

**Integrating land use and  
transport planning**

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# **Integrating land use and transport planning**

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# Contents

|  |     |
|--|-----|
| <b>Executive summary</b> .....                                   | 7   |
| <b>Abstract</b> .....  | 11  |
| <b>1. Introduction</b> .....                                     | 13  |
| 1.1 Background .....   | 13  |
| 1.2 Purpose of this report .....                                 | 13  |
| 1.3 Links to other research .....                                | 14  |
| 1.4 Structure of report .....                                    | 14  |
| <b>2. Understanding land use and transport planning</b> .....    | 15  |
| 2.1 Connections between land use and transport .....             | 15  |
| 2.2 The role of integration .....                                | 17  |
| 2.3 Barriers to integration .....                                | 18  |
| <b>3. New Zealand's planning arrangements</b> .....              | 21  |
| 3.1 The changing role of planning .....                          | 21  |
| 3.2 Overview of current legislation .....                        | 24  |
| 3.3 Alignment of planning documents .....                        | 25  |
| 3.4 Recent legislative changes .....                             | 26  |
| 3.5 The case of Auckland .....                                   | 26  |
| <b>4. Analysis of the New Zealand situation</b> .....            | 29  |
| 4.1 Introduction .....   | 29  |
| 4.2 RMA instruments and practices .....                          | 29  |
| 4.3 Transport instruments and practices .....                    | 38  |
| 4.4 Local Government Act instruments and practices .....         | 49  |
| 4.5 Guidelines .....   | 55  |
| 4.6 Managing integration – challenges in planning practice ..... | 59  |
| <b>5. International experience</b> .....                         | 63  |
| 5.1 Introduction .....   | 63  |
| 5.2 Theory and practice of integrated planning .....             | 63  |
| 5.3 United Kingdom experience .....                              | 72  |
| 5.4 British Columbia, Canada .....                               | 79  |
| 5.5 Queensland, Australia .....                                  | 85  |
| <b>6. Conclusions and recommendations</b> .....                  | 91  |
| 6.1 Barriers to integration in New Zealand .....                 | 91  |
| 6.2 Lessons from international experience .....                  | 93  |
| 6.3 Opportunities for improved integration .....                 | 94  |
| 6.4 Recommendations .....  | 100 |
| <b>7. Bibliography</b> .....                                     | 103 |
| <b>Abbreviations and acronyms</b> .....                          | 115 |





## Executive summary

This report has been prepared to identify legal and institutional barriers to the integration of land use and transport planning in New Zealand. The research undertaken for the report was carried out between July 2006 and August 2007, as part of Land Transport New Zealand's 2006/2007 Research Programme.

Over the last decade, the integration of land use and transport has gained increasing international attention. In large part, this trend has been necessitated by the growing environmental and social impacts of road networks and motor vehicle use. These impacts are widely seen as being exacerbated by a lack of integration between land use and transport planning.

Recent developments in New Zealand have also led to an emerging awareness of the importance of integrating land use and transport planning. The introduction of the *New Zealand Transport Strategy* and the Land Transport Management Act 2003 has served to focus attention on improving transport planning. In response, the Ministry of Transport has identified integration as one of four strategic priorities for the sector.

While the principle of integration is becoming established, its implementation remains problematic. Overseas experience shows there are often significant legal and institutional barriers to integration, many resulting from the traditional separation of land use and transport planning. Identifying and addressing these barriers is, therefore, critical if planning processes are to work together to achieve sustainable transport outcomes.

A review of New Zealand's planning arrangements points to several barriers limiting the potential for integration. Current planning arrangements are largely permissive, reflecting their development in the political climate of the 1990s which discouraged planning and did little to encourage integration. While the political climate has changed, the legacy of the 1990s remains influential.

Under New Zealand's existing framework, land use planning and transport planning often occur independently of each other as activities administered in separate organisations or even separately within the same organisation. Requirements for land use plans and transport plans are also set out in separate legislation and there is a lack of linkages between statutory planning documents. Effects-based planning approaches under the Resource Management Act 1991 (RMA) have generally not assisted the integration of land use and transport planning.

A further significant obstacle to integration is the lack of a set of common goals and objectives to guide land use and transport planning outcomes. At present, there is no national guidance to give direction on the common policy measures land use and transport plans should be pursuing to support sustainability objectives. Mechanisms to support delivery of these objectives, such as national policy statements under the RMA and national land transport strategies under the Land Transport Act 1998, have not been used.

At the regional level, planning can be hampered by political and professional tensions between local authorities. These tensions can sometimes lead to decision making that inhibits or delays collaborative efforts to address problems spanning territorial boundaries which demand long-term, integrated approaches. Assisted by ambiguity about mandates, these tensions may give rise to a 'hands-off' approach. However, sometimes the urgent need for a sustained collaborative approach can override more parochial concerns. The development of the *Auckland Regional Growth Strategy* in the context of a history of fractured politics is a case in point.

In respect of transport, a 'predict and provide' model of planning based on accommodating forecast traffic growth has prevailed. Professional opinion in transport planning has now moved away from a 'predict and provide' approach. However, the tools and methodologies developed to 'predict and provide' are still widely used. In general, transport planning remains strongly influenced by funding arrangements. These in turn remain focused on road construction and maintenance. While funding for public transport has increased in recent years, expenditure on road projects continues to dominate budgets.

Complicating this situation are the barriers to effective public participation in decision making. The public has an important role to play in land use and transport planning and in the wider task of establishing sustainability priorities. However, most sections of the public are not resourced to pursue these issues. Legislatively defined public consultation processes have tended to be dominated by business and commercial interests and there has been little use of more innovative consultation techniques.

In summary, the main aspects of New Zealand's planning arrangements that appear to be hindering integration are the:

- allocation of planning functions across a range of different organisations
- limited linkages between land use and transport plans
- lack of common goals and policies to guide planning outcomes
- disparities in public access to decision-making processes and limited opportunities for the public to genuinely influence transport decisions
- funding and assessment processes that do not support land use and transport integration.

Despite these constraints, some innovative approaches are emerging as practitioners attempt to overcome inadequacies of legislation and move towards more strategic forms of collaboration. However, such approaches cannot be relied on to deliver consistent outcomes.

Drawing on international research, several factors can be identified as being influential in fostering land use and transport planning integration. These factors include:

- establishing a supportive national policy framework
- providing a legal and regulatory framework to implement national policy
- improving institutional coordination and cooperation

- facilitating effective public participation
- enhancing knowledge and skills of planning professionals.

Relating these factors to New Zealand, this report makes the following recommendations to help improve integration between land use and transport planning.

### **1. Working within the existing legal and institutional framework**

Working within the existing legal and institutional framework, integration could be fostered at central government level by:

- setting national goals, priorities and targets for land transport, incorporating recognised components of sustainable transport strategies
- introducing a national policy statement on sustainable urban form and design
- establishing clear responsibility for and resourcing the development of planning guidance on integration
- introducing effective content auditing standards for transport strategies and programmes
- actively promoting collaboration between transport agencies and the Ministry for the Environment and Ministry of Health
- providing for more effective public participation, including direct resourcing of public participation where appropriate
- amending Land Transport NZ's funding allocation process to foster integration.

### **2. Strengthening the existing legal and institutional framework**

Further changes to strengthen the current planning framework could be made by introducing amendments to existing legislation and/or the assignment of responsibilities.

Key recommendations include:

- making regional planning a statutory requirement
- encouraging the integration of strategic and spatial planning through:
  - requiring demonstration of land use and transport planning integration in transport funding procedures
  - requiring demonstration of land use and transport planning integration in regional land transport strategy preparation
  - amending relevant statutes to require formal linkages between policy instruments
  - assigning responsibility to a single agency for monitoring the implementation of regional councils' function to ensure the strategic integration of land use and infrastructure.

### **3. Examining new legal or institutional arrangements**

Opportunities also exist to introduce new arrangements to foster integration. Key recommendations include:

- reviewing the effectiveness of the Auckland Regional Transport Authority model and considering its application elsewhere
- reviewing the effectiveness of establishing special transport administrative areas based on overseas models (eg, the Vancouver and South East Queensland models)
- providing for direct election of regional land transport committees to help ensure representation of public interests
- establishing new, combined central government transport agencies.

#### **4. Enhancing professional and organisational capacity**

Enhancing professional and organisational capacity is also critical to integration. Key recommendations to enhance capacity include:

- encouraging commitment to and identifying best practices for collaboration between organisations to facilitate integration
- identifying internal organisational arrangements that achieve enhanced collaboration across disciplines
- strengthening organisations internally through the adoption of coherent and consistent policies and commitment of sufficient resources to achieve strategic and operational integration
- building capacity through professional development programmes that review how different disciplinary cultures operate, promote new ways of working together and build relevant skills
- encouraging tertiary educators to incorporate opportunities to facilitate interdisciplinary activity in professionally accredited programmes (eg, engineering and planning).

## **Abstract**

Over the last decade, the integration of land use and transport has gained increasing international attention. This trend has been necessitated by the growing environmental and social impacts of road networks and motor vehicle use. These impacts are widely seen as being exacerbated by a lack of integration between land use and transport planning. This report examines potential legal and institutional barriers to the integration of land use and transport planning in New Zealand. It provides an analysis of key planning instruments and practices in relation to the Resource Management Act 1991, Land Transport Act 1998, Land Transport Management Act 2003 and Local Government Act 2002. It also reviews overseas experience to identify key characteristics of effective integration that support sustainable transport outcomes. Drawing on international experience, recommendations are presented for improving New Zealand's land use and transport planning arrangements to facilitate integration. The research undertaken for the report was carried out between July 2006 and August 2007, as part of Land Transport New Zealand's 2006/2007 Research Programme.



## 1. Introduction

### 1.1 Background

Over the last decade, the integration of land use and transport has gained increasing international attention (Commission for Integrated Transport 2006; EC 2003a; European Conference of Ministers of Transport 2002). In large part, this trend has been necessitated by the growing environmental and social impacts of road networks and motor vehicle use. These impacts are widely seen as being exacerbated by a lack of integration between land use and transport planning (Curtis and James 2004; May, Kelly and Shepherd 2006; The Centre for Sustainable Transportation 2005).

Recent developments in New Zealand have also led to an emerging awareness of the importance of integrating land use and transport planning. The introduction of the *New Zealand Transport Strategy* (NZTS) and the Land Transport Management Act 2003 (LTMA) has served to focus attention on improving transport planning. The Ministry of Transport's (2005) *Transport Sector Strategic Directions* has identified integration as one of four strategic priorities for the sector. Similarly, *Land Transport NZ's Research Strategy 2007–2010* (Land Transport NZ 2006a) identifies improving the interaction between land use and transport as a key element in achieving sustainable land transport.

While the principle of integration is becoming established, its implementation remains problematic. Overseas experience shows there are often significant barriers to integration, many resulting from the traditional separation of land use planning and transport planning. Identifying and addressing these barriers is, therefore, critical if planning processes are to work together to address current problems and achieve sustainable transport outcomes (Curtis and James 2004; May, Kelly and Shepherd 2006; The Centre for Sustainable Transportation 2005).

### 1.2 Purpose of this report

The purpose of this report is to identify legal and institutional barriers to the integration of land use and transport planning in New Zealand and examine solutions to these barriers.

The key objectives of the report are to:

- provide an analysis of current New Zealand arrangements for land use and transport planning, identifying strengths and weaknesses
- review overseas experience to identify key characteristics of effective integration relevant to New Zealand
- develop recommendations for improving domestic land use and transport planning arrangements to facilitate integration.

The report has been informed by a review of New Zealand and international literature as well as interviews with planning practitioners. The report also incorporates material from four workshops run by the researchers for planning and transport professionals in Christchurch, Wellington and Auckland. Three workshops were hosted by Land Transport NZ

in July 2007. A fourth workshop was requested and hosted by the Ministry of Transport in August 2007.

The research undertaken for the report was carried out between July 2006 and August 2007 as part of Land Transport NZ's 2006/2007 Research Programme.

## **1.3 Links to other research**

### **1.3.1 Integrated Approach to Planning project**

Since commencing work on this report, the Ministry of Transport has initiated the Transport Sector Strategic Directions 'Integrated Approach to Planning' (TSSD IAP) project. During the course of research for this report, the researchers have liaised with personnel involved in the IAP project to share knowledge and ensure work is not duplicated. Members of the IAP core group have also provided input to this research through participation in the project's external reference group.

In 2006, three of the four researchers involved in this research also worked on an IAP sub-project. The sub-project consisted of a literature review to identify examples of best practice relevant to the integration of land use and transport planning (Ward-Wilson Research and Transport Futures Ltd. 2006). The review was completed in November 2006 and has provided a useful information resource for this report.

### **1.3.2 The Next Steps project**

Towards the end of the research period, the State Services Commission released the *Next Steps in the Land Transport Sector Review*, which provides information and recommendations to the government on some aspects of the legal and institutional arrangements addressed in this report (State Service Commission 2007). Due to the timing of the State Services Commission's work, this research was not informed by the 'Next Steps' review.

## **1.4 Structure of report**

The report is structured as follows:

- Section 1 (this section) outlines the purpose and objectives of the research project.
- Section 2 briefly discusses the problem of land use and transport planning integration and explains key terms and concepts used in the report.
- Section 3 summarises New Zealand's current legal and institutional arrangements relevant to land use and transport planning.
- Section 4 discusses the strengths and weaknesses of New Zealand's current arrangements, focusing on identifying barriers to successful integration.
- Section 5 reviews relevant overseas practice to identify arrangements that enable transport and land use planning to work together to support sustainable transport outcomes.
- Section 6 presents the report's conclusions and provides recommendations for improving New Zealand's current legal and institutional arrangements.



## 2. Understanding land use and transport planning

### 2.1 Connections between land use and transport

The connections between land use and transport have been well documented (Victoria Transport Policy Institute 2006). Land use is understood to affect transport in a number of significant ways. Dispersed land use patterns are typically linked with high levels of automobile dependence. Conversely, concentrated land use is more commonly linked with lower levels of car use and higher levels of public transport patronage. According to the European Commission's (EC) TRANSLAND study:

- Higher residential densities and mixed development can lead to shorter car trips and lower levels of car use.
- 'Traditional' neighbourhoods can have shorter trips and lower levels of car use than car-oriented suburbs.
- Higher employment density can lead to greater public transport use.
- Developments close to public transport can generate higher levels of public transport use (Paulley and Pedler 2000).

The effects of transport on land use can also be significant. Litman (2007) identifies both direct and indirect land-use impacts that can result from transport (table 2.1). Direct impacts result from the amount and location of land used for transport facilities (eg, expanded roads, car parks, railways). Indirect impacts arise from transport decisions which affect land use accessibility (ibid). For example, an expanded motorway system that improves access to the urban fringe may encourage automobile dependant development and suburban sprawl (ibid). On the other hand, transport decisions that result in improvements to public transport can make urban areas more accessible and reduce car-dependency (ibid).

**Table 2.1** Examples of transport's direct and indirect impacts on land use.

| Transport decision              | Direct impacts  | Indirect impacts                                     |
|---------------------------------|---|--|
| Increased parking supply        | Increases paved area                                  | Reduces density; encourages urban fringe development |
| Expanded urban roads            | Increase paved area; degrade urban landscapes         | Encourage urban fringe development                   |
| Public transport improvements   | May require new facilities (eg, rail lines, stations) | Make urban areas more accessible                     |
| Adapted from Litman, 2007, p.2. |   |  |

The relationship between land use and transport decisions can be complex and is influenced by a range of socio-economic factors (eg, car ownership, housing demand, income). It may, therefore, be difficult to predict precisely the impacts of specific decisions.

**Box 2.1 Understanding key terms.**

**What is land use planning?**

Land use planning is a term that is often used interchangeably with that of town planning, urban planning, regional planning and urban design. In this report, land use planning is used to encompass the process of managing change in the built and natural environments at different spatial scales to secure sustainable outcomes for communities. It includes both spatial elements, such as the physical design and layout of neighbourhoods, cities and regions, as well as strategic considerations that take account of social, economic, cultural and environmental factors. The development of local and regional statutory plans is an important component of implementing land use planning as an expression of agreed public policy.

In New Zealand, the introduction of the Resource Management Act 1991 (RMA) with its focus on effects-based planning and informal coining of the term 'resource management planning' drew some attention away from planning's traditional focus on spatial activities. There is, however, an important trend emerging that has been heightened by recent legislative changes, such as the Local Government Act 2002 (LGA), and by the use of non-statutory council structure plans, where the spatial and strategic element of planning is being re-emphasised. There is also a strong underpinning of sustainability as a key outcome of planning, mandated by legislation such as the RMA and LGA. In addition, there is an increasing focus globally on spatial planning that has some influence given the close connections of professional planning communities here and in Europe.

**What is transport planning?**

While there is no standard definition of transport planning, it is generally seen as involving the management and operation of systems and networks designed to facilitate the movement of people and goods from one place to another. It covers multi-modal, motorised and non-motorised movement by road, rail, water and air. For much of the 20th century, transport planning was heavily oriented towards facilitating automobile access with little consideration of the impacts on land use or other environmental factors. Increasingly, however, transport planners (in western societies) are being expected to adopt a multi-disciplinary approach, due to the rising importance of environmental issues.

The role of the transport planner is in the process of changing from technical and feasibility planning to a role that also embraces the promotion of sustainability (Ward-Wilson Research and Transport Futures 2006). In New Zealand, this change has been required by the inclusion of sustainability objectives in the *New Zealand Transport Strategy* and the Land Transport Management Act 2003 (LTMA). Legislative changes introduced in the LTMA now require transport planning agencies to prepare strategies and programmes that take into account environmental sustainability and contribute to a sustainable land transport system.

However, many commentators argue that the dominance of automobile-oriented transport planning is one of the most significant factors contributing to current problems of car dependency and urban sprawl. As Homberger, Kell and Perkins (1982 cited in Litman 2007, p.13) contend:

*Automotive transportation allowed and encouraged radical changes in the form of cities and the use of land. Cheap land in the outer parts of cities and beyond became more attractive to developers, much of it being converted from agricultural uses ... Automobiles were easily able to serve such*

*residential areas, while walking became more difficult, given the longer distances involved, and mass transportation found decreasing numbers of possible patrons per mile of route.*

These trends have given rise to significant environmental, social and economic problems including air pollution, increasing carbon dioxide (CO<sub>2</sub>) emissions and community severance that are now seen as putting 'at risk the urban environment and the health of city and suburb inhabitants' (European Conference of Ministers of Transport 2002, p.8).

## **2.2 The role of integration**

As the overview above indicates, land use and transport decisions contribute significantly to shaping urban environments. Reflecting this, integration of land use planning and transport planning is increasingly being acknowledged as an important component of creating sustainable cities. Integration is seen as a means to an end rather than an end in itself.

The relationship between land use and transport comprises a significant element of theories promoting more sustainable urban forms, variously described as compact cities, new urbanism and smart growth. These theories, which are becoming influential in informing land use policies both internationally and in New Zealand, are seen as ways of addressing problems of automobile dependence and associated environmental, social and economic impacts.

Common policies advocated by such theories to address current problems include:

- maximising public transport use and 'green' modes (eg, walking, cycling) of transport
- managing private car use
- minimising urban sprawl
- improving air quality through reducing fuel use and vehicle emissions.

Recent EC research reported by May (2005) highlights the need to ensure such policies are used in tandem. For example, urban intensification has been one of the main measures adopted to minimise urban sprawl. Advocates for intensification suggest there will be a reduction in the reliance on the private car and an increase in the use of public transport, walking and cycling. Other benefits are purported to include the development of a greater sense of community through closer social interaction (Jenks, Burton and Williams 1996; Williams 1999).

By itself, however, urban intensification is unlikely to lead to the achievement of better environmental and social outcomes. There may even be downsides such as increased localised congestion and negative impacts on amenity values. The EC (2004) concludes that land-use policies to increase urban density or mix land use, without accompanying transport measures to restrict car use and provide alternatives to car use, will have only limited effect. Unless there are supporting transport policies, urban intensification may simply bring more people and cars into already congested areas.

Highlighting the importance of integration, the EC research suggests that the most effective results can be achieved by using both 'push' and 'pull' measures, coupled with land use controls. 'Push' measures are designed to push the community away from excessive car use by introducing restrictions such as parking management. 'Pull' measures pull users towards sustainable modes of transport by providing an efficient public transport system and favourable conditions for walking and cycling. May (2005) argues such strategies can be expected to deliver a range of environmental, social and economic benefits including reductions in CO<sub>2</sub> emissions, improvements in air quality and enhanced health and safety.

### 2.3 Barriers to integration

While the importance of integrating land use and transport planning is widely acknowledged, the delivery of integrated approaches remains problematic. A range of barriers to the effective integration continue to hinder successful implementation. As the European Conference of Ministers of Transport (2002) notes:

*Implementing integrated policy packages for sustainable urban travel has proven easier said than done... Defining and effectively implementing sustainable policy strategies for urban travel involves bringing together the diverse and divergent interests of a great many actors in the urban transport system. These include national, regional and local levels of government, politicians, public sector transport and land use planning agencies, environmental authorities and advocacy groups, private sector transport operators and other service providers, as well as real estate developers and the individual traveller. Co-ordination and co-operation among these stakeholders – while essential to long-term implementation of sustainable strategies – is often complex and resource-intensive (p.9).*

Barriers to integration of land use and transport planning have been the subject of several research initiatives internationally. May et al. (2005) group common barriers into four main categories:

- **Legal and institutional barriers**, including lack of powers or divided responsibilities for implementing land use or other policy instruments.
- **Financial barriers**, including budget restrictions on total expenditure for implementing a strategy or limitations on the flexibility with which revenue instruments can be used to acquire land or invest in public transport infrastructure.
- **Political and cultural barriers**, including public or pressure group opposition to certain policy instruments such as road pricing or land use regulations.
- **Practical and technological barriers**, including lack of tools, methods and/or skills needed to move from 'transport engineering' solutions toward the design and delivery of integrated land use and transport strategies.

Of particular relevance to understanding legal and institutional barriers, the focus of this report, is the EC-funded project TRANSPLUS (EC 2002).<sup>1</sup> The TRANSPLUS project focused on identifying legal and institutional barriers to integration and examining potential solutions to these barriers. While the research centred on Europe, the findings are instructive in developing an understanding of factors that may be limiting integration in New Zealand.

Drawing on the TRANSPLUS study, several key barriers to land use and transport integration can be identified:

- **Barriers created by organisational conflicts or complexity**

Barriers to integration may occur due to conflicts or a lack of cooperation between organisations involved in planning. Conflicts or lack of cooperation may arise from differences in objectives or responsibilities, or disputes regarding cross-territory issues. TRANSPLUS identifies conflicts as including both:

- ‘horizontal’ conflicts between organisations at the same level. For example, the conflict may be between a city council and neighbouring district authorities
- ‘vertical’ conflicts between organisations at different levels. For example, conflict may occur between a city authority and a regional authority or a regional authority and a national authority (EC 2002).

Other types of organisational conflict identified by TRANSPLUS include those between public authorities and external bodies. For example, conflict may occur between a public authority and private transport operators, developers or the general public. Absent or inadequate opportunities for the wider public to be involved in decision-making generally exacerbate the potential for this type of conflict to occur.

Complex organisational arrangements may also give rise to barriers to integration. Where there is a complex system of agencies responsible for different aspects of land use and transport planning, TRANSPLUS concludes the most likely outcomes are a lack of clear direction and slow implementation.

- **Barriers created by plan conflict or complexity**

Barriers to integration can be created where land use and transport plans provide conflicting objectives, policies and implementation mechanisms. Not surprisingly, TRANSPLUS concludes that the greater the number of different plans, the greater the potential for lack of coordination or conflict between plans. A proliferation of plans can also create the potential for barriers as a result of the complexity of planning arrangements.

- **Barriers created by professional conflicts**

Direct conflicts between land use planning and transport planning professionals or departments create another barrier to integration. This type of conflict may arise where there are separate departments or separate plans (eg, land use plan, transport plan) pursuing separate objectives or directives. As a result, there is a lack of shared

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<sup>1</sup> TRANSPLUS was funded under the 5th EC Framework Programme, Key Action ‘City of Tomorrow and Cultural Heritage’. The results can be found on [www.transplus.net](http://www.transplus.net). TRANSPLUS is part of the Land Use and Transport Research (LUTR) cluster of interrelated research projects funded by the EC under the same programme (see [www.lutr.net](http://www.lutr.net)).

goals and common interests among land use planners and transport planners that hinders integration.

Section 4 of this report reviews New Zealand's planning framework to assess the extent to which the above factors may present obstacles to integration. To provide context for this review, the next section briefly outlines New Zealand's current arrangements for land use and transport planning.

### **3. New Zealand's planning arrangements**

#### **3.1 The changing role of planning**

Over the last decade, planning has become a devolved and decentralised activity. It has also become more environmentally focused as notions of sustainable development have been taken up and implemented in legislation. In the western world, the neo-liberal ideologies of the 1980s did much to constrain planning as more emphasis was placed on the market accompanied by deregulation. However, there are signs that a more balanced approach to planning is prevailing as the limits of a market-based approach are realised and decision-makers become cognisant of the scale and complexity of local and global environmental issues.

##### **3.1.1 The impact of planning law reform**

In New Zealand, planning practice has been heavily influenced by statutory mandate, legal formalism and changing roles of the state. By the mid-1980s, planning was seen to be heavily interventionist, unnecessarily constraining property owners and the rights of the individual (Dixon 2003). At that time, a suite of institutional reforms at central and local government level was enacted with the broad aims of privatisation, deregulation and devolution. Since the reforms were introduced, planning – as a discipline and in practice – has undergone perhaps the most significant change since its formalisation in the 1950s.

Beginning with the restructuring of local government in 1989 and the implementation of the RMA in 1991, a raft of reforms effected sweeping changes to the practice of urban planning. These changes were influenced by the tide of strong neo-liberal approaches of economic rationalism and the quest for efficiency. The resulting provisions in legislation – such as user-pays, devolution of decision making and less intervention by local government – produced a major shift from a formerly interventionist and prescriptive planning regime to one that emphasised the management of environmental effects.

##### **3.1.2 From planning to effects based management**

With the introduction of the RMA, greater emphasis was placed on effects-based management and a more instrumentalist approach to planning emerged. The government made it clear that the RMA was not a vehicle for continuing planning practices of the past or promoting 'social planning' (Upton 1991).<sup>2</sup> While providing for a less regulatory approach, the RMA also placed emphasis on sustainable management. Implementation of the Act took place alongside local government reform, which was similarly wide-sweeping in scope and in the consequential restructuring that took place within councils.

The promise of a brave new world for planning and environmental management was confounded at the outset by a myriad of mediating factors. The restructuring typically tended to separate out policy and operational functions within councils that resulted in the

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<sup>2</sup> It is notable that the word 'planning' is not mentioned in the Act.

fragmentation of tasks, undermining integration of policies. A major issue was the absence of any attention to the urban environment. This posed significant challenges for urban planning and management throughout the 1990s and did not assist the integration of land use and transport. Transport planning in this era was firmly focused on the provision of the road network in what was widely referred to a 'predict and provide' approach (Land Transport NZ 2006c, p.4). There was little consideration of multi-modal transport planning, travel demand management or urban design to reduce the need for travel by car.

By the end of the 1990s, critical questions were beginning to emerge about the overall coherence of institutional arrangements for managing environmental change and urban development. Major gaps in national policy relating to sustainable development, sustainable management, environmental and urban issues were identified (Parliamentary Commissioner for the Environment 2002a). It had also become apparent that the RMA was only one planning instrument used by councils. Although it dominated much attention of planners, other instruments such as voluntary strategic plans prepared under the Local Government Act 1974 were emerging to fill local policy and strategic planning gaps that the RMA was not designed to meet.

### **3.1.3 Recent trends**

Post-2000, there has been some evidence of a shift from the effects-based approach of the 1990s towards recognition that more guidance and intervention is necessary to address increasingly complex issues presented by urban growth, traffic congestion, greenhouse gas emissions and cumulative environmental impacts. At least 87% of the country's population lives in urban areas yet many problems, such as those presently faced in the Auckland region, are only just beginning to be acknowledged in systematic and collaborative ways.

For land use and transport planning, a significant policy development has been the focus on sustainability, assisted by the government's release of the *New Zealand Transport Strategy* in 2002, its programme on sustainable cities (New Zealand Government 2003) and the inclusion of sustainability goals and principles in the Local Government Act 2002 (LGA) and the LTMA. These developments have helped to focus attention on the relationship between land use and transport planning processes.

The remainder of this section provides an overview of the current legislative framework for land use and transport planning, focusing on requirements for the development of policies, plans and programmes and the links between planning documents.



