Part C

Meeting Transport Needs

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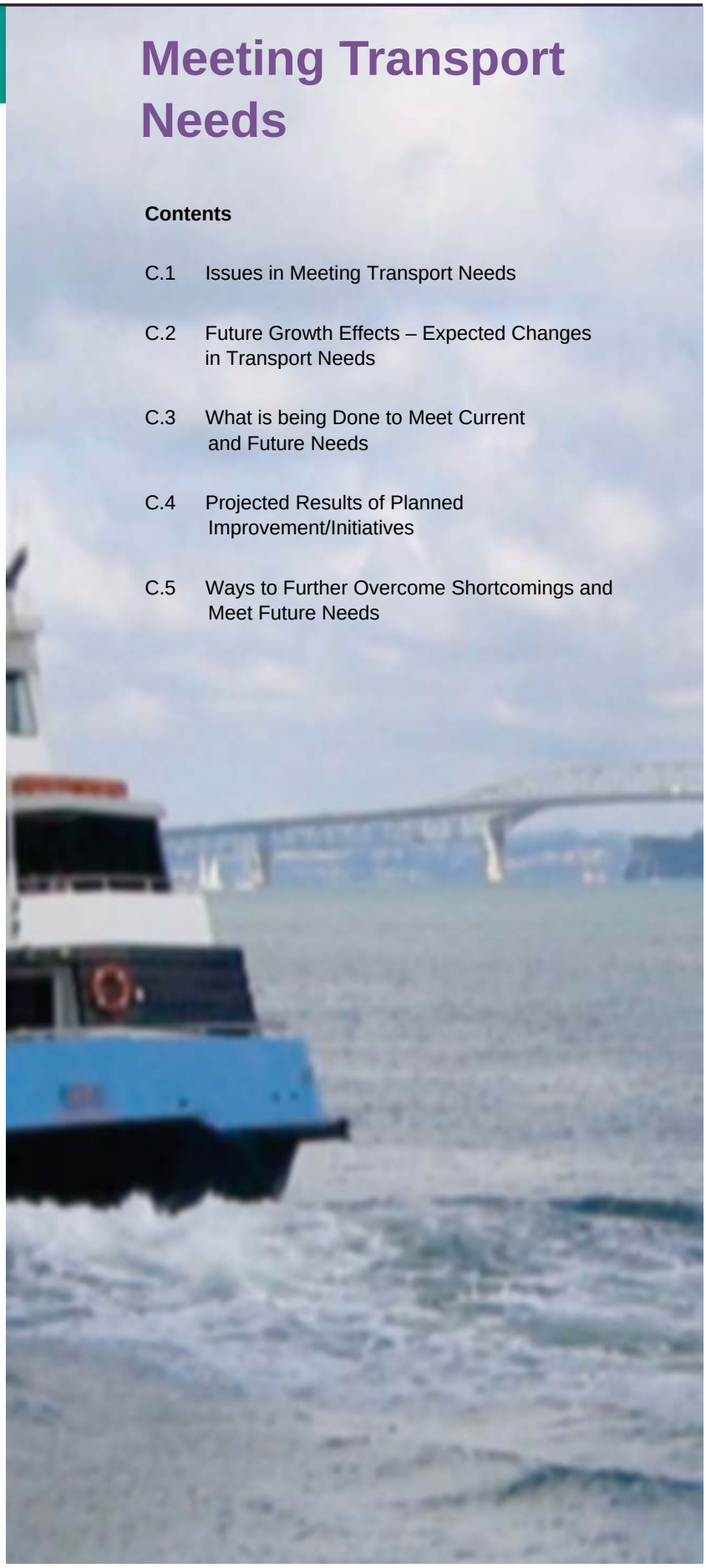

Part C Meeting Transport Needs

C.1 Issues in Meeting Transport Needs

City Transport Needs

Personal and Business Transport Demand

The business community seeks to move goods to and from markets, and between businesses at the least cost, in the most convenient way and at the most suitable time. People have similar cost, convenience and timing aims when they travel to work, to shop, for recreation and for education. Individuals also want to have the ability to choose which mode they use – whether to walk, cycle, travel by public transport or use a car. They want these choices to be safe, attractive and convenient to use.

Examples of North Shore's Weekday Transport Needs

Number of people travelling to work within North Shore City	65,000
Number of children attending school within North Shore City	35,800
Number attending university within North Shore City	6,700
Estimated number of total weekday trips on North Shore roads (including State Highways)	620,000

Transport Connections that are Highly Important to North Shore City

Four major connections are highly important to the success and wellbeing of North Shore City. They are:

- Connections to, from and within residential neighbourhoods;
- Connections to, from and within key economic centres;
- Connections to, from and within town centres; and
- Connections to, from and within the North Shore.

Connections To, From and Within Residential Neighbourhood

Connections within residential neighbourhoods provide access to local schools, shops, services and recreational areas. Walking and cycling connections are important to meeting these needs, particularly for children.

The importance of neighbourhood connections is illustrated by the average length of daily household trips that people make. About 30 percent of all daily trips are less than three kilometres in length.

Road access within neighbourhoods is also important because of the low-density suburban nature of much of the City. Arterial roads and the Northern Motorway are the principal means of access between neighbourhoods. Bus services provide essential access both within and between residential neighbourhoods.

Connections To, From and Within Key Economic Centres

The location of employment provides a good measure of the importance of economic centres and their transport needs.

Three key economic centres on the North Shore (Wairau Valley, Takapuna and Rosedale Industrial Area) accounted for 38 percent of North Shore employment in 2001. The Devonport Naval Base, North Shore hospital and other large employment centres accounted for 24 percent of employment, whilst the remainder (38 percent) was dispersed throughout the City.

TABLE C1: Location of 2001 and Projected 2021 North Shore Employment

Commercial/ Industrial Centre	2001 Employment		2021 Projected Employment		Projected Change
Wairau Valley	10,224	15%	11,402	12%	12%
Takapuna and Fringe	8,442	12%	12,337	13%	46%
Rosedale	8,958	13%	9,857	11%	10%
North Shore Hospital	2,983	4%	2,957	3%	1%
Navy Base	2,612	4%	2,630	3%	1%
Constellation/Apollo	2,371	3%	5,168	6%	118%
Browns Bay	1,586	2%	2,078	2%	31%
Milford	1,193	2%	1,359	1%	14%
**Albany	1,097	2%	5,616	6%	412%
Highbury	985	1%	1,107	1%	12%
Devonport	904	1%	1,051	1%	16%
Glenfield	866	1%	887	1%	2%
Smales Farm	767	1%	5,513	6%	619%
Other Locations	26,217	38%	31,729	34%	21%
TOTAL	69,161	100%	93,691	100%	35%

Source: 2001 Business Directory, North Shore City Council Land Use Model

** Including Massey University

Heavy vehicle access is particularly important to the Wairau Valley, Rosedale and Apollo/Constellation industrial areas.

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Connections To, From and Within Town Centres

As well as being economic generators and sources of employment, town centres provide civic amenities, community and commercial services and shopping for the population at large. Providing effective connections for key economic centres is essential to meet the needs of the main town centres. However, road, walking, cycling and public transport connections to other centres not listed in TABLE C.1, such as Northcote, Sunnynook and Albany Village are also important for immediate neighbourhoods and for the wider community.

Access within larger town centres is needed to support centre functions and complement urban form. In particular, access for pedestrians needs to be convenient, safe and of high amenity.

Intercity: Access To and From North Shore City

Trips between North Shore City and Auckland City are by far the most important of intercity travel. They account for an estimated 74 percent of all intercity trips (excluding walking and cycling) and 72 percent of vehicle movements to and from the North Shore.

TABLE C2: Estimated 2001 Average Weekday Trips and Vehicle Movements to and from the North Shore

	Person Trips*	Vehicle Movements
Within North Shore City	345,000	225,000
To and from Auckland City	185,000	81,000
To and from Waitakere City	28,000	23,000
To and from Rodney District	42,000	34,000
TOTAL	**600,000**	**362,000**

**Excludes walking and cycling*

Public transport is an important connection for those travelling to Auckland City. In 2001, 13 percent of North Shore residents travelling to work in Auckland City travelled by bus and another five percent are estimated to have travelled by ferry.

Mobility Needs

A significant section of the community cannot use, or do not have access to, private vehicles for their own travel. These people include the young and older members of the community, the disabled, and those who cannot afford their own motor vehicles. There are also those who choose not to use private vehicles.

For these members of the community, the availability, cost and convenience of alternative transport, particularly public transport for longer trips, is highly important.

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Those who are disabled have differing needs (such as accessible parking and assistance for those who are sight impaired).

Safety Needs

Safe transport and personal safety when walking and cycling are fundamental expectations of individuals and the community.

To meet national 2010 road safety targets, the Auckland Region aims to reduce fatal and serious crashes by 21 percent. This equates to a saving of 1.6 fatal crashes and 12.1 serious injury crashes per year to 2010. The North Shore City share of the Regional 2010 safety objective is 12 percent, equating to 0.9 fatal crashes and 6.9 serious injury crash savings per year to 2010.

Parking Needs

The greatest demand for parking occurs in the following situations:

- Within shopping centres;
- Worker parking in and around commercial centres;
- Parking in and around schools and universities;
- Parking at beaches;
- Parking at recreational facilities;
- Event parking; and
- Commuter parking (particularly at ferry terminals and bus stations).

What the City Has Now to Meet Transport Needs

North Shore Has Well Developed Transport Infrastructure

In terms of infrastructure, the North Shore has a highly developed, well maintained and extensive roading network – including the high capacity Northern Motorway and Harbour Bridge crossing. It also has five actively used harbour ferry wharves. Footpaths exist alongside most urban roads and streets as well connecting through parks and reserves and servicing city centres. Over 16 kilometres of marked cycle lanes are provided on North Shore roads, together with three kilometres of off-road cycle routes. Bus stops and bus shelters are located throughout the city.

