

Ngauranga to Airport Strategic Study

Draft Problem Framing Report

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prepared for



by



Prepared by:

Tim Selby, Deputy Team Leader
Ian Clarke, Traffic/Transportation Manager
Alistair Aburn, Planning Manager

Approved for Release:

Reviewed by:

Wayne Stewart
Team Leader

Wayne Stewart
Team Leader

Opus International Consultants Ltd
PO Box 12003
Wellington

Ph: (04) 471 7000
Fax: (04) 471 1397

Status: Final
Date: 10 March 2006

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Executive Summary

This Problem Framing Report has been prepared by Opus International Consultants Ltd (Opus) under Transit New Zealand Professional Services Contract No. TNZ 198PN. It is the first of several reports being produced as part of the Ngauranga to Airport Strategic Study. The Study is being undertaken on behalf of three partnering agencies: Transit New Zealand, Greater Wellington Regional Council (GWRC) and Wellington City Council (WCC). It seeks to review and identify options to address transport issues between the Ngauranga interchange to the north of Wellington, and the Airport and Hospital, passing through the central area of Wellington City.

Study Objective

The purpose of the Study is to identify the present and future transport needs of the Ngauranga to Airport/Hospital transport corridor, and propose solutions that best meet those needs in a manner that facilitates and supports the current and future land uses, social, business, recreational and other strategic goals.

The study will take into account the different route and transport mode options that exist within the corridor, and examine the impact that potential solutions will have upon other parts of the transport network. A key aspect of the work is that any combination of the transport options developed needs to fully appreciate the form and function of the corridor in relation to the adjacent land uses that the corridor serves.

Policy Context

There are a range of national, regional and local policies that seek to ensure that an integrated, safe, responsive and sustainable transport system is developed. In order to achieve this, a range of transport modes should be considered. An integral part of this approach is the link between transport and land use.

Existing Conditions

Wellington is the region's largest city with a population of some 180,000. The Central Business District (CBD) accommodates approximately 35% of the region's employment. Whilst a higher proportion of commuters within Wellington City use passenger transport (bus and train) or walk to work than in any other city in New Zealand, car ownership levels are among the highest in the world. Given that there are a number of known bottlenecks in and around the CBD, a recent Residents Satisfaction Survey¹ indicated that almost half of respondents identified congestion as the greatest challenge facing the city. Tied in with these existing transport pressures are a number of urban design themes, including a proposed growth spine through the City, and improved access and a sense of connectedness to the Waterfront from the CBD.

Given the existing conditions, specific issues that will need to be addressed include:

- The capacity of the motorway system on the approach to Wellington CBD from the north, where SH1 and SH2 merge at Ngauranga Gorge;
- The increased number of trips associated with the airport coupled with the need for the majority of the region's population (to the north of the CBD) to pass through the CBD;

¹ Quoted from Wellington City Council Draft Transport Strategy 2004 – taken from Residents Satisfaction Survey 2003. Wellington City Council.

- The capacity of the Mount Victoria tunnels and the Basin Reserve, and the effect that these bottlenecks have on the accessibility of the route between the airport (and adjacent suburbs) and the CBD;
- The capacity of the Terrace Tunnel, particularly the single lane in the southbound direction and the impact that this has on utilising the full capacity of the remainder of the motorway network;
- The heavy volumes of traffic that use the Waterfront route, and the resulting severance or “disconnection” between the waterfront and the CBD;
- The need for commuters to make a mode change at the railway station due to it being located on the northern edge of the CBD, along with the impact of the significant numbers of people who walk to their destination in the CBD from the railway station;
- The need to maintain good accessibility to/from key locations that are essential to the economic and/or social wellbeing of the region; and
- Increased demand for additional high quality and reliable passenger transport services and routes.

Emerging Issues

Increasing travel demand as a result of increasing population and predicted increases in vehicle usage in the Wellington Region, in particular with respect to the Wellington CBD and associated major regional facilities (such as the airport and port), will put pressure on the existing transport network and services, parts of which are already at, or very close to capacity at peak times.

Amongst the key ‘high-level’ challenges facing Wellington City that need to be addressed with respect to those issues identified above are:

- Accommodating an overall increase in transport demand;
- Accommodating an increasing number of commuter trips to the CBD;
- Increasing the level of ‘penetration’ of passenger transport into the CBD to facilitate/encourage a change in transport mode choices;
- Providing relief to existing (and future) ‘choke points’;
- Accommodating an increasing number of trips to/from the port and airport as passenger and freight movements increase;
- Enhanced opportunities to cater for active modes of transport such as walking and cycling; and
- The need to integrate urban form considerations into transport planning.

Strategic Planning Framework

Drawing on the statutory planning instruments and the identified issues, the following vision for the Study has been developed:

To deliver an integrated land transport system that supports the City’s draft transport and urban development strategies (urban growth spine) and provides access to the CBD, airport, hospital and port.

The key principles that underpin the vision statement, and therefore ‘guide’ the development of options and subsequent investment in transport infrastructure, collectively constitute a strategic framework. These principles are (in no particular order):

- Assist economic and regional development.
- Assist safety and personal security.
- Improve access, mobility and reliability.

- Protect and promote public health.
- Ensure environmental sustainability.
- Consider economic efficiency and affordability.

This framework shall be used as a 'template' against which to measure the contribution of any particular transport option or initiative that is to be explored. It is recognised and acknowledged however that the above principles may occasionally conflict with one another when individual transport options are grouped together.

1 Introduction

1.1 Background

This Problem Framing Report has been prepared by Opus International Consultants Ltd (Opus) under Transit New Zealand Professional Services Contract No. TNZ 198PN. It is the first of several reports being produced as part of the Ngauranga to Airport Strategic Study, which aims to review and identify options to address transport issues between the Western and Hutt Corridors to the north of Wellington and the Airport and Hospital to the south and east of the City, through the Wellington Central Business District (CBD) area. Figure 1.1 indicates the study corridor under consideration. The Study is being undertaken on behalf of three partnering agencies: Transit New Zealand, Greater Wellington Regional Council (GWRC) and Wellington City Council (WCC).

The purpose of the Study is to identify the present and future transport needs of the Ngauranga to Airport transport corridor, including the regional hospital, and propose solutions that best meet those needs in a manner that facilitates and supports the current and future land uses, social, business, recreational and other strategic goals. In order to achieve this outcome, the study needs to take into account the different route and transport mode options that exist within the corridor, and examine the impact that potential solutions will have upon other parts of the transport network. Accordingly, an overriding principle governing the work is that all modes of transport be considered, taking into account the need to obtain a network balance in the supply and demand of the different potential transport options and solutions. A critical aspect of the work is that any combination of the transport options developed needs to fully appreciate the form and function of the corridor in relation to the adjacent land uses that the corridor serves.

