Greater Christchurch Urban Development Strategy Forum

Report #1 - ISSUES PAPER – 30 August 2004

The following summary of issues contains information identified by staff as significant issues for consideration in the development of the Urban Development Strategy.

The Issues cover 9 topic areas:
1 Residential
2 Rural
3 Commercial
4 Industrial
5 Infrastructure
6 Transport and Energy
7 Community Facilities
8 Natural Environment and Resources
9 Open Space

As part of the issues identification, a number of trends are detailed and discussed. It is intended that additional graphs and figures may be included to support the text as this information will form part of the foundation of the community consultation/communication phase when considering options.

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1. Residential Issues and Trends Summary

Key issue: The population is growing with 120,000 more people expected to live in the UDS area over the next 30 to 40 years.

Sub-issues: (1) Immigration will be responsible for around 50% of the expected population growth, unless changes in immigration policies drastically change growth rates and housing requirements.

(2) Around 40% of that growth will occur in Selwyn and Waimakariri Districts.

Trends:

- Immigration is the key driver for future population growth in the UDS area. Of the 120,000 additional population predicted approximately 50% will be a result of immigration.
- Population in the UDS area is decentralising – between 1991 and 2001, 30% of the population growth occurred outside Christchurch City. Over the next 20 years, 40% of the population growth is predicted to occur outside Christchurch City in Waimakariri and Selwyn Districts.
- Unless immigration patterns change, medium projections show population in the UDS area is not expected to continue to grow after the year 2041 - it is predicted to peak at around 500,000 people.
- There is a high level of uncertainty of future growth rates and housing requirements. Any policies will need to be robust to deal with what might happen in the future.

Key issue: The population is getting older.

Sub-issues: (1) There will be fewer younger people and more old people resulting in major shifts in lifestyles and demand for services.

(2) Our community will be more ethnically diverse.

Trends:

- The population of the UDS area will become older. The median age in Christchurch City is expected to reach 41.6 years by 2021. In 2001 the median age was 35.5 compared to 1976 when the median age was 28.
- The ratio of young to old is changing. For Christchurch in 1991 there were 1.5 children per elderly person, in 2001 there were 1.4 children per 1 elderly person, and in the year 2021 there is predicted to be 0.8 children per 1 elderly person.
- The UDS area will remain predominately 'European'. Migration, and the higher fertility rates of Maori and Asian people, will result in the population of the UDS area becoming more ethnically diverse - between 1991 and 2001 the usually resident population of Christchurch that were Maori and Asian increased from 5% to 7% and 2% to 5.5% respectively.

Key issue: Demand for housing is exceeding population growth.

Sub-issues: (1) The average household size is decreasing, creating more demand for housing.

(2) Changing lifestyles are changing the type of housing required, the location and demand for amenities.

Trends:

- The average number of people living in each household is decreasing – the household size in 2001 and predicted household size in 2021 is; Selwyn 3.04 and 2.68, Waimakariri 2.76 and 2.49, Christchurch 2.64 and 2.44, and Banks Peninsula 2.48 and 2.29.
- Household size in Christchurch City is smaller than elsewhere in the UDS area, so though 60% of the population growth will be in Christchurch 70% of the additional dwellings will be built there (around 22,880 of the 33,600).
- As lifestyles change people are choosing different housing types and locations – for example larger houses on small areas of land, and the recent trend of people moving out of Christchurch into neighbouring districts.
- At different life stages people want different housing types and locations, for example the elderly have a strong preference for either central locations or remote locations.

- The growing ethnic population has different cultural backgrounds, age profiles and family make-up resulting in different housing desires, including location in comparison to the European population.

Key issue: Housing ownership rates are decreasing.

Trends:

- Household ownership is decreasing – in Christchurch in 1991, 74% of houses were owner-occupied, whereas in 2001, 67% were owner- occupied. By 2011, 55% of houses are predicted to be owner-occupied.

Key issue: The current land zoned for housing will not be sufficient if the population and housing demands grow as predicted.

Sub-issues: (1) If the recent trend towards new subdivision development continues this will result in pressure to expand urban areas.