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MAP C1 shows the location of the city's key roads and actively used ferry wharves. The table below summarises key features of North Shore transport infrastructure.

Length of roads (State Highways)	27 kms
Length of roads (North Shore City Council)	650 kms
Length of on-road cycle lanes	16 kms
Length of footpaths	1000 kms
Number of bus stops	1056
Number of bus shelters	400
Number of ferry wharves	6
Length of off-road cycle lanes	3 km

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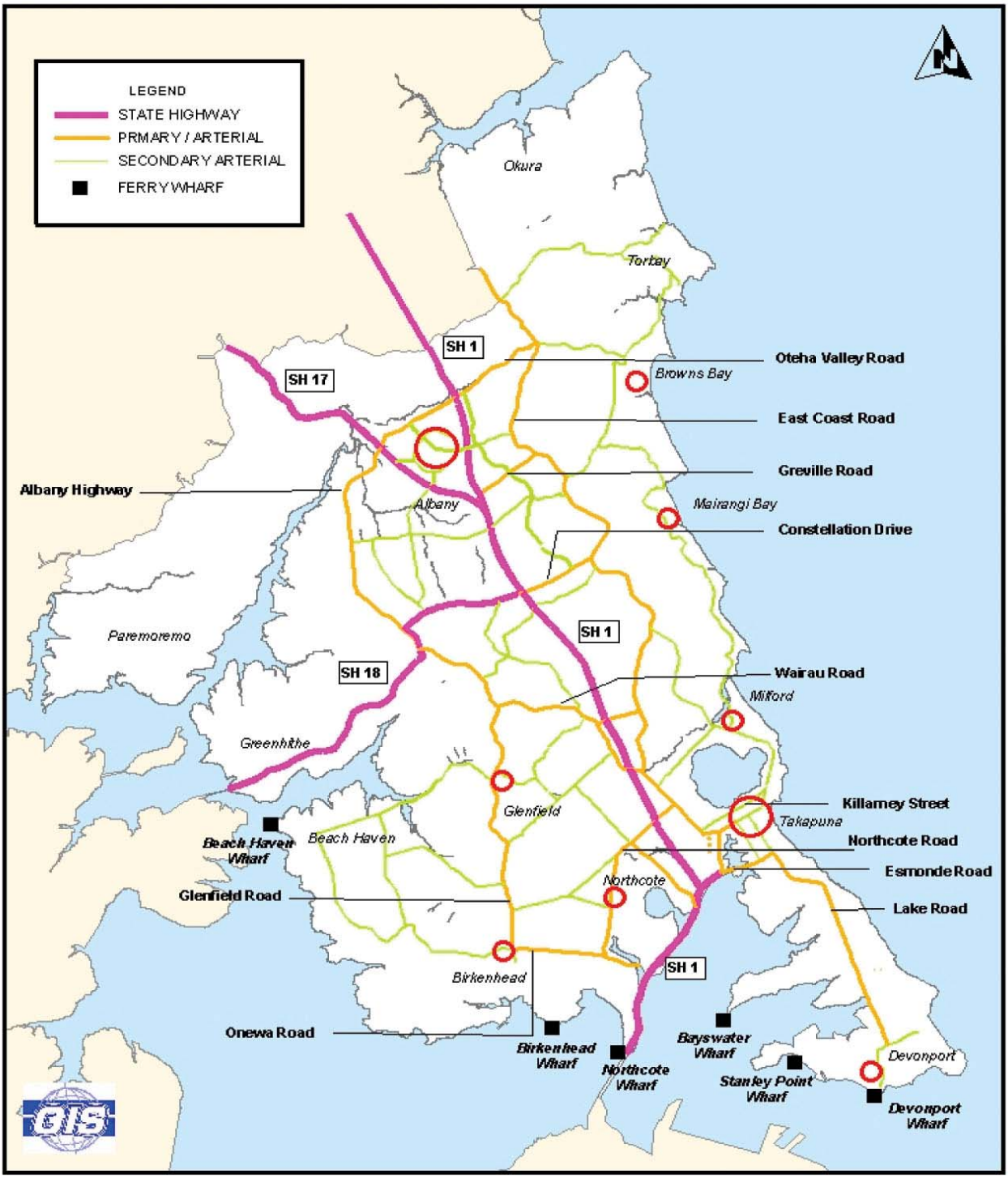
MAP C1 : Principal Transport Infrastructure



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Public Transport Services Are Available Throughout Most of the City

Most people living in the urban part of the city have access to bus services. Ferries also connect to Auckland City from six of the North Shore's harbour suburbs.

Examples of North Shore's Weekday Public Transport Services	
Number of North Shore Bus Services	1333
Number of Cross Harbour Bus Services to Auckland	379
Number of Bus Services to and from Waitakere	44
Number of Bus Services to and from Rodney	66
Number of Ferry Services to Auckland City	87

Shortcomings in Meeting Transport Needs

Although the North Shore has good transport infrastructure and a range of public transport services, there are shortcomings and room for improvement with the transport system. For many people and for many businesses their needs and preferences are not being met, or are not being met as well as they could. As the city grows, many of these shortcomings will get worse unless action is taken.

The following information boxes outline key issues which have led to the strategies adopted in the North Shore Transport Strategy. Many of these are currently being addressed, or will be, by currently approved projects and programmes. Other issues require funding approval for additional projects and programmes.

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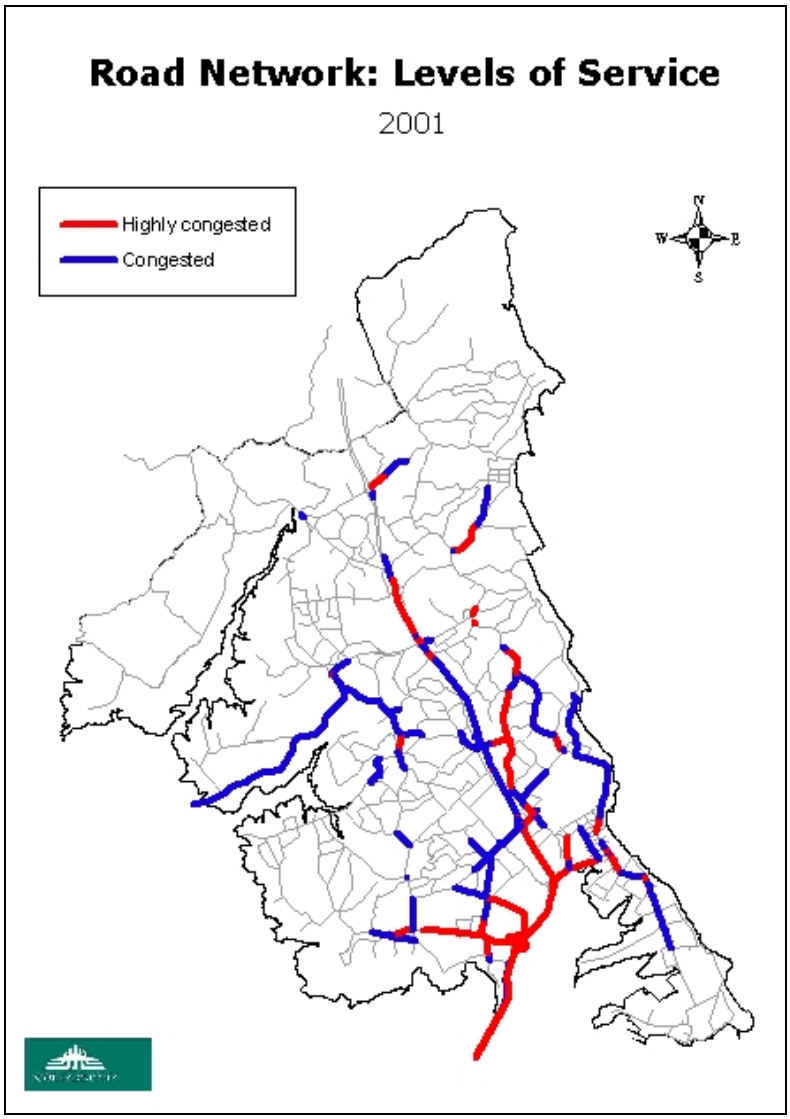
ONE : Traffic Congestion

- The Northern Motorway and Harbour Bridge are highly congested during the morning and evening peak periods, Saturdays, and special event days.
- Access to the Northern Motorway is also congested during peak periods and this greatly hampers movement within the City, especially cross-city movements.
- Local traffic congestion, such as access to the commercial and industrial centres, is also widespread during peak periods, including weekends.

"Congestion" means: Slow moving nose-to-tail traffic conditions.
"Highly Congested" means: Stop-start traffic conditions

MAP C2 : 2001 Traffic Congestion During Morning Peak Periods



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TWO : Public Transport Shortcomings

- North Shore residents express lack of satisfaction with the bus network and ferry terminals (see Table C3 below).
- Frequency and coverage of bus services is inadequate in some areas.
- Unreliability of bus services during peak periods
- Lengthy trip times.
- Need to improve availability of information on services and expected bus arrivals.
- Not enough bus shelters.
- Standard of some existing bus terminals/bus shelters needs upgrading.
- Ferry terminals need substantial upgrading.