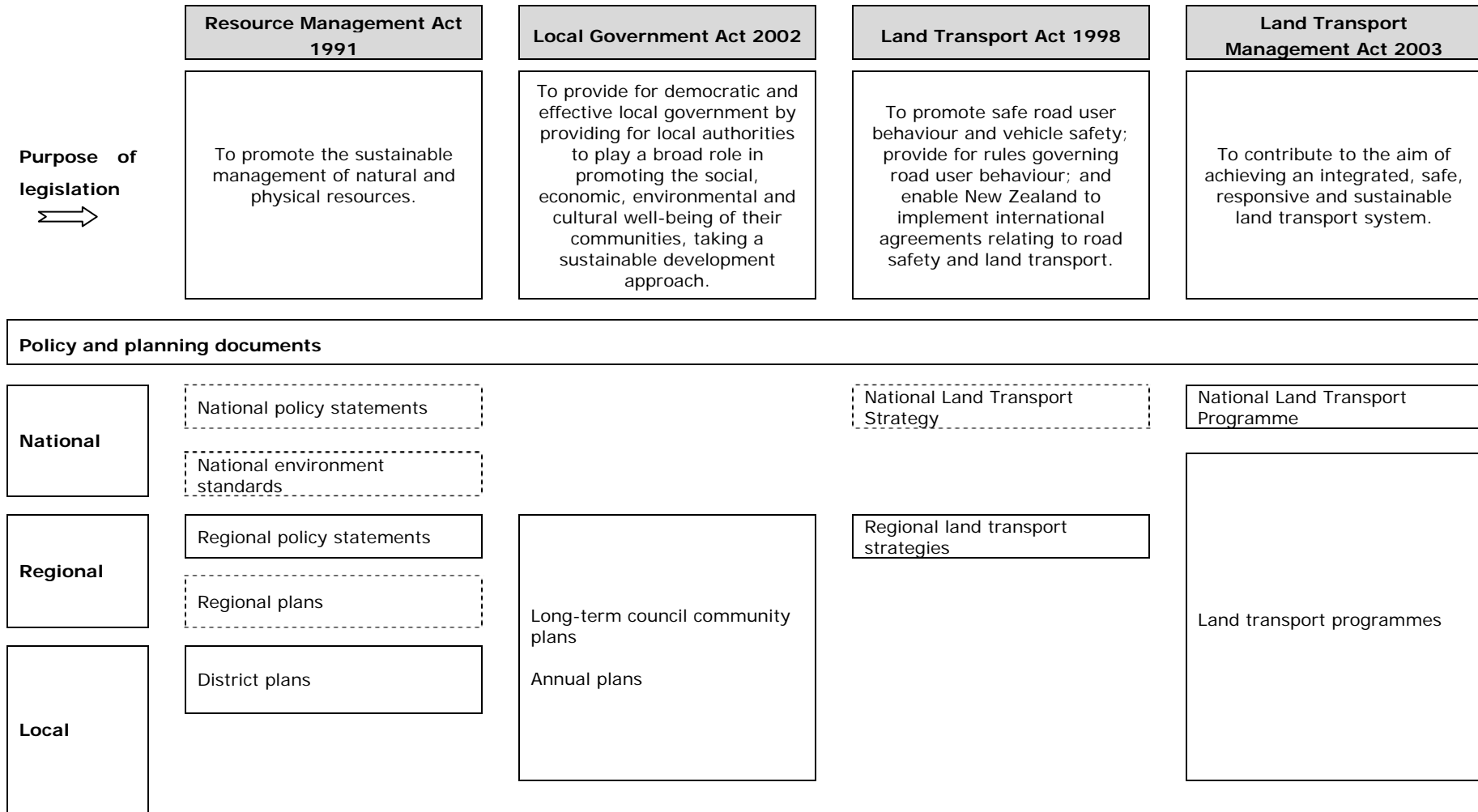


Figure 3.1 Key land use and transport legislation.

Note: optional planning documents are shown in boxes

## 3.2 Overview of current legislation

There are four main statutes that regulate land use and transport planning.<sup>3</sup> As shown in Figure 3.1, these statutes are:

- Resource Management Act 1991
- Local Government Act 2002
- Land Transport Act 1998
- Land Transport Management Act 2003.

### 3.2.1 The role of the Resource Management Act 1991

The RMA is the key statute governing land use in New Zealand. Under the Act, land use is primarily controlled through regional policy statements and regional and district plans prepared by local councils. The RMA also provides for national policy statements and national environmental standards to be prepared by the Minister for the Environment. However, the preparation of these documents is optional. As at June 2007, only one set of national environmental standards relating to air quality is in place.

### 3.2.2 The role of the Land Transport Act 1998

The key mechanism for transport planning under the LTA is the regional land transport strategy (RLTS). RLTSs are intended to identify the region's desired transport outcomes and how they are to be achieved. RLTSs must be prepared by all regional councils and unitary authorities and renewed every three years. The LTA also provides for a national land transport strategy to be developed by the Minister of Transport. However, as with national policy statements under the RMA, preparation of a national land transport strategy is optional. While no national strategy has been developed to date, the *New Zealand Transport Strategy* outlines the Government's broad policy direction for transport.

### 3.2.3 The role of the Land Transport Management Act 2003

The LTMA provides for the allocation of transport funding. Under the Act, funding is distributed through the National Land Transport Programme (NLTP),<sup>4</sup> prepared by Land Transport NZ. The NLTP is developed from annual land transport programmes submitted to Land Transport NZ by Transit NZ, local councils and other approved organisations (such as the Department of Conservation). Land transport programmes must be prepared when funding for specific activities is sought from Land Transport NZ. However, the Act provides for matters that would normally be addressed in land transport programmes to be considered in the development of long-term council community plans and annual plans

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<sup>3</sup> In relation to rail transport, new legislation is currently before Parliament. The Rail Network Bill proposes to give ONTRACK (the New Zealand Railways Corporation) the objective of operating the rail network in a way that contributes to an integrated, safe, responsive and sustainable transport system. In meeting its objective, ONTRACK will be required to exhibit a sense of social and environmental responsibility, which includes avoiding, to the extent reasonable in the circumstances, adverse effects on the environment. The Bill is awaiting its second reading.

<sup>4</sup> The government's *Next Steps in the Land Transport Sector Review* (State Services Commission 2007) has recommended changing the frequency of the NLTP from one to three years.

prepared under the LGA (see section 3.2.4) Where this occurs, councils are not required to develop a separate land transport programme (section 13, LTMA).

#### **3.2.4 The role of the Local Government Act 2002**

The LGA has introduced a new requirement for councils to develop long-term council community plans (LTCCPs). LTCCPs are mandatory and must be prepared by all councils every three years. The first plans were required to be in place by 30 June 2006. Amongst other matters, LTCCPs are required to describe desired community outcomes, provide for integrated decision making and the coordination of resources and facilitate public participation in decision-making processes (section 93, LGA). Councils are also required to prepare annual plans setting out the proposed budget and funding impact statement for the year (section 95).

### **3.3 Alignment of planning documents**

Current statutory provisions connecting statutory land use and transport plans are considered to be limited. In general, where they exist, legislative requirements rely on wording such as 'have regard to', 'take account of' and 'not be inconsistent with' to deliver consistency between land use and transport plans.

For example, in preparing policy statements and plans under the RMA, regional and district councils are required only 'to have regard to' any strategies prepared under other Acts to the extent that their content has a bearing on the resource management issues of the region or district (sections 61 (2)(a)(i), 66 (2)(c)(i) and 74(2)(b)(i)). While these provisions allow councils to consider the relevant RLTS, there is no explicit reference to transport strategies in the RMA.

Under the LTA, RLTSs 'may not be inconsistent with' any regional policy statement or plan in force under the RMA (section 175 (3)). The requirement to be 'not inconsistent with' is generally regarded as limited in terms of its statutory force. The LTMA's provisions linking land transport programmes to other plans are also limited. The Act requires land transport programmes only to 'take into account' any national land transport strategy and any relevant RLTS prepared under the LTA (section 12(5), LTMA).

*Notably, the Local Government Act does not contain any specific requirements for councils to align LTCCPs or annual plans with plans developed under the RMA or transport legislation. As noted above, however, LTCCPs and annual plans may include consideration of matters that would normally be addressed in land transport programmes. Where this occurs, councils are not required to develop a separate land transport programme (section 13, LTMA).*

In practice, as Newman, Bachelors and Chapman (2005) observe, current legislative arrangements mean:

*there is no binding requirement for integration between transport planning (and delivery) and land use planning...Integration only occurs if agencies choose to (p.14).*

### **3.4 Recent legislative changes**

Recognition of the need to improve links between land use and transport has recently led to some amendments to the RMA. Changes introduced in the RMA Amendment Act 2005 have given regional councils specific responsibility for:

*the strategic integration of infrastructure with land use through objectives, policies, and methods (section 30(1)(gb), RMA).*

Infrastructure is defined in the RMA as including 'structures for transport on land by cycleways, rail, roads, walkways, or any other means' (section 2). The 2005 amendment act also introduced requirements for district and regional plans to 'give effect to' regional policy statements (sections 67 and 75, RMA). Previously, the RMA required only that plans 'not be inconsistent with' the regional policy statement. Together, these amendments enhance regional councils' responsibilities to ensure integration between land use and transport and serve to strengthen the statutory linkages between planning documents. At this stage, however, it is too early to tell whether the new provisions have resulted in changes in practice.

In respect of the LTA, recent amendments have included changes to broaden the composition of regional land transport committees (RLTCs) and ensure a range of public interests is represented. Under the Act, an RLTC must be established by every regional council to prepare its regional land transport strategy. The regional council is required to appoint a sufficient number of persons to the RLTC to represent the objectives of environmental sustainability, public health, access and mobility. Cultural interests must also be represented. Amendments introduced in 2004 stipulate that appointees must be from the wider regional community and must not be representatives of the regional council, territorial authorities in the region or Land Transport NZ. These changes are intended to ensure a wider range of interests is involved in strategy development and redress the traditional bias in favour of road network provision. To date, however, there has been no evaluation of the impact of these changes.

### **3.5 The case of Auckland**

In the case of the Auckland region, the Local Government (Auckland) Amendment Act 2004 (LGAAA) has introduced specific requirements to integrate transport and land use planning. The LGAAA established the Auckland Regional Transport Authority (ARTA), a subsidiary organisation of the Auckland Regional Council (ARC). ARTA's role is to implement the goals of the Auckland RLTS and to 'plan, fund, and develop the Auckland regional land transport system in a way that contributes to an integrated, safe, and sustainable land transport system for the Auckland Region' (section 8, LGAAA).

Under Auckland's arrangements, the ARC sets the goals for land transport in the region<sup>5</sup> while ARTA is responsible for their implementation. ARTA has specific responsibility for preparing the annual land transport programme for the whole region. The region's seven territorial authorities must not prepare separate land transport programmes (section 39, LTMA). In addition to the annual LTP, ARTA has produced the *Auckland Transport Plan*, which provides an overview of the region's transport programmes for the next 10 years (Auckland Regional Transport Authority 2007b).<sup>6</sup>

The LGAAA also introduced requirements for local authorities in the Auckland region to amend policy statements and plans to integrate land use and transport provisions and make them consistent with the *Auckland Regional Growth Strategy* (Auckland Regional Growth Forum 1999).<sup>7</sup> Regional growth strategies, which are not formally required by the RMA or LGA, have emerged as a form of non-statutory planning. Auckland led the way with the production of its regional growth strategy in 1999. Christchurch, Wellington and several other regions have followed. To date, however, only the Auckland strategy has been recognised in legislation.

In part, Auckland's regional growth strategy was developed to manage and direct the form and location of new housing to address Auckland's current and potential population growth. Projections suggest that by 2050 40% of New Zealand's population will reside in the Auckland region (Auckland Regional Council 2003). It is also estimated that 200,000 more dwellings will need to be constructed over the next 50 years (Auckland Regional Growth Forum 1999).

Key features of the Auckland growth strategy include:

- a focus on the existing metropolitan area, where 70% of the proposed new dwellings will be built
- the encouragement of growth in existing metropolitan areas around town centres and major public transport routes
- a vision of the future in which 25–30% of people in the Auckland region will be living in multi-unit housing, with the balance in lower density accommodation in suburban or rural areas (Auckland Regional Growth Forum 1999).

A critical element of the Auckland strategy is residential intensification, the major platform of which is multi-unit housing. A key issue for the region, however, is that investment in public transport infrastructure has been neglected for many years. As a result, policies of increasing housing density have not been supported by improvements in the availability of public transport services necessary to provide alternatives to car use.

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<sup>5</sup> The Auckland RLTS must not include reference to activities or their prioritisation or to any matters other than those specified in section 175(2) of the LTA or to any regional passenger plan under section 175(2)(k).

<sup>6</sup> While ARTA has a central role in the region's transport planning, in many cases implementation of specific projects continues to be undertaken by other transport agencies (Auckland Regional Transport Authority 2007a). For example, territorial authorities remain responsible for road maintenance in their areas and ONTRACK manages the region's rail corridors.

<sup>7</sup> The extent to which territorial authorities comply with this direction, however, is yet to be evaluated.

The following section explores in more depth the operation of New Zealand's current framework for land use and transport planning.

## **4. Analysis of the New Zealand situation**

### **4.1 Introduction**

This section examines current arrangements for land use and transport planning in New Zealand with a view to identifying barriers to integration and opportunities for overcoming these barriers. It reviews a range of policy instruments and practices under the RMA, LTA, LTMA and the LGA, as well as relevant non-statutory planning activities.

The section does not provide a systemic evaluation of each of the instruments and practices as this task is beyond the scope of the report. However, it draws on a range of documents and interviews with practitioners in reviewing selected instruments and practices and identifies new and emerging practices that will be helpful in achieving improved integration.

### **4.2 RMA instruments and practices**

The RMA provides a hierarchy of planning instruments. This includes provision for national and regional policy statements (RPS) that set a statutory framework within which regional and district plans are prepared. Regional policy statements and regional coastal plans prepared by regional councils, and district plans prepared by district and city councils, are mandatory. In effect, council plans developed under the RMA determine the policy framework within which development proposals are considered. Thus plans prepared under the Act are critical in influencing urban form and land use and transport relationships.

The RMA era of plan preparation and implementation was beset by issues such as a lack of national policy, confusion over responsibilities of regional and district councils, legal ambiguities and under-funding at a time when capacity-building in local government was critical. Significantly, at the same time as the Act was being implemented there was a policy silence at a national level on how the country might move forward on sustainable development and seemingly little political interest in urban affairs. The then Parliamentary Commissioner for the Environment, Morgan Williams, commented (1998b) that New Zealanders' lack of concern about urban issues and sustainable development represented a strategic risk for the environment, economy and the well being and resilience of urban communities. He later observed that New Zealand's urban research capacity was dispersed, under-resourced and incapable of delivering the breadth and depth of city design that was needed for sustainability (2002a, p.23).

The RMA itself makes little reference to the urban environment or indeed planning. This omission has been widely regarded in the last 15 years as troubling for many planners who have attempted to adapt the effects-based approach for urban living. Part of the difficulties related to the emphasis on environmental effects as a key tool for determining outcomes is a consequential downplaying of the need to view proposed projects in a spatial and holistic context. The failure to appreciate that environmental effects can have significant spatial and temporal dimensions was a major shortcoming in the early days of

RMA implementation. The anti-planning rhetoric at that time was also unhelpful in shaping the construction of new plans with a too-ready dismissal of planning approaches and tools that remained relevant.

The lack of support for urban issues from central government right through the 1990s meant that many major problems, such as the need for more investment in public transport and the need to drastically lift the quality of urban design outcomes in our cities, went unaddressed. The reluctance of central government to provide national guidance for the development of policies and plans was particularly notable. The absence of national policy statements, apart from the production of the New Zealand Coastal Policy Statement, contributed to a major policy vacuum for councils. The development of national environmental standards was also very slow to get underway and to date only one set of standards relating to air quality has been gazetted, although a set of national environmental indicators has recently been developed. The limited use and application of national instruments in the RMA and consequential constraints under which councils operated have been strong influences in shaping and limiting the capacity of policy statements and plans to address the relationships between land use, transport and urban form.

#### **4.2.1 Regional planning**

Few of the first generation of regional policy statements produced in the early 1990s addressed issues of land-use and transport integration in any substantial way.<sup>8</sup> Regional policy statements were developed in a context where there was strong government rhetoric promoting the need to be 'effects-based'. Councils were also constrained in that the RMA did not provide a strategic mandate and so RPSs did not usually include statements setting out broad and integrated visions for the region. Chapters in policy statements were based on natural environment topics, tended to be broad-brush in approach and were poorly structured for consideration of cumulative effects. Concerns about expensive litigation meant that many of these statements avoided tackling critical issues.

The construction of RPSs also reflected the history of amalgamations of catchment boards, regional water boards and united or regional councils. Disciplinary groupings of staff also had an influence on the shaping of an RPS and the way in which issues were identified and addressed. Unlike requirements for the preparation of district plans, regional councils were given two years to produce their RPSs so there was considerable pressure to produce the documents quickly.

The variable quality of regional policy development was noted by regional council staff in 1997 (Hawkes Bay Regional Council et al. 1997). Observations included:

- insufficient identification of regionally significant issues
- policies and methods that merely restate the RMA
- vague policies in regional policy statements
- differences in the management of a particular activity from one region to another

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<sup>8</sup> A notable exception was the Proposed Canterbury Regional Policy Statement which attracted strong opposition from the Christchurch City Council and the Ministry for the Environment.



- differences in the construction and overall quality of documents between regions
- overlaps and incompatibilities between plans prepared by one regional council
- lack of stronger government influence.

Inadequate opportunities for public participation in RPS development also limited their potential to respond to community aspirations for sustainable cities and towns. The RMA significantly enhanced the legislative provisions for participation in planning processes. However, barriers to participation, such as a lack of resources, remained. As a result, opportunities to participate in policy development tended to be dominated by industry groups, which were able to sustain their participation more readily than other sectors of society (Wilson 1996; 1997).

In general, most regional councils in the early 1990s did not see the interrelationship of land use, transport planning and urban form as a highly significant issue for inclusion in regional policy statements or plans. At that stage, many were unsure of their role in land use planning and management in relation to the mandates of district and city councils. The RMA did not specify 'the strategic integration of infrastructure with land use through objectives, policies and methods' (section 30(1)(gb) as a function of regional councils until 2005. Thus there were no strong drivers in the early 1990s to encourage regional councils to consider the integration of land use and transport planning other than particular local circumstances and needs.

Despite these policy ambivalences, work on managing growth in the 1990s was underway outside of the statutory framework in some regions. For example, in Auckland, concerns about managing urban sprawl and the environmental impacts of rapid urbanisation led to the voluntary creation of the Auckland Regional Growth Forum, an Auckland Regional Council initiative. It was a significant step forward in a highly parochial political context. The forum produced the vision for the city's next 50 years of development, *A Vision for Managing Growth in the Auckland Region: Auckland Regional Growth Strategy* (Auckland Regional Growth Forum 1999). In Christchurch, however, attempts to coordinate an approach to managing growth were less successful (Box 4.1).

Work is now underway by regional councils on the second generation of regional policy statements. The policy environment within which these are being prepared is considerably different and more prescribed from that which existed at the time the first round of regional policy statements were developed. The 2005 amendment to the RMA to include the strategic integration of infrastructure and land use as a function of regional councils signals a need for regional policy statements to address the relationship between land use and transport more intentionally. However, it will take some years for changes to work through the statutory process as amendments to plans and for the success of these amendments to be assessed.

**Box 4.1 Managing urban development – the Christchurch experience.**

In 1996, during the process of preparing the first generation of district plans under the RMA, the Christchurch City Council, adjoining councils and the Canterbury Regional Council constituted a joint standing committee with a mission to develop a long-term urban development strategy centred on metropolitan Christchurch. However, the project foundered because a regional plan was seen by the city council to be prejudicing development of the city plan. The regional council raised the issue again, following the release of decisions on the city plan in 1999. The limitations of the city plan in terms of addressing strategic transport issues, amongst other matters, were acknowledged by council officers (Thomson 1999) with recommendations to the Christchurch City Council to re-institute discussions with the Canterbury Regional Council on the merits of preparing an urban development strategy.

The second attempt to produce a regional strategy for growth, Future Path Canterbury (FPC), was initiated by the regional council in 2001 as a long-term vision for Canterbury. It was a regional community project involving the district councils of Ashburton, Banks Peninsula, Hurunui, Kaikoura, Selwyn, Waimakariri, Christchurch City Council and Canterbury Regional Council to meet their responsibilities under the LGA. Parts of the FPC, such as the transport component, informed the vision of the 2002 RLTS and Metropolitan Christchurch Transport Statement. However, work on the project ceased in 2004 when Christchurch City Council directed its focus to the urban development strategy sub-regional planning process.

**4.2.2 District planning**

At the district level, there are several policy instruments that are relevant in considering issues of land use and transport planning integration.

**4.2.2.1 District plan preparation**

The district plan is a critical document for addressing issues of integration within the limits of its mandate. Much has already been documented about the RMA and the issues that have dogged the development of district plans during the 1990s. Of significance for the integration of land use and transport is the extent to which transport planners were included as central players in the drafting and development of plans. Typically, small core groups of planners led the development of district plans, with specialists contracted to assist on particular topics. Smaller district councils tended to contract out the preparation of the district plan to consultants (Ericksen et al. 2004).

An example of relatively minimal involvement of transport planners in the preparation of district plans is provided by Auckland city. When the Auckland City Isthmus Plan was being prepared in the mid-1990s (K. Bell, pers.comm. 2006), there were only three transport planners in city planning. The land use planners wrote the provisions while transport staff provided the technical information. The land use planners were, therefore, in a strong position to influence the plan in respect to transport issues. At that time, there was a strong focus on roads rather than passenger transport. The implications of land use changes in the plan were not, therefore, well scrutinised from the perspective of public transport implications. Shortly after the plan was prepared, the need to make provision for passenger transport gained traction. However, the district plan was largely silent on the issue and the Auckland City Council was reliant on the provisions of the LGA to respond.

By the late 1990s, a more collaborative approach was being taken within the Auckland City Council in respect of policy development on land use and transport issues assisted by central government initiatives. Integrated approaches towards land use and transport were beginning to become more mainstream but still hampered by insufficient resources and lack of knowledgeable staff. A raft of initiatives from 2000 onwards, such as the advent of 'liveable communities', 'liveable arterials' and public-led processes initiated under the LGA, have resulted in more integrated approaches taken within the council. In addition, there is a much higher profile now accorded to urban design. All internal projects are put through the council's panel of external experts on urban design. Similarly, the internal structures of the council are organised in such a way that land use and transport planners offer advice on issues in a more collaborative way through staff committees.<sup>9</sup>

In Christchurch, transport planners had a greater role in the initial stages of the development of the Christchurch City Plan in the 1990s (S. Woods, pers.comm. 2006). Transport planners and city planners worked collaboratively. The process commenced with the development of concept plans. Guidance from earlier planning work was generally set aside as the RMA 'paradigm shift' was seen to remove established planning reference points. The city council considered three development strategies: consolidation, peripheral development and dispersed development.<sup>10</sup> Consolidation was adopted as the preferred strategy. Objectives, policies and zoning patterns were notified in the proposed district plan in 1995. The proposed plan was defended in council hearings and the Environment Court over a number of years with close attention to transport matters. There was determined opposition from the Canterbury Regional Council which sought more concentrated growth rather than the city's node-based development. The Ministry for the Environment supported the city's approach (Sheppard 1998).

Within the plan preparation process, transport planners generally played a subsidiary role. The process was led primarily by the city planners who weighed up transport and other considerations and made the recommendations (S. Woods, pers.comm. 2006).<sup>11</sup> This same division continues in internal decision making around subdivision and other large developments with significant transport implications. One of the outcomes of this is that cumulative effects of slowly increasing motor vehicle loadings as a result of infill and subdivision are poorly addressed, with slow but relentless loss of service. In hindsight, transport planners believe they would have been better served by having more and clearer rules in relation to roads, access and even alternative modes (S. Woods, pers.comm. 2006).

Wignall (pers.comm. 2007) observes:

*In New Zealand, planners have not seen it as their responsibility to assess the potential effects of their draft district plans/plan changes – or to minimise*

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<sup>9</sup> The current review of the Hauraki Gulf plan is being undertaken in a way that is much more reflective of interdisciplinary and integrated approaches.

<sup>10</sup> Reflecting the dominant economic approach of the time, planners also briefly considered a 'let the market determine' option.

<sup>11</sup> Similar separation of land use planning and transport planning during the same period was evident in other main centres such as Wellington.

*effects in transport terms – before requiring their engineering colleagues to accommodate the traffic demand they create.*

For their part, traffic engineers have tended to propose traditional solutions for managing the transport outcomes of urban growth. Ward-Wilson Research and Transport Futures (2007, p.29) suggest that much more attention needs to be paid towards the development of integrated land use and transport planning as a field of activity in its own right.

#### **4.2.2.2 Zoning**

Zoning is a planning tool that has traditionally been important in separating out adverse environmental effects in order to minimise nuisance for residents. Zoning is achieved through a focus on permitted activities with a strong spatial emphasis. As a result of the development of an effects-based approach, planning has become much more concerned about mitigating adverse environmental effects and less concerned with the types of activities that might occur within particular areas. While zoning is still used by councils, the range of activities that can occur with the specified area is typically much more flexible and dependent on meeting specified thresholds.

In respect of planning for transport infrastructure, councils have used zoning as a tool for planning transport corridors and networks, in conjunction with or instead of designations. In such cases, the district plan generally allows activities like construction, operation and maintenance of roads as a permitted activity in the zone. Other non-road activities, such as bus stops, may still require resource consent.

Under existing arrangements, new subdivisions, in-fill housing and/or multi-unit development may proceed in residential suburbs subject to meeting district plan requirements. However, councils have not always considered adequately the effects of activities when preparing their district plans, particularly on physical infrastructure. A ready example is allowing residential infill in suburbs or one-off proposals for intensified housing developments without sufficient consideration of the increased generation of traffic on road networks. This can create huge pressure on existing capacity where there is only one major route available and generate unanticipated adverse effects such as relentless traffic noise for nearby residents (see Box 4.2).

In the majority of these cases, topographic constraints on the network often restrict access to the suburb. It is commonly the same constraints that restrict both current capacity and opportunities to significantly upgrade capacity. Over time, congestion increases, loss of service increases and marginal adjustments to the network are promoted with poor return on cost. Traffic management through signalling, bus lanes and high-occupancy vehicle (HOV) lanes may be introduced where possible.

These issues raise questions regarding whether the effects-based planning system is sufficient to manage and enhance the quality of an increasingly intensified built environment. District plans cannot be relied on solely to address the cumulative impacts of change such as traffic congestion and air pollution. While the next generation of plans is expected to be more responsive to issues around urban form, intensification and

growth, there remains a need to produce guidelines or good practice notes on topics that address aspects of transport and land use integration.<sup>12</sup> It is also becoming increasingly evident that much more attention needs to be given to addressing issues of the alignment of district plans with other policy tools. This will help practitioners make improved policy connections with other internal council plans as well as those prepared by external agencies and influence the development of a more coherent public policy approach.

**Box 4.2 Capacity constraints – the Lake Road example,**

In Auckland, there is increasing congestion on Lake Road, between Devonport and Takapuna, where there is only one, two-lane road carrying traffic along a narrow peninsula. Major events, such as the arrival of a cruise ship in the harbour coinciding with local festivals, are a recipe for congestion. Even minor road works along this route can achieve major disruption of traffic. Increasing residential infill and development of multiple units on sites previously occupied by single dwellings as parts of this peninsula undergo gentrification is a major contributor to congestion. Any proposals for major residential intensification on the peninsula would raise significant issues in relation to the nature of the zoning provisions in place and the level of residential density permitted. Further intensification would create adverse cumulative effects for local residents in a context where the road network is already under extreme pressure.

**4.2.2.3 Designation and outline plans**

Designations have been used to set aside land for future road projects.<sup>13</sup> A designation is a form of 'spot zoning' over a site or a route in a district plan (Ministry for the Environment 2003, p.4). It authorises the requiring authority's work or project on the site or route without land use consent from the territorial authority. Work may be undertaken on the site in accordance with the designation. Historically, designations enabled central and local government to proceed with public works and protected public land for future activity. Many of the designations proposed in the 1970s did not eventuate or were scaled back. The shift to state-owned corporations and privatisation in the 1980s and 1990s resulted in fewer new and proposed designations.

When the RMA was introduced, the capacity of designations to secure long-term protection was weakened, consistent with the neo-liberal view underpinning the Act on the protection of private property rights. Designations lapsed after five years unless the requiring authority could confirm that substantial progress or effort was being made towards implementation of the designation. This caused some initial consternation in the transport sector. The new role of Transit NZ as a requiring authority necessitated some adjustment on its part in terms of ensuring that designations continued to be protected.

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<sup>12</sup> Transit NZ's proposed Planning Policy Manual which outlines its policy on reverse sensitivity is an example of guidance designed to assist planners with suggestions for actions that can be taken in relation to drafting policies, methods and performance standards and engaging generally in RMA processes.

<sup>13</sup> Hill Young Cooper (2003) identify 28 different types of approvals for major road projects. Common approvals include: a notice of requirement for designations; land use consents for various works; various water, discharge and coastal permits; outline plans for works on designations; and a certificate of compliance. The process for securing RMA approvals typically takes four to five years and it takes eight years to construction start. Most works are completed on designated sites within timeframes; road projects are also completed significantly faster than planning timeframes in other OECD countries (Hill Young Cooper 2003).

Current designation procedures involve the serving of a notice of requirement with an assessment of environmental effects. This procedure involves public notification, council hearings and recommendations to the requiring authority and a decision from that authority.<sup>14</sup> When a designation has been in place for some time, outline plans may be required. Outline plans enable more detailed consideration of the project than when the notice of requirement was originally heard. The outline plan might cover issues such as earthworks, noise mitigation, transport movement, landscaping and so on. In theory, the provision for outline plans allows the designation process to be used as an 'approval in principle'. Designations can, in effect, be used to secure long-term protection of a route or more immediately as a *de facto* resource consent (Hill Young Cooper 2003).<sup>15</sup>

Designations for major road projects are complex and often fraught with strongly held community views for or against proposals. Contributing to this situation is the fact that the overall public policy framework for major projects remains fragmented with decision making processes spread across several statutes. Hill Young Cooper (2003) highlight the need for an improved public policy framework for decisions on major land transport projects. A further issue is that council resource consent planners are not always experienced in processing designations, a reflection of the split between regulation and policy development in local government. Current skills shortages are also affecting capacity and the quality of plan implementation.

#### **4.2.2.4 Resource consents**

Major transport projects generally require resource consents from regional and/or territorial authorities although a raft of more minor developments such as pedestrian crossings, cycle lanes, bus shelters and so on may not. Plans have to anticipate the likely suite of transport-related activities; where they have not, plan changes may need to be initiated. Hence, adequate attention needs to be given to land use and transport matters in the plan drafting stage.