(2) The mix of Greenfield (new developments) and Brownfield (infill development) will influence the amount of land required in the future.

Trends:

- Under current demands, initial estimates suggest the total land needed to accommodate the predicted population growth (based on current patterns) in Christchurch is 2,400 ha (assuming a 'cushion' of 1000 ha) and in Waimakariri, Selwyn and Banks Peninsula a total of 1,450 ha (assuming a 600 ha cushion).
- At June 2001 within Christchurch 1,315 ha of unused residential land was available and a further 510ha zoned 'deferred' or 'special purpose'. Outside Christchurch 1,300 ha of unused residential land (including Rolleston and Pegasus Bay) was available.
- From July 1996 to June 2003, within Christchurch, between 52% and 70% of development occurred in low density suburban areas.

Key issue: There is high demand for new dwellings.

Trends:

- Outside Christchurch the majority of building consents granted have been for dwellings. In Christchurch residential building consents show the changing forms of residential development that have occurred:
  - In the period 1992 to 1999 - 30% of consents were new dwellings (eg greenfield) and 70% units (eg infill).
  - In the period 1999 and 2003 - 70% of consents were new dwellings (eg greenfield) and 30% units(eg infill).

(Note: These figures cannot be equated directly to 'greenfield' and 'infill').

Key issue: Local government planning for residential development is affected by issues beyond its control.

Sub-issues: (1) Demand for residential development is influenced by central government policies – for example, immigration and economic policies.

(2) Demand for residential development is influenced by the actions of private institutions – for example, the lending policy of banks and private marketing.

(3) The demand for residential land is affected by demographic change, lifestyle preferences and perceptions held about the desirability of schools, locations and suburbs.

(4) The demand for residential land can be influenced by policies of local government – for example, location and zoning of land, development contribution policies, provisions of infrastructure and community services.

Trends:

- Desired housing location can be influenced by many factors outside the control of local government and the local community – for example the Central Government education policy of school zones.

2. Rural Issues and Trends Summary

Key issue: Urban expansion into the countryside is changing both the use and look of rural areas.

Sub-issues: (1) Christchurch City and urban areas outside Christchurch are expanding into rural land.

(2) Demand for land for housing means rural land is becoming more highly valued for residential development than for productive uses.

(3) Residential and lifestyle developments are spreading into areas of highly productive versatile soils, reducing its use for farming and other productive uses.

(4) The landscape and amenity value of rural areas to our communities is under threat from urbanisation.

Trends:

- There is demand for medium density residential, larger lot residential and additional dwellings on rural properties in the UDS area.
- In Christchurch in 1999, 665 hectares of land were rezoned for urban use. A further 465 hectares is either under appeal or the urban zoning has been deferred.
- Selwyn District Council has rezoned significant areas of rural land around Rolleston (residential, industrial and commercial development) and Lincoln (residential development), and rezoned smaller areas around other townships in the UDS area.
- Some of the rural land in the UDS area has highly productive versatile soils, but the amount of versatile soils available for rural use is declining with urban expansion. The estimated total amount of versatile soils in Selwyn is 53,000 hectares, 33,000 hectares in Waimakariri and 9,000 hectares in Christchurch City.
- The separation of town and country is becoming blurred as built up areas expand and rural land is sub-divided into lifestyle blocks.

Key issue: Everyone wants water.

Sub-issues: (1) Rural and urban users of water will increasingly compete for access to water.

(2) The fear of contamination of groundwater, waterways and lakes increases as rural land use intensifies.

Trends:

- There is an increasing demand for water as rural land uses intensify, leading to shortages of both surface and ground water supplies.
- There is a growing concern about contamination of groundwater, waterways, and lakes from intensive rural land uses, septic tanks from dwellings, and storm water from residential areas.

Key issue: There are conflicts between rural and residential lifestyle expectations in the rural environment.

Sub-issues: (1) Conflicts may arise when residential housing moves into areas of intensive farming activity, for example with noise and smell from the disposal of effluent.

(2) Urban expansion may result in traditional farming activities being forced to move or shut down.