TABLE C3: Results of Public Transport Satisfaction Survey Covering the North Shore

	Importance Rank	Satisfaction Rank
Bus Passenger		
The Network	1	6
Service Delivery	2	3
Accessibility	3	4
Information	4	5
The Vehicle	5	1
The Stop	6	2
Ferry Passenger		
The Vehicle	1	2
Accessibility	2	3
Service Delivery	3	1
The Network	4	4
Information	5	5
The Stop	6	6

1 = Very High 6 = Very Low

Source: ARC Public Transport Satisfaction Study (2004)

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THREE: Walking And Cycling Shortcomings

Walking Issues

- Indirect access to shops and schools and other local destinations.
- Not enough safe road crossings on busy roads and for the young and elderly.
- Inadequate safeguards for personal safety (for example, because of poor lighting).
- Standard footpaths too narrow and non-existent in some places.
- Lack of pedestrian access across the Harbour Bridge.

Cycling Issues

- Lack of marked cycle lanes on busy roads.
- Few dedicated or joint off-road cycle paths.
- Cycle networks not connected.
- Need for more cycle racks and cycle handrails.
- Lack of cycle access across the Harbour Bridge.

FOUR: Safety Shortcomings

- Road accident rate higher than Government target for 2010.
- Some roads not up to best practice road safety standard.
- Pedestrians at risk when crossing many highly trafficked roads.
- Safety of cyclists compromised because of limited extent of cycle lanes and intersection safety measures.
- Pedestrians feel unsafe in some walking and public transport environments.
- Driver skills and attitude.

FIVE: Traffic Management and Efficiency Shortcomings

- Local traffic conditions often deteriorate as traffic conditions change over time, requiring minor traffic improvements.
- Management of traffic flows on the Northern Motorway and the North Shore City road network not adequately integrated.

SIX: Mobility

- See public transport shortcomings.
- See walking and cycling shortcomings.
- Transport choices and transport facilities could be improved for the disabled.

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SEVEN: Parking Shortcomings

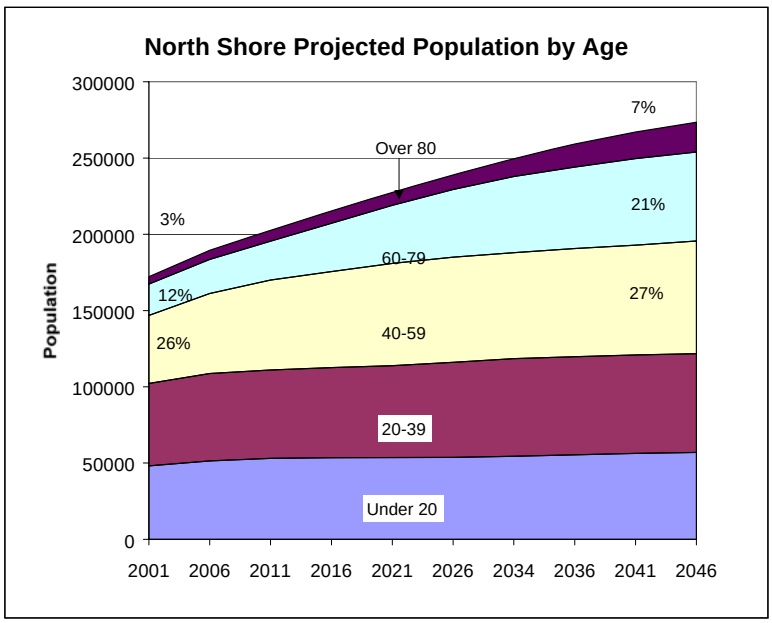
- Competition for parking in high demand areas leading to mismatches between appropriate supply and demand.
- Lack of accessible parking in some high demand areas.
- Management of parking on residential streets.
- Parking effects on road safety and traffic management.

C.2 Future Growth Effects – Expected Changes in Transport Needs

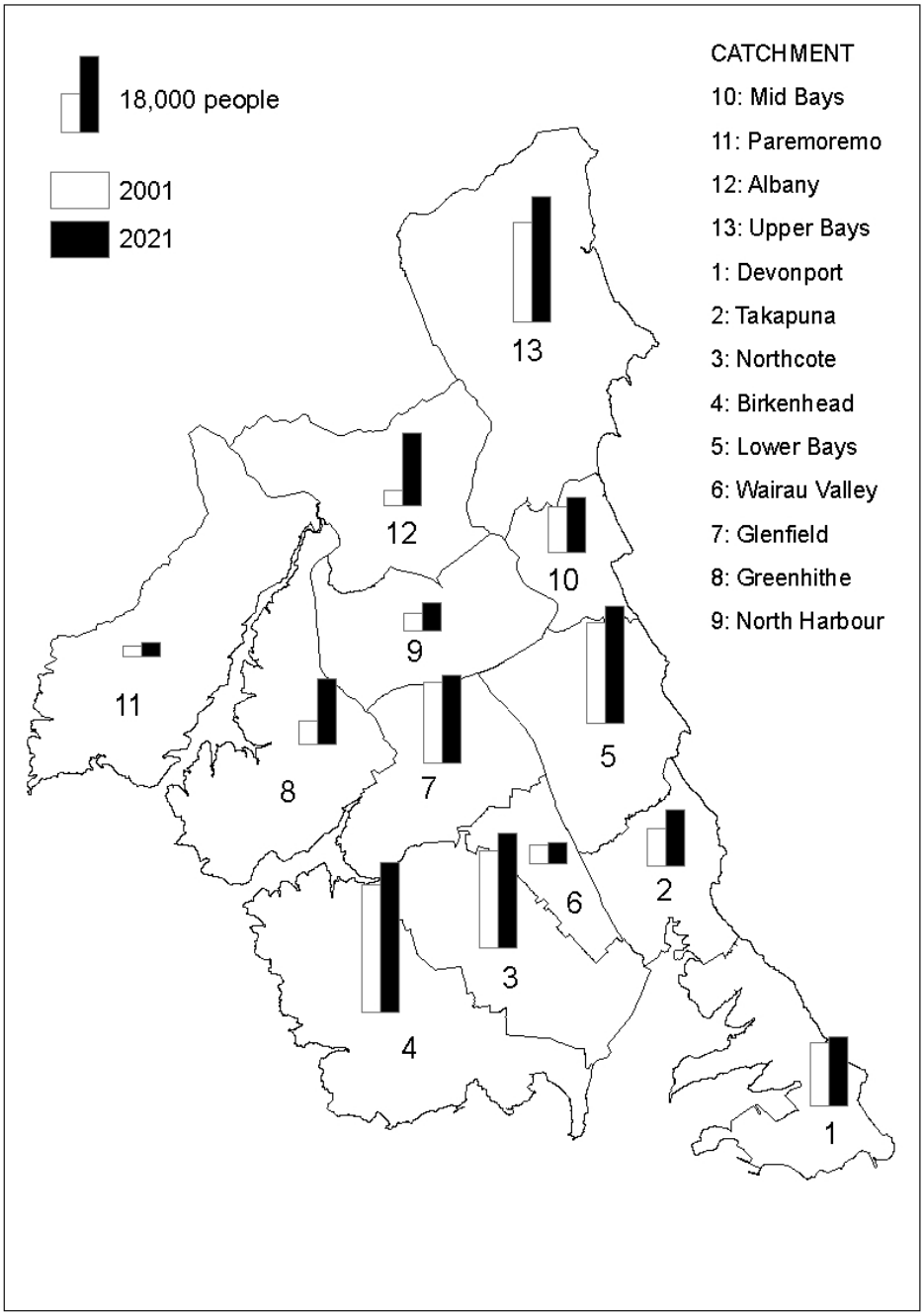
The population of North Shore City is expected to grow from its current 210,000 to more than 300,000 over the next 35 to 40 years. Economic activity and employment will also expand over the same period. These changes will result in increased demands on the North Shore transport network and services.

As Figure C1 shows, not only is the North Shore population projected to increase, but substantial changes in projected age composition, particularly a greater proportion of older residents, will affect the nature of transport needs.

FIGURE C1: Projected Change in North Shore Population (medium projection)



MAP C3: Projected Change in North Shore Population 2001-2021
Source: ARC 2003



Much of the population growth in North Shore City over the next 15 years is expected to occur in the North. However, growth will also take place through further infill and through the growth of existing town centres.

In the longer term, both the Regional Growth Strategy and City Blueprint envisage further growth being concentrated in town centres and in main transport corridors.