This Problem Framing Report aims to identify the key issues, constraints, opportunities and risks related to the Corridor. The report has focussed on understanding the existing transport and land use issues from both a policy and operational context, and has sought to develop a strategic framework that can be used to review any potential solutions that are identified through the consultation stages of the study. As such, this report can be used to help inform the consultation process.

Following this Introduction, Section 2 of the report examines the relevant planning instruments and strategies that have an impact on the corridor. These national, regional and local policies and documents form the long term basis for managing the relationship and interface between land use, transportation and urban form.

Section 3 of the report sets out the existing conditions in Wellington with respect to transport pressures and urban form, whilst Section 4 identifies the emerging issues over the medium to long term period for the corridor that the Study will need to address.

The Strategic Framework for the study, based on the issues identified in the previous sections, is contained in Section 5.

Section 6 sets out the conclusions of this draft Problem Framing Report. The report will be updated following the completion of the Stage 1 consultation exercise.

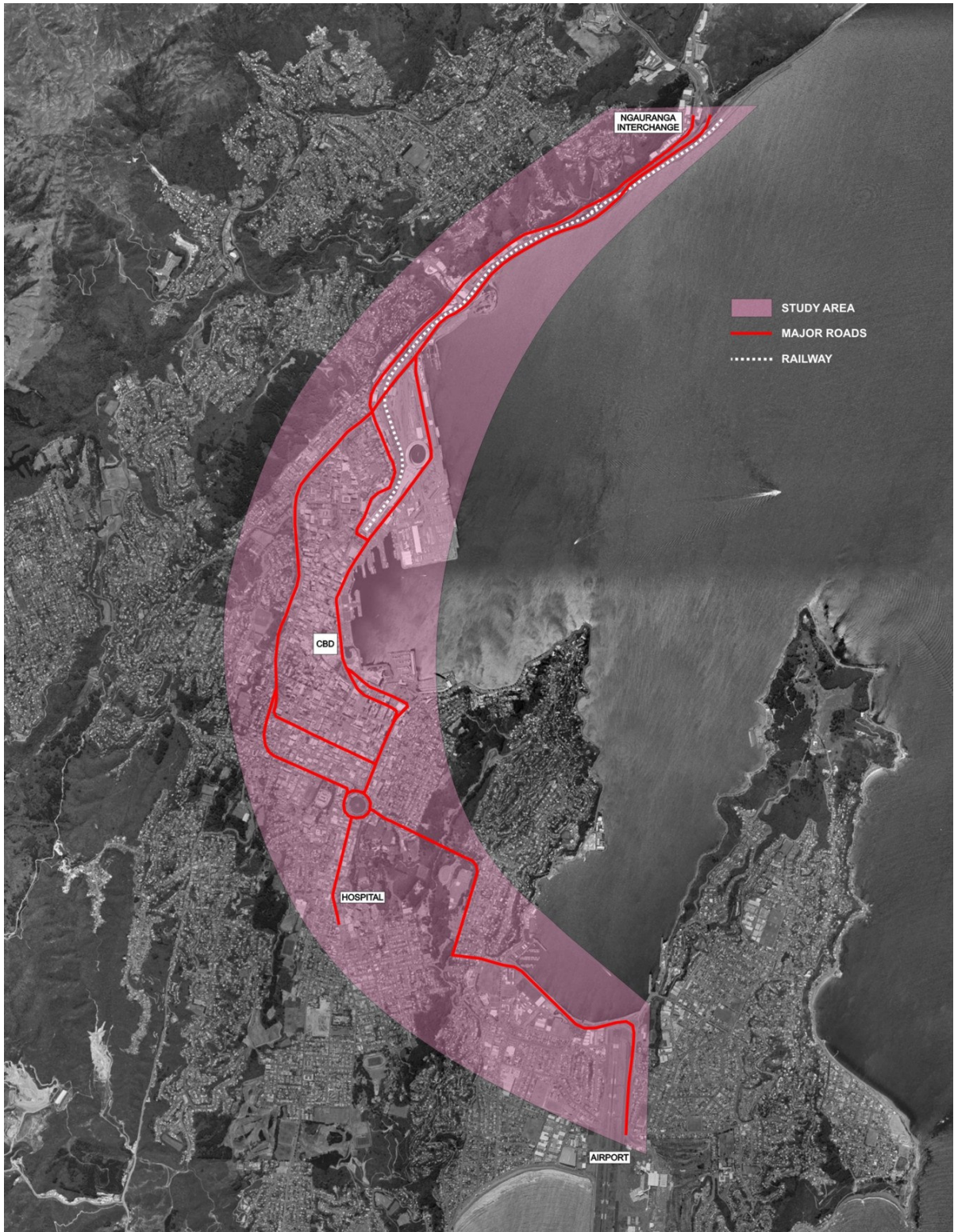


Figure 1.1: Ngauranga to Airport Corridor

2 Policy Context

2.1 Overview

The New Zealand Transport Strategy 2002 (NZTS), the Land Transport Management Act 2003 (LTMA) and the Land Transport Act 1998 are three key guiding national policy documents for the development of 'transport systems' in New Zealand. Accordingly, transport issues for the Ngauranga to Airport Corridor must be set within the context of these documents as they help shape both the regional and local policies in Wellington.

2.1.1 New Zealand Transport Strategy

The NZTS is a high-level policy framework that aims to shape the future development of the transport sector and seeks to integrate the planning, management and operation of the transport sector. An element of this is to give greater consideration to the long-term impacts of transportation on communities, health and the environment. The NZTS sets out a vision for transport that:

By 2010 New Zealand will have an affordable, integrated, safe, responsive and sustainable transport system.

Specifically, the NZTS provides a number of objectives for transport in order to help realise the above vision. These objectives are:

- Assist economic development;
- Assist safety and personal security;
- Improve access and mobility;
- Protect and promote public health; and
- Ensure environmental sustainability.

2.1.2 Land Transport Management Act

The LTMA establishes a policy framework for land transport programmes that incorporates sustainability principles and allows for public input into the decision making process. Specifically the Act's purpose is to:

Contribute to the aim of achieving an integrated, safe, responsive and sustainable land transport system.

An outcome of the LTMA is that transportation proposals need to be considered in the context of their relationship with all other proposals rather than in isolation. The emphasis of transportation planning is no longer on "predict and provide" (whereby we predict a problem and then provide for that demand), but on:

- Delivering strategic outcomes (it is necessary to consider whether a project is consistent with the communities outcomes as set out in the Regional Land Transport Strategy); and
- Managing the predicted demand. Such travel demand management measures may include changing peoples' travel needs, for example by locating land uses in such a way that reduces the need to drive, through to a range of measures that affect people's perception of travelling by modes other than the private car.

