Smart Growth Down Under

Taking Steps Towards Sustainable Settlements in New Zealand

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FOREWORD – Smart Growth in the United States

Approaching the turn of the twenty-first century, the United States (U.S.) found it necessary to come to grips with the challenges of how the built environment affects the natural environment. Following World War II, a dramatic shift in settlement patterns took place fuelled by policies of the Federal Housing Authority (FHA) and the 1956 Interstate Highway Act. FHA policies favored single-family detached homes in the suburbs at the expense of investments in the inner city (Booth, 2001). The Interstate Highway Act, the largest public works project in the U.S., enabled the construction of massive expressways to connect the nation's cities (Booth, 2001). Combined with an increasing love for the automobile, Americans now had the means to pick up and move out of the nation's cities (*Paving the American Dream*, 2001). Suburbia was not born in post World War II America, but it did experience a tremendous growth spurt.

In the fifty years following World War II, the suburban home and the auto-dependent suburban lifestyle became as iconic of American culture as the Golden Arches of McDonald's. Like a love struck teenager, Americans had grown so enamoured with the modern suburb that the nation had seemingly forgotten the alternatives to conventional settlement patterns on the fringe - - traditional neighbourhood developments, urban settlements, and the like.[1]

Unfortunately, the subsidisation of suburban expansion came at a price to existing communities - - cities, older suburbs, small towns, and rural communities. No one anticipated prolonged trends of disinvestment in older communities or that existing infrastructure would be abandoned only to be rebuilt further out. Moreover, the low-density, noncontiguous, single-use settlement pattern that characterized modern suburbs resulted in long commutes, auto-emissions, the gobbling up of open space and isolation (*Paving the American Dream*, 2001).

Throughout the 1990s, U.S. citizens and policy-makers realized that decisions regarding how and where development occurs impact upon the natural environment. This awareness was shaped by a renewed understanding of what the environment meant to the public. Human settlements are part of an existing environmental system. The two can not be separated. Therefore, it is irrational to segregate the two in our thinking and action. To this end, demographic shifts, a strong environmental ethic, increased fiscal concerns, and more nuanced views of growth sparked a movement that has come to be known as smart growth in the U.S. (Smart Growth Network [SGN], *Why Smart Growth: A Primer*, 1998)

Although the U.S. Environmental Protection Agency (EPA) defines smart growth as development that serves the economy, community, and the environment, it is important that it not be confused as a surrogate for, or as

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[1] Traditional Neighborhood Developments (TNDs) are new developments that are characterized by traits normally associated with older urban neighbourhoods such as compact, mixed-use neighborhoods with residential, commercial, and civic buildings in close proximity to each other.

synonymous with, sustainable development.[2] Smart growth represents a means to a sustainable end. Former EPA Administrator Christine Todd Whitman referred to smart growth as the planner's approach to achieving sustainable development.

Because the growth and form of communities is influenced by a variety of stakeholders, the facilitation of smart growth does not reside only with planners. As quality of life issues become increasingly important for American communities, local and state policymakers, planners, developers, and others are turning to smart growth as one approach to alleviating the impacts of highly dispersed development patterns of the past half century (SGN, *Getting to Smart Growth [Getting],* 2002).

The Smart Growth Network (SGN) has formulated ten principles for smart growth which reflect the characteristics associated with healthy, vibrant, and diverse communities. They also suggest options for forming policy direction at local levels to implement smart growth (SGN, *Getting,* 2002).

The principles are to:

- mix land uses;
- take advantage of compact building design;
- create a range of housing opportunities and choices;
- create walkable communities;
- foster distinctive, attractive communities with a strong sense of place;
- preserve open space, farmland, natural beauty, and critical environmental areas;
- strengthen and direct development towards existing communities;
- provide a variety of transportation options;
- make development decisions predictable, fair, and cost effective; and
- encourage community and stakeholder collaboration in development decisions.

Smart growth is the <u>sum</u> of its parts. Smart growth is not achieved when a community meets one principle; the <u>majority</u> of these principles should be evident. More importantly, it is the synergy of these principles that results in smart growth (EPA, *Built and Natural Environment [Built],* 2001).

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[2] Although the notion of sustainable development grew in popularity in the U.S. throughout the 1990s, its appeal had subsided by the end of the decade. There was lack of consensus about the term's meaning and no clear framework to the transition from theory to practice. By the end of the decade, the overwhelming sense of public ambiguity made sustainable development less of a public priority. Ironically, the gradual decline of sustainable development coincided with the burgeoning popularity of smart growth. Mindful of the quick rise and descent of sustainable development, smart growth practitioners crafted a clear definition for the term, developed principles that supported the definition and enhanced it's meaning, and specified the focus of the approach - - improving and enhancing communities.

<u>Relevance to New Zealand</u>
As a nation, New Zealand is dealing with many of the fore-mentioned challenges such as urban form that reduces the attraction of walking, cycling or public transport. Further, New Zealand is seeing an erosion in the quality of public spaces and values that underpin liveable towns and cities, threats to the ability of some urban areas to compete for jobs and investment, and the loss of what is distinctive about its urban environments. The challenge for New Zealand is to build on the positives of its richly diverse urban areas, and to re-create them, to ensure they are socially inclusive, economically prosperous and environmentally responsible (Ministry for the Environment [MfE], *People, Places, Spaces [People],* 2002).

EXECUTIVE SUMMARY

While New Zealand is clean and green relatively speaking, it is not pristine. Over 150 years, New Zealand's indigenous forest cover was reduced from 85% of the nation's land area to about 23%. During the same period, 670,000 hectares of fresh water wetlands were reduced to 100,000 hectares. Additionally, New Zealand diesel is filthy by international standards and a contributor to air pollution within the nation's major urban centres. In recent years, non-point source pollution has contributed to increased algal growth for some of New Zealand's lakes. Other challenges confronting New Zealand include loss of highly productive soils from low density settlement patterns as well as increases in asthma and obesity rates.

The United Nations Environmental Programme (UNEP) has declared that the battle for sustainable development will be won or lost in the world's cities, where an increasing majority of the world's population lives. Despite the challenges noted above, the importance of sustainability has not been lost on New Zealanders. On January 31, 2003, the New Zealand Government issued the *Sustainable Development Programme of Action*. The policy is another indicator of New Zealand's commitment to sanction sustainability.

While New Zealand is an astonishingly distinctive nation in the South Pacific, the impacts from New Zealand's settlement patterns are strikingly similar to those of the United States. The question confronting New Zealand is whether current development patterns, characterised by sprawl, are in the long-term interests of its cities, existing suburbs, small towns, rural communities, or wilderness areas.

This report explores that question and investigates New Zealand approaches to facilitating smart growth. Research objectives are to: learn about implementation of the Resource Management Act (RMA) by district planners; explore strategies to manage growth in New Zealand's larger cities; and assess how smart growth principles are reflected in select New Zealand sites by conducting score card exercises.

The RMA grants New Zealand territorial authorities the discretion to decide how to achieve sustainable management. While the RMA has merits that are in line with smart growth, the law can enable actions that are inconsistent with smart growth objectives. Namely, perpetuation of conventional settlement patterns, limited protection of highly productive soils, and limited direction on treatment of urban issues.

Importantly, achieving smart growth objectives depends on the priorities and values of the community as well as the content of their district plan. Moreover, the past twelve years have been a period of transition for New Zealand planning practice, and it has become apparent that district plans represent one tool available to territorial authorities. Achieving smart growth objectives that are beyond the purview of the RMA will require strategic planning and new forms of collaboration on the behalf of territorial authorities.

New Zealand's urban communities are pursuing varying approaches to achieve objectives that are illustrative of smart growth. They include but are not limited to: creating pedestrian friendly communities as in Wellington; revitalising urban cores as in Christchurch; and introducing transport choice in Auckland City through practices for multimodal transport that honours the needs of bicyclists, pedestrians, public transport users, as well as the automobile. The varying policies and practices being applied expand economic development opportunities, foster community livability, and preserve and protect the natural environment.

Because smart growth is not a common term in New Zealand, this research has not been prepared to suggest it is the only approach for achieving sustainable settlements. Still, New Zealanders should consider the following factors in order to make smart growth a reality: leadership; incentives; cross-disciplinary research; and community participation/education.

Leadership - Horizontal leadership (inclusive of but not limited to elected officials) is required to introduce communities to alternatives to conventional patterns of development. Horizontal leadership is necessary because governments change, but the issues shaping quality of life are always pertinent. New Zealand does not have a deficit of leaders for smarter patterns of development. The challenge will be establishing consensus among varying parties, building on the positives of the nation's richly diverse urban areas, and sticking to principles for improving communities based on the long-term benefits as opposed to short-term gains.

Incentives – Since 1984, New Zealand has operated on an unquestioning embrace of free market economic principles. The reasoning for reducing government intervention as well as limiting forms of government assistance is to prevent the creation of an unfair competitive advantage. However, it seems such policies have resulted in a market environment that disproportionately favours automotive modes of travel, perpetuates status quo development, and enables poor quality infill. Market intervention is required to create balance in the developmental playing field.

Cross-disciplinary research – Achieving smart growth requires identifying examples of such settlements, describing how they were achieved, and explaining why they should be pursued. The most important question to answer is "why." Successfully answering this question requires, explaining how one's economic bottom line is affected. Other important factors to consider are the benefits of smart growth for health, transport efficiency, and the like. However, the first step requires improving the availability of robust, reliable, and timely data for use by central, regional, and local government.

Community participation/education – Achieving smart growth requires educating citizens that decision they make every day for housing, transport, and community services affect the future form of cities in which they live. To ensure longevity, children should be engaged often and early to ensure they develop a comprehensive understanding of how the built environment impacts the natural, and moreover, their quality of life.

New Zealanders are more inclined to agree there is a need for a sustainable urban form whether or not it is called "smart growth." Achieving such objectives will require changes in thinking and behaviour, policy and practice, planning and development. While the process of change can be difficult, it is necessary to facilitate the introduction of win/win situations. New Zealanders do not have to choose between growth versus no growth. However, they should be mindful of how and where growth occurs so that the country's assets, natural and built, can be enjoyed by current and future generations.

INTRODUCTION – Investigating Smart Growth in New Zealand

The purpose of my research has been to learn about New Zealand approaches to facilitating smart growth. It is necessary to note that New Zealanders do not use the term smart growth when referring to initiatives to bring about sustainable urban form.[3] Instead it is more common for New Zealanders to refer to terms like liveable communities, new urbanism, or sustainable urban design when discussing approaches to deal with the challenges of sprawling patterns of development.

My research objectives for the fellowship were to:

- explore strategies to manage growth in New Zealand's larger cities;
- assess how well smart growth principles are reflected in selected New Zealand sites by conducting a score card exercise; and
- learn about implementation of the Resource Management Act (RMA) by district planners.

I journeyed to Wellington, Auckland, Christchurch, Dunedin, and the Bay of Plenty sub-region and met with planners, Iwi management authorities, academics, urban designers, consultants, and other practitioners seeking to enhance community quality of life. In addition to learning about local efforts to manage growth, the fellowship presented the opportunity to take a closer look at smart growth related practices across New Zealand. See figure 19 in the Appendix for a map of the cities visited.

Methodology
The research presented in this report is qualitative. District planners were interviewed to learn how the RMA has shaped planning practice in New Zealand. Strategies for managing growth were drawn from these interviews as well as literature collected from the cities visited. The score card exercise uses a checklist of smart growth principles. To assess how well each principle was met, the scorecard was modified to reference indicators from several existing smart growth score cards.

Limitations
As an approach, smart growth addresses patterns of development that shape cities, suburbs, and rural settlements. Due to limitations in time, I did not have the opportunity to explore smart growth consistently across these dimensions while in New Zealand. The majority of my findings are limited to the inner city (downtown areas and abutting lands) of New Zealand's major cities.[4] Research from other sources has been used to offer a comprehensive perspective on the cities featured in this report.

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[3] The Western Bay of Bay of Plenty Sub-regional strategy and implementation plan is called "SmartGrowth." The strategy supports a fundamental shift in growth management from focusing largely on accommodating low-density suburban residential development to supporting a compact and balanced "live, work, and play" concept.

[4] Strengthening the central city is one of the most critical smart growth strategies that can be undertaken.

It is not the intent of this report to sell the concept of smart growth in opposition to other approaches for achieving sustainability in New Zealand. It is an attempt to explain how smart growth concepts may be in evidence, and in some cases not. Certainly, differences in policy and economics may not allow a U.S. model for smart growth to be wholly applied in New Zealand. Moreover, Kiwis will need to craft a sustainable approach that works for New Zealand. It is the intention of this report to promote public discussion about sustainable urban developments.

CHAPTER 1 – Overview of New Zealand

Visitors to New Zealand can be easily overcome by the abundance of natural amenity. An essentially pristine rural landscape of mountains, farms and forest, is punctuated by a series of distinct towns and villages (Herd, 2003). The Ministry of Tourism would be pleased to know that reality supports the rhetoric. In 2002, Tourism accounted for $9.5 billion of value-added economic activity to New Zealand's economy (Ministry of Tourism, 2002).

The picture-postcard image of a green, rural landscape against a backdrop of majestic mountains can be highly misleading (Freeman and Thompson-Fawcett, 2003). The fact is that 86% of New Zealand's citizens live in urban areas (Statistics New Zealand [Stats NZ], *New Zealand Official Yearbook 2002 [Yearbook]*, 2002). Although cities do not represent a hallmark of New Zealand, it is an urban society.

New Zealand's urban areas almost go unnoticed due to their scale. Unlike most Western cities, the population of New Zealand's major cities number in the hundreds of thousands not in the millions (*Quality of Life in New Zealand's Eight Largest Cities [Quality of Eight]*, 2003). New Zealand's largest city, the Auckland metropolitan area, has a population that exceeds one million when the populations from the territorial authorities that constitute the Auckland Region are combined. Because the Auckland metropolitan area is disproportionately larger than New Zealand's other cities – in population, land area, traffic and housing problems, and the like – it is easy to come to the premature and incorrect conclusion that managing growth is hardly a problem in New Zealand.

For example, the Western Bay of Plenty sub-region is one of the fastest growing areas in New Zealand (*Inception Report*, 2001). From 1996 to 2001, the population grew by 16,400 people. This was well above the national rate (three percent) for the same period. The sub-region's population was reported at 130,000 in 2001, and projections suggest it could rise to 289,000 by the year 2051. The reasons people are moving to the sub-region include a desire for lifestyle change as well as attraction to the coastal

Figure 1 – The Bay of Plenty from Mt. Maunganui.

environment (Waikato University, 2003). While agricultural and food production are very important to the sub-region's economy urban expansion and rural intensification represent two significant threats to rural production (SmartGrowth, 2002).

In the City of Christchurch current settlement patterns are tending to dispersed industry, housing, and suburban retail shopping centres. Car and truck travel represent over eighty percent of all travel, and they have increased by two and a half times in forty years. Although Environment Canterbury, the regional council, has sought to promote urban consolidation objectives, Christchurch City Council has sought to accommodate the demand

for residential land by adopting more flexible planning procedures.[5] Instead of resolving conflicts through non-judicial means, the Environment Court has been used as the platform to resolve tensions between both Councils on several occasions (Douglass and Memon, 2002).[6]

Queenstown is New Zealand's popular Alpine tourist resort (Freeman and Thompson-Fawcett, 2003). High property prices coupled with low wages in the hospitality industry mean that housing affordability and the high cost of living are an issue for many people. Many workers find it necessary to live in outlying areas and commute to work, giving them little sense of belonging in Queenstown (*City of Queenstown,* 2002). The City is also under significant pressure to accommodate additional growth. While the district's natural and physical resources are the drivers for increased growth, low density development is placing pressure on the rural and scenic landscape (*Living Space*, 2003).

Figure 2 – Increasing low density development can detract from the value and appeal of the unique natural environment that gives Queenstown its character.

Attitudes to Growth
Overall, the general public have a casual attitude to growth and settlement patterns in New Zealand favouring the point of view that there is always more land, and that development has never been a problem in the past so why worry about it now. This attitude is noted in the introduction to the book *Living Space* by Claire Freeman and Michelle Thompson-Fawcett:

> In practice, however, certain problems persist, perhaps emanating from the very fact that there is not the scale of environmental problem experienced elsewhere, and hence there is no real sense of urgency. The predicament, then, is largely one of complacency, and the attitude of "if it ain't broke then don't fix it' being prevalent. New Zealanders have little notion of sustainable transport, little concern for issues or urban sprawl or waste management,

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[5] *The State of New Zealand's Environment* defines regional councils as elected local government bodies that coordinate, and set policy for, resource management, including water and soil conservation, and transport. Territorial authorities are elected district and city councils.

[6] Historically, there has been lack of cooperation among the Canterbury Regional Council (and its predecessors), Christchurch City, and adjourning councils on issues such as peri-urban development.

limited commitment to air and water quality, and an overriding reluctance to prioritise environment above economic considerations.

However, this attitude is not pervasive to all issues in New Zealand. On television there are a number of public service announcements (PSAs) on the dangers of: not wearing safety belts – *Safety First*; second hand smoke - *Smokefree*; speeding; accidental injury – *ThinkSafe*; vehicle accidents at intersections – *Land Transport Safety Authority (LTSA)*. Although none have been aired recently, PSA could be prepared on the benefits of riding public transport.

Beyond the clean and green façade it is apparent that New Zealand cities face the same developmental and environmental challenges that confound all cities – the need to improve social, physical, natural, and economic conditions for their inhabitants.

Transport
According to the Ministry for the Environment, a serious issue facing urban areas is form that reduces the attraction of walking, cycling, or taking public transport. This is often coupled with inefficient transport systems that can add to business costs, raise transport emissions and make it difficult for unemployed people to access work (*People*, 2002). New Zealand is second only to the U.S. in the number of vehicles per capita (LTSA, 2002). In part, high rates of vehicle ownership reflect the fact that end-users do not pay the full cost to own and operate an automotive vehicle. The Government removed tariffs on cars and light commercial vehicles to lower transport costs in May 1998 (Stats NZ, 1999). To keep costs low, New Zealand accepts second hand car imports from Japan. Further, comprehensive or third party property motor vehicle insurance is not compulsory in New Zealand.[7] Nor does New Zealand require vehicle emissions testing. In October 2003, new regulations to require such tests were announced, but they will not take effect until 2006.

Unlike the U.S., New Zealand has not pursued construction of national motorways/freeways. Four-lane motorways have been integrated into the nation's state highway network around Auckland, Wellington, and Christchurch. Outside these major centers most roads are only two-lane, and vehicle traffic continues to flow through smaller towns as opposed to bypassing them. This has been to the economic benefit of the main streets of New Zealand's smaller towns/communities. In contrast, the introduction of the interstate highway system in the U.S. served to create a new kind of main street that was buffered with shopping centers and other commercial developments, and contributed to the spiraling decline of existing downtowns (Urban Land Institute, 1998).[8]

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[7] Personal injuries resulting from a motor vehicle accident are covered by the Accident Compensation Corporation. The Accident Compensation Act abolishes the right to bring any action for damages in respect of injury or death in any court in New Zealand.

[8] http://www.discoverfountainsquare.com/about/about-main.html

While automobiles offer benefits in terms of mobility, convenience, and flexibility, they are one of the main sources of air pollution in New Zealand, particularly those fueled by "dirty diesel" (Environment Bay of Plenty, 1999). Currently, car manufacturers, like PSA Peugeot Citroen, can not introduce vehicles equipped with cleaner burning diesel engines into the New Zealand market since the country's high-sulphur fuel would compromise the engines (Dye, 2003). Public buses are also a major vehicular source of diesel emissions. To further reduce diesel emissions, lower emission buses, trolley buses or hybrids, could be added to public transport bus fleets.

Figure 3 - New electric buses in downtown Auckland produce lower levels of emissions.

In the end, New Zealand's failure to institute better balance across modes of travel as well as transport choice is to its own detriment:

- Exhaust fumes cause up to 400 premature deaths a year (Health Effects due to Motor Vehicle Air Pollution in New Zealand, 2002).[9]
- The high use of motor vehicles is a key contributor to air and water pollution and high noise in New Zealand's major cities (*Quality of Life in New Zealand's Six Largest Cities [Quality of Six]*, 2001).
- Motor vehicle grid lock in Auckland costs $1 billion dollars annually (Eagles, 2003).

The Market and Intervention

New Zealand's economy operates with an unquestioning embrace of free market principles (*Living Space*, 2003). From 1984 onwards, the direction of economic policy in New Zealand turned away from intervention and towards the elimination of many forms of government assistance.[10] Many formal incentives and subsidies were removed in order to do away with an unfair

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[9] According to the report *Our Built and Natural Environments*, motor vehicle pollution was responsible for an estimated 40,000 premature deaths in the U.S.

[10] By 1984, the New Zealand government was going bankrupt. At the time, the country was a highly regulated, nationalized economy. To avoid bankruptcy, the country became a highly deregulated, privatized economy. State assets were sold and nearly all central government subsidies were eliminated. The country took the position that government should not inhibit the market, and government withdrew to a limited macro policy setting role. – Lindsay Gow

competitive advantage. Reforms included the corporatisation and privatization of state-owned assets (Stats NZ, *Yearbook*, 2002). The popular doctrine of "letting the market work it out" has contributed to automobile dominance, poor quality infill development, and increasing suburbanization. Unexpected outcomes from a lack of intervention in the market have not gone unnoticed. A slight shift from the market philosophies that characterized the government reforms of 1984 has occurred since the election of a Labour led government in 1999.

Outcomes for Public Transport
Public transport services were among the assets that became privatized. In New Zealand, privatization has resulted in several cities having multiple public transport providers for busing. For instance, Dunedin, with a population of 120,000, has three providers of bus public transport. Because service provision exceeds demand, many buses travel through the city carrying only one-fourth their passenger capacity. Because ridership is low, buses sit longer at stops with their engines running. Instead of having public transport that reduces vehicle emissions from increased ridership, the service contributes to vehicle emissions.

Figure 4 – Privatisation of New Zealand's government has lead to more competition but not necessarily better service provision across the board. Dunedin has three public transport providers.

