B (Consolidation-preferential growth) to 2041, not to scale. This option requires development of new greenfield areas to the north of Christchurch (Belfast provides the greatest strategic logic for this) as those to the south reach capacity.

11.11 OPTION 3C - Consolidation Dominant Growth, Northern Bias

Option 3C delivers the same quantity of new households for each of the local authorities as Option 3A and B, however has a greenfield bias within Christchurch City to the north.

This represents a strategic possibility that could see an emphasis on focussing the provision of new services in one geographic part of the City.

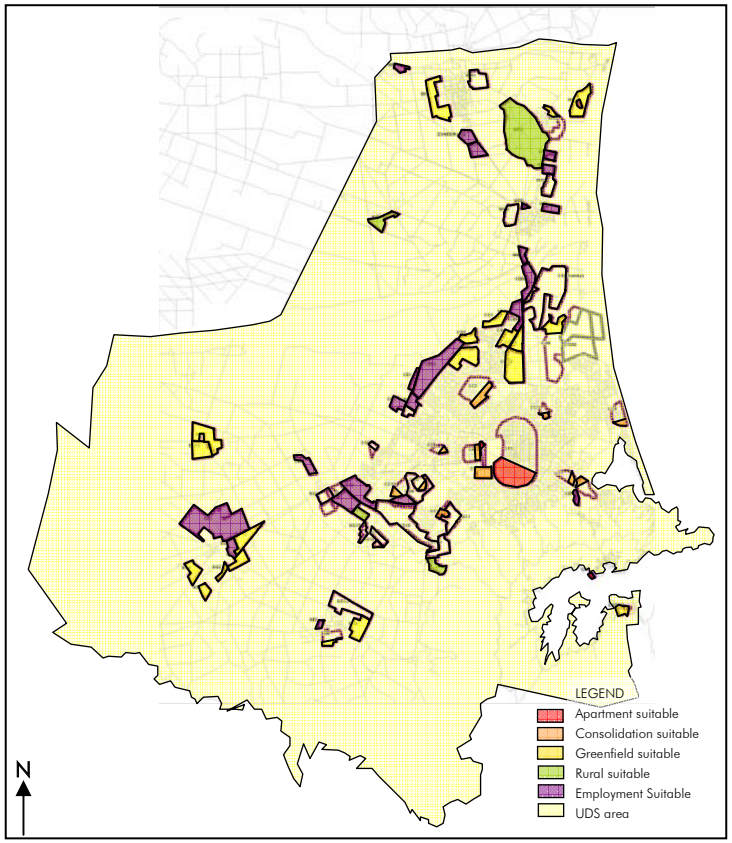
This option may also create externalities for the rural districts - Waimakariri could receive numerous advantages from a new, large population in proximity to its boundary that Selwyn would not enjoy.

This could however result in negative pressures on Waimakariri, such as for more rural residential or commuter-residents depending on the quantity of employment opportunities that are delivered in the north of Christchurch along with population growth.

Key assumptions underpinning this option are as with Option 3A.

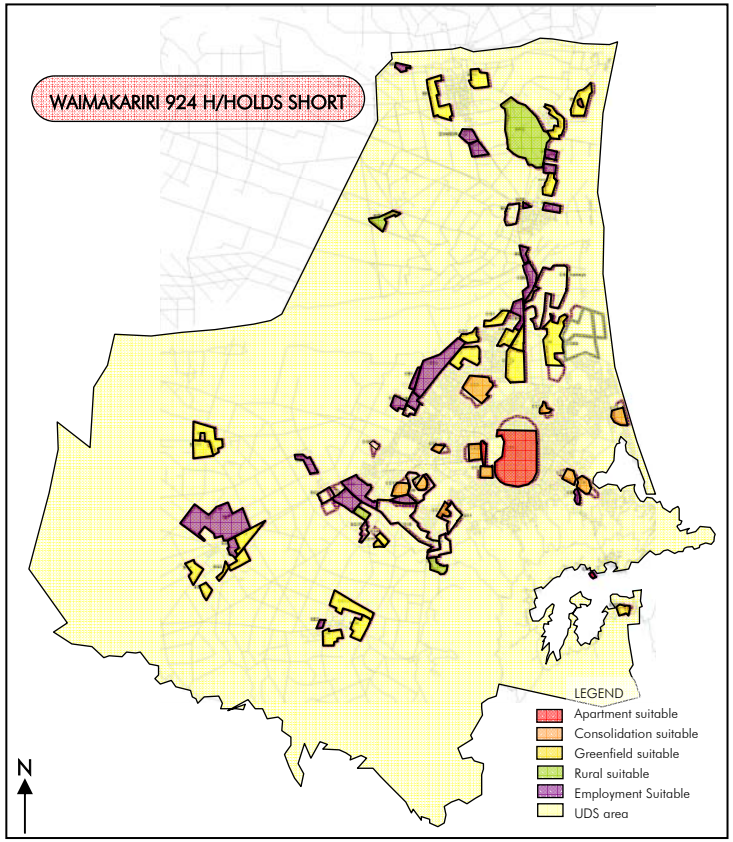
This option has the strategic advantage that with large-scale development in the north of the city comes the opportunity to develop new nodes (currently the north of Christchurch is overwhelmingly residential). These could help provide existing residential areas with better access to local amenities.

UDS 2026



ABOVE FIG. 11-14: Option 3C (Consolidation-preferential growth) to 2026, not to scale. This option delivers Option 3A with a strategic greenfield emphasis to the north of Christchurch City. This could for instance concentrate development around key infrastructural or regeneration projects and help to provide new nodes and consolidation areas not otherwise specifically identified in these growth calculations.

UDS 2041



ABOVE FIG. 11-15: Option 3C (Consolidation-preferential growth) to 2041, not to scale.

11.12 OPTION 4 - Consolidation Dominant Growth with an emphasis on Christchurch City

Option 4 is a variation of Option 3A that focuses on a more flexible provision of households between the local authorities, rather than seeking to enforce the concept that each authority be responsible for 'its own' growth.

This allows the rural districts to pursue smaller growth targets in the growth pockets they want and that best serve their own strategic interests rather than having to essentially consume all available capacity.

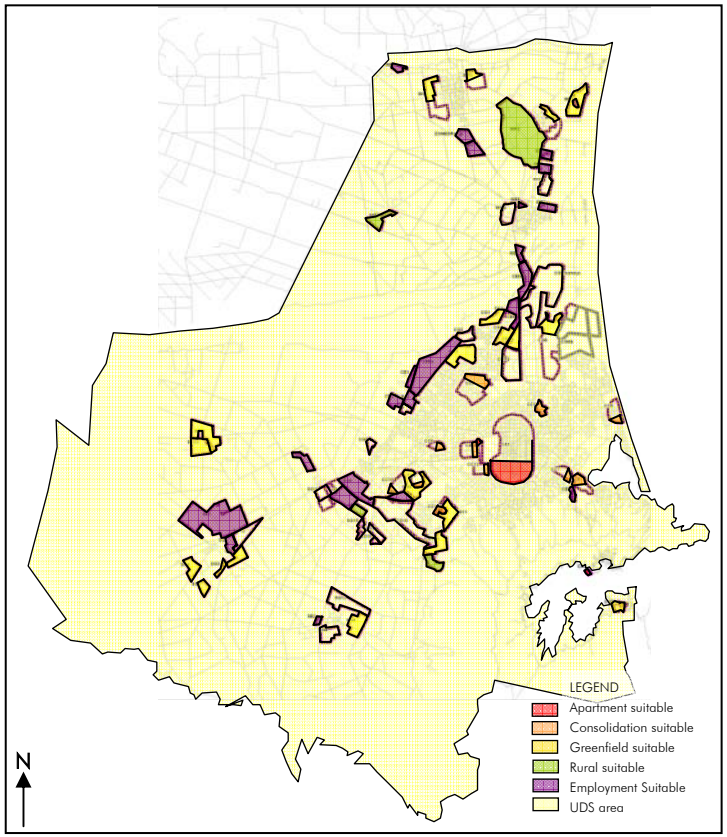
It also helps locate more population within Christchurch City and better proximity to public transport services and amenities (due simply to the realities of the economy of scale principle).

Lastly, it means that within the pockets some capacity after 2041 remains without needing to extensively redevelop.

Key assumptions for this option are:

- → Theoretical capacities are fully met within each pocket
- → Waimakariri growth pocket WG3 is not used given its location under the airport noise contour (up to 600 household capacity)
- → Intensification / consolidation will become much more feasible in the window 2026-2041 than the immediate 2006-2026 window based on the Council undertaking numerous preparation strategies between now and then that could obtain both community and market buy-in for these areas.

UDS 2026



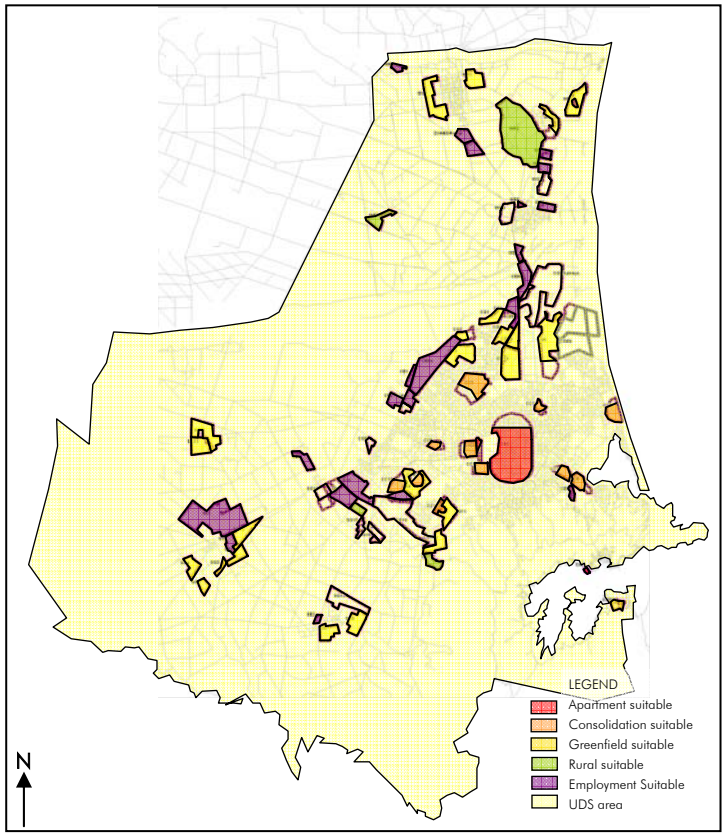
ABOVE FIG. 11-16: Option 4 (Consolidation-strategic growth) to 2041, not to scale. This option seeks to re-locate approximately 10% of the growth in the rural districts into Christchurch city. The proportion of growth being delivered as consolidation or greenfield remains as with Option 3A.

WAIMAKARIRI: Pegasus develops supplemented with growth in Rangiora and Woodend.

SELWYN: West Melton is given emphasis to improve its catchment and make public transport (and other) services viable here. Other growth is distributed between Rangiora and Lincoln.

CHRISTCHURCH: Incremental consolidation is supplemented by more greenfield at the northern and southern ends of the City.

UDS 2041



ABOVE FIG. 11-17: Option 4 (Consolidation-strategic growth) to 2041, not to scale. This option sees a greater amount of growth by consolidation, a tapering of greenfield growth and strategic retention of capacity within growth pockets in all of the local authorities for continued growth after 2041.

WAIMAKARIRI: Greenfield growth focuses around Rangiora and Woodend, with some intensification within these centres and Kapaioi.

SELWYN: Greenfield growth focuses around Rolleston and Lincoln, with strategic capacity for future growth retained at Lincoln. Nominal growth around Prebbleton to retain its distinct character.

CHRISTCHURCH: Greater greenfield development to accommodate growth from Waimakariri and Selwyn districts, with new nodes establishing in the north of Christchurch.

11.13 Comparison of options

Option 4 is the preferred way of delivering the consulted 'Option A'. It offers:

- → The highest possible (realistic) degree of consolidation within centres;
- → As much growth as possible in Christchurch City where the access to services and opportunities to reduce vehicle trips and resource use is often greater than in the rural districts;
- → New nodes establish with greenfield growth in the north of Christchurch that bring benefits to both new and existing residents of that part of the City;
- → Rural growth focuses around improving key centres;
- → Future capacity beyond 2041 for both greenfield and consolidated growth;

In total, Option 4 delivers the projected 76,700 new households of growth to 2041. 48% of this can be delivered through consolidation, with the remaining 52% in greenfield (This is a 'pure' proportion - in reality and in terms of the types of housing actually being lived in, a greater proportion will be medium to higher density 'consolidated' as new nodes accompanying greenfield growth will deliver pockets of higher density living). This is broken down as:

SELWYN:

A total of 6837 new households between 2006-2026, increasing to 9557 new households in total by 2041. Of this, around 16% will be deliverable via consolidation within the existing centres. All other growth will need to be greenfield given the limited opportunities to further intensify caused by the generally lower-order nature of these towns.

WAIMAKARIRI:

A total of 6943 new households between 2006-2026 (underpinned by the Pegasus development), increasing to a total of 9917 new households by 2041. Of this, no more than 10% will be deliverable via consolidation within the existing towns. As with Selwyn, there is insufficient scale and amenities within the town that would make large-scale intensification feasible.

CHRISTCHURCH:

A total of 35,720 new households are delivered between 2006-2026. This increases to 57,226 in total by 2041. Of this, 60% can be delivered via consolidation (although most of this will be after 2026 or even 2020 at the probable earliest). The remaining 40% is delivered as new greenfield development.

This would overall only be deliverable if the density assumptions underpinning the option calculations were enforced as a minimum achievable density rather than as an ideal - for example were development yields of less than 10 households per gross hectare delivered in the rural districts, the total number of houses that would be delivered would decrease notably.

Due to the anticipated increase in consolidation after 2026, care needs to be taken to ensure that not too much greenfield land is released as it could then undermine take up of that consolidation.

	OPTION A - as consulted	OPTION 1	OPTION 2	OPTION 3A	OPTION 3B	OPTION 3C	OPTION 4	*UDS - DRAFT as notified for consultation*
% Projected growth housed	81%	99%	61%	99%	99%	99%	100%	*98%*
Households accommodated	62,450	75,776	46,895	75,776	75,776	75,776	76,700	*74,860*
% Population 'Consolidated'	60%	0%	61%	48%	48%	48%	48%	*45%*
New Households 'Consolidated'	37,470	0	46,895	36,925	36,925	36,925	36,925	*33,490*
% Population' Greenfield'	40%	98%	0%	51%	51%	51%	52%	*49%*
New Households 'Greenfield'	24,980	75,776	0	38,851	38,851	38,851	39,775	*36,810*
Role of Rural Residential	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	Nominal	*5%*
Role of Rural	Nil	Nil	Nil	Nil	Nil	Nil	Nil	*1%*
Amount of land needed for new greenfield (ha)	2,110	5,060	0%	3,226	3,226	3,226	3,164	*Unknown*
Urban footprint minimised	HIGH	LOW	LOW	HIGH	HIGH	HIGH	HIGH	*MEDIUM*
Social focal points emphasised	HIGH	LOW	MEDIUM	HIGH	HIGH	HIGH	HIGH	*MEDIUM*
Centres emphasised	HIGH	LOW	HIGH	HIGH	HIGH	HIGH	HIGH	*HIGH*
Contributes to less congestion	HIGH	LOW	LOW	MED-HI	MED-HI	MEDIUM	HIGH	*MEDIUM*
Facilitates less private vehicle dependence	HIGH	LOW	LOW	HIGH	MED-HI	MEDIUM	HIGH	*MEDIUM*

ABOVE FIG. 11-18: Preferred option (Option 4) 2026 to 2041 with broad population growth represented.