2.1.3 Land Transport Act 1998

Amongst other things, the Land Transport Act 1998 coupled with the LTMA sets out the requirements for the preparation of regional land transport strategies and the need for organisations such as Transit NZ and Land Transport NZ to take the current regional land transport strategy into account. Specifically, a regional land transport strategy must contribute to the aim set out in the LTMA and take into account the five objectives set down in the NZTS, land transport funding likely to be available within the region, the views of affected communities and other stakeholders and interested parties and should not be inconsistent the regional policy statement.

2.2 Regional Policy

Two key regional policy documents relevant to this Study are the Regional Policy Statement for the Wellington Region, and the Wellington Regional Land Transport Strategy (1999-2004). In addition to the above two regional (statutory) instruments, Greater Wellington Regional Council and the region's eight constituent local authorities are also presently engaged in preparing a Wellington Regional (Growth) Strategy.

2.2.1 Regional Policy Statement

The Regional Policy Statement (RPS) makes a number of pertinent observations relating to the Region's urban areas being characterised by low densities and extended form of development; and the high degree of dependence on non-renewable energy sources, particularly by the transport sector.

Key themes (objectives and policies) that are to be pursued include the promotion and application of energy efficiency and a moderation in energy demand through, for example, the design and operation of transportation systems; and integrated development of land use and activities and transport systems (urban form).

Referring to the Region's 'transportation network', the RPS comments that:

Transport is not an end in itself but a means of undertaking social, economic, cultural, recreational and other activities. The key question relates to the optimum way of meeting regional (and national) needs for the movement of people and goods. The optimum solution is one that provides, now and in the future, good accessibility to many different places for as many people as possible, whilst minimising the risk of damage to the environment and using finite fuel sources wisely.

The RPS 'promotes' several objectives and policies that impact on this particular Study. In particular:

Objective 1 (Built Environment and Transportation)

Urban areas, the built environment and transportation systems are developed so that they, and their associated activities, use resources efficiently and demand for the use of finite resources is moderated.

The most directly relevant policies are Policies 3 and 4:

Policy 3

To promote the development of transportation systems in the Region that:

- *Meet community needs for accessibility;*
- *Use modes of transport that are powered by renewable energy fuels;*
- *Help moderate demand for energy and use energy efficiently;*
- *Discourage dispersed development; and*
- *Avoid or reduce effects on human health, public amenity and water, soil, air and ecosystems.*

Policy 4

To provide for the accessibility needs of the region by protecting existing transport corridors.

The RPS seeks to safeguard transport corridors and facilitate efficient provision of accessibility for the regional community. A key method of implementation is the Regional Land Transport Strategy.

2.2.2 Regional Land Transport Strategy 1999-2004 (RLTS)

The current RLTS was adopted in 1999 and is currently under review. An updated version is due in 2006 that will incorporate a number of existing Corridor Plans and Strategies that have been developed since 1999.

The current vision for transport in the Wellington region as expressed in the 1999-2004 RLTS is:

A balanced and sustainable land transport system that meets the needs of the regional community.

In turn, five objectives are stated:

- Accessibility and economic development;
- Economic efficiency;
- Affordability;
- Safety; and
- Sustainability.

The RLTS translates the Strategy's objectives, themes and policies into specific action programmes or "packages" for six major transport corridors, the Wellington CBD and other strategic routes. Two of the identified major transport corridors are Ngauranga to Wellington CBD, Wellington South to Airport, plus the Wellington CBD itself. The RLTS identifies a number of projects for each of the two corridors, some of which have been, or are presently being, implemented/constructed.

It is also noted that the RLTS Strategic Options – Consultation Document (August 2005) sets out a draft Vision, objectives and outcomes that vary slightly from the 1999-2004 RLTS and includes a sixth objective to 'consider economic efficiency and affordability' for new transport packages in addition to those set out in the NZTS.. The draft vision of the new RLTS is:

To deliver an integrated land transport system that supports the region's prosperity in a way that is economically, environmentally and socially sustainable.

The draft objectives are:

- Assist economic and regional development: aid the development of national and regional economic prosperity; and foster the housing, employment, education, health and recreation aspirations of the regional community;
- Assist safety and personal security: achieving a safer community through a land transport system that improves or achieves regional road casualty targets and contributes to a sense of individual and community security when using the transport system;
- Improve access, mobility and reliability: transport should provide for the access and mobility needs of our regional community. Improving access enables social participation, inclusion and independence and improving mobility ensures the availability of realistic transport choices for the individual or community, including affordability and equity of cost considerations;
- Protect and promote public health: provide a transport system that allows for social participation and interaction, and healthy communities via reduced transport impact on natural resources, and increased up take of active mode use, particularly for short trips;
- Ensure environmental sustainability: avoid, remedy or mitigate the negative impacts of transport on the environment, including encouragement of energy efficiency, reduced CO₂ emissions, and high quality project and new development design; and
- Consider economic efficiency and affordability: economic efficiency and funding availability for new transport packages.

The Ngauranga to Airport Corridor Management Plan will need to be consistent with the identified regional land transport objectives and outcomes.

2.2.3 Wellington Regional Strategy

The Wellington Regional Strategy (WRS): Discussion Document (2005) identifies a number of issues and opportunities that should be taken into account as part of the Study. These include:

- *Maintaining the current good balance between private and passenger transport, walking and cycling;*
- *Capacity of access to the seaport and airport; and*
- *Rising traffic congestion on key road routes.*

The WRS Document indicates that whilst there is a high level of usage of passenger transport, there is a need to continue investment in this area, ensure that urban design decisions are “*public transport friendly*” and investments made into passenger transport are maximised. In addition, the Strategy notes that the ability of the port and airport to adequately address the travel needs of both business-people and tourists, as well as import and export volumes, is critical to the performance of the whole region. In particular, it is noted that the economy is affected by traffic congestion which impacts on freight and commuter reliability, along with perceptions of the quality of life in the region.

Four “Focus Areas” are identified as a base from which the WRS will be developed. These include Focus Area 2 “Quality Regional Form and Systems” which incorporates issues such the design of towns and cities, high levels of accessibility and the need for a strong sense of community and personal safety.

An overall objective is to “Further Strengthen Current Good Regional Form”, with the objective being supported by a number of ‘Action Areas’, including the reinforcement and improvement of compact corridor form, maturing sub-regional centres, reinforcing a strong regional CBD, the design of major roads to support the centres, an improvement in the range and location of housing stock, and ensuring land and infrastructure is used efficiently.

It is expected that a draft of the Wellington Regional Strategy will be available in July 2006.