(3) People moving to the countryside bring urban expectations of amenities with them.

Trends:

- Significant urban expansion is occurring in Selwyn and Waimakariri Districts, which both have significant intensive farming activities occurring, for example pig and poultry production, and dairying. [1]
    - In June 2002, 22,529 pigs were farmed in Waimakariri District and 64,248 pigs were farmed in Selwyn District.
    - In June 2002, Waimakariri District had 2.1 million chickens for meat production. Selwyn District had 1.8 million chickens.
    - Between 1996 and 2002 there was a 110% increase in dairy cattle numbers in Selwyn District and stocking rates and herd sizes are continuing to increase.
- How rural character is defined differs between districts in the UDS area, and different "rural threshold" lot sizes are used – 4 ha, 20 ha and 40 ha in Selwyn; 4 ha in Waimakariri; 20 ha in Banks Peninsula; and between 4 and 100 ha for Christchurch City.

[1] Note figures are for whole districts, not for the area of the district within the UDS area.

- Expectations of people living in the rural environment are rising resulting in demand for developments with urban infrastructure such as sealed roads, street lights, and footpaths.

3. Commercial Issues and Trends Summary

Key issue: Should commercial activity develop unmanaged or should councils use policy/regulations to manage development?

Sub-issues: (1) Retail opportunities will be focussed on a smaller number of existing larger complexes and new large format retail sites developed on dispersed Greenfield sites.

Trends:

- Between March 2000 and April 2003 resource consent was sought for 63,313m^2 gross floor area in suburban centres (within B1/B2 zones). Main developments were:
  - The Palms
  - Westfield Riccarton: 28,000m^2
  - Northlands/Papanui Centre: 16,543m^2
  - Eastgate/Linwood Centre 7,721m^2
- Between March 2000 and April 2003 resource consent was sought for 125,781m^2 gross floor area for retail activities beyond B1 and B2 zones. Main developments were:
  - Belfast Supa Centre: 31,662m^2
  - Riccarton South/Addington North Tower Junction: 29,725m^2
  - Blenheim Road: 23,717m^2
  - Ferrymead: 23,430m^2.
- The share of the market obtained from large format retailing has grown from almost nothing in 1995 to 18% in 2003.
- These large retail activities will alter the character of adjoining residential neighbourhoods.
- Competition between councils to provide facilities for retail/warehouse development is occurring.

Sub-issues: (2) The Christchurch CBD is becoming less attractive for retail, office and entertainment activities, undermining its role as the "heart" of the UDS area.

Trends:

- The CBD is no longer the dominant retail area of Christchurch.
- Pressure to provide office developments outside of the central city is increasing.
- There are high costs associated with converting existing buildings and sites into modern office complexes.
- A perception exists that high quality office space is not available in the central city.

Sub-issues: (3) The distribution of commercial activities is dispersing, affecting transport patterns, infrastructure servicing and potentially the viability of existing centres.

Trends:

- Decentralisation of office jobs will put pressure on the arterial road network, as more people travel across town for employment.
- Recent expansions in suburban malls have included movie theatres, food courts and cafes.
- Motel accommodation has increased markedly in living zones on arterial roads close to major suburban shopping centres, such as Riccarton and Northlands.
- Many smaller, multiple owned, established retail areas are experiencing a slowing or negative growth in retail development.
- With the focus on larger outlets, redevelopment of existing centres without single ownership is difficult.
- Local retail centres are increasingly focussed on the provision of services (i.e. café's) as opposed to retailing activities.

Sub-issues: (4) Christchurch has more retail floorspace per head of population than any other centre in New Zealand.

Trends:

- Christchurch serves a large area for retail activity, including Selwyn, Banks Peninsula and Waimakariri Districts. Christchurch also services areas as far away as Timaru, Kaikoura and the West Coast.
- There is just under 1 million square metres of retail floor space in the UDS area, with 97% in Christchurch City.
- Christchurch has a large amount of retail floorspace compared to other centres and it is still growing.