The quality of implementation of the district plan, particularly through the management of applications for resource consents, depends on adequate investment by councils in plan implementation and monitoring. The organisational cultures and practices that surround the implementation of plans and their policies are influential. The skills and experience of staff, the rate of staff turnover, the size of workloads and the commitment to mentoring new graduates all influence the quality and speed of policy implementation (Dixon 2005).

An issue that is coming under increasing scrutiny is that of staffing and resourcing of planning units within local government.<sup>16</sup> Having sufficient professional capacity is critical

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<sup>14</sup> Appeals can be lodged to the Environment Court and further appeals may be lodged against the Environment Court decision to the High Court.

<sup>15</sup> Zoning or structure plans can be used for the same purpose as designations. However, there is not the same onus on the responsible road agency to acquire affected land and thus zoning and structure plans offer potentially less security for affected landowners.

<sup>16</sup> In a recent report to Manukau City, Audit New Zealand (2004, p.45) commented that local authorities are finding it more and more difficult to attract and retain appropriately qualified staff to deal with the increasing volume of applications being received and to address increasingly complex issues, within the time frames set by legislation.

for robust implementation of plans and their day-to-day operation to avoid policy implementation gaps and to achieve the outcomes as promised in the district plan. This remains highly relevant for transport and land use issues that are interdisciplinary and complex, requiring coordinated approaches across and within agencies and staff skilled in issues of integration.

#### **4.2.2.5 Cumulative effects**

Much of what can be observed in respect of the effects of a disconnection between land use provisions in plans and the impacts on the traffic network are the cumulative consequences of one-off projects, people's choices about where to live and travel, government policies (eg, on energy and transport) and similar choices and activities of past generations.

The RMA requires consideration of cumulative effects but practice has yet to realise the Act's intent in this regard. Section 3(d) of the Act specifies that the effects to be considered include 'any cumulative effect which arises over time or in combination with other effects'. In Schedule 4 of the RMA, the broad range of subject matter to be considered by an assessment of environmental effects includes not only biophysical considerations but also 'any effect on those in the neighbourhood and, where relevant the wider community including any socio-economic and cultural effects' (clause 2(a)).

In theory, resource consent applicants should identify and assess all significant environmental effects including, where relevant, the contribution of the proposal to cumulative effects. In practice, however, council officials take responsibility for assessing cumulative effects when they evaluate applications. The extent to which such assessments take place depends on the content of the plan. The Environment Court and High Court have given some rulings on aspects of cumulative effects but guidance in plans is largely absent.

Although the LGA provides planners with some alternative routes to address cumulative problems, coping with cumulative effects remains highly problematic in relation to transport issues. Failure to do so means that some key environmental externalities are not adequately internalised in the RMA resource consents system. Kissling and Bachelors (2000, p.316) contend that 'under current legislation, land use decisions are often devoid of transport infrastructure requirements and costs may be imposed on other members of the community for 'downstream' transport costs not internalised in land use developments'. An example of cumulative effects arising from urbanisation and associated motor vehicle use can be found in Box 4.3.

Many measures to manage cumulative impacts will be outside the mandate of the plan-making authority and, as such, cumulative impacts are often felt to be someone else's problem. Therivel and Ross (2007) identify a number of factors that support effective management of cumulative impacts. These include:

- strong legal requirements for cumulative impact management
- informed and proactive decision-makers
- support for inter-authority working

- development of management measures that are within the plan-maker's mandate
- a consistent approach to development that provides certainty for all participants.

**Box 4.3 Cumulative effects – urbanisation and estuary health.**

In Auckland's North Shore City, growing urbanisation has resulted in increasing levels of zinc and copper in estuarine sediments despite a well established planning system in place designed to minimise or reduce adverse environmental effects of land use change. Publication dates of land use plans reveal sharply the time lags between the growing awareness by scientists of the consequences of urbanisation on estuarine sediments, the time it took for research findings to confirm their concerns and relevant policies to be developed to address the issues. It took 20 years for responsive policies to grapple adequately with the relationships between urbanisation and its environmental effects. Because of this delay, despite more robust measures now in place for new developments, on-going degradation will continue for many years (Dixon and van Roon 2005).

This example demonstrates difficulties with time lags between identifying, investigating and responding to an environmental issue. It also highlights the policy gaps across agencies and the need for coordinated approaches to support efforts to resolve long-standing problems. Tackling a problem like this requires greater interdisciplinary skills on the part of practitioners; a planning system that is more responsive to new knowledge; a stronger alignment of policies and plans within and across agencies (and possibly fewer plans overall); and long-term monitoring. It also requires connections with other sectors such as transport and building, where changes to building materials and infrastructure can make a significant difference in preventing pollutants from entering receiving environments.

## 4.3 Transport instruments and practices

For much of the last decade, transport planning has been shaped and guided by the Land Transport Act. The Act sets out requirements for regional land transport strategies, which remain the key transport planning mechanism at the regional level. At central government level, transport planning functions have been and continue to be split between several agencies: Ministry of Transport; Transit NZ; Land Transport NZ; and recently ONTRACK. The dominant approach to transport planning over the past 10 years has commonly been referred to as predict and provide – 'predict the traffic and provide infrastructure for it' (Wright 2006). While the shortcomings of this approach are increasingly being recognised, its legacy continues to influence transport outcomes.

### 4.3.1 Regional land transport strategies

RLTSs are the principal regional planning documents for land transport. The purpose and content requirements of RLTSs have been shaped over a decade with a succession of amendments to the LTA which have also changed the composition of the body that prepares them, the regional land transport committee (RLTC). These committees comprise representatives of local authorities, central government bodies and a sufficient number of persons to represent the objectives specified in the LTA.<sup>17</sup>

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<sup>17</sup> These objectives are: assists economic development; assists safety and personal security; improves access and mobility; protects and promotes public health; ensures environmental sustainability.



Regional councils convene the RLTC and receive and adopt the strategy. There is no requirement for RLTSs to be approved or confirmed by any other agency except the regional council. Monitoring reports assessing the implementation of the strategy are required to be prepared annually. However, there are no guidelines as to how monitoring should be done nor any examples of best practice endorsed by a central agency.

When first introduced, RLTSs were required to have a planning horizon of at least three but no more than five years and could be renewed from time to time. The LTMA 2003 introduced a new requirement for a planning horizon of no more than 10 years and required RLTSs to be renewed at least once every three years.

As noted in section 3, integration of land use and transport planning in the RLTS is addressed to a limited extent through statutory provisions that require strategies to be 'not inconsistent with' regional policy statements and plans prepared under the RMA. It may also be promoted through the cooperative activities of the committee that prepares the strategy.

#### **4.3.1.1 Strategy preparation**

Regional land transport strategies have been completed for every region in New Zealand and in many regions they are in their third or fourth generation. The importance of a collaborative and integrated approach to RLTS preparation is illustrated by the following statement about the drivers for the preparation of the Wellington strategy:

*The drivers that informed the Regional Land Transport Strategy included changes in the Region's demographics and associated activities; transport problems such as congestion and safety issues; the interface between transport and communities and the needs that derive from the Region's topography (Hastie 2000, p.8).*

In practice, however, RLTSs have tended to focus on responding to transport problems by recommending expansion of the road network. In a recent review of RLTSs, Douglass observes that road infrastructure remains a dominant focus:

*In the metropolitan and several of the major city regions, the key issue within current RLTSs is the pressure on transport infrastructure due to current and future demand levels. This is especially true in areas with high projections for economic development and population growth. In less urbanised and rural regions, the primary focus for land transport has been to maintain the existing road network while progressing projects that deal with land use changes or increased rural activity and tourist developments (Land Transport New Zealand 2005a, p.4).*

Regional land transport strategies are usually prepared by small groups of regional council transport staff and/or consultants. Urban design and spatial planning specialists have little or no involvement. A common arrangement in the larger regions is the use of technical sub-committees or working groups, on which staff from local authorities, Transit NZ and

others participate.<sup>18</sup> In Auckland, Wellington and Christchurch transport models are used to help identify future trends. Typically, these are conventional, strategic four-stage aggregate models, with trip generation, distribution, mode split and assignment with a large zoning system covering each region (Ashley et al. 1999).<sup>19</sup> Widely recognised as in need of upgrading, two of the three models (Auckland and Christchurch) are currently in the process of comprehensive improvement.

Strategy development is also required to provide opportunities for public participation. In practice, however, opportunities for public input into past RLTS preparation have been of variable quality and inclusiveness (Ward et al. 2005; Mees and Dodson 2006). Ward et al.'s (2005) analysis of three RLTSs (Christchurch, Waikato and Wellington) prepared prior to the introduction of the LTMA found industry, commercial interests and road users tended to be better represented in consultation processes than other sectors.<sup>20</sup> Where they were provided, opportunities for public input also tended to be limited to commenting on broad policy goals rather than the detail of options to achieve these goals.

Mees and Dodson's (2006) analysis of the preparation of Auckland's current RLTS raises similar issues in relation to the quality of public participation opportunities provided. They observe that the consultation brochure on the draft RLTS released by the Auckland Regional Council contained 'very little information' to enable the public to have meaningful input into the strategy (p.10). They argue insufficient detail was provided in the document to allow the public to express an informed view on preferred options and priorities for the region's land transport system.<sup>21</sup> In response, the authors suggest there is a need for a new approach to transport planning, 'one in which public preferences are able to be clearly expressed and articulated through planning processes' (p.16).

#### **4.3.1.2 Integration with land use planning**

Since the first RLTS began to appear, there has been little formal examination of their technical content and in particular no published assessment of their quality or effectiveness for integrating land use and transport planning. The first strategies were informed by earlier transport plans, where they existed, and regional planning activities and documents prepared in the pre-RMA era.

Ward et al.'s (2005) study of the preparation process for selected RLTSs (Waikato, Wellington, Christchurch) found little evidence of reference to regional planning or to the involvement of land use planners. While some consideration of different land use options was found in strategy development, in general they took a 'predict and provide' approach

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<sup>18</sup> In Auckland, ARTA staff involvement in RLTS preparation is restricted to this role.

<sup>19</sup> Auckland also has a complimentary land use planning model. However, only one land use option from this model was used in the preparation of the current RLTS.

<sup>20</sup> The authors note 'for the most part, public participation in RLTS development was limited to making written submissions. More proactive public participation mechanisms such as community group meetings or advisory committees were not used. While some workshops were held, these tended to be targeted mainly at the transport sector rather than the wider community. This meant that workshops were dominated largely by government agencies with transport functions (eg, Transfund, Transit), commercial transport representatives and road users' (Ward et al. 2005, p.44).

<sup>21</sup> According to the authors, this means there was no effective opportunity for the public to have input into prioritising modes or the funding distribution between modes.

to traffic planning, an approach common at the time and evident in descriptions of the process given by leading practitioners (Ashley et al. 1999).

With few exceptions, recent RLTS are aspirational in character through their early sections which identify a vision, goals and objectives. Policies and actions are commonly set out for achieving the vision and goals together with a detailed 'shopping list' of projects.<sup>22</sup> These are typically dominated by road projects but also include proposals for public transport and, more recently, proposals for traffic demand management, walking, cycling and minor rail projects. The projects form the basis of land transport programmes, the avenue for obtaining funding from Land Transport NZ.

The lack of connection between the aspirational objectives and road dominated projects of RLTSs is reported in Ward et al.'s (2005) review of the Waikato, Wellington and Canterbury strategies and in Quigley et al.'s (2006) study of the draft Wellington RLTS.<sup>23</sup> The aspiration reflects the solutions sought to meet the environmental, economic and social development goals of the region while the actions reflect the road priorities of individual councils and/or central government. Ward et al. (2005) suggest this disconnection may be a product of the lack of integration between land use and transport planning. It is also likely to be influenced by the way that funding is allocated (see section 4.3.5 below).

Consideration of land use options in RLTS preparation has also been studied by Douglass (Land Transport NZ 2005a). His review of 16 RLTSs evaluated the technical content of the strategies and their preparation process. The review used 25 criteria including consideration of land use options. It found that no RLTS considered transport needs or solutions for different land-use options. Essentially, all plans presumed more-or-less linear growth based on current (historic) growth patterns and adopted a 'predict and provide' approach to network capacity.

Douglass' findings reinforce those of Ward et al.'s (2005) study. This inquired, amongst other things, if transport models had been run with network capacity constrained to determine whether this resulted in different land use patterns. The research found this had not been attempted in Wellington or Christchurch. According to Douglass (pers.comm. 2006), approaches such as this, which are part of a broader testing of land-use options for regional growth and its transport demands, have been reported in transport studies from the mid-1970s.

In addition to the list of specific projects for which funding may be sought, most RLTSs contain a group of policies to guide strategy implementation, including an 'action list' of the activities that must be undertaken to achieve the policy outcomes sought. These include actions such as developing local strategies for other transport modes (eg, walking and cycling) and specific cooperative activities to promote or deliver integration. The organisations responsible for completing the actions commonly include district councils,

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<sup>22</sup> This is not the case for the Auckland RLTS which, as a result of the policy-delivery split created by the formation of ARTA, is prepared by the ARC and is entirely aspirational. ARTA is responsible for preparing the land transport programme.

<sup>23</sup> The term 'aspirational front and asphaltic back' that has been coined to describe them.

the regional council and Transit NZ. Occasionally, other organisations, typically central government agencies, are tasked by the RLTS with an action.

Regional councils report poor to moderate commitment to delivery on these non-road actions by territorial local authorities (TLAs) notwithstanding TLA involvement in the process of preparing the RLTS (in regions where the process is well run and well supported) (Hastie 2000). Implementation issues may also arise due to lack of funding and poor levels of cooperation between different agencies within a region. Booz, Allen, Hamilton (2006) observe these issues have affected the Auckland region. As a result, implementation of RLTS policies has generally been slow:

*Accordingly, the objective and targets included in earlier RLTS's (sic) (to the extent that these were articulated) have generally not been achieved. The pace and scale of infrastructure development and service delivery improvement has not met the expectation raised in the RLTS, and the level of mode change, congestion relief and environmental improvement suggested by early RLTS has not eventuated (Booz, Allen, Hamilton 2006, p.12).*

In addition to the problems associated with RLTS implementation, legislative requirements for strategies to be integrated with land use plans are limited. Hastie notes legislation relies:

*... on the weak 'not inconsistent with' obligation and on relationships that place requirements on planning documents and not the organisations themselves (Hastie 2000, p.8).*

Some of the latest generation of RLTSs, prepared since the adoption of the NZTS and the LTMA, reflect a clearer commitment to integrated planning, at least on paper. For instance, there is a new section in the Canterbury RLTS on 'land use integration' and some policies and methods to encourage it (Environment Canterbury 2004). Integration principles are also set out in the Waikato region RLTS (Environment Waikato 2006). As yet, it is too early to detect any changes in commitment to strategy delivery in a more integrated way. A promising sign in both these regions is the preparation of sub-regional implementation strategies that link activities more closely to the TLAs and their activities

The Auckland RLTS identifies objectives in addition to those in the NZTS and LTA, including supporting the Auckland regional growth strategy. This is a more explicit commitment than was formerly the case and reflects the passing of the LGAAA to require, amongst other things, Auckland local authorities to make their plans consistent with the Auckland regional growth strategy.

#### **4.3.1.3 Monitoring and audit of RLTSs**

Prior to the passing of the LTMA, RLTSs were not subject to any form of external audit or quality appraisal process. The LTMA introduced a general requirement for RLTSs to be independently audited but gave no guidance on what should be covered by the audit, who should do it or what standards should be applied. No accompanying guidance was produced by any government agency. The practical effect of this rather weak audit

requirement is that the effectiveness of transport models, the extent of multi-modal consideration in planning and the quality of integration are all without independent, external evaluation.

There is still no published guidance although Land Transport NZ has produced guidelines for the preparation of RLTSs, based on work commissioned by the Auckland Regional Council in 2004 (Land Transport NZ 2005b). The guidelines have established a precedent for the audit to be of the process for preparing the RLTS rather than the content. This is the approach adopted by the majority of regional councils that have commissioned external audits, which are generally undertaken by transport consultants.

### **4.3.2 National land transport strategy**

The LTA provides for the preparation of a national land transport strategy (NLTS). The legislation is permissive rather than directive providing that an NLTS may be prepared at the discretion of the Minister of Transport and may include goals, objectives and targets. It may not be inconsistent with any national policy statement prepared under the RMA.

Although no NLTS has been prepared to date, a start was made on one in 1996. The Ministry of Transport (1996) released a discussion document called *Setting the Scene* to seek comments on a proposed consultation process to develop a NLTS. *Setting the Scene* identified the purpose of the NLTS as developing 'long-term transport goals and policy objectives, and measurable targets to be met to achieve those policy objectives' (Ministry of Transport 1996, p.3). Comments received on the consultation document revealed too little common ground between government transport agencies for effective progress to be made and work was abandoned. Limited guidance and coordination from central government reflected the view of the government of the day which commenced work on a programme of structural 'reform' and a competitive model for the provision of transport infrastructure and services.

Central government guidance remained absent until the NZTS was released in 2002. This non-statutory document provides policy direction and sets out a broad-based set of objectives for transport legislation and policy moving it into a sustainability context. It has been a major influence on the transport sector and its objectives have been incorporated into the LTMA and LTA. However, the NZTS does not have any statutory status and does not provide any specific targets.

### **4.3.3 State highway strategies and programmes**

The other area of high-level land transport planning which needs to take account of land-use and population projections concerns the state highway network. This is undertaken by Transit NZ. Transit NZ is responsible for 12% of New Zealand's roads, which carry about 50% of all road traffic (Transit NZ n.d.). There is a widely recognised and obvious tension between Transit NZ's state highway responsibilities to develop and manage high capacity 'through road' infrastructure and the network capacity needs of the towns and cities which the highways traverse. Maximising the transport benefit to the whole population requires

close collaboration between Transit NZ and TLAs and well integrated planning over long time horizons.

In line with all other 'approved organisations' seeking funding from Land Transport NZ, Transit NZ is required to prepare an annual land transport programme, commonly referred to as the State Highway Plan. Transit NZ also produces a forecast of activity, a requirement of the LTMA. Since 2006, this has had a 10-year horizon. However, more detail is provided in regards to the first three years out. The State Highway Plan and Forecast are published as a single document.

The State Highway Plan prioritises state highway development activities across the country. It incorporates regional state highway strategies and the state highway elements identified in RLTSs. While its function, at least in part, is to give effect to RLTS priorities it is arguably the source of large road projects and the majority of the budget required by the projects set out in the RLTS.

The importance of the State Highway Forecast process for integration and the inadequacies of its connection with the statutory planning process are noted by Transit NZ's National Standards Manager, Lisa Rossiter. Rossiter states:

*For Transit the key transport planning process is the SH Forecast (statutory) but the interface with the RMA is weak – other than when Transit needs a resource consent or designation to progress an activity. Hence, the statutory planning interface between transport planning and land use is weak. There are, however, non-statutory processes that can assist this integration (L. Rossiter, pers.comm. 2007).*

Sitting above the State Highway Forecast is the *National State Highway Strategy*, two of which have been produced by Transit NZ. The first was released in 1998 and the second in 2007. The strategy has no legislative basis or effect; it sets out Transit NZ's mission, goals and objectives for the state highway system and is very much a policy statement. The revised 2007 strategy, updated to reflect legislative changes over the previous decade, also includes some specific, albeit high level, policies concerning highway hierarchy and network capacity.

Strategy goals are clearly stated in terms of the contributions the state highway network can make. Regional growth strategies and RLTS are identified as informing and being informed by the *National State Highway Strategy*. The strategy notes that it is provided 'to help local government, businesses and communities when developing district and regional plans, transport plans and growth strategies' (Transit NZ 2007, p.4). That is, Transit NZ sees this as a contribution to integrated planning. It notes further that Transit NZ will support local decisions that are consistent with its vision and principles described in the strategy but also states 'to safeguard the best interests of New Zealand...any decisions that are not consistent with the strategy will need to carefully considered' (ibid).

Both the State Highway Plan and the *National State Highway Strategy* are informed by strategic studies including corridor plans. While corridor plans and similar narrowly focused studies have predominated in the past, more recent studies such as the Nelson to Brightwater and the Ngauranga to airport (Wellington) study are more strategic in character. These more recent studies reflect regional planning (growth) strategies and seek transport solutions incorporating arterial roads in addition to the state highway network. This joint work, while not a statutory requirement, sits alongside a growing number of emerging practical and collaborative activities necessary to achieve integrated transport development.

#### **4.3.4 National rail strategies and programmes**

Since 2004, the government has owned the New Zealand rail network. The use of it is subject to contractual arrangements for freight services (Toll Holdings) and passenger services (various operators). ONTRACK is the owner and controller of the rail network on behalf of the Crown with responsibilities for planning, designing and constructing additional infrastructure (ONTRACK n.d.). Integration between rail network operation and development and other modes is complicated by the tension that exists between commercial contracting (eg, freight services) and public policy objectives. Commercial rights and obligations may restrict opportunities for integration.

New Zealand has had a *National Rail Strategy* (NRS) since 2005. It is a high level document reflecting the vision and objectives of the NZTS. The NRS sets out the government's rail policy objectives and priorities for action over the next 10 years and outlines key initiatives that are intended to achieve the outcomes sought. It notes that rail sector agencies are responsible for developing the detailed programmes and strategies required to achieve objectives. In its introduction, the NRS notes its purpose is:

*to provide a structure for planning the development of the rail network in a way that recognises the Government's focus on shifting commuter and freight traffic from road onto rail, where appropriate, to ease road traffic congestion, benefit the environment, and improve safety, personal security, and health* (New Zealand Government 2005, p.3).

The NRS lists the five NZTS objectives together with priorities and key objectives. The strategy has a particular focus on assisting economic development, with two of the four priorities under this objective addressing aspects of integration between land use and transport planning. The priority to 'improve rail's contribution to regional development' notes that there may be scope to fund urban transport infrastructure by capturing a proportion of the increase in land values generated by the new infrastructure. The priority to 'optimise the use of the rail network within the wider transport network' notes that increased integration of transport modes includes the development of innovative and flexible approaches and that:

*Rail stations can be natural focus points for commercial, industrial, or residential development, illustrating that integrating land use planning with rail infrastructure operation planning is also important. Improving integration*

*will require regular consultation with regional councils, industry, and other parties, and consideration of other land transport plans and regional development strategies (New Zealand Government 2005, p.14).*

These statements of integration intent are an important first step. However, they have not yet been implemented. The NRS identifies a 10-year rail network development plan as a key step in implementing the NRS and states that ONTRACK will prepare it as soon as practicable. ONTRACK advises that there is no such plan and its preparation awaits the passage of the Rail Network Bill, currently before Parliament.

#### **4.3.5 Land transport funding**

In a well designed and functioning system, opportunities and arrangements for funding transport infrastructure, management and services should be effectively integrated with land use and transport planning. Where funding can be allocated to activities with little or no reference to regional, district or local plans, necessary integration may not take place.

A full examination of New Zealand's land transport funding arrangements is beyond the scope of this report. However, a limited review has been undertaken to see to what extent applications to fund transport activities need to reflect or reference land use plans and whether the funding allocation process checks for 'compliance' or concordance with these land use planning activities.

For the 2006/2007 financial year, over \$2.3 billion was committed to land transport by central government. The money is disbursed by the Cabinet directly and via the National Land Transport Programme (NLTP) as follows:

- \$2.09 billion to fund the NLTP prepared annually by Land Transport NZ
- around \$150 million from a \$575 million, four-year appropriation to fund Auckland rail development approved by Cabinet
- around \$150 million from a \$200 million, four-year appropriation for track and other infrastructure refurbishment by ONTRACK.

As shown in Table 4.1, nearly 80% of the money disbursed through the NLTP is allocated to roads.



**Table 4.1 Allocation of national land transport programme funding for 2006/2007.**

| <b>Activities</b>   | <b>NLTP funding<br/>2006 \$m</b> | <b>%</b>    |
|---|----------------------------------|-------------|
| State highways maintenance and improvements                             | \$1,018                          | 49%         |
| Local roads maintenance and improvements                                | \$633                            | 30%         |
| Rail and sea freight  | \$2                              | 0.1%        |
| TDM, walking and cycling  | \$22                             | 1%          |
| Passenger transport   | \$301                            | 14%         |
| Promotion, education and information                                    | \$24                             | 1%          |
| Administration, performance monitoring and research, funding management | \$90                             | 4%          |
| <b>Total</b>  | <b>\$2090</b>                    | <b>100%</b> |
| Data in this table is sourced from Land Transport NZ, 2006b.            |                                  |             |

Land Transport NZ has a detailed programme and funding manual which provides guidance and 'rules' for approved organisations on matters to be taken into account when developing, submitting, reviewing and updating their LTPs. The manual also includes the financial assistance rate for various activities and provides a comprehensive summary of the funding allocation process and the criteria for activities to be considered for funding through the NLTP (Land Transport NZ 2006d).

In the published NLTP, there is no reference to land use or modal integration or any demonstration that these are being promoted. The LTMA does not contain any requirement for either level of programme (national or local) or the individual activities set out in them to reflect regional policy statements or regional or district plans. The LTPs must, however, 'take into account' relevant RLTS. This weak linkage in integration terms reflects and continues the previously noted and similarly weak link between RLTS and RMA plans.

The Auckland LTP stands out from other LTPs from an integration point of view because the agency that prepares it, ARTA, has a mandate to plan in an integrated way across all transport modes. In marked contrast to other transport planning agencies, ARTA has a number of specific 'integration' requirements. It is required 'to give effect to' the Auckland RLTS (section 12(6), LTMA) and to take into account Transit NZ's land transport programme (section 38(8)(a), LTMA).<sup>24</sup> While this latter obligation is relatively weak, it is a reciprocal one and, in practice, there is a strong collaboration between ARTA and Transit NZ.

In the absence of specific requirements for activities seeking NLTP funding to be developed through integrated planning processes, the funding process provides an

<sup>24</sup> The requirements relating to Auckland have had the consequence of releasing the Auckland RLTC from an obligation other RLTCs are under to deliver an RLTS that meets available budgets.

opportunity to set good practice 'tests' for integration. For instance, it could include requirements for evidence of integration of land use and transport to meet the overall purpose of the LTMA. This would be in line with other advice from Land Transport NZ on preparing activities or packages for funding and guidance on a range of technical and procedural matters.

Legislation currently sets out a number of tests for funding allocation that, if applied rigorously, might help ensure integration.<sup>25</sup> For instance, the LTMA requires that Land Transport NZ must, before adopting a national land transport programme, be satisfied that the programme contributes towards both the purpose of the Act, which includes integration, and the five NZTS objectives. Set against an objective of ensuring activities submitted for funding arise from integrated planning, the most relevant test when approving payments is that Land Transport NZ must be satisfied that an activity has 'to the extent practicable, been assessed against other land transport options and alternatives' (section 20(3)(d), LTMA). Land Transport NZ also encourages approved organisations to develop packages of activities in a move towards achieving greater integration and a more strategic approach to transport infrastructure and management.

The LTMA provides a second means by which approved organisations can develop funding applications as an alternative to producing an annual LTP. If the matters required to be in an LTP are included in the local authority's long-term council community plan (LTCCP) or annual plan (AP) and meet some specific additional tests, no LTP is required (section 13, LTMA).<sup>26</sup> This arguably might connect transport planning more closely to land use planning where LTCCPs and APs reflect well prepared district plans.

In practice, however, available evidence does not suggest this is routinely occurring. Funding applications are now usually made online using an electronic process.<sup>27</sup> Research by Boulter et al. (2007) found that local authorities are making online submissions without either a formal LTP or sufficient coverage in the LTCCP process to satisfy legal requirements. The online submission often failed the LGA's and LTMA's consultation provisions and the NZTS objectives of integration (ibid). Boulter et al.'s findings suggest that councils are failing to consult on the specific activities for which they are seeking funding from Land Transport NZ. Instead, opportunity for public comment is limited to high-level policies, effectively side-stepping the requirements and intent of the consultation provisions of the LGA and LTMA.<sup>28</sup>

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<sup>25</sup> Land Transport NZ (2005c) has a detailed funding allocation process. It describes a six-stage process as follows: formulation, assessment, prioritisation, programming, approval and monitoring. The funding allocation process forms part of Land Transport NZ's programme and funding manual.

<sup>26</sup> Boulter et al. 2007 (p.8) note that most councils now avail themselves of the provisions of section 13.

<sup>27</sup> The rules for LTP on-line application are set out in the *Programme and Funding Manual*.

<sup>28</sup> An exception is Auckland where the LTP is released (by ARTA) for consultation in parallel with consultation on LTCCPs.

**Box 4.4 Land Transport NZ funding assessment process.**

Since 2003, Land Transport NZ has encouraged approved organisations to develop packages of measures in a move towards achieving greater integration and a more strategic approach to transport infrastructure and management. In order to further strengthen and to better incentivise the adoption of the package concept by approved organisations, Land Transport NZ is currently developing material on the role of integrated strategies and supporting packages and this is intended to be published in late 2007 (D. Wignall, pers.comm. 2007).

The current Land Transport NZ assessment process for the funding of activities and classes of activities was established in 2003 in response to the enactment of the LTMA and introduction of the NZTS. The NZTS and LTMA signalled a significant change of direction, namely, away from a narrow (safety and efficiency) benefit to cost ratio (BCR) approach and the prioritisation of individual projects towards a more strategic and holistic approach to funding.

The LTMA requires funding to be allocated to contribute to the achievement of an integrated and sustainable transport system. The new funding allocation process also has to contribute to the achievement of multiple objectives, related to: economic development, safety and security, access and mobility, public health and environmental sustainability. The funding assessment process is undertaken on the basis of funding applications made by approved organisations.

