Setting the scene – the background and context to sustainable urban development in New Zealand

Urbanisation

The story of New Zealand's towns and cities, and the way they have developed over time, is bound up with the myths and realities of our national identity.

We think of ourselves as a rural nation. For decades we were Britain's larder; farming, forestry and fishing are still the backbones of our export economy. Well over half the land mass is used for agriculture and forestry, and about another third is native forest and other public conservation land. The land coverage of our urban centres is small by comparison.

In fact, by world standards we are one of the most urbanised nations, with 72 percent of the population living in the 16 main urban areas and around 33 percent in the Auckland urban region alone. We are overwhelmingly 'townies' — 87 percent of us live in 138 recognised urban centres with populations ranging from around 1000 to more than one million.

Our urbanisation is not just a recent phenomenon. New Zealand's history over the last 150 years has been one of steady growth of our towns and cities and, over the last 75 years or so, a clear drift of the population northwards. Increasing urbanisation is a global trend — today, the world's urban population is only just on the cusp of overtaking the world's rural population, whereas New Zealand's urban population overtook the rural population way back in 1911. Nevertheless, the notion of New Zealand as a rural paradise offering a spacious quality of life has been a driving force of immigration and suburban development throughout our period of urbanisation.

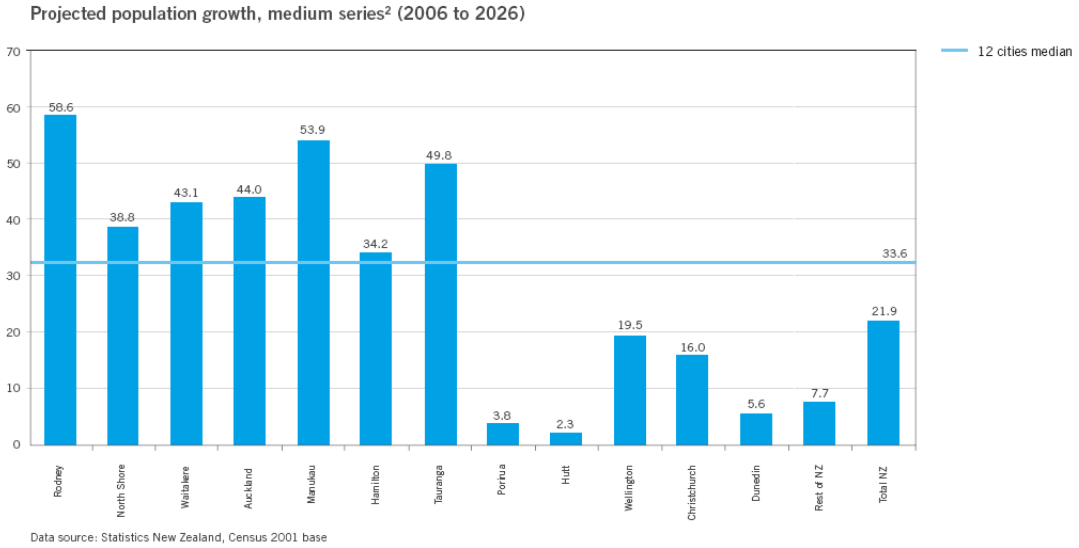
As a result, New Zealand's towns and cities are uniquely Kiwi and very different, even from each other. Geography and landscape strongly influence the distinctive flavour of many of our cities and towns, giving them their own identity. Landscapes can dictate how our towns and cities grow, and can present challenges to developing infrastructure. Wherever possible, the early town planners applied grid street patterns to most town centres. They then began expanding and developing the suburbs — closely linked with the development of our urban transport systems, beginning with horse-drawn trams in the 1880s, electrification and expansion of the tram routes in the early 20th century, supplemented by suburban rail and gradually replaced by networks of bus services.

Rising prosperity mid-century led to a dramatic rise in car ownership and use, and construction of arterial road networks to carry them. Concerns with traffic congestion soon followed. A watershed towards car-oriented development was the 1955 Auckland Master Transportation Plan, which abandoned previous plans for the expansion of the Auckland suburban rail network and set the course for the 1959 Harbour Bridge and the urban motorway system still being completed today.