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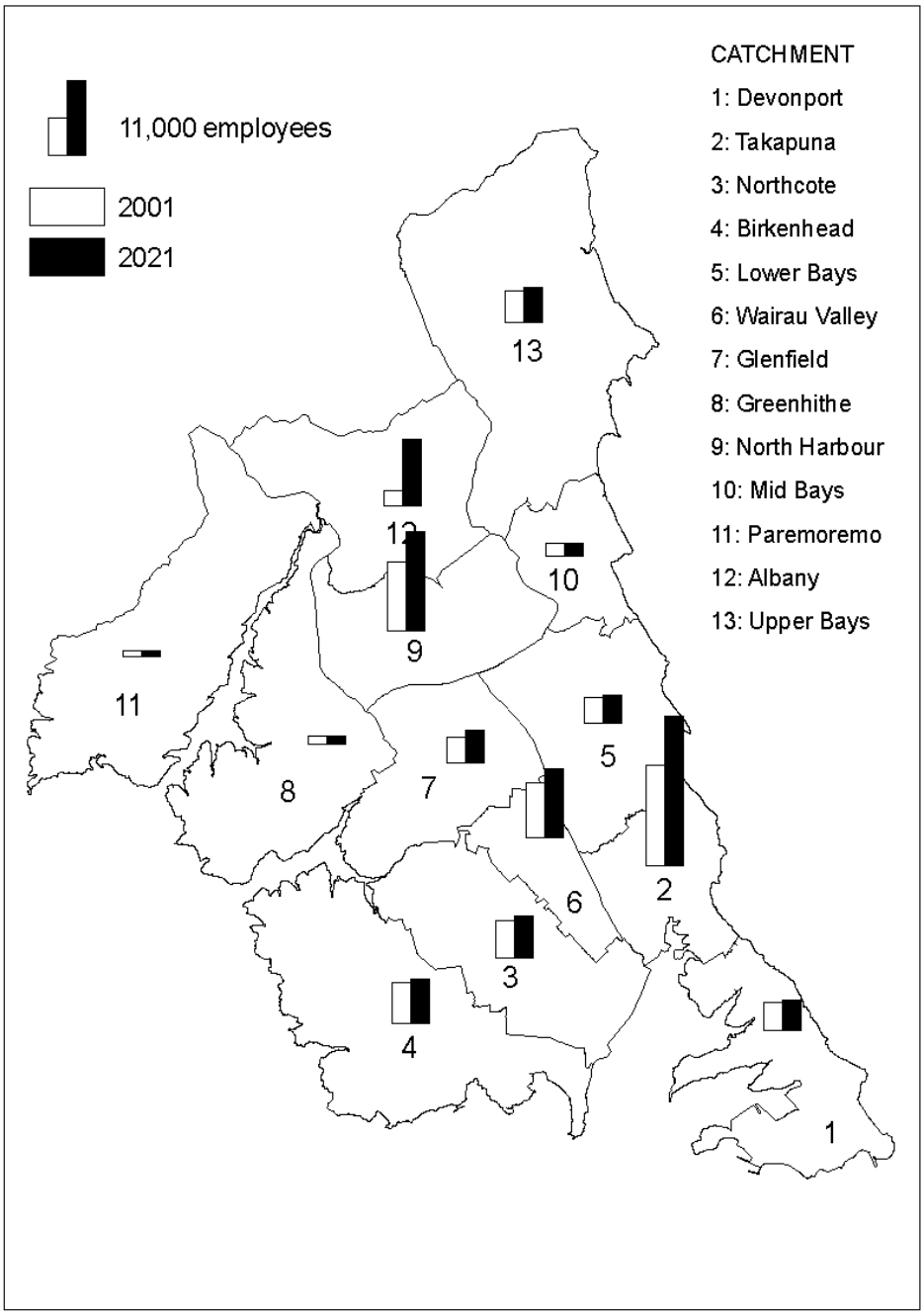
MAP C4: Projected Change in North Shore Employment 2001-2021



(Source: North Shore City Council 2003)

In 2001, there were 65,000 people employed in North Shore City. Approximately half were employed in the commercial sector, and 35 percent in industry.

By 2023 the number of jobs is projected to increase by 42 percent to 88,000 (Source: North Shore City Council 2003).

Of North Shore's working population, over 60 percent are employed in North Shore City.

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C.3 What is Being Done to Meet Current and Future Needs

The North Shore City Council, Transit New Zealand and the ARTA all have current or planned projects and programs which are intended to better meet current and future transport needs. They include:

- Implementation of the Northern Busway;
- Increased coverage, frequency and number of bus services;
- Provision of bus priority measures;
- Improvements to ferry facilities;
- Improvements to road network capacity, efficiency and safety;
- Safety and minor road improvements;
- Initiatives to change travel behaviour to reduce private vehicle travel; and
- Upgrading and construction of pedestrian and cycle facilities.

Improvements to Public Transport (Bus)

The $250 million Northern Busway project will greatly improve the attractiveness, availability and performance of bus services.

TABLE C4: Planned Bus Infrastructure and Service Improvements

Project or Program	Component	Completion Date
Busway Lanes	Constellation Drive to Esmonde Road Onewa Road to Esmonde Road (potential project)	Late 2007 Post 2009
Bus Stations	Stage 1 (Albany, Constellation Drive) Stage 2 (Sunnynook, Westlake, Akoranga)	Completed in 2005 Late 2007
Suburban Stations	Upgrading or construction of eight suburban stations (Browns Bay, Albany Village, Albany Centre, Glenfield, Highbury, Northcote, Milford, Takapuna)	By late 2007
Bus Priority Measures	Constellation Drive East Coast Road between Sunset and Forrest Hill Roads Forrest Hill Road Shakespeare Road East Coast Road between Forrest Hill & Milford Akoranga Drive College Road Carlisle Road Extension of the existing Onewa Road transit lane	All constructed by late 2007
Service Improvements	Further extension of services to coincide with opening of Northern Busway	Late 2007

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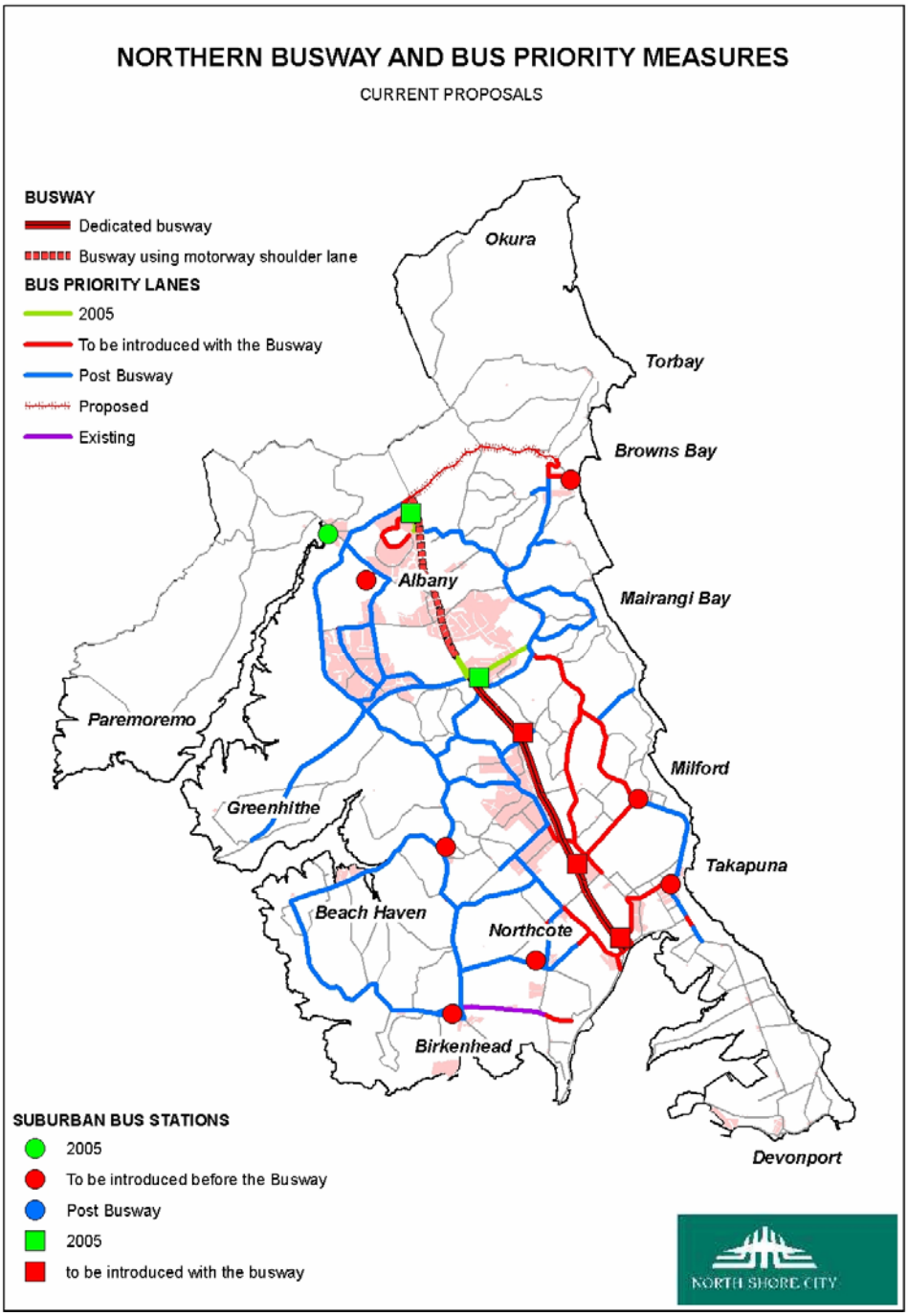
MAP C5: Northern Busway Project



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Improvements to Public Transport (Ferry)

The Draft Auckland Regional Ferry Strategy, completed in 2000, outlined a development program for current and proposed ferry terminals on the Waitemata Harbour. On the basis of the strategy, the North Shore City Council applied for and has received Infrastructure Auckland grant funding of $9.7 million to upgrade the city's ferry wharves. This upgrading program is now underway, managed by Auckland Regional Transport Network Limited (ARTNL). Unfinished works will become the responsibility of ARTA as of July 2006.

The Draft Auckland Regional Ferry Strategy confirms that there is substantial potential for increase in ferry use on the North Shore and highlights potential wharf development sites. In line with international precedents, successive North Shore Councils have taken the view that in order to provide the best ferry services the ferry wharves should remain in public ownership. The wharves are entry points to North Shore City and are best seen as public assets providing a community service. Ownership of the wharves by the Council, for example, would support the North Shore City vision for alignment of the wharves with the surrounding environment and improve the public transport system.

The Devonport commercial wharf is the only ferry wharf on the North Shore not owned publicly. It was developed under a sub lease from the Ports of Auckland in 1992 and the head lease was purchased by North Shore City in 2002.