Since 2003, Transfund and now Land Transport NZ have published the categories of expenditure for which applications are invited and also the process and criteria by which funding is allocated. The concept of packages (groups of interconnected and complementary activities) was included in the 2003 revision to the funding allocation process but was subsequently given greater emphasis through the inclusion of indicative proposals in the LTP online system in 2005. The intention behind this was to give stronger emphasis to packages of activities to encourage a more strategic approach and encourage greater consideration of integrated solutions including multi-modal ones.

## **4.4 Local Government Act instruments and practices**

Councils are increasingly using opportunities under the LGA to work through planning issues ahead of making any necessary statutory changes under the RMA. This shift in approach by councils makes the relationship of statutory and non-statutory policy instruments critical, particularly where connections have to be made across more than one statute. This sub-section reviews some of the key instruments used by councils including LTCCPs, regional growth strategies and structure plans.

### **4.4.1 LTCCP and community outcomes**

The LTCCP is the key strategic planning document for councils and provides a critical opportunity for them to coordinate and foreshadow the integration of transport infrastructure and land use development. These new plans are intended by government to set the overall context of planning and decision making within regional and district councils. The plans set the strategic directions within councils, with a planning horizon of 10 years although they are in force for three years. LTCCPs are important in signalling planned works and can set out, for example, proposed works and services to provide bus transfer stations, bus lanes and cycle lanes and for the council to own, develop and manage car-parking areas.

A feature of the LGA is the identification of community outcomes for the intermediate and long-term future of a district or region (section 91, LGA). This requires collaboration with central government, local authorities and other groups who may identify and promote these outcomes. The achievement of these community outcomes has to be monitored by councils and reported on at least every three years. So far, as demonstrated in the Auckland City Council LTCCP, the outcomes are high level but signal community aspirations for transport choices, transport connections, successful neighbourhoods and so on (Auckland City Council 2006). In theory at least, LTCCPs provide a vehicle for community empowerment, whereby they provide a means for groups to express views about local issues and seek support from councils to include and fund specific activities in the LTCCP.

While both the LGA and RMA statutes specify matters to be covered in plans, consistent with an underlying ethos of empowering legislation, little prescription is provided in terms of what plans might address. Given the need to bed down the new LTCCPs, it is perhaps premature to formally link these plans with RMA plans. Yet, somewhat surprisingly, no reference is made in the LGA to the need to align plans developed under both Acts. However, the inclusion of section 79(3) in a recent amendment to the LGA does confirm that the requirements of that Act will overlay those of the RMA (Curran 2005). In other words, the process of making decisions under the RMA needs to be consistent with any requirements of the LGA. Practitioners in councils thus have a key role in coordinating and aligning plans prepared under both statutes.

The changes to the LGA in 2002 also add a new layer of requirements for consultation and decision making. However, indications are that any significant change to the way that councils operate is likely to take place slowly. The 2006 LTCCPs will constitute the first real test of the new framework and it is too soon to assess whether or not there will be major changes in practice (Reid 2005). A particular problem is that plan preparation is out of sequence so that it will probably take until the second or even third generation of LTCCPs to fully assess the extent of connections with plans prepared under separate statutes, for example RMA plans, and the extent to which high-level community outcomes are met. A measure of this will be the quality of relationships between councils and external agencies such as Transit NZ which will have an influence on whether community outcomes are delivered.

Monitoring will be critical in determining whether identified community outcomes make a difference. Monitoring procedures need to be agreed with community organisations and groups (section 92, LGA) as they, rather than councils, may be responsible for influencing or achieving some of the identified outcomes. These provisions go well beyond previous requirements of the Local Government Act 1974 and are designed to strongly reflect community opinion about the setting of council priorities and expenditure.

One useful initiative that has emerged in Auckland as a direct response to assisting the development of community outcomes is the Auckland Regional Public Health Service (2006) report *Improving health and wellbeing: A public health perspective for local authorities in the Auckland region*. It is intended to provide support for local authorities

and others in prioritising resources in improving wellbeing of communities based on current public health understanding and evidence. The report focuses on three priority areas, one being transport. It recommends the collaboration of the Auckland Regional Public Health Service, ARC and transport agencies on strategies to improve public health and wellbeing. Suggested actions include:

- reducing emissions to comply with National Environmental Standards and regional targets for air quality
- ensuring transport and land use planning take account of the needs of all users in relation to commercial traffic, public transport, pedestrians and cyclists
- designing transport connections within high density centres and corridors to give priority to pedestrians, cyclists and public transport
- developing further work on school travel plans
- continuing implementation of key road safety priorities identified in the Regional Road Safety Plan 2004–2010.

Initiatives such as this report will be crucial in bridging sectors (such as health, transport and land use), provided that the recommendations are taken up and implemented by the relevant agencies.

#### **4.4.2 Regional growth strategies**

Regional growth strategies are underway or have been completed in several regions, including Auckland, Canterbury and Wellington.

##### **4.4.2.1 Auckland**

A critical issue in the Auckland region has been the need to better integrate land use and transport planning in order to ensure that the regional growth strategy and infrastructure planning requirements are properly coordinated. Historically in New Zealand, land use and transport planning have operated in parallel rather than in any properly integrated fashion. In the 1990s, it became very evident in the Auckland region that residential intensification was occurring rapidly without sufficient parallel planning and implementation of transport infrastructure.

The Regional Growth Forum that spearheaded the development of the regional growth strategy was formalised in a 1998 amendment to the Local Government Act 1974. This amendment also established Infrastructure Auckland (IA) to make grants for land, passenger transport and stormwater infrastructure projects in the Auckland region. Further reforms under the LGAAA 2004 replaced IA with the Auckland Regional Transport Authority (ARTA) and Auckland Regional Holdings (ARH). Both ARTA and ARH are council-controlled organisations under the ARC, which now has overall responsibility or integrating the planning, funding and development of the Auckland transport system.

The *Auckland Regional Growth Strategy* was developed in response to the pressing need to manage problems of urban sprawl, traffic congestion and inadequate infrastructure (Auckland Regional Growth Forum 1999). The *Regional Land Transport Strategy* (ARC 1999) was published along with the regional growth strategy. As noted earlier, a critical

element of the growth strategy is residential intensification with the key focus on the existing metropolitan area where 70% of proposed new dwellings will be built (Auckland Regional Growth Forum 1999). The regional growth strategy is now being embedded through the district plans of the seven Auckland councils. Territorial authorities have signed sector agreements with the regional council that commit the TLAs to provide for growth in line with the general intention of the growth strategy.

Despite this, it is only relatively recently that councils began the process of publicly notifying areas for intensification. Greenfield sites have been developed in preference to more expensive brownfield redevelopment. Further, there has been considerable controversy surrounding the issue of intensification generally in the Auckland metropolitan region. Concerns typically include issues about the quality of housing along with the impact on social and physical infrastructure of many new households in already established suburbs. The siting of intensive housing areas in close proximity to town centres and public transport facilities is integral to the regional growth strategy and intended to address Auckland's traffic problems. However, locating medium density housing adjacent to public transport routes has not necessarily led to changed behaviour (see Box 4.5).

The LGAAA recognises a particular need to integrate land transport and land use planning in the Auckland region, bridging both LGA requirements for long-term strategic planning and implementation under the RMA. The LGAAA has resulted in a series of notified changes to the regional policy statement and district plans to ensure more effective coordination of land use, development and transport planning to facilitate the growth strategy. A jointly appointed hearings panel has been hearing submissions to these changes during 2006 and will present recommendations to the relevant councils which will make the final decisions.

The regional land transport strategy was revised in 2005 while the regional growth strategy is now being reviewed. Contributing to that review is the START programme – 'Sustaining the Auckland Region Together'. This programme is developing a framework of sustainability principles and goals to assist long-term decision making which should underpin all the region's statutory planning instruments in the future. The final draft Auckland Sustainability Framework was released in July 2007.

**Box 4.5 Ambrico Place, Waitakere City.**

Assumptions that locating medium density housing adjacent to public transport routes will lead to changed behaviour were examined in a 2001 study of Ambrico Place, a medium density development in Waitakere City Council (Dixon and Dupuis 2003). The Ambrico Place developments are all located within a five-minute walk from the New Lynn Town Centre and rail and bus stations and thus provide the opportunity to examine residents' use of public and private transport. For nearly half the respondents, current car usage was the same at Ambrico Place as at their previous place of residence. Well over one-third of respondents used their car less while a small number reported more use.

However, despite the convenience of public transport for Ambrico Place residents, its use was not high. Data on the frequency of public transport use showed that while occasional use had obviously increased, regular use of public transport had, if anything, slightly decreased (Dixon and Dupuis 2003). For example, it was found that the 18 school students in the sample attended 14 different schools, only two of which were in walking distance of Ambrico Place. Nearly half these students travelled to school by car, while one-third used public transport.

That said, the proposed improvements to the rail system in the New Lynn town centre, including undergrounding, should result in greater accessibility for these residents and an improvement in public transport use. What this case potentially challenges is the assumption that intensification around public transport nodes may lead quickly to greater use of public transport and reduced use of private vehicles. The timing of the public transport improvements, which will not be complete until 2010 (long after the land use changes have taken place), has contributed to the current situation. This finding has important implications for the sequencing of the construction of transport infrastructure and residential housing. An update of the research is planned for 2007/2008, which will be useful in examining whether the transport patterns of residents have changed.

**4.4.2.2 Canterbury**

The *Greater Christchurch Urban Development Strategy* (UDS) is a collaborative regional planning venture involving the Christchurch City Council, its adjacent TLAs, Environment Canterbury and Transit NZ. The final brief for the UDS, dated March 2004, records agreement 'to work collaboratively on setting a long-term direction and strategy for the growth and development of Metropolitan Christchurch' (Greater Christchurch 2004). The planning horizon is 2041. The strategy has no statutory force but notes that in addition to non-regulatory mechanisms its implementation will be 'through mechanisms of the LGA and the RMA' (Greater Christchurch 2004). The strategy was confirmed and formally adopted in June 2007.<sup>29</sup>

Notably, the UDS includes Transit NZ as a partner with the regional council and TLAs. This is a significant acknowledgement of Transit NZ's role and importance in regional planning. It also involves RMA planners, transport professionals and others explicitly in spatial planning. The strategy is identified as being a foundation study and document to guide the RPS, the RLTS, participating councils' LTCCPs and community outcomes (Greater Christchurch 2006).

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<sup>29</sup> For Canterbury, the UDS is its third attempt in a little more than a decade at producing a regional strategy to plan for growth. This is illustrative of tensions that have existed for years between the regional council and city council which inhibited development of collaborative approaches to long term strategies for regional development. These tensions developed from different perspectives of their roles, ambiguity of their respective mandates under the RMA and territorial ambitions.

#### **4.4.2.3 Wellington**

In February 2007, the *Wellington Regional Strategy (WRS)* was adopted by the Greater Wellington Regional Council. In relation to issues of transport and land use, the WRS includes a focus on regional form with support for initiatives such as quality urban form, integrating transport with urban and rural needs and encouraging denser housing close to the Wellington CBD, sub-regional centres and transport links. The strategy was developed by the nine local authorities in the region under the auspices of the Greater Wellington Regional Council (GWRC). A standing committee of the GWRC was established as the 'keeper of the WRS' and comprised nine local authority representatives and five non-local government representatives. Unlike the process adopted for the UDS, Transit NZ is not a formal partner.

Professionals involved in the process argue a key feature of the Wellington process has been the 'buy-in' by politicians in the region and that the 'ownership' of the strategy is shared by them. Having many of the politicians also sitting on the regional land transport committee has been an important element in achieving integration of land use and transport issues. However, it is also acknowledged that it has not been easy to secure political support and it has taken huge effort. It will be necessary to maintain active relationship-building strategies to ensure that commitments remain in place. During the process, for example, several councils within the region were focused on ensuring 'exit clauses' were in place to allow them to withdraw from the strategy (Churchouse 2006).

From the perspective of planning professionals involved in the Wellington process, strategy development has offered an opportunity to focus on relationship-building, preferable to spending time getting bogged down with litigation when councils do not agree. Being able to connect the key plans (eg, the growth strategy, RPS and RLTS) with governance is also seen as making a difference in securing outcomes. In their view, a critical element has been the ability to have 'conversations' in one place rather than separately across many councils. However, within the wider community there has been criticism of the strategy, most notably in relation to its strong economic growth focus which is seen by some to take precedence over environmental sustainability goals (Churchouse 2006).

#### **4.4.3 Structure plans**

Structure plans are emerging as a common response by practitioners to the limitations of plans prepared under the RMA and the culture of legal formalism that has developed around the Act. In effect, these documents constitute a form of tiering that is used to inform statutory plans such as district plans and LTCCPs. While these documents are adding another layer of complexity for professionals, communities and developers, they are also providing clarity and justification for more targeted intervention in urban and rural development.

A structure plan is a framework to guide the development or redevelopment of a specified area by defining the future development and land use patterns, areas of open space, the layout and nature of infrastructure (including transport links) and other key features for



managing the effects of development (Ministry for the Environment n.d. (a)). Accompanying the structure plan may be urban design guidelines, specific to the particular development, setting out how sites in the structure plan should be developed or how particular types of development should be designed and located.

Structure plans are being used increasingly to develop detailed guidance for greenfield sites and provide an opportunity to integrate land use and transport planning considerations. Structure plans can also provide a degree of certainty about the future levels of development from which the cost of infrastructure and services can be quantified and how the effects of the implementation and operation of the infrastructure can be managed. They are in effect developing as a response to the needs for a comprehensive assessment and evaluation to meet the requirements of an effects-based mandate. That is, they provide important detail in terms of how specific areas will be developed spatially.

There is no prescribed content for a structure plan in legislation. Their development varies across the country and they are used by councils for different purposes. They can be implemented through a variety of regulatory and non-regulatory methods. Structure plans are, however, becoming a popular and useful tool to support local policy frameworks of councils under the RMA and LGA. There has not been any significant evaluation of the structure plan experience. Nonetheless, these plans can be significant in terms of integrating land use and transport planning at neighbourhood levels.

## **4.5 Guidelines**

Given the importance of land transport, there has been surprisingly little guidance provided on integration between land use and transport planning. Guidance to assist planners towards urban arrangements that reduce the demand for transport infrastructure and services has been similarly limited. For instance, no formal guidance appears to have been issued at the time the requirements for RLTS were introduced. This parallels the situation when requirements for regional policy statements were introduced under the RMA. While the lack of guidance is now gradually being addressed, it remains a significant shortcoming in the suite of planning instruments.

Guidance produced to date has been provided at two levels. General guidance in the form of what might be called 'statements of intent' towards integration has emerged following the release of the NZTS (Land Transport NZ 2006c; van Barneveld and Rossiter 2005). At a more specific level, guidance has been provided by Land Transport NZ (to assist in the preparation of regional land transport strategies and land transport programmes), by Transit NZ (on reverse sensitivity and developer contributions) and by the Ministry for the Environment (on land use and transport planning links through the Quality Planning website). These directly or indirectly address aspects of integration.

### **4.5.1 General guidance**

General guidance offering high-level advice has been produced by Land Transport NZ and Transit NZ. This guidance also offers insight into the agencies' different perspectives on integration

In a 2006 publication, *Participation in land use and transport planning process*, Land Transport NZ notes:

*Given its statutory objective, Land Transport NZ has a strong interest in influencing long-term planning in order to improve the prospects of the transport system being able to serve land use developments on a sustainable basis...The integration of land use and transport planning is a vital component of sustainable strategies to optimise the use of networks and to manage transport demand. Accordingly, it is also necessary to ensure that those responsible for land use planning processes give adequate consideration to the transport sustainability implications of plans, policies, resource consents and designations (Land Transport NZ 2006c, p.4).*

To give effect to this policy, since 2005 Land Transport NZ has employed a small designated group of planning advisers to review proposed plan changes and major resource consent applications for developments with significant transport implications. This is a more-or-less reactive role through the resource consent process to try to prevent the worst examples of local residential and commercial development putting a demand on infrastructure that may cause congestion or require unbudgeted road construction.

Addressing the longer-term horizon in its guidance on RLTSs, Land Transport NZ states:

*Land Transport NZ is committed to working collaboratively with local government and other organisations to develop the land transport system in a strategic manner. Accordingly, rather than taking an 'arms-length' approach to development of regional strategies and programmes, we now take considerable interest in the initial formulation stages (Land Transport NZ 2005b p.4).*

The guidance provided on the inter-relationship between land use and transport planning in this same document is clear and direct, if somewhat brief:

*Land use and economic growth assumptions should not be treated simply as inputs to transportation planning. There is a two-way interaction between land use and transport planning:*

- *transport investment can contribute positively to community planning and urban design*
- *sustainable development control strategies, incorporating travel plans, can reduce the need for transport infrastructure and improve modal choice (Land Transport NZ 2005b, p.8).*

However, staffing the Land Transport NZ role in shaping regional strategies to achieve these ends has until recently been difficult.

Transit NZ's (2005) *10-year State Highway Forecast 2005/06 – 2014/15* refers to a new transport planning function under the heading 'Integrating growth, development and land

use planning with multi-model transport planning' (Transit NZ 2005, p.10). It notes that integration is a key shift in its role towards managing transport systems in partnership with others:

*...we aim to integrate transport into planning for growth and development – eg, due to tourism, areas of rapid growth, significant urban fringe development – so that all transport options are considered along with measures to actively manage travel demand (Transit NZ 2005, p.10).*

Promoting the new planning function, senior staff observe that Transit NZ is:

*engaging in planning with local authorities at policy and planning level as well as with developers in relation to individual proposals (van Barneveld and Rossiter 2005, p.9).*

As well as a much more active role in responding to (most commonly submitting in opposition) development consent applications under the RMA, Transit NZ states it is:

*actively involved in influencing regional growth strategies, regional land transport strategies, structure plans and long-term council community plans, to name a few. We regard this involvement as vital because we believe it is incumbent on us to play an active role in facilitating effective integration of land use and transport (van Barneveld and Rossiter 2005, p.10).*

In common with the Land Transport NZ approach, the Transit NZ approach is reactive. In practice, it tends to involve 'protecting' the capacity and operation of the state highway from local traffic use.

#### **4.5.2 Specific guidance**

As noted, Land Transport NZ has produced guidelines for regional land transport strategies (Land Transport NZ 2005b).<sup>30</sup> These are described as for internal use by Land Transport NZ staff when reviewing RLTSs but are available to others who may find them helpful (p.1). Land Transport NZ produces such guidance in response to obligations placed on it by the LTMA. These obligations cannot be adequately met unless land transport programmes, derived from RLTSs, are of an appropriate quality and consistency. It might be argued that guidance on RLTSs is the responsibility of the Ministry of Transport. To date, however, the Ministry has not taken on this role. In a parallel situation, Transit NZ has produced guidance on development contributions, filling a gap that logic would suggest was the Ministry for the Environment's role.

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<sup>30</sup> The guidelines are available on Land Transport NZ's website. Five background papers are also available on request. These background papers are entitled: Legislative requirements for the development of regional land transport strategies; Legislative requirements for the development of land transport programmes; Review of current regional land transport strategies; Local government processes; Principles for development of land transport strategies and programmes.

To date, relevant guidance from the Ministry for the Environment has primarily been provided through the Quality Planning website.<sup>31</sup> The site provides assistance for planners and others involved in the implementation of the RMA and LGA and to a lesser extent the LTA. A considerable amount of material that can be considered informal guidelines and 'good practice examples' is provided on the site. In respect of transport, the website provides a 'Land transport' guidance note (Ministry for the Environment n.d.(b)). It sets out guidance on the relative roles of RLTSs and district plans and provides best practice examples. It also outlines the environmental effects of transport infrastructure development and operation. However, the guidance is general in nature and is unlikely to significantly inform either transport planners or RMA specialists.<sup>32</sup>

In the Auckland region, specific guidance on transport integration is proposed for inclusion in the regional policy statement. The Integrated Transport Assessment Guidelines are a proposed method in Plan Change 6 to the Auckland Regional Policy Statement. These are specific tools for assisting transport planners gauge whether their proposed activities and packages of activities are well integrated. Another trend in the Auckland region and in other areas undergoing rapid growth has been the development of design guidelines to assist district plan implementation. Increasing urban intensification is leading to a wider choice of housing types such as multi-storied apartments and terraced villas, alongside traditional, stand-alone houses. However, there have been some disappointing examples of intensive housing in the Auckland region which have given rise to considerable concerns by professionals and the public about the lack of attention to urban design.

The renaissance of urban design nationally, with the advent of the urban design protocol (Ministry for the Environment 2005), has given emphasis to this dimension of planning and opens up significant opportunities for attention to integration of land use and transport planning through design. Design guidelines can influence urban outcomes by, for example, improving traffic safety and reducing traffic congestion. However, the extent to which they do this depends very much of their purpose and the rationale for their use in the context of the district plan. Currently, there is ongoing discussion in various quarters about the need for development of sustainable neighbourhood design guidelines which would be a step forward in integrating site-specific design with wider spatial planning and transport issues.<sup>33</sup> The Ministry for the Environment is also currently canvassing opinion on whether the preparation of a national policy statement on urban design would be a useful contribution to planning practice.

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<sup>31</sup> A few formal publications have also touched on transport and land use matters.

<sup>32</sup> The guidance is, however, in the process of being updated.

<sup>33</sup> A low impact urban design and development research programme (2003–2009) has been funded as part of the Foundation for Research Science and Technology's sustainable cities programme.

## **4.6 Managing integration – challenges in planning practice**

Planning documents accessed in the course of this work commonly include diagrams in which different strategies, programmes and plans are displayed in boxes with interconnecting lines. The boxes are usually arranged in some hierarchical fashion and the connecting lines imply influence or connection. Two of these are reproduced here, one from ARTA's Sustainable Transport Plan (Figure 4.1) and the other from the Christchurch City Council's Metropolitan Christchurch Transport Statement (Figure 4.2).

There are three aspects of these and similar diagrams that are noteworthy. The first is the plethora of plans and strategies. A number of them are not a statutory requirement nor have statutory authority but have been designed to fill gaps that have occurred either as a consequence of statutory requirements or due to their absence.

The second point is the extent to which non-statutory plans can be influential in achieving integration, eg, the UDS in Christchurch and the Auckland Transport Plan in that city. Similarly, the regional growth strategy has been influential in shaping urban growth in Auckland but is now being subsumed in the development of the next generation of planning frameworks and statutory plans.

The third is the weakness of the connections (the lines) between the planning documents. Whether implying influence or integration, the links rely on many factors including professional interest or competence, political will and commitment, budget availability and the extent to which plans under different statutes are synchronised. The tendency in New Zealand to implement requirements for new types of plans before existing ones are 'bedded-in' exacerbates the proliferation of instruments and impedes the capacity for implementation and monitoring.

As noted earlier, councils are increasingly using non-statutory plans and processes to integrate requirements under the LGA and RMA (see boxes 4.6 and 4.7). Jenkins (2005) promotes the benefits of using non-statutory processes on the basis that the RMA establishes lengthy and legalistic processes. Legal formalism has long been recognised as an issue impeding the implementation of the RMA (Ericksen et al. 2004).

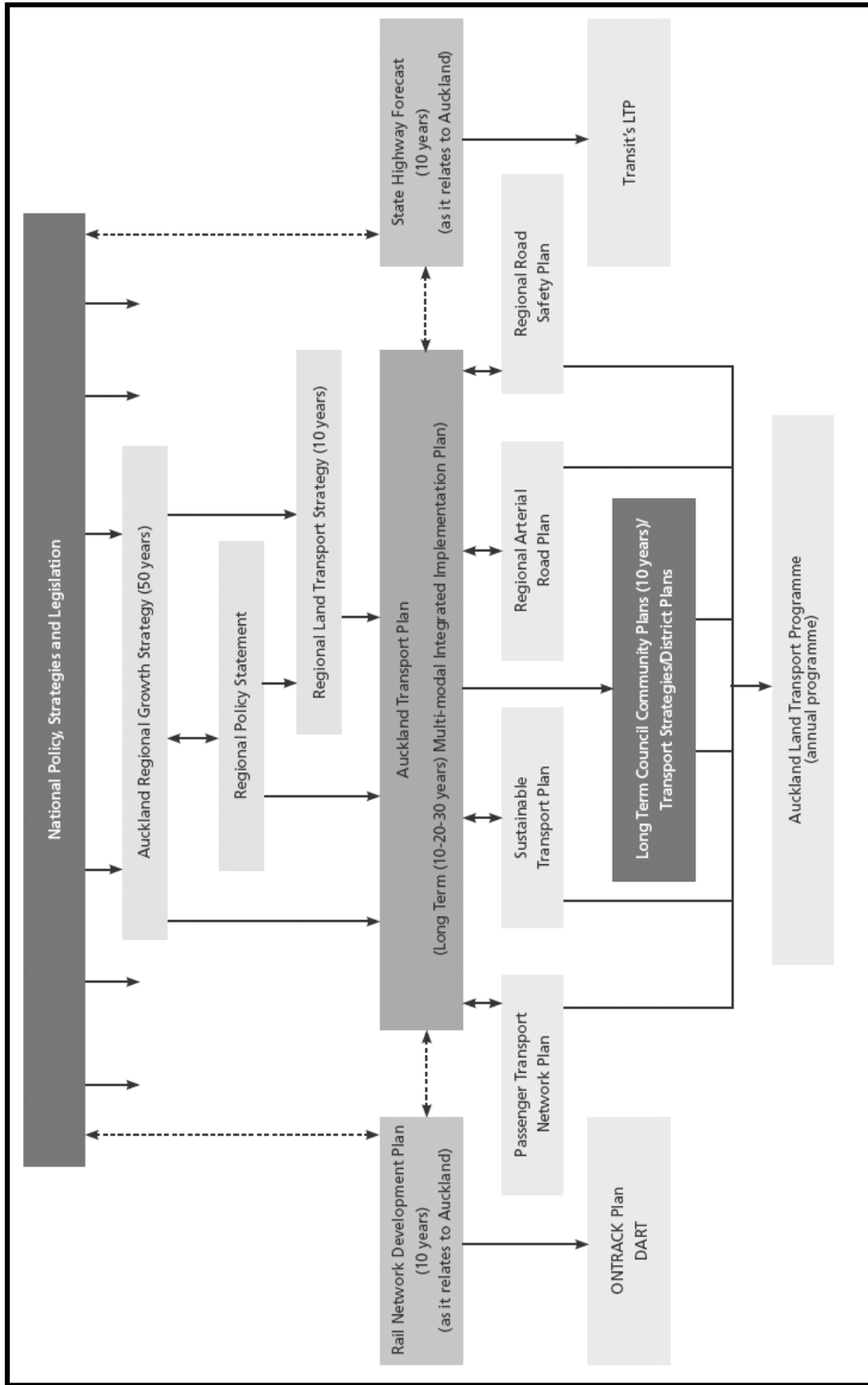
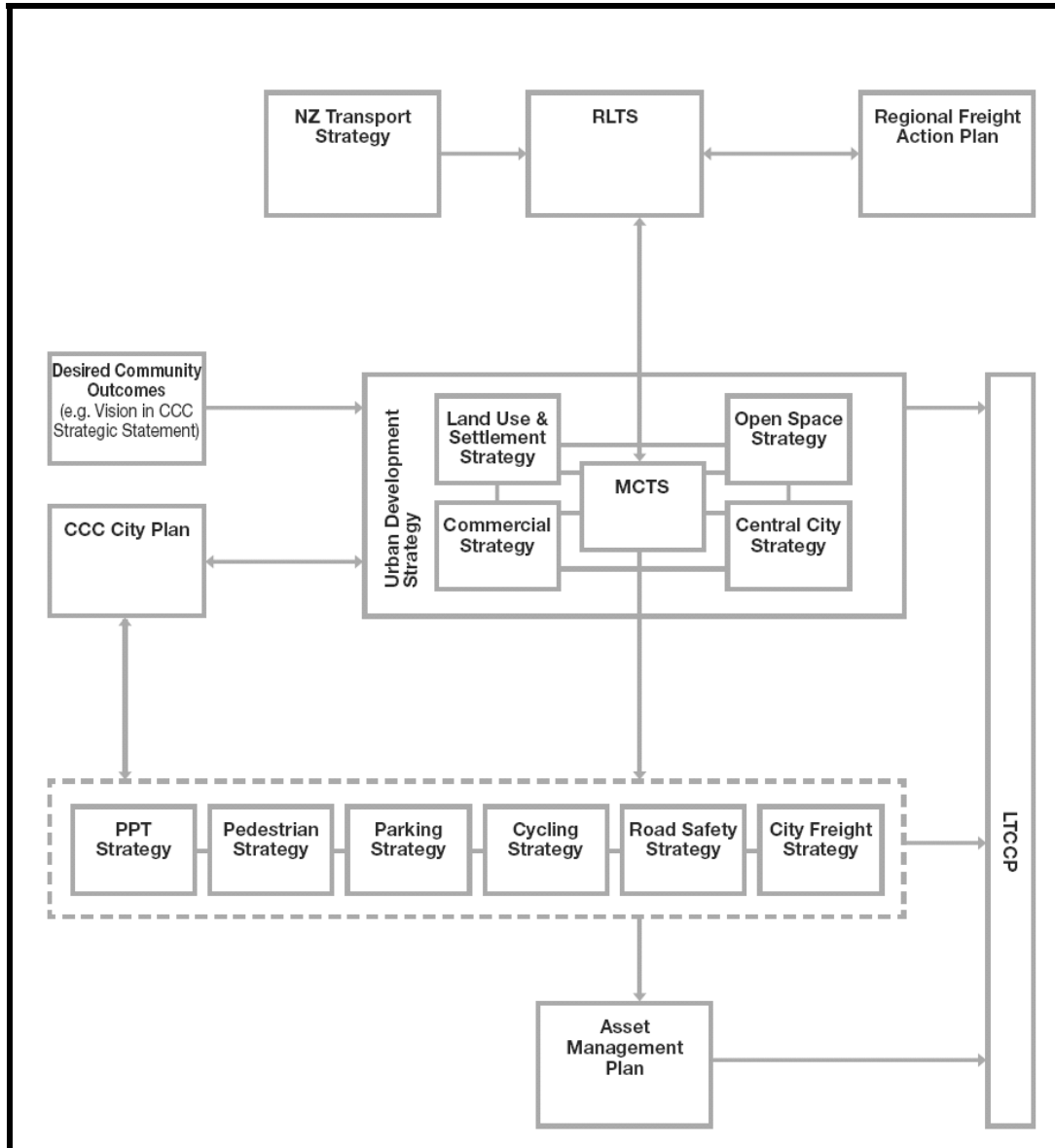


Figure 4.1 Auckland regional transport policy and planning documents.