2.3 District Policy

A key document in the management of land use and development within Wellington City is WCC’s District Plan. WCC has also produced a number of strategies, several of which are of direct relevance to the Ngauranga to Airport Strategic Study. It should be noted that seven draft strategies covering a range of Council’s activities² are currently being developed as working drafts to enable planning for the development of a 2006-2016 Long Term Council Community Plan (LTCCP), which will include a new set of priorities. The strategies and the full LTCCP will be publicly consulted on in early 2006, with the plan taking effect from 1 July 2006.

2.3.1 Wellington City District Plan

The Wellington City District Plan is the repository of Resource Management Act (RMA) policy dealing with the promotion of the sustainable management of the City’s natural and physical resources, including its transport infrastructure. The Plan became operative in July 2000 and among the city-wide ‘qualities and values’ to be promoted is that of an ‘Accessible City’. The Plan states that:

Accessibility is defined in terms of people, including people with mobility restrictions, and people’s needs. An accessible city is one in which people can achieve access to destinations which enable them to meet their needs. This need not mean travelling further or faster... In an accessible city, transport and land-use planning are integrated to enhance accessibility for all people while minimising the adverse effects of transport on quality of life and the environment.

One of the objectives of the Plan is to improve standards of accessibility, and the efficient, convenient and safe movement of people and goods within Wellington City. In turn, specific issues to be addressed include managing urban development on the edge of the city to encourage better utilisation of existing infrastructure and transport systems to save energy as well as the need to provide areas to facilitate economic growth and development.

Amongst the more significant provisions of the Plan that may ‘influence’ or impact on development within the Ngauranga to Airport Corridor are:

- The over-arching policy of consolidation and infill within the existing built-up (zoned) urban area³;

² The seven strategies cover urban development, transport, economic development, environmental, cultural wellbeing, social and recreational and governance.

³ The one area of significant ‘greenfields’ development is the ‘northern area’ both sides of SH1 from Johnsonville to Porirua. Wellington City Council has prepared a strategic growth management framework for this area. Significant growth in this area could result in further pressure on passenger transport and roading systems as numbers of commuters increase.

- The promotion of mixed-use activities (commercial, industrial and residential) in the identified “Suburban Centres” including Johnsonville at the north end of the corridor, Newtown, Kilbirnie and Rongotai; and
- The containment of the CBD which aids accessibility and accentuates the ‘urban feel’ of Wellington.

One of the guiding principles for CBD development relates to traffic either entering or bypassing the central area. The Plan notes that traffic arriving in the CBD should be there for a reason, i.e. the CBD is destination in its own right rather than being an obstacle to through traffic. In particular, *“this means that efficient bypasses should be available for travellers wishing to skirt the Central Area. Such bypasses, if sensitively planned and built, would add containment and improve access.”*

The over-arching objective for transport in the Wellington CBD as set out in the Plan is:

To enable efficient, convenient and safe access for people and goods within the Central Area.

Relevant detailed transport policies include:

- Improved access for all people, particularly people travelling by passenger transport, cycle or foot, and for people with mobility restrictions;
- Permitting appropriate extensions to the existing road network;
- Limiting the supply of commuter car parking. It should be noted that in order to improve the environment and to avoid, remedy or mitigate congestion in the CBD, WCC’s Transportation Strategy aims to control the growth in commuter traffic and promotes the use of modes of transport other than private motor vehicle. Growth of private vehicle commuter traffic can be controlled by limiting the number of public and private non-residential car parking spaces;
- Managing the road system in accordance with a defined road hierarchy; and
- Protecting and enhancing access to public spaces in the Central Area.

2.3.2 Transport Strategy

While topography places significant constraints on the roading network in Wellington, it is nevertheless a major factor determining the city’s urban form, as is the location of the city’s transport infrastructure. This critical relationship is highlighted in both the 2004 Transport Strategy and the draft Transport Strategy (2006), which states:

Transport exists to support wider city objectives. Paramount among these objectives is how the urban form of the city is to develop over the next 20-50 years, as articulated in the Council’s Urban Development Strategy ... Transport will be used as a tool to influence other outcomes.

Based on support for wider city objectives, the draft Transport Strategy is built around five ‘tasks’:

- The development of the state highways and main arterial roads as the primary means of moving large volumes of traffic and freight to and through the city;
- The development of passenger transport systems as the main means for the movement of people along the urban development strategy growth spine;
- Ensuring continued access for CBD commuters;

- The development of the port and airport as major contributors to the city and regional economy; and
- The development of measures to improve the energy efficiency of the city.

Proposed key outcomes include:

- More liveable – *Wellington will be easy to get around, pedestrian friendly and offer quality transport choices;*
- Enhanced connectivity – *Wellington will have a highly interconnected public transport, road and street system that supports its urban development and social strategies;*
- More sustainable – *Wellington will minimise the environmental effects of transport and support the environmental strategy;*
- Safer – *Wellington will seek to improve the safety and security of its citizens as they move around the city and region;*
- Healthier – *Wellington's transport system will contribute to healthy communities and social interaction. This includes the promotion of walking and cycling as credible modes of transport along with travel demand management measures; and*
- More prosperous – *a coherent and efficient transport system that aids economic development. This means ensuring transport solutions meet identified needs and ensuring investment is directed to area of greatest benefit.*

Four draft priorities are identified for the 3-year period 2006-2009 as follows:

- Improve the performance of the city's transport system through travel demand management;
- Advocate for and facilitate investment on the city's State Highway network;
- Improve the performance of the city's passenger transport system through bus priority measures; and
- Resolve the conflict between access to the port, and access to the Central Area and beyond.

By promoting alternatives to roads, managing travel demand and improving the efficiency of the existing transport network, the environmental affects of transport will be reduced. Accordingly, 'environmental sustainability' in transport will mean:

- Reducing the need for travel through a comprehensive TDM programme;
- Improving traffic flow by removing bottlenecks;
- Increasing the use of low energy transport options;
- More efficient urban forms; and
- Continuing the modal shift of commuter traffic to passenger transport, walking and cycling.

2.3.3 Draft Urban Development Strategy

The draft Urban Development Strategy (2006) seeks to update and enhance the 1994 Urban Design Strategy. The draft records the "challenge" confronting Wellington as being:

"To ensure that future growth and change reinforces the physical and spatial characteristics that make Wellington so distinctive; focuses on high quality urban design and development; and contributes to the stimulation and intense urban experience Wellington offers."