- In April 2003 Christchurch had a retail floorspace per capita ratio of 3.4m2/capita.
- In 2000 Auckland City had a retail floorspace per capita ratio of 2.36m2/capita, Manakau City 1.56m2, Waitakere 1.3m2 and North Shore 0.97m2.

4. Industrial Issues and Trends Summary

Key issue: Industry is changing and expanding, requiring more land in new locations.

Sub-issues: (1) Employment in traditional industries will decline, though employment will remain based within Christchurch City.

Trends:

- Businesses are employing fewer staff as labour intensive activities decline.
- The proportion of employment in traditional manufacturing, transport and storage activities will decline and service related employment will increase, however, manufacturing, retailing, wholesale and property and business activities will continue to be the major employer.
- Manufacturing and construction activities employ 20% of the Christchurch City workforce and 17% of the workforce in the UDS area.
- In the UDS area a large majority of employment (94%) is located in Christchurch City (2002 figures) when compared with the proportion of the population of the UDS area living in Christchurch (86% - 2001 figures).

Sub-issues: (2) New industrial development will become more dispersed and require new large 'vacant' areas of land, changing development, employment and transport patterns.

Trends:

- The location of industrial land is diverse – industrial zones, rural areas, separate sites in residential areas and on residential properties.
- Some industrial development is incompatible with residential development because of health, nuisance and amenity value problems.
- Retail (for example bulk retailing) has expanded into industrial sites, creating demand for industrial land in new locations.
- 53% of the land developed for industrial purposes between 1992 and 2002 is located to the southwest of the centre of Christchurch City – for example Selwyn Industrial Park.
- Demand for industrial land is affected by location, environment quality, accessibility, visibility to passing traffic, price and ownership.
- New large areas of vacant industrial land are sought to provide purpose built, large (with generous car parking), well appointed premises.
- The likely future demands for industrial land are: new office development on the Christchurch City fringe, commercial development near new residential developments, warehousing by major transport routes, and clustering of business/industrial activities in new development.
- Warehouse 'stud' height requirements are increasing from 6.5 metres to 8.5 metres (plus) to allow greater vertical storage. The market is valuing building volume (floor area by height) over building floor area resulting in an increased demand for new warehouse buildings.
- Redevelopment of older industrial sites and buildings will be required – market conditions (e.g. investment returns) will dictate the speed of redevelopment. This will be some years off.
- 'Clustered' (i.e. similar and associated activities) industrial developments (i.e. business parks) are highly sought after.

Sub-issues: (3) Constraints on the development of new industrial areas to the north and northwest of Christchurch may result in future industrial activities being located further from the City.

Trends:

- Developing some or any industrial development over the unconfined Christchurch groundwater system may not be appropriate.

- Lack of adequate reticulated water, stormwater and sewage infrastructure will constrain choices of location for industrial development.
- Lack of vacant land / Greenfield industrially zoned land sales controlled by one or two developers.

5. Infrastructure Issues and Trends Summary

Key issue: Maintaining and upgrading infrastructure to meet growing demands will require major investment.

Sub-issues: (1) Maintaining ground water quality is essential to the ongoing delivery of high quality untreated water.

Trends:

- Water supply within the UDS, with the exception of Rangiora, is mainly groundwater delivered untreated to consumers.
- Untreated potable water is highly valued and is a Christchurch "icon"
- Treatment of water, if required, will cost a significant amount of money.
- The demand for water will increase and may create conflicts between water users.

Sub-issues: (2) The Community is demanding increasingly sophisticated (and costly) wastewater and stormwater management.

Trends:

- Standards of treatment for wastewater and management of surface water are increasing.
- Disposing of wastewater into water is becoming less acceptable and alternative options will need to be developed.
- Land based wastewater treatment options have a large land requirement.
- Currently there is a trend towards local authorities sharing the use of disposal facilities (i.e. Lincoln transporting waste to the City system). The cost of infrastructure development and management may lead to more joint ventures and opportunities.

Sub-issues: (3) Significant investment is required in electricity infrastructure to meet future needs.

Trends:

- Orion and Mainpower envisage that the growth in demand predicted for the UDS area can be accommodated.
- Delivery of electricity is dependant on the ability of Transpower to deliver to central and northern parts of the South Island.
- Design standards to encourage energy efficient development can be implemented, though currently they are not in any significant way.