A significant product of the reform of local government was the reduction of the number of local and regional units of government from 625 to 94 (MfE, *State of New Zealand's Environment [State],* 1997). The purpose of the reforms was to streamline government, make it more efficient, and enable clear accountability. The same must occur with public transport (bus and/or rail) if it is to be a viable transportation mode that offers predictability, reliability, and consistency. More regional governance over public transport is required for providing a comprehensive and integrated service that meets the needs of passengers (Office of the Parliamentary Commissioner for the Environment, *Showing the Way: Curitiba Citizen City*, 2002).

Outcomes for Infill
In recent years, more New Zealanders have migrated to the city. The increase is linked to a number of trends including population growth, changing household formation, composition patterns, immigration, changing lifestyles and leisure needs (*Quality of Six*, 2001). Developers have responded to this demand by increasing the supply of higher density housing developments in existing communities. Infill development is a sustainable practice because it maximizes existing infrastructure investment, takes pressure off the

conversion of open space and productive farmland, and returns tax dollars to existing communities.

Unfortunately, the rush to meet consumer demand for housing resulted in developments that were poorly constructed or poorly designed. Complaints were loudest in Auckland City because of the "leaky building" affair as well as complaints about reverse sensitivity or the lack of privacy in new developments.

Central government responded to the leaky building crisis by announcing that it would establish a new body to regulate the building industry *(Building Industry Welcomes Legislation Changes,* 2003). Auckland City has met the challenge of inadequate design of buildings through development of urban design guidelines and the creation of an urban design panel (*Houses for More but the Must be Quality*, 2003). The panel facilitates and promotes quality urban design environments by assessing and providing pre-application advice on development in the central area of the city (Auckland City, *Urban Design Panel*, 2003).[11] These challenges demonstrate the necessity of some level of government intervention in order to protect the consumer.

Outcomes for Fringe Development
The continuing pace of traditional, low density suburban and rural residential forms of development reflects the demand for cheap land, and is aided by the relatively low perceived costs of purchasing a house in a new subdivision. However, community costs, the future absence of services, the costs of dispersed settlement, and dependence on higher levels of personal mobility are not taken into account (Douglass and Memon, 2002).

Figure 5 – Maintaining New Zealand's rural legacy will require protection of farmland.

While the affluent may pursue living on the fringe in search of amenity and open space, low to moderate income people pursue living on the fringe in search of affordable housing. In fact, low income households are often forced out of gentrified areas as house prices rise (*Quality of Six*, 2001). In such cases, the market can contribute to isolating the poor or worsening the jobs/housing disconnection. Such problems can only be corrected through government intervention. Over the past decade, there have been few specific government policies aimed at assisting low income households into home ownership (*Quality of Six*, 2001). Although there will always be pressure to build on the rural fringe, central and/or local government could level the development playing field if they

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[11] Central government for New Zealand has developed a Sustainable Development Programme of Action. Two desired outcomes of this framework are cities as centres of innovation and economic growth as well as liveable cities that support social wellbeing, quality of life and cultural identifies. A key action for achieving the outcomes is the Urban Design Protocol which addresses how good urban design can better contribute to the development of liveable cities and the practical steps that can be taken to design a better future for New Zealand's urban environments.

offered density bonus provisions for inclusionary housing, location-efficient mortgages, or live near your work programmes.[12]

While New Zealand does not have the land mass of the U.S., both countries are dealing with challenges of impaired air quality, automobile dependence, increasing suburbanization, and the need for quality infill development. A proactive approach to addressing inefficient patterns of development is desirable because New Zealand can not afford to wait fifty years to see what will be the product of uninhibited, sprawling patterns of development. Table 1 offers a comparison of living standards and production in New Zealand and the U.S.

Table. 1 Living standards and production and consumption patterns in New Zealand and the United States

Indicator	Unit Measured	Year	New Zealand	United States
Land Area	millions of hectares	1995	27	981
Population	millions of people	1995	3.6	263.1
Urban Population	as percentage of total population	1995	86	76
Road Accident Deaths	per 100,000 of population	1994-95	16	16
Research and development (R&D) spending	US$ (PPP) per head of population	1994	157	646

Source: *The State of New Zealand's Environment 1997*

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[12] Density bonus provision is a system of exchange, allowing zoning requirements to vary in exchange for provision of certain amenities or housing that benefit the community.
Location Efficient Mortgage®, (LEM) helps people become homeowners in location efficient communities. These are convenient neighborhoods in which residents can walk from their homes to stores, schools, recreation, and public transport. Learn more at: http://www.locationefficiency.com
Live near your work is a home buyers incentive program that offers workers the opportunity to own their own home. To learn more go to: http://www.livebaltimore.com/homebuy/lnyw.html

CHAPTER 2 – Why the Future Form of Growth Matters

As noted in the foreword of the report, smart growth represents one means to achieve sustainable development. The built environment has direct and indirect effects on the natural environment. Urban form affects habitat, ecosystems, endangered species, and water quality through land consumption, habitat fragmentation, and replacement of natural cover with impervious surfaces. Development patterns and practices also indirectly affect environmental quality since urban form influences the travel decisions that people make. Certain patterns of development encourage increased use of motor vehicles, which is associated with growth in emissions of air pollutants and the greenhouse gases that contribute to global climate change. Air pollution and climate change, in turn, can adversely affect water quality and habitat (EPA, *Built,* 2001).

The United Nations Environmental Programme (UNEP) has declared that the battle for sustainable development will be won or lost in the world's cities, where an increasing majority of the world's population lives. This statement is especially pertinent for New Zealand since 86% of the nation's citizens reside in cities.

New Zealand follows the trend in developing countries of population concentration in the cities. As New Zealand's cities increase in population, it is also apparent that some of them are rapidly expanding outwards at relatively low densities. While the urban population of New Zealand has increased by 30 percent since 1969, the area of land classed as urban has also tripled in that time. Urban land in New Zealand is currently double the area used for crops and orchards and some of it lies over land once used for these purposes. New Zealanders are using more space than ever before, and urban uses are encroaching on and foreclosing other options (MfE, *Curbing the Sprawl*, 2000).

Figure 6, below, is a graphical representation of this increasing urban expansion.

Figure 8.8

The expansion of New Zealand's urban area.

● Urban area calculated from the Official NZ Yearbooks   ○ Estimated area based on an expansion rate of 40% per year
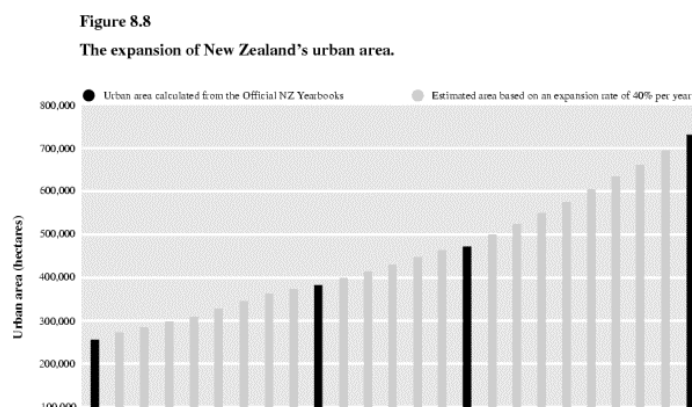
Figure 6 - Expansion of New Zealand's Urban Area.

Year

Source: Department of Statistics (1970; 1978; 1985; 1994)

<u>Effects on the Environment</u>
New Zealand is clean and green, relatively speaking, because of its low population and the lack of dirty industry. There is, however, a lack of quality research for providing citizens a clearer sense of the state of their environment. For 163 years, New Zealanders have been able to have their environmental cake and eat it too. Until recently, environmental quality has been a product of chance not design. While dying lakes are indicators that the resilience of natural ecosystems is weakening, increasing asthma rates and higher rates of obesity can be viewed as indicating a need for changes in urban form.

<u>Effects on Air Quality</u>
Vehicles are one of the leading sources of air pollution in New Zealand. As distances between trip origins and destinations have increased, so has the amount of driving. In New Zealand, the impact of emissions from increasing vehicular traffic can be particularly hard on people suffering from asthma. The Asthma and Respiratory Foundation of New Zealand (ARF) reports one in six New Zealanders has asthma which is significantly higher than the world's average. Moreover, the economic burden of asthma costs the country $825 million annually (*Asthma: An Underestimated Killer*, 2003).[13] Health researchers have noted that nitrogen oxides from vehicle emissions are possibly associated with asthma (MfE, *State*, 1997).

Figure 7 - Of the twenty toddlers pictured, three could acquire asthma as they mature.

<u>Effects on Water Quality</u>
New Zealander's have been worried about the deteriorating health of Rotorua's lakes, particularly Lake Rotoiti. Although farm practices receive the greatest attention for nutrient loadings into lakes, in general, excess nitrogen and phosphorus from septic tanks and stormwater runoff have contributed to an increase in algal growth in New Zealand's surface water bodies for the past few years (Brown, 2003).[14]

As dispersed, non-contiguous settlement patterns increase, the level of impervious surface cover in the form of roads and building footprints also increases. This has the effect of reducing the amount of water that can permeate into the ground. Stormwater is often polluted by pesticides and fertilizers from homes, farms, heavy metals, antifreeze, lead and partially

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[13] MfE is currently developing New Zealand's first national environmental standards for air quality. The first standards target harmful pollutants, including particles, carbon monoxide, nitrogen dioxide, sulphur dioxide and ozone, and discharges from activities that are considered unacceptable in terms of adverse effects on people.

[14] According to the report *The State of New Zealand's Environment*, pasture grasses and farm animals dominate more than half of New Zealand's land surface, and affect nearly all catchments.

oxidized hydrocarbons from petrol and diesel fuelled vehicles, oil, urban debris, and spillage from accidents. These pollutants accumulate on impervious surfaces and are quickly washed off during storms and delivered through pipes and ditches to streams, lakes, and estuaries (EPA, *Built*, 2001). In contrast to dispersed patterns of development, compact development reduces runoff since the area of impervious surface cover is less.[15]

Effects on Travel Patterns

New Zealand's largest cities are designed around motor vehicle use (*Quality of Six*, 2001). The Minister of Transport Paul Swain's statement that 30% of motor vehicle trips are for distances of less than two kilometres is not simply a reflection on auto dominance, it suggests that communities are planned and designed in a manner that throws up barriers to walking or biking (Rudman, 2003). According to Professor Robin Kearns of the University of Auckland, the marginal status of walking in cities like Auckland is highlighted by numerous hazardous footpaths and few places at which to safely cross roads. This forces reliance on the automobile for routine daily travel and denies people the important health benefits of regular walking.[16]

Figure 8 - Levels of pedestrian accommodation: painted median in Auckland; mid-crosswalk in Dunedin; solid median in Oamaru.

Conventional patterns of suburban subdivision development segregate land uses. Also, modern suburbs are built on hierarchical street networks with limited permeability. The lack of permeability makes walking and biking less efficient modes of travel. If the entrance of a subdivision is on an arterial road without traffic-control or crossing treatments, then walking and biking can be dangerous. Table 2 (below) shows that motor vehicles are the lead mode of transport throughout New Zealand.

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[15] According to *Our Built and Natural Environment*, studies have shown that impervious surface area of a clustered development site is often 10 to 15 percent less than that of a more dispersed development, depending on the size and configuration of each individual project and the original size of the road network.

[16] The Local Government Commission in the U.S. reports one-fourth of all trips are less than one mile, yet three-fourths of these trips are made by car. To learn more, go to: http://www.lgc.org

Table 2. Means of travel to work on Census Day (March 2001)

City	# of citizens employed	Mode					
		% Motor Vehicle	% Public Bus	% Train	% Bicycle	% Walked	% Other
Auckland City	174321	62.9	7.7	0.3	1.3	5.3	22.5
Wellington	90510	48.5	12.9	3.1	2.1	13.5	19.9
Christchurch	151233	64	3.5	0.1	5.7	4.4	22.3
Dunedin	51996	63.2	3	0.1	2.3	8.8	22.6
Rest of NZ	918204	60.2	0.8	1.1	2.4	5.4	30.1

Source: *Quality of Life in New Zealand's Eight Largest Cities 2003*

Effects on Services

It is estimated that 90% of New Zealand's total population growth in the next twenty years will take place in the North Island with the four cities that comprise the Auckland Region accounting for more than half of the growth (*Quality of Six*, 2001).[17] Unrestrained, rapid growth puts pressure on existing services particularly emergency services like fire, police, and ambulance. Most local budgets are limited because the key source of income is property rates. In some cases, communities have local assets to bolster their income, but this may not be enough to replicate existing services or to shift their location. Moreover, duplication of services may not be the best use of limited local funds.

Working Across Silos

The term that's applied to describing an alternative to conventional patterns of development is less important than the need to build partnerships among groups that acknowledge an alternative should be offered. Government and business have progressed beyond a perception of competition between the environment and development to an expectation that development will happen – and an acceptance that it must happen in a way that is socially and environmentally responsible. To support growth and innovation, especially when New Zealand's economy is so dependent on nature, sustainable development must be at the core of decision making (MfE *Healthy Environment – Healthy Economy [Healthy]*, 2002). The impacts of development patterns are linked to the interests of various stakeholders in New Zealand.

Transportation Practitioners

The Honourable Paul Swain clearly understands that a country can not "motorway itself out of the problem of congestion." Research has shown that added capacity to relieve congestion is rapidly consumed.[18] While cities like Auckland, Wellington, and Christchurch are celebrating the success of initiatives like

We cannot solve our problems with the same thinking we used when we created them – Albert Einstein

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[17] The four cities comprising the Auckland region include Auckland, North Shore, Manukau, and Waitakere.

[18] Hansen, Mark and Huang, Yuanlin. "Road Supply and Traffic in California Urban Areas." Transportation Research A. Volume 31, No 3. p. 205-218, 1997.

walking school bus programmes, more programmes are needed to reduce reliance on motor vehicles. National bills like the Land Transport Management Bill could offer a "breath of fresh air." The bill has a multi-modal focus and signals a shift in emphasis from roads to other modes (James, 2003).

Health Practitioners
The number of people who are obese or overweight is increasing in New Zealand (*Quality of Six*, 2001). Hillary Commission *Push Play* Research undertaken in 1999 indicated that young people living in New Zealand's six largest cities are less active than their counterparts living elsewhere in New Zealand (*Quality of Six*, 2001). One factor could be that for sprawling cities points of origin and destination are simply beyond walking distance. Also, parental fear of accidents or abductions leads to behaviours such as chauffeuring which offsets the health-promoting aspects of walking (Kearns, 2002). Empowering citizens through community design that encourages physically activity in the form of walking or biking reduces dependence on automobiles and contributes to cleaner air, thus reducing respiratory and heart complications or death from over-exposure to pollutants like carbon monoxide (MfE, *State*, 1997). Walking also offers the benefit of enabling greater community interaction.

Affordable Housing Providers
As noted earlier, the search for inexpensive land and affordable accommodation requires low to moderate income earners to look beyond the inner city. As recently as September 2003, median house prices were $319K and $239K in Auckland City and Wellington City respectively - - clearly beyond the limits of New Zealand's lower income households (Gibson, 2003).[19] Living on the fringe can be problematic if most job opportunities are in the inner city. If communities on the fringe are not serviced well by public transport, residents are then forced to commute by car.[20]

Planners, Architects, Designers
The physical environment is an important contributor to the way people feel about where they live. Growth, especially at the rate anticipated in the Auckland Region, puts pressure on environmental elements such as air and water and increases noise levels. Housing density, quality of construction and urban design, and the way transport systems work all impact on liveability and social cohesion and the overall quality of life of a community.

Economic Development/Business Community
The Auckland Chamber of Commerce has reported that traffic congestion costs business $1 billion dollars annually. In part, the loss reflects lost productivity and delays in the transport of goods. This money would be better invested to enhance the city's multi-modal transport system: busing,

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[19] *The Quality of Life in New Zealand's Eight Largest Cities* report identifies lower income households as having a household income of $20,000 or less.

[20] Surveys by the Department of Work and Income on barriers to employment in Auckland indicate that the most frequently mentioned barrier was "limited mobility".

passenger rail, bicycle and pedestrian paths and ferries. Such enhancements would offer citizens transport choice and take pressure off existing highways. See figure 28, in the Appendix, for an exercise in "street smarts."

Tourism Industry

New Zealand's unique natural environment is a core component of its value and appeal. The preservation and enhancement of New Zealand's environment are goals consistent with and necessary for the continued success of tourism. Tourism provides an economic rationale for the pursuit of these goals ($9.5 billion in 2002). While the Ministry of Tourism has identified local government as playing a key role in the success of the tourism industry, local government can hinder the fiscal objectives of the tourism industry when

Figure 9 – Lake Wakatipu and the peaks that encompass Queenstown are signature features of the area.

it permits inefficient patterns of development to encroach on natural assets that define an area's sense of place. The eutrophication of New Zealand's "clear blue lakes" is a clear reason why tourism must play a part, if for no other reason than to protect its bottom line.
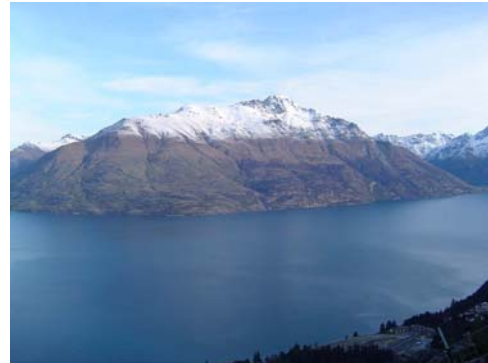
Historic Preservationists

The lifespan of buildings tends to exceed the lifespan of their initial occupants. Vacant buildings can contribute to blight within a community especially if they are allowed to deteriorate.

We shape our buildings; thereafter they shape us- Sir Winston Churchill

Heritage buildings are an important community asset because they incorporate architecture and design features that are too expensive to replicate in new buildings, and they connect citizens with their past. Building rehabilitation can meet current needs for space, extend the life of buildings that represent a community's historic footprint, and correct problems of blight. An added benefit of rehabilitation is that it takes pressure off building new developments on undisturbed land.

Figure 10 – Oamaru contains New Zealand's most complete collection of Victorian buildings. Maintaining its heritage footprint has enhanced the city's beauty and character.

<u>Role of Central Government</u>

The New Zealand Government's incorporation of quality urban communities into its strategy for achieving sustainability objectives is an important milestone. In a recent address Prime Minister Helen Clark said that "the government's strategy for growth and innovation recognises the role of cities as engines of the economy and as nurseries of innovation. Our international competitiveness rests not only on the economic performance of our cities, but also on the quality of life they offer to hold and attract people with skills and talents, and to reward their cultural aspirations" (Clark, 2003).

Strategies for improving urban communities implemented by central government include:

- the creation of the ministerial portfolio of Urban Affairs for strengthening and coordinating government policy on urban issues;
- the recently launched Sustainable Development Programme of Action which includes a blueprint for government action working in tandem with local authorities. The programme has a national component focussed on the negotiation of a New Zealand Urban Design Protocol and is underpinned by a commitment to measuring progress towards the achievement of sustainable cities, through indicators and collaboration between social, economic, environmental and cultural agencies, and local councils (Department for Prime Minister and Cabinet, 2003).

CHAPTER 3 – Can Smart Growth Work in New Zealand?

In the U.S. smart growth is not a cookie cutter approach. The communities adopting smart growth approaches vary in size and character and so do the tools they are using. For example, the urban growth boundary is a highly recognizable feature of Portland, Oregon's strategy to smart growth.[21] Alternatively, Charlotte, North Carolina, has audited its policies, plans, and practices to ensure they are lined up with the city's smart growth objectives.

To clarify, I am not suggesting that smart growth is subjective in the U.S. Simply, it is inappropriate to suggest that a one size fits all method can be applied to bring about smart growth results. The following factors help to make smart growth work in the U.S.: leadership; incentives; research; and community participation/education. Others could be added, but I consider these to be pivotal.

Leadership
The success of smart growth has hinged on leaders who were willing to introduce their communities to alternatives to status quo patterns of development. While the course of action may not have been politically popular, initially, such leaders stuck to their principles for what made since as the right thing to do for improving communities. In this instance, leadership is horizontal and inclusive. Horizontal leadership is important because governments or administrations change. However, the issues that shape quality of life are always pertinent: liveability; better access; thriving cities; shared benefits; lower costs; and natural amenity. Another benefit of having a broad base of horizontal leadership is the ability to influence elected officials or educating the community.

New Zealand does not have a deficit of leaders for smarter patterns of development. They can be found serving in various levels of government; participating on the boards of runanga; working across varying sectors (public, private, and third sector); serving in community groups; teaching in academic institutions; or filling the shoes of advocates, lobbyists, newspaper columnists, and the like.

Incentives
Without a major change in New Zealand public policy, smart growth projects will occur without financial incentives from central government. With the Government's shift from heavy regulation to deregulation in 1984, many subsidies were eliminated. For the most part, it has meant that local capital projects are funded by local government. Since then, local government has been cautious when receiving subsidies from central government, realizing that support can be withdrawn at any time. In some respects, this is a good thing because it prevents local government from creating scaled down "Think

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[21] Portland, OR, created its urban growth boundary almost two decades before smart growth became a mainstream term. It is frequently referenced as a classic example of smart growth because of the results that materialized years after establishing the boundary.

Big" projects in the form of expansive roading and development projects.[22] On the other hand, upgrades to infrastructure or the introduction of alternative public services may be delayed in some cities in order to avoid bearing increasing costs. Some relief for territorial authorities will come in the form of development contribution policies within the Local Government Act 2002. Amendments to the Act give Councils the ability to levy development contributions in relation to new or additional assets or assets of additional capacity requiring capital expenditure (Auckland District Law Society, 2003).

The absence of financial incentives does not mean smart growth projects will not occur. It simply means district and regional councils will have to be creative in their use of alternative tools to bring about desired results. Further, conducting smart growth projects is just as dependent on the priorities of local government. In the U.S., the economic recession has slowed the pace of smart growth projects in some localities, but it has not stopped them.

Cross-disciplinary Research
In recent years, New Zealand has produced several reports and discussion documents arguing the case for a sustainable approach to development (Freeman and Thompson-Fawcett, 2003). While many of these reports effectively convey what a sustainable settlement may be through clear examples and description of features, how one's economic bottom line is affected remains unclear.