11.14 Population allocation for preferred option - 2026

This page outlines the proposed new household allocation for the period of 2006 - 2026.

WAIMAKARIRI:

Pegasus provides the largest single contribution to accommodating growth. It will be unlikely to provide for its own employment needs, meaning that a proportion of residents will have a high association with Christchurch City for work and possibly also secondary education. Rangiora and Woodend provide for the remaining growth aspiration.

Growth provision: 6,943 households

- → New greenfield growth: 6,443 house-holds (59% of capacity). Includes:
  - → *Rangiora: 3,612 new h-holds*
  - → *Pegasus: 1,800 new h-holds*
  - → *Woodend: 531 new h-holds*
- → Intensification within existing vacant / underdeveloped sites in the main towns: 500 households (50% of capacity).

SELWYN:

West Melton is given preference to help establish the fundamental catchment needed to support local supermarkets and a 'critical mass' level of public transport. Other growth if provided for at both Rolleston and Lincoln.

Growth Provision 6,837 households:

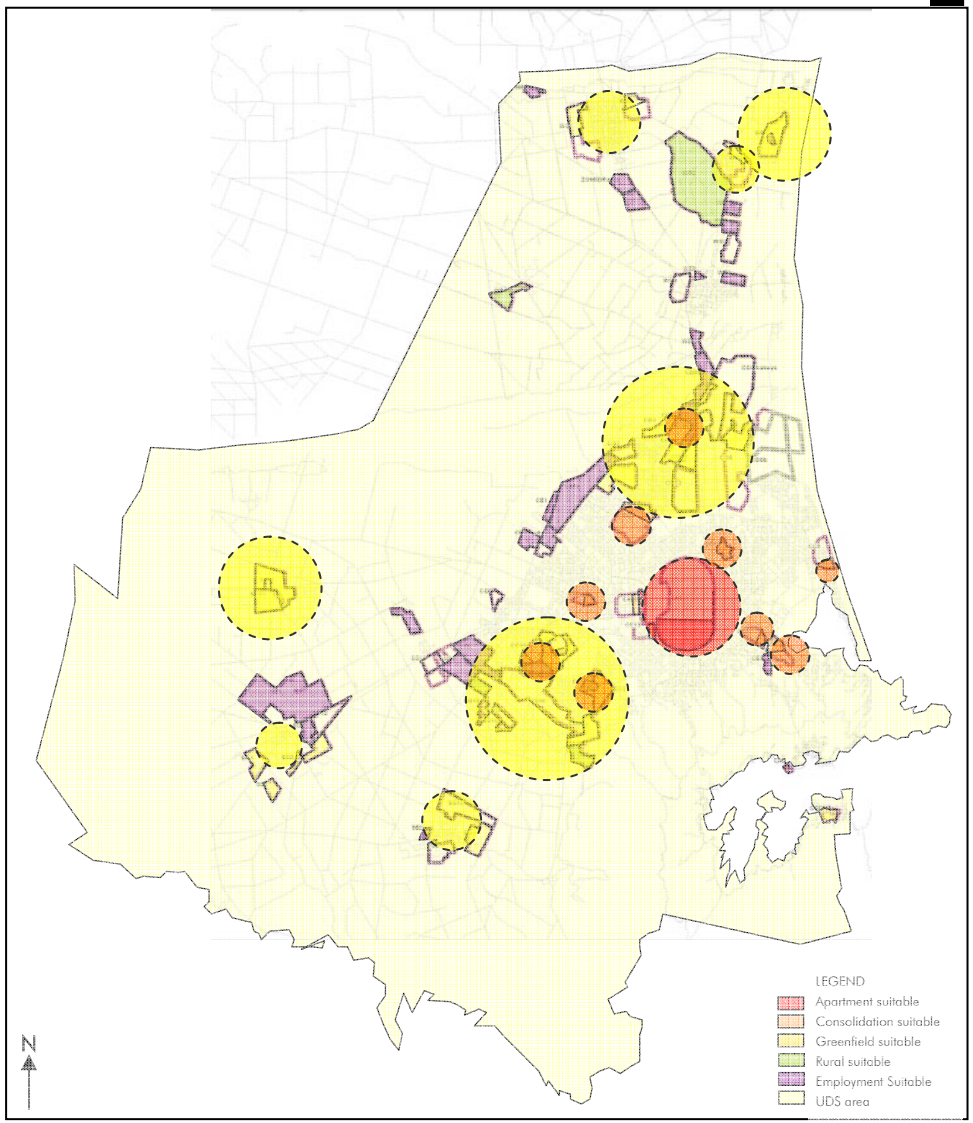
- → New greenfield growth: 6,087 house-holds (50% of capacity)
  - → *Rangiora: 860 new h-holds*
  - → *Lincoln: 1,613 new h-holds*
  - → *West Melton: 3,594 h-holds*
- → Intensification within existing vacant / underdeveloped sites in the main towns: 750 households (50% of capacity).

CHRISTCHURCH:

Take up of consolidated growth is limited, as community familiarity, acceptance, and 'buy-in' to this type of living increases over time. Much new growth is in the form of greenfield development at the northern and southern parts of the City.

Growth provision: 35,720 households

- → New apartment growth in the CBD and suitable areas: 4,440 households (31% of capacity).
  - → *CBD 4000 new h-holds*
- → New intensification around town and activity centres: 4,710 households (33% of capacity).
- → New greenfield growth: 14,570 house-holds (27% of capacity).
- → Intensification within existing vacant / underdeveloped sites in the main towns and centres: 12,000 households (100% of capacity).



ABOVE FIG. 11-19: Preferred option (Option 4) 2006 to 2026 with broad population growth represented.

11.15 Population allocation for preferred option - 2041

This page outlines the proposed new household allocation for the period of 2026 - 2041.

WAIMAKARIRI:

Growth continues to occur around Rangiora and Woodend, with intensification of vacant sites existing in these centres and Rangiora. Growth will also occur at Oxford and other towns outside of the UDS area.

Growth provision: 2,974 households

→ New greenfield growth: 2,474 households (23% of capacity).

→ *Rangiora: 2,005 new h-holds*

→ *Woodend: 469 new h-holds*

→ Intensification within existing vacant / underdeveloped sites in the main towns: 500 households (50% of capacity).

SELWYN:

Growth occurs reinforcing the two main centres of Lincoln and Rolleston. Growth at Burnham (fringe of UDS area) will occur as well, related to strategic decisions by the military and the families of personnel. Other towns will also experience growth (such as Darfield)

Growth Provision 2,720 households:

→ New greenfield growth: 1,970 households (16% of capacity)

→ *Rolleston: 1,100 new h-holds*

→ *Lincoln: 870 new h-holds*

→ Intensification within existing vacant / underdeveloped sites in the main towns: 750 households (50% of capacity).

CHRISTCHURCH:

Take up of consolidated growth is limited, as community familiarity, acceptance, and 'buy-in' to this type of living increases over time. Much new growth is in the form of greenfield development at the northern and southern parts of the City.

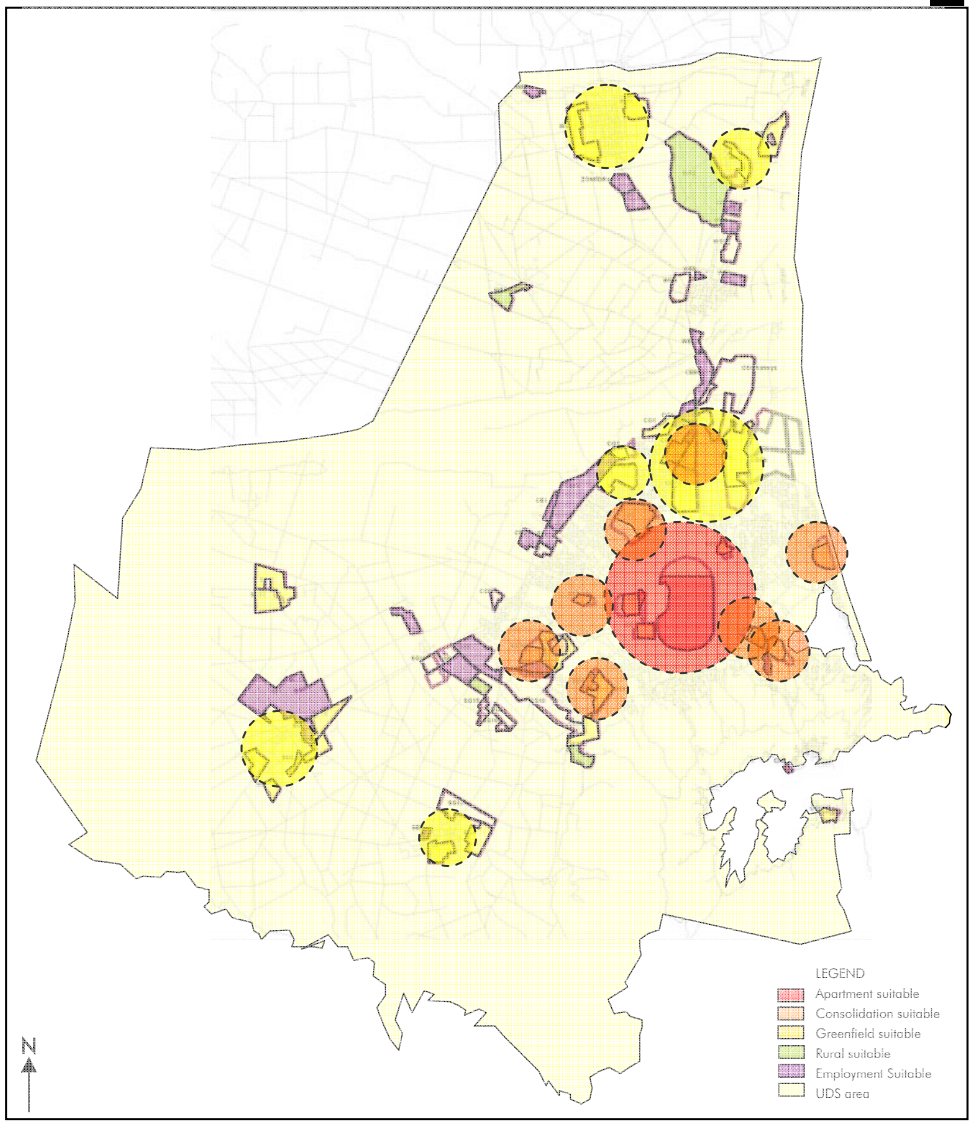
Growth provision: 21,506 households

→ New apartment growth in the CBD and suitable areas: 11,050 households (79% of total 2006 capacity).

→ *CBD 6000 new h-holds*

→ New intensification around town and activity centres: 6,665 households (46% of 2006 capacity).

→ New greenfield growth: 8,231 households (15% of total 2006 capacity).



ABOVE FIG. 11-20: Preferred option (Option 4) 2026 to 2041 with broad population growth represented.

preferred sub-regional structure 12

12.0 PREFERRED SUB-REGIONAL STRUCTURE

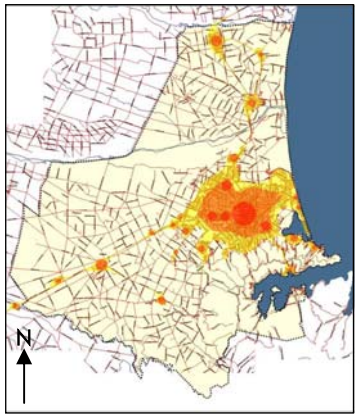
12.1 Integrating the Themes

The preferred approach to implement the consulted 'Option A' emerged as that which not only maximised the benefits available to each interest area, but which had the potential to allow numerous 'synergies' between them - such as combining social, intensification, employment, and passenger transport preferences together to make a much stronger outcome.

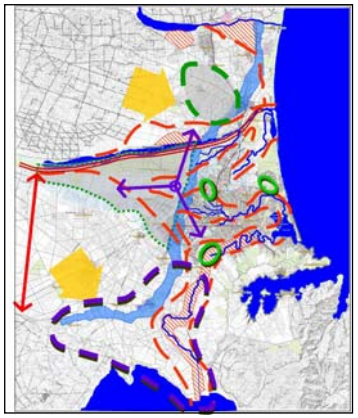
In many cases, the interests of different themes were complimentary, meaning that the preferences of many were shared for different reasons but that came together to help reinforce distinct outcomes.

An example of this is the way in which each of the social networks, employment, and movement networks (public transport) themes indicated a strong preference for increased self-sufficiency in between the Christchurch City fringe and the rural Districts around hubs at Hornby / Halswell and Belfast.

The preferred option is based around a consolidation preference that has been calculated on assumptions of the realistic amount of re-development that will be actually feasible. Due to this, the growth concept in delivery should have a focus on improving these wherever possible, as it will help to overall reduce the requirement for greenfield growth.