Sub-issues: (4) The Port of Lyttelton and Christchurch International Airport make large contributions to the Canterbury economy. Maintaining these facilities and the strategic transport routes to and from them may require major investment.

Trends:

- Port and Airport business will grow over the next 25 years, resulting in these facilities working more intensively and for longer hours.
- Areas close to the Port are desirable locations for coastal residential development. There is also pressure for residential expansion to the west of Christchurch towards the airport.
- The Port and Airport create significant noise, light spill and other nuisance effects in their immediate vicinity. Port and Airport activities could be constrained or not permitted to occur at night due to conflict with surrounding residential development.

Sub-issues: (5) Conflict can occur between land required for infrastructure developments and land for residential or other developments.

Trends:

- The location of disposal areas, for example, can reduce the amenity values of an area for other uses.

6. Transport and Energy Issues and Trends Summary

Key issue: The transport sector continues to grow in volume, creating congestion, threatening the environment and using more resources at an increasing cost.

Sub-issues: (1) Congestion is increasing.
Trends:

- Traffic volumes in the city are projected to increase 40-50%, with over 1.8 million trips made by vehicles each day by 2021.
- Christchurch's road system will experience a threefold increase in congestion by 2021 making it more difficult to move around.
- About 24km of road are currently defined as congested; by 2021 this figure will more than triple to 78km.
- Christchurch has a high number of registered private cars with 59 cars for every 100 people. Within 20 years the number of registered vehicles in metropolitan Christchurch could increase by 40-50%
- There is an increasing reliance on cars. Only 20% of trips are made by modes other than a car.
- Within Christchurch, the 2001 Census information for journey to work showed that 77% of people drove cars to work with around 4% travelling as passengers. Bus passengers made up another 4%, while 5% walked and 7% cycled.
- The number of heavy vehicles on Christchurch roads is increasing. Commercial trips made up 12.5 % of all trips in 2001.
- In 2001, 23 intersections within Christchurch City were unable to cope with the travel demand during the worst peak periods, particularly between 4.00-6.00pm. Most of these intersections are located on roads west of the central city.
- Increased congestion is being experienced in commuter belt towns (e.g. Rangiora) and on State Highway One (e.g. Woodend).
- Key access routes into Christchurch from the north (over Waimakariri bridge) and from the south (State Highway One and Blenheim Road) are congested, spilling into major city arterials, such as Papanui Road, Riccarton Road and Brougham Street.
- Congestion impacts on the efficiency of public transport, causing delays to buses and creating unreliable travel times.
- The travel time and travel distance for most trips is short. In 2001 the mean travel distance was 6.4 kilometres and the mean travel time was 11 minutes.
- Other cities have shown that building more roads does not relieve traffic congestion in the long term.
- Increased congestion will make travelling slower, more time consuming and more expensive.

Sub-issues: (2) There are currently limited alternatives to travelling by motor vehicle.
Trends:

- Public transport patronage is increasing, though as a proportion of the number of trips being made remains constant.
- Funding for public transport systems is limited by the willingness of the community 'to pay' as public transport requires subsidisation.
- 12% of the population travels by walking, cycling and public transport – some not from choice but not having access to a car.
- Road design is often dominated by the needs of motor vehicles, which can mean cycling and pedestrian facilities are not always provided. Crossing a road can be considered unsafe, especially for the elderly and the young.
- The number of intermediate and secondary school students cycling is declining, but commuter trips made by cycle are now constant from one year to the next, and the number of people cycling for recreation is rising.
- The increased number of vehicles on the road, including heavy vehicles, makes safety a major consideration for cyclists.
- Concerns for personal safety, difficulty in getting around and crossing roads are increasing.
- Physical constraints, such as the Waimakariri River, may restrict transport choices such as cycling between Waimakariri District and Christchurch City.
- Rail is an important link for freight particularly between the Port of Lyttelton and the West Coast.
- The rail network is under utilised for passenger transport. No passenger services south of Christchurch exist.
- Low population densities coupled with the cost of providing commuter rail services means that passenger rail is unlikely in the short term.