In the U.S., smart growth research has focused on quantifying the costs of sprawling patterns of development to cities and individuals. For example, several "cost of sprawl" reports have been prepared to compare the costs of smart growth development to greenfield development.[23] In a like manner, the Surface Transportation Policy Project prepared the report *Driven to Spend* to detail the expense of transportation costs on household budgets.[24] Also, U.S. EPA has prepared a draft report on the economic benefit of smart growth construction practices. Other reports that explain and/or quantify the impacts of development patterns target:

- health – *Measuring the Health Effects of Sprawl*;[25]
- school location – *Travel and Environmental Implications of School Siting*;[26]
- older suburbs – *Reinventing Suburban Business Districts*;[27] and
- neighborhood design – *Creating Great Neighborhoods: Density in Your Community*.[28]

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[22] Think Big – An ambitious and Government led industrial development programme of the late 1970s to facilitate economic development by harvesting/extracting New Zealand's natural resources (petrochemical, steel, iron ore).
[23] http://www.friends.org/resources/cstgrorev.html
[24] http://www.transact.org/PDFs/DriventoSpend.pdf
[25] http://www.smartgrowth.umd.edu/pdf/HealthSprawl8.03.pdf
[26] http://www.epa.gov/smartgrowth/pdf/school_travel.pdf
[27] http://research.uli.org/Content/Reports/SmGr/R37_R39_SBD.pdf
[28] http://www.epa.gov/smartgrowth/density.htm

The previous reports were listed to convey that the challenges to the creation of sustainable settlements are not limited to environmental issues. Cross-disciplinary issues need to be addressed. The Ministry for the Environment (MfE) as the lead central government agency for Urban Affairs, should not look at these issues simply through an environmental lens. MfE will need to move towards facilitating whole-of-government positions on issues where environment is key (MfE, *Healthy*, 2002).

Value-Added Through Cooperation
In the U.S., the Smart Growth Network (SGN) consists of thirty-five private sector, public sector, and nongovernmental partner organizations who seek to implement smart growth in communities across the country. While the partner organizations have not always worked together, they all recognize that conventional patterns of development are no longer in the long-term interest of the nation's cities, existing suburbs, small towns, rural communities, and wilderness areas. Cooperation has resulted in a variety of benefits. Two key benefits are maximizing research outcomes, and bringing legitimacy to the claim that inefficient development patterns are not in the nation's interest.

Each partner organization has produced commendable research in their area of specialty. A clearer, comprehensive picture of the state of affairs is formed when the partners work collaboratively to interpret what those separate pieces of data mean together. Legitimacy is secured by offering clear arguments and by having a broad base from which to offer such arguments. Similar collaborations can be developed or expanded in New Zealand for outreach and education on urban design, policy analysis of the financial and/or sectoral barriers to infill development and/or brownfields redevelopment, and preparation of tools to evaluate how well proposed development projects meet sustainable outcomes.

Status of Data
In New Zealand central, regional, and local government need robust, reliable, and timely information on the state of the environment. Data must be collected on a regular basis using consistent methods, and reporting formats. This information is critical to anticipating where the issues and the problems lie and suggesting how to minimise and fix them.

The 1997 *State of the Environment Report* noted the following data deficiencies:

- biodiversity – the status of most species and ecosystems is not known;
- water quality – a lot of information is held by regional councils, but not in forms that can be easily aggregated nationally;
- air quality – very little air monitoring has been done in most parts of New Zealand;
- waste and hazardous substances – the collection of national data on sewage waste was discontinued in the mid-1980s and has only

recently been revived, there is little information and monitoring on other liquid wastes;[29] and

- environmental impacts of transport – national data on the environmental impacts of transport are virtually non-existent.

Community Participation/Education

Achieving smart growth requires broad stakeholder participation. Politicians need to have a constituency that will stand by them as bold steps are taken to move beyond status quo patterns of development. When administrations undergo transition, the established constituency must make their positions on growth issues known to incoming leaders.

It is also necessary to educate the public about the benefits of smart growth development patterns. In New Zealand as well as the U.S., the word density frequently evokes a "knee jerk" reaction.

You and I are the market. The decisions you and I make every day for housing, transit, and community services affect the future form of the cities in which we live. Change the way we behave or the quality of place we demand and we change the market. We are far more powerful than we realize as consumers, and it is time we exercised this power with deliberation and purpose – Geoffrev Booth

However, the public has not been fully informed that density helps to create walkable communities; supports housing choice and affordability; helps to expand transportation choices; supports community fiscal health; helps improve security; and helps to protect the environment. Aversions to density could be addressed through education about design.

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[29] In 1999, the Ministry of Health developed the community sewerage information database for New Zealand (CoSINZ) to calculate the costs and benefits of providing New Zealand with safe and acceptable sewage collection, treatment, and disposal.

CHAPTER 4 – The Resource Management Act and Smart Growth

Research on smart growth in New Zealand requires an understanding of the policy that guides environmental protection and land use in New Zealand, the Resource Management Act. This legislation replaced New Zealand's previous national planning legislation, Town and Country Planning Act 1977, together with 50 other statutes concerned with environmental planning and resource management (Grundy, 2001).

Implementing sweeping reforms like the RMA can be exciting yet difficult. They are exciting because such policies have the potential to introduce new opportunities. At the same time, they can be difficult since the policy contains ideas that must be tested in the real world to learn how they work. This chapter considers how well smart growth can be achieved under the banner of the RMA.[30] My perspectives were formed based on a review of existing research and interviews. During the fellowship, interviews were conducted with twelve practitioners. Four interviewees were district planners, four were academics, two were regional planners, and two were consultants.

The RMA has many merits that support smart growth. The RMA incorporates all the attributes that an environmental planner would embrace. The law makes environmental protection a priority in planning practice in the form of sustainable management. The law gives Māori a voice in the planning process and recognizes their culture and traditions are tied to the environment. The law enables greater public participation in the planning process through consultation. Amendments to the Act recognize historic heritage as a matter of national importance.

Can the RMA Facilitate Smart Growth Principles?
The short answer is yes; the RMA is enabling legislation. The RMA grants regions and districts the discretion to decide what regulatory or non-regulatory tools should be applied for meeting sustainable management objectives. As a result, the law can be used to enable certain smart growth outcomes. Achieving these outcomes depends on the priorities or values of the community as well as the content of the district plans. There are some smart growth principles that are beyond the purview of the RMA. Table 3 has been prepared to show which smart growth principles can be met under the RMA. Of the ten smart growth principles, the table identifies two that are beyond the scope of the RMA. The two principles that are not addressed include creating a range of housing opportunities and choices and the provision of a variety of transportation options.

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[30] It is important to acknowledge the RMA is simply one tool available to planners. Achieving smart growth requires consideration of other policies such as the Local Government. Act.

Table 3. RMA and Smart Growth Principles

Smart Growth Principle	Enabling the Principle
Mix Land Uses	The RMA does not regulate land use. Instead, it focuses on managing the effects from land uses. Mixed land uses are permitted unless it is demonstrated that the effects of an alternative land use can not be avoided, remedied, or mitigated.
Compact Building Design	The RMA does not use descriptive characterizations for treatment of the urban environment, thus it is flexible to allow compact building design.
Create a Range of Housing Opportunities and Choices	The RMA does not use descriptive characterizations, thus it is flexible to allow a range of housing types. The provision of affordable housing is beyond the scope of the RMA.
Create Walkable Communities	The RMA does not enable walkable communities directly. Walkability is a function of the activities a community wants to have within walking distance.
Distinctive Attractive Communities with a Strong Sense of Place	Creating a distinctive, attractive community is dependent on the policies, plans, and practices of the community. The RMA has landscape provisions. How a community applies those provisions can shape a locality's sense of place.
Preserve Open Space, Farmland, Natural Beauty, and Critical Environmental Areas	The RMA safeguards the life-supporting capacity of air, water, soil and ecosystems. The law protects critical environmental areas. Unlike the Town and Country Planning Act, there are no provisions for the protection of versatile, highly productive soils. The protection of open space and farmland is left to the discretion of the community.
Strengthen and Direct Development Towards Existing Communities	The RMA is non-regulatory. Communities can use their discretion in deciding where development occurs.
Provide a Variety of Transportation Options	The provision of transportation options is beyond the scope of the RMA.
Make Development Decisions Predictable, Fair and Cost Effective	Theoretically, the RMA should achieve this. It has varied in practice. Submissions on consents can delay development projects. Alternatively, the disincentive of a delay encourages developers to pre-load applications for consent to make sure proposed projects are clear in order to avoid delays.
Encourage Community and Stakeholder Collaboration in Development Decisions	The RMA does the most on this. The law gives more access, to more people, more easily.

Purpose

The purpose of the RMA is to achieve sustainable management. Sustainable management is defined as "managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people

and communities to provide for their social, economical and cultural wellbeing and for their health and safety while – (a) sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations; and (b) safeguarding the life-supporting capacity of air, water, soil and ecosystems; and (c) avoiding, remedying or mitigating any adverse effects of activities on the environment" (MfE, *Resource Management Act and You*, 2001).

This is a lot for one law to achieve. Not only is the purpose subject to broad interpretation, the law grants districts and regional councils the discretion to decide how to achieve sustainable management. Granting such authorities the liberty to decide is appropriate given the factors that influence a community's development and the availability of resources/tools to guide development vary across communities. However, it is my opinion that sustainable management can be too ambiguous as a concept. In a similar vein, the concept of sustainable development was too vague to maintain consistent support in the U.S.

Table 4. Comparing the Purpose of the New Zealand RMA to Select Smart Growth Legislation from the U.S.		
Legislation	Purpose	Status
New Zealand Resource Management Act 1991	To promote the sustainable management of natural and physical resources.	Active
The Maryland Economic Growth, Resource Protection and Planning Act of 1992 (commonly referred to as the Maryland Smart Growth Law)	Established as state policy that "development shall be concentrated in suitable areas" and that "in rural areas, growth shall be directed to existing population centres and resource areas shall be protected". Law expanded in 1997 to direct state funding for infrastructure development to growth areas known as priority funding areas.	No longer active
Wisconsin Comprehensive Planning Legislation (also known as the Wisconsin Smart Growth Law)	The law requires the development and implementation of local comprehensive plans. A unique feature of Wisconsin's law is that it requires every city and village with a population of at least 12,500 to adopt a "traditional neighborhood development (TND)" ordinance.	Active
New Jersey State Planning Act	In the Act, the state legislature declared that the State of New Jersey needs sound and integrated "statewide planning" to "…conserve its natural resources, revitalize its urban centers, protect the quality of its environment, and provide needed housing and adequate public services at a reasonable cost while promoting beneficial economic growth, development and renewal."	Active

Source:
-http://www.realtor.org/SG3.nsf/Pages/Lawcasestudy?OpenDocument
-http://www.nj.gov/dca/osg/resources/regulations.html
- Resource Management Act
Note: The Wisconsin Law defines TND as "a compact, mixed-use neighborhood where residential, commercial, and civic buildings are within close proximity to each other".

Table 4 compares the RMA's purpose to that of select smart growth laws in the U.S. While the RMA purpose statement is broad, the statements for the state legislation suggest where growth should be directed, the form it should take, and a priority for revitalizing urban centres. Ali Memon, of Lincoln University has noted that a lack of clarity to Section 5 of the RMA, Purpose and Principles has left clarification on policy direction to the Courts based on the development of case law (Memon, *Reinstating the Purpose*, 2002).

Treatment of Urban Issues
A frequent concern raised about the RMA is the absence of attention to the urban environment (Dixon and Dupuis, 2003). Although the RMA has been amended since 1991, the nature of the amendments did not offer additional clarity in this area. Adding to the level of uncertainty and frustration among district planners are limitations in capacity to produce effects-based plans as well as a lack of quality data to assess how well the biophysical bottom line has been met. These deficiencies have been noted by many researchers, and these points were reiterated as recently as April 2003 in findings of the Planning Under a Cooperative Mandate (PUCM) research programme. Although creativity should not be inhibited under the RMA, PUCM reported that traditional rather than innovative techniques are being applied in low to medium capacity councils (PUCM, 2003).

Tilting the Developmental Playing Field
If there has only been a limited shift in the way plans are conceptualized, it is fair to say there has also only been a limited shift in way development occurs. In this instance, I am referring to location of development and settlement patterns.[31] While there has been an increase in infill and mixed-use development over the past decade in New Zealand's major cities, conventional patterns of suburban development continue to occur. In some instances, it may be increasing if a city has no strategic plan in place to curb the sprawl.

For example, Christchurch City has a long standing cultural preference for low density living in surburban and peri-urban settings (Memon, *Urban Growth Management in Christchurch*, 2003). As noted earlier, the demand for cheap land is a factor in the continuing pace of traditional, low density suburban and rural residential forms of development. During my site visits to Christchurch, some city planners suggested the current planning regime requires more rigorous analysis and justification of all provisions. For example, attempts to influence the retail market of Christchurch require extensive research of the market (catchments and impacts) before local intervention can occur. Although Christchurch currently has a high amount of commercial space, there is pressure to build more on the fringe (D. Mountford, personal communication, August 28, 2003). Since city planners do not have the capacity to analyse the effects, no intervention can occur. The RMA operates under a system that regulation should proceed on a "light touch" basis and competitive markets should be allowed to get on with the job they do best,

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[31] Interviews with consultants revealed that developers are now more inclined to think carefully about proposed projects, do more work upfront, and pre-load their applications for consent in order to avoid appeals and lengthy delays.

aligning resources with the uses most preferred by society at large (Spiller, 2003). Similar challenges for justifying provisions were noted by Christchurch city planners for residential projects.

Since the RMA does not identify protection of farmland as a matter of national importance, it may be fair to suggest that opportunities for development on the fringe have expanded. Since agriculture represents one of New Zealand's primary industries, programmes to preserve open space and farmland can aid efforts to direct growth into existing communities, protect the environment, and make communities more liveable. Further, farmland warrants less in public services than development.

Process of Transition
While the RMA requires the preparation of district plans only forty-five out of eighty have become operable since 1991.[32] Getting the first generation plans operable was a massive undertaking since districts had to get a handle on how to develop effects-based plans. Since 1991, it has become apparent that district plans do not address all the planning needs of a community. RMA provisions are designed to ensure that the needs associated with a community's "biophysical bottom line" are met.

In recent years, there have been signs of resurgence in strategic planning and much greater attention to new forms of collaboration at local levels (Dixon, 2003). The district plan is starting to be viewed as just one planning tool available to territorial authorities. For example, Wellington City Council draws not only on its district plan but also on other strategies and policies covering transport, urban design, heritage parks and open spaces. Strategic planning can enable territorial authorities to meet the comprehensive needs of their community.

Each district will need to assess the areas that have not received adequate attention since making the shift to planning under the RMA. For example to prevent the needless conversion of open space and/or farmland, districts may want need to consider the development of green infrastructure plans for future growth by prioritizing open space that should be protected and open space that may be subject to development.

Planning in New Zealand is undergoing a transition (Dixon, 2003). While the first decade of RMA planning was somewhat painful, there are signs that districts are starting to see beyond merely submitting the district plan. One key challenge of the past decade could have been that districts viewed the RMA as being able to do more than it was designed to do. The RMA requires planning for environmental management. It is not a law for transport planning, fiscal planning/economic development, or housing planning. Because the law is enabling, it should not inhibit such activities from occurring.

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[32] http://www.qualityplanning.org.nz/index.php

<u>Recommendations</u>

Regarding Smart Growth

When considering the RMA with regard to smart growth, an important and early conclusion that can be drawn is the RMA is not "smart growth" legislation. This acknowledgement does not detract from the merits of the law. It merely acknowledges that the law was not designed for this intent. While the RMA is a law that places an emphasis on environmental planning, it is still market driven. Having a market driven environmental policy would be ideal if the developmental playing field were level, however, developers have a tendency to stick with what they know they can market and what is easier. Until they feel that development in existing communities is predictable, fair, and cost effective, developers will continue to pursue status quo patterns of development.

Commitment

New Zealand should be commended for its commitment to sustainable management as a central government policy and through its practice across the country's regions and districts. Since 1991, steps have been taken to enhance the Act and its outcomes: amendments to the Resource Management Act; strengthening complementary public policy, namely the Local Government Act; creation of digital tools like the QualityPlanning site; investments in local level capacity building through varying RMA reports; and modernizing of the Environmental Court to reduce the backlog of cases.

Based on findings from site visits, as well as those of other RMA researchers, there are several themes that resonate. First, each district is striving to meet RMA objectives with the resources they have available.

These resources are shaped by the following constraints:

- human capital – staff with the expertise to prepare district and/or strategic plans as well as monitor plan effectiveness;
- financial capital – funding to increase local capacity;
- intellectual capital – research tools (hard and soft) to analyse environmental effects; and
- political capital – politicians who understand the purpose of mandate.

It seems that investments should be made by central government so that local government can more effectively meet the requirements that the RMA has established for environmental monitoring, plan monitoring, consent processing and the like.

This point has been raised by several researchers as the following quotations illustrate.

> "Ten years on, a case can be made that the RMA was too far ahead of its time, too far ahead of New Zealand's institutional capabilities and too far ahead of the skill sets of practising planners" (Spiller, 2003).

> "Consequently, implementation was left largely to local government with varying degrees of capacity and understanding of the new planning mandate being displayed" (Dixon, 2003).

> "In a study of local authority monitoring under the RMA, Lynch found other constraints inhibiting territorial authorities from undertaking monitoring duties. These included lack of available expertise, lack of political commitment, and lack of guidance and information from central government" (Grundy, 2001).

A commitment could be made to improve environmental monitoring as well as the synthesis and packaging of data so that it can be used by decisions makers. However, this will start with a commitment to assist local governments to do the job the RMA requires of them. Unfortunately, quality research does not come without expense. Crown Research Institutes such as Landcare Research New Zealand Limited could play a role to enhance the research capacities of New Zealand's territorial authorities.[33] They, however, operate on a commercial basis and would charge for their research. Progressive steps have been taken to advance sustainable management, and it is time to continue that commitment by bolstering local government's capacity to do effects-based planning and environmental monitoring.

Convey What has Worked
Responsibility for implementing the RMA was devolved to district and regional councils. While MfE wants to avoid a heavy handed approach to planning, it may want to consider educating districts about what has worked for RMA implementation. When the first generation district plans were prepared, there was no guide to follow. Therefore, districts had to figure out how to operate under the new planning regime. However, there was a lot of duplication through this process. Twelve years later, most parties are wiser about the intricacies of district planning under the RMA.

As a fellow, I have come across many critiques of the RMA, and research that points out the challenges. However, I have not come across much information that shares how districts have made the most out of district planning under the RMA. It is likely second generation district plans will be better because all districts have gone through the growing pains of preparing their first one. That said, when districts reach the point of renewing their plans it would be helpful to have a clear sense of what were the lessons learned from other districts.

Central government can facilitate an environment where stumbling blocks are avoided. MfE has taken steps for capacity building through publications and the QualityPlanning site, and it seems additional steps could be taken to bridge the information gap by sharing clear examples of what has worked. Capacity building could be accomplished through RMA best practice road shows and/or best practice publications.

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[33]Landcare Research New Zealand Ltd is one of nine autonomous Crown Research Institutes. The focal area for Landcare Research is research in resource management as well as economic, social, and cultural implications of environmental management.

<u>Conclusion</u>

The RMA was designed to achieve sustainable management not smart growth. While the RMA may enable certain smart growth principles to be achieved in cities, it also enables certain actions that are not consistent with smart growth objectives (conventional patterns of suburbanization, limited protection of open space and farmland, and limited direction for treatment of urban issues). Fortunately, the RMA is a living policy. The Act has been amended several times. Also, members of the planning and development community are still adjusting to working under this law. Valuable lessons have been learned from the first generation of RMA district plans. Hopefully, these lessons will enable the preparation and implementation of second generation plans to progress more smoothly.

CHAPTER 5 – Lessons from the Cities

In a little more than a century, New Zealand has moved from being a predominately rural, natural resource-based nation, to a predominantly urban society with a strong mixed economy. New Zealand's cities are dynamic, highly managed ecosystems (Williams, *The Cities and Their People*, 1998). They are constantly changing and growing. Economic drivers, demographic shifts, and the need for services stimulate the change. Because the factors that stimulate growth (geography, natural resources, human and intellectual capital) differ from place to place, New Zealand's communities have developed in different ways.

This chapter offers my perspectives on some of the cities visited during the fellowship (Wellington, Christchurch, and Auckland) and raises points relating to smart growth that stood out. Perspectives were formed based on observations, interviews with city personnel, reviews of city reports, and consideration of U.S. efforts to manage growth. Some points note strengths and others note opportunities for improvement. Claims presented in this section are supporting with findings from other New Zealand researchers.[34]

While the chapter refers to smart growth principles, it is not an attempt to bestow any city featured in this section with the label of "smart growth". The chapter will also present strategies that are currently being applied to manage growth.

Wellington – The Nation's Capital
With a population of 163,824, Wellington is New Zealand's third largest city (Statistics New Zealand, 2001). Its regional topography is a key reason for its compact urban core (Wellington City, *Central City Urban Design Strategy Principles [Central]*, 2003). The central area comprises Wellington's commercial and business heart and is host to a wide range of political, recreational, cultural and entertainment activities of national and local significance (Wellington City, *Understanding the District Plan [Understanding]*, 2003). See figures 20 and 21, in the Appendix, for maps of Wellington City and Central Wellington.
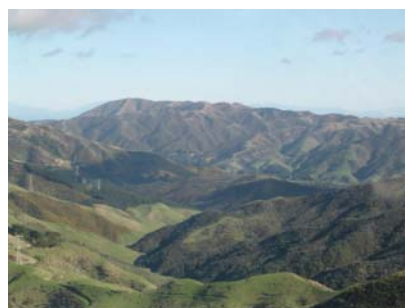

Figure 11 – Wellington City (left) and Wellington Outer Green Belt (right).

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[34]The summary for Wellington deviates from the reporting structure for Christchurch City and Auckland City. Limited research material was available for Wellington, with the exception of documents from the City Council.

The inner residential area adjoins the central city and is mostly within the inner town belt. Its features include high population density, many multiple dwelling units (houses divided into flats, apartment blocks, etc.), and the presence of diverse non-residential activities (Wellington City, *Central*, 2003).

