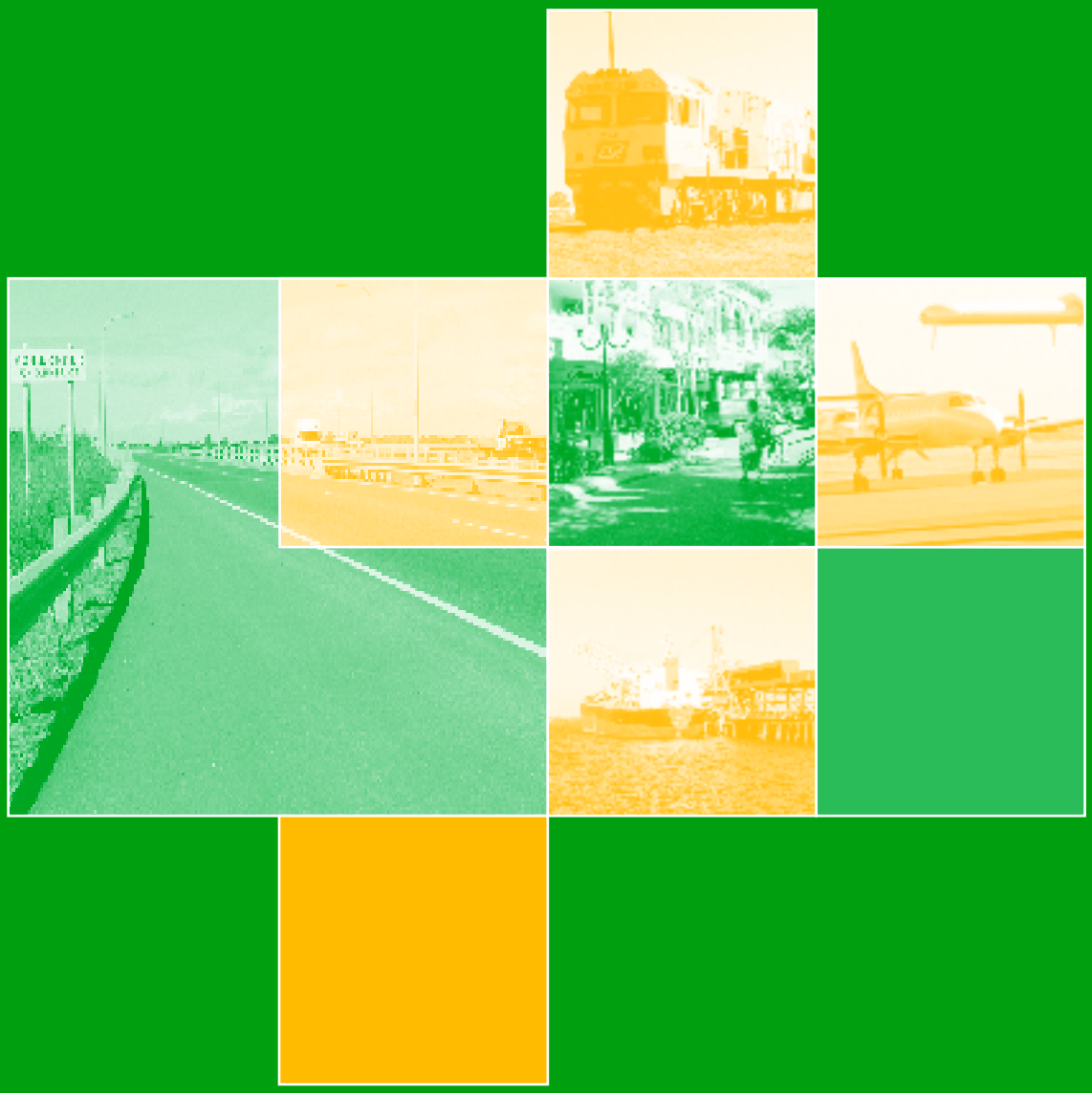
MACKAY AREA INTEGRATED TRANSPORT PLAN

2002-2025

An Integrated Transport Plan for the Mackay Area



MACKAY PORT AUTHORITY

MACKAY CITY COUNCIL

Queensland Government
Queensland Transport
Main Roads

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Acknowledgments

The Mackay Area Integrated Transport Plan (MAITP) Steering Committee gratefully acknowledges the efforts of all participants and contributors, and acknowledges the financial support provided by Queensland Transport, the Department of Main Roads, Mackay City Council and Mackay Port Authority. The role of the Community Reference Group was critical to the development of this plan and it is hoped that they will continue to be involved in its implementation. Our thanks are especially extended to them.

Disclaimer

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Foreword

Sustainable growth of the Mackay urban area is paramount to the Whitsunday, Hinterland and Mackay region (WHAM) and to the state. Provision of adequate transport infrastructure and services is critical to achieve employment, commercial, industrial and tourism outcomes for the area.

The Queensland Government, Mackay City Council and Mackay Port Authority are committed to generating jobs and prosperity in the area. The development of the Mackay Area Integrated Transport Plan supports this commitment to regional development. The Plan supports government's priority towards building Queensland's regions. It also supports Mackay City Council's priorities for the community's future: enhancing its lifestyle, driving economic development, focusing on ecological sustainability, undertaking quality strategic planning and effectively delivering infrastructure.

A partnership approach was adopted to develop the Mackay Area Integrated Transport Plan to ensure commitment to agreed outcomes. Extensive consultation with key interest groups, organisations, business, industry, government agencies and the general community contributed towards the formulation of transportation outcomes for the Mackay area. These outcomes will support economic growth, mobility, safety, livability, community wellbeing and environmental responsibility.

The Mackay Area Integrated Transport Plan provides a comprehensive framework for future development of the transport network and services over the next 25 years. The Plan provides a holistic analysis of the Mackay area transport system and identifies and addresses current and future transport and related challenges. It is a living document and will evolve with changing conditions. Some actions are already underway, while some have not yet been progressed to a detailed planning stage and will require appropriate environmental impact assessment and public consultation before final decisions are made. Funding of these actions will need to compete with other priorities in the area, as well as transport priorities in other parts of the state.

It is essential that the future provision of transport services and infrastructure be properly considered by all levels of government and the private sector to ensure economic growth, community wellbeing and environmental sustainability in the Mackay area. To achieve this, the action plans in the Mackay Area Integrated Transport Plan need to be implemented in a cooperative manner by all agencies involved. This will require commitment from all parties and the community.

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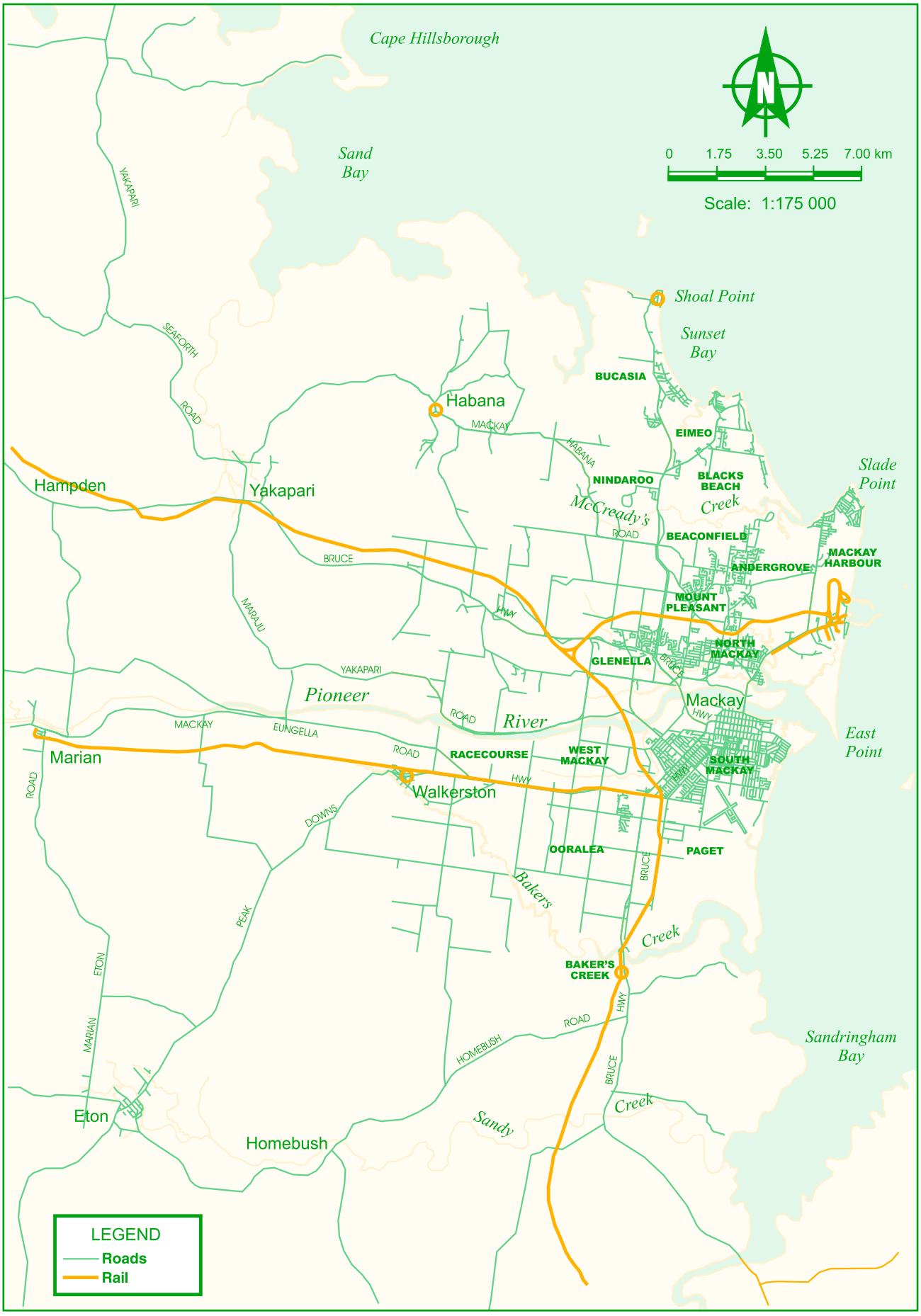
Bus Stop

Contents

MAITP Study Area



INTRODUCTION

- Overview
- Planning for the Future
- Planning Context
- MAITP Process
- Vision
- Visionary Principles
- Consultation

Introduction

The Mackay urban area has a diversified economy with a well-established and expanding sugar industry, specialised port facilities, an established coal industry services sector, as well as ample tourist accommodation and attractions. The local economy is supported by quality transport infrastructure and services.

The area is expected to experience significant growth over the next 25 years. An effective plan for transport in Mackay is necessary to ensure that the required infrastructure and services are identified and provided for in the planning processes associated with residential and industrial growth.

To date, previous studies have focused primarily on the provision of road infrastructure and traffic management in response to increased traffic growth. The Mackay Bridge Study (1994) identified the need for an integrated study to examine the issues associated with transport in Mackay.

A study of transport in the Mackay area (MAITS) was commenced in 1998 and an action plan was developed for consultation as input into the Mackay Area Integrated Transport Plan (MAITP).

The MAITP was jointly prepared by Queensland Transport, Queensland Department of Main Roads, Mackay City Council and Mackay Port Authority in consultation with key stakeholders and the community. A steering committee, represented by key contributors, was formed to oversee development of the plan.

The plan considers all transport modes (including road, rail, port and air) and aims to balance the need for general motor traffic, freight movements (by road, rail, air, pipeline, conveyor and sea), public transport and non-motorised transport (such as bicycles and walking). It considers the region's transport needs in a holistic and integrated manner alongside broader land use, economic, social and environmental considerations.

The plan recognises the need for a coordinated approach to all modes of transport over the short, medium and long term. It provides for future transport services and infrastructure that are properly considered by all levels of government and the private sector as being necessary to ensure economic growth, community wellbeing and environmental sustainability in the Mackay area. The plan is the first comprehensive integrated 25-year plan for the Mackay area that considers all modes of transport.

As part of the Plan's development process, a series of actions were identified. It is proposed that an implementation committee be established to oversee implementation of these actions.

As part of the ongoing review of the MAITP, the key planning assumptions upon which the MAITP is based will be periodically re-assessed. It should be noted that changes to the key planning assumptions may require adjustments to the MAITP Action Plans and their priority and timing.

Overview

The Mackay study area extends from Shoal Point in the north to Bakers Creek in the south, and west to the settlements of Habana and Walkerston. The area is characterised by distinct units of urban development separated by land that is subject to inundation, resulting in dependence on private transport for access and mobility. Mackay's urban form has been influenced by:

- the administration of the urban areas by the separate local governments (Mackay City and Pioneer Shire) prior to 1994;
- the origin of much of the urban areas being converted canelands. The direction and sequence of development (particularly in the former Pioneer Shire) was dictated by the availability of poorer quality land relinquished by farmers; and
- extensive land areas being liable to flooding.

Population Characteristics

Mackay has a relatively youthful population with a higher proportion of residents under the age of 15 compared to the Queensland average, and a lower proportion under the age of 65.

The estimated population for the Mackay Region in 2001 was 78,400. The estimated population of the Mackay urban area (for this study) in 2001 was approximately 67,000. The highest rate of growth in the Mackay urban area is in the Northern Beaches suburbs of Bucasia, Shoal Point, Eimeo and Dolphin Heads. This growth is largely a reflection of the availability of land for urban development, as well as its livability adjacent to the northern beaches.

Residential Characteristics

Residential land in the Mackay urban area comprises clusters of suburbs separated by low-lying open space corridors (which are subject to inundation) and canelands. Residential densities average around 8 dwellings per hectare. Approximately 83% of the available area for development is situated north of the Pioneer River.

Commercial Characteristics

The Mackay CBD, which includes the Canelands Shopping Centre, is Mackay's primary commercial area. An estimated 40% of the City's workforce was based in the CBD and immediate area, and there is opportunity for expansion, infill and intensification of development. The Mt Pleasant Greenfields Shopping Precinct is a sub-regional centre servicing those areas largely to the north of the Pioneer River. The range of services and activities at this centre is not intended to match those of the CBD. A major neighbourhood centre is proposed at Rural View in accordance with Council's Strategic Plan. Neighbourhood centres will continue to develop at Bucasia, Blacks Beach, Walkerston, Andergrove, North Mackay, West Mackay, Ooralea and Bakers Creek.

Business/Industrial Areas

There are a number of businesses and industrial areas dispersed throughout the Mackay urban area and include the Mackay Seaport; Paget/Ooralea industrial areas; sugar mills at Racecourse, Pleystowe and Farleigh, and the abattoir at Bakers Creek. The Mackay Seaport and the Ooralea/Paget industrial areas accommodate a wide range of industrial activities that accounts for an estimated 18.5% of the total workforce. Smaller localised service, trade, and commercial industrial areas are located around the CBD, sub-regional and major neighbourhood centres, and in other locations conveniently accessible to the local community.

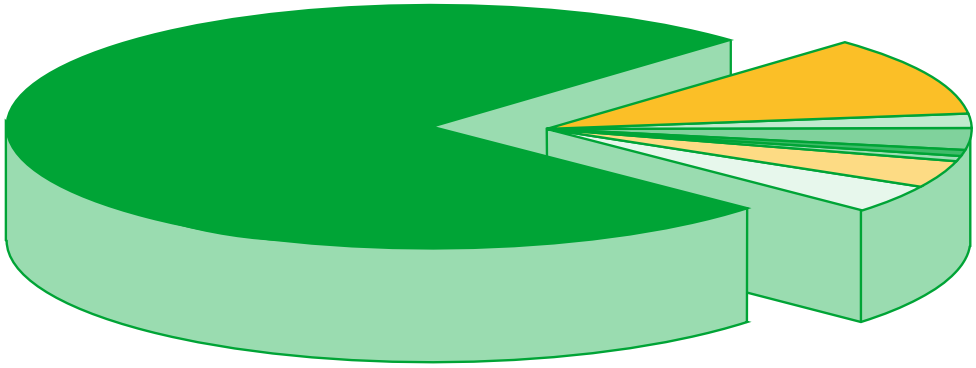
An estimated 70% of existing employment opportunities are located in suburbs south of the river, reflecting the city's linkages with the mining industry in the Bowen Basin. The Peak Downs Highway is the access route to the Bowen Basin and links directly to Mackay south of the Pioneer River, into the industrial area servicing the mining industry.

Travel Patterns

Travel patterns within the Mackay urban area are a reflection of the distribution of land uses. This manifests itself in high traffic volumes across three bridges over the Pioneer River and their associated arterial roads. Travel to and from work is predominantly by private transport (92%), with only 1.5% by public transport.

Access to transport facilities is especially important for those in the community without access to private transport. These are typically the lower income groups and the aged. Current statistics indicate residents with specific mobility needs are concentrated in the inner city locations, and those without access to private transport in newer suburbs.

Journey to Work



Bus	0.8%	Car Driver	75.7%
Taxi	0.7%	Car Passenger	10.6%
Bicycle	3.6%	Motorbike	1.9%
Walk	3.8%	Other	2.9%

Journey To Work Mode	Number of Trips 1996 Census Data	Mode Share (%)
Bus	161	0.75
Taxi	157	0.74
Total for Public Transport	**318**	**1.5**
Bicycle	759	3.56
Walk	817	3.83
Total for Bicycle/Walk	**1576**	**7.4**
Car Driver	16168	75.73
Car Passenger	2264	10.60
Motorbike	403	1.89
Other	621	2.91
Total for Private Transport	**19456**	**91.1**
Total Trips	**21350**	**100**

Planning for the Future

The rate of development of the Mackay urban area will be influenced by a range of opportunities considered to have strategic significance, such as:

- expansion in a range of agricultural industries;
- development of an alternative energies sector;
- continued growth and greater exporting of services;
- continued development of the area's training and research capacities;
- expansion of the tourism sector; and
- opportunities for improved profitability, increased competitiveness and new business ventures.

The Mackay City Council Transitional Planning Scheme guides the pattern of development in Mackay, providing the basis for planning, assessing and managing land use and development. The Strategic Plan is a component of this Planning Scheme, and outlines a number of broad principles for land use and development throughout Mackay, in the form of preferred dominant land use designations. Each land use designation identifies the intended uses.