Sub-issues: (3) There needs to be better integration between land use and transport planning.
Trends:

- New sub-divisions and developments in outer-lying areas, far from places of work, school and amenities increase travel, and without available practical alternatives, such as cycling and public transport, people are forced to use vehicles.

- New developments often proceed without consideration of access for public transport, cycling or pedestrians.
- Low population densities and the lack of integration in roading development on the periphery of Christchurch City makes providing public transport difficult.
- Access across the Waimakariri River will become a greater constraint to on-going development in Waimakariri District.

Sub-issues: (4) Transport poses real threats to our environment.
Trends:

- Adverse environmental effects from transport are widespread. There is concern over:
    - Community severance
    - Traffic noise
    - Vehicle emissions
    - Smoky vehicles
    - The biggest source of carbon monoxide in the urban area is generated by motor vehicles
- Vehicle emissions of carbon dioxide, a major greenhouse gas, have increased by forty-three percent over the last 10 years despite significant improvements in engine technology and energy efficiency.
- Heavy vehicles travelling through towns, such as Rangiora, produce undesirable noise, vibrations and emissions.
- The current transport network dependency on fossil fuels is limiting and creates an environmental issue, though this may be overcome through changes in technology.
- Increasing traffic growth affects the amenity of the city's residential areas.
- Provision of large areas of land for parking, for example at suburban shopping centres, affects the amenity of the area.

Sub-issues: (5) The real cost of transport continues to rise.
Trends:

- The cost of maintaining and improving the transport system will increase.
- Transport activities across the country are competing for limited government funds.
- The cost of personal travel continues to rise as more people choose to live further from their places of work, schools and amenities resulting in more trips made in vehicles.
- The cost of crashes from the Canterbury region is over $300 million per year.
- Christchurch has a high crash rate, with 3-road crash casualties each year for every 1000 residents. Crashes tend to be severe. The cost from these crashes is estimated to be approximately $600 for every resident or $200 million annually.
- End of life costs such as disposing of cars, tyres and oil are environmental effects linked directly to transport but not normally accounted for within the transport system.

Sub-issues: (6) Energy consumption is increasing, with the transport sector being our biggest user of energy.
Trends:

- The transport sector accounted for 55% of energy use within Canterbury in 2002, up from 49% in 1982.
- The industrial and commercial sectors used 30% of energy use in 2002, unchanged in percentage terms from 1982.
- Domestic consumption of energy declined in percentage terms from 21% to just 15% from 1982 to 2002.
- Diesel consumption has grown from 33% of energy used for transportation in 1982, to 49% in 2002.
- Petrol consumption accounts for 50% of energy used for transportation in 2002, down from 67% in 1982.
- The percentage of total energy derived from oil products has increased over the past twenty years.
- Electricity consumption has increased over the past two decades.

7. Community Facilities Issues and Trends Summary

Key issue: The community is demanding more sophisticated, better-located community facilities.

Sub-issues: (1) Community expectations of facilities, such as libraries and swimming pools, are rising.
Trends:

- Expectations for community facilities, including libraries and aquatic centres, are rising and will require new types of facilities.
    - People are less accepting of standard outdoor swimming pools and seek a range of facilities including leisure pool, spa pool and similar. QEII experienced a 75% increase in attendances since the redevelopment was completed.
    - Libraries are becoming community focal points, including learning centres, café's.
    - There are a number of existing facilities in the UDS area that do not meet expectations i.e. outdoor pools.
- The more sophisticated the community facilities the less able they are to accommodate multiple use for high level sporting activities
    - Specifications and standards of sports facilities required by international sporting bodies in order to hold international sports events are increasing.
    - The technology within facilities is becoming increasingly specialised. Athletes wish to train in similar facilities. This reduces the potential for co-use of facilities.
    - The range of sports and recreation activities has increased significantly, requiring new facilities to be developed.

Sub-issues: (2) Community facilities may not be sited in the best locations as land may be more highly valued for other purposes.