(Reproduced with permission from Auckland Regional Transport Authority 2007c, p.7.)



**Figure 4.2 Metropolitan Christchurch Transport Statement (MCTS) and its relationship with other strategies and planning documents.**

(Reproduced with permission from Christchurch City Council 2003, p.28.)

The advent of the LGA creates opportunities for more flexible approaches towards engaging with communities, particularly on major strategic growth initiatives. Of importance, however, is the need to ensure that agreements reached during non-statutory processes endure beyond the consent given by the original participants and are embedded in statutory plans. This is a critical issue for all councils attempting to secure ongoing commitment by key participants to long-term strategies and projects. Jenkins (2005) notes the limitations of legislation in this regard as councils cannot require others to implement outcomes from non-statutory processes even when agreement has been reached amongst the parties.

**Box 4.6 Innovative integration: South-west Christchurch.**

In 2003, Christchurch City Council undertook to prepare an area plan for south-west Christchurch, covering 8400 hectares. This was driven by the need to provide for more residential land to accommodate increasing demand in the city's fastest growing area and to rethink the approach to storm-water disposal, a critical issue in that part of the city (Dixon 2005). The council has adopted a comprehensive approach to plan making which should meet requirements of the LGA and RMA. Initially, long-term strategic planning will be developed outside the statutory context of the RMA through what has been labelled the 'area plan'. The purpose of this exercise is to take a 30-year view, to incorporate local community aspirations and to ensure the best possible integration of competing land uses to avoid adverse effects on the environment (Christchurch City Council 2003).

The area plan is seen as providing a broad, long-term framework for the preparation of more detailed structure plans, design guides and other forms of statutory and non-statutory guidance (Christchurch City Council 2003). Area plans have a limited role under the RMA but will have effect through changes to the city plan and the production of section 32 reports that are required to accompany plan changes. Structure plans will provide financial information and design guidance. They will include layout of infrastructure such as principal roads, limited access roads and cycle routes. Development plans will have the same purpose as the structure plans but will be incorporated in the city plan to assist implementation at a detailed site level. These plans will be developed sequentially and inform several dimensions of the development process in a complementary way, assisting integration across the council.

**Box 4.7 An example of integration from Kapiti Coast.**

A district council example of how LGA and RMA processes can be integrated is the way in which Kapiti District Council has been addressing issues presented by rapid urban growth, in particular the need to provide for community infrastructure, such as water supply. The council used its LTCCP process to engage extensively with the community in terms of how it could provide for more innovative and sustainable urban development. A critical element was the need to rewrite the Subdivision Code of Practice. Once the Council had canvassed the community and relevant agencies and had agreement on necessary changes, it proceeded to make changes to its district plan that went largely unchallenged (Heslop and Guerin 2007). This model represents a way forward for councils on issues which require negotiation with communities and incorporation in LTCCPs, district plans and other relevant council plans. It can be applied readily to issues pertaining to land use and transport integration.

Engaging collaboratively with communities to secure commitments to major long term projects requires considerable and ongoing efforts by professionals. It is also highly dependent on institutional and professional capacity. In addition, it is important to recognise that membership of community groups changes constantly. Hence, their continued support to long-term strategies cannot be assumed. Consultation with these groups and others needs to be sustained and ongoing.



## **5. International experience**

### **5.1 Introduction**

This section reviews international experience with integrating land use and transport planning. It examines a selection of land use and transport systems considered to have elements relevant to New Zealand. It draws on and extends the literature review carried out by Ward Wilson Research and Transport Futures (2006) which identified four planning systems as having the most promise for further comparison with New Zealand. These systems are:

- the Brisbane/South East Queensland region
- the Greater Vancouver region (British Columbia, Canada)
- the United Kingdom with particular reference to territorial plans and policies developed for Scotland and Wales.

The intent of this section is not to survey all dimensions of integration. Rather, the focus is on strategic elements for linking land use and transport planning. Specifically, the four systems identified above are reviewed with regard to the following questions:

- What policy and governance instruments are being used to integrate land use and transport planning?
- How well do they work in practice?
- What are the main operational and professional challenges that impede integration and how are they being tackled?

The analysis begins with a brief overview of the literature on key principles and trends in integration of land use and transport planning.

### **5.2 Theory and practice of integrated planning**

In recent years, there has been much discussion of integrated transport planning in the international literature and increasing reference to this approach in national transport policies and strategies. This development has occurred in response to growing transport problems such as traffic congestion and pollution and the realisation that a reliance on supply expansion to meet foreseeable demands has limits. Increasingly, transport planning is required to be multi-modal and bring together a package of policy and operational measures to improve transport capacity and manage demand. More strategic forms of integration are also emerging, particularly in relation to attempts to design sustainable transport systems. These include efforts to integrate land use and transport planning strategies and measures, which involve overcoming deep-rooted institutional and policy barriers that impede this approach nationally and within a particular region (Greiving and Wegener 2003; May et al. 2005, 2006).

Although widely advocated, however, it is often unclear what is meant by integrated transport and land use planning, how this approach should be undertaken or what ends it

is intended to achieve. There are various interpretations of the term and its dimensions in the international literature. For example, integrated land use and transport planning can be defined by what it aims to deliver. At the broadest level, it is promoted and pursued in order to achieve reciprocal goals of sustainable transport and urban and regional development that integrate environmental, social and economic objectives. It is not an end state so much as a continuing process of change and progress toward preferred ends.

Specifically, a sustainable transport system can be considered as one that simultaneously meets or expresses three pillars or dimensions comprising (Campos and Ramos 2005):

- on the environmental side, maintaining use and consumption of natural resources and emissions to air, water and other ambient media within regenerative and absorptive capacities or thresholds
- on the social side, improving (or at least maintaining) health, safety, quality of life and equality of transport access and opportunities
- on the economic side, supporting viable regional and urban development and delivering efficient mixes of transport modes and choices having regard to cost, competitiveness and subsidies.

Others might frame these characteristics differently but, however defined, sustainable transport requires that the environmental, social and economic linkages and effects of established systems or proposed improvements are evaluated holistically. It demands, in turn, a high level of policy and institutional coherence and process integration in order to realise sustainable land use and transport outcomes. This point is recognised in a number of national and international policy documents, notably including the *EU Strategy for Sustainable Development* (EC 2001, updated 2005), which identifies 'ensuring sustainable transport' as one of six core priorities and calls for a new approach to policy-making in order to deliver them.

The *EU Strategy for Sustainable Development* establishes three headline objectives for improved transport and land use management in support of this goal:

- Decouple transport growth from GDP-based economic growth in order to reduce congestion and other adverse side-effects of transport development.
- Shift transport use from road to rail, water and public transit so that the share of road transport in 2010 is no greater than in 1998.
- Promote more balanced regional development by reducing disparities in economic activity and maintaining the viability of rural and urban communities (as recommended in the *European Strategy on Transport and the Environment* (EC 1999a) and the *European Spatial Development Perspective* (ESDP) (EC 1999b).

The objective of the *European Strategy on Transport and the Environment* is to minimise the adverse environmental impacts of traffic growth through a more integrated approach. It emphasises a number of measures to avoid and/or eliminate the adverse effects of traffic growth, particularly through land use measures, infrastructure charging and promotion of public transport. The land use dimension is further addressed in the ESDP,

which provides a non-binding framework of aims, principles and guidance on achieving more balanced and sustainable territorial development including better coordination of EU sectoral policies to help correct disparities between the 'prosperous' and 'poor' areas of the Union. The ESDP identifies transport as one of four major areas that interact with and influence spatial development<sup>34</sup> and as an important instrument to promote a more decentralised (or polycentric) urban structure for the regions of Europe, thereby reducing disparities (eg, through the future extension of trans-European networks). Within regions, an integrated spatial development policy to address the environmental impacts of traffic congestion brings together public transport in towns, inter-modal systems and shared infrastructure.

The EC's guidance on preparation of sustainable urban transport plans (EC 2004) further distinguishes between three different types of institutional integration (or governance):

- horizontal integration between land use and transport agencies within a city administration
- spatial integration between adjacent local authorities
- vertical integration between local, regional and national (or supra-national in the European case) administrations.

In addition to integration within and between or among different levels of government, May et al. (2006) make a distinction between operational integration, usually of public transport, and strategic integration between transport policy instruments and land use or policy instruments in other sectors. They note that 'all are important' and that the 'design of effective integration strategies is complex' because of 'the range of policy instruments [used] and the scales at which they can be implemented'. In practice, May et al. (2006) report that most integrated land use and transport strategies are developed either in pursuit of synergy<sup>35</sup> (where the benefits from the sum of the elements is greater than from the parts) or to overcome barriers to the implementation of policy measures.

### **5.2.1 Approaches and applications**

The EC-commissioned TRANSPLUS (2002) study of best practices in integrated land use and transport policies in support of sustainable mobility is perhaps the most comprehensive conducted to date. It states the rationale for an integrated approach by underlining the major issues and driving trends that mean current patterns of urban and transport development are not unsustainable. Particular attention is given to the impact of urban sprawl and its relation to the deterioration of quality of life in the inner cities as a result of congestion, air pollution and other transport problems, unaffordable housing due to increasing land values and lack of green space. The overall effect of worsening

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<sup>34</sup> Other areas are: the development of urban areas (where 80% of the EU population now live); the development of rural areas (many threatened by marginalisation from isolation, inadequate transport and other infrastructure or a lack of economic diversification); and natural and cultural heritage (which is threatened by some aspects of economic and social modernisation).

<sup>35</sup> The term 'synergy' as used here is seldom achieved in its full form. In practice, the way different instruments in policy packages combine with each other corresponds more to what Mayeres et al. (2003) call complementarity. Complementarity occurs 'when the use of two instruments gives greater total benefits than the use of either alone' (May et al. 2006).

accessibility (reflected in increasing length and time of journey to work) and mobility (because of reliance on private cars and/or inadequate level of public transport) calls for integrated land use and transport policies.

Although the kind of measures applied to solve these problems vary markedly with urban and regional geographies, two major approaches to the design and implementation of integrated land use and transport strategies are identified by TRANSPLUS (2002):

- Land use shaping policies that reduce the demand or need to travel, often referred to as 'forward' or 'city of tomorrow' policies, eg, new urban centres, regeneration of brownfield sites, changing the urban fabric and location of green belts
- Transport policies that improve accessibility through a wider range of alternative, environmentally friendly modes (such as public transport, walking and cycling paths, flexible transport services and car sharing), often referred to as 'backward' or 'city of today' policies because they take the existing urban fabric as given and use transport instruments to stimulate its revitalisation and reorganisation.

In an earlier preparatory study, Erl and Feber (2000) identified three types of measures that can be applied as part of an integrated approach to promote sustainable transport and land use systems:

- Land use or spatial reorganisation measures, particularly those that decrease traffic or reduce car dependency such as creating more compact, higher density cities and mixed-use neighbourhoods through redevelopment, infill and concentration around public transport nodes (while paying attention to the quality public spaces that make for liveable cities)
- Transport planning measures that reinforce 'forward' land use policies or improve existing systems including supply-based quantitative and qualitative improvements to public transport, particularly to promote non-motorised modes and, on the demand-side, use of traffic calming, parking and pricing mechanisms to manage private car usage
- Social integration measures and particularly the involvement of citizens and stakeholders in transport and land use planning and decision-making (from goal setting to implementation of preferred options), integral to ensuring public participation and promoting mobility and accessibility of different groups, including those with special needs.

The TRANSPLUS (2002) study combined these into three key components of integrated land use and transport planning:

- Public transport oriented development that includes mechanisms for urban and facility renovation or regeneration to intensify the density of housing and diversify uses and activities within or near rail, subway, tram or bus stations
- Short-distance structure development that focuses on pedestrian and cycling friendly site development and the design of 'door-to-door' non-car travel options and their integration into the urban fabric, eg, through segregated routes and linkages with parks and public spaces

- Car restricted development that includes a range of mechanisms such as pedestrian only streets, limited entry zones, bus lanes, parking restrictions and the like.

A range of methods, modelling tools and indicators are available to assist integrated land use and transport policy making. Their usage, outputs, strengths and weaknesses have been variously investigated in the EC's TRANSPLUS, PROPOLIS and PROSPECT studies, as well as in the wider literature reported in Ward Wilson Research and Transport Futures (2006). For example, the TRANSPLUS study found the capability of all existing models and assessment tools to be severely limited, not least because they are able only to examine a relatively small proportion of the potential spectrum of policy interventions. Technical limitations include the availability of data, skills and knowledge and insufficient understanding of the underlying behavioural assumptions embodied in model parameters. Most applications are concerned with the impacts of land use on transport<sup>36</sup> rather than land use/transport interactions, which by their nature are complex. The accuracy of interactive models also reportedly is not yet proven and they tend to be applied to confirm or check assessments made by other means. Use of such models also needs better indicators to monitor policy implementation and evaluate outcomes. In the PROPOLIS study, a comparative evaluation of the performance of a range of land use and transport policy instruments using three different interaction models led to the development of a comprehensive set of outcome indicators for the environmental, social and economic dimensions of sustainability (Lautso et al. 2004).

### **5.2.2 Emerging lessons**

The UK Commission for Integrated Transport (CFIT) has also reviewed the common transport issues facing cities across the world and how they are being tackled. It supports the long-standing contention of transport professionals that 'carrot and stick' measures must be introduced in tandem to achieve a modal shift toward more sustainable modes of transport. Specifically, cities focusing only on public transport investment have not been able to secure significant change in travel behaviour and any vacated road space has simply filled up with new traffic where growth in demand is fuelled by economic and population growth. This finding points to the need for other measures to 'lock in' the benefits of public transport improvements (CFIT 2002). The recent trend towards development of suburbs as focal points in their own right for work and leisure (the urban villages idea in London) and around rail stations (Singapore, Perth) is also considered to be a step in the right direction. In sum, high levels of investment in public transport, application of car restraint and greater integration of land use and transport are critical pieces of the policy jigsaw.

A consistent theme in the transport policy and planning literature concerns the gap between the theory and practice of land use and transport integration. This is evident at two levels, first in the implementation of integrated packages of policy measures that reinforce each other and second in terms of delivering sustainability objectives and outcomes. On the first issue, Banister (2002 cited in EC 2002) has described five

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<sup>36</sup> The evaluation of the land use impacts of transport is the subject of a sizeable literature. For a review of this sub-field see Victoria Transport Policy Institute (2006).

framework conditions for successful and consistent policy implementation (Box 5.1). These overlap, in part, with the conditions for transport to meet the requirements of sustainable development described by the EC (2003b), namely:

- political will and determination to solve the problems collaboratively
- a new approach to the rational use of private cars
- improvements in service quality to offset the rising cost of mobility
- adequate financing of infrastructure to eliminate bottlenecks
- greater coherence between transport and other economic, fiscal, social, environmental and land use policy objectives and instruments.

The implications of these implementation and sustainability performance conditions are profound. Specifically, they must be taken and applied as a coherent whole or a package in themselves. Even if many of the conditions described above are in place, however, there are limits to what integrated land use and transport planning alone can achieve in terms of 'on the ground' results. In Europe, despite the policy innovations described above, the EC (2003b) reports there is still no comprehensive and coherent EU-wide transport policy, national investments by EU governments continue to favour road over other modes and, as a result, major problems persist. These include: congestion and bottlenecks in many industrial regions of the EU; harmful effects on safety, the environment and human health; lower quality of life, reduced services and loss of economic competitiveness.

There are many reasons for this systemic failure. Transport planning has traditionally been demand-driven, focusing on 'network or traffic efficiency' rather than adopting a more proactive, multi-mode and multi-objective approach. Land use planning similarly tends to be inward looking and place centred, emphasising transit oriented design, density, mixed-use development but overlooking the wider transport impact of proposals. Arguably, integrated land use and transport planning is yet to develop into a cohesive sub-profession. However, even when moving in this direction, it is unlikely to be enough on its own. Land use and transport integration is only one of six main types of policy instrument described by Jopson et al. (2004)<sup>37</sup> and the PROPOLIS study (Lautso et al. 2004) suggests that nothing less than the full spectrum of such measures will be needed for a coherent approach.

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<sup>37</sup> In this study, some 60 policy instruments are grouped into six main categories: land use, infrastructure provision, management and regulation, information provision, attitudinal/ behavioural change and pricing. See also [www.konsult.leeds.ac.uk](http://www.konsult.leeds.ac.uk).

**Box 5.1 Five 'framework conditions' for successful and consistent policy implementation.**

1. *A national policy framework on spatial development* should be established, which takes a long-term perspective and provides consistency within which individual decisions can be placed. This policy framework should be related to international and regional perspectives. Such a requirement gets away from much of the fragmentation of decisions that are seen at the national level and it would provide stability through a vertical integration within government, and a horizontal integration across sectors.

2. *A sustainable transport strategy* would form an important element within this national policy framework. Key elements of such a strategy are now reasonably well known – maximise the use of public transport and green modes of transport; manage the private car through integrated transport and mobility management; minimise urban sprawl; and improve air quality through less fuel use and reductions in the emissions of pollutants.

3. *Decentralisation of powers and responsibilities for transport* to the most appropriate level for implementation, together with the necessary resources or revenue raising powers. To some extent, this change has taken place in many countries with governments providing national planning guidance for local authorities and other agencies to use in determining their own priorities. However, such a flexible and supportive national framework has been compromised with the limitations on the powers for those local agencies to raise funds for investment. The centre still controls the revenue-raising mechanisms and the means by which the funds are distributed. Such action concentrates power at the centre and gives little incentive to innovate locally.

4. *Consistency in policy direction* is needed to prevent 'perverse effects' from taking place. Even though there may be strict limitations on where development can take place, peripheral greenfield development is still permitted as there is a need for local authorities to increase their revenue base from local taxation on businesses and properties. As options are limited, local authorities are often keen to encourage development to improve local employment. These decisions have implications for the generation of traffic, and in the longer term on housing and other services and facilities. The land market may operate very effectively in determining different land use values, but it needs to be placed within the clear framework of the national policy for spatial development and the sustainable transport strategy.

5. *Public and private acceptability of policy* underlies successful implementation. If controversial transport and spatial policies are to be introduced with outcomes that lead to behavioural change, then the issues of communication and involvement become a key concern. It is only when a sustainable transport strategy within the national policy framework on spatial policy is presented to the public (in a general sense) and accepted (at least in principle), that success is likely (but not guaranteed). This means that participation must move from the low levels of information and manipulation to the higher levels of information and empowerment.

Source: Banister 2002 cited in EC 2002.

The PROPOLIS study (Lautso et al. 2004) found that the best results are achieved by combining both 'push and pull' measures. Demand management and mode choice are critical ingredients, consisting of car pricing policies<sup>38</sup> and simultaneous improvements in

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<sup>38</sup> London and other European cities have introduced a system of charges for car access to central districts during peak hours using electronic surveillance as one way of tackling acute problems of urban congestion. Other companion policy measures would include incentives or improved services to

public transport speeds, services and fares, coupled with focused development plans and effective infrastructure projects (Lautso et al. 2004). Such integrated strategies have been shown to reduce CO<sub>2</sub> emissions by 15% to 20% and accidents by 8% to 17% relative to the reference strategy for 2021, and to achieve economic benefits of around €1000 to €3000 per capita. The *Decision-Makers' Guidebook* (May et al. 2005), prepared as part of the EC's Land Use and Transport Research programme, indicates ways in which the different types of policy instrument can complement each other. For example, pricing instruments can complement land use measures by reinforcing their benefits (eg, by using higher, distance-based charges to encourage short journeys in mixed development) and by compensating losers (eg, through concessionary fares or lower parking charges for those living in particular types of development).

The TRANSLAND study drew on 26 cases to identify integrated land use and transport policy measures that were considered to be successful and readily transferable, ie, not dependant on legal or institutional frameworks which can vary significantly from country to country. These were organised into four main categories (Erl and Feber 2000):

- *Direct investment measures or 'hard policies'* comprising bicycle and walking paths; light rail, tram and underground lines; extending bus lines; increasing public transport stations; and promoting inter-modal public transport nodes.
- *Supportive measures or 'soft policies'* to reinforce the above including: marketing/information campaigns to encourage cycling and walking; public participation in planning and implementation processes; public-private partnerships for transport projects; and mobility management, eg, car-sharing.
- *Mainly restrictive measures to reduce car traffic* that can be applied to any country but are not always accepted by the public and require the exercise of political will (eg, restricted car entry to city centres, traffic calming zones, car free zones and park and ride facilities).
- *Specific measures to promote the integration of transport and land use*, which often require certain political and legal instruments that may not always be present or readily transferable to particular countries. These include:
  - mixed use development or density intensification of existing neighbourhoods, which are more difficult to implement other than for new 'greenfield' districts and may require legal instruments or demand high levels of public involvement
  - cooperation of land use and transport planning authorities, which is critical to the success of policy implementation of municipal development or redevelopment plans or region-wide plans.

### 5.2.3 Preliminary conclusions

Three main conclusions stand out regarding transport policy and the importance of taking a more integrated approach. First, the problems that affect this sector are many, well known and in their range and scope underline the distance still to go before current, car-

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encourage people to switch from private to public transport and support for the use of cleaner vehicles, as in the case of gas-fuelled buses in a growing number of urban areas.



based, demand-driven transport systems approach principles of sustainability. Second, the mix of land use and related measures that will move transport systems in that direction are evident already but have proven difficult to apply systematically and in combination. Third, such an integrated approach needs to be applied at all levels – local, regional and national – and involve all key agencies and stakeholders, recognising that bringing together transport and land use planners is constrained by different professional ‘isms’ as well as the lack of cohesive policy frameworks and instruments and other supporting conditions described above.

As the various studies cited above show, much can be learnt from case studies, particularly when these are screened and analysed against the type of framework conditions for policy implementation described in Box 5.1. This is undertaken at two levels in this section. First, a national review of UK transport policy is undertaken, generally with regard to the framework conditions identified in Box 5.1 and specifically with reference to Scotland and Wales. Second, following the approach taken in the TRANSLAND study, two examples of regional-level land use and transport systems of most interest to the New Zealand situation are analysed.

The evaluation of these regional cases of good practice draws on the general findings described above and consolidates them into four test issues:

**Test 1:** *Based on good ideas* worth emulating such as appropriate policies, clear vision and objectives, integrated transport-land use strategy that brings together a mix of measures.

**Test 2:** *Fully and systematically implemented*, particularly through policies, institutional arrangements, methodologies and practices that are easily transferable or readily adopted to the New Zealand governance and professional context.

**Test 3:** *Effective in meeting basic objectives and agreed principles* for integrated land use and transport systems, particularly those that are widely signed onto internationally and in New Zealand.

**Test 4:** *Successful outcomes* as demonstrated by transport and land use measures, strategies or systems that remove barriers to integration, package policy measures efficiently, introduce innovative ways to apply restrictive measures that typically are resisted by consumers, or are accepted as contributing to sustainable mobility.

It will be evident that a critical evaluation of international experience becomes progressively more difficult, subjective and contestable in moving from Test 1 to Test 4 and, in reality, the latter two tests will be challenging to apply even in the best of circumstances and only general comment may be expected from a preliminary overview. The review that follows thus is best regarded as a coarse sieve that may shed light on elements of approach and aspects of practice which reinforce or extend the New Zealand analysis in the previous sections.

**Box 5.2 Framework for evaluation of good practice.**

Approaches to land use and transport integration can be evaluated by reference to four tests:

Test 1: *Based on good ideas, principles or policy* to achieve integration?

Test 2: *Fully and systematically implemented* particularly through packaging a mix of measures?

Test 3: *Effective in meeting basic objectives and agreed principles* for integration?

Test 4: *Successful outcomes* as exemplified by removal or reduction of barriers to integration?

### 5.3 United Kingdom experience

The UK is widely considered to be one of the leaders in the design of policy for integrated approaches to land use and transport, in large measure driven by traffic congestion and its effects which are among the worst among OECD countries. During the past decade, major changes have occurred in the policy frameworks and instruments for addressing these effects. In this section, the focus is on national level guidance to regional and local planning authorities including as it applies to Scotland and Wales, territories that are broadly comparable to New Zealand in overall population numbers and in the transport issues they face.

The review is conducted with reference to the conditions listed in Box 5.1 and with a view to identifying aspects of potential application. While there is much of interest, it should be noted that research carried out for CFIT on European best practice in the delivery of integrated transport concluded that the UK performs poorly on several aspects, in particular, car-dependency and mode share, reducing congestion, reducing environmental impact, accessibility and social inclusion (W S Atkins 2001). This should be borne in mind in the following review.

#### 5.3.1 Frameworks and guidance for integration

Other than Wales, countries in the UK and the UK as a whole do not have a national policy framework on spatial development per se (the first framework condition recommended in Box 5.1). However, there are near equivalents that serve the same purpose and, arguably, are as or more visible in setting the spatial and sustainability context for a national sustainable transport strategy (the second framework condition). These also demonstrate the principle of decentralisation of powers and responsibilities (the third framework condition), although the extent to which they demonstrate policy coherence and consistency (the fourth framework condition) is open to argument.

The most recent version of the UK sustainable development strategy (2005 through to 2020) has two parts. One is a strategic framework that covers the whole of the UK including the devolved administrations and sets out some common challenges and goals. The other covers England and 'non-devolved' issues and correspondingly Scotland, Northern Ireland and Wales have prepared or revised their own territorial strategies. In addition, there is a strong spatial dimension to the second part of the UK strategy under which the English regions are encouraged to determine the strategic arrangements they consider most appropriate, which are variously called regional sustainable development frameworks (RSDF), integrated regional strategies (IRS) or integrated regional

frameworks (IRF). The Wales Spatial Plan also follows common guiding themes under which each region will develop its own directions toward sustainability.

As a package, these intermeshing frameworks *prima facie* cover many of the functions attributed to a national policy framework for spatial development and, more optimally perhaps, form part of a hierarchy of sustainability strategies. However, on closer scrutiny some critics will have reservations about their generality, coherence and consistency or other qualities (as brought out for example by the UK Government's independent watchdog, the Sustainable Development Commission (2005) in assessing progress on this front). The UK Government has also tried to address such gaps by expecting the English Regional Assemblies to fully take into account the UK sustainable development strategy and several essential ingredients when reviewing or preparing their regional strategies. These ingredients are summarised in Box 5.3.

**Box 5.3 Essential ingredients of sustainable development for UK regional strategies.**

**Evidence base:** The region's current and future challenges are clearly set out, based on robust social, economic and environmental data, trends, scenarios or analysis.

**Stakeholder involvement:** Key stakeholders representing social, economic and environmental interests and from all sectors are engaged in the process of strategy preparation.

**Integrated vision:** A shared, overarching and long-term vision for the future of the region is clearly articulated, based on the region's challenges and opportunities and integrates the region's social, economic and environmental priorities consistent with national priorities and principles.

**Aims and objectives:** Clear aims and objectives are identified to help implement the regional vision for the region's future, to reconcile where possible strategic issues, to take account of social, economic and environmental linkages, and to move the regional and national headline sustainable development indicators in the right direction.

**Indicators, actions and targets:** Relevant measures are identified for addressing unsustainable activities/negative trends and meeting the region's aims and objectives, with clear links to related actions, responsibilities and timescales for delivery.

**Monitoring and reporting on progress on implementation:** Arrangements should capture the region's contribution to delivering national priorities and reporting to regional stakeholders and the wider public.

**Sub-regional and local levels:** Links should be made between the 'ingredients' above and the opportunities offered by sub-regions, city-regions and local plans and sustainability strategies.

**Sustainability appraisal:** Such an appraisal should be conducted when preparing regional strategies and in accordance with available best practice.

There has been a major reform of the UK statutory town and country (land use) planning system, which is a primary mechanism for the integrated delivery of sustainable development at the regional and local level. The Planning and Compulsory Purchase Act 2004 represents the most fundamental change in approach in 50 years.<sup>39</sup> It is designed to

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<sup>39</sup> The Planning and Compulsory Purchase Act 2004 provides outline powers and much of the detail is in the subordinate legislation. It was brought into force piecemeal through commencement orders and regulations (a process that took well into 2006). The Act itself was the subject of a lengthy and contentious legislative process.

simplify and improve plan making and development control at the regional and local level, to improve the effectiveness and quality of community involvement and to speed up the handling of major infrastructure projects. It adds a new statutory tier of regional spatial strategies in England to be prepared by regional planning bodies and to which local planning documents are generally required to conform and introduces a mandatory process of sustainability appraisal of new proposals. The implementation of this new planning regime and the integrative process of assessment are both the subject of detailed guidance, although both present major challenges for local authorities and professional planners.

Like the statute it replaced, the Planning and Compulsory Purchase Act 2004 (section 38) provides for a 'plan-led system' system of decision-making, ie, regional and local development plans are determining factors unless 'other material considerations apply'. A series of planning policy guidance notes (PPG) and their replacements, planning policy statements (PPS), provide the first line of operational guidance to local authorities on good practice. The new generation of regional and local plans are said to take a spatial planning approach that goes beyond traditional land use planning to bring together and integrate it with other policies, plans and programmes. Specifically, PPG note 13 describes the objectives and approach to integrate planning and transport at the national, regional, strategic and local level and to promote more sustainable transport choices (this relationship is also set out within PPS note 1). It emphasises that land use planning has a key role in delivering an integrated transport strategy, for example, by shaping the pattern of development and influencing the location, scale, density, design and mix of land uses and thereby helping to reduce the need to travel, reduce the length of journeys and improve access to jobs, shopping, leisure facilities and services by public transport, walking and cycling.