Council's Corporate Plan identifies a series of strategies directed towards future development of Mackay, that include:

- the concept of Mackay as a destination rather than a gateway;
- provision of green areas and developed parkland;
- development of the botanic gardens and lagoons complex;
- encouragement of public access to the Pioneer River by developing and facilitating the provision of riverside infrastructure;
- planning, development and facilitation of meaningful place-making strategies for Mackay's CBD to make it an inviting and safe place for people throughout the day and night;
- promotion and encouragement of sustainable diversification, value-adding and retention opportunities for established local businesses and industries;
- integration of transport and land-use planning and provision for viable transport alternatives.

Population Growth

Medium-series population projections for Mackay urban area (study area) indicate a population of approximately of 77,000 by 2015 and 80,000 by 2025. This represents a compounded growth rate of about 1.3% per annum.

There has been an overall ageing of the population and it is expected that there will be substantial growth in the over 45 years age group.

Residential Development

Most of the residential land in the Mackay urban area is designated Urban Residential under the Strategic Plan. The Urban Residential designation envisages a net residential density of 10 dwellings per hectare, which is higher than the existing density of around 8 dwellings per hectare.

Within each of the residential areas, the Strategic Plan identifies sites for higher density residential development. It is intended that these higher density residential areas be developed for townhouses and residential apartments to a density of 30-40 dwellings per hectare. This density may be increased in the CBD to 60-100 dwellings per hectare.

Substantial areas are designated for Urban Residential use north of the Pioneer River. In areas south of the river, opportunities for higher density residential development are more limited, with the exception of Ooralea, where some 110 hectares in the vicinity of the university have been designated for Urban Residential use.

Commercial/ Industrial Development

The Strategic Plan provides for a hierarchy of commercial centres to ensure the widest range of goods and services are conveniently accessible for all residents in the area. It recognises the CBD as the

primary commercial area in Mackay. The CBD provides opportunities for expansion, infill and intensification of development. The light service industry area along the river east of the CBD is expected to transform to commercial/industrial-type activities (retail showrooms, services trades). Smaller localised service, trade and commercial industrial areas are envisaged around the CBD, around sub-regional and major neighbourhood centres and in other locations, conveniently accessible for the local community. A tourist area is designated in the Strategic Plan east of the CBD, adjacent to Queens Park.

The Mt Pleasant-Greenfields Shopping Precinct is not intended to compete with the range of services and activities located in the CBD. A major neighbourhood centre is envisaged at Rural View, on the eastern side of the Mackay - Bucasia Road. This centre will service urban areas north of McCready's Creek. Neighbourhood centres will continue to develop at Bucasia, Blacks Beach, Walkerston, Andergrove, North Mackay, West Mackay, Ooralea and Bakers Creek.

The Strategic Plan identifies the Mackay Seaport, Ooralea/Paget industrial areas, the sugar mills at Racecourse, Pleystowe and Farleigh, and Bakers Creek as critical areas for the concentration of major business and industry.

Transport

Travel patterns within Mackay are a reflection of the distribution of land uses. This manifests itself in high traffic volumes across three bridges on the Pioneer River and arterial roads. Dispersed land uses in Mackay are such that this imbalance is likely to exist at least for the life of the existing Strategic Plan. The Structure Plan produced as part of the existing Transitional Planning Scheme identifies future growth corridors that should redress this imbalance in the longer term (50 years).

It is anticipated that the use of private motor vehicles as a mode for journey-to-work trips will remain high in the area. With urban consolidation and appropriate urban design strategies, public transport and non-motorised transport usage may increase in the area in the medium to long term. The expected continued ageing of the Mackay population will result in an increase in services (including transport in the foreseeable future) and facilities to support the aged. Increasing demand for public transport in the outer suburbs is likely to occur as the age profile changes, and the opportunities for the elderly to relocate closer to the CBD diminish. Since the inception of new bus services in March 2000 there has been a 8% overall patronage increase in annual ridership for 2000/2001 from 1999/2000, with a 100% increase in adult and pensioner numbers, bringing the total ridership for 2000/2001 to in excess of 400,000 people. Freight transport by road is anticipated to grow as industry expands in the area.

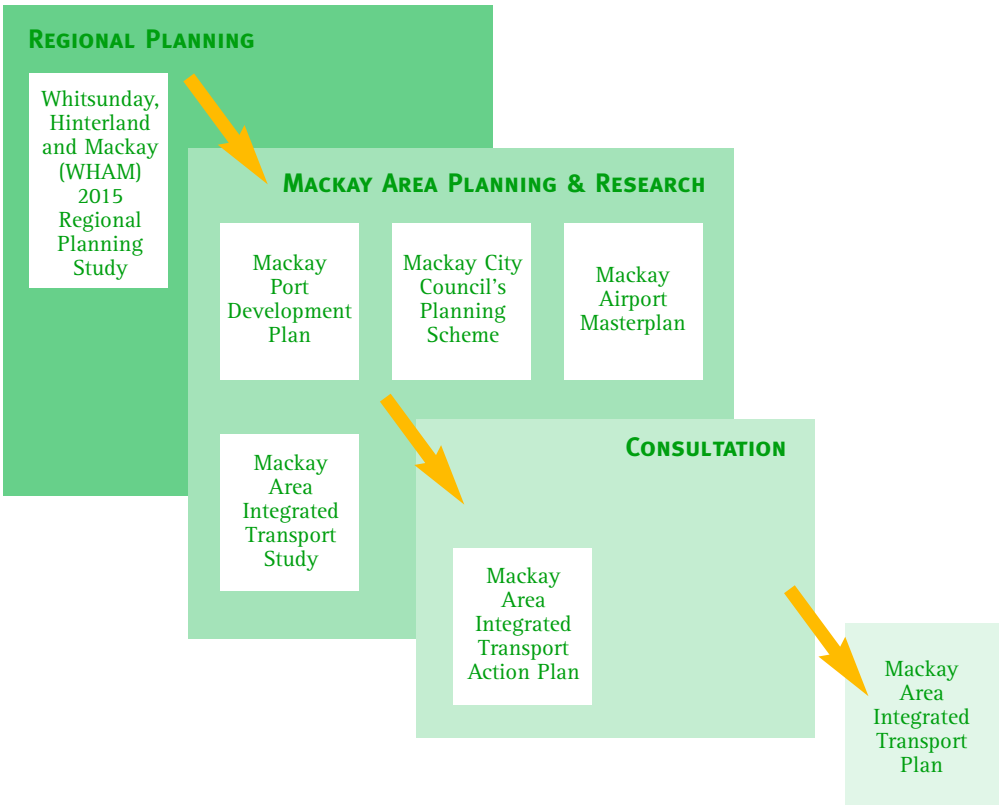
Planning Context

The timing of the Mackay Area Integrated Transport Plan is particularly relevant, given recent, current and future studies and planning processes in the area, including:

- **Whitsunday, Hinterland and Mackay (WHAM) 2015 Regional Planning Study.** This study includes a broad consultative process, with the principal objective of producing a comprehensive Regional Plan that addresses the economic, social, environmental, and community development objectives for the region.
- **Mackay City Council's Planning Scheme.** The existing Mackay City Council Transitional Planning Scheme has been prepared in a format that is consistent with IDAS (Integrated Development Assessment System) under the *Integrated Planning Act 1997 (IPA)*. Within Mackay City Council's Transitional Planning Scheme, the broad long-term vision provides a framework for growth in Mackay that ensures that short-term planning strategies do not limit longer-term planning opportunities. The associated Strategic Plan presents the broad land use structure and major infrastructure provisions by way of a statutory framework for growth and sustainable development. Council is currently preparing a Planning Scheme under the requirements of the IPA, which is proposed to come into force in 2003.
- **Mackay Port Development Plan (PDP) and Land Use Plan (LUP).** These plans set the strategic approach for future development of port infrastructure and land within the Mackay Port Authority limits.
- **Mackay Airport Masterplan.** This master plan was prepared to address future infrastructure and land use requirements at the Mackay Airport.

The above studies provide the basis for future land use and development in the Mackay area and have guided the formulation of strategies and actions in the Mackay Area Integrated Transport Plan.

Planning Context



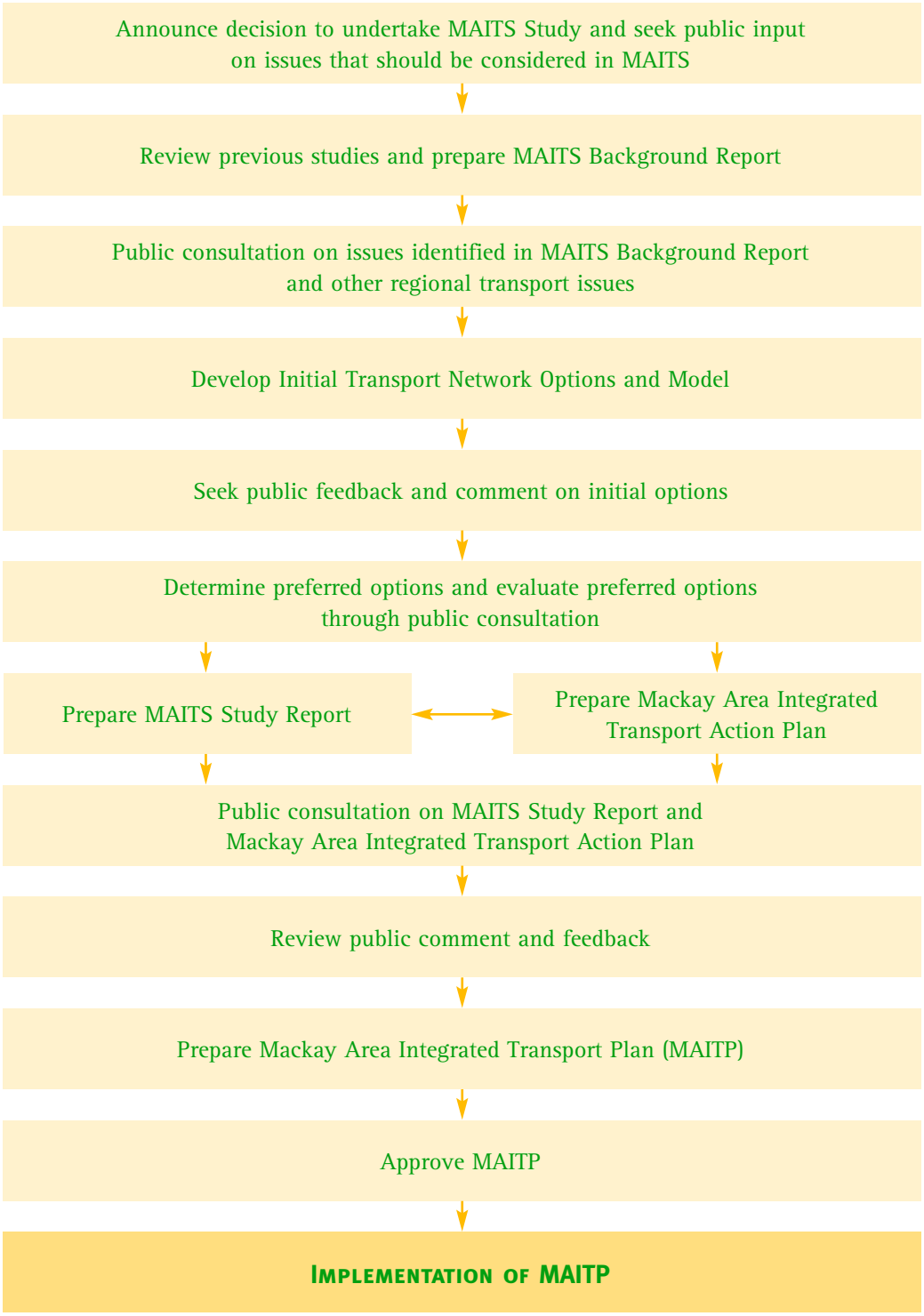
MAITP Process

Vision

Provision of an effective and integrated transport plan that is economically efficient, environmentally sustainable and socially equitable in meeting the emerging transport needs of the Mackay Urban Area for the next 15 to 25 years.

As a part of the Mackay Area integrated transport planning process a background study was undertaken. The Mackay Area Integrated Transport Study (MAITS) involved two main types of activities: consultation with the government and community stakeholders; and technical studies including land use and transport planning, modelling, option development and assessment, and strategy formulation.

Priorities and strategies contained in various relevant government, Council and corporate plans, and the main objectives of the MAITS were considered in the development of the vision statement and principles. In addition, extensive community consultation was undertaken in the development of the strategic vision for the future Mackay transport system. This vision has been adopted for the MAITP.



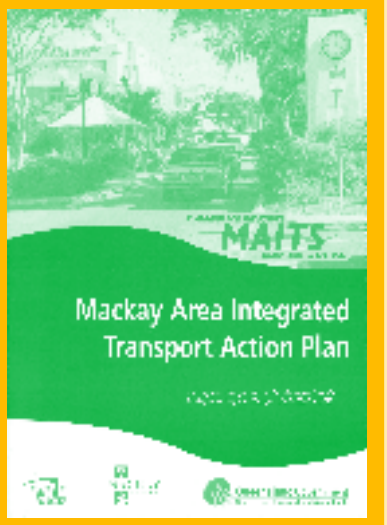
Visionary Principles

Ten visionary principles were established to provide a framework for a future transport network and services for the Mackay area.

Visionary Principles

1. Integration of all transport modes to provide an acceptable balance between private vehicle travel, public transport, cycling and walking.
2. An efficient road system that enhances cross-river movement, providing connectivity between residential areas and employment nodes, and supporting the status of existing and potential future transport corridors.
3. Efficient use of existing infrastructure.
4. Improved freight logistics, including mode and route selection that reduces negative impacts on the community.
5. Improved access for more remote communities and disadvantaged groups.
6. Reduced dependence on private motor vehicle usage through demand management.
7. Compatibility of transport solutions with the aims and objectives of local business and industries such as tourism, and the general community.
8. A continuous network of pedestrian and cycle paths connecting suburbs and major centres of employment and recreation.
9. Transport solutions that are flexible and affordable, and balance environmental, economic and social needs.
10. A coordinated and proactive approach by transport agencies in the implementation of strategies that includes ongoing community involvement in the decision-making process.

Consultation



Development of the Mackay Area Integrated Transport Study involved an extensive public consultation program, with a wide range of activities aimed at seeking input from, and providing information to, the various stakeholders. Community input in the Study, including the identification of issues and the assessment of potential solutions, is considered vital to the implementation of this Plan.

The consultation objectives for the Mackay Area Integrated Transport Study were to:

- identify the range of individuals and organisations within the community to be consulted;
- identify issues, concerns and opinions of the interested individuals and organisations;
- develop a range of strategies, supported by appropriate tools; and
- record and, where appropriate, respond to issues, comments and concerns raised, and report back on outcomes as required.

Consultation activities have been guided by a Communication and Consultation Plan which was approved by the Steering and Technical Committees. The consultation program was aimed at key interest groups (organisations, businesses, government agencies and community groups with a high level of interest in transport in Mackay) and the general community (including individuals with an interest in the Study, who are not necessarily members of interest groups).

The community was engaged through consultation activities such as advertising, displays, meetings, newsletters, fact sheets, discussions, telephone calls and community submissions. One of the activities by which involvement of key interest groups was sought was through the formation of Community Reference Groups. The role of the groups was advisory in nature and members of each group were expected to represent their particular interest group. Invitations for participation in the Community Reference Groups were originally distributed to 60 groups and organisations from which 35 nominations were received. Two Community Reference Groups were formed, representing a broad spectrum of groups and organisations with an interest in transport in the Mackay urban/study area. Community Open Sessions were held during each round of consultation activities.

These activities have provided valuable information for consideration in the Study Report and the preparation of the Mackay Area Integrated Transport Study Action Plan. The closing date for submissions on the Mackay Area Integrated Transport Study Action Plan was 22 December 2000. A transport industry workshop was held on 15 March 2001 to obtain industry feedback, and a Council workshop on 2 May 2001 was conducted to address issues raised by Mackay Port Authority and Mackay City Council.

The Mackay Area Integrated Transport Study (MAITS) and the Mackay Area Integrated Transport Action Plan, together with submissions received and the two workshops, provided direction for the preparation of the Mackay Area Integrated Transport Plan.

Activity	Summary
Newsletters	Newsletters were distributed at critical stages of the study to the general community and various community locations such as government offices, Council, library, shopping centres and outlying community centres.
Fact Sheets	Fact sheets were prepared with a summary of the key outcomes and potential actions of the Study to date. These were mailed to CRG (Community Reference Group) representatives prior to the CRG meetings, and were also available at community meetings to take away and distribute.
Community Reference Group Meetings	CRG meetings were held on five occasions during the development of the plan. Each CRG involved representatives from local interest groups, and promoted discussion about the Study.
Study Update	A one-page Study Update was distributed to all people on the Study mailing list, informing them of the next phase of consultation.
Public Display	Public displays were prepared and exhibited at Mackay City Council, the Queensland Transport Customer Service Centre and Canelands and Mount Pleasant Shopping Centres.
Draft MAITS Report and MAITAP	Copies of the Draft MAITS Report and MAITAP were available at Mackay City Council, the Queensland Transport Customer Service Centre and Mackay Port Authority, and the MAITAP was distributed to all people on the Study mailing list. Closing date for submissions was 22 December 2000.
Media	The *Daily Mercury* published, at various stages, articles about the outcomes of MAITS, including the MAITAP and consultation activities.
Advertisements	Advertisements were placed in the *Daily Mercury* and the *Pioneer News,* announcing community meetings and calling for submissions.
Street Banner	A street banner advertising the Study and identifying the 1800 number was erected over Victoria Street.
Community Open Session	Three Community Open Sessions were held during the study.
Community Responses	Community responses were received via comment forms included in the Study Newsletters, MAITAP, email, phone calls and discussions held during Community Open Sessions.
Study Team Contact	Study Team members were available to discuss aspects of the study with stakeholders and members of the community.
Freight Industry Workshop	A workshop was held on 3 March 2001 to establish the existing and the future freight transport task in the Mackay Area.
Mackay City Council Workshop	A workshop was held in May 2001 with Mackay City Council councillors to work through significant road infrastructure proposals and opportunities and constraints, in line with major planning proposals by Mackay City Council and its Draft Corporate Plan.
Web Page	Information about the Study was available from **www.ghd.com.au** throughout the study. Information relating to the Mackay Area Integrated Transport Plan is available on **www.transport.qld.gov.au**

ACTION PLANS

1. Land Use, Transport Planning and Cross-modal Issues
2. Road Network
3. Public Transport
4. Cycling
5. Pedestrian Issues
6. Travel Demand Management
7. Freight Movement
8. Aviation
9. Port, River and Marine
10. Rail Infrastructure and Services
11. Tourism
12. Environmental and Social Considerations

Action Plans

The Mackay Area Integrated Transport Plan addresses issues that impact directly or indirectly on the transport system. It provides for the maintenance, planning and delivery of new or upgraded transport-related infrastructure and services, as well as supporting an approach to urban development that considers current and future transport demands at an early stage.