Trends:

- Siting of major community and sporting facilities is determined by land available, rather than the optimum location.
- Once land is subdivided for more intensive use it is difficult to provide for community facilities as the purchase price for land increases.
- The space between existing facilities and residential activities is being reduced as new residential areas are developed increasing conflict between different activities.
    - For example Go Kart and motor racing facilities have come under pressure to reduce noise as new residential development has got closer to the facilities.

Sub-issues: (3) Future populations are unlikely to be satisfied with current community facilities.

Trends:

- Older age groups are under represented in aquatic/leisure facility users. The ageing population will have implications for the provision of facilities.
    - The ageing baby boomer population is likely to be more demanding that their needs are met than the current older population.
- People on low incomes are under represented in using community facilities, especially gymnasium and recreation programmes. The costs of entry and availability of facilities (locations, transport availability) are key factors in using facilities.
- There is increasing recognition and focus on the health affects of low levels of physical activity – heart disease, diabetes, obesity etc. The reducing level of physical activity is particularly evident in young people. The provision of suitable venues for people to be physically active will be increasingly important.

Sub-issues: (4) Community Facilities are being provided by a range of people and organisations.

Trends:

- Local authorities are not the only providers of facilities; knowledge of trends and planning for significant facilities such as hospitals and secondary schools will be important.

8. Natural Environment and Resources Issues and Trends Summary

Key issue: Development endangers our natural environment, but also presents opportunities to enhance it.

Sub-issues: (1) Water quality and quantity are threatened by development and increasing demand.
Trends:

- Urban areas are built over both confined and unconfined aquifers. Developments over unconfined aquifers pose a risk of contaminants getting into the groundwater.
    - Between 1998 and 2001 hydrocarbon contaminants were detected in 50% of the unconfined upper level aquifer wells.
    - The age of water extracted from the deepest wells 550 metres below the city are between 500 and 3000 years old. As this water is taken younger water will infiltrate and may affect the water quality.
    - The amount of water taken for irrigation is increasing.
- Competition for water between users, and natural ecosystems is increasing and during 1997-2001 demand outstripped supply and restrictions were placed on surface water abstraction.
- Predicted climate change could increase the demand for irrigation water and reduce recharge water volumes.
- Protection of the artesian resources and maintaining the in stream quality of streams and rivers is fundamental to the well being of the region's communities and the environment.
- Promoting recycling programmes to reduce waste inputs into the natural environment and encouraging social sustainability practices by highlighting the often-unnecessary, excessive use of water is the responsibility of everyone using the resource.
- Key to avoiding and mitigating adverse affects in the process of utilisation and disposal of water is the sustainable return of the resultant wastewater by-products of human consumption back to air, land and sea.
- The target set for 2020 requires a 65% reduction in the solid waste produced by each person per year from 900Kg to 200Kg per person per year.

Sub-issues: (2) Development is making the natural environment vulnerable to irreversible damage.
Trends:

- As development intensifies open space and habitat is lost.
- As habitats are reduced in size they are less able to support native species.
- Ecological sites within Christchurch are very fragmented and small which make them vulnerable.
- Many ecologically important sites do not have any regulatory protection.
- Urban activities and rural intensification are causing a reduction in surface water quality and quantity.
- Sedimentation and nutrient enrichment of surface water from agricultural run-off and pollution from urban stormwater have the biggest impact on surface water quality in Christchurch City.

Sub-issues: (3) Opportunities exist to enhance natural environment values and achieve significant ecological and economic benefits.
Trends:

- Much of the tourism value of New Zealand is based on environmental values.
- The future removal of effluent discharge into the estuary will provide opportunities for greater enhancement/utilisation of the area; around 7,150 kilograms of dissolved nitrogen and phosphorus are discharged per day into the Estuary - 97% is from the oxidation ponds.
- In the City 250,000 local native plants are planted in parks and along urban waterways.
- Vegetative restoration programmes on the riverbanks of Christchurch improve the area and provide habitat for wildlife.
- Restoration of the natural values in the upper catchment and headwater springs of the Halswell River.
- The proposed creation of wetland and native woodland habitat at Cashmere and Hendersons ponding basin would complement the existing attributes of Riccarton Bush.
- There are a number of areas which present ecological enhancement opportunities eg along the coast, grasslands, estuary

Sub-issues: (4) The UDS area is at significant risk of natural hazards including flooding, earthquake and tsunami.