Wellington's rural area represents about 65% of the city's total land area (Wellington City, *Central*, 2003). While there is increasing pressure for rural "lifestyle" blocks close to the city, the Council believes that the continual expansion of the city beyond established edges does not support sustainable management except where it builds on existing communities (Wellington City, *Central*, 2003).

In 1839, the city established a town belt to contain development within its borders. The town belt is approximately 425 hectares in area and a management plan has been developed to enhance and preserve this feature (Wellington City Council, 2003). The City has also prepared a plan to manage its Outer Green Belt - - bush and grass covered line of ridges to the west of the City.

City policies for access and movement promote walkability and stress that streets should be more than traffic channels for vehicles, and offer a safe and attractive environment for all. The ease of traversing Wellington by foot is enhanced by clear references to landmarks, character areas, the clear hierarchy of space, and pedestrian signage (Wellington City, *Central*, 2003).

The city also enjoys the benefits of a multi-modal public transportation system. Commuter bus and rail transport is coordinated by the Wellington Regional Council. Rail transport extends as far as Masterton, 100km north of Wellington City.

Overall Objectives of Wellington's District Plan

1. To protect and enhance the natural, or 'green' areas of the city. This is chiefly all the land beyond the outer town belt, including rural and open space zones, and conservation sites.

2. To encourage more intensive and mixed use development within the existing urban area to achieve better use of transport, infrastructure and energy – in other words, a more sustainable city.

3. To improve the overall quality of the built environment from an urban design perspective.

4. To reduce the risks associated with natural and technological hazards.

5. To safeguard the natural environment – land, air and water – from pollution and contamination.

Wellington City Council is committed to building on its strengths.

The outcomes sought by the City Council are that Wellington be a:

- Livable city – a great place to live;
- Network city – easy to get around, on foot and in vehicles;
- Memorable city – celebrating its landmarks and heritage;
- Compact city – maintaining a vibrant centre and suburban areas; and a
- Beautiful city – the city's form reflects the character of the harbour and hills (Wellington City, *Council Plan [Council]*, 2003).

To measure its progress towards achieving these objectives, the City Council applies City Outcome Indicators and Activity Performance Measures. Some of the indicators assess how well the city can be navigated by pedestrians, character definition from the presence of heritage buildings, the compactness of the city and suburbs, and citizen connections to natural amenities -harbour, hills, and town belt (Wellington City, *Council*, 2003).

Figure 12 - Pedestrian path along Oriental Bay.

Wellington has a Built Heritage Policy to conserve the city's heritage. The policy covers a full range from identifying heritage items to working with owners and developers to facilitate the protection and restoration of heritage assets in appropriate ways. For example, the Council identifies buildings that are earthquake prone and works with owners to ensure they are strengthened. The city even offers financial and project management assistance as an incentive for building owners to restore their property (Wellington City, *Council*, 2003).

Because Wellington has limited land for urban expansion, new development is expected to occur in the northern part of the City. The Northern Growth Management Framework represents a consultative effort to plan the way the

city grows and prospers while protecting the unique and special aspects of the area (Northern Growth Management Framework, 2003).

<u>Researcher's Perspective</u>

Strengths
- Design – Many of the attributes that make Wellington distinctive were crafted by nature. A key factor that enables the city to continue functioning well is good design. During site visits to Tauranga and Auckland, practitioners suggested urban design was an area that needed improvement or revealed that it has been necessary to correct past urban design problems through the creation of special panels. Wellington City's District Plan 2001 and the Council Plan 2003/2004 make it quite clear that quality design is a priority for the city. Equally important, Wellington's urban form demonstrates higher density development and high quality of life can be compatible when done correctly.

- Transportation Choice – Public transport is a resource that is often taken for granted and even unappreciated. Private automobiles do offer convenience and personal freedom. However, that freedom and convenience is sacrificed when congestion brings traffic to a stand still. Adding capacity to existing roads is one approach to relieving congestion, but only a temporary one.[35] Los Angeles, CA, known for extensive freeway construction, has embraced public transport in order to grant citizens the freedom of transportation choice.[36] The provision of reliable public transport is an invaluable asset for Wellington.

- Pedestrian Friendly Environment – Because development in Wellington has been constrained by its topography, it has resulted in the induced effect of creating a pedestrian friendly environment. The city accommodates pedestrian traffic through the provision of trails, walking paths, and access paths along steep slopes. By encouraging a pedestrian friendly city, Wellington is able to maximize the benefits of the new economy which are accessibility, networking, and creativity.

Opportunities for Improvement
- Reinventing Suburbs – While the inner city effectively demonstrates the benefits of mixed land use, clustering development, and directing growth back to existing communities, it is important to make sure those qualities are evident in suburban locations as well. The benefits of reinventing a suburb are best demonstrated through Te Runanganui O Taranaki Whanui of Waiwhetu in Lower Hutt. Over the past 20 years, the local Iwi authority has taken progressive steps to improve the mix of neighbourhood services and to make the community self sustaining. The provision of services in the form of the Waiwhetu Medical Centre,

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[36]Egan, Timothy, "Sprawl-Weary Los Angeles Builds Up and In," *New York Times*: March 10, 2002.

kohanga reo, Atiawa Toa FM radio station, Tamaiti Whangai Centre of Learning, and a gymnasium benefit Māori and non-Māori. Moreover, these services improve the sense of whānau within this community (Practice Profile, 2003).[37]

- Continue to Upgrade Public Transport – While the Wellington region has the benefit of a good public transport system, enhancements can be made. Structural enhancements can be made to upgrade passenger rail stops so that the setting is less intimidating as passengers wait for trains. Upgrades can also be made to public transport bus fleets. The New Zealand State of the Environment report notes that in cities air pollution from motor vehicles can be worse if dispersion is inhibited by the "street canyon" effect (MfE, *State*, 1997). Depending on weather conditions or the time of day, this effect is noticeable on Vivian Street, Lambton Quay, and Tinakori Road. Although personal vehicles may be the main source for such emissions, steps could be taken to reduce emission impacts from public buses.

<u>Christchurch – The Garden City</u>

<u>Background</u>
Christchurch is the second largest city in New Zealand with a population of 316,224 (Stats NZ, 2001). Christchurch City covers a land area of 45,250 hectares. The City is bounded by the Waimakariri River to the north, the Pacific Ocean to the east and the Port Hills to the south (Christchurch City, *Update*, 2000). The Port Hills and the Canterbury Plains are the two distinct geological areas that define the city. Most of the City is built on the plains (Christchurch City, *Fact Sheet,* 2002). See figures 22 and 23, in the Appendix, for maps of Christchurch and the Christchurch Central Business District.

Christchurch originated as a single nucleus urban centre. The current urban form is tending to a decentralized pattern of development with dispersed residential growth, industry, commercial expansion, and 20 suburban retail shopping centres. As the city experienced a doubling in its population (150,000 to 316,000) from 1950 to 1996, settlement patterns have not been evenly distributed, locating almost entirely in subdivisions on the outer fringes (Douglas and Memon, 2002).

Perceived regional concerns for the loss of productive agricultural land on the urban periphery lead the Christchurch Regional Planning Authority to apply "urban fence" policies to control outward sprawl in the late 1950s. The rationale for the green belt was to: consolidate development in the built-up areas of the region; mitigate problems of scattered residential development in rural areas; use infrastructure and utility services efficiently; protect rural

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[37] http://www.rnzcgp.org.nz/colled/Waiwhetu.php

agricultural uses; and protect the landscape's sensitive environmental areas and natural features like the Port Hills areas (Douglass and Memon, 2002).

Green belt ordinances became redundant following the enactment of the RMA in 1991. This reflected the shift, brought on by the RMA, from regulating land uses to focusing on managing the effects of such uses; central government's desire for less intervention in the development process in support of a more market let economy; and unlike its predecessor, the Town and Country Planning Act, that the RMA did not identify protection of highly versatile soils as a matter of national importance (Douglass and Memon, 2002).

The current regional planning authority, Environment Canterbury, continues to support policy outcomes for growth patterns of consolidation. However, their Regional Policy Statement does not specify a preferred spatial urban settlement strategy. Unfortunately, the absence of regional consensus and a formal regional plan for managing urban growth lead to disputes between the regional council and district councils being resolved in the Environment Court. In a January 2002 judgment, the Environment Court ruled in favor of the District Council. The court concluded Environment Canterbury's Regional Policy Statement lacked meaningful directives for District Councils with respect to settlements (Douglass and Memon, 2002).

Growth Issues
In recent years, the City has seen an increase in dwelling densities within the City. Inner City net densities averaged 15 dwellings per hectare in 1999. By contrast, the net densities of suburban parts of the City were lower and averaged 10 dwellings per hectare. The majority of new dwellings in the City are located around the perimeter, where greenfield sites are available (Christchurch City, *Update*, 2000).

New development is responsible for much of the pressure on amenities in Christchurch. New buildings replace older ones or are built on previously undeveloped sites. Some newer development contrasts with the character of existing areas. An annual survey of residents conducted by the city in 1999 revealed that for residents who thought new development made the city look worse, their main concern was the demolition of historic buildings and the impact this had on the character of the City (Christchurch City, *Update*, 2000).

Public buses, taxis, and shuttles are the main forms of public transport in Christchurch. The city bus network provides good coverage for the city's residents. In 1998, the city reported that ninety percent of the resident population lived within 400 meters of a bus stop into the City. However, bus patronage was in decline in Christchurch but has increased

Figure 13 - City bus exchange in Christchurch.

marginally in recent years (Christchurch City, *Update,* 2000).

As the size of suburbs increase, the overall proportion of activities taking place in the Central City has correspondingly decreased. Business office functions are continuing to change and at present 19% of Central City office space is vacant. Businesses are choosing to decentralize or relocate to suburban locations for various reasons including better quality space, more abundant and "at the door" parking, and lower lease costs. Offsetting these problems to a lesser degree are the increasing tourist and worker numbers in the Central City, and migration patterns back to the Central City (Christchurch City, *Revitalising the Heart of Our City [Revitalizing]*, 2001).

Response
Although Christchurch has invested in projects to improve the city over the past few decades, long-term Central City vitality is under threat from a series of issues including reasonably slow overall growth in the residential population, relative declines in business activity compared to suburban centres, decreases in environmental and social amenity in some areas, and general pressures of increasing outward urban growth (Christchurch City, *Revitalising*, 2001).

Although the Regional Council and territorial authorities have not seen eye to eye on how to manage growth, Christchurch has acknowledged that the threat of an unhealthy central city from increasing disinvestment and outward migration of jobs, housing, and services is real (Christchurch City, *Central City the Vision [Central]*, 2000). The city realizes that its core is not immune to the "doughnut effect" that has plagued cities around the world, particularly in the U.S.[38]

While Christchurch is often described as being an "English City", the city also projects an image that was common, and in some cases still is, to American cities in the late 1980s, exemplified by an 8hr downtown and minor signs of blight. While the central city is very attractive and active during the day, sections of the central city, such as Colombo Street south of Moorhouse Avenue, resemble an urban ghost town at night - - pedestrian traffic is light, vacant and/or neglected properties increase the perception of crime, and large alleys increase the sensation of feeling vulnerable. Christchurch City Council does not want its central city to be the hole in the doughnut, but it knows it could happen if the right planning and community involvement is not put in place (Christchurch City, *Central*, 2000).
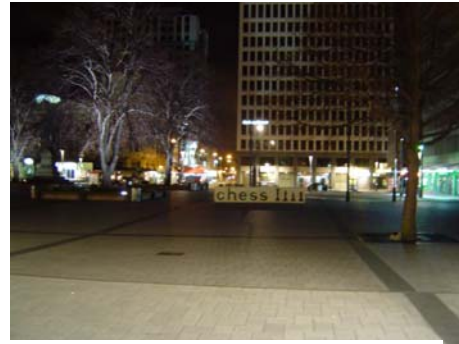
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[38] http://www.sierraclub.ca/prairie/Sprawl/art1.htm

Figure 14 – Cathedral Square by day and night.

In 1999, Christchurch Mayor Garry Moore brought together a core group of interested stakeholders to discuss issues, that became the Central City Mayoral Forum (CCMF). The Forum represents various stakeholder interests: residents; developers; investors; businesses; visitors/tourists; retail; entertainment; and the like. Extensive public consultation was carried out during 2000 to get the public's view on the main issues affecting the Central City, and to gather creative ideas for revitalization. While feedback was generally very positive about revitalization of the Central City, there was also widespread concern about the long-term viability of the Central City if the drift of the suburbs continues (Christchurch City, *Focus on the Heart [Focus]*, 2000).

Since 2000, a Central City Strategy has been prepared that paves the way for initiating the first stage of revitalization projects. The vision for the Central City, as adopted by the Council and Central City is of:

> "A vibrant, exciting, safe and sustainable Central City heart; a heart with a strong and healthy economy, environment, culture and society."

The strategy identifies the following key areas for improving the Central City:

- reversing the business and residential drift from the Central City to the suburbs;
- marketing and providing incentives for the Central City as a destination for new business and residential developments;
- streamlining approvals and consents for business and residential developments; and
- making the Central City a more attractive place to live, work, learn, visit, shop, socialize and conduct business (Christchurch City, *Focus,* 2000).

The key areas translate into the following short-term priority concepts/projects for the Centre City:

- business/living centre – commercial and residential projects;
- socially cohesive and safe centre – creating precincts for the central city;
- heritage centre – creation of a heritage precinct area;

- attractive centre – projects to enhance the Avon River, initiation of a Green Streets Programme, as well as increase the amount of open space in the Central City;
- cultural centre – provision of art in public places; and
- accessible centre – priority transport projects for the inner core area (Christchurch City, *Revitalizing*, 2001).

Strategic partners for this venture include the Canterbury Employer's Chamber of Commerce, Canterbury Development Corporation, Christchurch and Canterbury Marketing, and the Property Council of New Zealand (Christchurch, *Focus*, 2000).

<u>Researcher's Perspective</u>

Strengths
- Leadership – When it became apparent that Christchurch's central city was experiencing the effects of disinvestment from increasing suburbanization, the Mayor of the City responded. He took time to listen to the citizens of Christchurch and solicit their ideas for enhancing the downtown area. He also responded with a clear revitalization strategy for enhancing the centre city. Leadership to advance revitalization objectives is not limited to elected officials within Christchurch. For example, Jenny May, the Director of Our City O-Tautahi, is an effective advocate for historic preservation within the City. Throughout the 1980s, a significant number of the City's heritage buildings were demolished. In her current capacity, Jenny has been committed to ensuring that heritage buildings are maintained. Such initiatives advance Central City revitalisation efforts. Further, Our City fills a critical void by serving as a forum for educating citizens about their city as well as its built and natural environment and development.

- Adaptive Reuse – The Arts Centre in Christchurch is a clear example of the benefits of recycling older properties. Formerly the site for Canterbury College, the Arts Centre has become a cultural centre for art and crafts, shopping, education and entertainment. The distinctive Gothic architecture of the building has made the Centre an award-winning tourism attraction. Since the initiation of Christchurch's Central City Strategy, the adaptive reuse of the city's structural assets has become more common.[39]

- Transportation Choice – Because Christchurch's topography is flat, the city is very friendly to bicyclists. In fact, the 2001 Census records that in Christchurch more people travelled to work by bicycling (5.7%) than in any other New Zealand city (*Quality of Eight*, 2003). The city even has special training programs to target children who want to start cycling to school called Cycle Safe (*Christchurch Cycling*, 2003). Such programmes are helpful because they empower children to adopt a healthy ethic at a young age.

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[39] http://www.artscentre.org.nz/

Opportunities for Improvement

- Perceptions of Safety – The report *Quality of Life in New Zealand's Eight Largest Cities* reported only 24% of the city's residents feel "safe" or "very safe" in the city centre at night. That was lower than any other city surveyed. However, perceptions of safety are as high as 83% in the city centre during the day (see Table 5). Christchurch also has high marks for resident rating of the sense of pride in the way their city looks and feels (*Quality of Eight*, 2003). Clearly, the city centre has a different feel at night. Although places like Victoria Square, Latimer Square and Cathedral Square are comfortable places to be during the day, the same places can make people feel vulnerable at night - - pedestrian traffic is low, lighting is fair overall or good only in sections, and they exhibit a high level of exposure. Further, sensations of vulnerability are enhanced in Cathedral Square because of the presence of a couple of vacant properties (one exhibiting moderate signs of deterioration). Cathedral Square is the most visited section of Christchurch; it shouldn't have vacant or derelict buildings at all. Also, a sense of safety in Cathedral Square could be enhanced if some businesses that occupy the Square extended their business hours.

Table 5. Percentage of residents who felt "very safe" or "safe" (2002)

City	At Home		In Neighborhood		In City Centre	
	Day %	Dark %	Day %	Dark %	Day %	Dark %
Auckland City	89	77	87	56	83	27
Wellington	96	90	96	74	94	47
Christchurch	96	87	95	66	83	24
Dunedin	98	91	97	77	95	46

Source: *Quality of Life in New Zealand's Eight Largest Cities 2003*

Figure 15 – South Colombo Street in Christchurch after sunset.

- Culture Change – During site visits, a frequent comment expressed by interviewees was that no one believed café culture would work in their city ten years ago. Eventually, these cities tested out the idea, and they discovered there was a market. In this manner, some interviewees in Christchurch suggested there may be hesitancy among developers for introducing new products that have not been tested in their local market. For example, one suggested that developers are less inclined to introduce more mixed-use development projects in Christchurch because of concern that they would not be able to market them. Mixed use development works in Auckland and Wellington;

there is no reason for it not to work in Christchurch. Some developers may be missing out on opportunities to supply the market with alternatives to conventional patterns of development.

- Directing growth back to existing communities – Although Christchurch has a central city revitalisation strategy, it is not clear that the City has devised approaches to address unbridled expansion of sprawling settlement patterns. If the City has no strategy in place, current revitalisation efforts may be only partially successful at best. Emphasising reinvestment polices/practices while continuing to allow sprawl to occur is not efficient or effective. Christchurch has

Figure 16 – Inversion effects result in higher levels of smog in Christchurch during the winter.

clearly stated for a few decades that they have established policies and invested in projects to improve the Central City, yet long-term vitality is still under threat. Christchurch will have to decide how and where development should occur. Otherwise, the city may find itself, fifty years from now, being labelled the new sister City of Los Angeles.

Auckland – City of Sails

Background

The Auckland metropolitan area is New Zealand's largest conurbation with a population just over one million. The Auckland Region is made up of four city and three district councils, the largest being Auckland City Council. Auckland City is the heart of the region.

The City lies on an isthmus between two harbours. In addition to the mainland, 74 percent of the city's land is made up of islands in the Hauraki Gulf. The gulf and its islands are recognized as natural treasures regionally and nationally (Auckland City, *A Guide to Living in Auckland*, 2000). See figures 24 and 25, in the Appendix, for maps of Auckland City and Auckland City Central Business District.

It is common for Auckland City to be referred to as a collection of villages, each with its own centre. The identity of the villages is reinforced by the success of the City's Mainstreet Programme. The Otahuhu Mainstreet programme was the second to be established in New Zealand and the first in Auckland City in 1991. Since that time, 16 main street programmes have been established in Auckland City. Auckland City Council adopted the Mainstreet policy in 2000 (Auckland City, *Mainstreet Programme*, 2003).

Figure 17 – Main Streets in Auckland City: Parnell, Mt. Albert, and Ponsonby.

Auckland City is the retail and commercial centre of New Zealand, with a number of head offices and businesses servicing commerce, manufacturing and tourism. Auckland city has fifty percent of the region's jobs and a strong employment growth rate of over three percent (Auckland City, *2004 Annual Plan*, 2003). Because it is the focal business centre for the region a large number of people commute daily into the city by bus, ferry, rail and private car (Auckland City, *About Auckland City*, 2003).

Although most growth in the city comes from natural increase, Auckland's growth also derives from its popularity as a destination for new migrants and people from other parts of the region and country.

Growth Issues
With a current population of 367,734, Auckland City's population is expected to increase by more than sixty percent by 2050. Unless it is managed properly, demographic changes and development could have implications for the future of the city's infrastructure such as transportation, water and wastewater services that will be required by future generations (Auckland City, *Our Changing Environment [Our]* 2002). Auckland City is mainly urbanised therefore much of any future growth will occur by increasing the number of houses within the existing urban areas of the City (Auckland City, *Growing Our City [Growing]*, 2000).[40]

Transport is one of the major concerns of Auckland residents. Auckland City has a complex travel relationship with the wider Auckland region. The three adjacent cities (Manukau, Waitakere, and North Shore) generate substantial travel into Auckland City for shopping, recreation, education, and business. There is a similar pattern for traffic outbound from the city. Due to the central location of Auckland City, all road travel between areas to the north and south must pass through the city (Auckland City, *Our*, 2000).

Auckland City has reached a critical point in its ability to meet increasing travel demand by private vehicles. Pressures from growth, within the city and the region, are placing demands on the city's road infrastructure, and there is growing realization that changes are required in the way citizens travel and the solutions that are sought. Simply, building its way out of congestion is no longer an option for Auckland City (Auckland City, *Our*, 2000).

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[40] Because Auckland City is the core of the Auckland Region, the City's policies for managing growth must be considered within the framework of the Region. Auckland Regional Council has developed a *Regional Growth Strategy* as well as a *Regional Land Transport Strategy*.

Unfortunately, there is limited use of alternative modes such as passenger transport in Auckland. As in other New Zealand cities, use of passenger transport has declined as a proportion of total trips. Current research from the Auckland Regional Council Passenger Transport Survey suggests that the trend may be reversing (Auckland City, *Our*, 2000). At present, cycling and walking are largely considered to be recreational activities within the City rather than practical modes of commuting.

Response

The Auckland Urban Living programme aims to manage and grow Auckland City in a holistic way that will enhance its communities, strengthen the economy, develop a distinct identity and protect the environment. The programme encourages development that results in compact, pedestrian, bicycle and transit-friendly communities. Such development is designed to support a mix of uses with residential, office, and retail facilities close to each other (Auckland City, *Urban Living*, 2003).

A key feature of the programme is the "Liveable Communities 2050 Strategy". Seven principles form the building blocks of the strategy: protect natural and physical resources; guide the location of growth; integrate land use, transport and infrastructure; strong communities; urban design; economic development and employment; and funding. Under the current strategy, most of the City's growth will be accommodated by increasing densities within strategic growth management areas (SGMAs) (Auckland City, *Growing*, 2000).