The proposed actions contained in this Plan have been developed in recognition of the need to:

- develop a sustainable transport system;
- integrate transport networks and land uses;
- plan efficient transport networks to properly serve economic development; and
- provide a socially just transport system and maintain environmental quality for the Mackay area.

Identification of Sustainable Integrated Transport Solutions

There is a need to develop a transport system for the Mackay urban area without doing permanent harm to the global environment or damaging local environments. Any transport solution will need to be consistent with the *National Strategy for Ecologically Sustainable Development*. The Strategy aims to minimise adverse impacts on natural resources and the environment, and to seriously consider environmental issues when developing proposals.

The implementation of the proposed actions contained in this Plan will require:

- implementing procedures to ensure that the design, construction and management of roads, railway lines and other transport infrastructure avoids or minimises impacts on natural and cultural values;
- ensuring that planning, construction and operation of the transport system minimises noise and other traffic impacts on residential areas, noise-sensitive land uses and the natural environment;
- ensuring that nature conservation issues are addressed as part of the impact assessment for any new transport infrastructure, and by conserving remnant vegetation to the greatest possible extent; and
- ensuring that Cultural Heritage matters are appropriately considered including Native Title and sites of heritage significance. These would include Aboriginal sites, historic buildings and landscapes.

All planning and provision of transport infrastructure and transport systems in the Mackay urban area will need to be consistent with federal, state and local environmental statutes and state planning policies. These include those relating to environmental impact assessment; nature conservation; management of acid sulphate soils; conservation of good quality agricultural land; greenhouse and other air quality issues; the spread of declared plants; marine pollution; and the management of wetlands, fish habitat areas, state forests and reserves.

More efficient use of the transport system and infrastructure

There is a need to integrate the Mackay urban area transport network and land uses to facilitate the efficient movement of freight and people, and to cater for needs of industry, business, residents and visitors. This will require:

- integrating road, rail, port and miscellaneous transport infrastructure;
- integrating land use and transport planning;
- promoting appropriate transport modes and full use of emerging technologies; and
- making people aware of their transport choices.

Improved Freight Transport

There is a need to plan efficient transport networks to properly serve major industries, including sugar and tourism. This will require:

- identifying and preserving transport corridor options for the future provision of regional road and rail and other miscellaneous transport infrastructure;
- planning transport networks in a flexible manner in order to accommodate new, expanding and changing industries, including primary industry, within the region; and
- maximising funding opportunities to meet future demands, particularly by industry, on the transport networks, especially road.

Improved Public Transport Services and Accessibility

A socially just transport system should ensure that all members of the community are able to move around to fulfil basic needs. The transport system must also be safe, affordable, have minimal intrusion on people's lives, involve the community in its development and management and ensure that its costs are shared equitably. This will require:

- complying with appropriate legislation contributing to social justice objectives;
- recognising the right of people to provide comments on transport issues that affect them;
- ensuring that the requirements of state and local government consultation policies and procedures are met;
- ensuring that specific consideration of personal safety and security (particularly for older people, people with a disability, and women) is undertaken in all transport planning decisions;
- promoting best practice design for public transport vehicles and infrastructure to meet the needs of all people, particularly those with mobility problems;
- providing a network that offers regional communities mobility and accessibility;
- ensuring that the planning, provision, operation and management of transport infrastructure and services fully assess the social and community impacts of transport proposals, especially accessibility and mobility;
- contributing to meeting gaps and unmet transport needs and achieving social equity objectives;
- considering and meeting appropriate guidelines and standards for safety and accessibility, especially for older people and people with a disability; and
- supporting alternative modes of transport such as cycling, walking, public transport and community transport.

The Mackay Area Integrated Transport Plan contains actions for the following areas:

- land use, transport planning and cross-modal issues
- road network
- public transport
- cycling
- pedestrian issues
- travel demand management
- freight movement
- aviation
- port, river and marine
- rail infrastructure and services
- tourism
- environmental and social considerations

Planning for transport infrastructure should include a risk assessment of the potential impacts of disasters and the planning response should include mitigation strategies that reflect the level of risk and the importance of the infrastructure to the community.

Responsibility for the implementation of each of the actions contained in the Mackay Area Integrated Transport Plan has been assigned to agencies best positioned to ensure the outcome of the actions. Many of the actions would be implemented on an ongoing basis.

Lead agencies and supporting agencies listed against each action include:

- AMSA
  Australian Maritime Safety Authority (coastal waters)
- City Heart
- Bicycle Mackay
- Cane Growers
  Cane Growers Mackay District
- DLG&P
  Department of Local Government and Planning
- DMR
  Department of Main Roads
- DNR&M
  Department of Natural Resources and Mines
- EPA
  Environment Protection Agency
- Industry
- MCC
  Mackay City Council
- MCCBAC
  Mackay City Council Bicycle Advisory Committee
- MPA
  Mackay Port Authority
- MSCAL
  Mackay Sugar Cooperative Association Ltd
- MTDB
  Mackay Tourism Development Board
- MRCSD
  Mackay Regional Council for Social Development
- QR
  Queensland Rail
- QT
  Queensland Transport
- QT(SC)
  Queensland Transport – Commercial Service Contracts
- Transport Operators

TARGET TIMEFRAMES FOR THE IMPLEMENTATION OF EACH ACTION ARE INCLUDED.

Short Term:
2001 – 2005

Medium Term:
2005 – 2015

Long Term:
2015 – 2025

1. Land Use, Transport Planning and Cross-modal Issues

Mackay City Council Transitional Planning Scheme

The Mackay City Council Transitional Planning Scheme includes a number of principles and visions relevant to the development of an integrated transport system, including the following:

- the Mackay CBD should remain the primary commercial and administrative hub for the region and be supported by an appropriate hierarchy of centres throughout the city;
- opportunities for the convenient location of retail and commercial facilities and employment opportunities should be provided throughout the city;
- the community should have access to and plan for, an accessible and efficient transport system;
- orderly and sequenced development should allow for the efficient and affordable provision of utility and social infrastructure;

Land use and transport planning have a major influence on where people live and work and how people travel. The location of land uses influences both travel demand and the efficiency of public transport services, while the availability of roads and transport services often determines the location and distribution of different land uses. Travel patterns within Mackay are a reflection of the distribution of land uses. The existing imbalance manifests itself in high private vehicle traffic volumes across three bridges on the Pioneer River and arterial roads.

The plan recognises that there is a need to appropriately integrate modes of transport in the Mackay urban area. It is anticipated that the use of private vehicles as a mode for journey-to-work trips will remain high in the area.

The ageing of the population since 1991 will require increased services to support the aged. Increasing demands for public transport in the outer suburbs is likely to occur as the age profile changes, and the opportunities for the elderly to relocate closer to the City diminish.

Increased use of public transport will be effected through the provision of opportunities to integrate and improve passenger transfers between transport modes, and improve bus, cycling and pedestrian connectivity and access in existing urban areas. Improved directional signage between the city and major transport nodes (airport and station) will further enhance the use of alternative modes. This has the potential to reduce the dependence on private car travel and enhance passenger safety.

The Mackay City Council Transitional Planning Scheme and the assessment of development applications to support good urban design for future urban areas are critical to the improvement of the standard of living in Mackay. Proposed urban consolidation strategies will reduce urban sprawl and new urban design strategies can be employed to increase/enhance public transport usage and mitigate congestion.

There is a range of design standards and guides which supports this approach (such as Queensland Transport's *'Shaping Up'* document), and suggests ways to better integrate public transport planning and urban design. Better planned and more efficient inter-modal freight facilities will promote environmental and safety objectives.

Strategies for the Mackay urban area include the provision of green areas, developed parkland, botanic gardens and lagoons complex, and riverside infrastructure. The development of the CBD, which is a high priority, and other priorities such as the promotion of Mackay as a destination rather than a gateway, promotion of commercial and industrial development, ensuring ecological sustainability, integration of transport and land use planning and the development of sound infrastructure funding programs will influence the provision of transport infrastructure and services.

On 19 November 2001 Mackay City Council advertised their Statement of Proposals as part of the plan making process under the *Integrated Planning Act 1997*. Under this process, it is anticipated the final IPA planning scheme will protect major transport corridors such as the Multi-Modal Transport Corridor that will provide a future east-west route to the Port of Mackay.

Action Plan: Land Use, Transport Planning and Cross-Modal Issues

Action	Timing	Responsible Agencies
Lu1 Ensure that transport issues and concerns are identified in the terms of reference for all current and future impact assessment studies.	Ongoing	QT (Lead), DMR, MCC, MPA, QR
Lu2 Consider good urban design and integrated regional transport planning principles as contained in *'Shaping Up'* Guidelines, *'Queensland Streets'*, AMCORD and the Mackay Road Hierarchy Principles.	Ongoing	QT (Lead), DMR, MCC, DLGP (Supporting)
Lu3 Investigate opportunities to integrate and improve passenger transfers between transport modes in Mackay, including rail, bus, air and sea (in terms of infrastructure and service provision). *(Refer Pt3, Rl2)*	Short Term	QT (Lead), MCC, MPA, QR, DLGP
Lu4 Guide development in Mackay through the Mackay City Council Transitional Planning Scheme and Mackay Seaport and Airport Land Use Plan (LUP), with regular updates of these planning controls.	Ongoing	MCC (Lead), MPA, DMR, DLGP (Supporting)
Lu5 Consider public transport, pedestrian and cycling movement when planning new and re-developing areas.	Ongoing	MCC (Lead), DMR, QT DLGP
Lu6 Improve bus, cycling and pedestrian connectivity and access in existing urban areas, based on detailed needs assessment. *(Refer Pt15, Cy6, Pd4)*	Short Term	QT (Lead), DMR, MCC
Lu7 Monitor population growth and employment characteristics trends to enable transport strategies and actions to be revised to meet current and future community needs.	Ongoing	DLGP(Lead), MCC
Lu8 Ensure the IPA planning scheme for Mackay City Council incorporates the desired outcomes of the MAITP.	Ongoing	MCC (Lead) QT, DMR, MPA, DLGP

Mackay City Council Transitional Planning Scheme (continued)

- the existing light service industry centre along the river east of the CBD is expected to develop into commercial/industrial activity;
- neighbourhood centres will continue to develop at Bucasia, Blacks Beach, Walkerston, Andergrove, North Mackay, West Mackay, Ooralea, and at Bakers Creek;
- areas identified for concentration of major business and industry include Mackay Seaport, Paget/Ooralea, the Sugar Mills at Racecourse, Pleystowe, and Farleigh, as well as at Bakers Creek (abattoir);
- localised service, trade and commercial industrial areas are supported in places around the CBD frame, subregional and major neighbourhood centres.

2. Road Network

The road network is a key component in integrated transport planning, as it provides infrastructure for the movement of people and goods via a number of modes of transport. Development of actions for the road network in this Action Plan considered:

- the Mackay City Council Planning Scheme;
- results from the road network modelling studies;
- development of a number of road network development options; and
- an evaluation of the relative advantages, disadvantages, and broad cost implications of potential transport options.

The Mackay Area Integrated Transport Plan provides road corridor and bridge strategies that address current network issues and projected traffic growth in the short, medium and long term.

The development of a responsive road network for the Mackay urban area requires a balance between options for the upgrading and maintenance of existing transport corridors, identification and preservation of future transport corridors, and the maintenance or replacement of existing bridges or construction of new bridges. Transport studies undertaken for MAITS have considered a number of road network options. The development of these options needs to recognise population thresholds and key objectives of the Mackay City Council Planning Scheme.

Cross-River Traffic Demand

Currently within the urban area, three bridges cross the Pioneer River: Forgan Bridge, Ron Camm Bridge and Hospital Bridge. Hospital Bridge is also known as the Pioneer Bridge. The existing river crossings consist of eight lanes: Forgan Bridge (two lanes), Ron Camm Bridge (part of the national highway system) (four lanes) and Hospital Bridge (two lanes).

Cross-river traffic totalled 62,000 vehicles per day (vpd) in 1996 and is projected to reach around 90,000 vpd by 2015 and 100,000 vpd by 2025. The projected traffic growth rate of 2.3% p.a. until 2015 is based on the predicted rate of development that is likely to occur in the northern parts of the Mackay urban area. A lower projected growth rate of 1.1% p.a. is projected from 2015 onwards when development is expected to slow down.

If traffic growth occurs as predicted, the projected cross-river traffic will require a total of ten lanes across the river by 2025. The current Hospital and Forgan bridges will require either structural upgrading or replacement during this time.

A range of options was considered to provide cross-river capacity to meet this demand. Some of these options (from east to the west) include:

- the replacement of Forgan Bridge (at its current location or within the general eastern CBD area) with a new two- or four-lane bridge;
- construction of a new central bridge (two or four lanes);
- the addition of two lanes on Ron Camm Bridge; and
- the replacement of Hospital Bridge (at its current location or within close proximity of the existing bridge location) (two lanes).

As part of the normal planning and design process for upgrading or providing new bridges, cycle and pedestrian access will be addressed to allow safe and convenient travel for these modes.

A bridge crossing (Te Kowai-Foulden) further upstream to the west of the Hospital Bridge was considered as an alternative regional link. This bridge would serve mainly freight purposes and ultimately form part of a long-term alternative to using the current Ron Camm Bridge. As the timeframe for its construction is considered beyond 2025, it will not be considered further as part of this plan.

Some of the key considerations relating to each potential river crossing solution are discussed below.

Eastern CBD (Forgan Bridge)

The main bridge options considered within the general eastern CBD area were:

- retention of the existing two-lane Forgan Bridge;
- removal of the existing structure without replacement;
- replacement of the existing Forgan Bridge with a two- to four-lane bridge either on the current alignment or at an alternative location at the eastern end of the CBD.

Structurally, the existing Forgan Bridge will require upgrading or replacement in the medium term. If not upgraded or replaced, the current cost of maintenance will continue to increase.

Removal of the existing Forgan Bridge would require an increase in traffic capacity of the remaining bridges and significant traffic diversion to access them.

Construction of a four-lane bridge on the current alignment would require upgrading at the River and Sydney Street intersection and would need to address the impact of traffic along those streets.

An alternative bridge site within the general eastern CBD area would similarly need to address traffic impact and circulation issues.

Central Bridge

The main options considered for the provision of a central bridge were:

- construction of a new two-lane bridge (with an upgraded two-lane Forgan Bridge); or
- construction of a new four-lane bridge (removing Forgan Bridge).

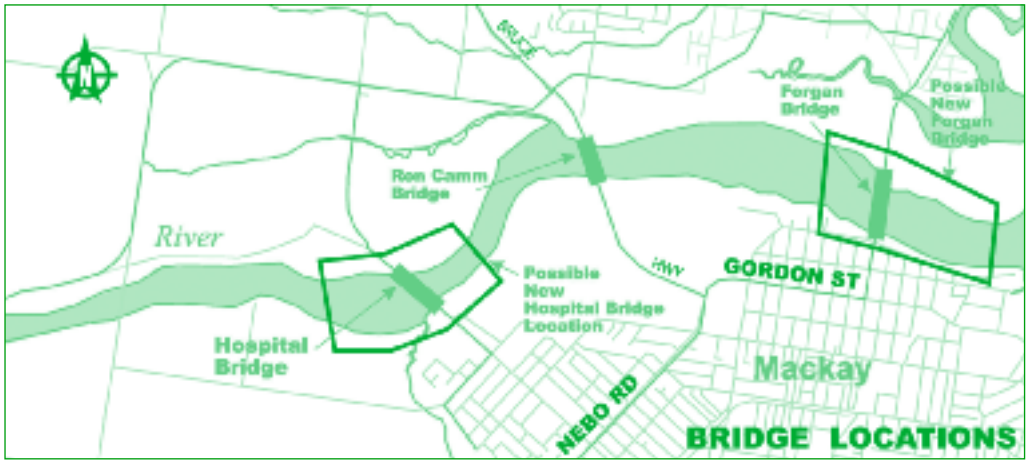
A new two-lane Central Bridge would supplement the existing bridges and cater for cross-river movements beyond 2025. All existing bridges would need to remain operational within the network.

The construction of a new four-lane Central Bridge, in lieu of Forgan Bridge, would require significant traffic diversion and could adversely impact on the operation of the CBD, especially current plans for revitalisation. Major congestion problems would also occur where Ron Camm Bridge and Central Bridge traffic meet.

Ron Camm Bridge

It is proposed that the existing Ron Camm bridge be retained with its four-lane capacity.

Upgrading of Ron Camm Bridge to six lanes is not practical. Although the option would theoretically meet traffic demand beyond 2025 , the costs to provide the additional capacity would be high, with major works required to replace the existing bridges, approaches and intersections. This option would still require that a total of ten lanes be provided – i.e. retention of two lanes at Hospital Bridge and two lanes at Forgan Bridge.



Hospital Bridge

There were three main options considered for Hospital Bridge:

- retain the existing two-lane bridge;
- remove the existing bridge; or
- construct a new two-lane bridge.

Hospital Bridge relieves traffic flow on other bridges and the approach road network, and provides access to the hospital, West Mackay and Paget from North Mackay. Hospital Bridge is strategically important, however the existing bridge has a 40 kph speed restriction and the structure has a limited life. The narrow carriageway and load limit precludes access for heavy vehicles. High maintenance costs, low flood immunity and the potential loss of the bridge in a major flood makes retention of the existing bridge a less desirable option.

Removal of the existing Hospital Bridge would reduce access to the hospital and increase traffic flow on Ron Camm Bridge.

Construction of a new two-lane bridge at its current location or in close proximity would ensure that traffic flows on the road network remain balanced and local accessibility is maintained. A new structure also provides an opportunity to improve the flood immunity.

Road Network Elements

The road network on either side of the river has several critical sections that are likely to require improvements to provide a viable network in the long term. These include:

- Glenpark Street;
- Nebo Road;
- Paradise Street, and the connection to the CBD;
- Malcolmson Street;
- future multi-modal freight corridor
- Bucasia Road;
- Rural View – Blacks Beach link.

Glenpark Street

Current traffic projections show that Glenpark Street may exceed two-lane capacity by 2015, with movements increasing to 25,000 vpd. An option is to upgrade Glenpark Street to four lanes, which would cater for traffic movements beyond 2025.