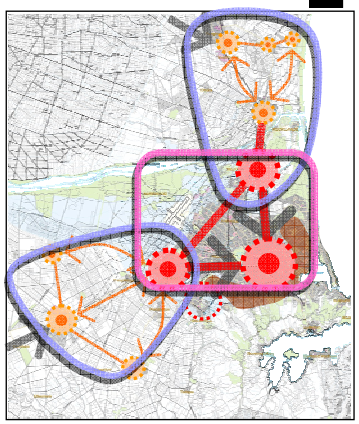


EXISTING URBAN FOOTPRINT AND EMBEDDED PATTERNS



BLUE NETWORKS' BENEFITS

GREEN NETWORKS AND BIODIVERSITY BENEFITS



SOCIAL NETWORKS' BENEFITS

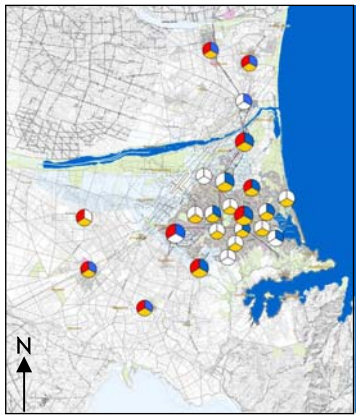
PREFERRED SUB-REGIONAL GROWTH OPTION

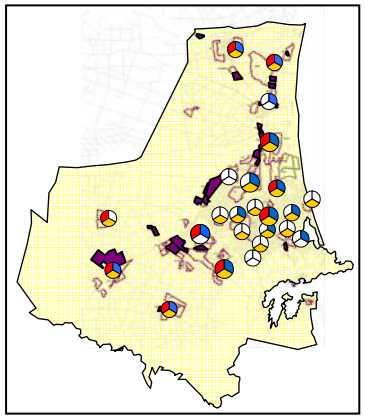
ACTIVITY CENTRE BENEFITS

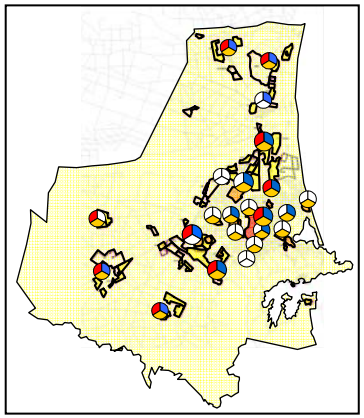
EMPLOYMENT BENEFITS

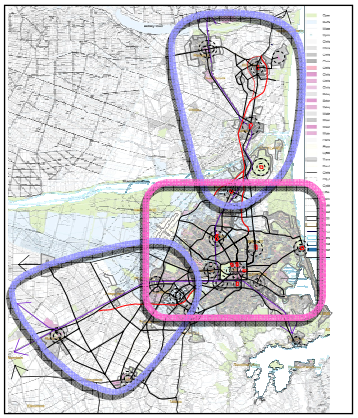
RESIDENTIAL GROWTH BENEFITS

MOVEMENT NETWORK BENEFITS









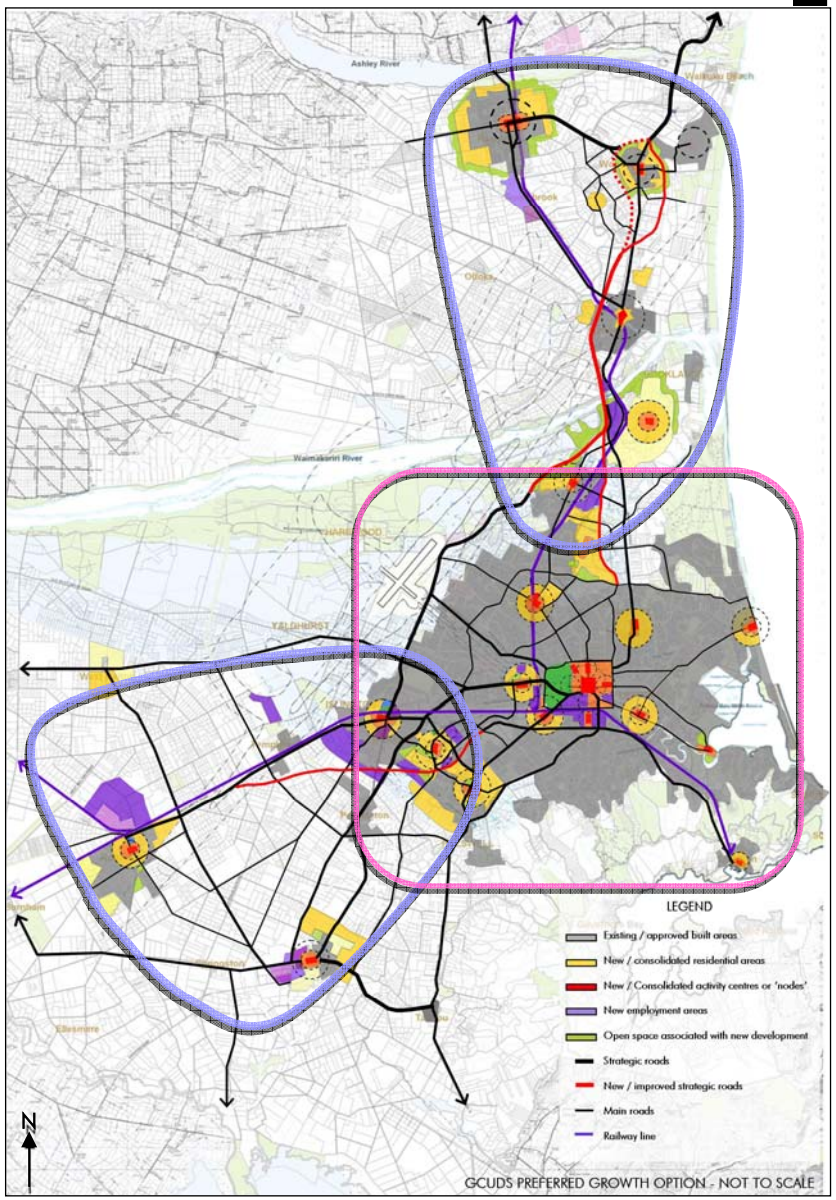
12.2 Overall Growth Concept

The preferred growth option is based on a distribution of population throughout the UDS area that seeks to:

- → Relate to possible employment settings for maximum trip-length efficiencies;
- → Relate to existing activity centres for maximum local economy benefits and social cohesion (especially for elderly groups);
- → Ensure that efficient and effective movement networks and passenger transport respond to and support areas of large population;
- → Maintain the identity-defining character of settled areas, in particular the rural qualities of Selwyn and Waimakariri;
- → Allow the needs of settings beyond the UDS area to be most effectively served;
- → Lead to improved social outcomes for both new and existing residents.

Key 'big picture' features of the growth option as a whole include:

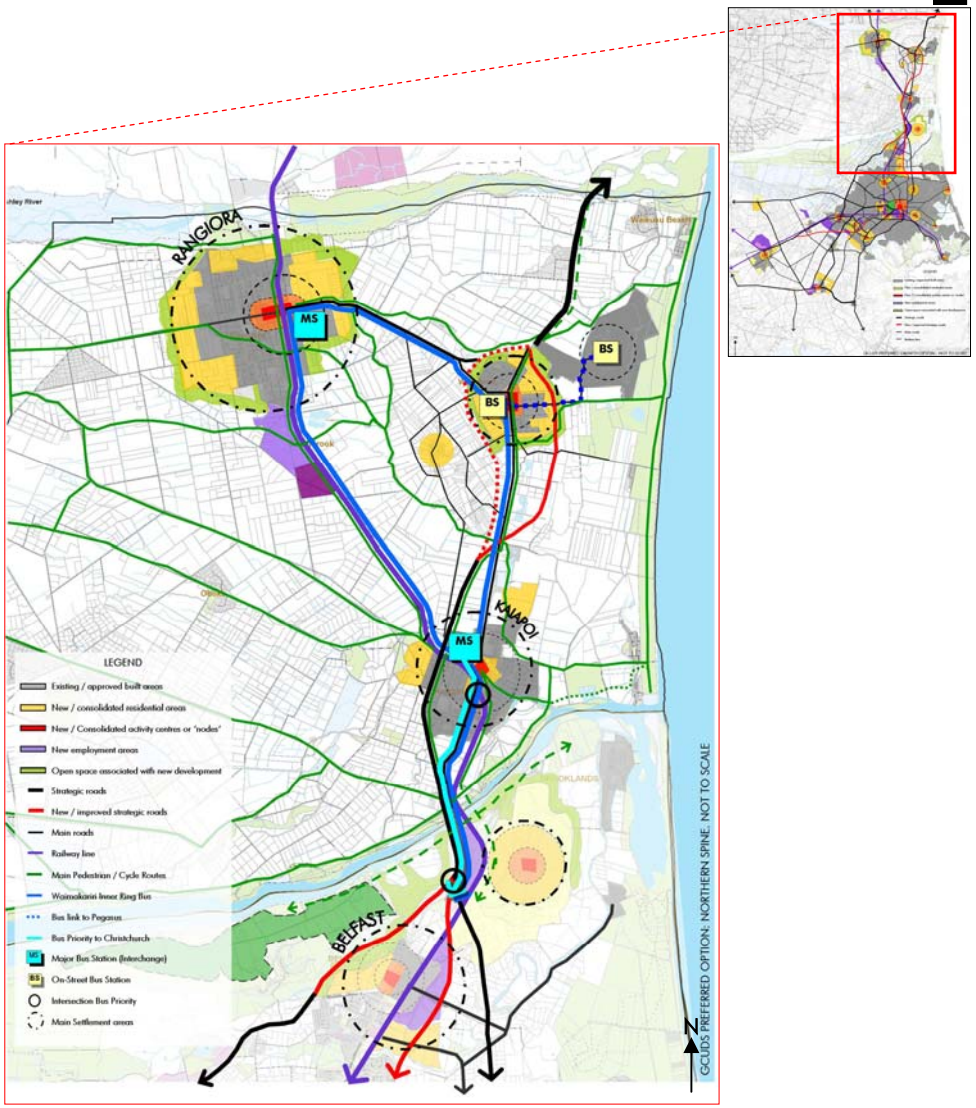
- → 75% of population growth locates within Christchurch City;
- → 12,5% of population growth locates within Selwyn District, maintaining rural aspect;
- → 12.5% of population growth locates within Waimakariri District, maintaining rural aspect;
- → Overall, up to 48% of growth can be accommodated via consolidation around existing nodes and the CBD, with the remaining 52% by greenfield subdivisions.
- → Support for a 'southern' motorway connection in Halswell better linking Selwyn to Christchurch;
- → Support for construction of the Northern Arterial (with possible eastern realignment);
- → Growth avoids sensitive environmental areas (such as over the aquifer, Port Hills etc.);
- → Focus on providing 'growing' employment type settings such as new and knowledge economy uses;
- → Rolleston and Rangiora remain the main service centres for their wider District catchments;
- → Christchurch CBD becomes a thriving living environment;
- → Significant social service and employment hubs develop at the northern (around Belfast) and southern (around Hornby and Halswell) parts of Christchurch City.
- → Capacity remains for growth after 2041 through future areas such as the 'Chaneys' in the north of Christchurch City.



ABOVE FIG. 12-1: UDS Growth Concept (not to scale).

12.3 Key features: Northern Sector

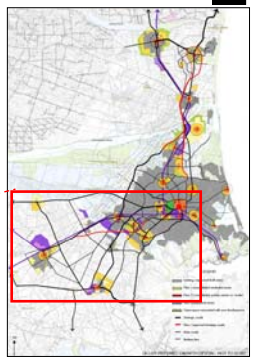
- → Waimakariri District grows by an additional 6,943 households to 2026, and a total of 9,917 new households by 2041 (10% via consolidation). This growth can be provided in Greenfield expansion around the main towns of Rangiora, Kaiapoi, and Woodend, with some minor intensification within existing built areas possible;
- → Rangiora remains the main town for the District, serving the non-UDS area as the service focal point;
- → The scale of growth provided retains the 'rural town' character of towns within Waimakariri, maintaining the scale, sense of place, and unique identity of these areas distinct from the Christchurch City urban area;
- → Strategic road connections through Waimakariri District into Christchurch City are improved, including motorway by-pass of Woodend and development of the Northern Arterial in Christchurch;
- → Public transport is developed into a Waimakariri 'Ring' internal system circulating between Rangiora, Kaiapoi, and Woodend.
- → High-frequency services into Christchurch run from Kaiapoi
- → New areas of employment land developed south of Rangiora and Kaiapoi to help make the District more self-sufficient;
- → Enhanced open space 'green' linkages established;
- → North Christchurch is provided with new employment areas and residential intensification centred around the Belfast area, which becomes the main gateway into Christchurch City and a community hub;
- → The Northern Arterial may be realigned eastwards to fully open up the capacity of Greenfield opportunities as a more self-sustaining centre around a node;
- → Significant recreational open spaces adjacent to the Waimakariri River are improved including better accessibility to this area from the wider catchment;
- → Development of the 'Chaneys' area may be necessary to help Christchurch manage its growing population after 2041. This could be integrated with open space / recreational improvements associated with the Waimakariri River;
- → New development in the north of Christchurch City can help to provide services and facilities that are currently not provided around this area.

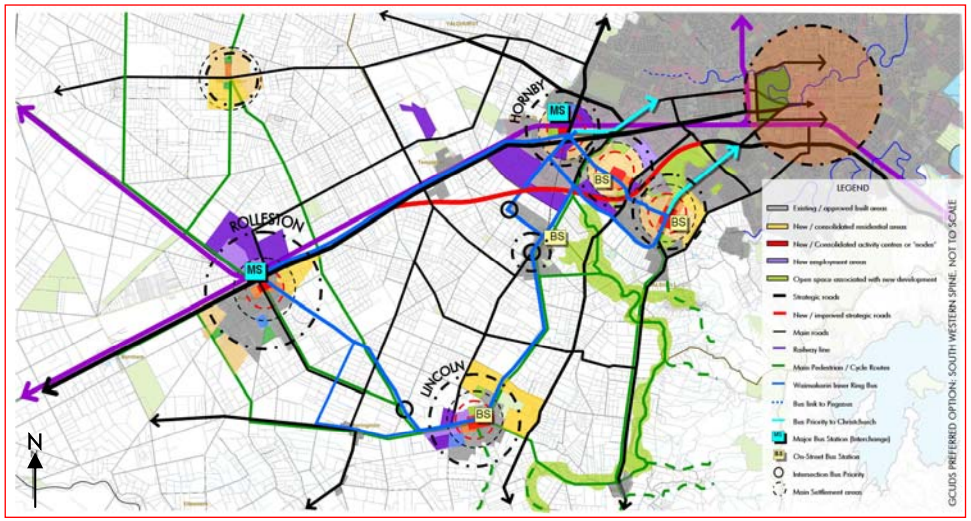


ABOVE FIG. 12-2: UDS Growth Concept - northern sector (not to scale).

12.4 Key features: South-Western Sector

- → Selwyn District grows by an additional 6,837 households to 2026, and a total of 9,557 new households by 2041 (16% via consolidation). This growth can be provided in Greenfield expansion around the main towns of Rolleston, Lincoln, and West Melton, with some minor intensification within existing built area possible;
- → Rolleston remains the main town for the District;
- → The scale of growth provided retains the 'rural town' character of towns within Selwyn, maintaining the scale, sense of place, and unique identity of these areas distinct from the Christchurch City urban area;
- → Strategic road connections through Selwyn District into Christchurch City are improved, a new southern motorway extension;
- → Public transport is developed into a Selwyn 'Ring' system circulating between Rolleston, Lincoln, Prebbleton, and Hornby. Rapid services into Christchurch City commence from Hornby;
- → High-frequency services into Christchurch run from Rolleston and Lincoln, with particular high-frequency services provided between Hornby and Lincoln;
- → West Melton develops to sustain its own full-service supermarket. Future public transport linkages to Rolleston improve as population catchment grows;
- → Growth in Prebbleton limited given its proximity to Christchurch City and the difficulty in retaining its distinct identity;
- → Hornby / Halswell become areas of significant new investment. Important transport interchange develops in Hornby along with potential strategic community facilities such as large-scale pool facilities and library improvements;
- → Halswell provides many Greenfield opportunities; Hornby more challenging brownfield ones;
- → Wigram has a focus on employment and business settings that help improve the local economy;
- → The 'I-Zone' remains the main new employment area for Selwyn District

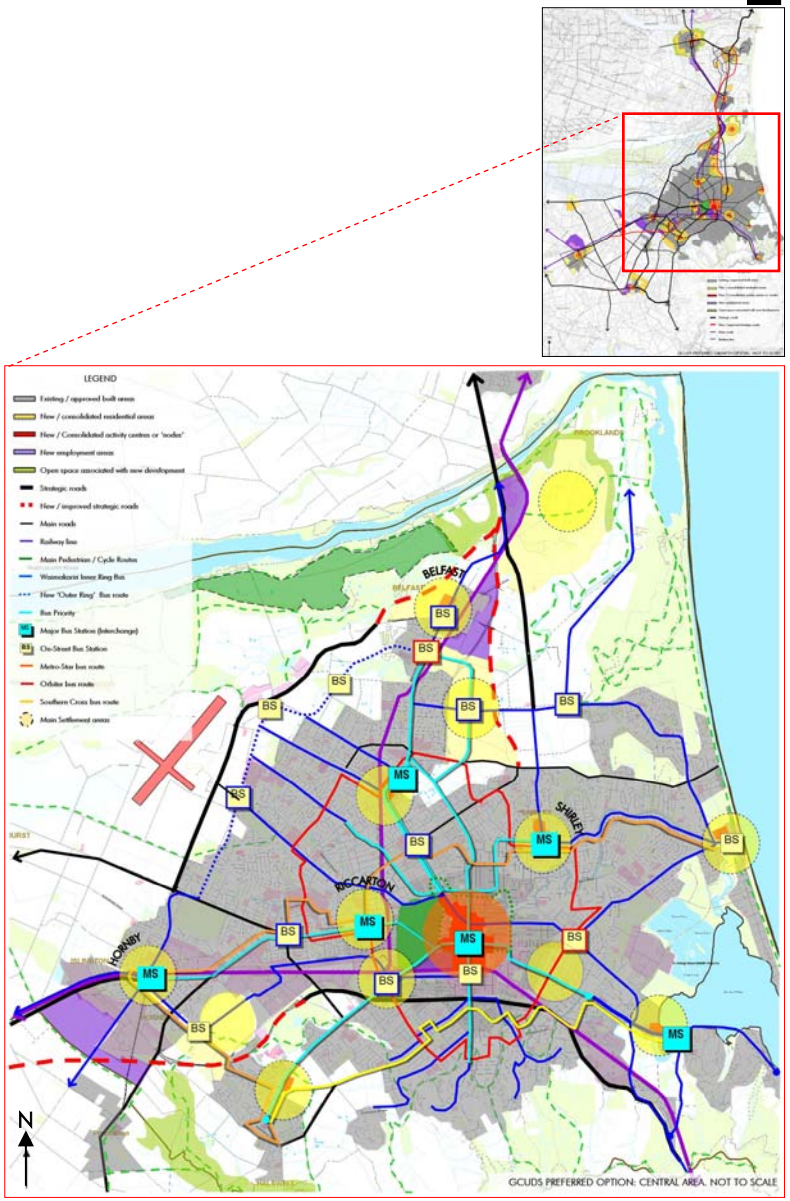




ABOVE FIG. 12-3: UDS Growth Concept - south western sector (not to scale).