The increasing personal mobility provided by widespread private motorcar ownership has had a marked effect on the patterns of suburban life.

Suburbs based on public transport systems were designed to cater for local community services and amenities such as shops within the suburb. Gradually these local businesses and services have become less viable, as personal mobility has enabled larger-scale community and retail facilities, such as supermarkets, to service a much wider catchment than an individual suburb. Newer housing developments based on car use often only have residential land uses.

Urban sprawl has come to New Zealand. As urban land values have increased, new subdivisions at the city margins have been increasingly characterised by larger houses on smaller lots. The last decades of the 20th century also saw the rise of alternatives to suburban sprawl, such as more intensive forms of central city living — apartments, town houses and infill housing (i.e. further subdivision of inner city suburban lots). As a result many urban areas have high projected population growth.



Managing urban development

Over the last 25 years, responsibility for shaping the pattern of development has been largely devolved to local government through key legislation such as the Local Government Act and the Resource Management Act.

Central government's own land ownership and development role has generally been delegated to individual departments and operating arms. Major public infrastructure investment decisions are made by a range of funders and providers in varying forms of central and local government ownership and control.

Wherever they are, and whatever their features, all our towns and cities face pressures. Many towns and cities are characterised by sprawling settlement patterns that reflect and reinforce reliance on the private motor car. Population growth, demographic change, cultural diversity, the rising costs of infrastructure, and the strain on our transport networks, require us to rethink our approach to planning and building cities.

Our towns and cities must also now respond to worldwide challenges that include climate change and carbon emissions, rising oil prices, increasingly stressed environments, and the need to compete in the global economy. These local and international challenges require us to develop urban solutions that integrate social, economic and environmental objectives.

New ways of thinking about the role of cities and urban development

Large numbers of people live, work, play in cities and rely on the proper functioning of the city for their livelihood and their daily needs. People may spend most of their life in a city, and so city performance is critical to whether people reach their full potential or not.

Cities that are productive, competitive and sustainable in the modern world are very different from the economically successful cities of the past. Reductions in the cost of transporting goods and a decline in the importance of manufacturing in developed economies have greatly diminished some of the main advantages that cities once provided — that is, high returns from large-scale production and from locating production close to consumers.[1]

In response to the emergence of new sources of employment and wealth creation, cities are becoming (or aspire to become) focal points for these new forms of economic activity: the high-value-added

[1] Relevant studies include: Cities and regions of sustainable communities: new strategies (2006); In the mix: a review of mixed income, mixed tenure and mixed communities (2006); Creating and sustaining mixed income communities: a good practice guide (2006); Housing assistance and disadvantaged places (2006); and Mixed communities: success and sustainability (2006).

services and niche manufactures that require skilled workers, investment in knowledge generation, and global connectedness. In this new economy, cities are important because of their ability to transport and connect *people and their ideas* at low cost, rather than goods.

Benefits arise because population and employment density:

- enables the specialisations required to support a fine division of labour, which in turn leads to higher productivity
- provides a thick labour market, allowing greater choicer and providing better opportunities for optimal 'matching' of workers and firms
- plays a key role in economic growth by lowering the cost of transporting ideas (through knowledge and information spillovers between firms and people, and because cities act as centres of learning and skill acquisition).

Evidence shows that productivity gains are realised when people cluster densely in cities. However, the quality of density is also important for outcomes. When cities reach a certain population size, particular market pressures can often emerge, making cities less attractive places to live and do business in. These include higher costs of living, unaffordable housing, higher costs of labour, pressure on infrastructure, congestion, pollution, crime and other social problems. These can encourage some people and firms to disperse and choose less populated locations.[2] Overall, these diseconomies, or dispersion forces, lessen or even negate the productivity benefits of agglomeration.

Employment density and supply-chain effectiveness, which fuel productivity growth, are especially affected by congestion and accessibility issues. Research conducted for the Auckland Regional Council found that agglomeration productivity benefits are being experienced in Auckland (at about 3 percent), but that accessibility issues are acting as a real constraint.[3]

There is a strong relationship between how a city functions and the ability of its citizens to realise their potential. Poorly integrated development can lead to spatially concentrated areas of disadvantage where the effects of disadvantage are cumulative. Studies from Australia, Britain and the United States indicate that concentrations of disadvantage:[4]

- limit opportunities for people above and beyond their own personal circumstances
- discourage local business activity, limit local job networks and employment ambitions
- discourage families with housing choice from moving to the area
- undermine efforts to raise the quality of schooling and exacerbate health inequalities
- provide a receptive environment for crime and disorder.