Nebo Road

Based on traffic projections, Nebo Road will have adequate traffic capacity to beyond 2025. At current growth rates, the Nebo Road/ Bruce Highway (Showgrounds) intersection will, however, reach capacity by 2010. The provision of a connection between Hume, River and Victoria Streets and the southern approaches to Ron Camm Bridge would reduce demand on the intersection and relieve congestion.

Paradise Street

Paradise Street is predicted to reach two-lane capacity by 2015, with projected traffic movements increasing to 20,000 vpd. Milton Street will provide an important link to the CBD. Resulting east-west traffic movements in Gordon Street are expected to increase from 20,000 vpd to 32,000 vpd by 2025.

Malcomson Street

As the East-West Connector project has been abandoned, four permanent lanes in Malcomson Street are required to accommodate projected traffic. Four lanes (using clearways) are currently provided in peak hours only.

Future Multi-Modal Freight Corridor

In the long term a multi-modal freight corridor, following the existing rail line, from Mackay Port to Bucasia Road, may reduce the impact of heavy vehicles on the existing road network. Provisions are planned in the pending Mackay City Planning Scheme to preserve the proposed Multi-Modal Freight Corridor from the Bruce Highway to the port. The future need for this corridor has been identified in the State Infrastructure Plan.

Mackay – Bucasia Road

Based on traffic projections, Mackay – Bucasia Road is predicted to exceed two-lane capacity before 2015, with traffic movements increasing to 30,000 vpd. The Department of Main Roads has commenced upgrading of Mackay – Bucasia Road.

Rural View-Blacks Beach Link

Eimeo Road will approach two-lane capacity by 2025, with projected traffic movements of 20,000 vpd. Introduction of a new two-lane link between Blacks Beach and Rural View would reduce traffic pressures on Eimeo Road and provide capacity in that corridor to beyond 2025.

Works are planned to commence in 2003 on a bypass of the Eimeo School, with provision for a future link to Blacks Beach.

Heavy Vehicle Routes

A number of options to provide improved heavy vehicle routes in the Mackay urban area have been considered including:

- a Greenmount Road–Alexandria Road link or a Stockroute Road – Bruce Highway link, around Walkerston. It is projected that, by 2025, any alternative route would carry only between 3,000 to 4,000 vehicles per day and, as such, is not considered further under this plan. Urban expansion at Walkerston along the Peak Downs Highway should be limited to retain the option for a long-term deviation around the township.
- upgrading of the Eton-Marian–Hampden link to provide a regional route around Mackay. This option, combined with upgrading the Eton-Homebush route, would provide an improved connection between the Peaks Downs Highway and the Bruce Highway to the north and south;
- provision of an additional river crossing in the Te Kowai-Foulden area to provide a long-term alternative north/south freight route which could potentially also link to the Port of Mackay. The need for such a link is considered to be beyond the timeframe of this plan.

Further detailed studies would be required to investigate the feasibility of the above options.

Consultation

A number of issues have been raised by the community for consideration when planning the future road network.

Revitalisation of the city centre is considered important. It is desirable to minimise heavy vehicle movement through the city centre, especially along River Street where a range of boardwalks/ cycleways and some traffic calming devices are being considered. The impact of any reduction in River Street traffic on the balance of the adjacent street system will have to be considered.

There is a 10-year plan for the development of botanical gardens in west Mackay. The development of Lagoon Street or a route parallel to the existing rail as a heavy vehicle route may create conflicts with the intended botanic gardens usage. In addition an environmental park is being considered to improve the northern entrance to the CBD. A Hume Street link to Victoria Street and River Street could provide access to this area.

Preservation of green corridors along Paradise, George and Evans Streets, is considered a high priority.

Consultation with the freight industry indicated that the current road network is generally acceptable. The main freight route to the Port is from Nebo Road across Ron Camm Bridge via Sams Road, Malcomson Street and Harbour Road. The freight industry indicated that the route is acceptable for the short to medium-term, providing that critical sections such as Malcomson Street are upgraded to adequately cater for heavy vehicle movements in the near future.

In the long term, a heavy vehicle route to the west of the railway joining to Sugarshed Road, Heaths Road, Sams Road and Malcomson Street to access the port should be considered. There is a general preference for a heavy vehicle route to the

west of the existing rail line for the north-south movements and use of the multi-modal corridor in the long term for the east-west movements. Delivery of medium- to long-term options will depend on funding availability and benefits of such routes.

Recommended Road Network Strategy

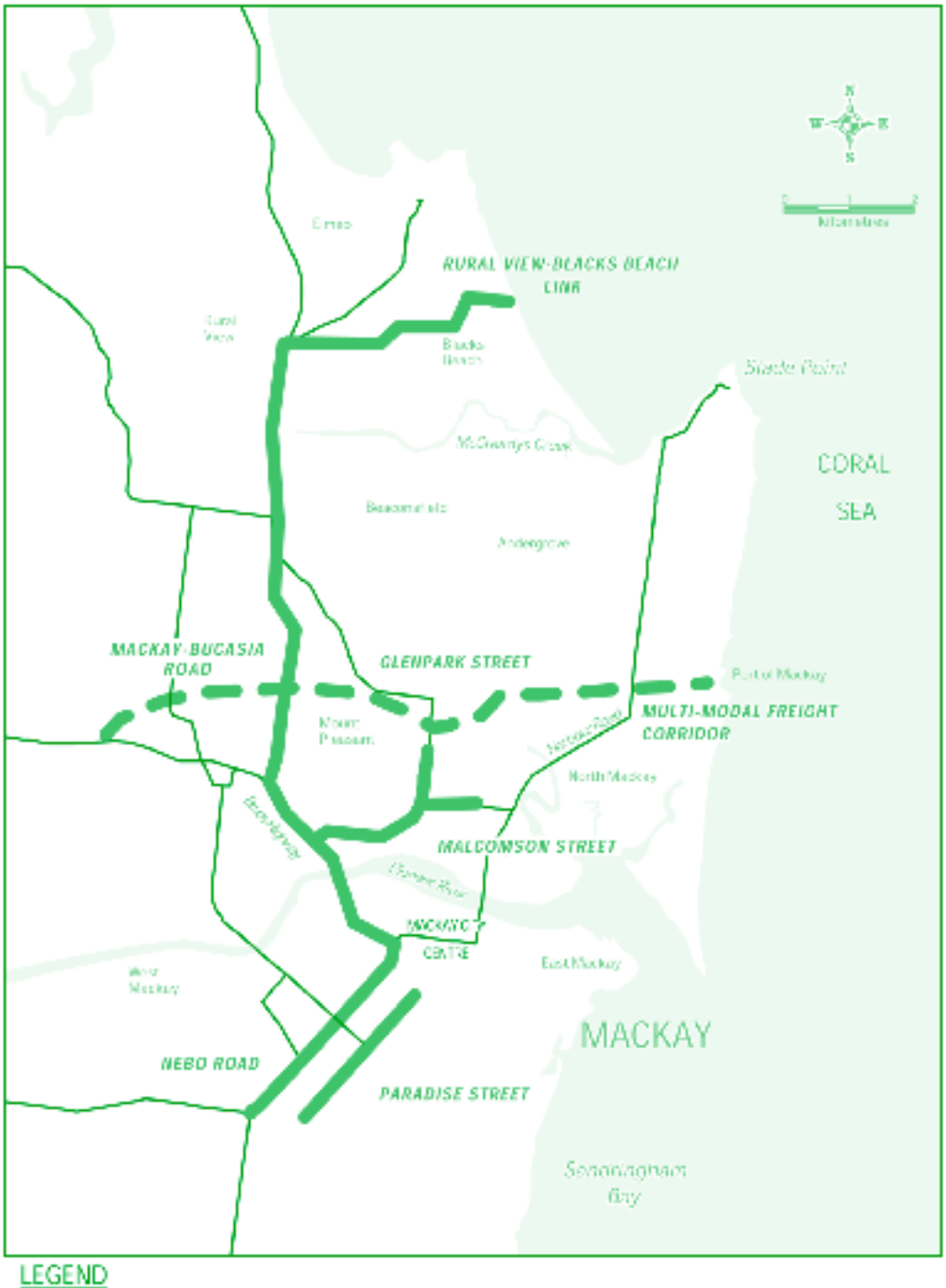
A road network strategy was developed, taking into consideration existing and projected traffic movements that may result from expected growth and land uses, the availability of funding for road infrastructure and the community's future development objectives for the area. Because of the range of planning options identified for each of a number of network elements (existing and future), a series of staging options is required. The timeline for planning and delivery of cross-river capacity needs to focus on potential key triggers (i.e. traffic volumes) based on demand for additional lanes, current infrastructure condition and potential impact of loss of a particular bridge.

The critical elements of the recommended road network strategy for the Mackay area are:

- Replacement of Forgan Bridge should be planned to coincide with the end of the anticipated structural life of the bridge. A four-lane structure should be provided as either a replacement for Forgan Bridge or construct a new bridge. Planning should commence in the short term and include a detailed study to address overall capacity and the staged implementation of cross-river solutions. The study should also consider intersection and approach road impacts at the approaches to each existing and potential future bridge.
- The disused railway corridor section from Shakespeare Street to Juliet Street is no longer required for future transport use but should be retained as 'Open Space'. The section from Alfred Street to Shakespeare Street needs to remain 'subject to QT assessment for a future transport corridor'.
- A Central Bridge should not be provided as it may adversely impact on the vitality of the CBD due to through traffic intrusion and resultant congestion, as well as social and environmental impacts on the northern approach.
- Hospital Bridge should be replaced at the end of the structural life of the bridge. Replacement should occur on either the current alignment or in close proximity prior to the combined traffic volumes on Hospital Bridge and Ron Camm Bridge exceeding 45,000 vpd. Planning needs to be undertaken in the short term due to the risk of the loss of the bridge during a flood event.
- The Hume Street connection from the southern approach of Ron Camm Bridge to River Street / Victoria Street and Hume Street should be constructed when the Nebo Road / Gordon Street intersection reaches capacity. This will maximise the traffic carrying capacity of the Ron Camm Bridge approaches, in addition to alleviating congestion at Nebo Road and Milton/Gordon Street intersections. Planning should commence in the short term.
- Malcomson Street should be upgraded to a higher standard four-lane facility as the main freight corridor through North Mackay for the medium term. Planning should commence in the short term.
- Upgrading of Mackay-Bucasia Road should continue to accommodate increasing traffic.
- The western north-south freight route (Te Kowai - Foulden) does not warrant further investigation within the timeframe of this Plan.
- The multi-modal freight corridor is the preferred freight route to Mackay Port in the long term. The state government should retain the road corridor land for the section of the multi-modal freight corridor between Mackay Port and Bucasia Road.

- The preservation of the corridor west of Mackay - Bucasia Road to the Bruce Highway is to be included as part of the Mackay City Council Planning Scheme, to protect the corridor from encroaching development.
- The total corridor from the Mackay Port to the Bruce Highway is to be the subject of a corridor management plan to preserve the corridor from encroachment by incompatible and noise-sensitive development.

Mackay Road Network



Action Plan: Road Network

Action	Timing	Lead Agencies	Other Agencies
Rd1 Commence planning for the replacement of Forgan and Hospital bridges to address cross-river capacity, including consideration of approach and major intersection requirements and cycle and pedestrian access.	Short Term	DMR	MCC
Rd2 Inform QR of the required status of the disused railway land from Alfred Street to Juliet Street. ■ Alfred to Shakespeare Street - subject to QT assessment for a future transport corridor; ■ Shakespeare to Juliet Street - not required for future transport purposes.	Short Term	QT	DMR, MCC
Rd3 Undertake detailed urban road planning studies to address capacity issues associated with: ■ Glenpark Street; ■ Nebo Road, including intersections; ■ Hume to Victoria/River Street link; ■ Paradise Street; ■ Bruce Highway north of Sams Road; ■ Malcomson Street; and ■ Rural View to Blacks Beach link.	 Medium Term Medium Term Medium Term Medium Term Medium Term Short Term Medium Term	 MCC* DMR* DMR/MCC MCC DMR DMR DMR/MCC	
Rd4 Undertake detailed investigations into the provision of alternative freight routes around the greater Mackay urban area to address the impacts of through transport of freight. *(Refer Fr8)*	Long Term	DMR, MCC	QT
Rd5 Preserve the existing multi-modal freight corridor between Bucasia Road and the port. Manage the impacts on the retained multi-modal freight corridor land, including resolving current conflicting uses as soon as practicable.	Short Term	DMR, MPA MCC,	QR, QT, DNR&M
Rd6 Preserve land for the multi-modal corridor between the Bruce Highway and Mackay – Bucasia Road through the Mackay City Planning Scheme.	Short Term	DMR, MPA, MCC	QT, QR, DNR&M
Rd7 Develop a management plan for the multi-modal freight corridor, including resolution of the required land tenure envelope to accommodate the MMFC, a strategy for acquisition of those parts of that envelope not currently controlled by the state, and termination of interim use of corridor land for any potential conflicting use.	Short Term, Ongoing	DMR	QT, MCC, MPA, QR
Rd8 Continue to manage the road network through: ■ maintaining road safety standards that are responsive to local needs; ■ reviewing traffic signal phasing to reduce delays; ■ maintaining road signage in accordance with local and state standards; ■ maintaining the road asset; and ■ undertaking road safety audits to consider the needs of all road users.	Ongoing	DMR, MCC*	

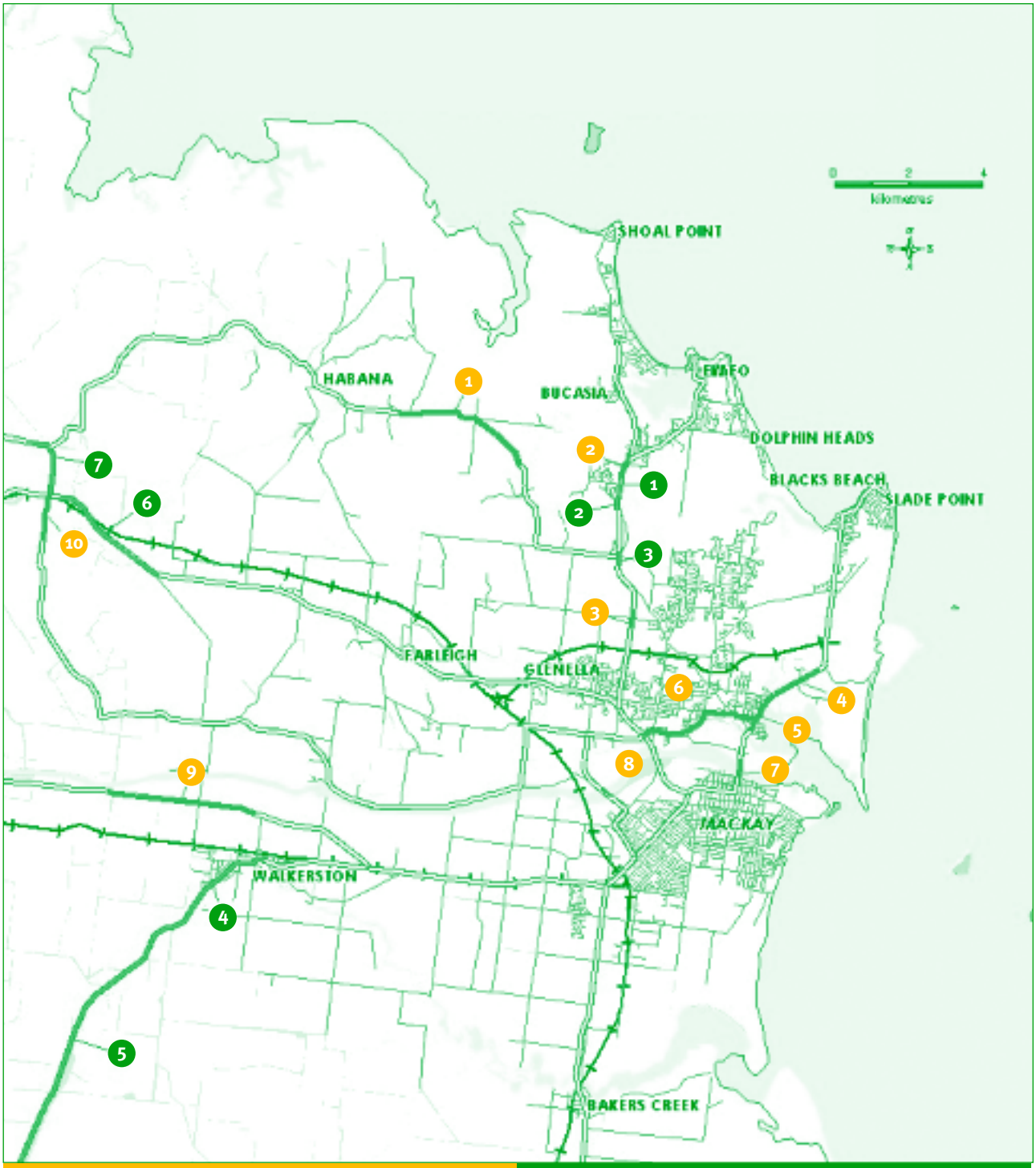
** Main Roads is lead agency for state controlled roads; Mackay City Council is lead agency for council roads*

Capital Program: Road Network

Description of Work	Lead Agency	Order of Cost	Timing (Term)	Funding Status
CRd1 Commence planning for the replacement of Forgan and Hospital Bridges to address cross-river capacity, including consideration of approach and major intersection requirements.	DMR	$200k	Short	Funded
CRd2 Undertake detailed urban road planning studies to address capacity issues associated with:				
■ Glenpark Street;	MCC	TBD	Medium	Unfunded
■ Nebo Road, including intersections;	DMR	$50K	Medium	Unfunded
■ Hume Street/River Street link;	DMR/MCC	$100K	Medium	Unfunded
■ Paradise Street;	MCC	TBD	Medium	Unfunded
■ Bruce Highway north of Sams Road;	DMR	$50K	Medium	Unfunded
■ Malcolmson Street; and	DMR	$80K	Short	Funded
■ Rural View to Blacks Beach link.	MCC	TBD	Medium	Unfunded
CRd3 Undertake detailed investigations into the provision of alternative road network routes to address the impacts of through transport of freight. *(Refer Fr8)*	DMR, MCC	$150K	Long	Unfunded
CRd4 Upgrade Mackay – Bucasia Road (intersections) and Eimeo Road deviation	DMR	$12M	Short	$3.9M Funded*
CRd5 Upgrade Mackay – Bucasia Road (4 lanes) and rail overpass and interchange at Habana Road	DMR	$23M	Medium	Unfunded
CRd6 Upgrade Bruce Hwy/Bucasia Rd intersection.	DMR	$5M	Long	Unfunded
CRd7 Continue to manage the road network including: ■ maintaining road safety standards that are responsive to local needs; ■ reviewing traffic signal phasing to reduce delays; ■ maintaining road signage in accordance with local and state standards; ■ maintaining the road asset; and ■ undertaking road safety audits.	DMR	$3.4 m/yr	Ongoing	Funded

** Approved allocation in 2001/02 to 2005/6 RIP*

Roads Implementation Program 2001/02 – 2005/06



Approved Program Years 1 and 2

1. Mackay-Habana Rd – Widen existing pavement
2. Mackay-Bucasia Rd – At-grade intersection improvement
3. Mackay-Bucasia Rd – Construct roundabout
4. Mackay-Slade Point Rd – Pavement rehabilitation
5. Mackay-Slade Point Rd – Pavement rehabilitation
6. Rockleigh-North Mackay Rd – Transport study
7. Mackay-Slade Point Rd – Bridge repairs
8. Mackay Bypass Rd – Bridge repairs
9. Mackay-Eungella Rd – Widen existing pavement
10. Maraju-Yakapari Rd – Pave and seal

Indicative Program Years 3 to 5

1. Mackay-Bucasia Rd – At-grade intersection improvement
2. Mackay-Bucasia Rd – At-grade intersection improvement
3. Mackay-Bucasia Rd – At-grade intersection improvement
4. Peak Downs Hway – Pavement rehabilitation
5. Peak Downs Hway – Pavement rehabilitation
6. Bruce Hway – Realignment of 2 lanes
7. Yakapari-Seaforth Rd – Shoulder widening and sealing

3. Public Transport

Private vehicles are the main means by which people, goods and services are transported in the Mackay urban area. However, not all residents in Mackay have access to a car, or can afford to own or operate a private vehicle. Public transport has major social benefits in the provision of transport for those who do not have access to private vehicles, including the young and the elderly. Passenger and public transport in Mackay is required to:

- help meet the accessibility and mobility needs of residents and efficiently serve local communities;
- better cater for transport needs of people with mobility and /or other special needs (including parents with prams); and
- provide adequate passenger transport linkages to the rest of the state.