12.5 Key features: Central Sector

- Christchurch City grows by an additional 35,720 households to 2026, and a total of 57,226 new households by 2041. This growth can be provided in Greenfield expansion to the north and south of existing areas, but around 60% of it will need to be accommodated within existing urban areas such as the CBD and town / activity centres;
- To 2026, much of the growth is in the Greenfield areas as the quality and ability of the CBD and town centres to accommodate high-quality residential uses improves. After 2026, most growth will be delivered in the CBD and in town centres; as the stock of Greenfield begins to taper downwards;
- Greenfield developments provided with a greater flexibility and range of uses than has been traditional. This allows a greater provision of local shops and services in these areas, helping to reduce vehicle trips and pressure on the main arterial road network.
- The CBD becomes a much more 'liveable' CBD with an increase in accessible housing to all household sizes and ethnic groups provided;
- A greater sense of multi-cultural 'ownership' is developed within the CBD and its open spaces, as well as retention of existing residents (including the disadvantaged) during new and redevelopment;
- High-quality medium density housing becomes more common within 800m of main centres and transportation junctions. Mixed use and higher-density residential development is provided within the core of town centres, including up to 4-storey apartments. Higher and more intensive housing is provided within the CBD.
- The existing Orbiter bus route is improved and a new 'outer' ring system is established as well as key priority routes that access the CBD centre;
- New employment land is provided towards the edges of the city for larger-scale uses that are less compatible with high-quality living environments;
- Inner-city and town-centre employment uses transition over time to more retailing, commercial, and new-economy (such as professional and business services) ones;
- Pedestrian and cycling linkages are improved particularly access to the New Brighton beach, Port Hills, and Waimakariri River edge;
- Development around the airport is focussed on providing employment uses compatible with air freight and movement, with some Greenfield residential provided as 'overflow' after 2026;



ABOVE FIG. 12-4: UDS Growth Concept - central sector (not to scale).

12.6 Energised, intensive activity centres based around the public realm

→ *Town centres become major social settings within the sub-region, giving local identity and high amenity environments;*

→ *Employment in a wider range of activities beyond retail is provided;*

→ *The public realm is heavily invested in and improved, helped by new and re-development connecting to it;*

→ *Safety levels are improved and true '24/7' use of buildings and spaces is achieved.*

12.7 Recreational opportunities that meet all users' needs and enhance ecological values

- → *People connect with open spaces and environmental values;*
- → *Biodiversity for the sub-region is enhanced;*
- → *Open spaces enjoy more use;*
- → *Healthier lifestyles are enjoyed by residents;*
- → *Natural ecology contributes to the overall sense of identity and place.*

12.8 New residential growth that maximises efficiency and high-amenity environments

- → *Greenfield development that provides responsive intensities based on natural and provided amenities;*
- → *The ability of residents to meet most daily needs locally based on ensuring viable catchment intensity is provided (including for public transport);*
- → *Sound urban design based outcomes that focus on an active public realm and walkable environments;*
- → *Suitable non-residential uses encouraged to stimulate local economies;*
- → *Integration of open spaces and ecological features prominently into developments to provide local identity;*
- → *Superior levels of energy efficiency (including less vehicle dependence);*
- → *Well connected to public transport networks;*
- → *Accessible to all social groups.*

12.9 Intensification that encourages inner-urban living due to design and amenity advantages

- → *Revitalised CBD and town centres due to higher live-in catchments;*
- → *Design based around enhancing local character and delivering resident amenity;*
- → *Development responds to the public realm, helping to enliven and improve it;*
- → *Existing residents benefit from better public transport, improved facilities, and investment in new amenities;*
- → *A mixture of household and income types are provided for in developments;*
- → *More use of open spaces and greater pedestrian activity within town centres;*
- → *Better levels of safety due to more people able to readily see what's going on in the street and in public spaces.*

12.10 employment settings that stimulate prosperity

- → *New industrial and employment developments that focus on providing interesting and effective connection to the street;*
- → *New-economy uses that attract higher incomes and better quality, human-scale working environments;*
- → *Mixed use in town centres that allows for flexible re-use of buildings over time;*
- → *A competitive sub-region that competes internationally and attracts world-leading ventures;*
- → *Managed inner-city transitions for those industries that seek to eventually move towards the periphery;*
- → *Assistance for those appropriate industries wishing to remain in the CBD area to help manage any reverse sensitivity issues;*
- → *Employment areas based on accessibility and the ability pf public transport to readily serve them from living environments.*

implementation and delivery 13

13.0 IMPLEMENTATION AND DELIVERY

There a number of specific actions that are necessary to enable delivery of the preferred spatial UDS option.

These relate to the following distinct areas:

1. Broad actions required to enable the preferences of each disciplinary 'theme' (blue networks, green networks, employment, and so on).

2. Specific actions to help deliver the consolidation objectives of the UDS.

13.1 Broad actions by 'theme':

BLUE NETWORKS

- → Continue existing approaches to minimise development that may undermine aquifer quality or water quantity;
- → Seek to identify important local water-ways that could be integrated into green or movement networks and be enhanced;
- → Seek to incentivise low-impact approaches to urban water management in both greenfield development and consolidation / in-tensification;
- → Prepare District Plan provisions to manage the way in which land use interfaces with lakes, streams, and rivers.

GREEN NETWORKS

- → Develop a policy basis for the creation of privately-owned or public-private biodiversity and green network linkages;
- → Undertake a UDS-wide green network (open space, biodiversity, pedestrian, and cycling) strategy to confirm exact linkages and issues;
- → Strategically purchase and develop land critical to implementing the green-network strategy;
- → Incentivise the retention or enhancement of privately owned biodiversity or open space assets;
- → Avoid development of the Port Hills;
- → Focus on improving a variety of cultural representations in open spaces and seek to incentivise regular ethnic events and festivals.

SOCIAL NETWORKS

- → Integrate the UDS with other social development strategies (affordable housing; service delivery and funding, etc.). In particular re-prioritise towards the main new nodes at Belfast and Hornby;
- → Facilitate provision of cheap and fast broadband internet access for all residences across the UDS area;
- → Prepare social network master plans for each of the three strategy 'sectors' around the main hubs including detailed inventories of communities of interest, assets, liabilities, opportunities, and needs;
- → Facilitate development in places that will have the earliest benefit to improve public transport systems and accessibility;
- → Investigate 'case studies' or model developments that focus on delivering intensification / consolidation in ways that are compatible with the needs of the elderly and also the preferences of cultural / ethnic minorities;
- → Focus redevelopment in areas of high social deprivation around suitable employment opportunities for residents rather than on pure residential development (this may simply facilitate gentrification);
- → Prepare and undertake projects within the CBD and main towns aimed at improving cultural representation and ownership;
- → Seek to enter partnerships with other institutions and private organisations to improve the provision of community facilities (i.e. shared swimming pools / libraries / open spaces etc.);
- → Enter dialogue with the Ministries of Health, Education, and Social Development (and others) over how to integrate growth in accordance with the preferred option with their resources, priorities, and capabilities;
- → Re-focus the concept of 'affordable' housing (which in terms of intensification can merely translate into smaller, cheaper dwelling units) into 'accessible' housing (which relates to cultural issues and house-hold size as well as simply purchase price);
- → Undertake a migrant and refugee settlement strategy / program to help these groups integrate into the wider community and establish connections;
- → Prepare local area 'network newsletters' that can advise residents about the range of social and business services / organisations available in their local 'walkable' catchment. This could be eventually supplemented by an internet-based GIS tool.

ACTIVITY CENTRES

- → Undertake consultative centre-plans for all nodes within the UDS to identify specific capacities, opportunities, and directions;
- → Coordinate planning for community facilities with centre planning;
- → Undertake a consolidation demonstration project within at least one centre;
- → Undertake a town centres strategy to help inform and underpin centre growth and development;
- → Undertake a detailed parking strategy to help manage residential and vehicular parking in centres, including planning to reduce parking provisions, provide structured parking, or other mechanisms;
- → Prepare practical long-term re-development plans for centres that outlines exactly how growth can be delivered through to 2041 including the protection of development sites from shorter-term development speculation;

- → Seek to subsidise redevelopment where necessary (i.e. earthquake proofing issues and so on) that may otherwise inhibit redevelopment;
- → Subsidise 'starter' business activities to help make them more attractive and viable, particularly in new nodes that may lack an established catchment;
- → Prepare District Plan changes to enable effective mixed use developments (including stud heights, unit sizes and layout controls, and street-based business);
- → Prepare town centre guidelines to help communicate the outcomes sought.

EMPLOYMENT

- → Develop a 'competitive settings' economic development strategy to help identify and market employment growth opportunities to desired sectors / organisations;
- → Establish a working group to work with employers and look to stimulate redevelopment, including the facilitated (possibly subsidised) re-location of larger industrial uses out of inner city areas more suited to intensive development and into suitable new locations within the UDS area;
- → Provide subsidies and incentives to new 'new economy' uses, including more permissive working from home and home-conversion provisions;
- → Prepare business-area precinct plans for the larger new proposed business areas;
- → Research and implement mechanisms to provide business certainty over the management of reverse sensitivity effects in intensified town centres;
- → Prepare District Plan changes providing for more mixed-use environments (existing and greenfield), heterogenous land use mixes, and other initiatives to maximise local employment opportunities;
- → Establish an international-standard branding and marketing program to establish and market high-quality, high-amenity business settings to capture key organisations;
- → Prepare guidelines over how to establish a mix of business settings that will contribute to a high-amenity urban form;
- → Facilitate apprenticeships and similar initiatives to ensure lower-skilled workers are able to enter the workforce and obtain up-skilling;
- → Seek to limit mono-cultural business settings except for those 'dirty' uses and industries that operationally require a degree of isolation.

RESIDENTIAL GROWTH

- → Develop a Consolidation and Intensification strategy to help fast-track the market's willingness to pursue these within the Christchurch CBD and town centre areas throughout the UDS area. This must also include a package to 'sell' the quality aspect of this type of housing to the public.
- → Develop a greenfield strategy to help ensure greenfield areas deliver the highest sustainable unit yields possible. Will entail District Plan changes and other approaches;
- → Undertake a range of structure plans, centre plans and regeneration plans including District Plan changes to enable intensification;
- → Prepare guidelines to illustrate the outcomes sought to developers and those associated in housing 'production';
- → Prepare guidelines aimed at purchasers advising what to 'look for' and how to make informed decisions when purchasing a more intensive unit;
- → Establish a development agency and 'champion' to further public / private partnerships and market buy-in to consolidated urban outcomes;
- → Undertake a demonstration project before 2010 of higher density CBD apartment development, and also a smaller-scale (possibly mixed use) development in one of the town centres;
- → Undertake to provide adequate subsidy and other incentives to stimulate redevelopment in areas of higher cost (earthquake strengthening etc.);
- → Undertake a comprehensive incentive and reverse-incentive study to fully identify the range of factors that may help or hinder the delivery of intensification;
- → Prepare a range of 'free to public' housing types that illustrate different lifestyle choices (including those compatible with Maori, Pacific Island and other ethnic groups);
- → Require all developments greater than 20 units to provide a household type mix. Prepare a policy framework to avoid large developments that only deliver 1 basic type of unit (for example a 100 unit development that delivers 100 x 2 bedroom 60sqm units);
- → Establish a UDS-wide committee / panel to consider development applications of greater than a trigger threshold (e.g. 100 residential units, or a certain GFA). This will ensure consistency in implementation;
- → Initiate a civic awards program that gives publicity to higher quality outcomes which contribute to delivering the UDS;
- → Integrate Development Contributions between local authorities to ensure that there is a 'level playing field' between the Councils;
- → Pursue the use of Local Government Act development contributions to apply to local neighbourhood amenity projects as a critical aspect of physical city infrastructure (this may require lobbying for legislative change);
- → Develop an inner-city Vision for the CBD that aims to transform it into a liveable, multi-cultural precinct including District Plan changes, direct interventions, public-private partnerships, strategic land purchase

and so on. As a part of this undertake a cultural inclusion and ownership of spaces strategy.

MOVEMENT NETWORKS

- → Resolve strategic routes and funding (Woodend bypass; Northern Arterial; Southern Arterial etc.);
- → Seek to facilitate a greater modal split of all transport and look to reduce speed limits around schools, local shops and in centres if this will encourage other modes;
- → Plan for new public transport interchanges and stations, secure land and resources;
- → Seek to improve local networks at the same time as major arterial upgrades to help provide local relief as well as better through traffic;
- → Treat road projects as major stimulants of brownfield regeneration - integrate residential, employment, and other interests in the planning of these projects. Deliver improvements together;
- → Investigate methods to provide bus priority at peak times on congested routes;
- → Incentivise the use of cycling - encourage shower and changing facilities at workplaces, cycle-parking spaces, award businesses that help to reduce vehicle use.

13.2 Specific actions

IT NEEDS TO BE DONE RIGHT

Delivering population growth will need changes from the way in which residential development has conventionally occurred.

This is mostly due to the cumulative scale of population within the UDS area and the impacts that inefficiencies are increasingly having on the wider system. These issues are commonly becoming more of a problem across New Zealand, Australia, and the United States of America. Examples include:

- → Unnecessary but very costly vehicular congestion resulting from land uses having no coordination or logic between them. Often subdivision designs can deliberately frustrate rather than facilitate convenient movement and use;
- → Loss of conveniently accessible open space coupled with the repetitive nature of 'production line' based housing in suburbia;
- → A lack of market experience with many intensive housing types mean that a market failure (lack of information) can allow poor outcomes to establish and then undermine the continued community acceptance of those types;
- → Gentrification of communities and the amplified isolation of key socio-economic groups as an externality of high growth in popular locations.

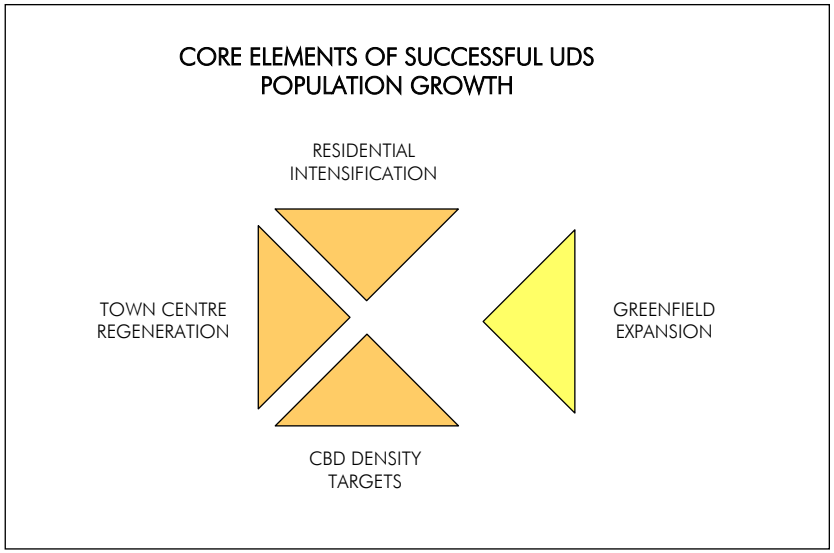
These issues generally arise because the market is unable to manage externalities in individual transactions to the complex and sophisticated level needed when dealing with the physical and psychological interactions of - in the UDS area - up to 500,000 unique individuals.