Planned completion of the upgrading work is summarised below:

- **Beach Haven** had a commercial service operating from December 2003 until August 2004. A subsidised service is dependant on the pontoon and ramp being installed. Subject to funding availability this may occur in 2006
- A new hydraulic ramp was installed at **Northcote Point** in 2003. A canopy cover and wharf improvements were completed in February 2005.
- A new ramp and pontoon cover was completed at **Birkenhead** in early 2004. A new terminal building will be built in 2006.
- A new terminal will be built for **Bayswater**, together with dredging, construction of new road access and bus and pedestrian facilities in 2006/7.
- **Stanley Bay** - Lighting and CCTV has already been installed to improve safety. A new waiting area is planned for completion in 2006.
- Installation of canopies over the inside ferry wharf at **Devonport** was completed in 2003.
- Additional funding for improvements to shore-side lighting, pedestrian cover and security (CCTV) at each of the ferry wharves will be requested from ARTA. The application also covers funding for a new bus layout and canopies over the bus area in front of the **Devonport** ferry terminal.

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For the longer term, the Auckland Ferry Service Implementation and Investment Plan identifies the following six stage development for new wharf construction:

Stage 1:

Provision of a new service from Beach Haven to Downtown, via Island Bay.

Stage 2:

Subject to determination of the final form of Half Moon Bay, provision of a new terminal at Bucklands Beach to complement the passenger service from Half Moon Bay.

Stage 3:

Provision of a new service from Takapuna to Downtown.

Stage 4:

Provision of a new service from Te Atatu (South) to Downtown.

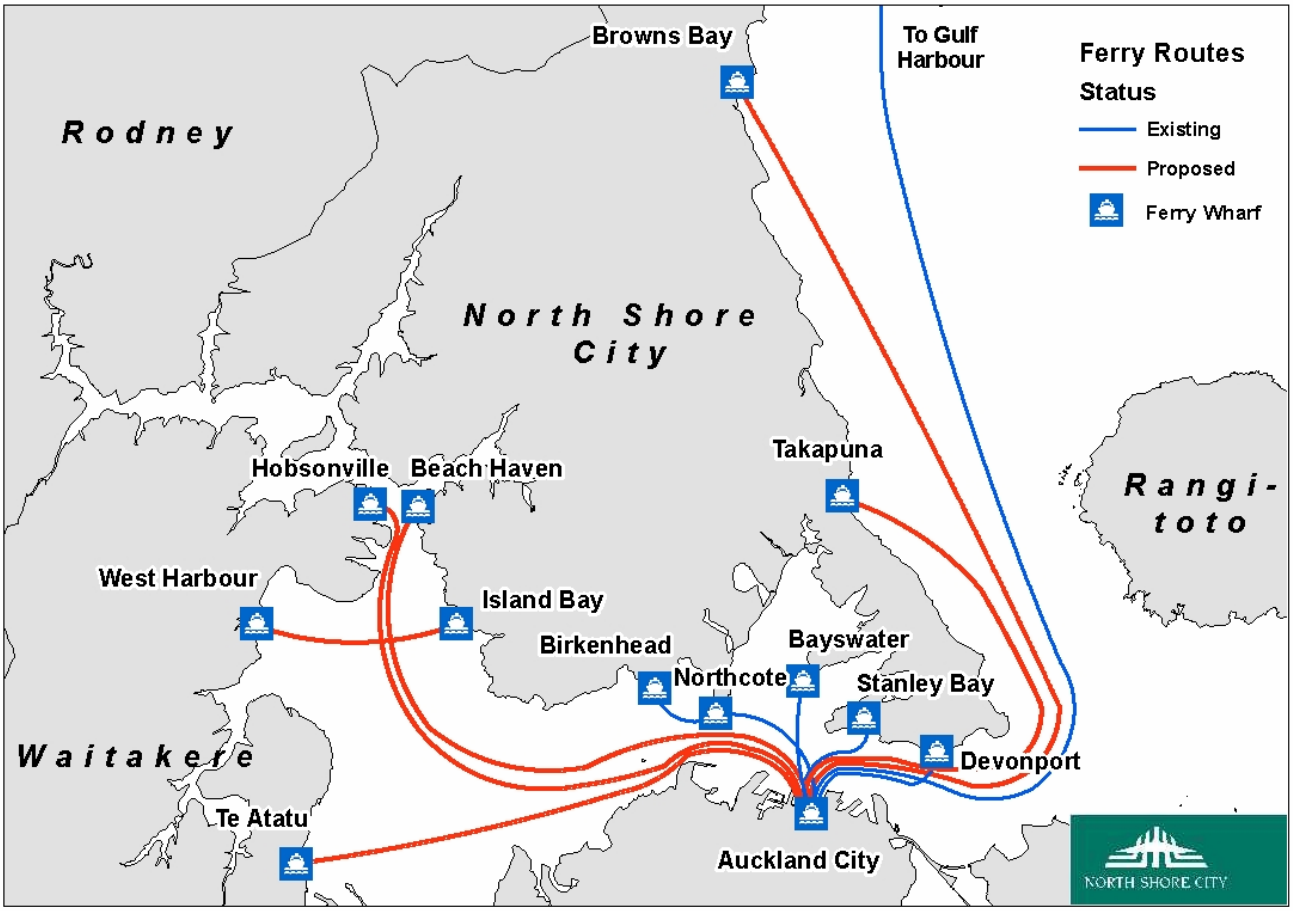
Stage 5:

Extension of the Takapuna to Downtown service to operate from Browns Bay.

Stage 6:

Subject to timing of development, extension of the Beach Haven to Downtown via Island Bay service to include Hobsonville.

MAP C6: Location of Existing and Potential Ferry Services



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Significant Road Projects

The North Shore City Council currently has six major road upgrading projects which are underway or will start within the next two years. All are included in the City Plan 2006-16. Their estimated combined cost over the next 10 years is $42.3 million plus.

TABLE C5: Major North Shore City Council Roading Projects

Project	Phase and Timing	Estimated Cost (06/07 onwards)
Taharoto Road/ Wairau Road/ Shakespeare Road Upgrading	Investigation 2004/05. Construction 2005/06-2009/10	Estimated 10 year cost: $15.7 million plus
Glenfield Road Widening	Construction 2004-2009	Estimated 10 year cost: $9 million
Onewa Road (Lake Road to Sylvan Road) Upgrading	Investigation 2004/05. Construction 2006/7-08	Estimated 10 year cost: $7 million
Esmonde Road Widening and Fred Thomas Drive Extension	Construction 2005/06-2006/07	Estimated 10 year cost: $2.5 million
Lake Road Widening	Construction 2006/07-2007/08	Estimated 10 year cost: $5.6 million
Widening of Akoranga Drive (Stage 1)	Design 2004/05 Construction 2005/06 – 2006/07	Estimated cost: $2.5 million

All of the major North Shore City Council roading projects include transit lanes and/or bus priority measures.

Road projects included in Transit New Zealand's 10 year program that affect the North Shore are listed in Table C5.

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TABLE C6: Major Transit New Zealand Construction Projects Affecting the North Shore

Project	Phase and Timing
Construction of Northern Busway	Construction 2005/06 - 2008/09
SH 1 Northcote Road to Sunnynook Road Northbound Auxiliary Lane	Construction 2005/06 - 2007/08
Upgrade of Esmonde Road Interchange	Construction 2005/06 - 2007/08
SH 1 Harbour Bridge to City Increased Capacity	Design 2005/06 - 2006/07
SH1 Ramp Metering	2006+
Greenhithe Deviation	Construction 2004/05 - 2007/08
Upper Harbour Corridor Study	Completion mid-2006

DESCRIPTION OF RAMP METERING

Ramp metering is a technique for improving motorway capacity when traffic volumes become high and speeds drop to low levels. The technique operates by regulating the number of vehicles joining a motorway in a way that optimises traffic volumes and speeds.

In practical terms, ramp metering involves placing a set of traffic lights near the point where a motorway on-ramp joins the motorway. The lights switch quickly from green to red and back, allowing small amounts of traffic to enter the motorway at a steady flow. This reduces congestion by preventing large volumes of traffic from joining the motorway at once.

Transit New Zealand will start installing ramp meters on motorway on-ramps throughout the Auckland motorway system, including the Northern Motorway, starting in 2006.

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Safety and Minor Road Improvements

Minor road works (such as intersection upgrades) and safety improvements are closely related. Safety improvements often improve traffic efficiency, and minor road works aimed at improving traffic efficiency generally result in safety improvements.

Currently, Safety and Minor Work Projects are identified from a number of sources including requests received from Community Boards and perceived safety problems identified by the public, as well from normal day-to-day observations, investigations, projects and activities of Council officers. These problems and requests are captured in a Traffic Issue Management (TIM) system and assessed in terms of urgency, cost and risk before being prioritised for action.

Council is proactive in identifying intersections that have the most frequent crashes based on the Crash Accident Analysis of Land Transport New Zealand. Improvements to these intersections form part of an intersection safety improvement program.

Safety and Minor Works Projects are budgeted from various Capital Project categories including isolated intersections, traffic safety, local area traffic management, street lighting upgrading and pedestrians.

Management of crashes on the road is an ongoing activity. Crashes result from a multitude of causes, mostly centred on inappropriate driver behaviour for the prevailing weather conditions and risks to other road users. Crash trends and locations are identified and studies are carried out to determine and implement improvements where benefits can be shown to accrue.

Council actively works with the Police and Land Transport NZ in programmes to actively focus attention on the most crucial locations. Resources are co-ordinated as appropriate to arrange enforcement, or changes to the road are made to reduce the incidence of crashes.

Other Road Safety Initiatives

The North Shore City Council has for some time been working with the Police and community groups on education and information programs to improve road safety. These programs include:

- Promoting anti drink-driving programs and host responsibility projects.
- Implementing community speed reduction programs and promoting community acceptance of speed limits.
- Raising awareness and commitment to injury prevention e.g. use of restraints project.
- Implementing road safety education projects for vulnerable users e.g. sharing the road project.
- Promoting appropriate intersection behaviour.
- Raising awareness of roadside hazards and crashes at bends.
- Promoting initiatives tailored to the needs of at-risk road users e.g. Drivers License Program.