Intensification

A ground-breaking planning law to impose new quality standards on intensive urban development was adopted unanimously by the City Council in August 2003. The "residential 8" zone will be available to areas earmarked to cater for the expected boom in the city's population over the next 20 years. These will be areas serviced by an existing town centre that have the infrastructure and stormwater systems that can cope with more intensive development, access to public transport, employment and community services.

Over the next 18 years, it is projected the city will have to cater for a further 141,000 people within its boundaries.[41] Residential 8 has been created to help Auckland City cope with major growth.

Residential 8 will enforce the following height restrictions:

- up to three storeys in residential areas within ten minutes working distance;
- up to four storeys around suburban centres; and
- up to five storeys within 2km of the central business district.

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[41] According to the *Auckland Regional Growth Strategy: 2050*, the regional population could increase from its current population of 1.2 million to as many as 2.2 million people.

The zone has not been prepared to concentrate high-rise blocks. When an area is considered for residential 8 it will need to go through a full public notification and approval process. No fewer than 11 elements will be used to assess applications for the residential 8 zone. The elements include: neighborhood character; site layout; density; energy efficiency; building envelope; visual privacy; landscaping; driveways and parking; private open space; and site facilities. Such measures have been put in place to encourage better building design (Auckland City, *Action Auckland*, September, 2003).

Design
In recent months, Auckland City has had to deal with a flood of complaints about poorly constructed or poorly designed buildings. Because of the high pressure to build, Auckland City created an urban design strategy to help create a high quality urban environment in which to work and live. An urban design panel has also been launched to facilitate and promote quality urban design environments by assessing and providing pre-application advice on development in the central area of the city. The Panel is being promoted in association with the New Zealand Institute of Architects and the Property Council of New Zealand (Auckland City, *Urban Design Panel*, 2003).

Transport
Auckland City has incorporated environmentally-friendly replacements into the free City Circuit bus fleet. Three electric buses produce significantly lower levels of emissions and noise as they carry more than 2000 passengers a day, looping around nine key city destinations within the central business district. The buses are made by the New Zealand company Designline which is exporting the technology to Japan and Hong Kong.

Train services are returning to downtown Auckland after an absence of about 70 years with the opening of Britomart Station. Britomart, a $211 million project, is a key component of infrastructure servicing as a major terminus for transport around the city, allowing changes of transport between buses, trains, and ferries. A step on the way to creating an inner city rail circuit, the long term aim is to transform the transport network in Auckland away from a radial, lineal network into a circuit

Figure 18 - The new Britomart Station in Auckland.

network giving much greater flexibility for the movement of people and goods around the city.

Renovation of the old Chief Post Office building, an above ground entrance to the station, and the upgrade of Queen Elizabeth Square are due for completion in November 2003. Station facilities will include a café and ten retail outlets. Britomart is a project of Auckland City, the Auckland Regional Council, Infrastructure Auckland and Transfund New Zealand. The station is

owned by Auckland City and operated by Auckland Regional Transport Network Limited (ARTNL) and is the largest local government project ever undertaken in New Zealand (Auckland City, *Action Auckland*, July, 2003).

Researcher's Perspective

Strengths
- Directing growth back to existing communities – Mainstreet programmes have been successful in Auckland. In addition to developing signature features for the neighborhoods within Auckland City, it is fair to suggest these programmes have assisted the City to remain healthy and vibrant. Through such programmes, the city has managed to maintain part of its heritage footprint and maximize the use of existing assets. The introduction of new retail shops and specialty services give patrons an alternative to the shopping mall. Further, mainstreet programmes have the induced effect of rekindling entrepreneurship, neighborhood cooperation, and civic concern (National Trust for Historic Preservation, 2003).

- Transit Choice – The pressure to relieve congestion on roads has prompted Auckland City to introduce enhancements to make public transport more predictable, reliable, and thus a more viable mode of travel. The introduction of bus priority lanes within the city is contributing to more attractive bus services by reducing trip times and improving service reliability. Real time and advanced warning systems ensure travelers are able to get fast and accurate information regarding the status of bus arrivals. Bus advance signals as well as signal pre-emption are important devices that maximize the effectiveness of public transport services (Auckland City, *Our,* 2002).

- Encouraging Community and Stakeholder Collaboration – Auckland City's Planning Services Section has implemented a series of programmes to bolster community and stakeholder participation. Livable community planning exercises are conducted throughout the City as open workshops to assist citizens to envision the enhancements that should occur within a community, discuss the positive and negative impacts of development, and identify what is needed to support future growth. The city has also pursued strategies to reach underrepresented members of the community such as working through a Chinese consultancy to bridge relations with the Chinese community in the Newmarket neighborhood or working through the church to reach members of the Pacific Islander community.

Opportunities for Improvement
- Quality Control on Infill – Because there are no greenfield areas within Auckland City's existing urban area, the City's Liveable Communities 2050 Strategy proposes that future growth be accommodated in SGMAs (Auckland City, *Our*, 2002). Intensification will require better quality controls on urban design. Auckland City understands this is the case and has taken steps to develop an urban design strategy as well

as an urban design panel. While design review can help to ensure proposed projects meet the community's vision for how it wants to grow, it cannot take the place of planning. It is necessary to ensure plans are adequate and reflect the community's needs.

- Jobs/Housing Disconnection – As the host for 50% of the region's jobs, substantial commuter travel into Auckland City comes from its three adjacent cities (Manukau, Waitakere, and North Shore) as well as the districts of Rodney, Papakura, and Franklin. As Auckland City devises strategies to increase housing within its limits, it may want to consider strategies to reduce the disconnection between jobs and housing. Because Auckland City is the headquarters for many major corporations, it seems Live Near Your Work programmes could be applied in the City to create the following win-win situations: shorter commuting distances; less employees stuck in rush hour traffic; and increased productivity. Other programs to enhance housing location decisions include Location Efficient Mortgages (LEM). Because of the escalating cost of housing in New Zealand, a LEM programme could enable more people to qualify for homes that are traditionally beyond their price range.

- Car sharing – Because of its size and diversity, Auckland City is the perfect test market for new innovations. Other than Americans, no society loves cars more than New Zealanders. However, automobiles produce half the pollution in urban areas, they are environmentally destructive to manufacture, and they take up a lot of space (*Car Sharing,* 2003). Car sharing programmes began in Switzerland after World War II, and they have recently been introduced in the U.S. Such programmes offer the benefits of saving drivers money, making the commute to work easier, conserving open space and improving air quality. In San Francisco, CA, members who participate in such programs pay as little as US$ 3.50 an hour when using cars provided by this service. Such programmes give people the freedom of driving without the hassles of car ownership (Maclay, 2002).

CHAPTER 6 – Scorecard Exercise

A score card exercise for select sites was undertaken to assess how well smart growth principles have been met. In recent years, advocates of smart growth (planners, developers, elected officials, neighbourhood groups) have sought tools to measure or evaluate the benefits of specific developments which promote vibrant, healthy communities. Several organizations/authorities in the U.S. have developed smart growth scorecards or evaluative tools for development projects. They include but aren't limited to: the Vermont Forum on Sprawl, the Mid-Ohio Regional Planning Commission, and the City of Austin.

In order to assess New Zealand cities, a checklist scorecard developed by the National Governor's Association has been modified. The checklist is amenable for a variety of applications: evaluating a conceptual plan for a new community design project; testing the consistency of a proposed project with smart growth principles; determining if a proposed project should receive financial support; or defining a smart growth type place (Hirschorn and Souza, *New Community Design to the Rescue*, 2001).

The objective was to see how well smart growth principles may be reflected in specific zones of analysis. Because a checklist simply records which principles are addressed, measuring criteria from alternative scorecards were cross-referenced to determine how well conditions were met. Table 6 notes the measuring criteria that were cross-referenced and the purpose.

Table 6. Measuring Criteria Cross-referenced for the Scorecard		
Smart Growth Principle	Scorecard Referenced	Nature of the Reference
Strengthen and encourage growth in existing communities	State of Maryland Smart Growth Score Card	Service Provision (Existing or New)
Includes mixed land use	State of Maryland Smart Growth Score Card	Mix of use by type and within a structure
Create a range of housing opportunities	State of Maryland Smart Growth Score Card	Diversity of housing options (type and affordability)
Preserve open space, farmland, natural beauty, and critical environmental areas	Smart Growth Alliance Recognition Program CNU Smart Scorecard for Development Projects (draft)	Project Density
Provide a variety of transportation choices	City of Austin Smart Growth Matrix State of Maryland Smart Growth Scorecard	Transit Ready Densities Alternative Pedestrian and Bicycle Access

Foster walkable, close-knit neighbourhoods	City of Austin Smart Growth Matrix	Streetscape Treatment for Maximum Comfort
	State of Maryland Smart Growth Scorecard	Walkable and Transit Friendly Features
	CNU Scorecard for Development Projects	Block Length

Note:
The State of Maryland Smart Growth Program was discontinued following a change in Gubernatorial Administration.
The scorecard was adjusted for application in New Zealand: English units of measurement were converted to metric, acres to hectares, feet to meters, etc.

Analysis zones were identified based on the following criteria: the site could be no greater than 16 hectares in area and no greater than one kilometre in diameter. For the exercise downtown and inner-ring suburban developments were selected. New Zealand sites selected included Courtenay Place and Thorndon (Wellington), Viaduct Basin and Beaumont Quarters (Auckland). This chapter offers the findings for two of the sites selected, Courtenay Place and Viaduct Basin are presented below.

Results
Both sites were evaluated against eighteen criteria. The analysis zone for Courtenay Place met twelve of the eighteen criteria in the affirmative. Three criteria were not met in the affirmative, and three were not applicable to the site. See figure 26, in the Appendix, for a map of the Courtenay Place analysis zone.

Courtenay Place did not meet criteria for housing choice (type and affordability), risk from natural disasters, and provision of green space or green pathways.

- Housing choice – Dwelling units in the analysis zone were limited to apartments (apartment blocks or residential conversions). Single family residential homes are located outside the analysis area. Also, Courtenay Place did not meet criteria for affordable housing provision. 2001 Census meshblock data revealed that weekly rents for most rental dwellings in the analysis zone are above $250 per week. However, median weekly rents for Housing New Zealand provided houses are $67 per week (*Quality of Eight*, 2003).

- Risk from natural disasters – Although the Wellington Fault Line is 2.5kms away from the analysis zone, Wellington hazard maps from the Wellington Regional Council indicate the area could be subject to flooding in the event of a tsunami.

- Creation of green spaces – Beyond pocket parks, there is no green space in the analysis zone.

Three criteria were not applicable to Courtenay Place. Unfortunately, compact design could not be determined without information on Floor-Area-Ratios. There were no brownfields or greyfields in the analysis zone, and development within Courtenay Place has not been limited to one developer.

The analysis zone for Viaduct Basin met twelve of the eighteen criteria in the affirmative. Four criteria were not met in the affirmative. One could not be determined (compact development could not be assessed because there is no central source for density of the varying developments on the site). See figure 27, in the Appendix, for a map of the Viaduct Basin analysis zone.

Viaduct Basin did not meet criteria for housing choice (type and affordability); risk from natural disasters; provision of green space or green pathways; as well as the use of older and historic buildings on the original site.

- Housing choice – Dwelling units in the analysis zone were limited to low rise apartments. Representatives from the city as well as the Viaduct Holdings Company confirmed there are no affordable dwelling units on site.
- Risk from natural disasters – While rare, the site could be subject to flooding from coastal hazards since it buffers the harbour.
- Creation of green spaces – With the exception of the business park, there is no green space in the analysis zone.
- Use of older and historic buildings – The warehouses that were originally on the site were removed.

Final Word on Scorecards
It would be unreasonable to expect that all projects or communities would be completely consistent with all the criteria. However, it is also inappropriate to label a place as representing smart growth if only a few of the criteria are met. Scorecards represent one tool that can be applied to reduce confusion in the marketplace about smart growth (Hirschorn and Souza, 2001).

Table 7. Results from Courtenay Place Score Card Exercise

Smart Growth Principle	Y/N	Notation
Strengthen and encourage growth in existing communities		
Is the location in an already-serviced area?	✔	• Analysis zone within a service area. Former industrial/commercial zone of the city. • In addition to infrastructure, utilities, and sewerage, the analysis zone contains grocery store, emergency services (fire station) and it is on an existing bus route.
Includes mixed land uses		
Is there a mix of housing, office space with significant employment opportunities, schools, retail shopping, outdoor recreation, and civic/public spaces and buildings?	✔	• Land use mix in the analysis zone is high - includes residential uses, office/commercial/retail space, entertainment/restaurant uses. • Vertical mix within buildings and mixing within the block area. • Outdoor recreational space is in close proximity of the analysis zone (less than 500 meters).
Create a range of housing choices (style and income)		
Does the housing include different types of homes such as single-family detached, multifamily apartment buildings, and condos for purchase or renting; and do they cover a range of prices to address a full spectrum of income levels, including affordable housing?	✘	• Residential structures within the analysis area were primarily apartments (apartment blocks or residential conversion above the street level). • Affordable housing in the analysis zone is severely limited. According to the 2001 Census, weekly rent for most rented dwellings in the analysis zone is $250 -$299 per week.
Preserve open space, farmland, natural beauty, and critical environmental area		
Does the project avoid converting working lands, such as farms and ranches into development?	✔	• Working lands were not converted.
Does the project avoid fragmenting existing green space, especially natural habitats and forests?	✔	• Conversion of undisturbed land has not occurred.
Does the project location avoid increasing the risk or negative impacts of natural disasters?	✘	• Wellington City Council has requirements to reduce or avoid the adverse effects of natural hazards. • An earthquake fault line runs along the western side of Wellington Harbour through Thorndon. • While the fault line is approximately 2.5km from the analysis zone, it is .5km from the harbour, and can be subject to impacts from tsunami.

Does the project use compact design to minimize the amount of land per dwelling unit?	–	• Unfortunately residential density and FAR were not determined.
		   o > 1.0 FAR is considered excellent.
		   o Downtown residential projects should meet the minimum range of 25 to 50 dwelling units per hectare.

Does the project maintain or create green spaces through out the new community for public and recreational uses, including continuous green pathways for biking and walking and pocket parks in the neighbourhoods?	✘	• Beyond pocket parks, the analysis area does not maintain or create green space. • Pedestrian and bicycle trails are within 1km of the analysis area.
Provide a variety of transportation choices		
Does the project provide convenient access to public transport? For larger projects does transport operate within the community?	✔	• Public transport operates within the analysis zone. • Pending location within the analysis zone, transport stops are within a 5 minute walk (10 minutes max).

Does the street layout or grid provide multiple access points to and from the surrounding areas as well as multiple paths for travel through the community by vehicles and bikes?	✓	• There are seven main points of access to the analysis zone. While bicyclists can travel through the area, there are no bike lanes.

Foster, walkable, close-knit neighbourhoods

Do the design and layout of buildings and streets promote one or more real neighbourhoods by facilitating interactions among residents, including diverse gathering places?	✓	• Design and layout of buildings and streets to promote interaction and gathering is most evident for the street Courtenay Place. • Within this section of the analysis zone, streets have been narrowed to slow down traffic. There are two pocket parks, and they contain street furniture. Footpaths are 4 meters in length min. In some areas the footpaths are wider because bulge outs have been installed.
Have the streets been designed with footpaths, appropriate lighting, and connectedness, to promote easy and safe walking?	✓	• All streets in the area of analysis had footpaths. Some streets are landscaped with street trees or solid medians with street trees. • Streetscape treatment for maximum comfort varied. • Courtenay place exhibited the most pedestrian and transit friendly street treatments (street trees, rain protection, alleys maintained, footpaths were greater than three meters, crossing treatment at street corners).

Take advantage of existing community assets

Does the project blend in with the environmental setting and cultural features of the surrounding areas?	✓	• Varies within the analysis zone. The important thing to keep in mind is Courtenay Place is an entertainment district. It is not supposed to blend in.
Has the project considered the use of existing brownfields (or greyfield) sites for some or all of the needed land?	–	• There are no brownfields or greyfields in the area of analysis.

Promote distinctive, attractive communities with a strong sense of place

Do the design, layout, and mix of land uses provide a distinctive style and feel to the place, with all elements blending together harmoniously?	✓	• As a mixed use, entertainment district, Courtenay Place has a distinctive style. • Building setbacks from the street are consistent. For some office blocks, upper floors are set further back (terraced). The effect is a pedestrian friendly streetscape while providing for complementary office uses that add to the mix of the area.
Has the project committed to using older and historic buildings on the original site?	✓	• Courtenay Place has maintained most of its historic buildings. The majority of these are in use.

Encourage citizen and stakeholder participation in development decisions

Have the developer and local government agencies used the best techniques to fully engage all categories of local stakeholders in meaningful activities to guide the design of the community?	✓	• The RMA requires public engagement.

Make development decisions predictable, fair, and cost-effective

Has the developer made clear how the project may be constructed in different phases over extensive time periods, yet be mixed-use, and is it clear how the original plan will be followed?	–	• A range of developers have completed projects in Courtenay Place.

Note:

✓ = yes; ✗ = no; – = not applicable

Table 8. Results from the Viaduct Basin Scorecard Exercise.		
Smart Growth Principle	**Y/N**	**Notation**
Strengthen and encourage growth in existing communities		
Is the location in an already-serviced area?	✓	• Analysis zone within an area with existing services and infrastructure - CBD of the city. • Warehouses were on the site before it was restored.
Includes mixed land uses		
Is there a mix of housing, office space with significant employment opportunities, schools, retail shopping, outdoor recreation, and civic/public spaces and buildings?	✓	• Viaduct Basin contains a mix of uses - - residential, office park, entertainment/restaurant uses, cafes, retail, and public space. In some instances, there was mixing within structures. • With suburbanization there is a tendency for corporations to create office parks on the fringe. Viaduct Basin returns corporations downtown.
Create a range of housing choices (style and income)		
Does the housing include different types of homes such as single-family detached, multifamily apartment buildings, and condos for purchase or renting; and do they cover a range of prices to address a full spectrum of income levels, including affordable housing?	✗	• Viaduct Basin contains low rise apartments units (four to five storeys) only. None of the apartments are affordable. Contacts from the City planning department and on site expressed there are no affordable units.
Preserve open space, farmland, natural beauty, and critical environmental area		
Does the project avoid converting working lands, such as farms and ranches into development?	✓	• Working lands were not converted.
Does the project avoid fragmenting existing green space, especially natural habitats and forests?	✓	• Conversion of undisturbed land has not occurred.
Does the project location avoid increasing the risk or negative impacts of natural disasters?	✗	• While rare, the site could be subject to coastal hazards in the form of inundation from wave action, tsunami, extreme high tides, storm surges, or rising sea levels.

Does the project use compact design to minimize the amount of land per dwelling unit?	-	• Unfortunately residential density and FAR were not determined.
		    o > 1.0 FAR is considered excellent.
		    o Downtown residential projects should meet the minimum range of 25 to 50 dwelling units per hectare.

Does the project maintain or create green spaces through out the new community for public and recreational uses, including continuous green pathways for biking and walking and pocket parks in the neighbourhoods?	✗	• Green space at Viaduct Basin is limited to the office park. • There is public space, but it is impervious. There has been a history of complaints from residents with the general public over public space. • Viaduct Basin has "blue" space.
Provide a variety of transportation choices		
Does the project provide convenient access to public transport? For larger projects does transport operate within the community?	✓	• Public transport does not operate within the analysis zone. Two public transport stops border the site. Other transport stops are within a 5 to 10 min. walk.
Does the street layout or grid provide multiple access points to and from the surrounding areas as well as multiple paths for travel through the community by vehicles and bikes?	✓	• The site has four main points of access. • Vehicles and bikes can pass through the analysis zone. The analysis zone has one bike path.
Foster, walkable, close-knit neighbourhoods		
Do the design and layout of buildings and streets promote one or more real		• Streets that border the analysis zone do not facilitate neighbourhood interaction well.

neighbourhoods by facilitating interactions among residents, including diverse gathering places?	✓	• The interior of the analysis zone is designed for neighbourly interaction. Street furniture and public space are within the analysis zone. Apartments feature balconies and enable interaction with the street level. Restaurant/entertainment venues offer other locations for interaction.
Have the streets been designed with footpaths, appropriate lighting, and connectedness, to promote easy and safe walking?	✓	• The site has been designed with footpaths, appropriate lighting, and connectedness. Footpaths within the site were approximately 2 meters. • Some streets within the site are tree lined. The site has ramps for wheelchair accessibility. • Other streetscape treatments include: textured surfacing; street furniture and refuse receptacles; provision of bike racks; main points of entry included gateway features; crossing treatment at street corners.
Take advantage of existing community assets		
Does the project blend in with the environmental setting and cultural features of the surrounding areas?	✓	• The site honours the natural setting and environmental assets. Structures are low rise and don't obscure views of the harbour. • Site development blends in with the CBD.
Has the project considered the use of existing brownfields (or greyfield) sites for some or all of the needed land?	✓	• The site was a former brownfield.
Promote distinctive, attractive communities with a strong sense of place		
Do the design, layout, and mix of land uses provide a distinctive style and feel to the place, with all elements blending together harmoniously?	✓	• The project has a great blend of business, residential, and public space. It is a distinctive development that complements the area.
Has the project committed to using older and historic buildings on the original site?	✘	• No. The original warehouses were replaced.
Encourage citizen and stakeholder participation in development decisions		
Have the developer and local government agencies used the best techniques to fully engage all categories of local stakeholders in meaningful activities to guide the design of the community?	✓	• The RMA requires public engagement.
Make development decisions predictable, fair, and cost-effective		
Has the developer made clear how the project may be constructed in different phases over extensive time periods, yet be mixed-use, and is it clear how the original plan will be followed?	✘	• A master plan for the remainder of viaduct basin is under development.
Note: ✓ = yes; ✘ = no; ‒ = not applicable		

CHAPTER 7 – Recommendations

As I reflect on the fellowship, there are several recommendations I would like to make. These recommendations are offered with the assumption that New Zealanders agree there is a need for a sustainable urban form whether or not it is termed "smart growth".