There are four key spatial approaches necessary to enable delivery of the UDS, relating to:

- → Residential Intensification
- → Town Centre (Brownfield) Regeneration
- → CBD Density Targets
- → Greenfield Expansion

All of these will need to deliver their potential of the UDS is to succeed. Failure of any one element will result in pressure on the remaining three - to the point that it may be unlikely they will be totally effective.

This is given greater importance due to the need to pursue maximum efficiencies in development (gross, minimum densities per hectare underpin the IBD recommendations) to ensure the compact form sought can be achieved.



ABOVE FIG. 13-1: Core elements of successful UDS population growth

RESIDENTIAL INTENSIFICATION

Successful, high amenity residential intensification can not be delivered by the market alone. This is because despite its generally superior efficiencies, the market can have difficulties in managing the 'public' aspect of transactions in physical space.

There are 4 main elements to delivering intensification relevant to the UDS Partners:

→ QUALITY

Relating to visual, design logic, materials, construction, and durability issues

→ ACCESSIBILITY

Relating to affordability, urban structure and compatibility, cultural preference, adaptability, and robustness issues

→ CERTAINTY

Relating to security of investment and expectations, maintaining amenities and property values

→ FLEXIBILITY

Relating to innovation and site-specific opportunities to be taken, the 'effects-based' approach

These requirements are not always complimentary; they can compete and depending on the needs of the circumstance each can require more or less management attention.

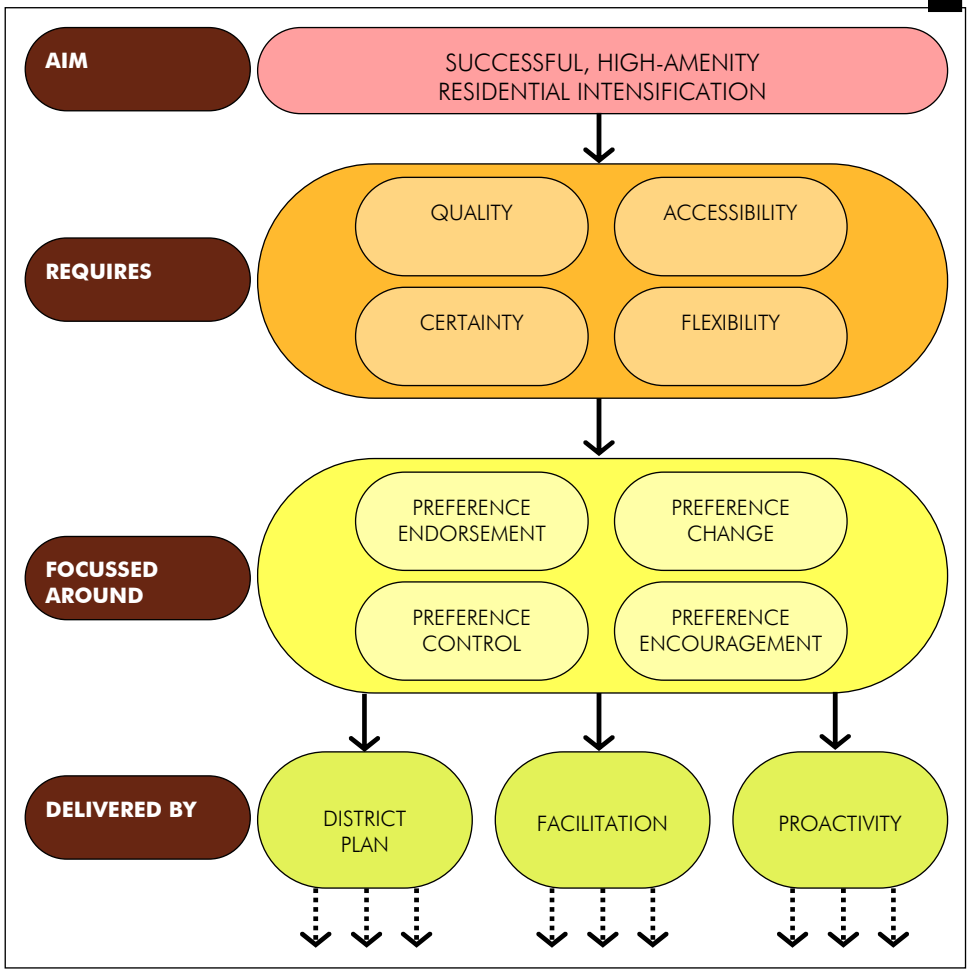
Ultimately these requirements relate to market intervention or correction, informed by a view to realign perceived costs / benefits to the individual with the perceived costs / benefits to the wider community. An example of this can be the market corrective requirement on the development industry to provide greater attention to weather-tightness and durability than the market (undermined by the layperson's lack of detailed expert understanding and other limitations affecting their ability to engage experts to advise them on this issue) might otherwise deliver.

Another popular market intervention affecting housing is the imposition of a height control that limits the degree of site utility to individuals in favour of protecting amenity levels on adjacent properties. While the market is easily able to factor in the value of more building height to the individual (when they sell), it cannot readily deal with the loss of value caused by more height that can result on other properties (shadow, loss of privacy, dominance, amenity issues etc.).

There are four main approaches to market intervention, based on whether the actions of the individual (including companies or groups of like-minded participants) are perceived to benefit from more:
Preference **Endorsement**
Preference **Change**
Preference **Control**
Preference **Encouragement**

→ PREFERENCE ENDORSEMENT

The do nothing or 'Free Market' approach where individuals are left to their own devices. The term 'free market' is misleading as there is in reality no such thing; the term 'minimally constrained market' is more accurate to describe what is aimed for. This will be influenced by the wider legal framework (itself a type of societal market intervention), in particular



ABOVE FIG. 13-2: Framework to deliver successful, high amenity residential intensification in the UDS

the rights and ease of parties to pursue civil damage claims when disadvantaged as an externality (e.g. if a neighbour can sue a developer for lost property utility / value resulting from a new development, the developer may pursue more sensitive or lower-scaled development). Accordingly advocates of these approaches generally assume a very strong and accessible civil legal system is in place. Without one participants may struggle to moderate the market.

→ PREFERENCE CHANGE

The approach whereby free-willed change to 'do the right thing' is sought through the provision of information (including balanced education) or advocacy (such as advertising, award schemes, or 'name and shame' social peer-pressure based programs).

→ PREFERENCE CONTROL

The 'stick' approach where the threat of punitive enforcement action induces behavioural compliance with a certain standard. This is the most widely used approach in New Zealand, largely because it is usually the easiest to implement, understand and administer.

→ PREFERENCE ENCOURAGEMENT

The 'carrot' approach where the behaviour of people are influenced by incentives or other mechanisms. These assume that people will be happy to voluntarily undertake action 'X' when they will not be penalised or disadvantaged by doing so. Tax rebates or product subsidies are examples.

The performance of these tool types will vary depending on the complexities of each issue and the community's view towards it. In a general sense though there is no inherent superiority of any of these approaches - the ease of regulating and preference control is often undermined by its rigid inefficiencies; the opposite can be true of market-based instruments of preference endorsement / encouragement (particularly when trying to measure compliance / performance and so on).

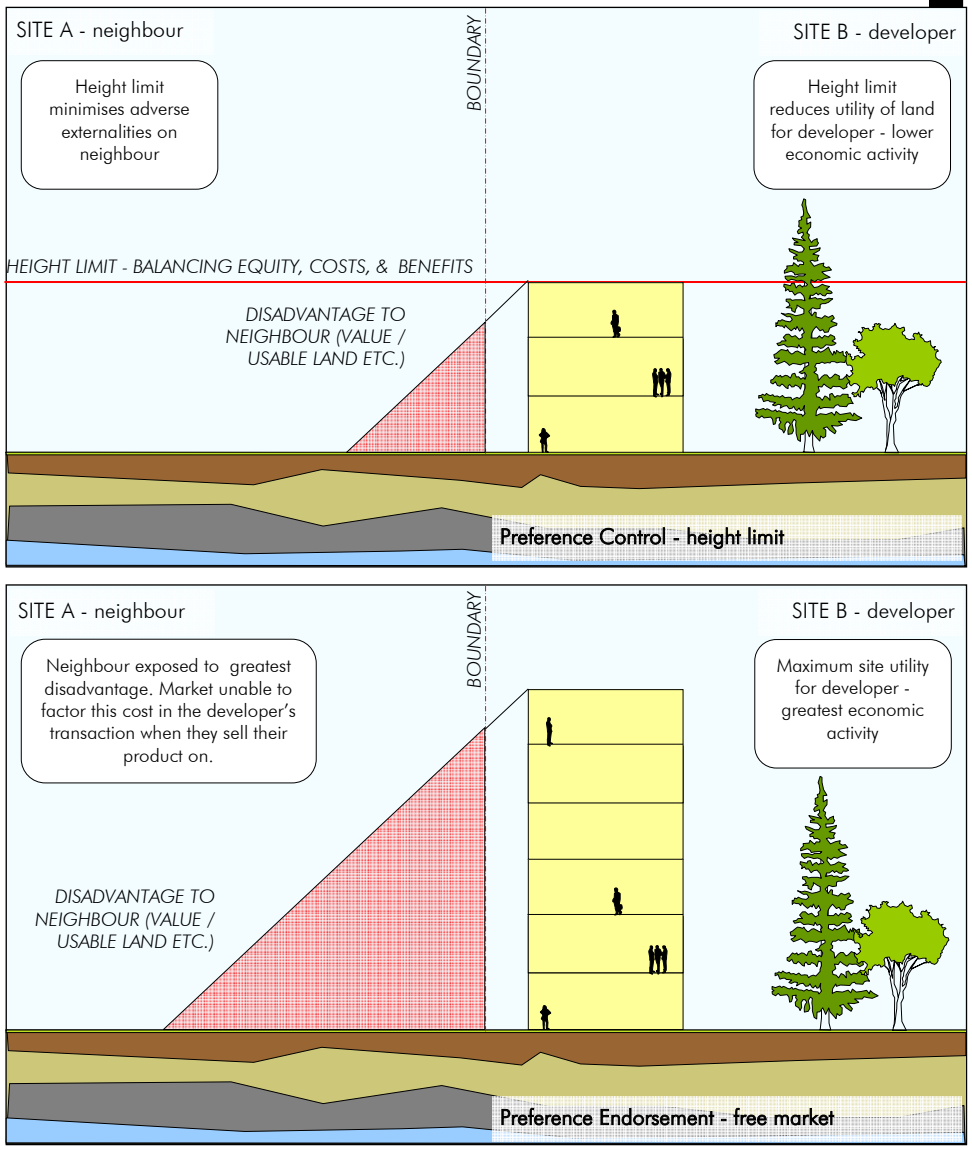
In almost all cases a combination of tools will create the setting most supportive of successful outcomes. Ultimately the best solution to development issues will be as much about the Community's position and values towards an issue (which will inform what type of tools will best achieve the desired outcome) as the design of support, intervention, or correction strategies themselves.

Much of this debate should be played out in the Section 32 (RMA) process when developing approaches to identified resource management issues as District Plan provisions.

In a general sense however there are three main outlets for the UDS partners to exercise desired market interventions:

→ DISTRICT PLAN

The basic and main statutory framework affecting development; limited to considerations of sustainable management as defined in Part 2 of the Resource Management Act.



ABOVE FIG. 13-3: Carrot vs. stick approaches to influence two different outcomes in terms of development height and its impact on the surrounding environment

→ **FACILITATION**

Councils stimulate outcomes through encouragement and support of the private sector, including financial, managerial, or other expert assistance.

→ **PRO-ACTIVITY**

Councils actively participate in delivering outcomes themselves or in partnerships where they provide leadership.

District Plan:

Typically the District Plan acts as a regulatory 'safety net'. Through Issues, Objectives, and Policies (and sometimes Assessment Criteria) the Plan frames the matters necessary to achieve the purpose of the RMA. These will also set up the framework against which resource consent applications can be assessed.

Rules are the primary development control in New Zealand. They in theory have an effects-based origin but functionally can often have more to do with affirming property / development rights and values (this can be important for certainty and social and economic well-being). This can create difficulties when the use of Rules becomes confused and in particular when multiple Rules as a 'package' do not actually deliver outcomes consistent with the intent of Objectives and Policies.

Generally, the use of Rules should be limited given they are largely unnecessary for a truly permissive, effects-based approach. They can also generate unanticipated and often unintended legal implications once a development right or expectation has been affirmed. However some use of Rules will always be necessary given the limitations on suitable information, motivation, and expert availability that will arise over time.

If one considers the resource consent process as a time-consuming mechanism to test the effects of different types of development, Rules can be seen as 'acceptable solutions' that allow a speedy back door or bypass of that process. This can appeal to those market participants happy to trade off potential additional site utility (via a resource consent) for a fast, certain outcome. The implication of this view is that Rules do not necessarily represent the 'optimal' or 'best' (or even a 'good') way to achieve Objectives and Policies within a District Plan. In some instances depending on a site's characteristics they may actually be unsuitable and lead to poorer outcomes.

When Rules and their role are overstated, used to excessively prescribe (usually by trying to second-guess and compensate for every possible eventuality) they can cumulatively override the intent of Objectives and Policies; applications can become little more than arguments over the degree of difference between one package of effects (a proposal) and another (those provided by a multitude of Rules put together). If the UDS were implemented using this approach there would likely be a negative impact on the quality of its outcomes.

As a guide Rules that focus simply on the 'core' of development issues coupled with a need for applicants to demonstrate achievement of key urban qualities (carefully composed Issues, Objectives, and Policies) should be preferred. Those that begin to focus on subjective or aesthetic matters can be difficult to properly justify or assess, resulting in procedural inefficiencies and costs for all parties.

Provisions (Rules):
Typical issues suitable for management by Rules include:

→ Requirement for a comprehensive site analysis and response as the clear basis of all design. The best outcomes are those based on the uniqueness of an actual site, not ones drawn in a remote office based on a series of standardised rules / types and 'dropped' onto a piece of land like a stamp;

→ Minimum amalgamation site area (around 1,800sqm or 2+ lots) subject to a shape factor to avoid long narrow sites that cannot result in a coherent frontage;

→ Maximum bulk and location controls (building height in levels rather than metres, ecological footprint management rather than site coverage, setbacks, and volume). Typically lift cores or underground parking do not become viable until development is around 5-6 levels or more. This needs to be understood in areas where more intensity is sought. Density controls can be misleading as site response and design quality will have a major bearing on whether a proposal integrates with its surrounds, not necessarily the just number of units proposed.

→ Minimum amenity controls (living courts, outlook, etc.). Amenity in its totality should be considered - for example proximity and access to open space can legitimise a lower requirement to provide exclusive private space on-site.

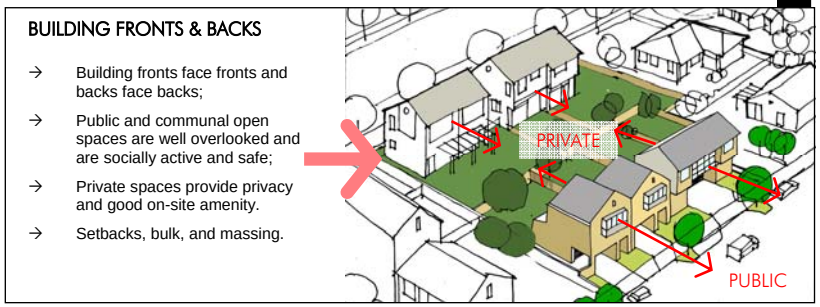
→ Minimum integration controls ('fronts and backs', orientation with public spaces, connectivity etc.). This is a critical aspect that is often under-delivered due to a lack of expertise on the more psychological effects of development or effects that act incrementally or cumulatively.