The identified 'solution' is a growth management strategy that identifies a long-term direction (50 year growth concept) based around directing most new growth to areas which are already well connected, offer high levels of amenity, and have some or all of the supporting infrastructure. Such conditions exist around the central city, some suburban centres, key transport routes, and in specific parts of the City's northern suburbs. The strategy is built around a "growth spine" concept with two key outcomes being a more compact, and better connected city. Of interest to the Study is the intensification of the Central Area (including the 'gateway area' Railway Yards and CentrePort), Kilbirnie Town Centre and Adelaide Road between Basin Reserve and John Street. Details of known potential development opportunities within the Corridor are provided in Appendix A.

In order to realise the strategy "*targeted investment in supporting road and public transport infrastructure*" will be needed. A key intention is to coordinate transport planning to support the growth spine concept, including:

- Increasing capacity on the corridor from the eastern suburbs to the CBD;
- Increasing capacity and services on the passenger transport corridor from Kilbirnie to the CBD; and
- Improving passenger transport services from the northern suburbs to the CBD and integration with onward services to the airport.

2.3.4 Other Strategies

Of particular interest to the 'big picture' from the remaining local strategies that have been prepared include the draft Economic Development Strategy and the 2003 Retail Strategy. A full list of planning documents reviewed as part of this Problem Framing Report is contained in Appendix B.

Draft Economic Development Strategy (2006)

A strategy to achieve long-term and sustainable growth in regional GDP and employment, consistent with the Wellington Regional Strategy.

Retail Strategy (2003)

The strategy confirms the Wellington CBD as the city's premier comparison goods shopping centre and comments that:

*Access and easy parking in particular is a critical factor for retailing. The free weekend Council parking offer has been successful to the point where on-street parks are congested and Council off-street parking buildings are at capacity.*⁴

The strategy proposes exploration of changes to passenger transport and the parking policy to improve access and increase turnover and supply of parking spaces in a simple and consistent package.

⁴ Note: since the Retail Strategy was prepared the Council has sold its off-street parking building interests.

3 Existing Conditions

3.1 Background – Wellington City: Key Facts

A key feature of Wellington transport system is the way it is influenced/constrained by topography and the city's linear form. With the CBD nestled between the harbour and the hills, there is intense 'competition' for space between land use and activities and transport infrastructure. While topography places significant constraints on the roading network, it is nevertheless a major factor determining the city's urban form, as is the location of the city's transport infrastructure. Accordingly, Wellington is a fairly compact city, with a CBD which accommodates approximately 35% of the region's employment.

Accessibility within the region is significantly constrained by the geography, including the topography, and the proximity to the sea.

It is relevant to note the following key facts relating to Wellington City:

- It is Wellington region's largest city (some 180,000 population);
- It contains the Wellington region's largest employment centre (the CBD) with some 74,000 jobs.⁵ *Wellington as a region is very much dependent on the CBD* ⁶;
- It is the termination of State Highway 1 (at Wellington International Airport);
- It is the termination of the Wellington region's commuter rail network (at Wellington Railway Station) ⁷;
- It contains a number of major national and regional facilities and attractions: Parliament and the Government Centre, CentrePort and Inter-Island Ferry Terminal(s), Wellington International Airport, Wellington Hospital, National Museum of New Zealand (Te Papa), Wellington Regional Stadium, Wellington Regional Aquatic Centre, Wellington Zoo, Wellington Waterfront, two universities (Victoria and Massey) - which are located either in or adjacent to the CBD or in the south and eastern suburbs;
- It is a major destination for tourists (both international and national);
- A higher proportion of commuters within Wellington City use passenger transport or walk to work than in any other city in New Zealand;
- Vehicle ownership in Wellington City is approximately 1.4 vehicles per household (2001). Whilst this is lower than the New Zealand average, it is still one of the highest in the world;
- 26% of trips to work between Wellington Region and Wellington City are made by train. 4% are by bus (2001);
- Between the suburbs and the CBD, 20% of work trips are made by bus whilst 19% are on foot (2001); and
- The 2003 Residents Satisfaction Survey indicated that 46% of respondents identified congestion as the greatest challenge facing the city.

⁵ CBD employment is expected to grow at a faster rate than overall regional employment, hence the need to cater for an increased number of peak period commuting trips to/from the CBD (refer "CBD Corridor Study: Pressures and Issues", GWRC).

⁶ Wellington Regional Strategy: Selection of Focus Areas. Report prepared by Urbanista Limited, May 2005

⁷ Passenger transport trips to the CBD (12,900 during AM peak in 2001) comprise half of all passenger transport trips in the region.

Given the 'role' of Wellington City (based on its employment function and the concentration of many national and regional attractions and facilities), the majority of intra-region transport journeys (by passenger transport and private vehicle) enter the city via the Western (Kapiti to Ngauranga) or Hutt (Upper Hutt to Ngauranga) 'transport corridors'. Consequently, the Ngauranga to Airport Strategic Study is of regional significance.

3.2 Transport Pressures

The draft Transport Strategy (2006) provides summary comment on the present transport issues as follows:

On many indicators, Wellington's transport system is performing well: our traffic congestion levels are lower than many comparable cities and our passenger transport ridership is higher. We are a compact city with short travel distances and a good level of connectedness...Nevertheless, other aspects of the transport system are less positive. Imbalances exist in our strategic roading network, resulting in choke points from Ngauranga to the CBD in the north and between the airport and the CBD in the south.... Road space in our CBD is at a premium, and choices need to be made about competition for that space amongst private cars, buses, cyclists and pedestrian.

As noted above, there are a number of well known bottlenecks in and around the CBD, but comparative studies indicate that traffic congestion is not as bad as that experienced in many other Australasian cities.

The CBD is well served by passenger transport, with rail providing predominantly for the longer distance trips and bus providing for shorter trips within Wellington City. The relatively high percentage of work trips by passenger transport, at 16%, reflects the relatively high density of development in the CBD and the percentage of the workforce in the CBD. This level of passenger transport use, combined with the location of the rail station and the fact that 13.5% of workers walk to work, mean that Wellington can be described as "a walking city".

Some of the issues facing the study area are:

- The capacity of the motorway system on the approach to Wellington CBD from the north, where SH1 and SH2 merge at Ngauranga Gorge;
- The increased number of trips associated with the airport coupled with the need for the majority of the region's population (to the north of the CBD) to pass through the CBD;
- The capacity of the Mount Victoria tunnel and the Basin Reserve, and the effect that these bottlenecks have on the accessibility of the route between the airport (and adjacent suburbs) and the CBD;
- The capacity of the Terrace Tunnel, particularly the single lane in the southbound direction;
- The heavy volumes of traffic that use the Waterfront route (partly due to the above capacity issues at the Terrace Tunnel), and the resulting severance or "disconnection" between the waterfront and the CBD;
- The location of the rail station on the northern edge of the CBD, and the resulting need for significant numbers of people to walk or change their mode of transport to the bus to complete journeys to their destination in the CBD; and
- The need to maintain good accessibility to/from key locations that are essential to the economic and/or social wellbeing of the region.