These changes follow on from *A New Deal for Transport* released in 1998, which set out the UK Government's intention to move toward a new approach to integrated transport policy and regional planning guidance that incorporated (for the first time) transport strategies. The Transport Act 2000 provides a statutory basis for this approach and is supported by *Transport 2010: The Ten Year Plan* and amplified in PPG 13, which describes the broad principles to be followed (Box 5.4). To assist in the coordination of transport and land use planning, local planning and highway authorities should have regard to the regional transport strategy which forms part of the regional planning guidance and provides the long-term strategic framework to inform development plans and local transport plans. A key component in land use and transport planning is appraisal or assessment of policy choices, whether for infrastructure provision or demand restraint measures.

Similar provisions can be found in Scotland and Wales. For example, in *Choosing our Future: Scotland's Sustainable Development Strategy*, the focus is on the measures by which Scotland will try to turn the UK framework into action. This strategy also provides the framework for emerging sector strategies including transport. Chapter 4 focuses on making the links to transport and the approach to delivering sustainable travel choices, such as cycling and walking, addressing health and environmental effects and links to pressures on other natural resources especially energy, mainly fossil fuels and net greenhouse gas emissions. These are developed further in the national transport strategy (NTS), which sets out key objectives (economic growth, social inclusion, protection of the

environment and health, integration and safety), issues and measures to address them over the medium to long term. The NTS identifies three strategic outcomes which will set the context for transport policy making for the next twenty years. These are:

- improved journey times and connections
- reduced emissions to tackle climate change and improve air quality
- accessibility and affordability of transport to give people the choice of public transport and real alternatives to the car.

As part of the NTS, three other policy documents will be published: Scotland's railways, bus action plan and freight action plan. These will provide more detail on the policies and actions to be undertaken to address issues specific to their respective areas. Key commitments include use of the Scottish Transport Appraisal Guidance to subject new transport projects to rigorous appraisal against the five objectives, as well as substantial investment in public transport infrastructure and services and targeted improvements to the trunk road network.

**Box 5.4 Principles outlined in Policy Planning Guidance 13: Transport.**

- Actively manage the pattern of urban growth to make the fullest use of public transport and focus major generators of travel demand in city, town and district centres and near to major public transport interchanges.
- Locate day to day facilities which need to be near their clients in local centres so that they are accessible by walking and cycling.
- Accommodate housing principally within existing urban areas, planning for increased intensity of development for both housing and other uses at locations which are highly accessible by public transport, walking and cycling.
- Ensure that development comprising jobs, shopping, leisure and services offers a realistic choice of access by public transport, walking, and cycling, recognising that this may be less achievable in some rural area.
- In rural areas, locate most development for housing, jobs, shopping, leisure and services in local service centres which are designated in the development plan to act as focal points for housing, transport and other services and encourage better transport provision in the countryside.
- Ensure that strategies in the development and local transport plan complement each other and that consideration of development plan allocations and local transport investment and priorities are closely linked.
- Use parking policies, alongside other planning and transport measures, to promote sustainable transport choices and reduce reliance on the car for work and other journeys.
- Give priority to people over ease of traffic movement and plan to provide more road space to pedestrians, cyclists and public transport in town centres, local neighbourhoods and other areas with a mixture of land uses.
- Ensure that the needs of disabled people as pedestrians, public transport users and motorists are taken into account in the implementation of planning policies and traffic management schemes and in the design of individual developments.
- Consider how best to reduce crime and the fear of crime and seek by the design and layout of developments and areas, to secure community safety and road safety.
- Protect sites and routes which could be critical in developing infrastructure to widen transport choices for both passenger and freight movements.

### 5.3.2 Instruments for land use and transport integration

The focus in this section is on the assessment and consultative processes and tools that arguably represent the most important means of securing public acceptability of transport proposals (the fifth framework condition, Box 5.1). In principle, if not always in practice, this criterion will be met to the extent that the planning system meets other substantive or process assessment criteria such as being objectives-led, sustainability oriented, comprehensive in scope, integrative (links facts and values, economic, environmental and social considerations), open, transparent and outcomes-focussed. There is also a broader requirement for delivery of policy coherence and consistency in relation to listed objectives and across government agencies (the fourth framework condition).

Although the UK planning system approximates to a number of these criteria, it is, by any standards, complex, multi-tiered and multi-dimensional and, as such, struggles to meet the fourth framework condition. Key measures for reinforcing policy coherence and consistency as they bear upon land use and transport integration can be unpacked on the following interlocking levels:

1. The establishment of the new joint regime for sustainability appraisal (SA)<sup>40</sup>/strategic environmental assessment (SEA) introduced contemporaneously with a macro reform of the UK planning system.
2. The relationship of this regime to SEA of sector plans and transport in particular.
3. The relationship of SA/SEA and SEA and existing approaches to transport assessment.

Under the Planning and Compulsory Purchase Act, SA is undertaken to integrate social, environmental and economic considerations into the preparation of revisions of regional spatial strategies (RSS) and for new or revised development plan documents and supplementary planning documents. This process is also intended to satisfy the transposed requirements of European Directive 2001/42/EC<sup>41</sup> as they apply to SEA of spatial plans. Extensive and detailed guidance has been prepared on how to undertake this combined SA/SEA process (finalised in Office of the Deputy Prime Minister 2005) and spatial plans to which it has been applied are now being rolled out. Except for Scotland, all UK territories have enacted similar approaches for spatial plans.

By many standards, the merging of SA and SEA processes is a radical departure from previous practice and has few precedents internationally. For present purposes, the main pros and cons to note are as follows:

- Guidance on the SA process is heavily influenced by SEA requirements, methodology and tools.

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<sup>40</sup> Sustainability appraisal is an iterative process that identifies and reports on the likely significant effects of a plan and the extent to which plan implementation will achieve the social, environmental and economic objectives by which sustainable development is defined. It is considered to be an integral part of plan-making and should not be seen as a separate activity. The requirements to carry out SA (under the Planning and Compulsory Purchase Act 2004) and SEA are distinct. However, both are satisfied in a single appraisal process.

<sup>41</sup> In the UK, the requirements of the EC Directive are transposed by the Environmental Assessment of Plans and Programmes Regulations 2004.

- Only basic direction and sources of information on social and economic appraisal are given.
- Early attention is directed to policy context and linkages that are important.
- Due emphasis is given to identifying objectives, to developing and refining options (as well as assessing effects), to the importance of public consultation and to monitoring and follow up.

This process appears to take an integrated approach to spatial plans a step beyond that of a conventional SEA or other transport assessment and planning processes. Notably, regional transport strategies are incorporated into RSS with the intent of outlining transport measures that support the spatial strategy and provide a long-term framework to integrate transport and spatial planning in the region. In practice, the jury is still out on how far they do so.

Other types of transport plans, including local transport plans and local (transport) implementation plans, are not covered under the above SA/SEA process but are subject to SEA in accordance with a separate UK process and general guidance to implement the requirements of European Directive 2001/42/EC. The Department for Transport (DFT 2004) has prepared specific guidance on how to carry out SEA for transport plans and programmes in England. It explains how this approach is to be integrated with existing transport planning and appraisal processes and specifically the new approach to appraisal (NATA), which anticipated many aspects of SEA and also SA. The latest DFT guidance has regrouped the principal steps of NATA into five key stages of SEA (setting the context, scoping and developing alternatives, assessing and mitigating effects, consultation on the draft plan and SEA report and monitoring and implementation of the plan). In Scotland, SEA is applied to a wider range of plans and strategies than those covered in other UK territories.

The NATA framework remains a cornerstone of UK transport appraisal practice in all four countries, together with companion guidance on multi-modal studies (GOMMS), both of which now have been brought together into the transport appraisal guidance (TAG) with territorial adaptations. This approach also appears to have international provenance as an approach that has improved the consistency and transparency of transport decision-making. It brings together a mass of detailed information about the appraisal of the impacts of a transport proposal, expressed in monetary, quantitative and qualitative measures and presents the key economic, environmental and social impacts of decisions in a balanced form using a standard worksheet. The impact of transport proposals is categorised in relation to five, high-level criteria and appraised against more specific sub-criteria using environmental impact assessment, social and economic appraisal tools (Box 5.5). Specifically, the integration issues that should be assessed include the following:

- the potential for the development to influence interaction among all transport modes (motorised and non-motorised), either in isolation or in combination with other developments
- interaction between the development proposal and wider issues of government policy such as environmental sustainability and health

- integration of the development proposals with local, regional and national land use policies
- bringing communities together (social inclusion)
- separating communities as a result of cutting off existing movement paths (severance/social exclusion).

Recently, the UK Commission for Integrated Transport (CFIT 2004) conducted a review of NATA and concluded that it represented a significant improvement over previous systems (which focused primarily on economic impacts). It found that the approach was sound with wider applicability than just transport appraisal, particularly to areas that interact directly with transport policy including land use and the environment. However, the Commission was concerned that 'soft' factors and small, local measures (eg, travel planning and provision of walking/cycling facilities) may not receive equitable weighting, possibly resulting from a lack of evidence on their impacts, the relatively marginal investment level required and the local nature of impacts in comparison with other, larger interventions. Simpler methodologies need to be developed for these purposes.

**Box 5.5 The new approach to appraisal (NATA).**

NATA involves:

- agreeing a set of objectives
- analysing present and future problems of, or relating to, the transport system
- exploring potential solutions for solving the problems and meeting the objectives
- appraising options, seeking combinations which perform better as a whole than the sum of the individual components
- selecting and phasing the preferred solution
- undertaking supporting analyses of practicality, public acceptability, affordability and financial sustainability and distribution and equity.

This analysis is undertaken in relation to the UK Government's five objectives for transport, namely:

**To protect the built and natural environment** and specifically to: reduce noise; improve local air quality; reduce greenhouse gases; protect and enhance the landscape/ townscape; protect the heritage of historic resources; support biodiversity; protect the water environment; encourage physical fitness; and improve journey ambience.

**To improve safety** and specifically to: to reduce accidents; and to improve security.

**To support sustainable economic activity** and specifically to: get good value for money in relation to impacts on public accounts; improve transport economic efficiency for business users and transport providers; improve transport economic efficiency for consumer users; improve reliability; and provide beneficial wider economic impacts.

**To improve access** and specifically to: improve access to facilities for those without a car; increase option values; and reduce severance.

**To ensure integration** of all decisions taken in the context of the government's integrated transport policy and specifically to: improve transport interchange; integrate transport policy with land use policy; integrate transport policy with other government policies.



### **5.3.3 Possible lessons for New Zealand**

Although overly complicated for New Zealand purposes, there is much that can be taken from UK policy design and developments. However, as noted at the outset, the real test lies in implementation. As the Council for the Preservation of Rural England (n.d.), amongst others, has noted, there are ongoing concerns over the new system and its application particularly:

- the tendency to see planning as primarily about 'delivering' development and change as opposed to its role in protecting and conserving the places and qualities which people value
- the failure to fully grasp the opportunity presented by the new 'spatial' approach to planning to address environmental issues that affect everyone's quality of life
- although it has positive aspects, the emphasis on streamlining the system and increasing the flexibility of policies also increases the risk of uncertainty, delay and damaging development
- the sheer complexity of the new system makes it even less comprehensible to most people than the one it replaces and does nothing to simplify planning
- the lack of accountability at regional level and the centralisation of planning powers in the hands of ministers means the system and its outputs struggles to gain public acceptance.

In New Zealand, the Land Transport NZ allocation process has many parallels with the NATA and GOMMS approaches. However, it has not been developed as originally envisaged and, therefore, currently lacks a consistent methodology. There are also other missing elements in a comprehensive land use and transport planning framework in New Zealand compared with the UK. This is not to say that the UK is a good model in practical delivery terms but rather that there are few process excuses for poor performance in the UK, whereas in New Zealand the lack of process is a major obstacle to delivering a sustainable integrated transport system.

## **5.4 British Columbia, Canada**

The Greater Vancouver Regional District (GVRD) in British Columbia encompasses the City of Vancouver and 20 surrounding municipalities. It broadly corresponds geographically with the Vancouver metropolitan area, which has a population of 2.1 million (third largest in Canada) and is undergoing rapid growth fuelled by immigration and in-migration from the rest of the country. The geographical site and situation of the GVRD, which occupies a relatively constrained alluvial plain bisected by a major river and bounded by mountains to the north and south-east and the Pacific Ocean on the west, underscores the contemporary issues and challenges of transport and land use planning for the region. These are not dissimilar from those of the Auckland region, particularly with regard to traffic congestion associated with bridge and tunnel crossings of marine straits.

#### **5.4.1 Brief background on the transport system**

The Greater Vancouver Transportation Authority, known as TransLink, was established in 1998 to take over and administer many of the transport responsibilities previously exercised by the provincial government for the metropolitan area. It oversees and operates a multi-modal transport system, comprising buses (diesel or natural gas powered and trolley buses primarily within the City of Vancouver). The main features of the system are:

- Bus transit in Greater Vancouver is powered by diesel, natural gas and electricity (trolley bus routes in downtown) and provides arterial or radial and cross-town service. Outside of the city boundaries, most buses operate on a hub-and-spoke system along feeder routes that link with express routes or other modes of public transit that connect directly to the city centre or other regional centres.
- The rail system takes (or soon will) several forms. The SkyTrain is an automated light rail network originally completed in 1985 as a transit showcase and has since become expanded along a northern as well as south-west alignment. Other additions under construction or planned include an underground and elevated line to the airport and beyond and a street-level light rail line to the north-east. Finally, the West Coast Express is a commuter railway connecting Vancouver to eastern communities of the GVRD and the Fraser Valley beyond.
- Passenger ferry service operates between downtown Vancouver and the North Shore municipalities (Seabus) and across the main stem of the Fraser River (free automobile service).
- The HandyDART is a not-for-profit, supplementary transit system operated on an area basis by independent contractors for those with restricted mobility (meaning that region-wide travel is not always possible). In addition, TransLink has begun to undertake a series of improvements to make its transit system more wheelchair accessible, although there is a way to go in that direction.
- TransLink is responsible for the major arterial road network (2200 kilometres) that connects municipalities and includes several bridge crossings of the Fraser River. For major improvements, it coordinates and funds the projects and contributes half of the costs of minor projects up to the maximum funding allocated to the specific municipality. It also allocates each city funding for capital improvements such as transit priority signals and bus lanes.
- A regional network of walking and cycling paths is also maintained by Translink, which allocates each city funding for capital improvements on a matching system. Efforts are being made to integrate bike use with public transit, eg, installing bike racks on the bus fleet.

#### **5.4.2 Instruments for land use and transport integration**

An integrated approach to transport and land use planning for the metropolitan area is promoted on a number of levels. It is based on two interlocking cornerstones:

- The Livable Region Strategic Plan (LRSP, established 1999) is the official growth strategy of the GVRD and provides the framework for regional land use and transport

decision-making. It is linked to municipal official community plans through the regional context statement. The LRSP promotes transport improvements that meet existing demand and shape land use and development that support livability goals including protecting the environment in the face of rapid anticipated growth. As a matter of policy, the LRSP gives priority to projects that shape land use if resources do not allow both objectives to be met concurrently.

- The Strategic Transportation Plan sets the direction for the multi-modal transport network for the next 25 years and is implemented through a series of three-year programmes and financial plans. In addition, area transit plans (one to five years) are prepared to improve local transit services in Greater Vancouver's 21 municipalities and transit planning is conducted at the community level for seven sub-regions of Greater Vancouver. The planning process focuses on developing innovative, integrated and cost-effective solutions in close consultation with municipalities, residents, transit users and other key stakeholders in each area.

Separate from and variously coordinated with the GVRD plans, major transport initiatives are undertaken for the region by the federal and provincial governments respectively. The Federal Government is responsible for port and airport developments and major expansions are underway to both facilities. The provincial government has oversight of the GVRD and brings forward its own proposals, notably the \$3 billion Pacific Gateway project to develop Vancouver and relieve traffic congestion around the port and for southern commuters. The four main thrusts of the strategic land use plan are:

- **Protect the green zone**, including major parks, watersheds, ecologically important areas, and farm and resource lands, and establish a long-term growth boundary.
- **Build complete communities** focused on regional and municipal town centres that meet the public's preference for a wide range of opportunities in day-to-day life, greater range of choice of housing types and provision of jobs closer to where people live and which are accessible by transit.
- **Achieve a compact metropolitan region** by concentrating a significant proportion of population growth within the central part of the region.
- **Increase transport choice** by supporting increased use of transit, walking and cycling, minimising the need to travel (through convenient arrangement of land uses) and managing transport supply and demand.

Under the provincial Local Government Act 1996, municipalities within a region are required to prepare a regional context statement (RCS) following the adoption of a regional growth strategy (in the case of Greater Vancouver the LRSP). These statements are intended to explain the relationship between local official community plans and the regional growth strategy and, if necessary, bring the former into line with the latter.<sup>42</sup>

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<sup>42</sup> The Act also sets out requirements for reviewing and adopting an RCS. Review processes vary but a new or amended RCS must be submitted to the regional district board of directors for acceptance before it can be adopted by the municipality. The board can either accept the RCS or it can refuse to accept it. If it is not accepted, the board must indicate which parts of the RCS it objects to and the reasons. The Local Government Act outlines a process for resolving disputes over the RCS acceptance.

Overall, the idea is to have agreements in place between each municipality and its regional district to ensure that the plans for growth and development at the local level are consistent with the objectives and priorities for managing growth at the regional level.

### 5.4.3 Recent developments related to plan implementation

Currently, the GVRD is undertaking a review of the LRSP under the umbrella of the sustainable region initiative. This initiative, relevant to test 1 (Box 5.2), aims to found the strategy on sustainability principles as a basis for looking ahead to consider how the region will manage growth and change over the next 25 years. Of particular interest, regional transport policy will be reviewed as part of the LRSP. The review process is organised into three main phases:

1. Pre-proposal stage to identify issues, undertake research and gather technical information on housing, employment and the economy, and population growth; and develop preliminary policy options.
2. Preparation of a discussion guide on issues, trends and plan proposals.
3. Preparation of a draft regional growth strategy for public review.

To implement transport plans, TransLink will make investments totalling \$4 billion in public transit and roads to maintain or improve travel times for commuters, goods and service providers, cyclists and the disabled community. Major developments relevant to test 2 (Box 5.2) include:

- expanding the rapid transit network by 40% with the construction of two new lines
- increasing the capacity of the bus transit fleet with the addition of 400 vehicles (one-third expansion) and upgrading the existing 1300-vehicle fleet including a new generation of electric trolley buses
- improving the major road network through eight new road projects and construction of a new bridge across the Fraser River
- addition of two new stations on the West Coast Express system and improvement to the TrainBus service
- addition of a third vessel to the SeaBus system.

At present, major governance reforms to improve the effectiveness and performance of TransLink are underway based on an independent review of its structure and operations, issues that are material to tests 3 and 4 (Box 5.2). In March 2007, the British Columbia Minister of Transport announced the provincial government intends to restructure the organisation of the executive, add new revenue-generating measures and increase the area under TransLink's jurisdiction. Under the prior governance model, the TransLink board was made up of 12 members appointed by the GVRD, representing the municipalities in Greater Vancouver and three members appointed by the provincial government.<sup>43</sup> The Minister reportedly considered this model to be 'dysfunctional' because 'members of the board of directors were too focused on the interests of their own

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<sup>43</sup> Since 2001, the latter positions have gone unfilled for complex legal and administrative reasons related to the role of incumbents as serving members of the British Columbia Legislative Assembly.

municipality instead of the broader interests of the GVRD' and lacked the 'skill-set to understand major, multi-billion [dollar] projects' (Falcon 2007). In particular, these conflicting pressures between parochial and regional interests surfaced in the prolonged debate over the route and design of \$2 billion rapid transit project linking the airport and downtown Vancouver.

The TransLink board will now be constituted as a 'Council of Mayors' from GVRD municipalities to look after long-term planning, and non-political, professionally qualified members will be appointed by the provincial government to run day-to-day operations, together with an independent commissioner to be appointed by the Council of Mayors. The provincial government will set the regional transport vision, the board will guide the operation of Translink in accordance with three- and 10-year transport plans and the independent commissioner will ensure that the plans are consistent with the vision. In developing the plans, the board must consider a base option which maintains the status quo. A weighted system of voting will be used in decision making under which the mayors will receive one vote per 20,000 people (or portion thereof) in their jurisdiction.

The restructured TransLink will have an extended area of jurisdiction and new arrangements for financing development. Initially, its jurisdiction will be expanded to include immediate outlying communities and subsequently further north and east to encompass all of the lower Fraser Valley.<sup>44</sup> Translink will be funded using an approximate ratio of one-third of revenue from fuel taxes, one-third of revenue from property taxes and one-third of revenue from other non-government sources (eg, fares, advertising, property development). It will also be given the authority to generate revenue by controlling development of land near and around transit stations, including overriding local municipal land use planning. The provincial government will continue to contribute toward rapid transit projects, but funding will be contingent on municipalities increasing the zone for population density around planned rapid transit stations

At the time of writing, TransLink is in a state of transition between the previous and newly constituted bodies and elements of the approach still remain to be defined, notably the relationship between transport and land use planning. There is much political and public discussion of the changes and not all parties by any means agree with the basis or direction of reforms.

#### **5.4.4 Possible lessons for New Zealand**

In principle, the GVRD land use and transport strategy represents a good example of an integrated approach, one that has a number of features and lessons of interest to New Zealand. Much of its potential in this regard centres on the way transit has been used as a primary tool for shaping growth (implementing the GVRD vision of a multi-centred region or building complete communities) and how land use planning has been used to help develop a multi-modal transport system (increasing transport choice and opportunity

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<sup>44</sup> The expanded scope is intended to include roads, bridges and transit approximately 120 km north and 180 km east. It is envisaged that smaller, outlying communities not now part of TransLink will be asked but not forced to join. If they do so, they will have to impose a gasoline tax that supports TransLink.

through supportive zoning). Specific policies, arrangements and tools that have enabled this integrated approach or contributed to its success are described below with reference to the tests identified in Box 5.2.

**Test 1: Ideas, principles or policy to achieve integration**

Key elements embodied in the LRSP include a:

- flexible, long-range regional vision
- framework for linking land use and transport policy and now attempting to incorporate sustainability principles
- strategic and cooperative approach to promote coordination among local governments
- provision for follow up and periodic review of the plan and its implementation.

Although impressive, there still appears to be a lack of coherent policy connecting sustainability principles and transport planning. The relationship to a much promoted GVRD strategy for climate change seems particularly discordant. There are also question marks about the coherence of the LRSP framework for land use and transport integration and its consistency in bringing the parts together, evident in the lack of coordination between development and transport plans in some municipalities and between the objectives of port and arterial highway planning and reduction of commuter traffic congestion.

**Test 2: Fully and systematically implemented**

In the Ward Wilson Research and Transport Futures (2006) report, 14 specific policies, methods and institutional factors were identified as contributing to the success of land use and transport integration and particularly the shaping of regional urban development through high-capacity transit service. These include the:

- limitation of freeway construction and restraints on parking
- constraining available developable land
- concentration of office, retail and high-density residential development in designated regional centres using advanced light rail and passenger ferry services to promote mixed land use and increase densities.

In reality, almost inevitably, the implementation of the policy mix described above has been less than 'fully and systematically implemented', partly because of certain inconsistencies (described above) and partly because of inadequate application or coordination of plans and measures among municipalities. The governance reforms reflect an attempt to redress these.

**Tests 3 and 4: Effective in meeting basic objectives and agreed principles for integration and achieving successful outcomes**

The current restructuring of TransLink's governance arrangements points to reservations about the effectiveness and performance of the LRSP and transport planning (at least on the part of the provincial government). Underpinning these reservations are perceived difficulties in bridging conflicts between parochial and regional interests. Whether

proposed steps are sufficient to address such issues remains to be seen and the acid test will be whether and how the new model improves:

- the coherence of the long-term land use and transport planning framework
- the consistency of implementation and coordination of day-to-day operational plans
- the delivery of policy objectives and removal of barriers to land use and transport integration.

More tellingly, by many indicators, traffic congestion in Greater Vancouver is severe and the recent Pacific Gateway project noted above to expand truck and commuter capacity represents a supply-based response that from a sustainability perspective runs counter to the broader policy set out in the LRSP. There is an apparent contradiction in the Greater Vancouver approach, evident in the tension between major new highway construction and the promoted aims of public transit. This tension becomes more pronounced with urban development and land use intensification. Similar tensions are echoed in many other conurbations in the developed and developing worlds.

## **5.5 Queensland, Australia**

The South East (SE) Queensland region is Australia's fastest-growing region, experiencing rapid population growth especially along the coast and emerging as a significant economic hub nationally. Centred on Brisbane, the region consists of 24 city, shire or town councils. These are organised as an informal partnership for the purposes of regional planning. Both an integrated regional (land use) and an integrated transport plan are in place for this region. The transport system is multi-modal comprising road, rail and bus transit. Lying between hill ranges and the coast, the geographical site and situation of the region has certain parallels with the GVRD and Auckland, although it is spatially and physically less constrained. Urban densities remain low in SE Queensland with only a small increase over the past decade. There has also been significant fragmentation of rural and bush lands brought about by extensive residential development on the urban fringe and in rural areas.

### **5.5.1 Brief background on the transport system**

The hub of the regional transport system is Brisbane, one of the most rapidly growing cities in Australia. SE Queensland has a population of 1.7 million with a 2% average annual growth rate fuelled by both immigration and in-migration from elsewhere in Australia. A ring of suburban centres, most anchored by regional-scale shopping malls, lie at about a 10 km radius from the central business district (CBD). The metropolitan area is characterised by low-intensity urban sprawl, which merges into large-lot rural properties and is limited only by forests and wetlands.

The region is served by a multi-modal yet relatively fragmented transport system, which is simultaneously under increasing stress and undergoing rapid upgrading. Its main features include (based on Schijns 2000):

- A freeway system runs to the south (Gold Coast), north (Sunshine Coast) and west (but stopping short of the CBD) plus various bypass routes. The southern bypass is a

toll road. The arterial system is described as extensive but irregular, discontinuous and poorly connected with the freeway network. A major problem of the road system is the lack of river crossings.

- Public transit is provided by commuter bus and electric rail systems. However, the two systems operate relatively separately from each other and are poorly integrated.
- The City of Brisbane operates its own bus system (although the infrastructure is usually built by the state). Express bus services in outlying communities are contracted by the state and have limited pick-up rights within Brisbane.
- The city has implemented a range of bus priority measures, particularly focused on inner city and suburban congestion points. These include high-occupancy vehicle (HOV) lanes (although with little in the way of carpool promotion or other support measures), priority bus lanes and the like.
- In addition to the six rail commuter lines, a private extension to the airport is under construction. However, despite interest, another recent initiative to reintroduce light rail to the CBD failed to make an economic and ridership case and has been terminated.
- Central Brisbane is also served by a high-speed commuter catamaran as well as by several more traditional cross-river ferries.

Historically, there has been little effort aimed at modal integration but recently the state-led integrated regional transport plan has begun to address this with integrated fares, services and facilities.

### 5.5.2 Instruments for land use and transport integration

The primary legislation for planning in the state is the Integrated Planning Act, which sets out the procedure that must be followed in preparing regional plans.<sup>45</sup> The primary purpose of the South East Queensland Regional Plan (2005–2026) is to develop a strategy for sustainable growth that manages change to protect and enhance the quality of life for existing and future communities. Key features of the strategy include:

- allocating adequate land to accommodate future urban growth
- providing timely and cost-effective infrastructure and services
- establishing sustainability oriented principles that support a compact, well serviced and efficient urban form
- protecting and enhancing the region's environment, biodiversity and natural resources; and supporting a viable and diverse economy with well-located employment opportunities and activities.

The strategy and particularly the move towards a more compact urban form with higher densities in selected areas is intended to reduce travel demands, thereby reducing energy usage and emission of pollutants. It is also aimed at improving levels of accessibility and

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<sup>45</sup> The key steps include: preparing a draft plan; making it available for public consultation for a minimum of 60 business days; considering all properly made submissions; and consulting with the regional coordination committee.



reducing detrimental impacts on the environment including relieving growth pressures by providing growth opportunities and housing choices in other less sensitive parts of the region. In effect, an alternative approach to past development patterns is proposed in the regional plan to accommodate one million more people and 425,000 more jobs that are projected over the next 20 years. Achieving shifts of this nature will require major changes in the way growth in the region is currently planned and managed including accommodating a projected five million more trips in the transport system each day.

Part C of the regional plan describes the long-term vision and aspirations for the environment the community wants to live in now and the environment it wishes to protect for future generations as follows:

A future which is sustainable, affordable, prosperous and liveable, where:

- communities are safe, healthy, accessible and inclusive
- there are diverse employment opportunities and quality infrastructure and services
- urban and rural areas are mutually supportive and collaborative in creating wealth for the community
- development is sustainable, well-designed and the subtropical character of the region is recognised and reinforced
- ecological and culturally significant landscapes are valued and protected
- the community has access to a range of quality open space and recreational opportunities (Queensland Government 2005).

By 2026, the intent for SE Queensland 'is a region of inter-connected communities, with excellent accessibility and an extensive and efficient public transport system' (ibid). As the heart of the region, Brisbane is surrounded by 'a number of large urban areas separated by open space and many small to medium-sized towns and villages, each with its own character and identity' (ibid).