For all of these, Plan provisions that require applicants to demonstrate a thoughtful response to issues illustrated by a best practice or acceptable solution rather than a mechanical response to a simple prescription or requirement, will help assure quality environments are created.

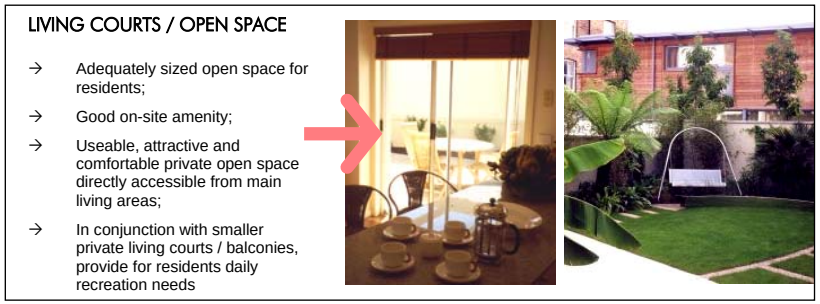
Process Incentives:
The resource consent process itself can be seen as another method available to Consent Authorities:

→ Non Notification
Approaches that aim to contribute to their overall context as a 'piece of town' rather than just an isolated development aimed at investor returns could be recognised with procedural streamlining. This can require a more sophisticated approach to understanding effects than that (basic nuisance management) often applied.

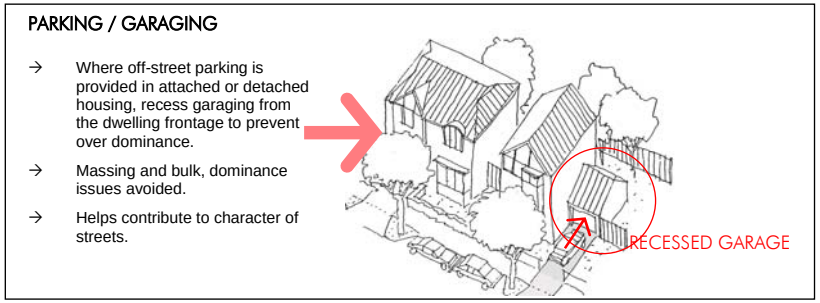
→ Fee Rebates / Free Council Advice
Applications that include particular approaches (e.g. consulting with all neighbours and responding in the design over and above the minimum required by the RMA) could be recognised with service assistance.



ABOVE FIG. 13-4: Rules are important over the physical bulk and location of structures



ABOVE FIG. 13-5: Rules are common over minimum on-site amenity issues



ABOVE FIG. 13-6: Key design qualities to address parking / garaging issues

Facilitation:

The provision of resources, information, or other support can have an impact on the type of outcome delivered by the private sector. Delivering quality is in particular influenced by this approach, and it has the benefit of helping move the debate over issues such as subjective design away from the less productive individual legal / rights / obligations arena and into a more collaborative and cooperative one.

While they are helpful they can fail when applied as either a 'carrot' or a 'stick' - these tools function best as information (or very limited advocacy).

Some key tools include:

Guidelines:
Guidelines work best when targeted to specific problems and have a clear place in the regulatory process. Most commonly there can be confusion over whether guidelines are simple information demonstrating the outcome preferred by a Council's philosophical position or a de-facto community-endorsed District Plan provision to assess applications against.

Nonetheless they can be highly effective in communicating the type of outcomes sought and can be aimed equally at Council staff, developer groups, external consultants / experts, and community groups or laypeople.

Commonly guidelines for residential intensification cover best-practice approaches to:

- → Site analysis and response;
- → Site design;
- → Density and land use mix;
- → Frontage and connectivity;
- → Fronts and backs and connection to the public realm;
- → Solar and environmental design; energy efficiency;
- → Access, servicing, waste;
- → Mass, emphasis, legibility and visual quality;
- → Material variation and diversity.

Urban Design Panel:
Urban Design panels are becoming increasingly used to help improve outcomes, with examples now in place within Auckland and Manukau Cities and Queenstown Lakes District amongst others.

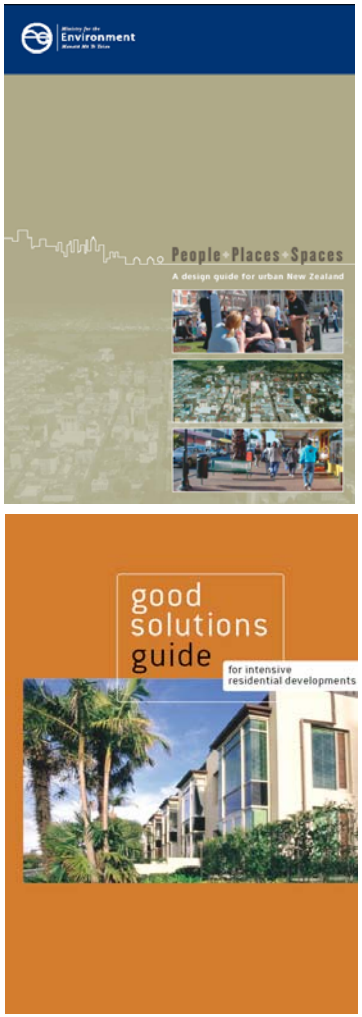
These can be effective but work best when integrated directly into the regulatory process rather than as an 'outside' function. As an example, they can be integrated into the pre-application process or used as a specialist input provided to a reporting planner with other expertise. It would also be possible to make a variant urban design panel that acted in an 'independent commissioner' decision making capacity, hearing and determining applications.

A drawback can be funding and staffing a good panel (another benefit of having one integrated into the consent process is that it becomes more cost-recoverable), and they can become positions of popularity rather than relevant expertise. Flowing on from this, the other potential key limitation is that they can become easily focussed on simplistic visual or architectural critique rather than more comprehensive urban design analysis such as how a development may or not facilitate the prosperity of a part of town over and above basic building proportion, detailing, or colour.

They may accordingly require careful management or leadership such as through an independent or specifically employed chairperson mandated to ensure rigorous, focussed analysis occurs.

Financial Incentives:
A range of mechanisms exist that allow the UDS partners to either stimulate or penalise development, including:

- → Development Contributions under the LGA;
- → Financial Contributions under the Resource Management Act;
- → Earthquake strengthening grants to stimulate new and redevelopment of existing buildings within Centres;
- → Rates or other rebates for quality performance could be awarded based on outcomes delivered;
- → Tolls on new road linkages could be designed to exclude high-occupancy vehicles and encourage car pooling;
- → Rates rebates or subsidies, or moving costs could be awarded to people who chose to live within a certain distance of where they worked (this could have limitations for households with more than one gainfully employed party).



ABOVE FIG. 13-7: A range of effective guidelines at both National and Local levels work successfully across New Zealand. Top: MfE People+Places+Spaces; Bottom: North Shore City Council's Good Solutions Guide for Intensive Residential Development.

Pro-Activity:

Pro-activity by government was unpopular during the economic changes in New Zealand through the 1980's and 1990's as part of the 'minimal state' philosophy that was dominant during this period.

Participation in markets is now increasingly undertaken by government as it can be a key method of funding projects, influencing larger-scale development outcomes, and furthering political philosophies of partnership and collaboration between the public and private sectors for mutual 'win-win' benefits.

Demonstration Projects

These can be a highly effective method of putting untested or other 'high risk' (as determined by the market) development types into practice. Once proven popular, the private sector can then take the lead. This can be effective when developers are unwilling to change their 'business as usual' formulas, as it can show them new approaches in a low-risk (for them) manner.

This approach is also an important tool for local government to ensure high-priority sites, prominent landmarks and gateways are treated in a way that ensures their integration into the wider built form.

Development Partnership:

Development trusts / corporations involve representatives from both private and public sectors, typically key personnel and experts from various fields. These can be passive, giving strategic investment advice, or active, getting involved in markets themselves.

These can be easily set up, mandated to a particular charter, and funded. From there they can act autonomously within their parameters often in a self-sufficient manner.

An alternative approach can be for Councils to locate and provide suitable development land, using contracts to protect the investment. Developers can tender, competitions can be held, or targeted developers can be chosen and worked with as the land-owning Council sees fit. A slight variant can allow the Council to simply put up the land itself as a free 'carrot' to developers in return for certain guaranteed outcomes as a part of the development process.

A hands-off approach may be to simply provide guarantees and other financial security for developers that commit to specific outcomes as set out by a Council.

Advocacy / Championship

Having a champion or 'Custodian of the Vision' is important to ensure a consistent, strong and independent voice for the UDS is maintained over time and across jurisdictions. This person could work with developers, the public, and the UDS partners to promote best-practice outcomes.

Single point of procedural contact / goodwill also help ensure one clear message is communicated, as well as allowing participants in the development industry to establish a key consistent relationship.

ABOVE FIG. 13-8: Harbour View Estate in Waitakere City is an example of a successful demonstration project in the Auckland region. A collaboration between the City Council and the private sector, it has illustrated how commercially viable developments can be combined with broader social objectives.

13.2 Specific actions: Town Centre Regeneration

TOWN CENTRE REGENERATION

To implement the UDS, significant large-scale redevelopment and intensification will be required. This is a process that is unfamiliar to the Canterbury Region, and has been undertaken with only limited success in other NZ regions.

A number of key approaches will be necessary to enable viable development settings to 2041:

Stimulate funding and security - As density increases, so does the capital required to deliver the product. The UDS partners will have the ability to stimulate market interest by providing security and other financial assurances (subject to suitable contract arrangements)

Move away from the traditional 'concentric' view of centre growth of intensity tapering outwards from the centre and focus on delivering economic development sites to 2041 and beyond -

This will require focussing attention on the outer catchment of centres (400m-800m from the centre) between 2006-2026 for medium density housing and initial intensification, with the inner catchment preserved for a time after 2026 when the market and other circumstances make higher density housing attractive and feasible. Losing that critical inner catchment to non-high density uses in the mean time will significantly retard the ability of the UDS to be delivered.

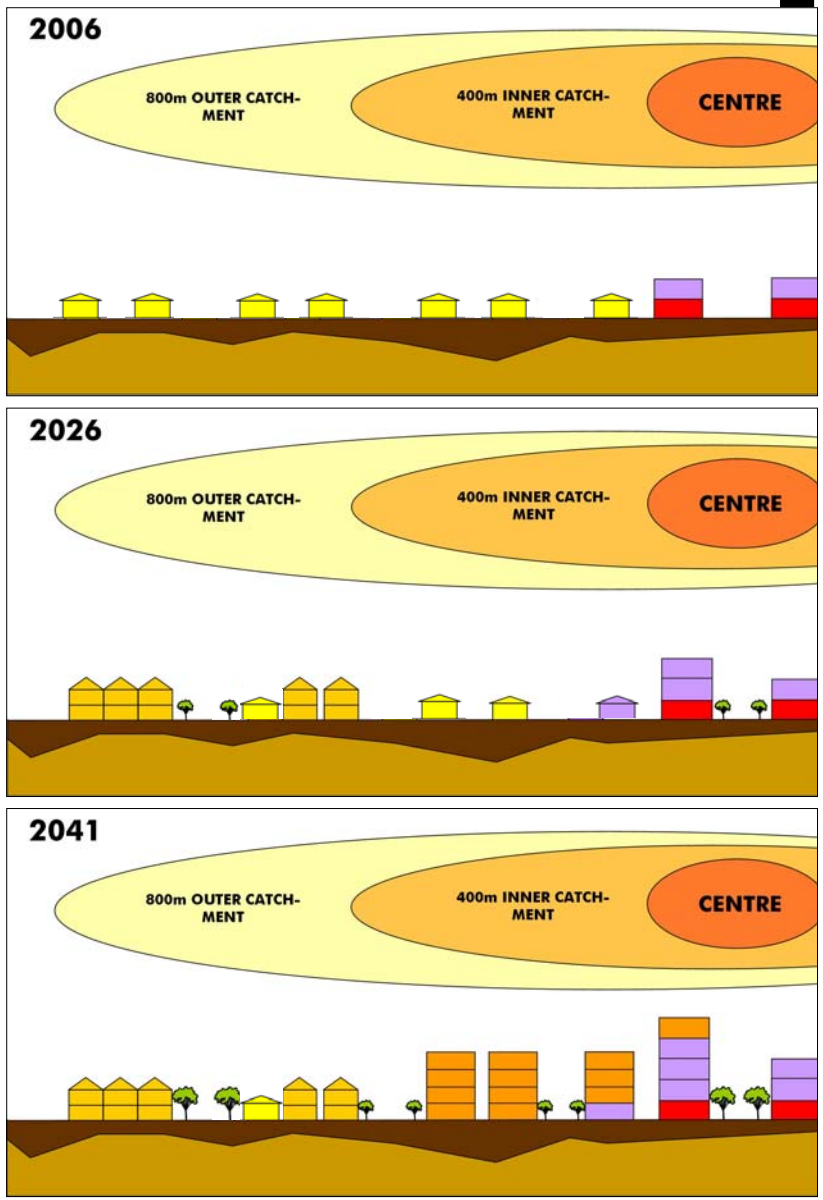
2006: Many centres have emerged over time with key junctions on the movement network becoming focal points of trade or social interaction. Shopping malls have also become important due to the sheer scale of retail activity they provide, however they lack the diversity present in full town centres and hence may not have the same capacity to support intensive living and working environments. Their reliance on large-scale catchments that can cheaply commute will make them additionally susceptible to oil supply / price changes.

Often the inner catchment will consist of larger, older houses that established with the centre. The outer catchment is often comprised of contemporary dwelling units on larger sites.

2026: The centre may grow during this period as its overall catchment increases, and improvements to improve its amenity should occur. More 'service' opportunities may emerge (dining, cafes, personal care etc.). The inner catchment should be protected from development as medium density housing (all the market will realistically provide) would not deliver the long term growth needed to achieve the UDS (it would not be economic to demolish it after only 10 years to then build high-density). It should instead be focussed in the outer catchment. Using this approach the Centre will have an ability to deliver coherent, high density housing when the market is ready and able to deliver it.

2041: During this period the UDS will transition to a greater emphasis on regeneration and intensification as greenfield land supplies taper down and high-quality intensification demonstrations stimulate market interest. The inner catchments will have acted essentially as a strategic land bank. Higher land values will be balanced by the densities possible from apartment housing and the immediate location within 400m of centres allows public transport supportive environments.

Growth in such proximity to the centre will likely spill over to the centre itself, stimulating new service, retail, and commercial opportunities. A key challenge will be in maintaining the business viability of the 'back streets' - light industry (vehicle servicing etc.) is important to a centre's diversity.



ABOVE FIG. 13-9: Town centre transformation 2006 - 2041

Dedicate LGA Development Contributions to enhancing the public domain as a key element of urban infrastructure -

There is a compelling argument that a strong public domain is as critical to the functioning of an urban space and urban health of water and sewer services. The UDS partners could investigate and if necessary lobby for this inclusion into the LGA.

Encourage integrated / shared parking between complimentary uses to reduce individual requirements -

Experience elsewhere suggests that providing parking is one of the most significant disincentives to investing in centre-based growth. Putting aside the merits of a parking strategy for each centre, an approach that loosens the direct dependence of development and parking spaces may be appropriate based on the operational requirements of adjacent land uses in terms of opening hours and servicing needs. Often mixed uses can have complimentary peak demand times allowing sharing. When spaces are pooled, they can offer other cumulative benefits that may further reduce a required quantum.