Trends:

- Natural hazard risks including flooding, liquefaction and tsunami exist.
    - Flooding is the most common and significant natural hazard in Canterbury affecting urban and rural areas.
    - The Waimakariri River threatens more people and properties than any other New Zealand river and is the most significant flooding threat to the Christchurch urban area.
    - Since 1883 over 30 flood events have caused damage to land and property.
    - The greatest impact from a major earthquake in the UDS area is from liquefaction. This occurs when loose saturated soils become fluid and cannot support structures.
    - Tsunami risk may increase with rises in sea level.

9. Open Space Issues and Trends Summary

Key issue: Changes in population and lifestyles will create new demands on open space areas.

Sub-issues: (1) The area of accessible open space is being restricted as development occurs.
Trends:

- Canterbury has a large amount of public open space (DOC estate), however, most of this is foothills and mountain areas. Much of this land has steep physical terrain and alone does not provide for the recreation needs of the UDS population.
- Access to high quality coastline (such as on Banks Peninsula), some water bodies and countryside outside the DOC estate is restricted. Changing land use patterns will further restrict access.
- Commercial recreation development will limit the opportunity for free recreation access in some areas.

Sub-issues: (2) Purchasing and providing land for open spaces will become more difficult and expensive as open space competes with other land uses that have a higher economic return.

Trends:

- A shift from rural to residential activities leads to increased property values making it less affordable to purchase open space areas.
- As land use intensifies the opportunity to purchase large areas of open space decreases.
    - 35% of the Selwyn Inner Plains are in lots of 4ha or smaller
- Once land is subdivided for more intensive use it is often too late to provide integrated open space areas.
- Opportunities for providing public access along waterways are not being taken because of some authorities lacking resources.
- Changes to how reserve development contribution levies in the Christchurch City are taken are likely to only provide about half the open space for each new subdivision than was previously taken. Alternative funding may be needed to meet the existing provision level of local/metropolitan open space.
- Public recreation will need to be provided by local authorities and in partnerships with private organisations, landowners and commercial operators.

Sub-issues: (3) Exercise and recreation patterns are changing, with an increase in walking and cycling fuelling demand for accessible open space suitable for these activities.

Trends:

- Existing open space standards may not meet the preferences and needs of an aging changing population, increasing ethnic diversity, changing family structures and health needs.
    - Many new city residential developments have less open space on individual properties than existed 20 years ago due to infill housing and smaller section sizes.
    - People need to fulfil many of their outdoor recreation activities away from their home property.
- Recreation preferences have diversified, so there are now more choices. Provision will need to be made for this diversity.
    - Participation in organised sports is static. More people cycle than play touch rugby, rugby union or netball.
    - Walking is now the most popular adult physical recreation activity (67% in Canterbury /Westland).
    - Access to quality short and longer walking routes close to residential areas will be needed.
    - Access to 30-60 minute off-road loop walkways suitable for families and older people adjoining major transport and scenic routes is desirable.
- Provision of local recreation networks including walkways and a variety of high quality open space is needed.
    - More intensive physical development reduces the open landscape qualities in rural areas.
    - Waterways, the Port Hills and the coastline are the most prominent natural features upon which open space provision can be based around Christchurch.

Sub-issues: (4) Many people living within the UDS area travel further afield for recreation, suggesting a wider planning focus is required.

Trends:

- The UDS planning area may be too constrained to provide an adequate diverse open space network:

- About 80% of the Waimakariri, Selwyn, Banks Peninsula Districts and Christchurch City population live in the Greater Christchurch area. Many of the valued recreation assets are located in rural areas, such as rivers and coastline, outside Christchurch and the UDS area.
- Demand is growing for more recreation opportunities up to approximately 1-1.5 hours travel (day trip) from major outer urban concentrations of the UDS.