To achieve this vision, the regional plan identifies a number of strategic policy directions to manage growth and change. Several relate to or bear upon land use and transport integration by:

- creating a more sustainable future, including through containing urban development, making travel more efficient and protecting rural and natural landscape areas
- identifying land to accommodate a projected population of between 3.5 and 4 million people by 2026 through a combination of urban infill and redevelopment, greenfield development and rural living
- promoting land use efficiency particularly by redeveloping older and under-utilised areas and concentrating growth around urban activity centres and public transport nodes
- accommodating an increased proportion of the region's future population in the western corridor by giving priority to infrastructure and services

- integrating land use and transport across all modes to focus and support the desired future urban form and increase the overall efficiency of transport investment.

When the draft regional plan was released for comment (late 2004), it was subject to a health and social impact assessment (HSIA) (Queensland Health 2005). This was led by Queensland Health and undertaken as a collaborative project with local government, community and social planners. Internationally, few major plans appear to have been submitted to a composite HSIA or separately to health impact assessment (HIA) or social impact assessment (SIA) processes. The primary concern of the HSIA was to ensure that health and wellbeing issues were taken into account in future planning. It was based on a risk-benefit assessment of the impacts associated with implementing the plan and identified health mitigation strategies and enhanced services that would be needed as part of the plan. The analysis also served as a pilot of the HSIA methodology, many aspects of which appear applicable more generally and bear comparison specifically to the policy HIA methodology developed for New Zealand (Public Health Advisory Committee 2004).

### 5.5.3 Implementation measures and tools

Of interest are three measures to implement the plan:

- designation of an 'investigation area' or series of sites that provide a potential land bank for future medium- to longer-term urban development
- using regulatory provisions to prevent development that is inconsistent with the regional plan
- preparation of supporting documents including integration of the regional plan with state infrastructure and service delivery programmes and budgetary processes.

Investigation area sites are located throughout the region and include land with generally limited landscape or rural production values and few apparent physical constraints to future urban development. They are not generally considered to be required for urban development in at least the first 10 years of the regional plan. Although not all of the land in these sites may be suitable for development, it is important to protect the areas from intervening and inappropriate uses while suitable studies of their potential are carried out. Such studies must be carried out on a partnership basis between state and local governments and in consultation with landowners, key stakeholders and the community.

Regulatory provisions relating to the investigation area are applied to prevent further fragmentation prior to appropriate studies determining the form and timing of any development. This is achieved by using provisions that apply to a regional landscape and rural production area. For urban development to occur, the appropriate lands must be reallocated to the 'urban footprint'. To do this, land use changes to the regional plan will need to be approved in accordance with the legal procedures specified for this purpose (in the Integrated Planning Act). Any proposed urban development must satisfy a number of criteria, including that it is consistent with the intent of the regional plan and meets a clearly demonstrated public need for the development; that significant environmental

values and major transport and infrastructure corridors are identified and protected; and that appropriate state infrastructure agreements have been finalised.

Supporting documents include the annual infrastructure plan and local growth management strategies and structure plans for the major development areas identified in the regional plan. At the state level, Queensland Transport and other agencies have developed an integrated transport planning framework that provides 'hands on' guidance toward a 'collaborative, consistent and sustainable approach to transport planning' (Queensland Transport 2007). Specifically, it sets out:

- desired outcomes that help to focus planning
- principles and directions on how to achieve these
- steps that should be followed when undertaking an integrated process of transport planning.

In support of an integrated approach, Queensland Transport has been developing planning tools to assist planners, policy makers and development assessors to make decisions about future growth and transport. The Land Use and Public Transport Accessibility Index (LUPTAI) measures opportunities to reach commonly used services such as health, education, banking, shopping and employment through walking or public transport within a specific geographic area. It recognises the increasing importance of the concept of 'accessibility' in transport planning and the role and contribution of reduced car use in a more sustainable transport system. This is a geographic information system (GIS)-based tool that visually represents the level of access for any given area using a five-part rating scheme (no, poor, low, medium or high accessibility). In contrast to the traditional method of measuring accessibility by road distance, LUPTAI considers public transport as a means of access, rather than a facility to be accessed. It is expected to assist planning and decision making at the state or local level, for example, in determining where to focus urban growth, promoting land use and transport integration and supporting assessment of large scale developments, policy design and allocation of funding priorities.

#### **5.5.4 Possible lessons for New Zealand**

In principle, the regional plan for SE Queensland provides clear direction for future growth management and brings together a number of policies for integrating land use and transport. Broadly considered, the approach taken in SE Queensland gives less emphasis to the use of transport to shape urban growth than the strategy for Greater Vancouver reviewed previously. Nevertheless, it has a number of features and lessons of interest to New Zealand, which are described below with reference to the points of reference identified in Box 5.2.

##### **Test 1: Ideas, principles or policy to achieve integration**

Key elements embodied in the regional plan include:

- framework for understanding and monitoring sustainability trends

- promotion of a compact, land efficient pattern of urban growth reflecting resource potentials
- package of sound policies, eg, aimed at environmental protection, social equity and community integrity, economic feasibility
- importance accorded to inter-government coordination and partnership and public engagement in planning
- endorsement of demand management principles in all infrastructure planning, including transport.

Despite such references, there are concerns regarding their coherence and consistency. For example, transport policies are largely conventional and supply-oriented, providing for the expansion of existing road infrastructure (major inter-urban routes and tunnels and other congestion relieving schemes) and for improvements to bus networks to meet increased demand. In short, it is unclear how these are meant to deliver more sustainable modes of transport.

#### **Test 2: Fully and systematically implemented**

The implementation section of the regional plan contains innovative measures of interest that support land use and transport integration (designation of 'investigation areas' for land banking, regulatory provisions to prevent inconsistent development and preparation of infrastructure, and service delivery programmes and budgets). However, the mix of measures collectively appears to fall short of full and systematic implementation, partly because of certain inconsistencies and partly because of inadequate application or coordination of plans and measures among municipalities. For example, although transport initiatives in Brisbane include improved public transit and associated infrastructure (such as high-occupancy vehicle lanes), the dominant presumption is for major new road infrastructure projects taken forward through relatively conventional measures.

#### **Tests 3 and 4: Effective in meeting basic objectives and agreed principles for integration and achieving successful outcomes**

Because of the reservations about policies and their implementation described above, the extent to which the SE Queensland regional plan meets these tests is unclear and at best may be considered as 'not proven' to date. In addition, the clearance bar for these tests is relatively low given that urban sprawl and car dependency are the dominant characteristics of the current land use and transport relationship. Without question, there are positive elements in the frameworks, policies and measures that suggest over time the plan will encourage a more efficient regional pattern of land use and transport than the prevailing model. But the net balance still tilts heavily toward supply provision rather than demand management as a means of tackling the increasing traffic congestion from projected increases in the population. The inescapable conclusion is that SE Queensland will rely on the expansion of highway capacity as the primary model for growth and, as such, vehicle kilometres and emissions are certain to increase significantly. This approach is likely to move the region progressively away from rather than toward sustainable transport (Yeates 2002; Nightingale 2004).

## **6. Conclusions and recommendations**

Internationally, integrating land use and transport planning is increasingly seen as critical to achieving sustainable transport outcomes. However, while the value of integration is widely recognised, its implementation remains problematic. Legal and institutional arrangements for land use and transport planning frequently create barriers to successful integration. EC (2002) research indicates these barriers are often created by complex and conflicting planning arrangements. These may include:

- complex organisational arrangements where a range of agencies are responsible for different aspects of land use and transport planning
- conflicts between organisations as a result of differences in objectives, responsibilities or jurisdictional boundaries
- conflicts between objectives, policies and implementation mechanisms in policies and plans
- direct conflicts between land use planning and transport planning professionals.

### **6.1 Barriers to integration in New Zealand**

Review of New Zealand's planning arrangements points to several barriers that are limiting the potential for integration and the capability to build more sustainable urban communities. Current planning arrangements are largely permissive, reflecting their development in the political climate of the 1990s which discouraged planning and did little to encourage integration. While the political climate has slowly changed, the legacy of the 1990s remains and is evident in the inadequate management of cumulative impacts of land use changes, including growth in traffic which in turn impacts on congestion, road safety and the natural environment.

Under existing arrangements, land use planning and transport planning often occur independently of each other as activities administered in separate organisations or even separately within the same organisation. Requirements for land use plans and transport plans are also set out in separate legislation with a lack of linkages between statutory planning documents.

At the regional level, planning can be hampered by political and professional tensions between local authorities. These tensions can sometimes lead to decision making that ignores, inhibits or delays collaborative efforts to address problems spanning territorial boundaries which demand long-term, integrated approaches. Assisted by ambiguity about mandates, these tensions may give rise to a 'hands-off' approach where authorities choose to leave issues in the 'too hard' basket rather than take decisive leadership that may potentially lead to conflict, at least initially. However, sometimes the urgent need for a sustained collaborative approach can override more parochial concerns. The development of the Auckland regional growth strategy in the context of a history of fractured politics is a case in point.

In respect of transport, a 'predict and provide' model of planning based on accommodating forecast traffic growth has prevailed. Professional opinion in transport planning has now moved away from a predict and provide approach. However, the tools and methodologies developed to predict and provide are still widely used at all levels. While funding for public transport has increased in recent years, expenditure on road projects continues to grow and overwhelmingly dominate budgets. In general, transport planning remains strongly influenced by funding arrangements. These in turn remain focused on road construction and maintenance. State highway planning and rail network planning have occurred more or less independently of other transport planning and are not well linked to land use. While state highway planning is becoming more integrated, rail remains on the periphery.

Regional land transport strategies, the main forum for transport planning, vary by region in scope, content and technical quality. Overall, commitment to integration with land use planning in RLTS preparation has been largely absent. Strategies in regions dominated by a single, large city also tend to provide poorly for the needs of both metropolitan and non-metropolitan territorial local authorities. A stronger focus on inter-regional planning may also be required in some situations where issues cross regional administrative boundaries.

A further significant obstacle to integration is the lack of a set of common goals and objectives to guide land use and transport planning outcomes. At present, there is no national guidance to give direction on the common policy measures land use and transport plans should be pursuing to support sustainability objectives. Mechanisms to support delivery of these objectives, such as national policy statements under the RMA and national land transport strategies under the LTA, have not been used.

Complicating this situation are the barriers to effective public participation in decision making. The public has an important role to play in land use and transport planning and in the wider task of defining the future sustainable city that both land use and transport decisions will help create. However, most sections of the public are not resourced to pursue these issues. Legislatively defined public consultation processes have tended to be dominated by business and commercial interests (Mees and Dodson 2006; Ward et al. 2005; Wilson 1996) and there has been little use of more innovative consultation techniques in the area of transport. Newman et al. (2005) argue that road users continue to exert significant pressure for expansions to the road network, a simple message that comes through clearly and is easily mistaken for public opinion.

In summary, New Zealand's current planning arrangements could be said to show the following features which are likely to hinder land use and transport integration:

- allocation of planning functions across a range of different organisations
- land use and transport plans prepared under different mandates with limited linkages
- lack of common goals and objectives to guide planning and funding outcomes
- disparities in public access to decision making processes and limited opportunities for the public to genuinely influence transport decisions

- funding and assessment processes that do not support land use and transport integration.

Recognition of the need to improve the links between land use and transport has recently led to amendments to both land use and transport legislation. These include giving regional councils specific responsibility for ensuring the integration of infrastructure with land use (section 30, RMA). The LGA has also introduced opportunities, although under a permissive mandate, for integration. While some examples of a more integrated approach to planning are emerging, it is too early to determine if these legislative changes will deliver better integration across all regions and districts.

In respect of Auckland, the LGAAA has introduced explicit requirements for integration. The ARTA model established by the Act also appears to have a number of operational advantages, although with some institutional design disadvantages that could be argued to reduce political accountability. Subject to changes to address these issues, the ARTA model has possible application in other regions where there are several large and independent TLAs.

## **6.2 Lessons from international experience**

Increasing environmental, social and economic costs are forcing most countries and regions to examine the integration of land use and transport planning and its broader relationship with sustainability. Integration is seen as a core strategy in planning sustainable cities and urban regions. Key components of this strategy are integrated measures to reduce automobile dependency, possibly the best single policy indicator of whether cities are moving towards or away from sustainable development.

Internationally, there is a wide range of institutional and operational arrangements but few, if any, 'good fit' models that can be imported into New Zealand. However, there is considerable guidance on general principles of integration and practical illustrations of their application. For example:

- The UK has recently introduced a new tier of planning that requires regional spatial strategies (which include regional transport strategies) and local development plans (which have parallel local transport plans). A key objective of this 'plan-led' system is to assist improved integration of land use and transport and other activities.
- Strategic environmental assessment and sustainability appraisal are emerging as effective tools for helping to achieve sector and spatial integration between land use and transport planning activities in the UK. A related tool, health and social impact assessment, has been used in Queensland for the same purpose.
- In Canada, the amalgamation of transport planning and operation functions into the Greater Vancouver Transportation Authority may be a source of guidance for an expanded Auckland transport agency. The experience of Auckland and other regions underlines the importance of improved governance in achieving better integration of land use and transport planning.

International experience is particularly instructive in identifying the critical elements for fostering land use and transport integration. Drawing on Banister (2002 cited in EC 2002) and the European Conference of Ministers of Transport (2002), the following elements can be identified as relevant to New Zealand:

- **Establishing a supportive national policy framework**  
Banister (2002 cited in EC 2002) identifies a key component of the national policy framework as a sustainable transport strategy which provides for maximising public transport use and 'green' modes of transport, managing private car use, minimising urban sprawl and improving air quality through reducing fuel use and vehicle emissions.
- **Providing a legal and regulatory framework to implement national policy**  
Appropriate legal arrangements need to be in place to deliver national policy goals for land use and transport. This may require the introduction of new legislation or changes to existing legislation to ensure successful implementation of policy goals.
- **Improving institutional coordination and cooperation**  
Where institutional arrangements are creating barriers to integration, new arrangements may be required. Barriers may arise where multiple agencies are involved in land use and transport planning, creating a complex planning environment and hindering the achievement of policy goals.
- **Facilitating effective public participation**  
Effective opportunities for public participation need to be provided in land use and transport planning processes. Public participation is critical to ensure community support for sustainability measures as well as to counter the traditional road focus of transport planning.
- **Enhancing knowledge and skills of planning professionals**  
Maintaining and enhancing knowledge and skills of planning professionals is essential to ensure sound decision making processes. This is particularly important in areas where practice is consistently evolving, such as spatial planning and sustainable transport.

### 6.3 Opportunities for improved integration

The scope and complexity of the issues involved in achieving improved integration between land use and transport planning present significant challenges. These challenges also mean opportunities for improving current arrangements cannot be easily confined as they touch on or embrace wider issues. Reflecting this, suggestions for improvements identified by this research are discussed below under broad headings.<sup>46</sup>

#### 6.3.1 Integration needs to be incorporated into all aspects of planning

Effects-based planning approaches under the RMA have generally not assisted integration of land use and transport planning. In particular, problems have arisen where planners

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<sup>46</sup> Some of the opportunities discussed in this section support the findings of a number of other studies on or encompassing this subject which have been undertaken during the course of the research. These include the TSSD IAP project and the *Next Steps in the Land Transport Sector Review* (State Services Commission 2007).



have not sufficiently assessed the potential effects of draft plans. As a consequence, cumulative effects of land use changes, such as infill in residential areas, do not always get adequately considered at the time of resource consent applications.

The preparation of land use plans and transport plans at different points in time, historically a problem in New Zealand, has also undermined attempts to achieve integration. Recent changes to legislation and practice initiatives, particularly the preparation of structure plans for greenfield areas, are helping to overcome some of the gaps. However, these initiatives are more a response to particular local circumstances than part of a coherent approach and a much more systematic strategy is required to achieve integration.

Cooperative, data-rich, spatially informed planning is required to achieve integration in land use and transport. Educated, experienced and well resourced professionals need to lead planning processes and there needs to be close and frequent connection with public agencies, stakeholders and communities. Planning agencies also need to test the transport implications of their growth strategies and land use plans to consider options to deliver sustainable travel patterns.

Cooperative regional planning is not easy to initiate or complete without a clear legal mandate. Attempts to develop non-statutory plans at this level have had a mixed history, with some abandoned (eg, the first Canterbury regional development strategy). Such plans demand significant investment in developing and maintaining cooperative governance arrangements. An approach that encompasses the growing public and professional interest in urban design and urban form and addresses environmental, social and economic dimensions would be much better positioned to achieve the integration of land use and transport. This approach to regional planning is necessary if integration is to be achieved, particularly in those regions facing growth pressures.

Some commentators have highlighted the potential for LTCCPs to be a vehicle to drive land use and transport integration (Tremaine 2005). The definition of community outcomes at a local and regional level has the potential to create the set of common goals needed to guide land use and transport planning activity. However, reviews of LGA implementation suggest progress in this area to date is limited (Borrie and Memon 2005; GSP Limited 2005). A 2005 study commissioned by the Ministry for the Environment found LTCCPs have tended to focus on asset management and related funding issues (GSP Limited 2005). This finding suggests it is 'business as usual' and councils have not yet grasped the potential of LTCCPs to be used as a strategic tool to foster integration.

### **6.3.2 A coherent sustainability frame is critical to effective integration**

References to sustainability are common to all four main statutes that guide land use and transport planning in New Zealand. While the precise wording differs, the purpose statements of the RMA, LGA and LTMA recognise sustainability as a central goal. Policies, plans and programmes prepared under the Acts are required to give effect to this goal. Similarly, RLTSs prepared under the LTA are required to contribute to achieving a 'sustainable land transport system'.

While sustainability is a common objective, the statutes do not provide specific guidance on or define the components of sustainability relevant to land use or transport. National policy statements under the RMA and national land transport strategies under the LTA provide potential forums to develop this guidance. However, none have been prepared to date. Lack of national policy means there is no commonly shared understanding of how sustainable transport outcomes might be achieved across agencies and the policy instruments that might be used to achieve implementation.

At the regional level, the framework established by the RLTS could be developed to give effect to national policy goals, setting out indicators and targets for a 'sustainable land transport system'. Commitment to achieving the targets together with effective monitoring will be needed. Reference to and implementation of the government's *Sustainable Development Programme of Action* principles (New Zealand Government 2003) through statutory plans and other policy instruments is an opportunity that remains to be taken.

### **6.3.3 Implementation of plans is required**

The various planning activities reviewed in this research show variable degrees of integration. The extent to which they provide evidence of integration is influenced significantly by factors such as whether there are statutory requirements and internal organisational policies, budgetary incentives and commitment for supporting initiatives that achieve integration.

A frequent observation by planners, engineers and policymakers interviewed in the course of this research is that the issue is not so much inadequate or insufficient planning but a widespread failure to implement plans. It might be argued that there is too much focus on developing plans at the expense of their implementation. Too often strategies and plans with important and aspirational goals and objectives lack commitment or funding to implement them. The policy-implementation gap is well recognised in the literature. Environmental outcomes often do not conform to the prescriptions of institutional arrangements (Lane and McDonald 2005).

Time lags between policy making and policy implementation, particularly under the RMA, can often extend several years. In addition, some plans take so long to resolve they are out of date by the time they become formally operative. Often, too, those involved in administration of policies are not engaged in their development. This situation can be compounded by changes to legislation and requirements for new planning instruments to be developed. It can mean that agencies are focused on creating another new round of plans rather than on promoting, implementing and monitoring recently formed policies.

Statutory changes, when undertaken too frequently or in an uncoordinated way, can also mean that plans get prepared out of sequence, particularly where more than one statute or agency is involved. It may not be until the second or third generation of plans is reached that policies and proposed actions across and within agencies are properly aligned, both spatially and territorially, and well embedded in practice. Other challenges exist around the prescribed life of plans. For instance, better integration outcomes might

be expected if regional land transport strategies and regional policy statements had the same time horizon and renewal time frame. At the least, a stronger reciprocal statutory connection between these two planning activities is needed.

As discussed above, effective implementation will also require use of national policy instruments. This includes the development of national policy statements. A single or set of targeted national policy statements linked to a national land transport strategy would be a powerful mechanism to drive change. Existing linkages between land use and transport planning and funding arrangements may need to be enhanced and extended through amendments to the RMA and the LTA.

More immediately, funding arrangements could be strengthened very effectively by introducing an integration 'test' where packages of activities that address multiple transport objectives and integrate with land use decisions are given funding priority over one-off transport activities. An integration test of this sort would require more robust assessment procedures at the regional, district and package level and a commitment to fund all of the inter-linked projects required to make up an effective package. It would also need to fully incorporate sustainability into the assessment of effectiveness and efficiency, the two arms of current assessment process.

#### **6.3.4 Institutional and professional alignment is needed**

A critical issue for the pursuit of integrated land use and transport planning is not simply engaging in the relevant planning processes but scrutinising the institutional context within which these processes are managed. The need to look at institutional settings in order to achieve more sustainable outcomes is gaining attention in the sustainability literature and is highly relevant for thinking about the integration of planning and land use. Redclift (1997), for example, argues there is a lack of institutions able to cope with the type of negotiations associated with sustainability and with changing patterns of behaviour. The need to strengthen institutions in order to help identify sustainable practices and to facilitate these practices is a growing theme in the literature (Hanson and Lake 2000; Le Heron 2006).

At one level, the type of institutional arrangement may be seen as important for engendering integration. Examples include the creation of a 'super-agency' to overcome fragmentation created by separate agencies, or internal restructuring within agencies to ensure that land use planners and transport planners work alongside each other more collaboratively. It is also important to explore the nature of relationships between and within agencies and whether they constitute a form of 'coordination' (where there are no linkages) or a form of integration where there are spatial, functional or administrative linkages.

Some commentators argue that the activities, culture, incentives, capacity-building and management systems are much more important in determining outcomes than simply changing organisational structures (Brown 2004; Heslop 2006). Organisations, for example, can be encouraged to provide more support for staff to work in ways that foster

collaborative approaches to solving problems, breaking down the 'silos' that often exist in internal structures (Heslop 2006).

Facilitating the uptake of new practices, such as is required to achieve more integrated land use and transport planning, demands a multi-faceted approach. Relevant is Brown's (2004) work on identifying the factors which generated capacity in local government to facilitate integrated, urban water management and improve implementation performance. She concluded three dimensions of capacity-building are important for mobilising change:

1. Directive reform that promotes interactions across and within organisations, regulates and monitors organisational capacity and fosters political and community support.
2. Organisational strengthening that includes internally consistent policies, sufficient resources, active stakeholder networks, good working relationships within and across agencies and access for community participation.
3. Human resource development that encourages the acquisition of specific knowledge along with skills in facilitation and negotiation, relationship-building, and change management (Brown 2004, p.13).

### **6.3.5 Structures are important but models need to be flexible**

Although good professional work can bridge poorly developed structures, it is not practical or desirable to rely on this to achieve outcomes. Where professional commitment to bridging gaps is not present, outcomes will not be achieved. There are similar issues in the political sphere. There is strong logic for managing transport in urban areas as a coordinated multi-modal network (including commuter rail) under the control of a single, elected, accountable authority. State highways would be included to the extent they provide intra-urban routes or routes through smaller centres. For instance, ARTA's opportunity to integrate land use and transport planning would be enhanced with the addition of responsibility for rail and intra-urban state highways along the lines of the Vancouver model.

As noted, ARTA's role is to plan, fund, develop and operate an integrated regional land transport system. Under ARTA's planning arrangements, Auckland is the only region that has produced a 10-year land transport plan. This includes all land transport activities including transport activities planned by local authorities. The aspect of the ARTA/ARC split that is questioned, however, is the separation of policy and delivery functions.<sup>47</sup> While the ARC produces the region's land transport strategy, ARTA is responsible for its delivery. This separation could be argued to release the ARC from the political responsibility (and accountability) of producing an RLTS that can be adequately funded. The 'aspirational front' of the RLTS is passed to another agency, ARTA, to deliver.

It is beyond the scope of this project to assess the political and operational success of the Auckland model. However, the following questions arise in relation to the ARC/ARTA split:

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<sup>47</sup> The separation of policy and funding functions is a model that governments since 1999 have sought to reverse in central government administration.

- Was it necessary to have ARTA split from ARC for all the integration benefits to be gained or could some of them have been achieved by expanding or refining the regional council's mandate through legislation?
- Are the benefits in the planning area or are they mostly in the delivery of projects and packages?
- If the changes will/have led to improved planning, how best can they be introduced into other regions?

### **6.3.6 New or improved tools and guidance are needed**

While it is a novel concept in the New Zealand setting, the use of strategic environmental assessment in support of regional planning activities such as the preparation of regional growth strategies and land transport strategies is established practice in many countries and mandated in the European Union. The role that SEA could play in the preparation of RLTS has been researched (Ward et al. 2005) with the conclusion that it has the potential to make a significant contribution to improving planning processes.

In the UK, the use of sustainability appraisal – the next ‘frontier’ in the assessment toolkit – also signals scope for its application in New Zealand. Sustainability appraisal has not featured in any New Zealand applications yet although voluntary adoption in the RLTS preparation process is a useful opportunity.

Supporting statutory requirements with guidance notes is widely recognised as a critical means for assisting practitioners. In the early days of RMA implementation, there was a noticeable absence of guidance for practitioners although this situation has greatly improved in recent years. A feature of planning practice in the UK has been the production of planning guidance notes (now termed planning policy standards) to support new policy initiatives. A similar approach, that is much more systematic than is currently occurring, could be adopted in New Zealand to strengthen implementation of statutory planning instruments such as RLTS and RPS in respect of the strategic and operational integration of land use and transport.

It is important that such guidance is not driven by single agency perspectives but is prepared as wholly integrated advice. Such an approach would reduce the extent to which practitioners are required to ‘reinvent the wheel’ and provide clearer overall direction for policy implementation. Practitioner involvement in the development of guidance, including regional and TLA staff, should be provided for to help achieve practical advice and early buy-in. Introducing guidelines on matters signalled for future NPS or NES is another practical step to give early advice and to address issues before the formal, legal process commences.

### **6.3.7 Implementation needs to be monitored**

The variable standard of regional land transport strategies, in part the result of reliance on inadequate or outdated models, has hampered integration. Strategies need to be prepared to agreed standards and monitored by an agreed process, possibly involving a central

agency. The process could include a high level, independent review leading to adjustments and eventual 'approval'. Sanctions could be applied through the funding system.

Similarly, there is a need for monitoring of planning instruments prepared under the RMA and LGA. In respect of the RMA, an obvious immediate need is the development of guidance in relation to regional councils' obligation to provide for the integration of infrastructure and land use. In respect of the LGA, there is a similar need in relation to LTCCP provisions for land transport. As Boulter et al.'s (2007) research shows, detailed content on councils' land transport activities is often absent from LTCCPs.

Setting and supporting agreed standards for plan preparation is a shared responsibility between regional and central government, with the latter needing to take responsibility for years of poorly resourced advisory activity.

## **6.4 Recommendations**

Recommendations to improve current planning processes are presented below under four headings:

- working within the existing legal and institutional framework
- strengthening the existing legal and institutional framework
- introducing new legal or institutional arrangements
- professional and organisational changes.

### **6.4.1 Working within the existing legal and institutional framework**

Actions that could be taken without changes to legislation or to the shape or role of current agencies are identified in the following four areas:

- central government commitment to sustainable land transport outcomes
- central government use of and support for integration opportunities under the RMA, LGA, LTA and LTMA
- activities to strengthen RLTS and LTP quality and effectiveness for achieving integration
- changes to the funding allocation process to help ensure integration.

#### **6.4.1.1 Central government commitment to sustainable land transport outcomes**

Central government commitment to sustainable land transport outcomes could be demonstrated by the following actions:

- setting national goals for land transport which recognise key components of sustainable transport strategies
- establishing priorities and targets to achieve policy goals
- requiring land use and transport planning to reflect national policy.

#### **6.4.1.2 Central government use of and support for integration mechanisms**

Existing planning mechanisms could be used by central government to enhance integration. Key actions to foster integration are identified as follows:

- introducing an NPS for sustainable urban form and design, encompassing land use and transport (and other infrastructure). NES may also be useful complementary mechanisms. As a first step, national guidelines could be developed to provide councils with direction
- preparing planning guidance to assist integration (delivered through mechanisms such as the Quality Planning web site) to address for example:
  - the second generation of RPS
  - policy integration across RPS, DP, LTCCP, RLTS and growth management strategies.

#### **6.4.1.3 Activities to strengthen transport planning quality and effectiveness**

Specific actions to improve the quality of transport planning include:

- establishing clear responsibility for RLTS and transport planning guidance and suitably resource this function to support multi-modal and integrated outcomes
- introducing effective content auditing of RLTS and LTP
- actively promoting collaboration between transport agencies and the Ministry for the Environment and Ministry of Health
- providing for more effective public participation, including direct resourcing of public participation where appropriate.

#### **6.4.1.4 Changes to the funding allocation process**

Immediate changes could be introduced to the Land Transport NZ funding process to foster integration. Key measures that could be introduced without the need for legislative change include:

- amending the Land Transport NZ assessment framework to include an integration 'test' or incentives such as accelerated processing or additional funding for integrated packages
- making more effective use of the Land Transport NZ assessment process to deliver integrated, multi-modal and sustainable packages
- bringing rail network funding into the NLTP.

#### **6.4.2 Strengthening the existing legal and institutional framework**

Further changes to strengthen the current planning framework could be made by introducing amendments to existing legislation and/or the assignment of responsibilities. Key changes include:

- making regional planning a statutory requirement

- encouraging the integration of strategic and spatial planning across the four statutes (RMA, LGA, LTA, LTMA) through:
  - requiring the demonstration of land use and transport planning integration in transport funding procedures
  - requiring the demonstration of land use and transport planning integration in RLTS preparation
  - amending relevant statutes to require formal linkages between policy instruments
  - assigning responsibility to a single agency for monitoring the implementation of regional councils' function to ensure the strategic integration of land use and infrastructure.