Councils must inspire investment through partnerships, advocacy, demonstration projects and enticement to businesses -

The critical nature of centres-based intensification to the success of the UDS means that the UDS partners cannot afford to let the market experimentally stumble its way towards 2041. Community buy-in to intensification can often in reality be tentative to start with given the general lack of familiarity with intensification in conjunction with the dominant '1/4 acre kiwi dream' psyche; if quality or living standards do not meet expectations, community resistance can (justifiably) swell. Key relationships and projects are necessary.

Invest in key civic amenities and services, look to provide rates rebates or suppressed rentals for commercial units (especially 'starter' uses) -

The market can resist investing in day-to-day level services (hairdressers, banks) until a clearly viable catchment exists. This 'chicken versus egg' syndrome is common but can be overcome by a willingness to subsidise these uses where necessary. Doing so can help create environments that offer a sufficient range of activities such that people are more likely to buy in to the idea of living in more intensive environments.

This is because there needs to be a clear 'balance sheet' where people can compare the real (not theoretical, possible, or planned) benefits they may be giving up (open space, privacy, less susceptibility to neighbour nuisance, etc.) with those that they will now get (access to the widest range of activities and services possible) if they move into more compact living types. Travel time and cost savings, access to public transport etc. (a key advantage of compact living) alone is usually an insufficient determinant in people's decision making due to the current relative cheapness and comfort of private travel by automobile.

Identify first-stage (do tomorrow) strategic projects -

Implementing the UDS will begin the day after it is adopted and as with many other large-scale visions dependent on incremental actions, there is a need to establish momentum. The first projects should be in planning within six months of adoption, with an emphasis on establishing 'real' outputs that the community can immediately connect and interact with.

OTHER TOWN CENTRE ISSUES

Mixed use limitations -

Mixed use is increasingly advocated as the way to deliver intensive town centre-based living environments. While it can be a helpful typology there are a number of key limitations with mixed use that need to be taken into account by the UDS Partners.

Placing residential units on top of or next to commercial premises will dramatically reduce the range of viable uses that can remain operational within them. While most retail and office uses are generally compatible with residential, a range of light industrial and other necessary support uses (including vehicle service stations and mechanics, night clubs and bars) struggle in the face of resident complaints.

Care needs to be taken to ensure that by promoting mixed use living the UDS Partners do not actually sterilise and undermine centres to little more than convenience retail clusters with apartments on top. Maintaining or enhancing the economic role of centres must always be the first priority of development in or around them. This can be best managed through the use of detailed centre plans that can identify with communities the exact type, quantum, and location of new uses such as mixed use or purely residential uses.

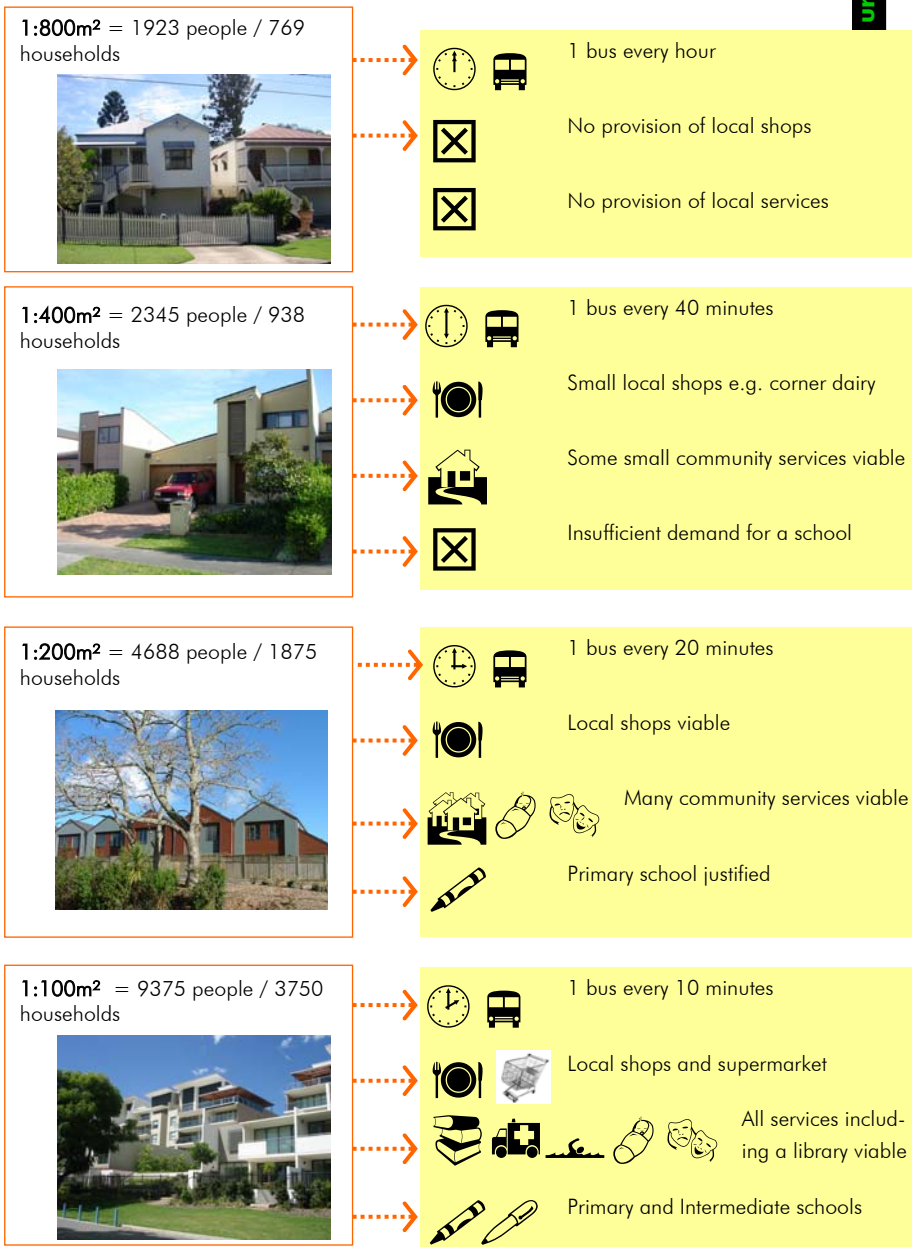
In some instances this may mean not providing for any residential uses at all along a centre's 'main streets', but instead focussed in back streets on an improved local network with a commercial buffer between the noisiest uses and the residential.

Community support -

Communities may feel alienated if intensification occurs without their mandate. There are many reasons for this including feelings of inequity at only some communities being asked to bear the burden of growth, the common difference between talking about living sustainably and the reality of actually living and paying for it, and connotations about the type of resident catered to by intensive and sometimes cheaper units.

This is an understandable reaction to an unknown and can only be resolved through a compelling communication of the benefits that can accompany growth that can balance perceived costs. Critically, actually providing some of them 'up front' in the form of improved open spaces, facilities, and services (even if borrowed against future development contributions) and establishing the link between growth and environmental improvement may be necessary. Due to the highly mobile nature of society it can be easy to lose sight of the impact a strong local catchment can have on the viability and range of businesses that can survive locally, or the frequency of public transport services that can run.

Preparing a communication strategy that directly links the size of a population with the number of services that it supports may be of assistance to help communities reach informed preferences.



RIGHT FIG. 13-10: A possible (and indicative) communication tool for communities to reflect on level of service provision / self-sufficiency under various density scenarios within a 50ha catchment (an 800m radius area). Note: Areas, population numbers, density and services approximate only.

Density + Environmental Design -

Increased densities result in larger building forms and any design deficiencies will be amplified by scale. Whereas a single detached house may have a poor design both in terms of environmental response and energy efficiency, and its connection or integration with the public realm, this may not be as noticeable as the same problems with a row of 10 terraced houses.

While this can be resolved through attention to urban structure and the orientation of uses so that conditions encourage safe pedestrian movement, it is still increasingly necessary to re-focus building design towards the sun and climatic suitability.

The technological marvels of modernism and post-modernism have led to the popularity of 'architectural narcissism', where buildings have no relation to sun, wind, or other factors - instead relying on on-going energy inputs for artificial lighting, heating, and ventilation to remain habitable. Increasingly the costs of such inefficiencies solely in the name of building fashion are becoming questioned (in response to increasing operating costs on aspects that could have been easily avoided). While the market will likely respond itself (for new buildings) as oil price increases, many externalities of poor building design are not definable enough to be factored into price - the growth in child asthma rates for example, that can cumulatively become an expensive but also unnecessary public health exercise.

This is also a potential issue given the existing cost issues relating to earthquake strengthening; additional retro-fitting may make redevelopment of older buildings even less viable.

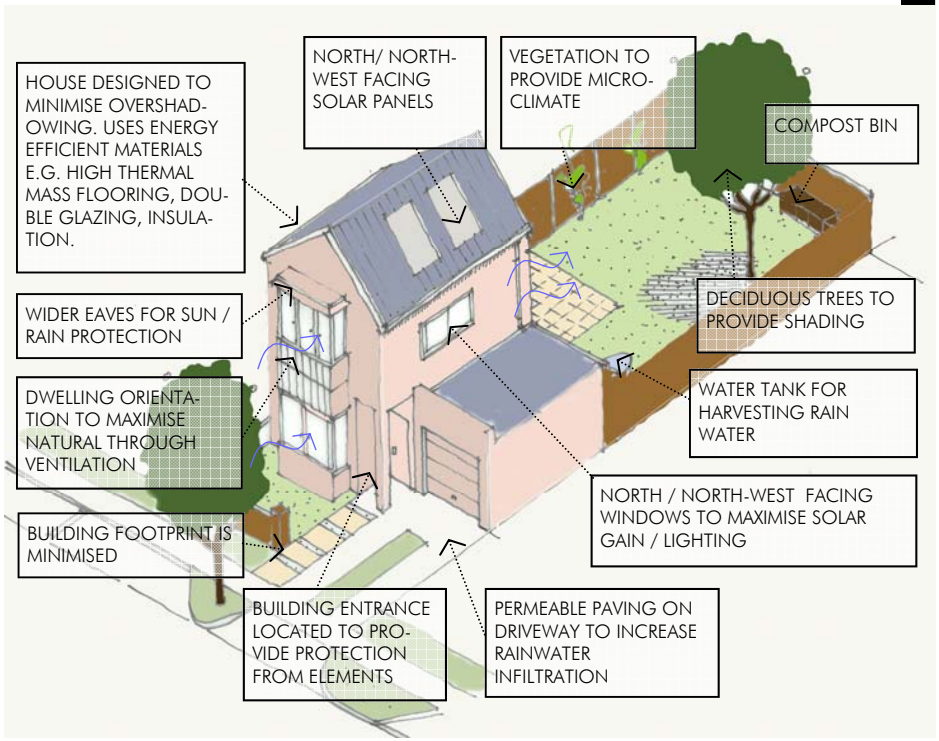
There is not a trade-of between design that responds to the public realm and also to the sun and elements. However, there would be significant value in the UDS partners investigated a number of model development types that demonstrate how a good balance can be achieved. This could be tailored into technical information for developers and designers on the 'supply' side of the equation, and purchasing information for the public to help inform the 'demand' side.

Cultural Preference / Suitability -

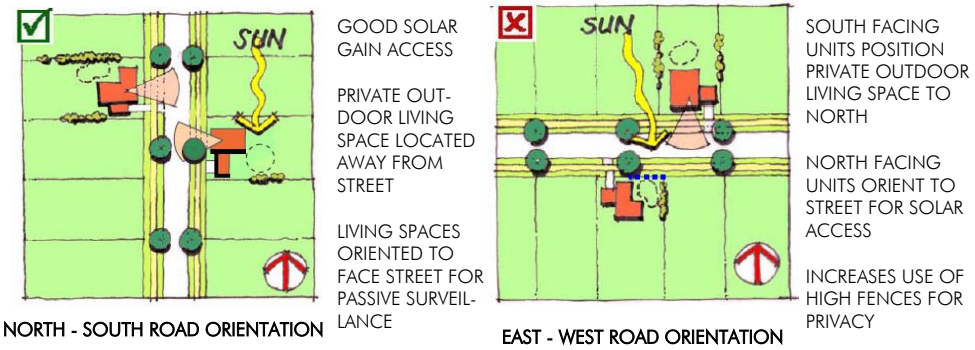
Most intensification undertaken in New Zealand has to date appealed to small Eurocentric households or migrant groups familiar with a compact way of life. There are serious questions that have yet to be fully answered over the suitability of intensification to Maori and Pacific Island groups (among others). For example, larger families require multiple bedroom houses; yet apartments with up to 5 or more bedrooms are rare at even the high end of the market. Similarly, it can be common to have several generations of a family living together which may necessitate more than one living space for privacy and separation. Again, the New Zealand experience with apartments has thus far been very basic in this regard.

The solution is likely to lie in specific development types and funding models that make affordable, larger units feasible.

This may be a key area where the UDS Partners need to provide market leadership.



ABOVE FIG. 13-11: Possible environmental design features that can be incorporated in a more sustainable building



ABOVE FIG. 13-12: Street and block orientation to maximise solar gain and passive surveillance to street.

13.4 Specific actions: High Density in the CBD

HIGH DENSITY IN THE CBD

Development of the Christchurch City CBD within the '4 Avenues' will be a singularly significant challenge for the UDS given the scale of households anticipated here.

Intensification within the CBD will be a combination of high density apartments and medium density housing. Wherever possible, higher density should be sought by the UDS partners.

The preferred option developed during the IBD workshops nominated a 50 dwelling unit / hectare (du/ha) gross average density. This equates to one unit for every 200sqm of surface area.

It is however impossible that this would be achieved across the entire CBD '4 Avenues' area due to roading, open spaces, commercial uses, and the fact that not every site will be developed.

If only 50% of the CBD area was eventually converted to high-density residential at 1:100sqm (100 du/ha), the overall growth target would still be met.

On a 5,000sqm development site, this would equate to delivering 50 units. This could be easily accommodated in a single 6-level tower (at only 28% site coverage) (**1**).

If the Council took the view that up to 10 storeys was an acceptable building height, then up to 80+ units per tower would be achievable (40m x 35m floor plate assumed) (**2**). If typical development sites were around 2,500sqm, densities of 1:31sqm would be achieved using this model.

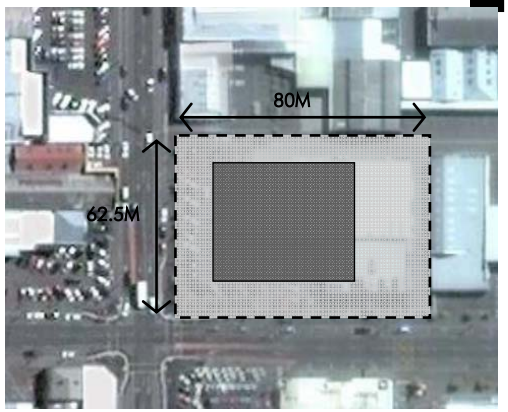
This equates to delivering 322 du/ha or a need to convert 15% of the CBD to achieve the overall 50 du/ha target.

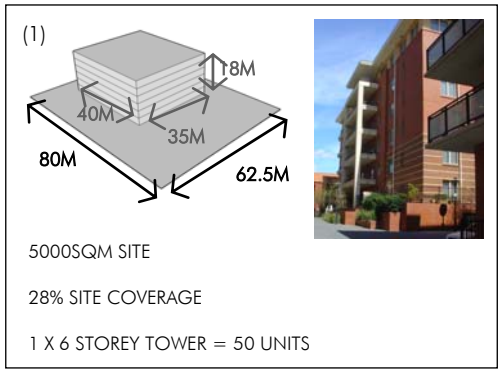
On this basis, there seems ample spatial opportunity within the CBD to achieve the targets sought, subject to the Council affirming its maximum suitable building heights. The widths of buildings will be governed by the need to achieve natural light and ventilation into residential uses.