3.3 Urban Form and Design

Existing urban design issues that are relevant to the Ngauranga to Airport Corridor overlap with many of the broader planning issues addressed in the various city and regional strategies and other reports. 'High level' urban design themes/issues include:

3.3.1 Growth spine

This involves the development of a growth spine along major transport corridors stretching from Johnsonville through the CBD and Adelaide Road to Kilbirnie. Key considerations are:

- Accessible passenger transport / rapid transit routes along the spine
- Integrated cycling and pedestrian routes; and
- High quality environment in the CBD and town centres, although there are some concerns regarding the integration of heritage buildings, particularly in the Newtown area.

3.3.2 CBD and City to Waterfront Connections

Some 49,000 vehicles a day, and up to 5,000 vehicles an hour currently pass along the Wellington Waterfront route. The six lanes of traffic coupled with limited crossing opportunities for pedestrians give rise to a line of severance between the waterfront area and the commercial core of the city. An assessment⁸ undertaken to review the impact of removing traffic lanes along the waterfront notes that:

- *The majority of trips on the waterfront route, especially in the peak periods, are longer distance movements without an origin and destination in the CBD area; and*
- *For the removal of a traffic lane on the waterfront route to be achieved without detrimental impacts upon traffic considerations, additional capacity provision would be required elsewhere. Logically, this would be provided on the urban motorway route...*

Furthermore, a 2004 study⁹ considering the development of strong links between the city and the waterfront identified the main challenge in Wellington as the need to “ ... decide upon the level of through-traffic in the city ...”.

⁸ Wellington Waterfront Lane Removal . Tim Kelly Transportation Planning Limited. July 2003.

⁹ City to Waterfront. Gehl Report 2004.

4 Emerging Issues

4.1 Demographics

The overall increase in population in the region is forecast to be approximately 18% between 2001 and 2026. This is quite a modest figure of less than 1% per year. The percentage of growth within Wellington City over the same period however is predicted to be about 25%, while growth in the population of the CBD is predicted to be over 60%.⁹

The employment within the region is expected to rise by 13% between 2001 and 2026. The percentage change in the CBD is predicted to be 18%, which indicates that the importance of the CBD is predicted to increase over time, rather than decline.¹⁰

The continued growth of the CBD in terms of population and employment indicates the need to ensure that safe, direct, coherent and attractive infrastructure is provided to maintain and encourage the existing levels of walking and cycling within the central area.

Vehicle ownership and people's desire or need to travel is currently expected to increase. As a Region as a whole, by 2016 it is expected that there will be 26,000 (6%) more people than in 2001, with an additional 44,000 (20%) more cars making 37,000 (14%) more peak time trips.¹¹

It is understood that existing work undertaken as part of the Wellington Transport Strategic Model (WTSM) has assumed medium levels of demographic growth. It is expected that this level of growth will be assessed as part of this Study.

4.2 Transport Concerns

As a result of the above factors, it is expected that the number of trips to the CBD in the morning peak period will increase by 23% between 2001 and 2026. Previous modelling work has indicated that a fairly modest increase in vehicle kilometres travelled in the peak periods will lead to a significant increase in overall travel times. This reflects a situation where several key parts of the network are already operating over, at, or very close to capacity.

It is apparent that there is pressure in New Zealand on funds for transport improvements. As a result, it is essential that, in addition to the five objectives set out in the NZTS, the study needs to focus on outcomes that are financially achievable. Accordingly, a range of issues has emerged (or exist) that will need to be addressed as part of any future investment in transport infrastructure:

- Increasing road congestion (particularly during peak hours, which are extending in length)¹²;
- Increasing competition for road capacity – eg. buses v private cars;
- Increasing 'stress' on through-city routes (urban motorway and waterfront route)¹³;
- Resolving the role(s) of parking in the CBD (short-term v/s long-term); and

¹⁰ CBD Corridor Study. Pressures and Issues. Greater Wellington Regional Council

¹¹ Travel Demand Management Strategy. 2005. Greater Wellington Regional Council

¹² During peak periods the road network is close to or at capacity. The May 2004 Transport Strategy notes that "the possibilities for significant increases in capacity are limited by topography and the existing layout of the city"

¹³ The Inner City Bypass, presently under construction and due for completion in late 2007 will reduce traffic pressure on the CBD and improve access to the eastern and southern suburbs.

It should be noted that the ageing (passenger transport) rolling stock, and the need to increase investment in the rail system is currently being addressed through Greater Wellington's Long Term Council Community Plan 2003-2013 (LTCCP).

High and increasing levels of activity in the CBD will increase 'stress' levels on inner city transport. Thus, there is a need to extend and improve passenger transport into and through the CBD. There is a need to improve access to the port (road and rail), airport and hospital (passenger and private transport). Sea freight volumes have increased consistently from 1997 through to 2003 whilst freight and passenger numbers in particular are expected to increase significantly at the airport.

It is also necessary to ensure that investment in transport networks support any agreed growth strategy given the need for sustainability.

4.3 Urban Form/Urban Design Issues

In overall terms, urban form and design considerations should be 'infused' throughout the Ngauranga to Airport Strategic Study. In particular however, the importance of the link between transport and urban form needs to be understood and appreciated at a number of specific locations and routes through the Corridor. These concepts and general themes include:

4.3.1 Sense of arrival/gateway experience

The legibility/visual treatment of the key entry points and routes, for instance at the bottom of Ngauranga Gorge, Aotea off-ramp, and other secondary entry points, is important in order to create a sense of arrival. Access to the Ferry Terminal and the visual quality of the route to and from the Terminal, along with the future development of the City gateway area and its integration to the CBD with regard to physical form, connections and activity patterns, are all aspects that need consideration.

4.3.2 Sense of place/character/connectivity

Options that are developed to address identified transport issues present an opportunity to enhance the city's character and sense of place. In particular, routes and areas that may be considered include:

CBD and City to Waterfront Connections

The creation of an accessible CBD with a well connected waterfront is a central objective with the challenge of deciding on the level of through traffic in the CBD a major issue. Key considerations include:

- A strong / clear street hierarchy;
- The support of a walkable central area with an improved pedestrian network and strong cross-links to the waterfront, enhanced by new public spaces;
- Recognition and enhancement of the Golden Mile as the main retail area and a key pedestrian route, supported by a number of other 'activity' areas;
- The treatment of the waterfront route along the Quays and Kent/Cambridge Terraces as city boulevards supporting pedestrian movement;
- Enhanced pedestrian linkages and access to Harbour Quays Business Park;

- Consideration of options for rapid passenger transport linking the Railway Station to Courtenay Place and the airport;
- The further development of a cycle network linked to regional cycling routes; and
- Enhanced links to the Parliamentary Precinct.