Sustainable urban solutions that integrate social, economic and environmental objectives will not only improve how the city functions but ultimately improve the ability of its citizens to realise their potential.

In the traditional paradigm, it was preferable for different parts of cities to be specialised by function, and a clear distinction made between the places where people worked and places where people lived. This was an efficient urban form for the established economic activities of the time, and the pattern that New Zealand's cities were planned for and encouraged to follow.[5] However, modern cities that aspire to be successful are now blurring the distinction between different land uses. They are becoming increasingly compact, and increasingly centred around nodes of mixed-use social and economic activity.

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[2] Claridge, M. (2001) *Geography and the Inclusive Economy: A Regional Perspective*. New Zealand Treasury Working Paper 01/17.

[3] Williamson, J., R. Paling & D. Waite (2007) *Intensification within the MUL: Residential and Commercial Impacts*. Report prepared by Ascari Ltd for Auckland Regional Council.

[4] Relevant studies include: Cities and regions of sustainable communities: new strategies (2006); In the mix: a review of mixed income, mixed tenure and mixed communities (2006); Creating and sustaining mixed income communities: a good practice guide (2006); Housing assistance and disadvantaged places (2006); and Mixed communities: success and sustainability (2006).

[5] Kemp, D. (2005) *Key Economic and Urban Development Focus Areas*. Report prepared for the Wellington Regional Strategy.

This adjustment is happening for a number of overlapping and connected social, economic and environmental reasons:

- High-value, knowledge-intensive, service-oriented economic activity relies on sufficient concentrations of skilled workers. Skilled workers place a high value on, and are attracted to, vibrant and liveable cities with a range of social, cultural and environmental amenities — places that provide for social interaction, and where activity is concentrated at a limited number of accessible centres, rather than dispersed across wider areas. In turn, firms choose to go where the workers are.
- In an increasingly carbon-constrained future, the viability of a city needs to be protected from the risks posed by current urban forms. A research report for Land Transport New Zealand (using Christchurch as a model) showed that, in an oil shortage or crisis, a concentrated urban form would pose the lowest risk to ongoing participation in economic and other activities, whereas the current dispersed development pattern poses a high risk.[6]
- Concentrating activities at nodes of relatively high transport accessibility allows the benefits from significant central and local government investment in transport and other infrastructure to be maximised. Studies have shown that as densities increase, people's choice of transport moves away from private automobiles and towards greater use of rail and bus, if those options are available.[7] Research also shows that concentrating urban growth can provide large cost savings for other types of infrastructure, such as water and sewerage.[8]
- There is increasing evidence that compact urban environments lead to physical health benefits such as reduced obesity, through enabling walking and cycling as viable transport alternatives.[9]
- A more compact, mixed-use and connected urban form and settlement pattern is being used to better manage the effects of population growth. It is common in Australia, Europe or North America for large or rapidly growing metropolitan regions to deliberately seek to restrain urban sprawl and create a more compact, intensive pattern of development. Unconstrained development at the urban periphery can increase pressure on infrastructure and social services, leading to adverse environmental effects, social division, and escalating living costs.
- Concentrating growth allows evolving housing preferences to be accommodated, and the pressures that lead to growth in house prices to be managed. More people are actively seeking out housing smaller than the traditional suburban four-bedroom house, and many — for a variety of social and economic reasons — are choosing townhouse or apartment alternatives closer to public transport and employment centres. A compact urban form can supply these housing choices, and because medium- or high-density dwellings use less land, are more energy efficient and lower the costs of commuting, they are often more affordable overall.
- Simple efficiency benefits can be realised by concentrating and mixing activities. The co-location of firms and households can reduce journey times, congestion and energy consumption. In a well-designed city, freight costs will be lower, as will labour costs (because there will be less pressure for wage increases to compensate for lengthening journey to work times). Resources consumed by 'unmanaged' growth can be redirected to more productive uses. A recent Melbourne study showed that significant resource savings could be generated by applying the good urban development principles contained in the Melbourne 2030 metropolitan growth strategy. If those savings were translated into end-user demand, upon maturity it would induce an additional $5.8

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[6] Dantas, A., Krumdieck, S., Page, S. 2006. Energy Risk to Activity Systems as a Function of Urban Form. Land Transport NZ Research Report 311.