Recommendation 1: Don't Wait for a Crisis to be Proactive

The implications of massive land conversion do not become apparent until years after such actions are initiated. Over 150 years New Zealand's indigenous forest cover was reduced from 85% of the nation's land area to about 23%. During that same period 670,000 hectares of fresh water wetlands were reduced to 100,000 hectares (*State*, 2003). In addition to depleting the natural resources, the conversions affected the wildlife that depended on the resources and contributed to diminishing biodiversity.

Today, New Zealanders must consider how extensively they are willing to convert land to accommodate the needs of human settlements. Proper stewardship will ensure New Zealand's resources (natural and built) are enjoyed by future generations. Continuing to take the position that there will always be enough land, water, and air, and ignoring the early warning signs of declining ecosystems resilience will result in loss of prime agricultural land, reduced air quality from increasing vehicle miles travelled, impaired water quality from increasing stormwater runoff, and additional loss of biodiversity as wildlife corridors are segmented.

Regretfully, there are many communities in the U.S. that are dealing with critical levels of congestion, declining downtowns, erosion of natural amenity, and changes in community quality of life because they were not proactive in addressing inefficient patterns of development. For example, the urban footprint of Atlanta, Georgia, almost doubled between 1990 and 1997, expanding from 105km north-to-south to 177km. Clearly, communities do not anticipate their settlement patterns manifesting themselves in such a manner, but such patterns can result from a complacent attitude towards development. Setting an agenda for smart growth in New Zealand will require proactive planning, commitment from leaders and citizens, and openness to new ideas for bringing about healthy, vibrant, and diverse communities.

Recommendation 2: Influencing Hearts and Minds

Proponents of alternatives to conventional patterns of development will need to keep their message before the public. MfE has started this process through capacity building in the form of publications like *People, Places, Spaces*. Because New Zealand is a small country, they have the luxury of being able to convey such messages in person. Still, multi-media approaches can be quite useful. Messages can be presented in the form of commentaries in print and visual media, PSAs on the benefits of public transport, documentaries on sprawl, research that profiles successful redevelopment projects, and digital outlets.

Collaboratively, the New Zealand Planning Institute, Local Government New Zealand, New Zealand Survey Institute, the Resource Management Law Association and the Ministry for the Environment have done an excellent job harnessing the power of the internet through the QualityPlanning website. MfE administers the site, and the resource provides New Zealanders with a medium to share planning best practices and encourage dialogue about approaches to improve communities. Consideration could be given to incorporating tools to assist users to visualize alternatives to status quo patterns of development.

Another approach for reaching the public is through lectures. In November 2003, the Parliamentary Commissioner for the Environment hosted Jaime Lerner, the former mayor of Curitiba, Brazil, to offer an address on the success of sustainable development initiatives in his city. Such forums help people to realize that the approaches taken to enhance communities in other locations are transferable, and can initiate a spark that leads to change. I would encourage MfE to continue "fanning the flames" by offering a community speaker series, monthly or bi-monthly. It is likely organizers will discover there are plenty of topics to fill a speaker series calendar. Topics could address issues such as improving transport choice, increasing housing choice, energy efficiency in building design, creating public spaces, maintaining pedestrian safety, design against crime, etc.

Recommendation 3: Recognize or Award Good Design Projects
Although central and local government are not inclined to use subsidies or incentives to encourage alternative development patterns, there is nothing to prevent recognition of sustainable urban design. MfE currently offers the "Green Ribbon Awards" to recognize contributions to sustaining, protecting and enhancing the environment. They are also developing the Urban Design Protocol. As the protocol is implemented, there may be opportunities to recognize innovative polices, approaches, or actual developments that reflect better urban design outcomes. Recognition is a non-monetary tool for conveying that something is of value and to reinforce good behaviour.

Recommendation 4: Avoid Being Modest
It has been my observation that New Zealanders tend to be modest about their accomplishments. There is also a tendency to look to the outside world for solutions (Young, *Values of the Law*, 2001). While New Zealand is known for its natural environment, for adrenaline sports, and more recently, movie production, there is more to the country. New Zealand is a laboratory for programmes targeting brownfields redevelopment, revitalization of main streets, heritage preservation and community development. New Zealand should take steps to document and educate the global community on the successes of Viaduct Basin for brownfields redevelopment in Auckland, Ponsonby Main Street Programme in Auckland, heritage preservation in Oamaru, and community development efforts lead by the Runanga of Waiwhetu in Lower Hutt.

Moreover, I would encourage New Zealand to compete globally as it makes progress regarding urban sustainability. Chattanooga, TN, considers itself to

be the electric bus capital of the world, and the city is a global supplier of the buses. Recently, Auckland introduced such hybrids into its existing fleet of public transport vehicles. While the company that manufactures the buses is able to supply regional demand for such vehicles, attempts could be made to become a global provider. Almost fifty years ago Dunedin sold its cable cars to San Francisco, CA; there is no reason Auckland could not sell electric buses to the U.S. today.

Recommendation 5: Avoid Doing Smart Growth on the Cheap

The phrase "Number Eight Fence Wire" is commonly used to describe the New Zealand knack for overcoming challenges or fixing problems through modest means. I would caution against applying this philosophy to the development of the built environment. For development, it is important to get it right the first time. Most built structures have a life span of fifty years. Carrying out mass development on the cheap can be extremely costly in the long run. The "leaky buildings" affair has been a valuable lesson in how cutting costs can lead to less than desirable results. Also, the challenge of reverse sensitivity, from noise, has required double glazing of walls. In the article "Urban Intensification in Auckland, New Zealand," Jenny Dixon raised technical concerns about the provision of medium density housing including the poor quality of construction materials, poor deign, the incongruence of form and location, and the types of housing that were built. Investment in quality construction should occur up front, particularly for infill development since people have a tendency to resist development projects that increase density.

Recommendation 6: Fix-it-First Policies

The Parliamentary Commissioner for the Environment report *The Cities and Their People* notes that some water and sewerage systems are nearing the end of their useful life and significant amounts of deferred maintenance have built up as the result of short-term decisions, political involvement and conflicting priorities (Williams, 1998). Given the state of existing sewer infrastructure it is not fiscally prudent to direct municipal investments, in the form of new infrastructure, to the fringe of communities while allowing that of existing communities to decay. By deferring the maintenance, local government creates for itself a larger fiscal problem for each year that these issues are not addressed.

New Zealand communities may want to consider fix-it-first policies to support maintenance and upgrades of existing infrastructure and facilities. When communities make upgrading existing infrastructure a priority instead of subsidizing installation of new infrastructure on the urban periphery, it will require developers to think twice about pursuing expansion projects on the fringe. Fix-it-first policies don't constitute market intervention, inhibition of the market, or the creation of an unfair competitive advantage, and they do not prevent development from occurring on the fringe. Developers can continue to build in such areas if they are willing to cover the infrastructure costs. Local government is simply making a prudent decision to maintain existing investments. Dunedin is currently applying such policies to prioritize

renovation and redevelopment in areas where there is an under-utilisation of urban service provision (Freeman and Thompson-Fawcett, 2003).

Recommendation 7: Enhance Data Collection and Research

As recently as April 2003, PUCM research indicated that planning practice under the RMA lacks sound environmental data from which to develop policy for dealing with the environmental effects of resource use and development (Day, 2003). The need for high quality information has also been noted by central government and academic researchers. Improvements to data collection, data consistency, and research are essential.

In the meantime, researchers may want to consider asking different questions of the data and/or research that has already been amassed for determining the relationship between economic, environmental, and social wellbeing. Questions to be considered include but are not limited to:

Indicators of Sprawl
- What is the rate of change in population versus the rate of change in land consumption for New Zealand's major cities?
- What is the percent increase in impervious cover nationally?
- What is the percent change of New Zealand metropolitan areas, inside and outside of central cities.

Transportation and Efficiency
- What is the relationship between residential settlement patterns and increasing VMT?
- How much fuel is wasted from being stuck in traffic gridlock?
- What is the number of hours spent behind the wheel on average annually?
- What share of household income is spent on personal transportation (payment, servicing, maintenance, and fuelling)?
- What is the link between increasing highway capacity and induced travel?

Health
- What is the link between trends in sedentary lifestyles and neighbourhood design?
- Can a corollary between increasing VMT and rising asthma rates be established?

Water Quality
- What is the link between increased imperviousness and water quality within a watershed?
- How does the level of strormwater runoff differ for clustered development versus large lot development?

Fiscal Efficiency
- What are the full costs of greenfields development versus developing in existing communities?

- Comparatively, what are the costs for servicing infrastructure for compact settlements versus dispersed settlements?
- What are the fiscal costs and public safety risks of low density residential development?

Not all of the above questions are easily answered, but it is necessary to address them in order to have a clear sense of the full impacts of development. This information is necessary to justify a shift in development patterns.

In recent years, the Wellington City Council design team conducted an economic analysis of enhancements to footpaths. The results demonstrated that the improvements enhanced property values for businesses in the CBD. The City Council now understands that pedestrian oriented enhancements can strengthen its economic bottom line (J. Black, personal communication, August 18, 2003).

Recommendation 8: Use Visual Tools
MfE's implementation of the Urban Design Protocol will require engaging a broad cross-section of the public. Some laypersons may not easily pick up on the technical aspect of design. In fact, it is possible that citizens or communities that can not envision the benefits associated with better urban design will be sceptical of such approaches and thus oppose them. Nothing works better than visual images to convey the value-added potential of better urban design, for example, pictures of streetscapes or developments, visual preference surveys, digital imagery of existing versus potential development, satellite imagery/aerial photos that show the increase in an area's development footprint; etc. It is a worthwhile investment to acquire or develop such tools so that MfE staff can effectively communicate the importance of urban design.[42]

Recommendation 9: Making Public Transport Work
As noted in this report, many New Zealand cities have public transport services, and steps have been taken to make them work more effectively including priority bus lanes, pre-emptive signalling, and real-time arrival systems. Additional steps could be taken to connect transport modes. For example, bicycle racks could be reinstalled on public buses. While cities may not have the infrastructure to allow safe biking from origin to destination, they can take a first step by ensuring that buses are equipped with devices that allow bicyclists to transport their bikes to their destination.

Within the Auckland Region, there is a need to improve transport provision, particularly in Manukau. For example, the *Manukau City Council 1999 State of the Environment Report* notes the city's transport system has been designed around the car and a low density urban form. The report also notes problems arise relating to the integration of other forms of transport, provision of public transport and road safety (Manukau, 1999).

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[42] UrbanAdvantage offers visualization tools for existing versus potential development, http://www.urban-advantage.com/.

Overall, creative steps should be taken to reintroduce New Zealand citizens to public transport. It could start by simply granting one free bus day a month. In the U.S., many public transport providers allow citizens to ride public transport (bus/rail) for free when "code red ozone days" are forecast.[43] On these occasions, radio and television media are used as an outlet to encourage citizens to ride public transport. Although the free service is offered to reduce air emissions, it also presents an opportunity to introduce citizens to the convenience of public transport.

Recommendation 10: Creating an Inclusive Society

Central government's role in providing state housing has fluctuated since the first state houses were built in 1905. From the beginning, policies for location of state housing targeted the suburbs. Although state housing began as tenant housing, central government introduced legislation to allow tenants to buy their homes in 1950 *(New Zealand History*, 2003). By 1991, central government had vacated its role as a provider of housing for New Zealanders. Rising rents and housing prices through out the 1990s ushered in an affordable housing challenge for New Zealand's low income families.

In 2001, Housing New Zealand Corporation (HNZC) was created to provide access to decent homes, help New Zealanders manage their own circumstances and contribute to community life. HNZC has developed a corporate strategy for dealing with the significant challenges to delivering housing solutions in the future (Housing NZ, 2003).

As HNZC takes steps to implement its housing strategy, it should consider how housing can be better connected with public transport and provision of quality housing.

Housing and Transport

Low income households have the greatest need for safe and reliable public transport. Because cars are depreciating assets, paying off and servicing a vehicle may not be the best use of discretionary income for such households. Therefore, state supplied housing should empower citizens through transportation choice.

Provision of Quality Housing

Because much of New Zealand's state housing has declined in quality, state housing is often associated with images of poor quality tenements or slums. Currently older state houses are being modernized, and there are plans to build new state housing. The stigma of state housing could be addressed through better design and construction. The goal should be to make new state houses visually indistinguishable from market-rate housing, making it possible to incorporate them anywhere so that communities include a broader mix of incomes. New Zealand housing policies must work towards creating an economically inclusive society. Providing quality housing for people of all income levels is an integral component of any smart growth strategy.

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[43] http://www.alexride.org/ozone_text.html

Recommendation 11: Retrofit Downtown Vacant Properties for Housing

Vacant properties represent a potentially valuable untapped resource for revitalization and redevelopment as well as a prime opportunity to expand the housing stock in existing neighbourhoods. Auckland and Christchurch are dealing with the challenge of downtown office and commercial providers relocating to the fringe. The consequence of this is vacant properties within the Central Business District (CBD). Vacant properties can act as barriers to reinvestment and revitalization, particularly if they are allowed to deteriorate.

Ideally, steps should be taken to find a similar use to occupy a vacant property. However, vacant commercial or office property should not be allowed to sit unoccupied for several years, especially in cities that are experiencing population growth. Successful redevelopment projects like Viaduct Basin or Beaumont Quarters in Auckland demonstrate that demand for housing in central locations is high. Adapting vacant property in the CBD for residential purposes helps to make downtowns more liveable, and diversifies the downtown so that it serves broader interests than those of tourists or workers during the day. In the case of Christchurch, it can facilitate informal surveillance and make the heart of the city feel less intimidating at night. A lively and inviting street is viewed as safe and attractive, whereas an empty street, void of pedestrian activity, can convey abandonment or danger (*Getting*, 2002). Because the growth rate in Dunedin has been stagnant and there are many vacant properties along Princess Street, the city has been receptive to retrofits of old office space for residential uses. Large corporations that are based in CBDs would benefit from such opportunities because it would grant their employees the chance to live close to work.

Recommendation 12: Pride and Place making

Some of the best examples of community restoration can be seen in New Zealand's small towns. Many of these communities do not have sizeable budgets, assets, or a large population base to draw from for rates. Still, attention is given to making sure the towns project an image that compels passers-by to stop, get out of their cars, and onto the sidewalks where they can browse the antique, craft, and other shops.

Katikati or Waihi are small towns with a clear centre and a defined edge. They are distinctive and attractive communities that have invested in "place making" approaches that have successfully made them notable communities along the Pacific Coast Highway. For Katikati, the approach was the provision of "open air art." Thirty beautiful murals have been painted on the buildings along its main street. In Waihi, the town has embraced its history as a former mining community. Street banners are emblazoned with "poppet head" mining emblems, roundabouts incorporate features from the town's mining past, and the human factors in town sculptures enhance community appreciation of art while adding to the sense of place. Residential sections of these communities exhibit the character of traditional neighbourhood design: streets are permeable; garages are not the dominant feature of the house; and the communities are walkable. It is refreshing to see communities reflecting these factors in their original state since so many developments now are attempting to replicate these attributes.

Recommendation 13: Transit-Oriented Development

Auckland City's original liveable community strategy was based on having higher density development within defined nodes and along transit routes. That plan was changed following the installation of Auckland's current City Council. The current council suggested densities should not be increased along transit routes. It may be necessary to revisit that decision. Public transport requires supportive land use. Good accessibility to public transport can be ensured by clustering higher-density residential development around transit stops. Public transport can become even more effective if other services and amenities are also co-located with transit such as childcare, dry cleaning, parcel pickup and convenience store shopping.

Recommendation 14: Engage Children Through Education and Outreach

Engaging children often and early is critical to ensure they develop a comprehensive understanding of how the built environment impacts on the natural, and moreover, their quality of life. In addition, many children "teach" their parents about new issues and innovative solutions. To some degree, the success of recycling can be attributed to children who learned about it in school, brought it home, and created a demand by parents for curb-side recycling.   In addition to environmental education programmes, local governments and school boards can work with teachers to expand these programmes to provide children the vocabulary and tools to understand how development impacts the natural world, and what they can do to influence the development process. Once they have a better understanding of the links between development decisions and quality of life, students will have a better sense of how to build a community that meets the needs of its residents and will be more inclined to engage in the process to implement that vision.

Recommendation 15: Reduce the Dominance of the Garage in Home Design

Rapid growth in auto ownership has required measures to accommodate the automobile.   For residential home design, auto accommodation has occasionally occurred in an awkward manner. For example, views of some older New Zealand homes have been obstructed by garages that were carelessly added on to the front of the property, or front yards have been sacrificed to serve as a personal space for parking. Such development decisions compel one to ask which is the greater symbol, "homeownership" or "personal transport."

Some new residential development has incorporated the garage as a dominant feature in the design of the housing structure. As a result, the garage dominates the street frontage instead of the house. As cities give greater consideration to urban design, they may want to research approaches to reducing the prominence of the garage in residential design.

Recommendation 16: Transportation Choice

Trails and Paths
In addition to considering where pedestrian trails and bicycle paths are placed, cities should give thought to how these features can connect uses within a city. Trails and paths are also transportation infrastructure. Like road networks, they can be designed to connect multiple points of destination. Evolving pedestrian trails and bike paths into networks will help citizens to better incorporate physical activity into their lifestyles.

Embrace Public Transport
Steps could be taken to educate citizens about the value of public transport and to celebrate it as a city asset. In the U.S., cities find pride in having a quality public transportation service. A safe, reliable, and efficient public transportation system is a sign of a progressive city.

CONCLUSIONS - Mō tātou, ā, mō kā uri ā muri ake nei (For us and our children after us)

The nature of this report has not been to suggest that New Zealanders must choose between growth versus no growth or even slow growth. It simply suggests that New Zealanders need to be mindful of how and where growth occurs so that the country's assets, natural and built, can be enjoyed by current and future generations. Economic development and environmental protection are not mutually exclusive objectives. Meeting both objectives requires a change in thinking and behaviour, policy and practice, planning and development. The status quo will not be sufficient.

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BIBLIOGRAPHY

ACFNEWSOURCE (2003) *Car Sharing.*
http://www.acfnewsource.org/environment/car_sharing.html.

America's Cup Village Limited (2003) *History of the Viaduct.*
http://www.nzcupvillage.co.nz/corp/history.htm.

American Lung Association (2003) *There's Even More You Should Know About Smart Growth, Urban Sprawl, Air Quality and Health.* Available at www.hpforum.org.nz/dec02news.htm.

Auckland City (2003) *About Auckland City.*
http://www.aucklandcity.govt.nz/auckland/introduction/city/default.asp.

Auckland City (2003) *2004 Annual Plan.* Auckland: City of Auckland.

Auckland City (2002) *A Guide to Living in Auckland.* Auckland: City of Auckland.

Auckland City (July 2003) "Britomart: Stunning Home for Downtown Trains", *Action Auckland*, Issue 06. Auckland: City of Auckland.

Auckland City (2000) *Growing Our City Through Liveable Communities 2050.* Auckland: City of Auckland.

Auckland City (2003) *Mainstreet Programmes.*
http://www.aucklandcity.govt.nz/auckland/introduction/mainstreets/default.asp.

Auckland City (September 2003) "New Standards to Manage Growth" *Action Auckland*, Issue 07. Auckland: City of Auckland.

Auckland City (2002) *Our Changing Environment 2000.* Auckland: City of Auckland.

Auckland City (1997) *Proposed District Plan, Central Area Section.* Auckland: City of Auckland.

Auckland City (2003) *The Cup in Auckland.*
http://www.aucklandcity.govt.nz/whatson/events/americascup/viaduct.asp.

Auckland City (2003) *Urban Design Panel.* Auckland: City of Auckland.

Auckland City (2003) *Urban Living.*
http://www.aucklandcity.govt.nz/auckland/economy/urban/default.asp.

Auckland District Law Society (2003) *Local Government Act Reforms 2002.* Auckland: Auckland District Law Society.

Auckland Regional Council (1999) *A Vision for Managing Growth in Auckland Region*. Auckland: Auckland Regional Growth Forum, City of Auckland.

Auckland Regional Council, Waitakere Council, North Shore Council, Manukau Council, Hamilton Regional Council, Wellington Regional Council, Christchurch Regional Council, and Dunedin Regional Council (2003) *Quality of Life in New Zealand's Eight Largest Cities*.

Auckland Waterfront (2003) *The Tank Farm Project.* http://www.aucklandwaterfront.org.nz/history.htm.

Auckland Waterfront (2003) *Frequently Asked Questions*. Available at http://www.aucklandwaterfront.org.nz/faqs.htm.

Beamguard, Jim and Phil Sheffield (1999) "Packing Pavement," *The Tampa Tribune*: July 18, 1999. http://www.tampabayonline.net/bguard/home.htm.

Booth, Geoffrey et. al. (2001) *Transforming Suburban Business Districts*. Washington, DC: Urban Land Institute.

Brown, Jo-Marie (2003) "Sick-lakes Forum Seeks Practical Remedies", *The New Zealand Herald*. October 9, 2003. pg. A9.

Christchurch City (2000) *Central City the Vision: Focusing on the Heart.* Christchurch: City of Christchurch.

Christchurch City (1999) *City Plan*. Christchurch: City of Christchurch.

Christchurch City (2003) *Christchurch City Cycling.* http://www.ccc.govt.nz/recreation/cycling/safetyhealth/

Christchurch City (2002) *Christchurch City Factsheet for Visitors*. Christchurch: Environmental Policy and Planning Unit, City of Christchurch.

Christchurch City (2000) *Christchurch City Update 2000: State of the Environment Monitoring Report*. Christchurch: Environmental Policy and Planning Unit, City of Christchurch.

Christchurch City (2001) *Design Opportunities*. Christchurch: City of Christchurch.

Christchurch City (2000) *Focus on the Heart: Revitalising Christchurch's Central City.* Christchurch: City of Christchurch.

Christchurch City (2001) *Revitalising the Heart of Our City: Development of a Central City Strategy*. Christchurch: City of Christchurch.

Clark, Helen (2003) Speech Notes. Launch of *The Quality of Life in New Zealand's Eight Largest Cities* report. Wellington.

Day, M., Backhurst, M., and Ericksen, N., et al., (2003) *District Plan Implementation Under the RMA: Confessions of a Resource Consent.* Hamilton: The University of Waikato, The International Global Change Institute.

Dixon, Jennifer and A. Dupus (2003) "Urban Intensification in Auckland, New Zealand: A Challenge for New Urbanism." *Housing Studies*, Vol. 18 No. 3, pgs. 353-368.