#### **6.4.3 Opportunities that involve new legal or institutional arrangements**

Opportunities also exist to introduce new arrangements to foster integration. Options include:

- reviewing the effectiveness of the ARTA model for integrating land use and transport planning and considering its application elsewhere
- evaluating the effectiveness of establishing special transport administrative areas based on the Vancouver and SE Queensland models
- providing for direct election of regional land transport committees to help ensure representation of public interests
- establishing new, combined agencies:
  - ONTRACK + Transit NZ
  - a central public transport agency.

#### **6.4.4 Professional and organisational changes**

Enhancing professional expertise and organisational capacity is critical to successful integration. Key actions include:

- encouraging commitment to and identifying best practices for strong collaboration between organisations to ensure policy integration
- identifying internal organisational arrangements that achieve enhanced collaboration across disciplines to embed interdisciplinary practices by professionals
- strengthening organisations internally through the adoption of coherent and consistent policies and commitment of sufficient resources to achieve strategic and operational integration
- building capacity through professional development programmes that review how different disciplinary cultures operate, promote new ways of working together and build relevant skills
- encouraging tertiary educators to incorporate opportunities to facilitate interdisciplinary activity in professionally accredited programmes (eg, engineering and planning).



## 7. Bibliography

- Ashley, D., Brennand, A., and Houghton, D. 1999. Strategic transport planning in New Zealand's two major urban areas Auckland and Wellington. In *Proceedings of the 23rd Australasian Transport Research Forum*, Perth, Western Australia.
- Auckland City Council. 2006. *Long-term council community plan 2006–2016*. Auckland: Auckland City Council.
- Auckland Regional Council. 1999. *Auckland regional land transport strategy*. Auckland: Auckland Regional Council.
- Auckland Regional Council. 2003. *A day in the life of the Auckland region*. Auckland: Auckland Regional Council.
- Auckland Regional Growth Forum. 1999. *A vision for managing growth in the Auckland region: Auckland regional growth strategy, 2050*. Auckland: Auckland Regional Council.
- Auckland Regional Public Health Service. 2006. *Improving health and wellbeing: A public health perspective for local authorities in the Auckland region*. Auckland: Auckland Regional Public Health Service.
- Auckland Regional Transport Authority. 2006. Transport audit guidelines – working (final) draft. Auckland: Auckland Regional Transport Authority.
- Auckland Regional Transport Authority. 2007a. *Auckland land transport programme 2007–2008*. Auckland: Auckland Regional Transport Authority.
- Auckland Regional Transport Authority. 2007b. *Auckland transport plan*. Auckland: Auckland Regional Transport Authority.
- Auckland Regional Transport Authority. 2007c. *Sustainable transport plan 2006–16*. Auckland: Auckland Regional Transport Authority.
- Audit New Zealand. 2004. *Manukau City Council: Assurance review over aspects of consent and compliance processes under the Resource Management and Building Acts*. Wellington: Audit New Zealand.
- Bachels, M. A. 1998. Cities and automobile dependence: New Zealand cities, international comparisons and local policy responses. Energy Efficiency and Conservation Authority (EECA) Transport and Urban Form Seminars, Auckland and Wellington.

- Bachels, M. A. 2000. Integrated planning in urban development: Striking the right balance. Paper presented to Transport Outlook Forum, Chartered Institute of Transport.
- Bachels, M. A. 2005. Improving integrated land use and transport development. 5th Annual New Zealand Land Transport Summit, Auckland.
- Banister, D. 2005. Overcoming barriers to implementation in transport policy. Pp. 54–68 in *Barriers to sustainable transport – institutions, regulation and sustainability*. P. Rietveld, and S. Stough (Eds). London: Spon.
- Bell, K. 2006. Interview with Karen Bell (Auckland City Council) by J Dixon, 30 October.
- Boffa Miskell Ltd., Hill Young Cooper Ltd., and Kenworthy, J. 2002. Towards more sustainable settlement. Final draft report prepared for the Ministry of Transport, New Zealand. Boffa Miskell Ltd., Hill Young Cooper Ltd., and Jeff Kenworthy (Murdoch University). 42pp.
- Booz, Allen, Hamilton. 2006. Integrated approach to planning (IAP) – historic plan analysis. Draft report. Booz, Allen, Hamilton, New Zealand. 22pp.
- Borrie, N., and Memon, A. 2005. *Long-term council community plans: A scoping survey of local authorities*. Hamilton, New Zealand: The International Global Change Institute, University of Waikato.
- Boston, J., Martin, J., Pallot, J., and Walsh, P. 1996. *Public management: The New Zealand model*. Auckland: Oxford University Press.
- Boulter, R., Hammond, L., and Wignall, D. 2007. Planning and land transport programmes. *Planning Quarterly 164*: 8–11.
- Brown, R. 2004. Local institutional development and organisational change for advancing sustainable urban water futures. Paper presented at the International Water Sensitive Urban Design Conference, 21–25 November, Adelaide.
- Burton, E. 2002. Measuring urban compactness in UK towns. *Environment and Planning B: Planning and Design 29*: 219–250.
- Campos, V., and Ramos, R. 2005. Sustainable mobility evaluation in urban areas. Pp.172–177 in *Advanced OR and AI methods in transportation*. Jaszkiwicz, A. et al. (Eds.). Poznan: Poznan University of Technology.
- Canterbury Regional Planning Authority, 1997. Second transport study, Objective iii, Transport in the wider region. A consideration of alternative growth patterns. *Canterbury Regional Planning Authority Report M199*. Christchurch: Canterbury Regional Planning Authority.

- Christchurch City Council. 2003. *Metropolitan Christchurch transport statement*. Christchurch: Christchurch City Council.
- Churchouse, N. 2006. Prendergast cites problems over regional strategy. PA6. *Dominion Post*, 24 October.
- Commission for Integrated Transport (CFIT). 2002. *Paying for road use*. London: Commission for Integrated Transport. [www.cfit.gov.uk/docs/2004](http://www.cfit.gov.uk/docs/2004)
- Commission for Integrated Transport (CFIT). 2004. *A review of transport appraisal*. London: Commission for Integrated Transport. [www.cfit.gov.uk/docs/2004/rta/index.htm](http://www.cfit.gov.uk/docs/2004/rta/index.htm)
- Commission for Integrated Transport (CFIT). 2006. *Integrated transport delivery – is it working across government departments?* London: Commission for Integrated Transport. [www.cfit.gov.uk/docs/2006/itd2006/index.htm](http://www.cfit.gov.uk/docs/2006/itd2006/index.htm)
- Council for the Preservation of Rural England. n.d. Council for the Preservation of Rural England website. [www.cpre.org.uk](http://www.cpre.org.uk)
- Curran, S. E. 2005. Sustainable development v sustainable management: The interface between the Local Government Act and the Resource Management Act. *New Zealand Journal of Environmental Law* 8: 276–294.
- Curtis, C., and James, B. 2004. An institutional model for land use and transport integration. *Urban Policy and Research* 22(3): 277–297.
- Department for Transport. 2004. *Strategic environmental assessment for transport plans and programmes*. London: Department for Transport. [www.webtag.org.uk](http://www.webtag.org.uk)
- Dixon, J. 2003. Planning in New Zealand: Legacy of ambivalence and prospects for repositioning. *Planning Theory and Practice* 4(3): 348–353.
- Dixon, J. 2005. Enacting and reacting: Local government frameworks for economic development. Pp 69–86 in *Economic Development in New Zealand*. J. Rowe (Ed.). Ashgate: Aldershot.
- Dixon, J., and Dupuis, A. 2003. Urban intensification in Auckland, New Zealand: A challenge for new urbanism. *Housing Studies* 18(3): 353–368.
- Dixon, J., and Ericksen, N. 2000. Approaches to the integration of environmental protection and economic development in local government in New Zealand. Pp.53–66 in *Integrating environment and economy: Strategies for local and regional government*. A. Gouldson and P. Roberts (Eds.). London: Routledge.

- Dixon, J., and van Roon, M. 2005. Coming on heavy: The need for strategic management of cumulative environmental effects. Paper presented at International Association for Impact Assessment Conference on Strategic Environmental Assessment, Prague, 26–30 September.
- Douglass, M. 2006. Email correspondence from Malcolm Douglass to authors, July 2006.
- Dunn, R. 1994. Integrated transport and land use planning. Some lessons from New Zealand's resource management legislation. In *Proceedings of the 17th ARRB Conference*.
- Environment Canterbury. 2004. Draft Canterbury regional land transport strategy. Christchurch, New Zealand: Environment Canterbury.
- Environment Waikato. 2006. *Regional land transport strategy for the Waikato region 2006–2016*. Hamilton, New Zealand: Environment Waikato.
- Ericksen, N., Crawford, J., Berke, P., and Dixon, J. 2001. *Resource management, plan quality and governance, a report to Government*. Hamilton: International Global Change Institute, University of Waikato.
- Ericksen, N., Crawford, J., Berke, P., and Dixon, J. 2004. *Plan-making for sustainability*. Aldershot: Ashgate.
- Erl, E., and Feber, G. 2000. Transland: Working paper best practice. Project Transland: Integration of transport and land use Planning. 4th RTD Framework Programme of the European Commission. Munich: Institut für Verkehrs- und Infrastrukturforschung GmbH.
- European Commission (EC). 1999a. *European strategy on transport and the environment*. Belgium: European Commission.
- European Commission (EC). 1999b. *European spatial development perspective*. Belgium: European Commission.
- European Commission (EC). 2001. Communication from the Commission of 15 May 2001, COM (2001) 264. A sustainable Europe for a better world: A European Union strategy for sustainable development. Commission's proposal to the Gothenburg European Council.
- European Commission (EC). 2002. Assessment of barriers and solutions. TRANSPLUS deliverable 4.1. [www.transplus.net](http://www.transplus.net)
- European Commission (EC). 2003a. Achieving sustainable transport and land use with integrated policies. Final report of the TRANSPLUS project. 37pp. [www.transplus.net](http://www.transplus.net)

- European Commission (EC). 2003b. *Europe at a crossroads: The need for sustainable transport*. Belgium: Directorate-General for Press and Communication.
- European Commission (EC). 2004. *Working Group on Sustainable Urban Transport: Final report*. Belgium: European Commission.
- European Commission (EC). 2005. Communication from the Commission of 13 December 2005, COM (2005) 658, on the review of the sustainable development strategy – a platform for action.
- European Conference of Ministers of Transport. 2002. *Implementing sustainable urban travel policies: Key messages for governments*. Paris: Organisation for Economic Cooperation and Development.
- Falcon, K. 2007. Press release issued by the Honorable Kevin Falcon, Minister of Transportation, Government of British Columbia, 17 March 2007.
- Fookes, T. 2000. Auckland's urban growth management. Pp.263–273 in *Environmental planning and management in New Zealand*. A. Memon and H. Perkins (Eds). Palmerston North: Dunmore Press.
- Greater Christchurch. 2004. *Greater metropolitan Christchurch urban development strategy and 'UDS FORUM – terms of reference': Scope, structure and process*. Christchurch: Greater Christchurch
- Greater Christchurch. 2006. *Draft Greater Christchurch urban development strategy 2006*. Christchurch: Greater Christchurch
- Greiving, S., and Wegener, M. 2003. Integration of transport and land use planning: State of the art. In *Proceedings of the Ninth World Conference on Transport Research*, Elsevier, Amsterdam.
- GSP Limited. 2005. *Local Government Act 2002 and Resource Management Act 1991: Improving the links between LTCCP and RMA plans*. Prepared for the Ministry for the Environment, 23 September 2005. Wellington: GSP Limited.
- Hanson, S., and Lake, R. 2000. Needed: Geographic research on urban sustainability. *Economic Geography* 76: 1–3.
- Hastie, W. 2000. *The Wishbone study – delivering land transport outcomes in the Wellington Region*. Wellington: Wellington Regional Council.
- Hawkes Bay Regional Council, Taranaki Regional Council, Manawatu-Wanganui Regional Council, Otago Regional Council and Southland Regional Council. 1997, December. *Regional Policy Statements and Regional Plans: A guide to their purpose, scope and content*.

- Heslop, V. 2006. Towards a better understanding of the institutional development and change required to improve the uptake of low impact urban design and development. Paper published in *Proceedings of 7th Urban Drainage Modelling and 4th Water Sensitive Urban Design Conference*, Melbourne, 2–6 April 2006.
- Heslop, V., and Guerin, A. 2007. Out with the old and in with the new: The Kapiti Coast District Council experience with changing the rules of the game for subdivision and development. Paper presented at the New Zealand Planning Institute Annual Conference, Palmerston North, New Zealand, March 2007.
- Hill Young Cooper. 2003. *Streamlining RMA approvals for land transport projects: A study of delays in major roading projects*. Wellington: Ministry for the Environment.
- Jenks, M., Burton, E., and Williams, K. (Eds). 1996. *Compact city: a sustainable urban form?* London: Spon.
- Jenkins, B. 2005. Giving statutory backing to non-statutory strategies through regional policy statements: A case study of the urban development strategy for Greater Christchurch. Paper presented to the Resource Management Law Association of New Zealand conference, Christchurch, New Zealand.
- Jopson, A., May, A., and Matthews, B. 2004. Facilitating evidence based decision making – the development and use of an on-line knowledgebase on sustainable land use and transport. In *Proceedings of the Tenth World Conference on Transport Research*, Istanbul.
- Kissling, C., and Bachels, M. 2000. Towards holistic transportation in New Zealand. Pp 309-320 in *Environmental planning and management in New Zealand*. P. A. Memon and H. C. Perkins (Eds). Palmerston North, New Zealand: Dunmore Press.
- Land Transport New Zealand. 2005a. Review of existing regional transport strategies. Original manuscript prepared for Transfund New Zealand by Douglass Consulting Services Ltd. Background Paper 3. Wellington: Land Transport New Zealand.
- Land Transport New Zealand. 2005b. *Regional land transport strategy guidelines: December 2004*. Wellington: Land Transport New Zealand.
- Land Transport New Zealand. 2005c. *Land Transport New Zealand funding allocation process*. Wellington: Land Transport New Zealand.
- Land Transport New Zealand. 2006a. *Land Transport NZ's research strategy 2007–2010*. Wellington: Land Transport New Zealand.
- Land Transport New Zealand. 2006b. National Land transport programme: Factsheet. Wellington: Land Transport New Zealand. [www.landtransport.govt.nz](http://www.landtransport.govt.nz)

- Land Transport New Zealand. 2006c. *Participation in land use and transport planning processes*. Wellington: Land Transport New Zealand.
- Land Transport New Zealand. 2006d. *Programme and funding manual*. Version 3.0. Wellington: Land Transport New Zealand.
- Lane, M. B., and McDonald, G. 2005. Community-based environmental planning: Operational dilemmas, planning principles and possible remedies. *Journal of Environmental Planning and Management* 48(5): 709–731.
- Lautso, K., Spiekemann, K., Wegener, M., Sheppard, I., Steadman, P., Martino, A., Doming, R., and Gayda, S. 2004. *PROPOLIS – final report*. 2nd ed. Finland.
- Le Heron, R. 2006. Towards governing spaces sustainably: Reflections in the context of Auckland, New Zealand. *Geoforum* 30: 106.
- Litman T. 2007. Evaluating transportation land use impacts. Victoria, Canada: Victoria Transport Policy Institute. [www.vtpi.org](http://www.vtpi.org)
- May, A. 2002. Background paper for workshop on land use planning held at the Conference on Good Practice in Integration of Environment into Transport Policy, Brussels, Belgium, October 2002.
- May, A. 2005. Overcoming institutional barriers to the implementation of integrated transport strategies. European Conference of Ministers of Transport and Ministry of Land, Infrastructure and Transport (Japan) Workshop on Implementing Sustainable Urban Travel Policies in Japan and other Asia-Pacific countries, 2–3 March 2005, Tokyo, Japan.
- May A., Karlstrom, A., Marler, N., Matthews, B., Minken, H., Monzon, A., Page, M., Pfaffenbichler, P., and Shepherd, S. 2005. *Developing sustainable urban land use and transport strategies: A decision makers guidebook*. 2nd ed. Leeds: Institute for Transport Studies.
- May, A., Kelly, C., and Shepherd, S. 2006. The principles of integration in urban transport strategies. *Transport Policy* 13: 319–327.
- Mayeres, I., Proost, S., Emberger, G., Grant-Muller, S., Kelly, C., and May, A. 2003. Deliverable D4: Synergies and conflicts of transport packages, SPECTRUM (Study of policies regarding economic instruments complementing transport regulation and the understanding of physical measures). Leeds: Institute for Transport Studies.
- Mees, P., and Dodson, J. 2006. *Backtracking Auckland: Bureaucratic rationality and public preferences in transport planning*. Issues Paper 5, April 2006. Brisbane: Urban Research Program, Griffith University.

- Mein, B. 2004. Legislative requirements for the preparation of regional land transport strategies. Report prepared for the Auckland Regional Council. Auckland, New Zealand: Barry Mein Consulting.
- Memon, P. A., and Gleeson, B. 1995. Towards a new planning paradigm? Reflections of New Zealand's Resource Management Act. *Environment and Planning B: Planning and Design* 22: 109–124.
- Metro Auckland Project Team. 2006. 2006: International review of Auckland metro-region. Final report. Prepared for Metro Auckland Project Team, Auckland.
- Ministry for the Environment. n.d. (a). Structure planning. [www.qualityplanning.org.nz/plan-topics/structure-planning.php](http://www.qualityplanning.org.nz/plan-topics/structure-planning.php)
- Ministry for the Environment. n.d. (b). Land transport. [www.qp.org.nz/plan-topics/land-transport.php](http://www.qp.org.nz/plan-topics/land-transport.php)
- Ministry for the Environment. 2003. *A guide to designations under the Resource Management Act 1991*. Wellington: Ministry for the Environment.
- Ministry for the Environment. 2005. *New Zealand urban design protocol*. Wellington: Ministry for the Environment.
- Ministry for the Environment. 2007. *Resource Management Act: Two-yearly survey of local authorities 2005/2006*. Wellington: Ministry for the Environment.
- Ministry of Transport. 1996. *Setting the scene*. Wellington: Ministry of Transport.
- Ministry of Transport. 2005. *Transport sector strategic directions*. Wellington: Ministry of Transport.
- New Zealand Government. 2002. *New Zealand transport strategy*. Wellington: New Zealand Government.
- New Zealand Government. 2003. *Sustainable development for New Zealand programme of action*. Wellington: New Zealand Government.
- New Zealand Government. 2005. *National rail strategy to 2015*. Wellington: New Zealand Government. [www.transport.govt.nz/assets/NewPDFs/nrs.pdf](http://www.transport.govt.nz/assets/NewPDFs/nrs.pdf)
- Newman, P., Bachelis, M., and Chapman, R. 2005. Sustainable transport for sustainable cities: policy implications for managing development in New Zealand cities. *Public Sector* 28 (3): 10–16.
- Nightingale, J. 2004. *Brisbane: Congestion capital?* Brisbane: The Brisbane Institute. [www.brisinst.org.au](http://www.brisinst.org.au)



- Office of the Deputy Prime Minister. (ODPM). 2004. *Draft practical guide to the SEA directive*. London: Office of the Deputy Prime Minister.
- Office of the Deputy Prime Minister. (ODPM). 2005. *Sustainability appraisal of regional spatial strategies and local development documents*. London: Office of the Deputy Prime Minister.
- ONTRACK. n.d. About ONTRACK.  
[www.ontrack.govt.nz/AboutONTRACK/tabid/57/Default.aspx](http://www.ontrack.govt.nz/AboutONTRACK/tabid/57/Default.aspx)
- Parliamentary Commissioner for the Environment. 1998a. *Towards sustainable development: The role of the Resource Management Act*. Wellington: Parliamentary Commissioner for the Environment.
- Parliamentary Commissioner for the Environment. 1998b. *The cities and their people. New Zealand's urban environment*. Wellington: Parliamentary Commissioner for the Environment.
- Parliamentary Commissioner for the Environment. 2002a. *Creating our future: Sustainable development for New Zealand*. Wellington: Parliamentary Commissioner for the Environment.
- Parliamentary Commissioner for the Environment. 2002b. *Showing the way: Citizen city*. Wellington: Parliamentary Commissioner for the Environment.
- Paulley, N., and Pedler, A. 2000. *TRANSLAND: Integration of transport and land use planning*. Deliverable 4: Final report for publication. London: Transport Research Laboratory. [www.inro.tno.nl/transland](http://www.inro.tno.nl/transland)
- PROSPECTS. 2004. Procedures for recommending optimal sustainable planning of European city transport systems results, cities' decision-making requirements. [www-ivv.tuwien.ac.at/projects/prospects.html](http://www-ivv.tuwien.ac.at/projects/prospects.html)
- Public Health Advisory Committee. 2004. *A guide to health impact assessment: A policy tool for New Zealand*. Wellington: Public Health Advisory Committee.
- Quigley, R., Cunningham, R., Ward, M., de Boer, M., and Conland, C. 2006. The Greater Wellington regional land transport strategy health impact assessment. Prepared for the Greater Wellington Regional Council.  
[www.gw.govt.nz/story\\_images/3662\\_HealthImpactAsse\\_s7334.pdf](http://www.gw.govt.nz/story_images/3662_HealthImpactAsse_s7334.pdf)
- Queensland Government. 2005. *South East Queensland regional plan 2005–2026*. Brisbane: Queensland Government. [www.oum.qld.gov.au](http://www.oum.qld.gov.au)

- Queensland Health. 2005. *Health and social impact assessment of the draft South East Queensland regional plan (2005–2026)*. Brisbane: Queensland Health.  
[www.health.qld.gov.au](http://www.health.qld.gov.au)
- Queensland Transport. 2007, July 9. Integrated transport planning framework.  
[www.transport.qld.gov.au/Home/Projects\\_and\\_initiatives/Plans/Integrated\\_transport\\_plans/Integrated\\_transport\\_planning\\_framework/](http://www.transport.qld.gov.au/Home/Projects_and_initiatives/Plans/Integrated_transport_plans/Integrated_transport_planning_framework/)
- Redclift, M. 1997. *Sustainable development: Exploring the contradictions*. London: Methuen.
- Reid, M. 2005. The LGA 2002 – where are we at?, Presentation at Local Government Legal Forum, 7 April, Auckland.
- Rive, V., and Davidson, A. 2003. The Impact of sustainability principles in the Land Transport Management Act 2003. *Brookers Resource Management Gazette*. Consolidated Index to [2003] BRM Gazette. Wellington: Thomson Brookers.
- Roberts, P. 2001. Evidence presented to the Environment Court in the matter of a reference to the proposed Christchurch City plan between the Canterbury Regional Council and others and the Christchurch City Council.
- Rossiter, L. 2007. Email correspondence from Transit NZ National Standards Manager Lisa Rossiter to authors.
- Schijns, S. 2000. Brisbane, Australia – HOV metropolis? Presentation to the 10th HOV Conference, Dallas.
- Sheppard, A. 1998. Evidence of Allen Sheppard on behalf of the Minister for the Environment for hearing on urban form and development in the matter of the Resource Management Act 1991 and the Proposed Christchurch City Plan.
- Skelton, P., and Memon, P. A. 2002. Adopting sustainability as an overarching environmental policy: a review of section 5 of the RMA. *Resource Management Journal 10 (1)*: 1–10.
- State Services Commission. 2007. *Next steps in the land transport review – report to the Minister of State Services, 30 April 2007*. Wellington: State Services Commission.  
[www.ssc.govt.nz/display/document.asp?DocID=5917](http://www.ssc.govt.nz/display/document.asp?DocID=5917)
- The Centre for Sustainable Transportation. 2005. *Defining sustainable transportation*. Prepared for Transport Canada. Canada: The Centre for Sustainable Transportation.
- Therivel, R., and Ross, W. 2007. Cumulative effects assessment: Does scale matter? *Environmental Impact Assessment Review 27 (5)*: 365–385.

- Thomson, I. 1999. Long-term urban strategy. Internal report to the Christchurch City Council, RR 9946.
- Transfund New Zealand. 2003. *National Land Transport Programme 2003–2004*. Wellington, New Zealand: Transfund New Zealand
- Transit New Zealand. n.d. Who we are and what we do.  
[www.transit.govt.nz/about/who.jsp](http://www.transit.govt.nz/about/who.jsp)
- Transit New Zealand. 2005. *10-year state highway forecast 2005/06 – 2014/15*. Wellington: Transit New Zealand.  
[www.transit.govt.nz/content\\_files/planning/forecast-05-06/summaries/nationalintro.pdf](http://www.transit.govt.nz/content_files/planning/forecast-05-06/summaries/nationalintro.pdf)
- Transit New Zealand. 2007. *National state highway strategy*. Wellington: Transit New Zealand.
- TRANSPLUS. 2002. Analysis of land use and transport indicators, transport planning land use and sustainability public deliverables D2.2 and D3. [www.transplus.net](http://www.transplus.net)
- Tremaine, K. 2005. Urban growth and strategy – international practices: The New Zealand experience. *Resource Management Law Journal* 13 (3): 11–21.
- Upton, S. 1991. The Resource Management Bill: Third reading, Hansard 516 NZPD 3030, 4 July.
- UK Sustainable Development Commission. 2005. *The next steps: An independent review of sustainable development in the English regions*. London: UK Sustainable Development Commission.
- van Barneveld, R., and Rossiter, L. 2005. Integrating planning: Transit's new agenda. *Survey Quarterly* 44: 8–10.
- Victoria Transport Policy Institute. 2006. *Land use evaluation: Evaluating how transportation decisions affect land use patterns, and the economic, social and environmental impacts that result*. Victoria, Canada: Victoria Transport Policy Institute. [www.vtpi.org/tdm/tdm104.htm](http://www.vtpi.org/tdm/tdm104.htm)
- Ward, M., Wilson J., and Sadler, B. 2005. *Application of strategic environmental assessment to regional land transport strategies*. Land Transport New Zealand Research Report No. 275. Wellington, New Zealand: Land Transport New Zealand.
- Ward-Wilson Research and Transport Futures Ltd. 2006. Integrated Approach to Planning Literature Review Report. Unpublished report prepared for Transport Sector Strategic Directions Integrated Approach to Planning Project Team.

- Wignall, D. 2007. Email correspondence from Don Wignall (Transport Futures Limited) with report authors, 27 May.
- Williams, K. 1999. Urban Intensification policies in England: Problems and Contradictions. *Land Use Policy* 16 (3): 167–178.
- Wilson, J. 1996. Public participation and the Resource Management Act 1991: Participation for whom? A thesis submitted to Victoria University of Wellington in fulfilment of the requirements for the degree of Master of Arts (Applied) in Environmental Studies, Wellington, New Zealand, Victoria University of Wellington.
- Wilson, J. 1997. Participation for whom? *Planning Quarterly* 126: 5–7.
- Wilson, V. and Salter, J. 2003. *A guide to the Local Government Act 2002*. Wellington, New Zealand: Brookers Ltd.
- Woods, S. 2006. Interview with Christchurch City Council Principal Transport Planner Stuart Woods, 7 July.
- Wright, J. 2006. Examining the NZ Transport Strategy. 6th New Zealand Land Transport Summit, Auckland, New Zealand.
- W S Atkins. 2001. *European best practice in delivery of integrated transport*. Report prepared for the UK Commission for Integrated Transport.
- Yeates, M. 2002. *Transport challenges still looming unanswered*. Brisbane: The Brisbane Institute. [www.brisinst.org.au](http://www.brisinst.org.au)
- Young Cooper, A. 2003. *Streamlining RMA approvals for land transport projects – a study of delays in major roading projects*. Report prepared for the Ministry for the Environment. Wellington, New Zealand: Ministry for the Environment.

## Abbreviations and acronyms

|                   |   |
|-------------------|---|
| ARC               | Auckland Regional Council   |
| ARTA              | Auckland Regional Transport Authority   |
| CBD               | Central business district   |
| CFIT              | Commission for Integrated Transport (UK)                                      |
| CO <sub>2</sub>   | Carbon dioxide  |
| DP                | District plan   |
| EC                | European Commission   |
| ESDP              | European Spatial Development Perspective                                      |
| EU                | European Union  |
| GIS               | Geographic information system   |
| GOMMS             | Guidance on multi-modal studies   |
| GVRD              | Greater Vancouver Regional District   |
| GWRC              | Greater Wellington Regional Council   |
| HIA               | Health impact assessment  |
| HOV               | High-occupancy vehicle  |
| HSIA              | Health and social impact assessment (Queensland)                              |
| IAP               | Integrated approach to planning   |
| Land Transport NZ | Land Transport New Zealand  |
| LGA               | Local Government Act 2002   |
| LGAAA             | Local Government (Auckland) Amendment Act 2004                                |
| LRSP              | Livable Region Strategic Plan (Vancouver)                                     |
| LTA               | Land Transport Act 1998   |
| LTCCP             | Long-term council community plan  |
| LTMA              | Land Transport Management Act 2003  |
| LTP               | Land transport programme  |
| LUPTAI            | Land Use and Public Transport Accessibility Index                             |
| NLTP              | National Land Transport Programme   |
| NES               | National environmental standard   |
| NPS               | National policy statement   |
| NRS               | National Rail Strategy  |
| NZTS              | New Zealand Transport Strategy  |
| OECD              | Organisation for Economic Cooperation and Development                         |
| RCS               | Regional context statement  |
| RLTC              | Regional land transport committee   |
| RLTS              | Regional land transport strategy  |
| RMA               | Resource Management Act 1991  |
| RPS               | Regional policy statement   |
| SA                | Sustainability appraisal  |
| SEA               | Strategic environmental assessment  |
| SIA               | Social impact assessment (Queensland)   |
| Transit NZ        | Transit New Zealand   |
| TSSD IAP          | Transport Sector Strategic Directions Integrated Approach to Planning project |
| UDS               | Urban Development Strategy (Greater Christchurch)                             |
| WRS               | Wellington Regional Strategy  |