Public transport currently available in the Mackay area includes:

- suburban public buses;
- school buses;
- long-distance coaches;
- taxis; and
- Mackay's taxi transit system.

The taxi transit system provides for shopping centre/ CBD transport at a cost similar to public buses.

Marketing and education can play an important role in improving patronage of the bus service. Queensland Transport is developing a number of statewide initiatives to increase levels of public transport usage. These include:

- TravelSmart – a community-based programme that involves groups and organisations in activities to encourage more use of public transport, walking and cycling; and
- school-based projects – such as the development of a public transport module in the school syllabus and a primary and secondary school competition to develop media and visual arts materials on TravelSmart issues.

Existing Public Transport Services

Scheduled Route Bus Service	
Operator	Mackay Transit Coaches
No. of routes	11
Estimated vkms p.a. (,000)	243
Est. peak buses	3
Service features	Radial, with loop services, 'Hail and Ride', 'through running' services, fare integration and 'day rover' tickets. 50% of services wheelchair accessible
School Bus Services	
No. of routes	47
Estimated vkms p.a. (,000)	530
No. of students	2,200
Taxi Services	
Standard taxis	52
Accessible taxis	9
Total	61
Community Transport Services	
No. of community vehicles	6
No. of community / courtesy vehicles	6
Total	12

Note: Taxi contract supplements the route bus services

Comments raised in Consultation

Community feedback indicated that residents place a high priority on the maintenance and upgrading of the existing public transport network. Issues relating to public transport raised in consultation included:

- the provision of additional and improved public transport services and facilities specifically:
- to Northern Beaches;
- to hospitals;
- bus/rail connections;
- airport/ city shuttle;
- rail/ city shuttle;
- Mt Pleasant, Canelands, City and North Mackay;
- additional school services;

Professional marketing support also is provided to local scheduled service bus operators by Queensland Transport through the Local Operator Marketing Assistance Plan (LOMAP). The objectives of LOMAP are:

- to assist local operators to market their services;
- to raise public awareness of local public transport services, particularly in regional Queensland;
- to increase public transport patronage;
- to increase the level of marketing skills industry; and
- to progress the mutual goals of government, industry and the community, including improved efficiency and frequency of service.

The needs of people with mobility impairment in Mackay are partly met by purpose-built accessible taxis and community transport vehicles. Low-floor wheelchair accessible buses operate on 75% of urban and 100% of Northern Beaches service routes.

Intermodal interchange facilities are not currently available in Mackay.

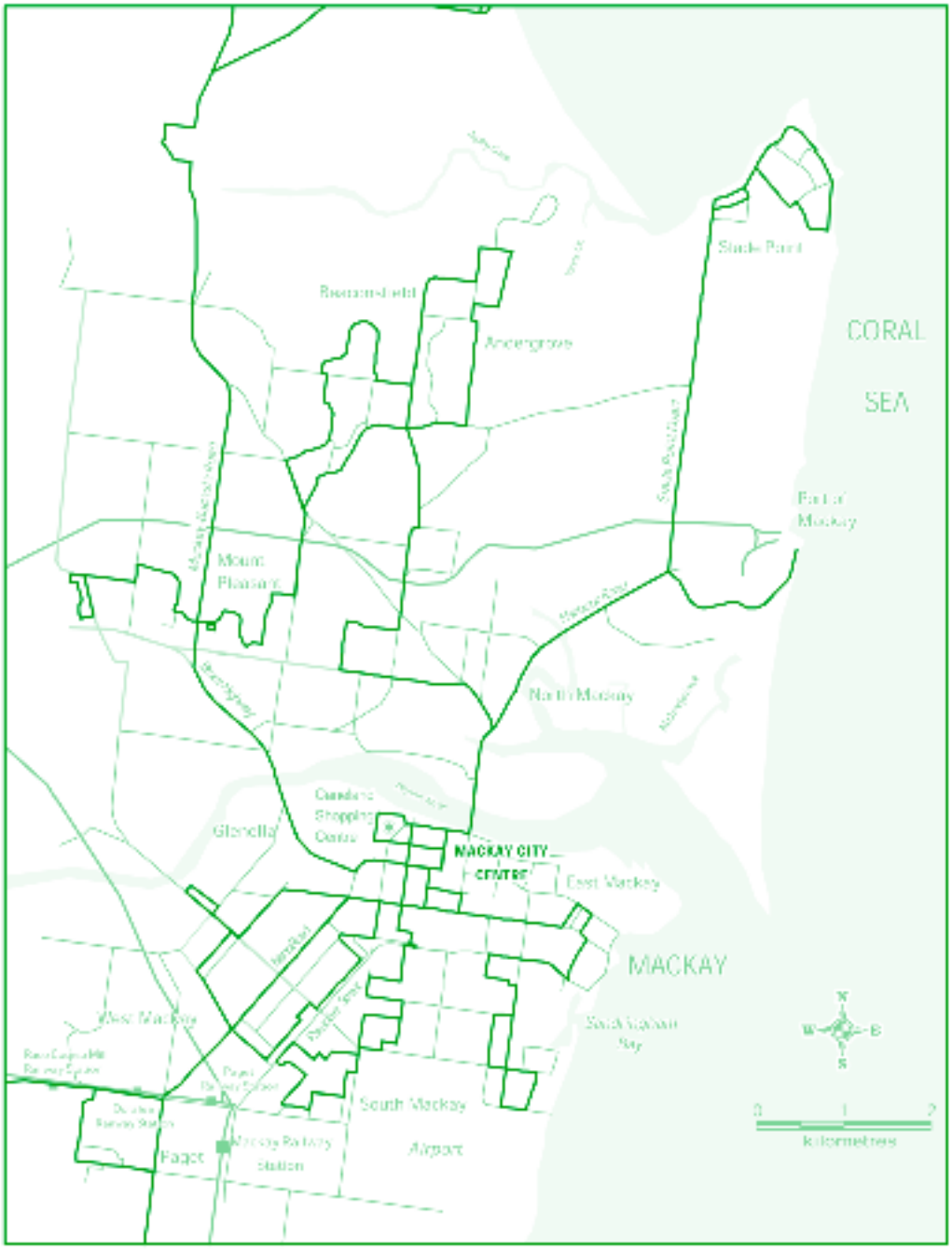
Opportunities exist at locations jointly served by fixed bus routes and the taxi transit system (eg Canelands Shopping Centre and the Mackay CBD).

Queensland Transport, in conjunction with Mackay City Council, have commenced a public transport study to assess current and future public transport needs for the Mackay area.

Bus services are currently not provided to either the airport or the railway station.

The existing use of public transport is approximately 1.5% of all trips, but projections indicate that public transport demand is likely to increase to 5% of all trips by 2025. The greatest demand will be between the CBD and areas south of the Pioneer River, Mt Pleasant and Andergrove in the north, and the Northern Beaches. Queensland Transport has recently introduced new bus routes in Mackay, with services at 60 – 90 minute intervals to within 400m of 85% of residents. Services to the Northern Beaches have been increased from weekly to daily, as well as services to Walkerston, Sarina and Mirani. Improvement of information and review of services is a major part of the actions identified in this action plan.

Mackay Bus Routes



LEGEND

- Local Roads
- Railway Line
- Bus Routes
- Railway Stations

Comments raised in Consultation (continued)

- improved physical access to public transport vehicles, including taxi and buses for handicapped people and those with special mobility needs;
- location of taxi ranks and holding bays;
- the need for improved access for pedestrians and cyclists to public transport to be reflected in planning and design;
- improved public transport service information;
- issues associated with ticketing costs and concessions;
- the potential for the use of light rail in the future;
- the potential for the use of mini-buses; and
- high level of support for existing taxi transit services.

Action Plan: Public Transport

Action	Timing	Responsible Agencies
Pt1 Review and ensure the adequacy of QT's accessibility standards for the disabled continue to be met by the public transport system in Mackay.	Ongoing	QT
Pt2 Undertake a public transport planning study to identify future public transport needs for the Mackay area.	Short term	QT (Lead), MCC
Pt3 Examine opportunities to provide additional public transport services, and improve frequencies: ■ in the peak period; ■ additional midday services; ■ on weekends; ■ to the Northern Beaches (via Mackay-Bucasia Road) ■ to major attractions (eg shopping centres, hospitals); ■ linking the airport and Paget rail passenger terminal to the CBD; ■ to the small craft harbour and East Point as a residential/ tourist development in the Mackay Port area proceeds; and ■ for trips with both origins and destinations outside the CBD. *(Refer Dm3)*	Ongoing	QT through service contracts
Pt4 Monitor and expand on recent initiatives by QT to increase service areas and frequencies.	Ongoing	QT
Pt5 Examine opportunities to implement innovative bus service types, eg. zoned, demand-responsive and deviated route service.	Medium term	QT through service contracts
Pt6 Seek opportunities to implement enhanced taxi technologies, eg. GPS, EFTPOS and Internet bookings through partnerships with stakeholders.	Ongoing	QT (Lead), MCC
Pt7 Examine opportunities to provide bicycle storage on buses. *(Refer Cy7)*	Immediate	QT
Pt8 Examine opportunities to increase available information on public transport services, eg. printing of route information in the local Classified Commercial phonebook (PDC), signage and displays at shopping centres, and timetable and route information at public transport stops.	Short term	QT (Lead), MCC
Pt9 Monitor public transport share to evaluate the success of implemented improvements, with a target of 5% by 2015.	Ongoing	QT (Lead), MCC
Pt10 Promote, educate and increase awareness of public transport	Ongoing	QT (Lead), MCC
Pt11 Seek opportunities for better fare integration for the public transport system.	Short term	QT

Action Plan: Public Transport (continued)

Action	Timing	Responsible Agencies
Pt12 Encourage and promote the use of *'Shaping Up'* Guidelines in the provision of public transport facilities and services, and in the integration of public transport with other transport modes.	Ongoing	QT (Lead), MCC
Pt13 Establish a public transport consultative committee comprised of local agency, industry and community representatives, to monitor the results of implemented measures and identify future issues and needs.	Short term	QT (Lead), MCC, MRCSD
Pt14 Monitor taxi share and revise the number of licences issued to meet current Queensland Transport benchmarks and demand.	Ongoing	QT
Pt15 Ensure that safe and direct walking/cycling pathways are provided to/from public transport through development assessment undertaken under the Planning Scheme. *(Refer Lu5, Cy6, Pd4)*	Ongoing	MCC (Lead), QT, DMR
Pt16 Undertake an audit of kerbside infrastructure to support accessibility to buses (eg design of street and kerb for wheelchairs).	Ongoing	MCC (Lead), QT, DMR
Pt17 Undertake an audit of kerbside infrastructure to enhance bus passenger comfort and safety and security (eg design and provision of bus shelters, lighting and visibility of bus stops, shade areas).	Ongoing	MCC (Lead), QT, DMR

Capital Program: Public Transport

Description of Work	Lead Agency	Order of Cost	Timing (Term)	Funding Status
CPt1 Undertake a public transport planning study to identify future public transport needs for the Mackay area.	QT	$30,000	Short	Funded
CPt2 Contribute towards local bus services.	QT	$250K/yr	Ongoing	Funded
CPt3 Contribute towards 'taxi transit' services.	QT	$105K/yr	Ongoing	Funded
CPt4 Continue Taxi Subsidy Scheme to improve the mobility of people with severe disabilities.	QT	$150K+/yr	Ongoing	Funded

4. Cycling

Comments raised in Consultation

Consultation was conducted as part of the development of the Mackay City Council Bicycle Plan. This involved invitation of public submissions, school principal and student surveys, community surveys and a public display. These activities revealed a number of issues incuding:

- increasing children's exposure to bicycle safety education within the primary school curriculum;
- providing total road safety education strategies, encompassing driver and cyclist awareness initiatives for senior students;
- providing appropriate bicycle storage facilities on school campuses and other destinations to support high ridership levels and reduce the incidence of bicycle theft;
- providing improved bicycle links to the city centre for employees and shoppers;
- improving community education for cyclists, motorists and pedestrians;
- improving management and maintenance practices for existing bicycle facilities;

The Mackay City Bicycle Plan identifies the following categories of cyclist: school cyclists, general commuters, recreational cyclists, tourist cyclists and sports cyclists. About 3.6% of journey-to-work trips in the Mackay urban area are currently made by bicycle. Mackay residential areas are separated by large distances and are connected by high-speed roads that do not lend themselves readily to cycling, except for experienced commuter cyclists who are able to ride with general traffic.

Over 60% of high school students commute daily by bicycle, with 55% of all schools having bicycle storage racks. Existing bicycle facilities have evolved from an off-street system, with a total of 45 km of bikeways constructed. These are concentrated in urban areas. Bicycle facilities at shopping centres are generally limited, while major public transport interchanges, including the train station, bus terminal and airport, currently provide only limited bicycle facilities.

The Mackay City Bicycle Plan was prepared by Mackay City Council in late 1998 and included extensive community consultation. The Mackay City Bicycle Plan identified a network of bicycle routes including trunk, cross-city, district, feeder, and neighbourhood routes. The Mackay City Bicycle Plan identifies a staging plan over three five-year periods and includes indicative costs for a network comprising over 200km of bicycle routes at a total cost of $3.35M.

While the Mackay City Bicycle Plan provides a comprehensive framework for developing a realistic implementation program for cycle network initiatives, policy direction can be expanded further. Integration of cycling with public transport can significantly increase options for cyclists. This would require support from bus operators, with specific provision on buses to carry bicycles, such as racks or even trailers. Patronage benefits can be gained by transport operators providing for bicycles. Recognising specific needs in urban design guidelines for future development and existing facilities in Mackay can encourage more cycling.

Cyclists use many pedestrian facilities, whether they are normal footpaths or shared use facilities. Ideally, where there is high pedestrian and cycle demand on footpaths or shared paths, these two modes should be separated. In many areas this choice is not yet available and additional design and educational measures need to be considered.

While actual collisions between bike riders and pedestrians are minimal (approximately 1% of all injuries to pedestrians are caused by collisions with bicycles), the perceived risk of injury is much higher, especially for older pedestrians. There is currently a prohibition on cycling on footpaths in the Mackay CBD in response to the perceived risk to pedestrians. Further investigation is suggested to identify actual risk and alternative strategies that may improve the situation for all users. This would include consideration of existing facilities where these modes mix and proposals to develop shared use facilities, so that adequate safety is maintained.