Dixon, Jennifer (2003) "Planning in New Zealand: Legacy of Ambivalence & Prospects for Repositioning." *Planning Theory and Practice*, Vol. 4 No 3.

Department of Prime Minister and Cabinet (2003) *Sustainable Development for New Zealand Programme of Action.* Wellington: Department of Prime Minister and Cabinet.

Douglass, Malcolm and A. Memon (2002) *Reflections on 50 Years of Regional Planning in Canterbury, New Zealand.* Auckland: University of Auckland.

Dye, Stuart, "Car Maker Chokes on Dirty New Zealand Diesel," *The New Zealand Herald.* August 11, 2003. pg. A11.

Eagles, Jim, "Capital Rides to Auckland's Aid" *The New Zealand Herald.* October 16, 2003. pg. C3.

Egan, Timothy, "Sprawl-Weary Los Angeles Builds Up and In," *New York Times.* March 10, 2002. http://best.enigmati.ca/trans-action/200203/0300.html.

Environment BOP (1999) *Diesel Vehicle Exhaust Emissions.* Whakatane: Environment BOP.

Freeman, Claire and M. Thompson-Fawcett (2003) *Living Space: Towards Sustainable Settlements in New Zealand.* Wellington: University of Otago Press.

Gatt, Leigh, (2001) *Quality of Life in New Zealand's Six Largest Cities.* Auckland: Print Strategies Ltd.

Gibson, Ann (2003) "Property Prices Coming off the Boil," *New Zealand Herald.* October 21, 2003. http://www.nzherald.co.nz.

Grundy, Kerry (2001) "Environmental Monitoring Under the Resource Management Act." *Australian Planner.* Vol 38 No. 3 / 4. pgs. 133-141.

Hansen, Mark and Y. Huang (1997) "Road Supply and Traffic in California Urban Areas," *Transportation Research A.* Vol 31 No. 3. pgs. 205-218.

Herd, Milton, (2003) "An American's Impression of New Zealand," *Planning Quarterly.* No. 148. pgs. 18-20.

Hirschhorn, Joel and P. Souza (2001) New *Community Design to the Rescue.* Washington, DC: National Governors Association.

Housing New Zealand (2003) *Statement of Intent 2003-2006.* Wellington: Housing New Zealand.

James, Colin, "Small Green Victory in Transport Bill", *Weekend Herald.* October 18-19, 2003. pg. C5.

Kearns, Robin (2003) *Health Promotion in Action.* http://www.hpforum.org.nz/dec02news.htm.

Land Transport Safety Authority (2002) *New Zealand's Land Transport Safety Record.* http://www.ltsa.govt.nz/about/role.html.

Maclay, Kathleen (2002) *Car sharing system is catching on…..* http://www.berkeley.edu/news/media/releases/2002/10/03_cars.html.

Manukau City (1999) 1999 State of the Environment Report: Manukau. http://www.manukau.govt.nz/enviro/state1.htm.

Memon, P.A. (2002) "Reinstating the Purpose of Planning within New Zealand's Resource Management Act," *Urban Policy and Research.* Vol. 20 No. 3, pgs. 299-308.

Memon, P.A. (1991) "Shaking off a Colonial Legacy? – Town and Country Planning in New Zealand, 1870s to 1980s," *Planning Perspectives.* No. 6, pg. 23.

Memon, P.A. (2003) "Urban Growth Management in Christchurch," *New Zealand Geographer.* Vol. 59 No. 1, pgs 27-39.

Ministry for Culture and Heritage (2003) *We Call it Home: A History of State Housing in New Zealand.* http://www.nzhistory.net.nz/Gallery/housing/state-steps-in.html*.*

Ministry for the Environment (2002) *Creating Great Places to Live, Work, Play.* Wellington: Ministry for the Environment.

Ministry for the Environment (2000) *Curbing the Sprawl.* Wellington: Ministry for the Environment.

Ministry for the Environment (2002) *Healthy Environment – Healthy Economy.* Wellington: Ministry for the Environment.

Ministry for the Environment (2002) *People, Places, Spaces.* Wellington: Ministry for the Environment.

Ministry for the Environment (2003) *Proposed National Environmental Standards for Air Quality*. Wellington: Ministry for the Environment.
Ministry for the Environment (2001) *The Resource Management Act and You: Getting in on the Act*. Wellington: Ministry for the Environment.

Ministry for the Environment (1997) *The State of the Environment*. Wellington: Ministry for the Environment.

Ministry of Tourism (2002) *Vote/Tourism*. Wellington: Ministry of Tourism.

Ministry of Transport (2002) *The Health Effects due to Motor Vehicle Air Pollution in New Zealand*. Wellington: Ministry of Transport.

National Association of Realtors (2003) *Creating Great Neighborhoods: Density in Your Neighborhood*. Washington, DC: National Association of Realtors.

National Trust for Historic Preservation (2003) *About the Main Street Program*. http://www.mainstreet.org/About/index.htm.

New Zealand Herald (2003) "Building Industry Welcomes Legislation Changes", *New Zealand Herald.* May 27, 2003. http://www.nzherald.co.nz.

Nuova Zelanda (2003) America's Cup Village.

Office of the Parliamentary Commissioner for the Environment (2002) *Showing the Way: Curitiba Citizen City.* Wellington: Office of the Parliamentary Commissioner.

Office of the Parliamentary Commissioner for the Environment (1998) *The Cities and Their People: New Zealand's Urban Environment.* Wellington: Office of the Parliamentary Commissioner.

The Royal New Zealand College of General Practitioners (2003) *Practice Profile.* http://www.rnzcgp.org.nz/colled/Waiwhetu.php.

Queenstown (2002) "Quality or Chaos", *Tomorrow's Queenstown,* http://www.tomorrowsqueenstown.co.nz/report10.php.

Rudman, Brian (2003) "Minister Can't Walk the Walk", *New Zealand Herald*: October, 15, 2003. pg A9.

Schwass, Margot (2003) *Understanding Wellington City's District Plan, Draft.* Wellington: City of Wellington.

Skelton, Peter and A. Memon (2002) "Adopting Sustainability as an Overarching Environmental Policy," *Resource Management Journal*. Issue 1 Vol 10. pgs 1-10.

SmartGrowth, (2003) *Newsletter No. 3,* Mt. Maunganui.

Smart Growth Network (2002) *Getting to Smart Growth: 100 Policies for Implementation.* Washington, DC: International City/County Management Association.

Spiller, Marcus (2003) "New Zealand's Resource Management Act", *Australian Planner.* Vol 40 No. 2. pgs. 100-101.

Statistics New Zealand (1999) *Manufacturing.* http://www.stats.govt.nz/domino/external/PASfull/PASfull.nsf/0/4c2567ef0024 7c6acc25697a0004432e?OpenDocument.

Statistics New Zealand (2002) *Monitoring Progress Towards a Sustainable New Zealand.* Wellington: Statistics New Zealand.

Statistics New Zealand (2002) *New Zealand Official Yearbook.* Wellington: Statistics New Zealand.

Tremaine, Ken (2001) *Joint Sub-Regional Growth Management Strategy.* Mt. Maunganui: Tauranga City.

Thompson, Wayne, "Third of Auckland's Fire Stations to Shift." *The New Zealand Herald.* October 20, 2003. pg A7.

Urban Land Institute (1998) *Smart Growth: Economy, Community, and Environment.* Washington, DC: Urban Land Institute.

U.S. Environmental Protection Agency (2001*) Our Built and Natural Environments.* Washington, DC: U.S. Environmental Protection Agency.

Waikato University (2003) *Growth in Population and Households in the Western BOP: A 50 Year Forecast.* Hamilton: Population Studies Centre. Waikato University.

Wellington City (2003) *Northern Growth Management Framework, Draft.* Wellington: City of Wellington.

Wellington City (2003) *Central City Urban Design Strategy Principles.* Wellington: City of Wellington.

Wellington City (2003) *Council Plan 2003/2004.* Wellington: City of Wellington.

Wellington City (2001) *District Plan.* Wellington: City of Wellington.

Wellington City (2003) *Understanding the District Plan.* Wellington: City of Wellington.

Wellington City Council (2003) *Town belt.*
http://www.wcc.govt.nz/recreation/gardens/index.html#townbelt.

Viaduct Point (2003) *What's the Future of Viaduct Harbour?*
http://www.thepoint.co.nz/c_faq.html.

Yates, Juliet, "Houses for more but they must be Quality," *The New Zealand Herald.* September 3, 2003. http://www.nzherald.co.nz.

Young, David (2003) *Values of the Law: The History and Efficacy of the Resource Management Act.* Wellington: Victoria University, The Institute of Policy Studies.

XtraMSN (2003) *Asthma: An Underestimated Killer.*
http://www.xtramsn.co.nz/health/0,,8238-2340403,00.html.

APPENDIX
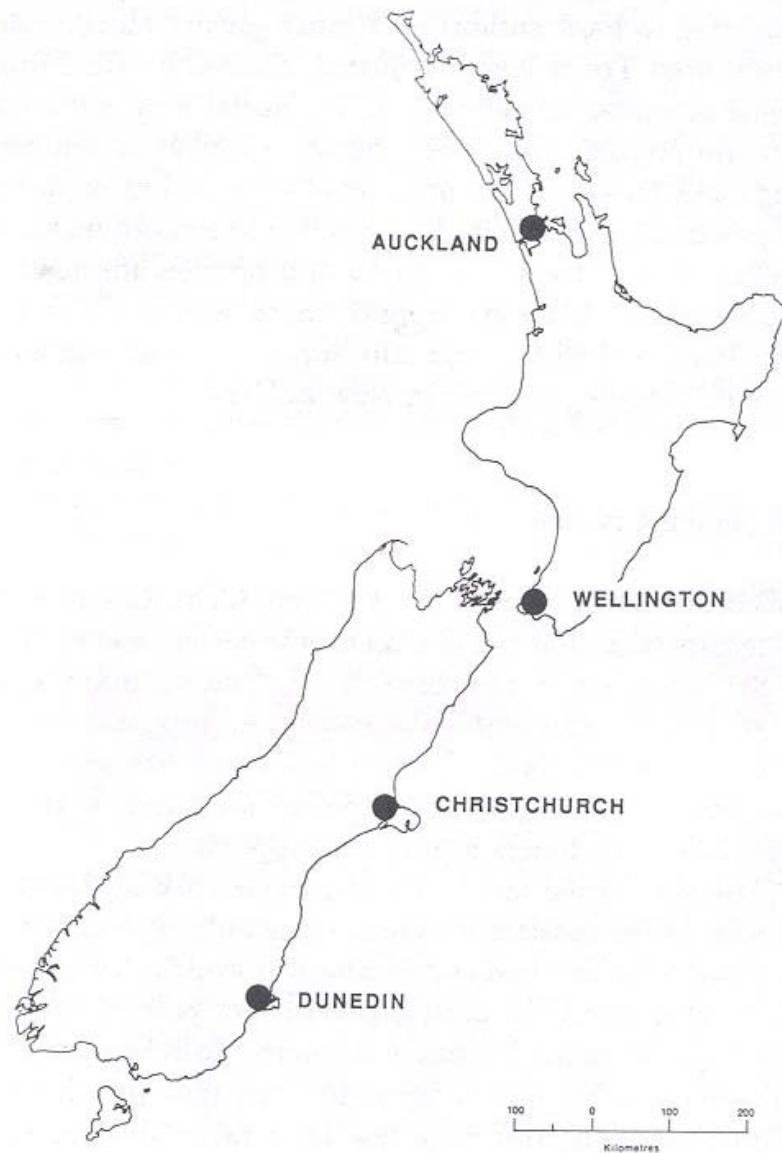
Figure 1. New Zealand: the major metropolitan centres.

Figure 19 - Cities visited during fellowship

Source: Memon, P.A. (1991) "Shaking off a Colonial Legacy? – Town and Country Planning in New Zealand, 1870s to 1980s," *Planning Perspectives*. No. 6 p. 23.

Figure 20 – Wellington

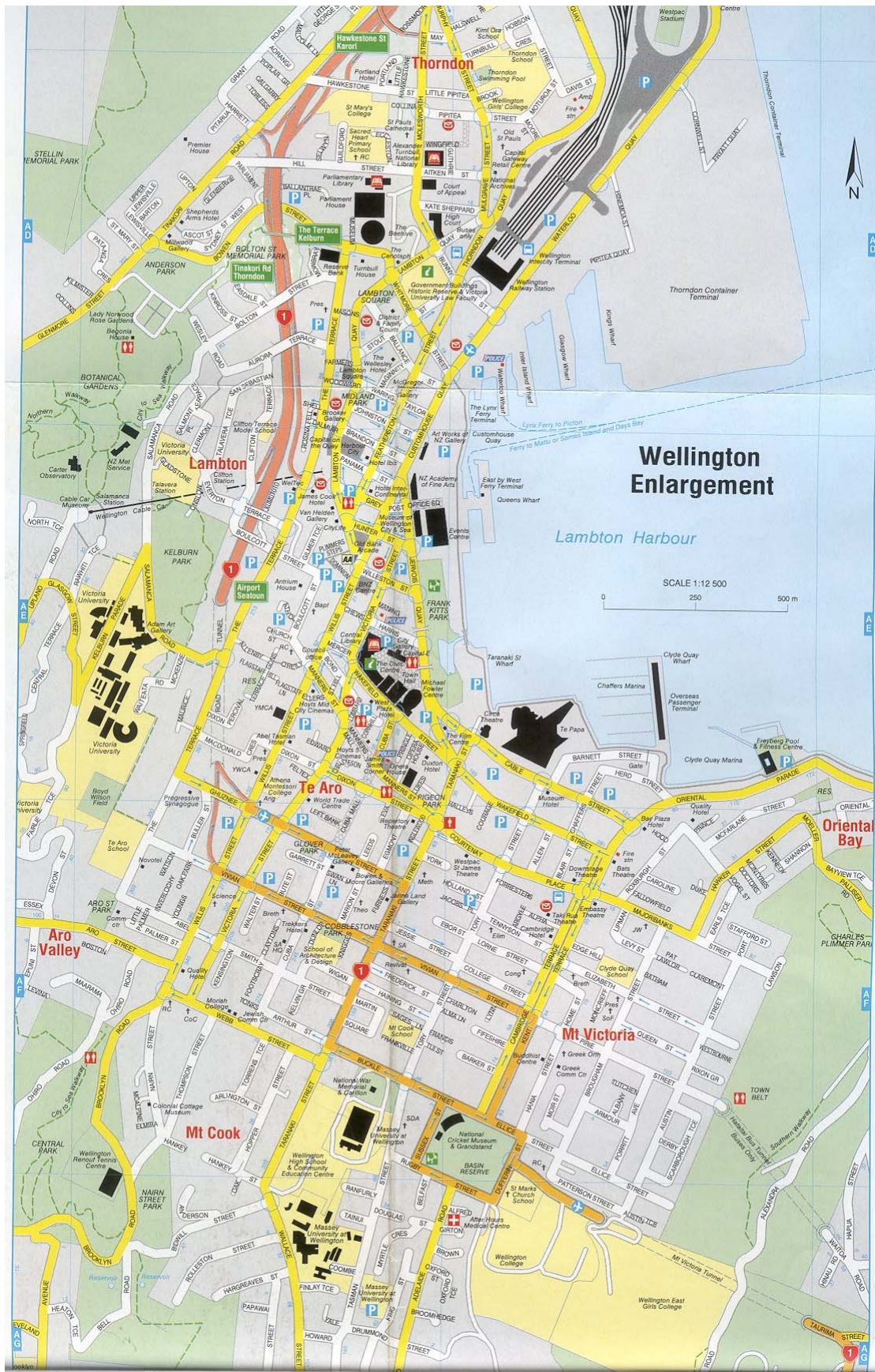Source: McKenzie, D.W. (1995) *New Zealand Atlas*. China: Heinemann Publishers Ltd.
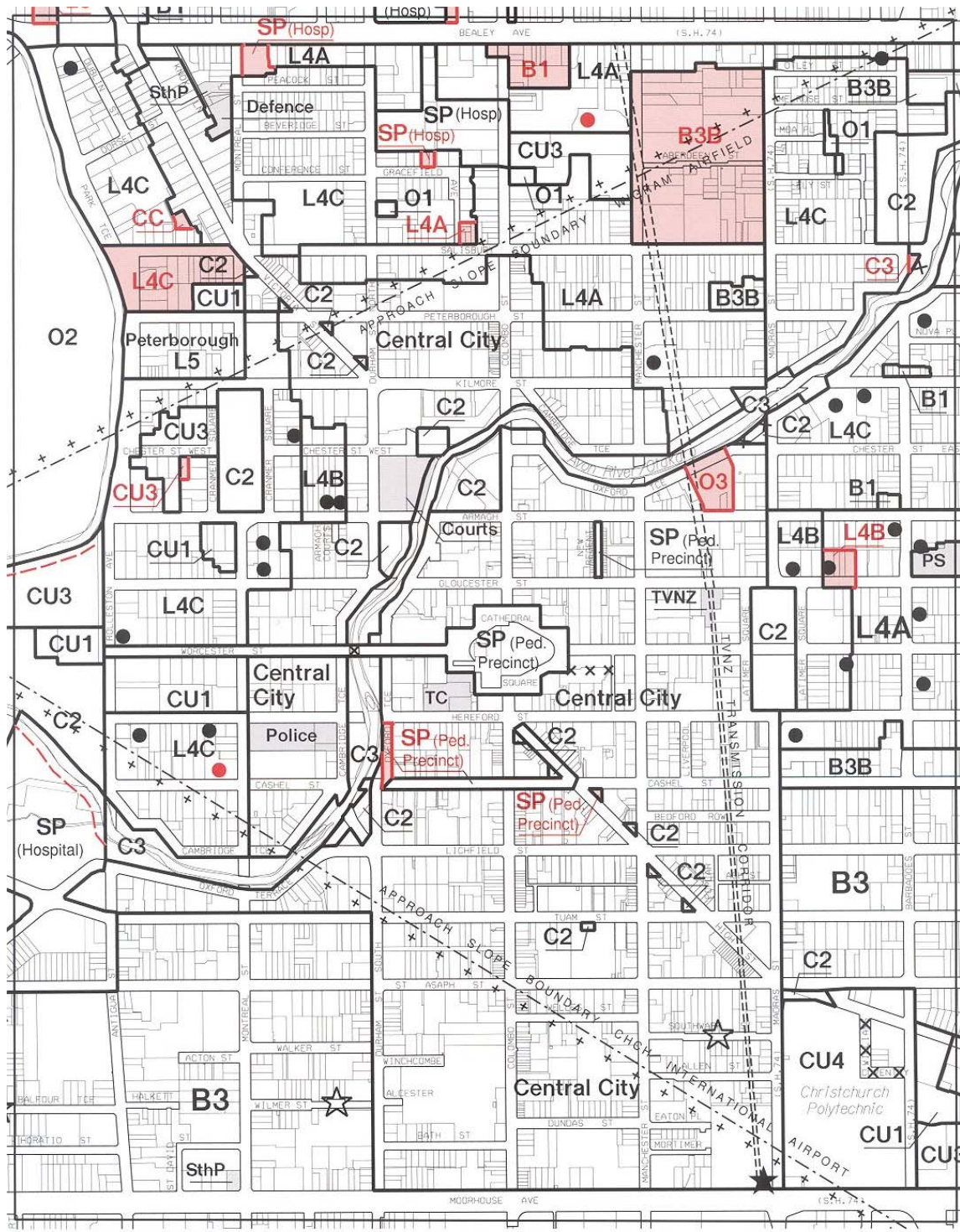
Figure 21 - Central Wellington

Source: WISES

Figure 22 – Christchurch

Source: McKenzie, D.W. (1995) *New Zealand Atlas*. China: Heinemann Publishers Ltd.

Figure 23 – Christchurch Central Business District

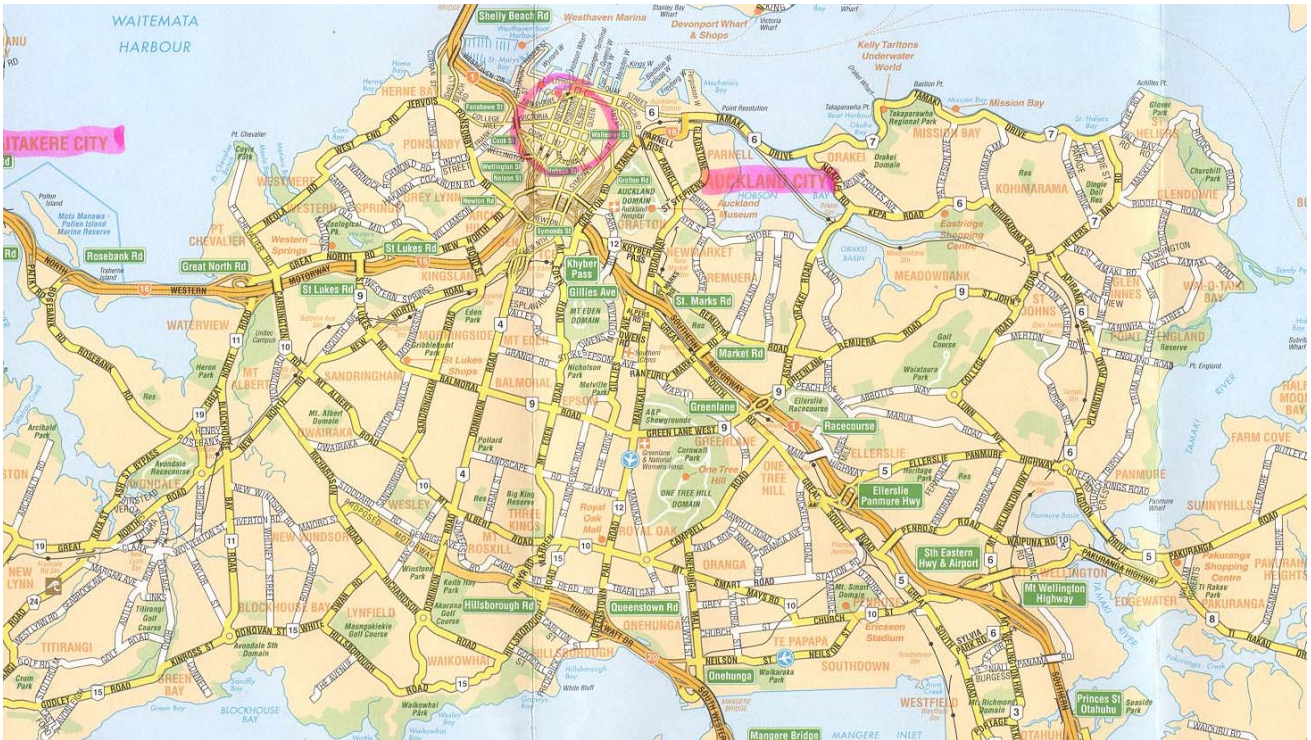Source: Christchurch City (1999) *District Plan*. Christchurch: City of Christchurch.