In addition to education and information programs, the Council works with the Police to enforce traffic regulations. As part of this role, Council Parksafe officers enforce parking and transit lane regulations.

Parking Improvements

Residents and businesses predominantly provide parking. The Council is the dominant provider of public parking in the City. Vehicles park on public streets, and the Council provides public parking in town centres, at recreational facilities, ferry terminals, and at beaches and parks.

Council currently provides over 12 public car parks in the commercial centres. With four exceptions, all of these provide free but time restricted parking. The exceptions are the Central Carpark, Killarney Street Carpark and several smaller carparks in Takapuna where parking fees are charged.

Council plans to proceed with developing a multi-story parking building on the Takapuna Gasometer site. It also plans to add a further capacity to the existing Killarney Street car parking building.

In addition, Council is developing parking policies which will act as a guideline to providing parking in each of the City's commercial centres as well as elsewhere. The development of these policies will be accompanied by a review of requirements to provide parking for new developments. Both the development of the parking policies and the review of parking provision are expected to take into account strategies that aim to reduce motor vehicle travel.

The consequences of continuing to retain parking along arterial and other busy roads will be reviewed as part of the development of citywide public parking policies.

Cycling Improvements

A strategic cycle plan for North Shore City was completed and approved by the Council in 2003. The vision of the plan is:

To provide a safe, convenient and enjoyable environment that meets the needs of cyclists and encourages cycling as a mode of transport and as a means of recreation.

Implementation of the Cycle Plan will result in a strategic citywide cycle network (primarily located within arterial road corridors): a “green” cycling network (linking and passing through the city’s parks and reserves); and local cycle routes connecting with schools, shops and other local amenities.

Map 7 shows the location of the planned strategic cycle network.

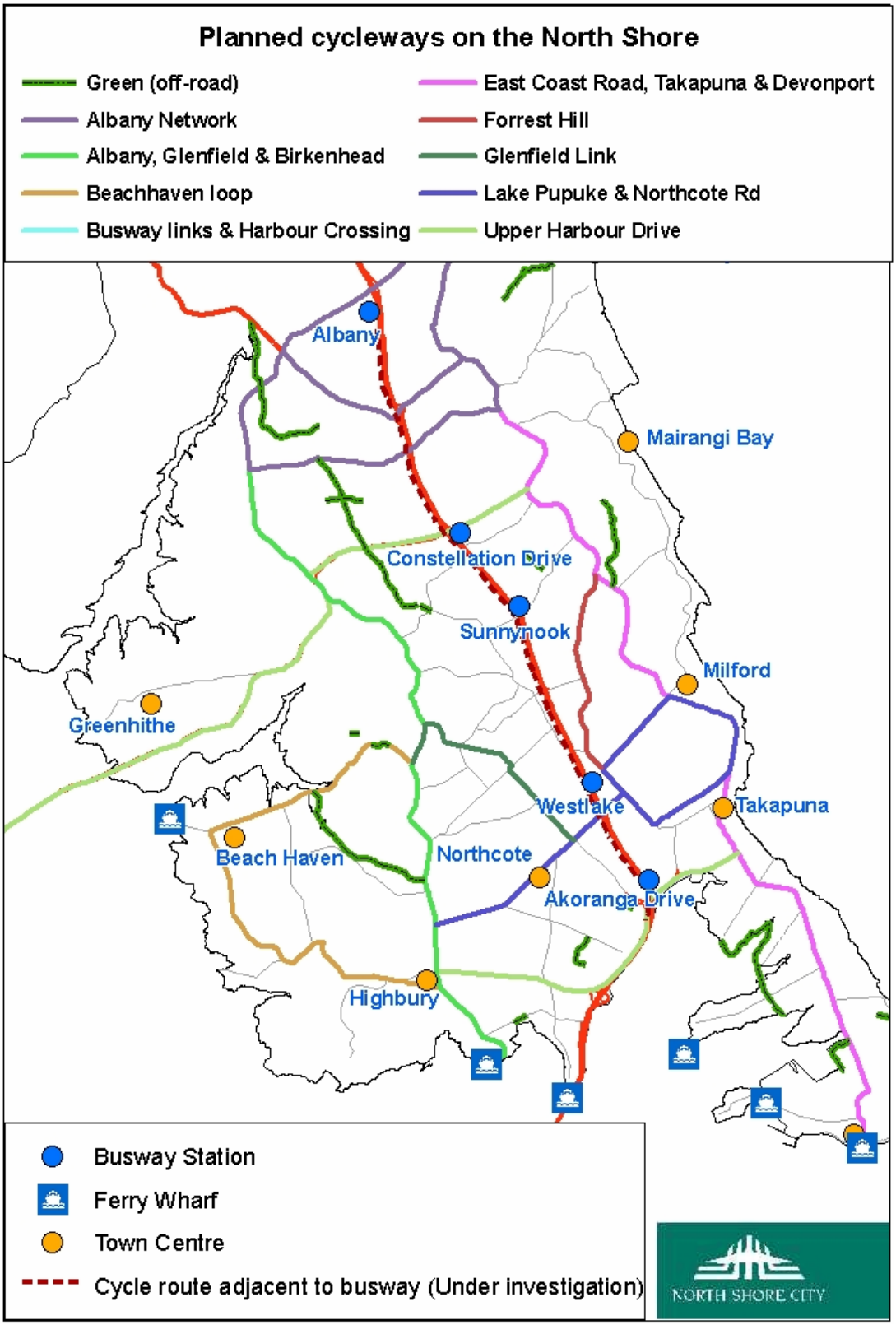
Although not the responsibility of the North Shore City Council, but of Transit New Zealand, the planned cycle network includes a cycle route within the Northern Motorway corridor and across the Harbour Bridge. North Shore City Council is currently promoting an early start by Transit New Zealand to a Northern Motorway cycle route from Onewa Road to Albany.

In May 2004, the Council approved a Cycle Implementation Plan. The 2006/07 Annual Plan provides funding of $700,000 for spending on planning and installing cycle lanes and cycle facilities such as handrails and cycle racks.

TABLE C7: Cycling Projects for Implementation Over The Next Three Years

Project	Implementation
Milford-Takapuna on-road cycle lanes (Kitchener/Hurstmere)	Ongoing
Takapuna-Devonport on-road cycle lanes (Lake Road)	2006-07
Takapuna-Devonport green cycle route (Stage 1)	2005/06
Albany-Glenfield green cycle route	Investigation 2005/6-07
"Albany Loop" on-road cycle lanes	2006-10
Installation of 50 cycle racks a year	Ongoing
Installation of 90 handrails by 2010	Ongoing
Development and promotion of cycling/ cycle events/education and facilities.	Ongoing

MAP C7: Location of Planned Cycle Routes



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Walking Improvements

Council is currently undertaking or planning to undertake the following to improve and promote walking in the North Shore.

Ongoing Program of Improving Town Centres

This includes improving lighting, footpath surfaces, road crossings and traffic calming measures within town centres to improve pedestrian safety and access.

Neighbourhood and Citywide Connections

- An ongoing program for upgrading footpaths aims to improve their safety and convenience, especially for those who are less mobile.
- Footpaths are planned to be constructed throughout Greenhithe over the next five years.
- Where demand justifies it, opportunities will be taken to construct connecting paths in areas where street networks limit direct access to shops, schools and recreational amenities.
- Upgrading of pedestrian crossing ramps to an acceptable standard.

Access to Northern Busway Bus Stations and Bus Terminals

Planning is now underway to improve or provide pedestrian access to Northern Busway bus stations and to suburban bus stations. The Akoranga Bus station includes a pedestrian overbridge across the Northern Motorway to link with the Akoranga AUT University campus.

Pathways in Parks and Reserves

The Council's Transport and Parks Departments are working together to integrate their respective walking and/or cycle pathways.

The North Shore City Council Open Spaces Strategy has identified the need for establishing Green Corridors. The corridors will provide access for many leisure/recreational walkers and cyclists and will also enhance commuter trips by providing access through safe natural environments. Currently North Shore City Council has a number of Walking School Bus routes through parks and reserves, which create a safer and more enjoyable environment for children to walk along. There are also plans to extend and upgrade pathways for people wishing to commute to work by walking and cycling.

Subdivision Footpaths and Pathways

The provision of pedestrian facilities within new subdivisions is a requirement of the North Shore City Council. The Council checks and monitors planned developments to ensure that new pedestrian footpaths and pathways are direct, safe, attractive and built to a suitable gradient and alignment – and that safe and convenient road crossings are an integral part of walking networks where traffic volumes and pedestrian demand are high (particularly where school children and the elderly are involved).

Promotion of Walking

The Council actively works with community and walking groups to encourage walking. This promotion is also part of TDM programs such as business travel plans and the Travelwise to School Program e.g. walking school buses.

Development of a Walking Strategy

The Council is currently progressing the development of a Walking Strategy to capture many of the pedestrian initiatives outlined within this document, the City Blueprint and the Open Spaces Strategy.

Te Araroa Walkway

A successful recent project has been the development of the Te Araroa Walkway (North Shore City Coastal Walk). This walk was developed through the hard work of the Te Araroa Trust, Transport and Roading, Parks Department and the Devonport, Takapuna and East Coast Bays Community Boards. The 23 kilometre long walkway follows the spectacular east coast shoreline of the city from Okura to Devonport

Travelwise to School

Travelwise to School is a program that aims to reduce the number of children being driven to school by private car, and to increase safety for those who walk or cycle to school. North Shore City Council was the first council in the Auckland region and one of the first in the country to promote Travelwise to School program.