The current Queensland Cycle Strategy objectives are:

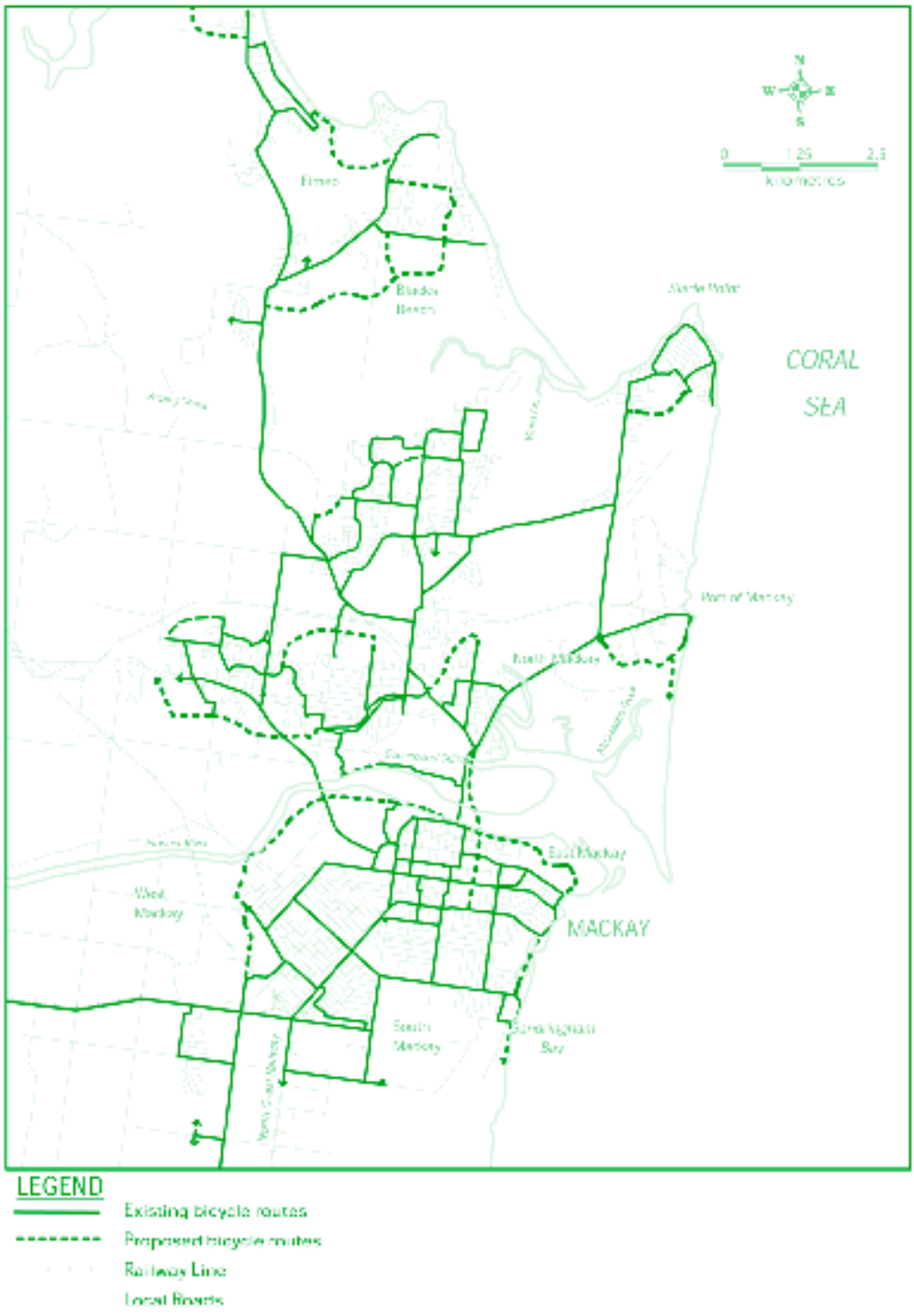
- Effective coordination and monitoring of strategy implementation;
- Integrated policy and practice that facilitates cycling;
- A quality network of bicycle routes;
- Improved safety and security for bicycle riders;
- Integration of cycling and public transport;
- Widespread provision of convenient and secure end-of-trip facilities; and
- Effective encouragement and promotion of cycling.

The target of the Queensland Cycle Strategy is to double the percentage of trips on bicycles by 2008 and to double this percentage again by 2018. The target given in the Mackay City Bicycle Plan is 6% by 2010. This represents a doubling of the current mode share in Mackay.

The Mackay City Bicycle Plan also contains a further increase to 10% by 2015.

Actions for cycling included in the Mackay Area Integrated Transport Plan recognised cycling as an important transport mode in the Mackay region, and build on the Mackay City Bicycle Plan.

Mackay Bicycle Routes



Comments raised in Consultation (Continued)

- minimising risks associated with heavy industrial traffic in close proximity to school campuses; and
- addressing 'missing links' in the bicycle network and achieving greater connectivity between bikeways.

Additional comments relating to cycling were also received during the MAITS consultation. These included:

- the need to upgrade and widen existing roads for safe cycling;
- the need to plan and design roads which consider the needs of cyclists and pedestrians;
- the need for a clearly marked bikeway system along main roads leading to and from schools and to the city;
- the need for cycling to be given high priority in order to reduce greenhouse emission;
- a need for safe bicycle parking;
- the suggestion to set a target of 15% mode share for bicycles; and
- improvement of safety for cyclists, both day and night.

Action Plan: Cycling

Action	Timing	Responsible Agencies
Cy1 Continue implementation of infrastructure and network aspects of the Mackay City Council Bicycle Plan, with annual reviews of implementation of the Plan for the first five years and every two years thereafter. The Plan needs to be included in the Mackay City IPA Planning Scheme.	Ongoing before 2015	MCC (Lead), DMR, QT, MCCBAC[2]
Cy2 Maintain Mackay City Council Bicycle Advisory Committee to guide implementation of the Mackay Bike Plan and cycling actions arising from the MAITP.	Short term	MCC (lead), QT, DMR, MCCBAC
Cy3 Nominate/ appoint a Bikeways Coordinator within Mackay City Council to oversee implementation of the Mackay City Bicycle Plan to ensure that recommendations are advanced.	Medium – long term	MCC
Cy4 Promote a doubling of mode share to 6% by 2010 with a further increase to 10% by 2015 in line with the Mackay City Council Bicycle Plan, and consider the incorporation of additional targets as included in the Queensland Cycle Strategy.	Short – medium term	MCC, QT
Cy5 Monitor performance indicators to evaluate the level of success of implemented bicycle improvements and to monitor progress towards targets. Performance indicators are: ■ kilometres of bicycle routes constructed; ■ the number of new end-of-trip facility installations; ■ number of rider accidents and casualities; ■ reported perceptions of cycle safety; ■ reported attitudes/awareness of cycling; and ■ levels of bicycle ownership.	Ongoing	MCC
Cy6 Conduct regular review of facilities to identify where improvements are required such as separating cyclists and pedestrians. *(Refer Lu4, Pt15, Pd4)*	Ongoing	MCC, DMR
Cy7 Develop supporting facilities at key destinations to encourage cycling, including secure bicycle parking/storage; shower/locker facilities; and signage and line marking. Include a code for end-of-trip facilities in the Mackay City IPA Planning Scheme. *(Refer Pt7)*	Ongoing	MCC, DMR
Cy8 Review provisions for cyclists in the City Heart.	Short term	MCC (Lead), City Heart, Bicycle Mackay
Cy9 Develop a bicycle education and awareness strategy, incorporating initiatives for education, encouragement and enforcement (including development of a Bikeways brochure).	Short term	MCCBAC

Action Plan: Cycling (Continued)

Action	Timing	Responsible Agencies
Cy10 Adopt appropriate cycling design guidelines in the initial planning process for all infrastructure development, such as the *'Shaping Up'* Guidelines, AUSTROADS Part 14, Mackay City Council Bicycle Plan and Mackay City Council Planning Scheme.	Ongoing	MCC, DMR
Cy11 Make provision for cycling during construction, reconstruction, linemarking and new developments on arterial, sub-arterial and collector routes e.g. sealing of road shoulders, provision of bicycle lanes or separate facilities.	Ongoing	MCC, DMR

Capital Program: Cycling

Description of Work	Lead Agency	Order of Cost	Timing (Term)	Funding Status
CCy1 Implement infrastructure in accordance with the Mackay City Council Bicycle Plan.	MCC MCC	Minimum $250K/yr for capital $125K/yr for maintenance	Ongoing	Funded

5. Pedestrian Issues

Comments raised in Consultation

Major issues identified for pedestrians in consultation included:

- personal safety (day and night);
- road safety, including crossing and interacting with traffic, traffic control devices and cyclists;
- maintenance and standard of footpaths or other facilities;
- shared facilities with cyclists or interaction at points of conflict;
- quick and direct access to major centres including shopping and public transport centres;
- the need for walking/cycling to be given high priority in order to reduce greenhouse emissions; and
- the need to plan and design roads which consider the needs of cyclists and pedestrians.

Most trips start and finish with a walk segment. Pedestrian trips include walking to and from work and school. They include trips for shopping, leisure/recreation and exercise. Pedestrians include people with disabilities, the elderly, children, and others carrying goods. Pedestrians can also be responsible for guiding others such as children in prams or accompanying others while travelling. Wheelchair users are also included in the pedestrian group as their needs are similar to pedestrians.

The existing pedestrian network comprises a range of formal and non-formal pathways and shared pedestrian and cycle paths. A high quality pedestrian network is essential for attracting and providing for tourists and visitors in Mackay.

Pedestrian planning should provide facilities for all pedestrians undertaking trips of all purposes; provide links to the public transport and cycling networks; and ensure a safer walking environment. Facilities such as kerbs and access ramps, and consideration of accessible traffic signal activation require additional consideration in terms of design and construction for disabled pedestrians (including wheelchairs).

The suitability of the pedestrian network in meeting the region's shorter-distance travel needs can be measured by determining the pedestrian networks ('Ped Shed') surrounding each major transport node (for example schools and major shopping centres). The extent of the Mackay urban area's existing pedestrian network has not been mapped.

A pedestrian action plan is required that includes a map of the existing pedestrian network around major transport nodes (e.g. schools, major shopping centres and major employers). This will help develop measures, increase local accessibility, connectivity to surrounding areas, and pedestrian safety and security. The centres of activity which could be given greatest priority for investigation include the Mackay CBD; shopping centres; schools and other educational facilities; hospitals and other healthcare facilities; and public transport interchanges.

Action Plan: Pedestrian Issues

Action	Timing	Responsible Agencies
Pd1 Use AUSTROADS Part 13 as the standard for pedestrian network planning and design. Aspects include: ■ consideration of movement and safety of pedestrians in the local road network; ■ provision for pedestrian movement in the major road network and on existing/new bridges where possible; ■ provision for wheelchair and pram requirements; and ■ use of environmental design to assist crime prevention and personal safety.	Ongoing	MCC (Lead), DMR, QT
Pd2 Observe AMCORD, Queensland Streets and Mackay Road Hierarchy Principles in relation to development planning; including: ■ the mapping and assessment of existing pedestrian networks around major nodes (eg shopping centres); and ■ consideration of walking/cycling pathways to/from public transport through development assessment undertaken under Mackay City Planning Scheme.	Ongoing	MCC (Lead), DMR, QT
Pd3 Plan and design pedestrian facilities for shopping centres and public transport facilities to provide for safe and efficient pedestrian connections which promote walking to and from off-site locations.	Ongoing	MCC (Lead), QT
Pd4 Consider bicycle and pedestrian interaction in planning and design of networks. *(Refer Cy6, Lu4, Pt15)*	Ongoing	MCC (Lead), QT, MR
Pd5 Monitor pedestrian mode share data over time to evaluate the success of pedestrian improvements and to identify future needs.	Ongoing	MCC (Lead),
Pd6 Map the existing pedestrian network (i.e. 'Ped Shed' analysis) around major attractors such as shopping centres, public transport facilities and schools to identify where the network could be improved or made more accessible to pedestrians.	Short term	MCC
Pd7 At the local area level, identify deficiencies in the existing pedestrian network by way of community consultation, combined with field inspection, 'Ped Shed' analysis and comparison with standards.	Short term	MCC (Lead), QT
Pd8 Develop improvement, promotional and education programs for the Mackay urban area's pedestrian network to improve safety and amenity (e.g. landscaping, lighting, shade and pedestrian water access).	Short term	MCC (Lead), QT
Pd9 Develop a pedestrian plan to ensure that pedestrian networks are appropriately planned and designed to account for pedestrian use, origins and destinations.	Ongoing	MCC (Lead), QT
Pd10 Provide and promote pedestrian access to the Pioneer River including direct riverbank access.	Ongoing	MCC
Pd11 Publish a guide to local walking and hiking trails and suitable destinations of interest for both local residents and tourists.	Short term	MCC (Lead), MTDB

6. Travel Demand Management

Comments raised in Consultation

Community consultation undertaken as part of MAITS identified the following key issues that relate to demand management:

- perceived lack of a coordinated approach to parking, particularly in the CBD area;
- need for increased services and frequencies of services for public transport;
- need to raise community awareness of the availability of public transport services; and
- current peak hour congestion on the road network due to the high rate of single occupant vehicle trips.

Travel demand management aims to improve the utilisation of existing resources by encouraging more efficient use of existing transport infrastructure and services. As a result, resources can be better utilised in other areas (for example health and education) and can improve the level of service for all trips, regardless of mode used. At the same time, the impact of new transport infrastructure on the community can be reduced.

One of the most significant aspects of travel behaviour to be targeted in travel demand management strategies is the continuing dependence on private vehicles for personal travel and the associated low average vehicle occupancies, particularly during peak times. Travel demand management measures that can be applied in the Mackay urban area include education, parking restriction, trip reduction measures and pricing.

Public Education

Successful travel demand management requires the support of the travelling public. A community information campaign can be undertaken to increase awareness of the implications of excessive car use, relating this use to the issues already identified (for example peak hour road congestion). It can also encourage the use of walking, cycling and public transport. Such an initiative would be particularly timely, given recent improvements to the public transport system implemented by Queensland Transport.

Parking Restriction

While it is important that car parking is made available, the relative cost and location of such parking will generally determine the level of usage. Demand management related parking initiatives must be balanced against the real need for parking in specific areas, particularly needs outside of peak commuter periods. If parking is limited or more expensive than public transport, people will be actively encouraged to increase car occupancies or use public transport to work.

Local planning policies generally set minimum requirements for the provision of car parking through either provision of parking spaces or payment of equivalent monetary contributions. These planning polices can provide a means by which travel demand can be managed, eg. provision of maximum parking standards. A review of the Mackay Transitional Planning Scheme Policy of car parking and car parking contributions could cater for a more demand reduction orientated approach, with parking plans developed for major centres such as the CBD.

Trip Reduction Measures

Transport planning in Mackay should consider how potential network improvements could contribute to the objectives of integrated transport planning. Typical transport reduction measures include:

- giving priority to public transport usage, cycling and pedestrian movement and interchange facilities, rather than single occupant vehicle transport;
- employer-subsidised public transport;
- ride-sharing in company fleet vehicles;
- peak hour shuttle services;
- flexible working hours to reduce travel peaks; and
- use of High Occupancy Vehicle (HOV) and bus lanes.

Transport Pricing

Transport pricing can be utilised to align revenue more closely with transport activity and/or reduce congestion. Worldwide adoption of congestion pricing has occurred mainly in urban areas with severe congestion and limited land availability. Congestion levels in the Mackay urban area do not yet require consideration of pricing policies.

Action Plan: Travel Demand Management

Action	Timing	Responsible Agencies
Dm1 Raise awareness of demand management techniques and benefits. (eg. Private vehicle use impacts.) *(Refer En4)*	Medium to long term	QT (Lead), MCC
Dm2 Review parking policies to be more demand management orientated, and develop parking plans for major centres (eg. CBD).	Medium term	MCC
Dm3 Encourage and implement demand management measures to reduce single occupancy vehicle usage such as: ■ employee incentives; ■ shuttle services; ■ ride-sharing; ■ staggered work hours; ■ telecommuting; ■ promotion of public transport; and ■ promotion of walking and cycling. *(Refer Pt3)*	Medium to long term	QT (lead), MCC
Dm4 As traffic volumes increase, investigate opportunities for bus priority measures and High Occupancy Vehicle (HOV) lanes.	Medium to long term	DMR (Lead), QT, MCC
Dm5 Monitor transport system pricing on a Queensland- wide basis and its application to Mackay.	Short term	QT (Lead), MCC

7. Freight Movement

Features of the Mackay urban area impacting on freight movement include a traditional local sugar industry, a major port servicing local industries, the Central Queensland mining and grain industries and a growing regional centre which services a large hinterland and coastal area.

The freight transportation network in the study area consists of state-controlled roads managed by the Department of Main Roads, local roads controlled by Mackay City Council, heavy rail network controlled by Queensland Rail and the cane railway network controlled by Mackay Sugar Co-operative Association Ltd (MSCAL).

The sugar industry is the largest industry in the region and exported 1.3 million tonnes of raw sugar through the Mackay port in 1997/8 from the four local mills around Mackay (Marian, Pleystowe, Racecourse and Farleigh) and mills in Sarina (Plane Creek) and Proserpine. This represented 28% of Queensland raw sugar production in 1997/98. Transport of sugar cane from the farms to the mills is largely by cane railway (97%), supplemented by road transport. Transport of raw sugar to the port is by road and QR services. A sugar refinery at Racecourse uses road transport for raw sugar from the port and direct from Pleystowe Mill, and for refined product to the port. A possible refinery at Farleigh would add extra movements of road vehicles because of out-of-season transfers back from the port. In addition, a conveyor transfers raw sugar from Racecourse Mill to the adjacent refinery. Outside the crushing season (June - November), raw sugar is trucked to and from the bulk sugar terminal at the port to the refinery.

There are large movements of molasses and ethanol in the Mackay urban area (currently 24-25 trips per day for molasses to the port). It is expected that it will increase to 40-50 trips per day to the port from the three or four local mills and 12 trips per day from Sarina. Ethanol is railed daily to the port from the Sarina distillery.

Sorghum and wheat from the grain belt surrounding the Clermont area to the west and south-west of Mackay are transported locally by road to grain silos where they are then railed to the Mackay Port for export.

Mining products are not handled at the Mackay Port, but it services imports of equipment and fuels for the industry. Freight is transported by either road or rail to the mines. Fuel imports through the port also service the Mackay urban area and include aircraft fuels for the Mackay Airport.

Slaughter cattle are trucked to Borthwicks Abattoir at Bakers Creek south of Mackay from the west via the Peak Downs Highway. Manufactured products are transported across the city and exported through the harbour as chilled or frozen product.

Other comparatively minor products that are either imported or exported are sulphuric acid, bulk fertiliser, iron concentrates, scrap metal and general cargo.

General freight to Mackay is predominantly by road transport. The major part of the retail product used in Mackay comes from the south by road and is dispersed through the area, again by road.

Freight projections for the Mackay urban area indicate that the quantity of freight from the mining, sugar and grain industries is expected to grow, with growth in general freight in line with population projections.

While playing an important role in supporting and attracting local industry, the movement of freight through the region by road also has the potential to adversely impact residential amenity and traffic operations in the more built-up parts of the region. Similarly, the movement of hazardous goods within and through the region needs to be carefully managed. Operation of heavy vehicles in and around the urban area is currently causing some level of community concern. As new heavy industry occurs, the impact of heavy vehicles on noise levels, air quality and perceived safety is expected to be such that freight movements should desirably be contained on roads specifically planned for the movement of freight.

Key issues considered in the development of the freight actions include:

- current use of Mangrove Road and River Street in the CBD by freight vehicles;
- noise and amenity for residents and other road users as a result of heavy vehicle movement;
- impact of the cane industry using local authority roads for haul routes for cut cane;
- maximising efficient operation of the seaport and airport;
- modal interchanges for some commodities (eg. sugar);
- development of a user-preferred road network for freight transport;
- potential use of the multi-modal freight corridor (MMFC) between the port and the Bruce Highway for road transport;
- development of freight routes that can provide for high productivity vehicles such as B-Doubles; and
- investigation of potential mechanisms in the Mackay City Planning Scheme to protect the multi-modal freight corridor between the port and the Bruce Highway.

Freight Road Network

There is an existing road network predominately used for freight movements in the Mackay Area. Major components are:

- the north-south movements from the Bruce Highway and Paget to and from the port; and
- the east-west movements from the Bruce Highway on the north side of Mackay to the port.