[7] Bannister, D. (2007) Cities, Urban Form and Sprawl: A European perspective. OCED, Transport Research Centre.

[8] SGS Economics and Planning (2003) Urban Consolidation and Infrastructure Costs: A Research Roundup. Urbecon Newsletter, December 2003.

[9] Ministry for the Environment (2005) *The Value of Urban Design.*

billion in GDP (2.8 percent lift from current levels) and 82,000 jobs. The authors indicated that a comparable argument could be made for Auckland.[10]

Policies that seek to strengthen the pattern of concentration and limit dispersed development are likely to result in enhanced output and productivity, savings in infrastructure provision, and significantly reduced environmental and social externalities.

There is also an economic cost to 'doing nothing'. The literature is clear that the external costs generated by status quo, dispersed development, are significant.[11] That is why the New Zealand Energy Strategy, Energy Efficiency and Conservation Strategy, and Transport Strategy all acknowledge that managing patterns of urban development and growth is important for realising the outcomes they seek. All this implies that a much more proactive approach to the management of New Zealand's urban form will result in significant, wide-ranging benefits**.**

The key challenges in urban development

As economic engines and magnets for migration, cities offer a wide range of opportunity and change quickly. Those who are less able to adapt may get left behind, creating higher levels of inequality and urban deprivation. Despite its strong and vibrant economy, large numbers of people experience deprivation in Auckland. Urban development provides an opportunity to harness the benefits of cities and address the downsides. So what are the key challenges in doing this?

- *Achieving competitiveness in a knowledge-based economy.* In today's knowledge economy, competitive advantage increasingly focuses around clusters of similar businesses rather than in the performance of isolated firms. To increase their attractiveness as locations for clusters, cities must focus on building up a critical mass of knowledge institutions and leading edge research and innovation. Cities need to become centres of learning for both firms and individuals in all areas of society. Educational attainment and skill acquisition will create the highly educated and creative workers who will drive future economic participation and social stability.
- *Making cosmopolitanism a tangible reality.* Cities are places where different groups of people meet and mingle. We want our residents to be diverse, tolerant, outward looking and strongly connected to other people and places. This creates places with a cosmopolitan society, which generate the seeds of innovation and creates cultural linkages with other markets. Providing rich employment opportunities, quality of life, a critical mass of cultural activities and social diversity will also encourage highly educated and innovative workers into New Zealand.
- *Overcoming social polarisation.* A key test for cities is their ability to prevent communities and individuals becoming disconnected from the economic and social mainstream, and to re-connect any that are disadvantaged in this way. Measures to address the factors leading to inequality may be needed. Spatial segregation — where some people are shut out of the gains associated with high-skill, high-value economic activity — creates the potential for conflict. This could also have an ethnic or cultural dimension. Urban development must support mixed communities (income, tenure and family type etc). To achieve social sustainability, we must:
  - seek to raise household incomes
  - weave communities within the city into a cohesive entity
  - invest in social and community infrastructure to support communities
  - provide transport systems that ensure equal access to public services and workplaces.
- *Creating environmental sustainability.* As places that enable people to benefit from services, economic functions, and leisure activities in close proximity, cities offer environmental challenges as well as benefits. Successful cities get the best possible balance between the economic needs of people and their desire for a quality built and green environment. The changing role of cities

[10] SGS Economics and Planning (2006) *Competitive Cities and Prosperous Economies: The Role of Urban Design.* Report prepared for the Ministry for the Environment.

[11] Ministry for the Environment (2005) *The Value of Urban Design*.

brings new environmental demands. Cities must be capable of responding to these if they are to compete effectively in the global economy and offer attractive, safe environments for all citizens.