Airport Access Routes

The opportunity exists to enhance the different character and experience along the alternative routes (eg. scenic route around Evans Bay v/s urban experience through Mt Victoria Tunnel) including the potential re-claiming of the foreshore along Cobham Drive as part of any possible reconfiguration of the route in this section of the corridor.

4.3.3 Accessibility, image and legibility

An opportunity exists to improve access and legibility along the different routes through the Corridor in both traffic and visual terms.

4.3.4 Passenger transport

Well integrated passenger transport routes to and from the Airport and Hospital, and along the growth spine with visual treatments in respect to existing local character.

4.4 Some 'Challenges'

Among key challenges facing Wellington City which need to be addressed through the Ngauranga to Airport Strategic Study are:

- Accommodating an overall increase in transport demand;
- Accommodating an increasing number of commuter trips to the CBD;
- Increasing the level of 'penetration' of passenger transport into the CBD to facilitate/encourage a change in transport mode choices;
- Providing relief to existing (and future) 'choke points' (see below); and
- Accommodating an increasing number of trips to/from the port and airport as passenger and freight movements increase.

Extensive opportunities exist to achieve greater efficiencies of the existing transport infrastructure through improved travel management and the active promotion and prioritisation of alternative modes of transport over the private motor vehicle. Whilst road pricing as a way to change travel behaviour is outside the scope of this Study, travel demand management along with the role of car parking do need to be addressed in light of the above changes in travel demands.

Given the above, the main future problems for the Corridor are predicted to relate to the following:

4.4.1 Roads

The following are the main existing and predicted bottlenecks:

- The section of motorway between Ngauranga and Aotea Quay;
- The Terrace Tunnel;
- The Basin Reserve;

- The Mount Victoria Tunnel and the link between the Tunnel and Evans Bay; and
- Waterfront Route.

4.4.2 Passenger Transport

The main pressures on passenger transport are predicted to be:

- Increased demand for additional passenger transport services/routes;
- Increased bus delays due to road congestion;
- Inadequate penetration of rail into the CBD;
- Increasing demand for passenger transport options to and from the airport; and
- Competing demand for space for public transport measures.

4.4.3 Active Modes

Given an increase in the number of walking and cycling trips within the CBD as well as along routes through the Corridor, the main issues for active modes are predicted to be:

- Delays due to road traffic conditions; and
- Concerns related to safety and security.

4.4.4 Urban Design and Form

The main concerns for urban design and form are predicted to be:

- The need for enhanced City to Waterfront connections;
- Ensuring the Corridor doesn't become a barrier to 'cross-route' travel;
- The provision of suitable transport facilities along the transport corridor as part of the growth spine concept;
- Creating a sense of arrival through the provision of appropriate Gateway treatments;
- Ensuring a walkable central area.

5 Strategic Planning Framework

5.1 Vision Statement

Drawing on the statutory planning instruments, and the outcomes envisaged by the various strategy documents, it is possible to construct an over-arching 'strategic framework' for the Study. This framework will be used as a 'template' against which to measure the contribution of any particular transport option, initiative or package that is to be explored.

The framework is underpinned by a vision statement that focuses on achieving an integrated transport strategy that supports the urban development/growth management strategy adopted by Wellington City Council (i.e. the growth spine concept), thus integrating land use, transport and environment. The Vision Statement for this Study is:

To deliver an integrated land transport system that supports the City's draft transport and urban development strategies (urban growth spine), and provides access to the CBD, airport, hospital and port.

5.2 Strategic Framework

The key principles that should underpin the vision statement and therefore 'guide' the development of options and subsequent investment in transport infrastructure, collectively constitute a strategic framework. The principles are (in no particular order):

- *Assist economic and regional development:* aid the development of national and regional economic prosperity; and foster the housing, employment, education, health and recreational aspirations of the regional community. Investment in transport infrastructure should facilitate consolidated urban growth and improved land use patterns which will encourage economic development and improved transport efficiencies¹⁴;
- *Assist safety and personal security:* achieving a safer community through a land transport system that improves or achieves regional road casualty targets and contributes to a sense of individual and community security when using the transport system. Investment in transport infrastructure should contribute to an overall safer environment¹⁵;
- *Improve access, mobility and reliability:* transport should provide for the access and mobility needs of our regional community. Improving access enables social participation, inclusion and independence and improving mobility ensures the availability of realistic transport choices for the individual or community, including affordability and equity of cost considerations. Investment in transport infrastructure should provide a highly interconnected passenger transport, road and street system that supports the complex land use activities found in the city¹⁶;

¹⁴ Possible application: align new investment in public passenger transport with growth corridor/spine concept.

¹⁵ Possible application: addressing the safety needs of pedestrians and cyclists in the City.

¹⁶ Possible application: enhanced public transport between Johnsonville (and northern growth area) and CBD; enhanced access from CBD to the waterfront; increased public transport options/routes along growth corridor/spine (Johnsonville-CBD-Adelaide Road-Kilbirnie).

- *Protect and promote public health:* provide a transport system that allows for social participation and interaction, and healthy communities via reduced transport impact on natural resources, and increased uptake of active mode use, particularly for short trips.¹⁷
- *Ensure environmental sustainability:* avoid, remedy or mitigate the negative impacts of transport on the environment, including encouragement of energy efficiency, reduced CO₂ emissions, and high quality project and new development design. Land transport systems should operate in a manner that enables resources to be used in a sustainable, 'energy efficient' manner in the long term (30-50 year planning horizon)¹⁸. Investment in transport infrastructure should support urban design outcomes, enhance urban amenity and environmental conditions and reduced numbers of private vehicle trips¹⁹; and
- *Consider economic efficiency and affordability:* economic efficiency and funding availability for new transport packages. This includes high quality investments that contribute to economic development whilst constraints and ability to pay must be recognised.²⁰

Application of these principles will assist in identifying transport investment initiatives that will lead to a more efficient and sustainable transport system. Accordingly, these principles will be used to guide the Study when considering the individual options as well as 'packages' of options that are identified following the various stages of consultation.

Public and stakeholder consultation will assist with the identification of specific outcomes from the Study. However, in terms of how the outcomes are achieved or the role to be played by transport infrastructure, the study needs to establish the extent to which the region should aim to "provide" for the predicted problems, and the extent it should seek to change the demands, either by land use / planning responses, by diverting the demands to other modes, or by facilitating a different pattern of trips.