The majority of freight movements use the Ron Camm Bridge, although some sugar and grain movements occur across the Forgan Bridge. Currently the major route used by industry for movements from South Mackay and Paget to the Mackay port is via Nebo Road, across Ron Camm Bridge, Sams Road, Malcomson Street and Harbour Road. The freight industry has indicated that the current route should be retained for as long as possible.

A north-south multi-modal freight corridor that would also serve as a bypass of Mackay has been considered as an alternative route to Nebo Road and Ron Camm Bridge for freight movements. However, the low volumes of freight that would actually use such a route, especially

Comments raised in Consultation

Major issues arising from public and stakeholder consultation during the MAITS study to date included:

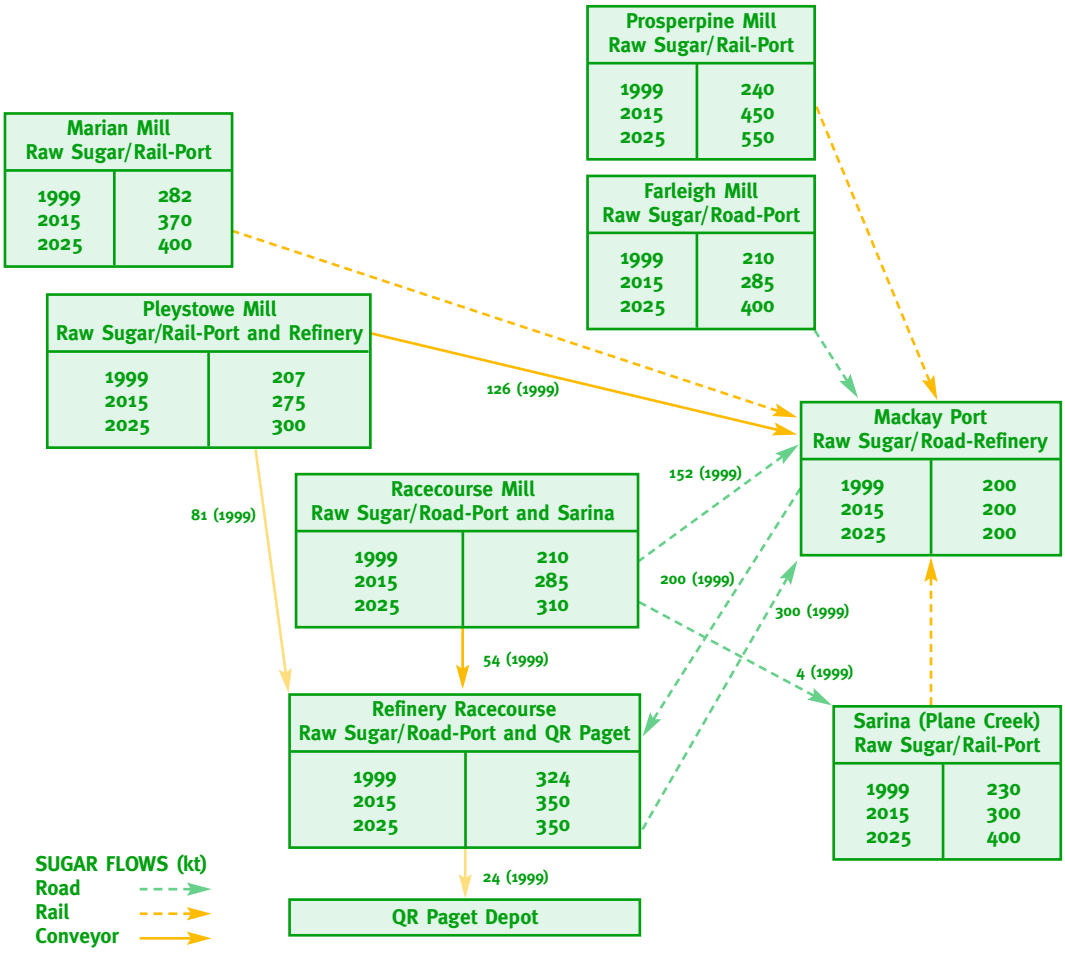
- traffic noise and impacts on residents' amenity as a result of heavy vehicles on Mackay roads;
- lack of obvious heavy vehicle routes;
- the need to segregate heavy traffic from commuter traffic;
- the need for suitable bypasses for heavy vehicles;
- the need for a direct access route for heavy vehicles to mining districts from Paget;
- the need to restrict heavy vehicle movement through the CBD and residential areas;
- the need for continued access to district roads by cane harvesters and haul-out equipment; and
- the impact of cane haulage on local roads and traffic.

if constructed in stages, mean that such a concept is unrealistic and not recommended for further investigation in the scope of this plan.

Considering the results from the technical study and consultation, the strategy recommended is:

- Upgrade critical sections of the existing freight route at Sams Road, Malcomson Street and Harbour Road to the port, in the short/medium term to cater for heavy vehicle movements. Malcomson Street should be upgraded to a higher standard four-lane facility as the main east-west freight corridor for the short to medium term.
- The multi-modal freight corridor is the preferred freight route to the Mackay port in the long term. The state government will retain the corridor land for the section of the multi-modal freight corridor between the Mackay port and Bucasia Road. The preservation of the corridor west of Bucasia Road to the Bruce Highway will be included as part of the Mackay City Council Planning Scheme to protect the corridor from encroaching development.

Projected Raw and Refined Sugar Movements



Action Plan: Freight Movement

Action	Timing	Responsible Agencies
Fr1 Form a joint agency/industry committee to further investigate modal transport issues associated with the transport of sugar cane and other commodities.	Short term	QT (Lead), MCC, DMR, MSCAL, QR, MPA, Cane Growers, Transport Operators
Fr2 Develop the B-Doubles network to provide efficient freight access for trade and industry – review current B-Doubles routes to identify gaps and problems.	Short term	QT (Lead) DMR, MCC
Fr3 Undertake a review of the transport requirements including B-Doubles, over-dimension, dangerous and hazardous goods routes within Mackay industrial areas and connection to the port, railhead, highways and other manufacturing centres.	Short term	QT (Lead), DMR, MPA, MCC
Fr4 Undertake detailed urban road planning study to investigate upgrading of Malcolmson Street/Evans Avenue to provide medium-term road access to the Port of Mackay. *(Refer Rd5 & Rd6).*	Short term	DMR (Lead), MCC
Fr5 Rehabilitate Harbour Road pavement to maintain continued high standard access to the Port of Mackay. *(Refer Rd7).*	Ongoing	DMR (Lead), MCC
Fr6 Preserve long-term road access to the port of Mackay, including the future multi-modal freight corridor. *(Refer Rd5, Rd6 & Rd7).*	Short term	DMR (Lead), MPA, MCC, QT, QR, DNR&M
Fr7 Form a local agency/ industry committee to address the impacts of haulage, for example, cane from farms to sidings, including ongoing monitoring of effects.	Short term	QT (Lead), MSCAL, DMR, MCC
Fr8 Undertake detailed investigations into the provision of alternative freight routes around the greater Mackay urban area to address the impacts of through transport of freight. *(Refer Rd4).*	Long term	QT (Lead), DMR, DLG&P, MCC
Fr9 Assess the implications of trial use of B-Doubles for quarry product transport.	Short term	QT (Lead), DMR, MCC

Capital Program: Freight Movement

Description of Work	Lead Agency	Order of Cost	Timing (Term)	Funding Status
CFr1 Undertake a freight transport study to assess future infrastructure and route requirements for heavy vehicles (B-Double, over-dimension, dangerous and hazardous goods) in the Mackay area.	QT	$60,000	Short	Funded
CFr2 Undertake detailed urban road planning study to investigate upgrading of Malcomson Street/Evans Avenue to provide medium-term road access to the port of Mackay.	DMR	Refer CRd2	Short	Funded
CFr3 Rehabilitate Harbour Road pavement to maintain continued high standard access to the Port of Mackay.	DMR	$4.5M	Short	Funded
CFr4 Undertake a detailed investigation into the provision of long-term road access to the Port of Mackay.	QT	TBD	Long	Unfunded
CFr5 Undertake detailed investigations into the provision of alternative freight routes around the greater Mackay urban area to address the impacts of through transport of freight.	QT	Refer CRd 3	Long	Unfunded

8. Aviation

Mackay Airport provides a vital service for the Mackay area as a tourist gateway linking the region with other coastal cities into the north and south, and to island resorts in the Whitsunday area. The airport also plays an important business role in providing links to other coastal cities on a regular basis to facilitate business travel to Mackay and the other hinterland areas to the west, as well as handling freight movements in the form of general cargo and mail. Mackay Airport has a two-runway layout and is provided with operational facilities that include a control tower, navigational aids and rescue and fire-fighting facilities. Aviation-related activities include:

- commercial passenger flights and personnel ferry;
- flying training;
- maintenance;
- joy flights by fixed-wing aircraft and helicopters;
- aero club and private flying;
- float planes;
- agricultural aviation;
- charter flights;
- parachuting;
- freight operations;
- helicopter operations;
- military use associated with exercises in the region; and
- origin and destination point for drive-based visits, business and holidays to the region.

Annual passenger volume at Mackay Airport has increased by an average of 2.5% per annum over the last 10 years. The aircraft movements associated with passenger services have varied over a 10-year period, fluctuating between approximately 7,500 movements per annum to over 12,000. The airlines continually adjust schedules and aircraft types to more closely match consumer demand. Aircraft movements are expected to continue to increase over time.

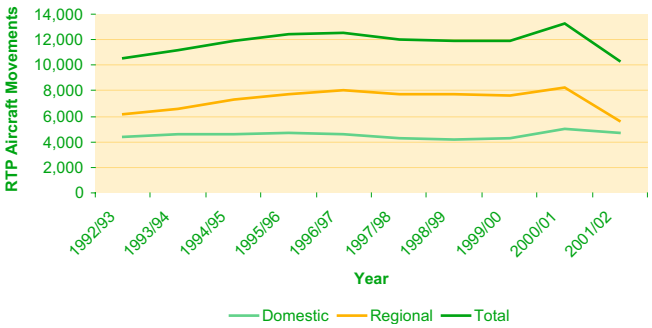
Mackay Airport – Aircraft Movements (1992-93 to 2001-02)

	Domestic		Regional		Total	
Year	Aircraft Movements	Annual Growth Rate %	Aircraft Movements	Annual Growth Rate %	Aircraft Movements	Annual Growth Rate %
1992/93	4,417	14.7%	6,137	2.0%	10,554	7.0%
1993/94	4,582	3.7%	6,612	7.7%	11,194	6.1%
1994/95	4,574	-0.2%	7,323	10.8%	11,897	6.3%
1995/96	4,740	3.6%	7,719	5.4%	12,459	4.7%
1996/97	4,564	-3.7%	8,008	3.7%	12,572	0.9%
1997/98	4,289	-6.0%	7,711	-3.7%	12,000	-4.5%
1998/99	4,210	-1.8%	7,682	-0.4%	11,892	-0.9%
1999/00	4,323	2.7%	7,594	-1.1%	11,917	0.2%
2000/01	5,006	15.8%	8,239	8.5%	13,245	11.1%
2001/02	4,650	-7.1%	5,675	-31.1%	10,325	-22.0%
Annual Average Growth Rate %		0.53%	-	-0.75%	-	-0.22%

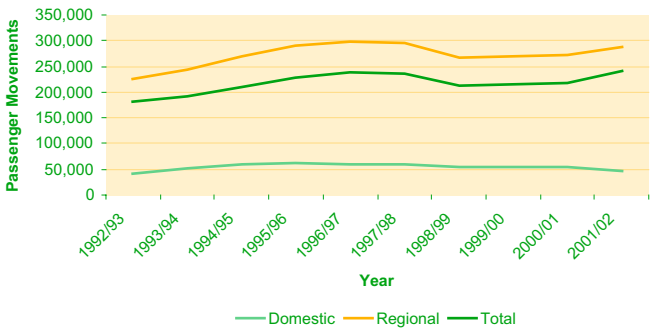
Mackay Airport – Passenger Movements (1992-93 to 2001-02)

Year	Domestic	Annual Growth Rate %	Regional	Annual Growth Rate %	Total	Annual Growth Rate %
1992/93	182,558	14.1%	42,111	2.1%	224,669	11.6%
1993/94	192,797	5.6%	50,631	20.2%	243,428	8.3%
1994/95	209,409	8.6%	60,880	20.2%	270,289	11.0%
1995/96	228,766	9.2%	61,072	0.3%	289,838	7.2%
1996/97	238,848	4.4%	58,524	-4.2%	297,372	2.6%
1997/98	235,504	-1.4%	60,286	3.0%	295,790	-0.5%
1998/99	212,637	-9.7%	55,430	-8.1%	268,067	-9.4%
1999/00	214,298	0.8%	55,203	-0.4%	269,501	0.5%
2000/01	218,984	2.2%	53,150	-3.7%	272,134	1.0%
2001/02	241,470	10.3%	45,784	-13.9%	287,254	5.6%
Annual Average Growth Rate %		3.23%	-	0.87%	-	2.79%

Mackay Airport – Aircraft Movements



Mackay Airport – Passenger Movements



Main issues affecting operation of the airport include:

- projected passenger movements and mode splits, particularly relating to tourism;
- freight movements and the split between transport modes to and from the airport, and the opportunity for new freight commodities (e.g. perishable goods); and
- access to and from the airport.

Mackay Airport is well served by the existing external road network. However, a better-defined route from the CBD and visitor accommodation areas (eg. Nebo Road) is desirable to assist tourism. While the airport caters well for private vehicles, taxis and rental cars, provision of public transport services (such as buses) is limited. The airport has a freecall taxi facility adjacent to the ranks, and access for people with mobility and other disabilities is well catered for at the airport. The Mackay Airport Masterplan sets the future general requirements for land use and airport infrastructure, while incorporating flexibility into an overall development plan. Opportunities for expansion of Mackay Airport operations identified in the Mackay Airport Masterplan include:

- runway widening and extension;
- passenger terminal upgrade and extension;
- acceptance of international charter flights;
- expansion of general aviation facilities; and
- freight movement of perishables.

Comments raised in Consultation

No specific comments relating to air transport have been received from the community during consultation. However, industry and government concerns included:

- the need to protect access to the airport (access to freight and passengers);
- need to minimise conflict between users of land adjacent to the airport and airport authorities;
- the need to allow for possible airport expansion, if required, for increased freight, international charter or demand;
- concerns regarding poor existing direction signage to and from the airport; and
- concerns about the impact of airport extensions on environmentally sensitive wetlands to the south.

Action Plan: Aviation

Action	Timing	Responsible Agencies
Av1 Provide a designated road route with appropriate signage from the CBD and major tourist service and accommodation areas to the airport.	Short term	MCC (Lead), DMR, MTDB
Av2 Upgrade/expand airport facilities and infrastructure in line with the Mackay Airport Master Plan as passenger movements, the capacity of the aircraft and freight movements increase.	Ongoing	MPA
Av3 Monitor freight movements through the airport in order to provide improved access and modal transfer where required (eg. transfer of perishable goods).	Ongoing	MPA (Lead), MCC, QT
Av4 Ensure that future development in and around the Mackay Airport is compatible with relevant planning policies. These include the Mackay Airport Masterplan and soon-to-be-implemented State Planning Policy & Planning Guidelines for the Planning and Management of Development in the Vicinity of Certain Airports and Aviation Facilities, and Mackay City Planning Scheme.	Ongoing	MPA (Lead), MCC, QT, DLG&P

Capital Program: Aviation

Description of Work	Lead Agency	Order of Cost	Timing (Term)	Funding Status
CAv1 Develop airside, landside and terminal building infrastructure in accordance the Mackay Airport Master Plan.	MPA	$19.7m	Short	Funded
CAv2 Develop airside, landside and terminal building infrastructure in accordance with the medium-term plan in the Mackay Airport Master Plan.	MPA	-	Medium	Unfunded
CAv3 Develop airside, landside and terminal building infrastructure in accordance with the long-term plan in the Mackay Airport Master Plan.	MPA	-	Long	Unfunded

9. Port, River and Marine

The port of Mackay, the sixth largest port in Queensland, is a major regional port with operations consisting of receiving and assembling cargoes for export, and unloading and transferring import cargoes. Currently it has five commercial shipping berths and boasts the largest bulk sugar terminal in the world.

It is and will continue to be an important regional service that supports key regional industries. Potential growth of trade through the port will be influenced largely by the export of bulk agricultural products (eg. sugar and grain) grown in the region, the import of bulk commodities to service the regional coal mines (eg. mining industry equipment), and regional communities.

The Mackay Port Development Plan 1999 provides export and import trade projections for the planning horizons of 2015 and 2025 and identifies future potential commodities. Issues related to future import and export trade are considered in more detail in the freight section of this Action Plan.

The Plan (1999) identifies the need for effective inter-modal road and rail transport links to be provided to port users including:

- safe and direct road access, utilising existing corridors;
- efficient rail access and loading/unloading facilities; and
- pipeline/conveyors for select commodities.

The Mackay Port Development Plan is also based on the eventual development of a multi-modal transport corridor for both road and rail access.

Mackay Harbour can handle vessels of lengths up to 240m and laden drafts up to 12m. Incorporated into the harbour is a small craft marina with a projected capacity of 580 berths and provision for a fishing trawler base. The marine and the transportation terminal in the small craft harbour also provides the main access to transportation for the maritime and tourism industries. Mackay Harbour has five commercial shipping berths which are operated as multi-use, multi-cargo berths:

- Berth 1 handles bulk liquids such as petroleum, tallow, molasses and ethanol;
- Berths 2 & 3 handle sulphuric acid imports and raw sugar exports;
- Berth 4 is a new raw sugar export berth; and
- Berth 5 handles grain exports and fertiliser and magnetite imports.

The Mackay area also has numerous public boat ramps, jetties and mooring facilities. Public access to the boat ramps should continue to be maintained, together with ancillary infrastructure such as car-trailer parking areas. The river is also important to Mackay, although currently undeveloped in terms of pedestrian access. All proposed developments, land use and transport planning must take into consideration the continued and uninterrupted landward access to these facilities.

Comments raised in Consultation

Consultation as part of MAITS did not highlight any significant issues relating to public access to waterways or boat ramps. However, issues related to marine and river environments featured heavily. In particular impacts on fisheries, mangroves, natural habitats and wildlife were recorded.