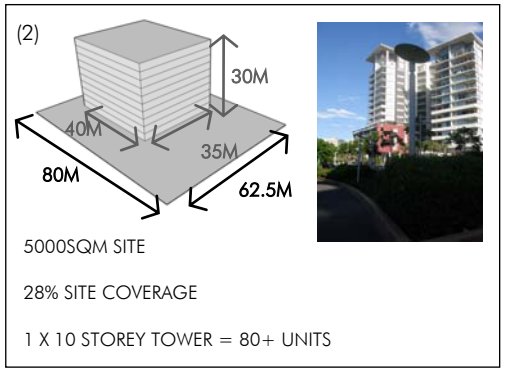
A challenge to the Council will be in stimulating the large-scale investment needed. As with town centres, investment in a better public domain may help market the CBD as a liveable setting to help generate market interest. In conjunction with strategic demonstration projects (on the most visible and prominent sites possible) this is considered critical if the UDS is to be successful.

To help facilitate development, the Council should consider requiring only one car parking space per unit (average), with an additional space provided every 5 units to cater for visitors or those units with multiple vehicles. The CBD location of apartments means that most transport to and from units should not require a vehicle at all.

Minimum unit sizes may be required for amenity and to ensure that larger, multiple bedroom units are not avoided in favour of smaller units in greater quantities. An alternative may be to require a certain proportion of all new apartments to be suitable for larger family use or other affordable / accessible housing. If this proved too great a developer burden the Council could credit development contributions for each accessible unit provided.







ABOVE FIG. 13-13: Visualisation of high-density residential density scenarios within a typical 5000sqm Christchurch CBD site

13.5 Specific actions: Greenfield Growth

MIXED USE AND MIXED DENSITY

The suitability of homogenous land use zones and fixed density controls for the UDS must be questioned given the higher than conventional densities sought and the wider focus on more sustainable, compact settlements that are not as reliant on large scale vehicle movements for basic survival as is currently the norm.

To counter this, minimum gross densities of 15du/ha are proposed within Christchurch City, and 12du/ha for Selwyn and Waimakariri Districts. Within this, it is recommended that densities be flexible, required through a subdivision consent to meet minimum shape and access factors, and a clear logic that ties greater densities to amenities, services, and contextual location on the wider movement network.

Tied to this, local-level services and commercial activities that can support local economies (including integration with schools where this is possible) should not be prejudiced.

To achieve this in a coherent manner, it is recommended that the Councils establish a mixed density living zone across new growth areas. A key mechanism for the subdivision consent would be that the subdivider would need to establish an urban structure and orders of intensity, with detail of de-facto zones being established via the subdivision consent for different uses and densities that could then have individual consents applied for according to conventional staging approaches. Hence the subdivision consent would nominate any commercial or local retail area(s), open spaces, road and movement networks, and so on.

Examples of the type of approach endorsed include:

→ Require that the minimum gross average densities be met.

→ Encourage density to respond to context, with greater density provided when closer to more amenities / services, and vice versa. Typically, a 200m walking distance is a highly convenient distance within which people are most likely to walk to and use services.

→ Interrogate proposed land uses on key junctions at the highest order of the movement network. These can be noisy and in reality sources of nuisance for residents trying to live on such prominent sites, and if densities are high enough could better support local shops or home occupations.

→ Across all densities ensure that a mixture of housing types are provided. While higher density areas will often see a greater proportion of smaller households provided (1 - 2 bedroom units), it is important that larger lot areas of 600sqm+ do not simply become the sole stock of family housing. Providing for granny flats and minor units can ensure a good social mix is maintained These can also become a part of an accessible housing strategy as a source of income for first-home householders either by renting the flat, or occupying the flat and renting the house, or incrementally building over time.

STRUCTURE PLANS AND DEVELOPMENT FRAMEWORKS

To inform this, the use of Structure Plans and Development Frameworks are endorsed. The Councils could use this process to give guidance to the market as well as set up a system of ensuring land was approached in a holistic, sustainable manner.

Conventional structure plans focus on infrastructure and basic issues of density, population, and strategic traffic needs. Occasionally they include ecological and other considerations.

For the UDS it is proposed that a specific approach be taken.

Prior to any new greenfield land being developed, a development framework should be introduced into the District Plan, from which structure plans can be developed and inserted.

For each structure plan, a move away from one simplistic structure plan is recommended, and that instead a series of 'overlays' be prepared to guide future subdivision and development:

Movement Network Principles Could Include:

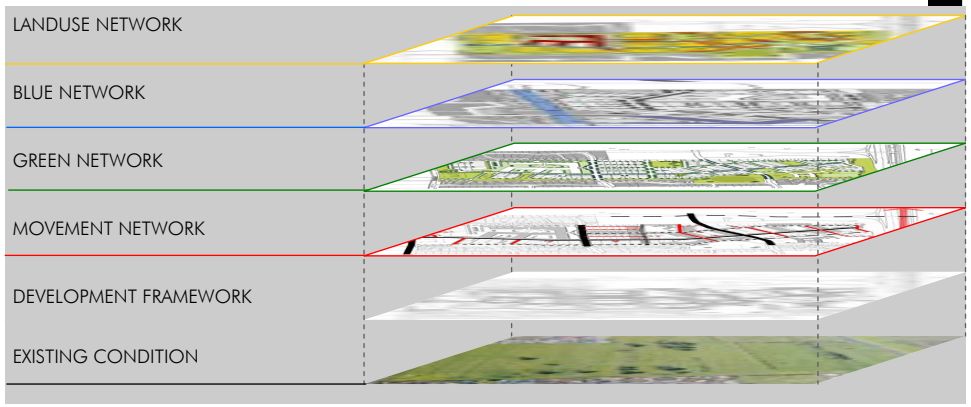
- → All roads should contribute to a highly connected network that appeals equally to all modal users;
- → The area of road reserve for each mode should be clearly demarcated in material and colour, including differentiation of parking and cycle lanes;
- → Cul-de-sacs should not exceed 75m in length and be as straight as possible;

Movement Network Overlay Could Include:

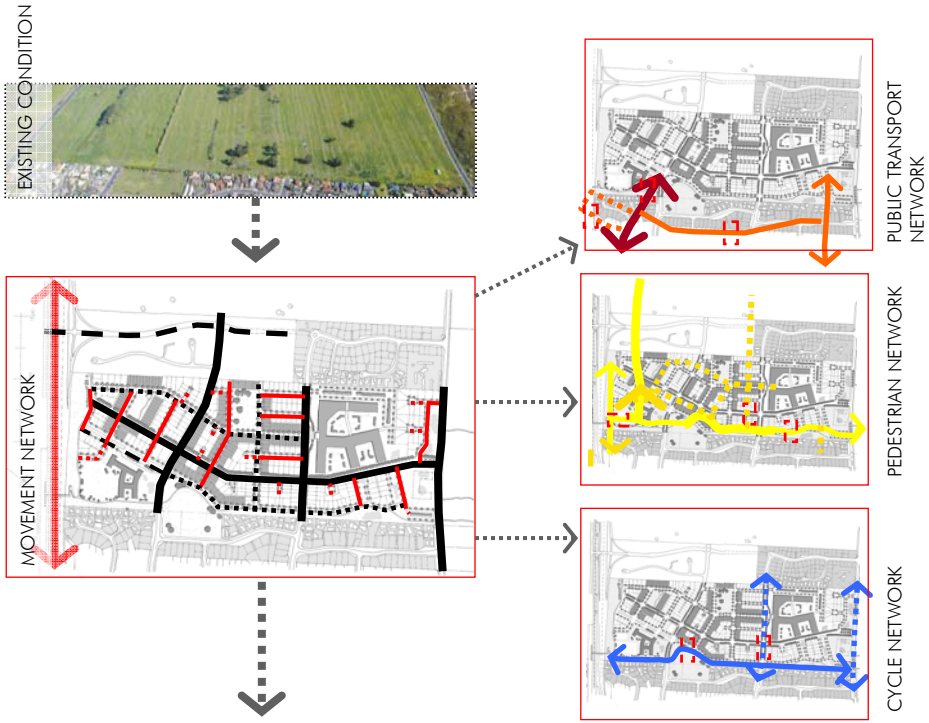
- → A hierarchy should be shown that demarcates main through routes through to local service lanes, with this 'order' of movement reflecting where any public transport routes would go, and the distribution of land uses and open spaces;
- → Critical roads should be shown and designated; other lower order roads should be shown as necessary but indicative, for detailed design to resolve the exact location and route;
- → Roading classifications that describe the dominant functions of each road and their typical characteristics including the main issues that will affect how land uses interface with them (i.e. on large, busy main arterial roads it can be difficult to discourage tall front fences that disconnect land uses from the public realm for the sake of resident privacy, meaning that specific solutions may be needed along that road).

Green Network Principles Could Include:

- → Open spaces should be provided to allow residents with the greatest range of choice in recreational use including a range of types, sizes, and roles within the walkable catchment of each space;



ABOVE AND BELOW FIG. 13-14: Conceptual Development Framework - basic overlays and sub-networks conceptualisation



→ Open spaces should locate in prominent, logical locations on the movement network with direct frontage to roads, ensuring they have maximum visibility;

→ Open spaces need to be integrated with roads and property access so that land uses can 'front' out over them, maximising safety advantages;

→ Street landscaping should integrate with open spaces so that the largest and most obvious street trees link and connect open spaces together;

→ Open spaces should be sited so that they are as close as possible to the largest number of users. Every unit should be a minimum 800m simple walk to an open space but 400m is preferable;

Green Network Overlay Could Include:

→ Indicative location, size, and role of open spaces, with the possibility of indicating 'fixed' or required, and 'flexible' that are still desirable with exact location and detail design to be a part of developer design;

→ Identification of what roads will form the main green network connections between open spaces and the landscaping response needed.

Blue Network Principles Could Include:

→ Endorse low impact design wherever possible;

→ Maintain aquifer and other water quality including areas of ecological footprint limitation (an amalgam of site coverage, permeable surface, and stormwater management controls);

Blue Network Overlay Could Include:

→ Identification of any overland flows, streams, and lakes;

→ Any 'shared' facilities (i.e. open spaces that act as overflow or peak ponds; swales along roads etc.).

Community Network Principles Could Include:

→ Democracy of space - accessible, connected and equitable environments and spaces that are not exclusionary;

→ Health-supporting environments that stimulate pedestrian, cycle, and other non-vehicular modes;

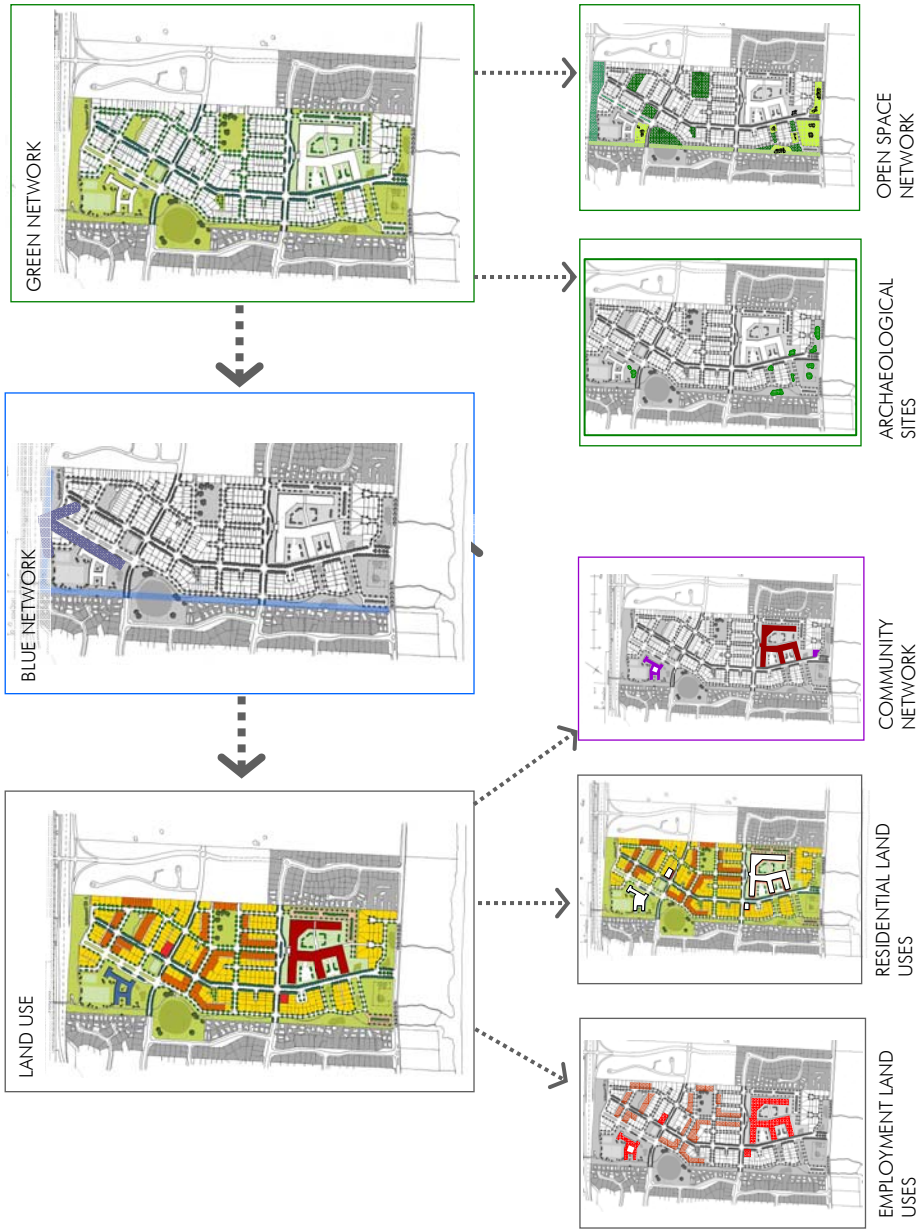
→ Facilities and services that are logically located to maximise visibility and access;

→ Representation of all cultural groups and gender interests (including the disabled) in the built environment.

Community Network Overlay Could Include:

→ Areas where community facilities would be most desirable;

→ Identification of facilities that may be needed by the new population;



ABOVE FIG. 13-16: Conceptual Development Framework - blue network overlay and sub-networks

→ Any existing areas of socioeconomic or cultural anomalies (high social deprivation area; concentration of a particular cultural minority, waahi tapu sites etc.);

→ Location and distance to nearest schools, medical facilities, and other daily services (critical in establishing how the area will function as a 'piece of town').

Residential Network Principles Could Include:

→ The widest possible range of densities, dwelling types, and living opportunities should be provided within the area;

→ All household sizes and compositions (including cultural preferences) need to be provided for;

→ Dwellings need to be designed to take advantage of the sun and elements to maximise energy self sufficiency. This requires that north-south roads be preferable to east/west roads where possible;

→ Dwellings need to interface with the public realm including having frontage and surveillance of roads and open spaces. This requires block structures that do not concentrate 'rear 'lots which cannot connect to the built form;

→ Block structure needs to encourage and facilitate permeable pedestrian movement.

Residential network Overlay Could Include:

→ Identification of housing type areas (high, medium, or low density within the 15 gross du/ha average).

Employment Network Principles Could Include:

→ Benefits to the local economy and employment need to be maximised;

→ Business opportunities should be clustered around public transport and highest order junctions on the movement network to maximise exposure and minimise necessary travel for people to access them;

→ A range of opportunities including live / work and spaces that can convert back and forth should be provided.

Employment Network Overlay Could Include:

→ Identification of areas of business opportunity including type and scale;

→ Identification of likely employee yield and how much of this (including considerations of demographic / socioeconomics etc.) can be provided for within the development area. As an example, providing larger format general industrial uses adjacent solely to high-end units would not be likely to be accessible to lower skilled, lower paid employees. This would result in a lower opportunity for self sufficiency and guarantee inefficient travel patterns.