If outcomes are adverse or less than optimal, then it follows that the initiative is unlikely to be consistent with the strategic framework. It is recognised that the above principles may occasionally conflict with one another when individual transport options are grouped together. For example, any increase in capacity on the Ngauranga to Aotea section of the motorway may require additional increases in 'downstream' capacity at the Terrace Tunnel. This in turn could facilitate the "depowering" of the Waterfront route and allow a greater emphasis to be placed on bus priorities and walking and cycling within the CBD. However, on the other hand, it could be considered that increasing the capacity of the motorway is inconsistent with the objective of containing the growth of commuter traffic and therefore contrary to TDM policies for the region. If this is the case, then a conscious decision could be made not to provide extra road capacity which places greater pressure on the Terrace Tunnel, particularly if major infrastructure work at the Tunnel is considered to be unaffordable in the timeframe under consideration.

¹⁷ Possible application: provision of high quality walking and cycling facilities to encourage active modes of transport.

¹⁸ Possible application: ensure that new investment does not undermine the present role/contribution of public transport, and actively builds on it.

¹⁹ Possible application: boulevard treatment of major (non-motorway) routes; urban design enhancement of major gateways and transport interchanges; environmental enhancements to major pedestrian connections and routes (eg. Wellington Railway Station to CBD).

²⁰ Possible application: the most efficient transportation options should be accorded priority whilst attention should first turn to measures that improve existing transport infrastructure.

5.3 Strategic Considerations

Given the strategic framework identified above, each transport option and initiative will need to be considered and assessed in light of the following:

- Does it support more intensive growth (commercial or residential) along the growth spine?
- Does it facilitate a more compact urban form and therefore minimise transport distances and reliance on the private car?
- The extent to which access to/from the CBD is enhanced?
- Does it enhance public transport access to and through the CBD?
- Will it facilitate/encourage a modal shift away from the private car and single occupancy vehicles, particularly for peak commuter travel?
- Will access to/from strategic regional facilities (port, hospital, airport) be enhanced?
- Does it promote/enable a more efficient and sustainable use of existing transport infrastructure?
- Does it reduce severance effects associated with the level of 'through traffic' using the waterfront route?
- Will the overall level of 'connectivity' between transport modes and major nodes of urban development be enhanced?
- Will pedestrian mobility, safety and connectedness within the CBD be enhanced?
- Is it financially achievable?

6 Conclusions

6.1 Summary

Increasing travel demand as a result of increasing population and predicted increases in vehicle usage in the Wellington Region, in particular with respect to the Wellington CBD and associated major regional facilities (such as the airport and port) will put increasing pressure on the existing transport network and services, parts of which are already at, or very close to capacity.

National, regional and local policies seek to ensure that investment is such that an integrated, safe, responsive and sustainable transport system is developed. In order to achieve this, transport options across a range of modes should be considered in order to meet the identified outcomes and objectives. An integral part of this approach is the link between transport and land use.

This Problem Framing Report has identified a number of issues with respect to transport infrastructure and urban form over the length of the Ngauranga to Airport and Hospital Corridor. These issues are summarised below for the separate, but inter-related components of the Corridor.

Ngauranga Flyover to Aotea Quay Off Ramp

- Gateway experience - the need to create a sense of arrival at Wellington;
- Urban motorway capacity and peak hour congestion; and
- Ferry terminal access arrangements to better integrate it into the Wellington City urban environment.

Aotea Quay Off Ramp to Wellington Railway Station

- Access to Centre Port (rail and freight) - implications of growth in freight volumes;
- Long-term location of inter-island ferry services - access concerns/connection to rail and CBD; and
- City Gateway development - the potential for this location to be a major trip generator and associated impact on critical links to access the site.

CBD

- Quality of pedestrian facilities linking Wellington Railway Station and the CBD;
- Commuter car parking - provision and management;
- Penetration of passenger rail services into CBD;
- Priority of passenger transport services;
- Environmental enhancement of waterfront route/improved access between central city and waterfront;
- Increasing concentration of employment/increased number of journeys-to-work; and
- Increasing number of people living in the CBD resulting in increased numbers of pedestrians.

Aotea Quay Off Ramp to Mt Victoria Tunnel (via Terrace Tunnel)

- Terrace Tunnel capacity;
- Mt Victoria Tunnel capacity; and
- Basin Reserve congestion (significant urban design considerations).

Basin Reserve to Wellington Hospital

- Competition for road space - bus services caught up in road congestion;
- Increasing importance of the hospital in the region with associated access requirements - enhanced passenger transport services and facilities to/from the Hospital; and

- Emergency vehicle access.

Mt Victoria Tunnel to Airport

- Increasing passenger and freight movement to/from airport and growing commercial activity (Rongotai suburban centre);
- 'Gateway' experience (from Airport) – the need to create a sense of arrival;
- Limited passenger transport connections and service provision between CBD and Airport; and
- Potential environmental enhancement opportunities along the harbour edge.

The above issues can be addressed in any number of ways, be it through infrastructure improvements, enhanced passenger transport initiatives and priorities, traffic management improvements, including taking the needs of active modes such as pedestrians and cyclists fully into account, and travel demand management options.

6.2 'Way Forward'

Following the initial stage of consultation and having established the views, issues and suggestion of key stakeholders, other interested parties and the public, it will be necessary to consider the form of transportation options or initiatives to address the identified issues. These options will then be assessed, both individually and as packages of options against the strategic planning framework.

The principles set down in the Strategic Framework are:

- Assist economic and regional development
- Assist safety and personal security
- Improve access, mobility and reliability
- Protect and promote public health
- Ensure environmental sustainability
- Consider economic efficiency and affordability.

Appendix A

DEVELOPMENT PROPOSALS / OPPORTUNITIES / LOCATIONS

DEVELOPMENT PROPOSALS / OPPORTUNITIES / LOCATIONS

Northern Growth Management Area (Johnsonville to Porirua) - 'greenfields' residential development.
Johnsonville Town Centre - 'growth spine' intensification.

Kaiwharawhara Ferry Terminal.

CentrePort (port related developments - plus commercial 'CBD-styled' development / large format retail)
"City Gateway".

Railway Yards.

CBD continued development of the CBD as the region's dominant office location + retail + tourist hotel.

Government Centre / parliamentary precinct.

Wellington waterfront (commercial office, hotel, residential apartment development) / Te Papa and Waitangi Park).

Te Aro - intensification of development, including residential.

Adelaide Road - intensification of development, mixed use activity (commercial, residential, institutional)
- 'growth spine' intensification.

Wellington Hospital.

Kilbirnie Town Centre - 'growth spine' intensification.

South and eastern residential suburbs (residential infill and consolidation).

Cobham Drive (regional indoor sports stadium?).

Wellington Airport (airport-related commercial development, including hotel).

Rongotai Suburban Centre - commercial development / airport freight-related development.

Appendix B
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