Figure 24 – Auckland City

Source: Kiwimaps Ltd.
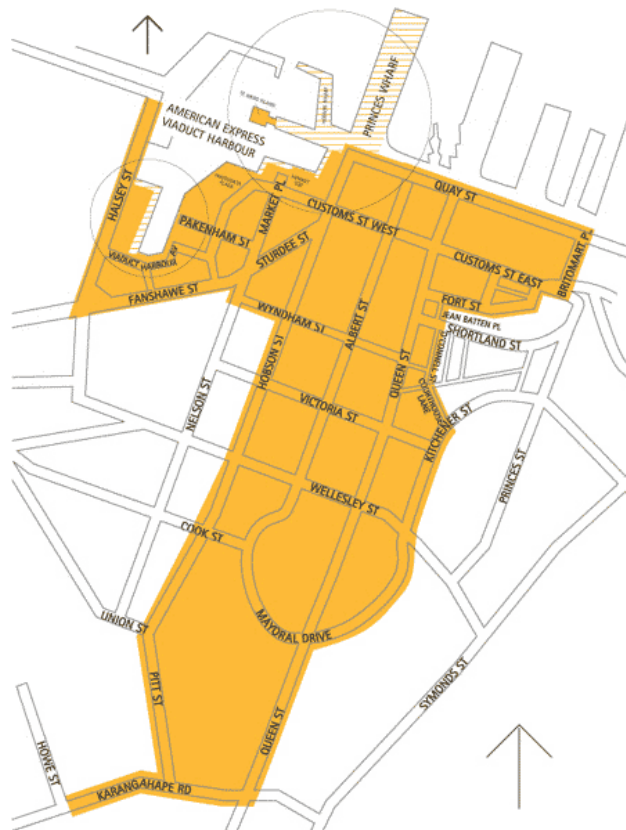
Figure 25 – Auckland City Central Business District

Source: City of Auckland,
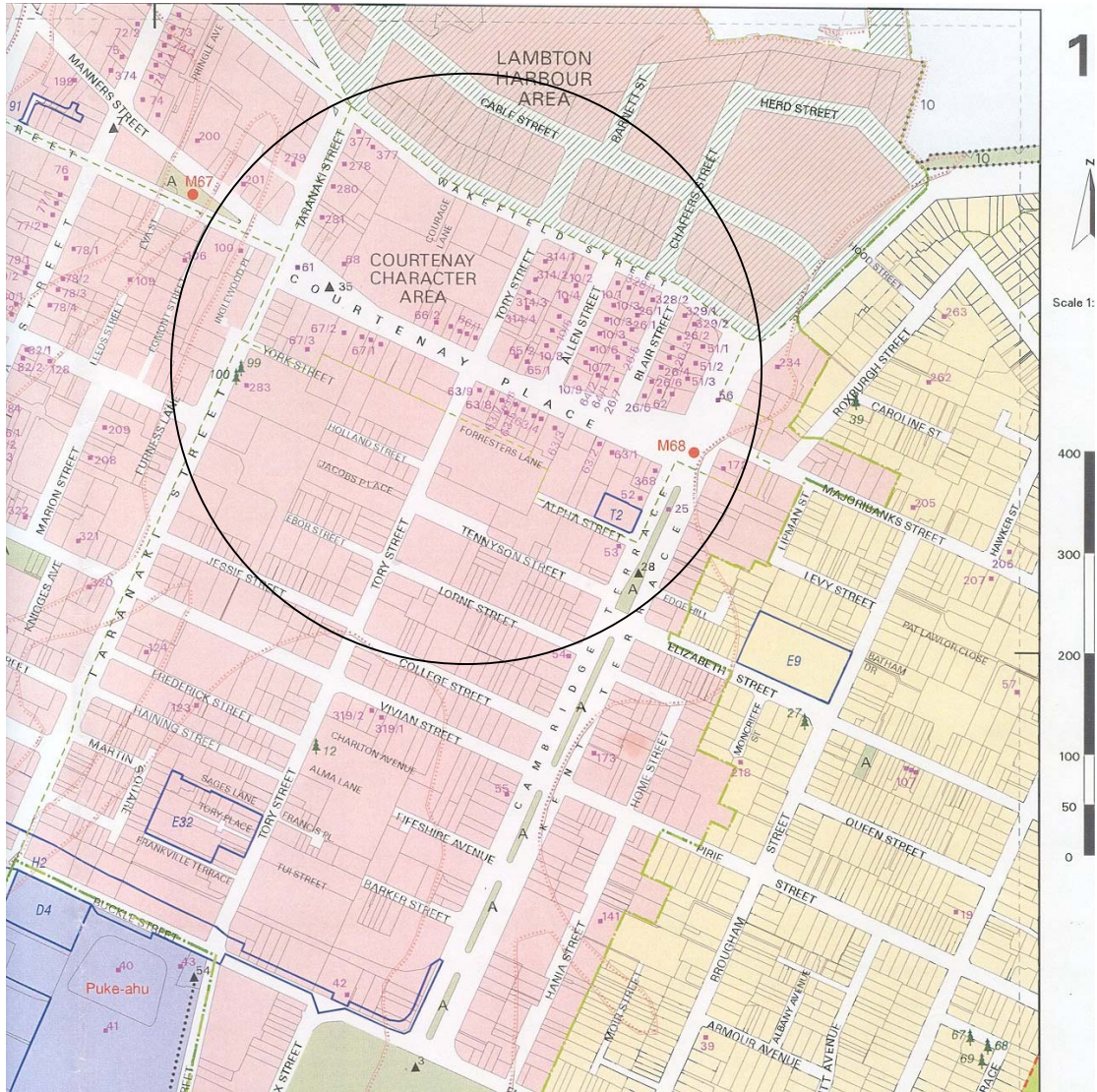http://www.aucklandcity.govt.nz/council/documents/liquorban/map.asp

Figure 26 - Courtenay Place Analysis Zone

Source: Wellington District Plan 2001.
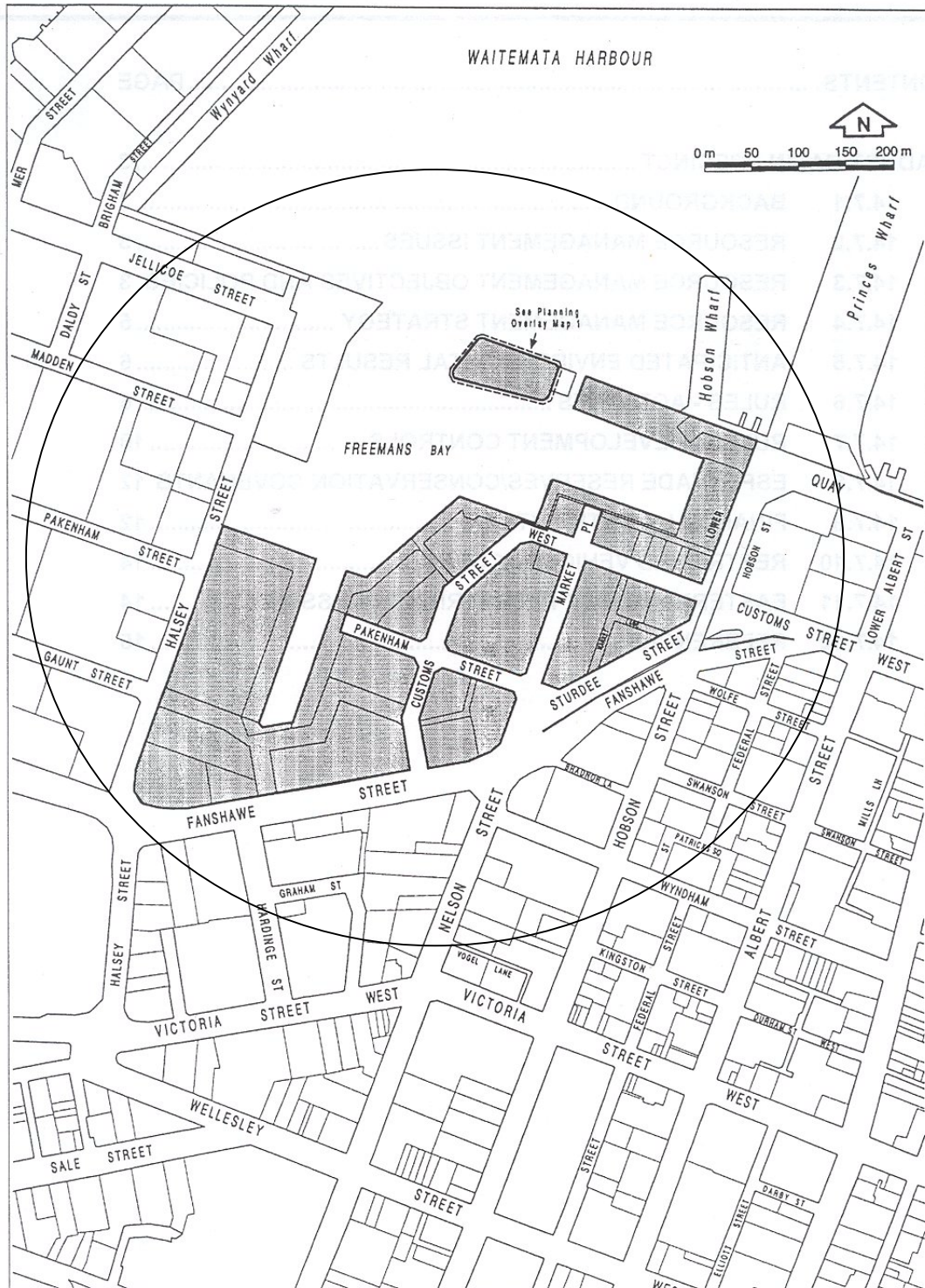Note: Circle encompasses defined analysis zone.

Locality Map

Figure 27 - Analysis zone for Viaduct Harbour

Source: City of Auckland – Proposed District Plan, Central Area Section -
1997
Note: Circle encompasses the analysis zone.

An exercise in street smarts

The same 40 people who constitute a crowd in traffic create a new city scene when they get out from behind the wheel.

1. In the demonstration below, first they fill four lanes on a street in downtown Tampa, FL, in their automobiles.

2. Then each trades the driver's seat for a chair.

3. Next they assume the pose of transit riders, clustering their seats in one bus-sized space.

4. Finally, they take their places in the urban landscape as pedestrians and cyclists.

PHIL SHEFFIELD/Tribune photos

Figure 28 – Demonstrating the efficiencies that mode choice facilitates.

Source: Beamguard, Jim and Phil Sheffield (1999) "Packing Pavement,"
The Tampa Tribune: July 18, 1999.

Viaduct Basin: A Case Study

<div style="background:#bfbfbf; padding:1em;">

Summary Profile
- To date 38,677m2 of offices, 33,589m2 of residential and 11,681m2 of retail space have been developed.

- There are more than 20 cafes, restaurants and bars.

- The paving patterns were developed in consultation with Ngati Whatua. The pattern depicts the diamond shape of the 'Patiki' or flounder, the fish which lives in the shallows of the Waitemata.

- Along the 460m promenade are a row of 31 plaques which record details of Auckland's maritime history (*The Cup in Auckland*, 2003)

</div>

Also known as the American Express Viaduct Harbour, Viaduct Basin is the successful outcome of enormous organizational effort on the part of the private sector, local authorities, and ordinary citizens.

Historically, Viaduct Basin was zoned for industrial and marine use. Throughout the life of the site, it has hosted a wide range of commercial and industrial uses including timber milling, boat building, port cargo handling, and fish processing (City of Auckland, *Central Plan*, 1997). As traditional port-related and industrial activities declined or moved elsewhere, not much consideration was given to the alternative uses for the property. This changed when New Zealand won the America's Cup in 1995.

A host site for the defence of the Cup in 2000 was required. The site had to provide high-quality facilities to accommodate challengers' syndicates from around the world (Auckland Waterfront, *History*, 2003). Viaduct Basin was selected as the location but the area was seriously in need of re-designing and redevelopment. The neglected and unused areas of the site had become derelict and unsightly. The water space was contaminated with toxins from the fish processing plants, stormwater outfalls and sewerage discharges.

Approximately $100 million has been spent on the infrastructure by America's Cup Village and Auckland City Council. This included the construction of the areas for the Cup bases, dredging of Viaduct Basin to give a minimum of 3.5 metres at low tide and a new stormwater system installed to prevent any discharge into the area.[44]

According to the chief executive of Viaduct Harbour Holdings Ltd., the land where initial facilities were built was only slightly contaminated and simply

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[44]http://www.thepoint.co.nz/c_faq.html

required the excavation of surface soils. Sections of Viaduct Basin that have not been developed have slightly higher contamination and more extensive remediation will be required prior to redevelopment (R. Hutchinson, personal communication, October 21, 2003). Ports of Auckland sold most of its land in the Viaduct area in 1996, and it was redeveloped into an upmarket precinct that combines apartments, restaurants, and bars with sophisticated facilities for America's Cup yachts, charter boats and visiting luxury craft (Auckland Waterfront, *History*, 2003).

Auckland City Council also upgraded and improved nearby public spaces. The development of the Viaduct Basin and surrounding public areas, prompted private enterprise to redevelop privately owned land, apartments, restaurants, offices and hotels within a one kilometre band around the Viaduct's perimeter (America's Cup Village Ltd., 2003).

The revitalization of Viaduct Basin has been worth the investment, and the America's Cup Village continues to serve as the heart of Viaduct Basin (*Nuova Zelanda*, 2003). Attention is now being directed to the "western reclamation" of Viaduct Basin, and a master plan has been prepared to guide the effort. The three major landowners - Ports of Auckland Ltd, Viaduct Harbour Holdings Ltd, America's Cup Village Ltd - and Infrastructure Auckland are meeting the costs of developing the vision (Auckland Waterfront, *Frequently Asked Questions [Frequently]*, 2003).

One major barrier to redevelopment is the fact that there may be little public money available to support the development of public infrastructure. Redevelopment will be staged over time, and is expected to take several years (Auckland Waterfront, *Frequently*, 2003).

With the increase in partners, a second challenge will be the branding of Viaduct Basin literally and conceptually. Perceptions of what Viaduct Basin should be have evolved through the progressive development of the site and with the addition of new partners. As the home of the America's Cup, the harbour represented a public space for the City. While the site continues to maintain its public attributes, the increase in office tenants and apartments requires that sensitivity be given to the needs of permanent residents and businesses on the sight (R. Hutchinson, personal communication, Oct. 21, 2003).

The redevelopment of Viaduct Basin is a marvellous initiative that has produced winning outcomes for the public, Auckland City and for the landowners. The redevelopment of the remainder of the Harbour must continue those outcomes.

Table 9. Policies and Practices to Facilitate Smart Growth in New Zealand

Policy/Practice	Description/Purpose	Significance
Central Government		
Bus subsidies	Transfund New Zealand financially assists regional councils to fund passenger transport. Programs for the 'transport disadvantaged' includes concessionary fares for older people and students, urban school bus services and taxi services for people with disabilities.	Facilitates transportation choice for a broader section of the population.
Resource Management Act	Legislation sets out how New Zealand should manage its environment.	Enables environmental management.
Sustainable Development Programme of Action	Sets directions and outlines the initial actions central government will be taking on issues of water quality and allocation, energy, sustainable cities, and child and youth development.	Identifies sustainable cities as a central government priority.
Urban Design Protocol	Represents a national cross-sector commitment to the importance of achieving good urban design for New Zealand cities and towns.	Potentially, it could offer specificity to how urban issues can be treated.
Nationally Applied		
QualityPlanning Site	The site provides guidance on best practice in developing regional and district plans under the RMA and resource consent processing.	Outreach and education to the public.
Mainstreet Programmes	These programmes enhance the physical environment, heritage conservation, business creation and development, and increased employment and local business investment. The programme is intended to identify and reinforce the unique identity of a place and to promote that identity as part of its development. Auckland City has sixteen main street programmes.	Fosters distinctive, attractive communities with a strong sense of place.
Locally Applied		
Auckland Regional Growth Strategy	Designed to ensure growth is accommodated in a way that meets the best interest of inhabitants of the Auckland region and reflects the councils', within the region, desires to work more closely together to resolve urban growth issues.	Strategy to achieve sustainable outcomes.
Bus Priority Lanes	Improve service reliability, to make trips quicker, to future proof public transport from congestion. Bus priority measures operate in Auckland City, Wellington City and North Shore City.	Fosters transportation choice.
Christchurch Central City Strategy	Revitalization strategy that aims to create a vibrant, exciting, safe and sustainable Central City heart.	Strengthen and directs development back to existing communities.
Design Against Crime (Wellington)	City design guidelines apply established principles of Crime Prevention Through Environmental Design (CPTED) to enhance liveability of the city through personal safety and security and freedom from crime. The general intention is to reduce the opportunity for crime against both people and property in urban public space, and by reducing the opportunity for these crimes to occur, to reduce the fear of crime.	Enhances community quality of life.
Diagonal crossings at busy intersections (Auckland)	Designed to make walking more convenient and safe sense it reduces the need for pedestrians to dart across the street at sections that are not marketed.	Encourages walkable communities.
Disability Reference Group (Wellington)	The City has established the group to give advice to the Council on its policies and plans in areas that affect people with disabilities. The group will also help Council to be more effective in getting its information to people who are disabled.	Fosters an inclusive society.

Earthquake Risk Building Fund (Wellington)	Useful incentive to encourage building owners to strengthen/upgrade heritage buildings that could be lost to demolition.	Foster distinctive, attractive communities with a strong sense of place.
Educating children about growth and design (Auckland)	The city has conducted efforts to educate children through box city, building permit day, or publications that target a youth group.	Public outreach and education.
Heritage Preservation (Oamaru)	Oamaru is the main town of the Waitaki area, whose grand limestone, Victorian buildings reflect the wealth of the gold rushes of the late 1800s. The National Historic Places Trust has classified them for preservation and current refurbishment includes the creation of a working Victorian era town.	Foster distinctive, attractive communities with a strong sense of place.
Liveable Communities 2050 Strategy (Auckland City)	Aims to maintain quality of life in the city while accommodating future growth through: protecting natural and physical resources; guiding the location of growth; integrating land use, transport and infrastructure; strong communities; urban design; economic development and employment; and funding.	Strategy to achieve sustainable outcomes.
Modernizing the bus exchange (Christchurch)	Real time bus information systems installed in the inner city bus exchange similar to those used in airport terminals to show arrival times. The bus exchange screens show a list of buses, and indicate the number of minutes remaining until each bus arrives	Provides a variety of transportation options
Our City O-Tautahi	Serves the public of Christchurch by informing and educating citizens and visitors about the city's environment and past, present, and future developments.	Encourage community and stakeholder collaboration in development decisions.
Pedestrian street signs	Living Streets Aotearoa Inc. and Wellington City Council have collaborated to provide pedestrian maps throughout the city. Installation of the signs makes it easier to navigate the city by foot.	Create walkable communities.
Real time passenger information systems and pre-emptive signalling (Auckland)	Real time passenger information system and signal pre-emption use transponders on buses and detector loops in the carriageway to locate buses and predict their real arrival time at bus stops equipped with variable passenger information display signs.	Provides a variety of transportation options.
Travel Plans for Schools (Auckland)	Integrated Travel Demand Management tool for schools to reduce peak time travel through varying methods such as making walking and cycling to school both safer and more attractive.	Provides a variety of transportation options.
Urban Design Panel (Auckland)	Panel gives independent and professional urban design advice and evaluation of key developments in central area precincts subject to urban design guidelines or design and appearance controls.	Foster distinctive, attractive communities with a strong sense of place.
Unit title subdivision and heritage protection	A unit title subdivision creates a number of properties (flats or units or semi-detached dwellings) over an existing parcel of land (allotment). Wellington City has applied the unit title policy to apartments to protect heritage buildings.	Foster distinctive, attractive communities with a strong sense of place.
Urban Design Strategy	Since 1993, Wellington has had a Draft Strategic Plan for Urban Design. The plan establishes priorities to: improve the design and appearance of new buildings; preserve important parts of the City's heritage; enhance the vibrancy and diversity of Wellington's character and setting; integrate public and private spaces and enhance peoples' use and enjoyment of the City; and maximize the advantages of Lambton Harbour Development and integrate with it.	Foster distinctive, attractive communities with a strong sense of place.

Waitakere City Holdings Limited	Waitakere City Council created its own development company so that the city would have greater control over built projects in the city.	Make development decisions predictable, fair, and cost effective.
Walking School Bus	The walking school bus programme aims to reduce the volume of traffic around schools by getting children and parents out of private vehicles and onto their feet. Individual car trips to school are replaced by supervised group walks along designated routes.	Create Walkable Communities.
Not passed by Parliament yet		
Building Bill	Bill contains provisions that require existing buildings to be upgraded to comply "as is near as reasonably practical" with some (but not all) of the current provisions of the Code when owners choose to make alterations to structures, extend their life, change their use or subdivide them.	Enables refurbishment of buildings that would be cost prohibitive otherwise.
Land Transport Management Bill	This Bill provides for a more balanced and flexible funding framework for land transport. While roading will continue to be of key importance, the Bill contains provisions to meet the needs of motorists, passengers, cyclists or pedestrians.	Provides a variety of transportation options.
Note: The table presents a variety of policies and practices that were shared with me throughout the course of the fellowship. To achieve smart growth, these policies and practices should be applied as part of a comprehensive strategy and not in isolation. Clearly, there are other policies, not referenced here, and practices that can be applied to achieve smart growth objectives.		