Council and contracted staff work with individual schools to develop and implement travel plans. This begins with schools identifying safety issues, travel needs, and barriers to walking and cycling. Travel plans and other initiatives are then developed and implemented to address these issues. This includes establishing walking school buses, and identifying improvements to infrastructure – for example, the installation of pedestrian crossings.

Part C Meeting Transport Needs

Travel Demand Management (TDM)

Until recently, little attention has been given in New Zealand to influencing transport demand. Transport planning is largely focussed on building new, or increasing existing transport capacity, in response to assumed growth in transport usage. That is, it focussed on supply – particularly infrastructure – rather than demand.

Travel demand management involves policies and actions which together are primarily aimed at reducing car usage by altering travel preferences and encouraging people to use other modes of travel. These have the positive effects of helping reduce traffic congestion (or its rate of growth) and increasing transport choices.

In 2005, Central Government and the ARC introduced key policies to manage transport (in particular private vehicle) demand. North Shore City Council also recognises the need to influence transport demand, as demonstrated through the Council's partnership in promoting the Travelwise to School program as well as business and university travel plans.

In addition to promoting and supporting these programs, Council provides or upgrades transport infrastructure, such as installing pedestrian crossing facilities, and by constructing pathways and cycleways.

Current TDM initiatives being undertaken by the Council are:

- School Travel Plans at three trial schools began implementation in 2003. To date, 21 schools have developed and are implementing travel plans with a further 11 schools developing plans;
- Council also plans to promote up to five business travel plans in the next calendar year, having commenced the first business travel plan using the Council as the test business; and
- Investigation of TDM initiatives for the Rosedale Industrial area.

Part C Meeting Transport Needs

C.4 Projected Results of Planned Improvements/ Initiatives

Short to Medium Term Effects of Planned Improvements

In summary, currently planned transport improvements and travel demand initiatives are expected to have the following overall positive effects on travel within the City, at least in the short to medium term:

TABLE C8: Expected Short to Medium Term Benefits of Planned Transport Improvements/Initiatives

Improvements/Initiatives	Expected Effects
Improvements to Northern Motorway (including Harbour Bridge to Auckland CBD)	Better peak period traffic flows on Harbour Bridge and reduced congestion on Northern Motorway
Improvements to State Highway 18	Less peak period congestion and improved travel speeds
Planned City Road Upgrading	Reduced local traffic congestion and potentially localised decreased travel times for general traffic
Ramp Metering	Higher average speed on Northern Motorway during peak periods
Public Transport Improvements (Northern Busway)	Projected increase in the share of total trips by bus (bus travel across the Harbour Bridge projected to increase from 25% to 35% during morning peak period)
Public Transport Improvements (Ferry Facilities and Services)	Increasing ferry patronage
Improvements to Walking and Cycling Facilities	Increased share of total trips by walking and cycling
Travel Demand Measures	Increased share of total trips by walking, cycling and by public transport
Road Safety	Reduced number of accidents and accident casualties
Parking	▪ Greater compatibility between parking supply and demand ▪ Improved public parking in town and commercial centres ▪ Improved transport efficiency and safety from better control of parking

Overall, the planned improvements and initiatives will enhance how transport infrastructure and services meet North Shore needs. However, not all of today's shortcomings will be eliminated and new transport shortcomings will emerge in the medium to longer term.

The following sub-sections describe potential shortcomings not being addressed now or which may not be solved by ongoing and currently planned projects and programs.

Remaining and New Traffic Congestion

Planned public transport, cycling and walking improvements together with travel demand initiatives are expected to reduce the proportion of those using cars for their daily trips. However, because of continuing city growth and likely continuation of high levels of car usage, traffic volumes are expected to still remain high and to increase, and so too will the potential for ongoing traffic congestion.

Planned roading and traffic management measures to reduce traffic congestion will be partly effective in reducing congestion in the medium term:

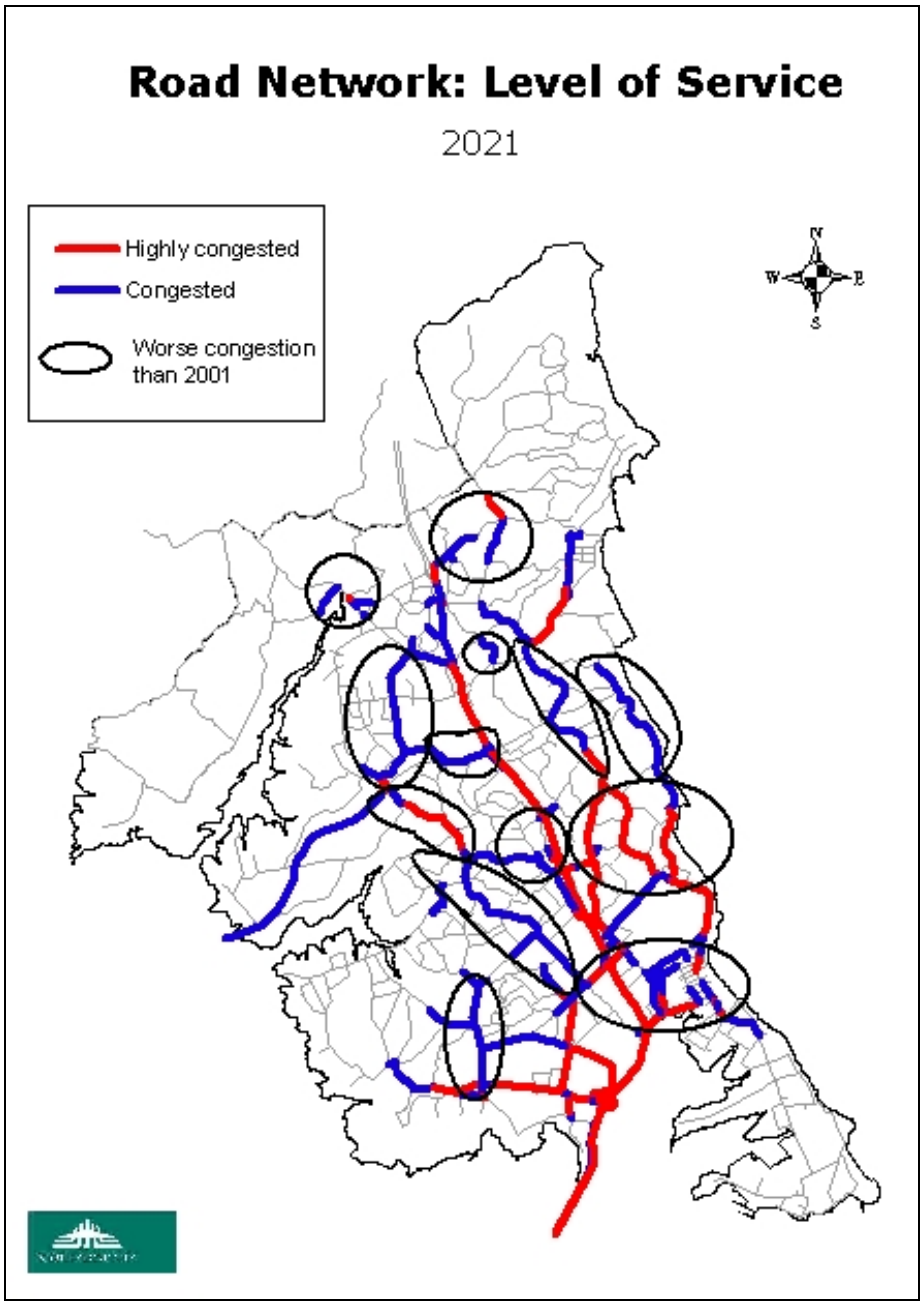
- Planned ramp metering is expected to improve peak hour flows on the Northern Motorway, though it may not reduce traffic peak period congestion and may not be fully effective until the Harbour Bridge to city project is completed (which involves increasing the capacity of the Northern Motorway in the vicinity of the Victoria Park flyover).
- Similarly, planned road upgrading and the wider introduction of transit lanes will reduce local congestion effects, but will not eliminate all traffic congestion in the City. Peak period traffic congestion will still exist in most areas where demand is high, particularly around access to and from the Northern Motorway.

The longer-term effects of planned transport improvements and initiatives will be greatly influenced by continued city growth – as well as growth in the region as a whole.

If only currently planned transport improvements and initiatives are implemented (and assuming no significant changes in the underlying economics, attractiveness, feasibility and preferences for each of the modes), it is projected that the share of total trips by cycle, walking and public transport will have improved, but:

- Use of private vehicles for the majority of trips will continue and remain high; and
- Overall traffic congestion will have become more widespread. This is illustrated in MAP C8 which shows projected traffic congestion in 2021.

MAP C8: Projected Traffic Congestion in 2021



Other Remaining and New Shortcomings

Other potential shortcomings which may not be solved by current and planned projects and programs are outlined in Table C9 below.

TABLE C9: Other Potential, Remaining and New Shortcomings

Potential Shortcoming	Remaining Shortcomings In the Short to Medium Term	Shortcomings in the Medium to Longer Term
Traffic Efficiency & Management	Ongoing need for localised improvement Possible residual inefficiencies for North Shore City Council road network after ramp metering introduced	Ongoing need for localised traffic improvements Need for ongoing coordination in managing State Highway and North Shore City Council road networks
Safety	Government safety targets not met Many North Shore City Council roads not up to best practice safety standards Ongoing need for localised safety improvements Ongoing need to improve road user behaviour	Government safety targets still not met Ongoing need for localised safety improvement Ongoing need to improve road user behaviours
Public Transport (Ferry)	Upgrading of ferry facilities will have been completed Need for ongoing review of ferry services	Need for ongoing review and promotion of ferry services
Mobility	Lack of comprehensive facilities plan	Lack of comprehensive facilities plan
Walking and Cycling	Cycling network not completed Improvements to pedestrian facilities not completed	Completion of cycle network required Ongoing need for ongoing monitoring and minor improvements to cycle and pedestrian facilities
Parking	Ongoing need to monitor and manage/provide for public parking Ongoing need to monitor and manage safety and traffic implications of on-road parking	Ongoing need to monitor and manage/provide for public parking Ongoing need to monitor and manage safety and traffic implications of on-road parking

Part C Meeting Transport Needs

C.5 Ways to Further Overcome Shortcomings and Meet Future Needs

The previous section outlined shortcomings that will still remain after currently planned improvements and initiatives are implemented. Additional changes and improvements are needed to overcome these shortcomings and to meet growth needs over the longer term.

The table below summarises remaining transport shortcomings, and future transport needs expected in the medium to longer term – and the potential ways for addressing them – many of which are already going on but need to be accentuated or increased in scope.

TABLE C10: Ways to Further Overcome Shortcomings and Meet Future Needs

Remaining Shortcomings	Ways for Improvement and Meeting Future Needs
Traffic Congestion	▪ Reduce preferences for car travel by increasing TDM programs ▪ Further increase general roading capacity ▪ Add further transit lanes ▪ Reduce the need to travel through land use planning
Traffic Efficiency	Undertake major road improvements where needed Continue with minor road improvements
Safety	Implement further road safety improvements. Continue with and enhance road safety programs
Public Transport (Bus)	▪ Add further bus priority measures ▪ Further increase coverage and frequency of services ▪ Further improvement to bus facilities
Public Transport (Ferry)	▪ Improve bus service connections to ferry services ▪ Continue to enhance ferry terminal facilities ▪ Increase the coverage and frequency of ferry services
Walking and Cycling	Complete planned cycle networks and upgrading Further enhance/add to walking facilities
Mobility	Development and implementation of a comprehensive facilities plan.
Parking	▪ Develop and apply consistent parking policies for the City which best meet City transport and land use objectives ▪ Develop and apply parking policies and strategies for parking in town centres

Part C Meeting Transport Needs

Key Strategies

KS-1 *Enhance public transport attractiveness and availability*

The North Shore community strongly supports improving public transport. The Council is committed to completing the Northern Busway system, including upgrading suburban bus facilities and bus stops and providing bus priority measures. However, future level of service and enhancements such as integrated ticketing are in the hands of the ARTA.

Enhancing public transport contributes to providing more transport choice – especially for those who do not have access to, or cannot use their own vehicle, for travel. It will also help reduce private vehicle travel.

The Council is currently supporting the regional upgrading of ferry facilities. Further improvements to ferry facilities and services will be largely in the hands of operators and ARTA.

In addition to existing projects and initiatives, planned actions to enhance public transport include:

- Further investigating and implementing bus priority opportunities (such as bus lanes, transit lanes, and bus priority advances at intersections);
- Providing and advocating for improvements to bus services and infrastructure, particularly in new and high growth areas;
- Actively supporting improvements and extensions to ferry services;
- Collaborating in regional initiatives to improve public transport efficiency and attractiveness; and
- Integrating TDM and public transport initiatives.

KS-2 *Reduce demand for private vehicle travel through supporting and implementing travel demand management (TDM) measures.*

TDM measures broadly cover two aspects: encouraging people to alter their behaviour to reduce or eliminate their use of private vehicles; and, to provide improved infrastructure and services for alternatives modes.

Strategies which encourage the use of alternative modes to motor vehicle travel all require marketing. For efficiency and effectiveness, development and implementation of a Travel Behaviour Marketing Program will ensure that all efforts to promote the use of public transport, walking, cycling and other initiatives, such as car-pooling are implemented in a cohesive manner.

Implementation strategies to reduce demand for private car usage include:

- Support for TDM measures to change transport preferences (such as the Travelwise to School program and business travel plans);
- Provision of convenient and safe walking and cycling facilities;
- Enhancement of the public transport system;

- Encouragement and promotion of walking, cycling and use of public transport; and
- Support for land use that minimises the need for longer distance travel.

If Central Government or the region adopts pricing measures to influence travel demand, and in particular reduce private vehicle travel, the North Shore will be affected both directly and indirectly. This will accelerate the need to provide for walking and cycling alternatives – and particularly require the expansion of public transport services.

KS-3 *Enhance facilities ,opportunities and preferences for walking and cycling*

Enhancing opportunities and preferences for walking and cycling is an essential part of the Key Strategies that aim to reduce car travel. Walking and cycling facilities are important for allowing transport choice, improving transport safety (especially for cycling) and to support growth strategy objectives for land-use intensification.

Planned actions to enhance opportunities and preferences for walking and cycling include:

- Completing the planned cycle networks;
- Improving the safety, standard and availability of walking access (footpaths and pathways within and outside city centres); and
- Actively promoting and supporting walking and cycling.

KS-4 *Selectively increase the capacity of the transport network*

Although the purpose of Key Strategies 1,2 and 3 is to increase the proportion of those using alternatives modes, there will always be a need to provide for travel by motor vehicle for personal and business reasons – and there will always be those who prefer and can afford to use their own cars. However, there are limitations on providing extra roading capacity.

The two means of accommodating projected increases in private motor vehicle demand are to provide additional traffic lanes or to provide transit lanes (traffic lanes which, in addition to buses, are restricted to private vehicles with more than two people in them).

The Council has already begun to further investigate where and how roading capacity needs to be increased, both now and in the future. These investigations will take into account the limitations and costs (including social and environmental costs) of increasing capacity. They will also allow for flexibility as future transport needs and patterns change. For example, as bus numbers build up, some transit and general traffic lanes may become used by buses alone.

Part C Meeting Transport Needs

KS-5 *Improve and maintain the efficiency of the transport network*

Over time, the efficiency of the transport network changes as traffic patterns and land use change. Increasing roading capacity can assist in improving the efficiency of the road network, but most improvements in efficiency are effected through minor road improvements, such as intersection improvements, and by active traffic management.

In the future, as traffic levels grow, traffic management is likely to assume greater importance as a tool contributing to achieving road network efficiency. This will be essential once ramp metering is introduced on the Northern Motorway. Successful implementation of effective traffic management will require close coordination with Transit New Zealand, the regional Traffic Management Unit and Council's own traffic planning resources.

KS-6 *Provide and manage parking in a way that balances parking needs, ensures road safety and efficiency, preserves amenity and supports city growth and land use objectives*

The Council is currently developing parking policies for town and commercial centres as well as elsewhere in the City. It is also reviewing parking requirements for new developments. It actively provides off-street public parking in commercial areas. Proposed construction of the Takapuna gasometer site carpark and addition of further floors to the Killarney Street car park are examples.

As part of the development of parking policies and review of parking requirements, consideration will be given to the effects of parking in achieving strategies aimed at reducing motor vehicle usage. It will consider the consequences of retaining parking along arterial roads.

At present, parking restrictions are not widespread. However, in the future they are likely to become more widespread for safety and traffic reasons. Existing parking may make way for bus, transit and cycle lanes.

KS-7 *Improve road safety and reduce the frequency and severity of accidents.*

Compared to other urban areas in New Zealand, North Shore City has a lower road crash rate. However, to meet national 2010 road safety targets, the Auckland Region aims to reduce fatal and serious crashes by 21%. The North Shore City share of the Regional 2010 safety objective is 12%, equating to 0.9 fatal crashes and 6.9 serious injury crash savings per year to 2010.

To achieve these objectives, the Council needs to devote more resources to road safety and to be more proactive in seeking improvements. This includes taking a more comprehensive approach to identifying and scheduling safety and minor road improvements together.

The Council only has a minor role in ensuring the safety of wharf side parking and access. Ferry operators and ARTNL have prime responsibility for ferry and ferry wharf safety.

Implementation strategies to improve transport safety include maintaining and extending programs and initiatives for the following:

- Improving the safety of existing roads and ensuring new roads are built to best practice standards;
- Supporting and promoting targeted road safety programs;
- Along with Police services, increasing the effectiveness of enforcement; and
- Supporting ferry safety and ensuring the safety of wharf side parking and access.

KS-8 *Identify and protect future transport options through strategic land planning and land acquisitions*

Selection of a preferred option for another Waitemata Harbour crossing is conceivable within the next two to five years. Protection of the selected option will require the acquisition or designation of land for the crossing itself as well as for access to and from it in North Shore City.

There is also an ongoing need to secure land for future transport improvements or new access for City needs. Being proactive in securing land and taking a longer-term view of requirements is likely to lead to better outcomes and to be cost effective for Council.

The current cross-harbour study and planned Council investigations will identify land required to, respectively, safeguard a future harbour crossing and secure future transport options for North Shore City. Funding will also be needed to finance purchases of strategic transport land.

KS-9 *Work with Government agencies, regional bodies, other councils and transport operators to achieve North Shore transport objectives*

Transit New Zealand has sole responsibility for developing, maintaining and managing the State Highway network. Provision of public transport services is in the hands of transport operators and the Auckland Regional Transport Authority (ARTA).

Initial approval of Government funding for transport projects and programs also now occurs through ARTA. Other changes in Government legislation and regulations have also affected the way in which transport is funded and provided.

Part C Meeting Transport Needs

Working cooperatively with government agencies, regional bodies, other councils and transport operators is highly important to achieving North Shore transport objectives and implementing transport strategies adopted by the North Shore City Council. This cooperation is also necessary with ARTA and central government to obtain the required State funding to implement designated projects and programs.

Cooperation with other North Shore transport stakeholders and funding agencies will be effected through:

- Input to regional transport plans and strategies;
- Active consultation, advocacy and cooperation with central and regional government;
- On-going technical and political liaison with regional local authorities; and
- On-going consultation with transport operators.

Adoption of this Transport Strategy is expected to greatly assist in successfully undertaking these actions.