Maritime Facilities – Mackay Area

Facility Name	Facility Location	Facility Manager
Mackay Outer Harbour – Ken White Avenue boat ramp	South-western end of harbour	Mackay Port Authority
Alligator Bend – Howells Road boat ramp	Constant Creek via Seaforth Yakapari Road	Mackay City Council
St Helens Beach – Carpetsnake Point boat ramp	Carpetsnake Point, via Calen	Mackay City Council
Seaforth – Victor Creek boat ramp	Port Newry	Mackay City Council
Dunrock – Sandy Creek boat ramp	Dunrock	Mackay City Council
Eimeo – Sunset Boulevard boat ramp	Eimeo Creek via Heidke Street	Mackay City Council
Murray Creek boat ramp	Horseshoe Bend at Mount Pelion	Mackay City Council
Mackay Small Boat Harbour boat ramp	North-west corner of Small Boat Harbour	Mackay City Council
Mackay – River Street boat ramp	South bank of Pioneer River	Mackay City Council
Mackay Outer Harbour	Mackay	Mackay Port Authority
Lindeman Island jetty	Western side of Lindeman Island	Club Med Pty Ltd
Brampton Island jetty	Eastern side of Brampton Island	The Brampton Island Resort Management

Action Plan: Port, River and Marine

Action	Timing	Responsible Agencies
Po1 Implement the Mackay Port Authority Port Development Plan (PDP), including upgrade/provision of transport and freight-related infrastructure as demand on port facilities increases.	Ongoing	MPA
Po2 Ensure that development in and around the port area is compatible with the PDP, the Port Land Use Plan (LUP) and associated planning schemes (Mackay City Council Planning Scheme).	Ongoing	MPA (Lead), MCC, QT
Po3 Plan and provide maritime infrastructure in accordance with the Queensland Government's Maritime Capital Investment Plan.	Ongoing	QT (lead)
Po4 Ensure continued implementation of the Queensland Coastal Contingency Action Plan (including NATPLAN, REEFPLAN and MPA Oil Spill Contingency Plan) for oil-spill events impacting on the Mackay area, including the river and coast areas.	Ongoing	Within port limits MPA (Lead), In coastal waters QT (Lead), AMSA, MPA, EPA, industry
Po5 Investigate future staged development of the port access road link (dependent on outcomes of Action Fr6).	Short-medium term.	DMR (Lead), MPA, MCC, QT

Capital Program: Port, River and Marine

Description of Work	Lead Agency	Order of Cost	Timing (Term)	Funding Status
CPo1 Develop the seaport, including land reclamation and development, roadwork and dredging	MPA	$21.5m	Short	Funded
CPo2 Implement medium-term seaport works in accordance with the Port Development Plan	MPA	-	Medium Term	Unfunded
CPo3 Implement long-term seaport works in accordance with the Port Development Plan	MPA	-	Long Term	Unfunded

10. Rail Infrastructure and Services

Mackay is served by Queensland Rail's North Coast Main Line (Brisbane to Cairns). Branch lines run from Mackay to Marian Mill (24 km) and from Erakala, north of Mackay, to Mackay Harbour (11 km). Rail access to the Mackay hinterland is provided by the connection at Yukan (some 40 km south of Mackay) to the Goonyella Coal System which is part of the Queensland integrated system serving the coal terminals at Hay Point and Dalrymple Bay.

Upgrading of the North Coast Main Line has substantially been completed to Cairns, which will allow travel speeds to be reviewed and travel times to be reduced. On completion of the works, the existing 15.75 tonnes Total Axle Load (TAL) will increase to 20 tonnes (TAL) for block trains. The railway consists of a single track with crossing loops to allow trains to pass or overtake. Crossing loops in the Mackay urban area are located at Mackay and Farleigh.

The Marian branch is a single line connecting with the main line at Mackay through a triangular junction that allows trains to operate between Marian and the Mackay rail yards and northwards to Erakala and the Harbour Branch.

The present Mackay Harbour Branch was opened in 1981, replacing a previous railway from the Mackay Fisherman's Wharf, across the river and alongside Harbour Road. A triangular junction at Erakala, which allows trains to access the Harbour directly from the north or south, connects the present branch to the main line. This rail system is a single track, with a crossing loop adjacent to the junction at Erakala and multiple tracks at Mackay Harbour.

The connection between the main line at Yukan and the Goonyella coal system allows for transporting of materials and equipment from Mackay to the coalfields, and also for transporting grain and agricultural produce from the Clermont area. The Goonyella system is a double-track electrified railway, capable of supporting 27 tonne axle loads.

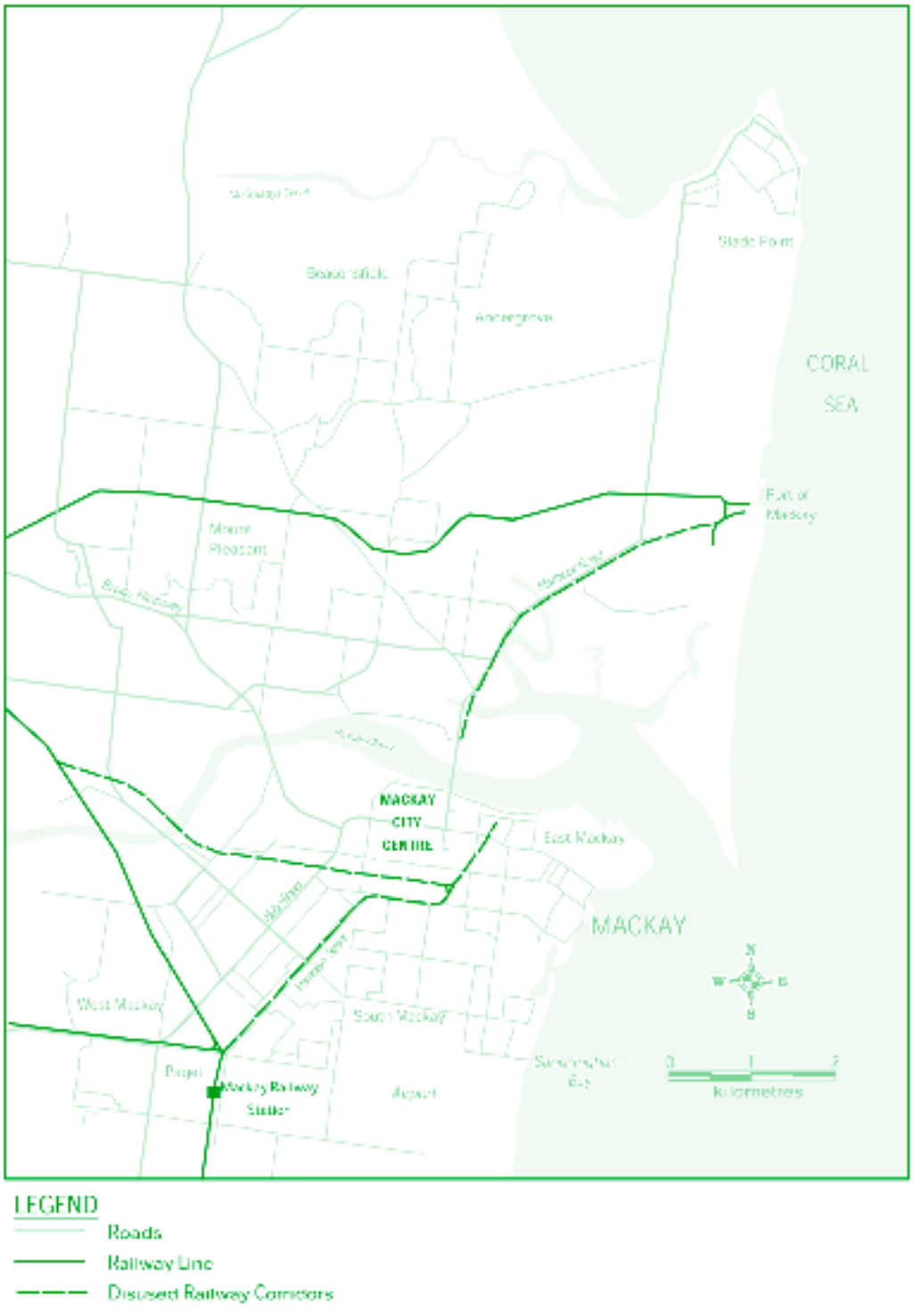
The present Mackay passenger station, built as part of the 1993 deviation of the main line to the west of the CBD area, is located in the south of the City at Paget. Passenger trains serving Mackay currently consist of the 'Queenslander', 'Sunlander' and 'Spirit of the Tropics' trains operated by Queensland Rail's Traveltrain Group, providing a daily service between Brisbane and Cairns ('Spirit of the Tropics' runs only between Brisbane and Townsville). Times of the trains vary from day to day. Queensland Rail will introduce a Tilt Train on this route, which will offer substantially faster journey times.

On the opposite side of the railway station, and accessible from Archibald Street, is an extensive freight terminal. Rail facilities at the harbour include balloon loops and sidings to serve the grain and bulk sugar terminals and other industrial activities within the port area, such as fuel and fertiliser. During the crushing season, bulk raw sugar trains run from the mills at Marian, Proserpine and Sarina (Plane Creek) to the port. While Racecourse, Pleystowe and Farleigh sugar mills are located adjacent to or close to the railway, they have no connections to the Queensland Rail system.

Comments raised in Consultation

Few comments which related to either freight rail operations or passenger rail services were received from consultation. However, comments from Community Reference Groups included the perception that a level railway crossing between Glenhaven Road and Miclere – Farleigh Road is needed. It was also noted that Tilt Train services are to be extended to Mackay and there is the need for preliminary planning to be undertaken.

Mackay Rail Network



Due to the location of the Queensland Rail system away from the CBD, and Mackay's relatively low population, there is unlikely to be an economic case to develop a rail-based commuter transport system, other than the existing daily long distance services between Brisbane and Townsville/ Cairns.

Future upgrading of the rail system in Mackay will be driven by regional (Central and North Queensland) rail transport requirements rather than by local requirements.

Action Plan: Rail Infrastructure & Services

Action	Timing	Responsible Agencies
Rl1 Review Mackay railway station passenger infrastructure, especially inter-modal connection facilities.	Short term	QR (Lead), MCC, QT
Rl2 Investigate provision of improved public transport services between the rail passenger terminal at Paget, the CBD and the Long Distance Coach Terminal. *(Refer Lu3, Pt3)*	Short term	QT (Lead), MCC, QR
Rl3 Assess cane railway crossings using the risk scoring matrix developed by the Queensland Level Crossing Safety Steering Group, with input from the relevant rail/road authority or owner as appropriate.	Short term	Relevant owners (QR or Cane Growers)
Rl4 Ensure compatibility between QR rail infrastructure improvements and the Mackay Port Development Plan (PDP).	Ongoing	QR (Lead), MCC, QT

11. Tourism

Comments raised in Consultation

The majority of comments received regarding tourism relate to provision of public transport for visitors and tourists. Also called for was the development of coastal access for tourists. Consultation has identified the following transport issues related to tourism:

- the need for increased signage on major routes into Mackay, identifying the city and welcoming visitors;
- the need for improved transport linkages to tourist sites;
- the standard of some roads to tourist sites;
- the need for roadside tourist facilities (eg. rest rooms, service lookouts and parking);
- the provision of public transport and alternative modes of transport for visitors; and
- improved road access between Mackay and the Whitsunday.

Tourism is an important part of the Mackay economy. The Mackay tourism industry consists of day tours, Whitsunday Island transfers and trips, entertainment centres, resorts, marina and harbour precinct, hotel and motel accommodation, holiday flats, units and houses, and caravan parks.

Some of the tourism opportunities and attractions in the Mackay area are:

- its close proximity to the Whitsunday Islands and Barrier Reef;
- local beaches;
- Eungella National Park;
- Finch Hatton Gorge;
- Cape Hillsborough; and
- Mackay Marina and associated developments.

Assessing tourism transport needs and potential actions to be developed requires consideration of current tourism planning in the Mackay area and tourism projections. The Queensland visitor survey indicates that Mackay experienced the largest increase in visitors (37.8%) and visitor nights (13.5%) in the state and there has also been an increase in caravans and campers to the area (approximately 22% over the last 12 months). The Strategic Tourism Roads Study (2000) produced by Main Roads and Tourism Queensland identifies strategic tourism routes, one of which passes directly through Mackay.

From a transport perspective, the importance of tourism is underlined by the high percentage of traffic that is tourist related (47% to 53.5% of through traffic). The Queensland Tourist and Travel Corporation, in conjunction with Mackay Tourism and Development Bureau, has developed marketing strategies to promote the Mackay Region and actions in this Plan relate to transport aspects of those strategies.

The Strategic Tourism Roads Study contains actions that have also been considered in this Plan. Tourist trips impact on the Mackay Railway Station, Mackay Airport and long-distance coach terminals and have flow-on effects of inter-modal transfer requirements. This aspect is discussed under each respective transport mode.

Action Plan: Tourism

Action	Timing	Responsible Agencies
TM1 Support Mackay Tourism Development Board in the proposed Mackay Regional Signage Project through formation of a District Tourist Signage Committee to consider the provision of: ■ 'welcome' and interpretive signage at key access points in Mackay; ■ educational and interpretive signs along scenic road routes in accordance with design standards; and ■ directional signs along roads to clearly direct tourists to particular destinations.	Short term	DMR (Lead), MCC, MTDB
TM2 Determine the appropriateness of existing designated road linkages between the Bruce Highway, Mackay City and the coast for tourism purposes.	Ongoing	DMR (Lead), MCC, MTDB
TM3 Consider design requirements for scenic roads to cater for slow speed environments at points of interest (eg. turn-off lanes) in the provision of new and upgraded roads.	Ongoing	DMR (Lead), MCC, MTDB
TM4 Provide tourist roadside facilities along scenic and popular tourist routes and destinations as appropriate.	Ongoing	DMR (Lead), MCC, MTDB
TM5 Monitor and participate in statewide tourism-related strategies contained in the Strategic Tourism Roads Strategy.	Ongoing	DMR (Lead), MCC, MTDB

12 Environmental and Social Considerations

Comments raised in Consultation

Community consultation as part of MAITS has identified a series of environmental issues relating to the transport system, including:

- impacts on air and water quality;
- impact of vehicle noise;
- impact on fisheries habitats and wildlife; and
- aesthetics of streetscapes.

Environmentally Sustainable Transport

The development of transport infrastructure projects must be undertaken in accordance with the principles of environmental sustainability. An improved understanding of transport-related impacts would allow transport agencies and the community to evaluate impacts of specific projects more accurately and target environmental initiatives. The environmental effects of development and use of the transport system include pollution, greenhouse gases, noise, smog, land contamination, water pollution, visual effects, fuel consumption, land take-up and ecosystem impacts.

Transport agencies and local government must operate under Environmental Management Systems (EMS). Procedures and techniques within these systems ensure that appropriate planning and design standards and assessment methods are in place to guide improvements to transport infrastructure. This should include ongoing environmental audits of the transport system, programs to reduce and manage vehicle emissions and noise, and appropriate environmental controls over development. Once transport infrastructure is in place, operational impacts can be significant. Introduction of appropriate travel demand management measures can encourage use of public transport, walking or cycling that will reduce the environmental impact and energy consumption of single occupant motor vehicle usage. Advancements in vehicle technology and incentives (sales tax, registration reductions) for people to purchase energy-efficient vehicles will also assist in providing a more efficient and environmentally friendly transport system.

Social Issues in Transport

A socially orientated transport system is one that:

- ensures all members of the community can move around to fulfil basic needs;
- is secure, safe and affordable;
- has minimal impact on people's lives;
- involves the community in the development and management of the system; and
- ensures that the costs of providing transport are shared equitably.

Public transport services ensure social equity by catering for all members of the community who do not have access to a private vehicle. While it may be difficult to provide a full effective service to all urban areas, peak period commuter services provide at least for regular daily trips (work, places of education etc).

Ongoing monitoring of transport accessibility in Mackay will identify any shortfalls in service to be addressed. A major challenge facing transport agencies and local government is access to existing and new transport infrastructure and services for the mobility impaired. Safety of transport users is also an issue. Measures to improve safety of users include:

- provision of public telephones or call points at bus stops;
- staffing of interchange facilities; and
- improving pedestrian and car park security through environmental design.

These measures should be considered in the design of upgraded/new transport system facilities. It is also important that the wider social benefits and costs of transport systems are taken into consideration in the development and funding of transport solutions.

Action Plan: Environmental & Social Considerations

Action	Timing	Responsible Agencies
En1 Develop and implement Environmental Management Systems (EMSs) which consider transport planning and infrastructure provision.	Ongoing	Each Agency
En2 Incorporate environmental standards and controls in planning and design of transport projects.	Ongoing	Each Agency
En3 Implement ongoing monitoring (air, noise, water) of the transport system based on appropriate codes to determine impacts and devise amelioration strategies.	Ongoing	Each Agency
En4 Raise community awareness of environmentally responsible transport system usage and potential benefits. *(Refer Dm1)*	Short term	QT
En5 Monitor transport accessibility to ensure equitable coverage in the Mackay urban area.	Ongoing	QT, MCC
En6 Incorporate physical access criteria in the planning and design of upgraded/new transport system facilities.	Ongoing	QT, MCC
En7 Plan and design for safety and security measures in upgraded/new transport system facilities.	Short term	QT, MCC
En8 Implement ongoing auditing of safety and security of the transport system, including development of local action plans for pedestrian and cycle paths.	Ongoing	QT, DMR, MCC
En9 Consider environmental, social and economic considerations and include appropriate consultation when carrying out Impact Assessment Studies for transport infrastructure and facilities.	Ongoing	QT, DMR, MCC, MPA, QR, DLG&P

Comments raised in Consultation

Issues relating to social issues raised in community consultation undertaken as part of the MAITS Study included:

- access for more remote communities and disadvantaged groups;
- provision of transport solutions that balance all needs equally;
- improved access to public transport;
- safety in residential streets and public places; and
- physical impact on local communities.

IMPLEMENTATION

- Implementation

Implementation

The MAITP considers transport requirements for the Mackay urban area in an integrated and holistic manner. It identifies the need for pre-planning and investigations to identify appropriate transport infrastructure and operational requirements. The Plan further ensures the identification and safeguarding of potential strategic transport corridors. Delivery of the actions contained in this Plan will be subject to:

- future funding approvals;
- relevant studies and investigations;
- appropriate environmental assessments; and
- further public consultation.

Facilitation of Implementation

Responsibilities for implementing specific actions within the Mackay Area Integrated Transport Plan have been identified against each action, with a lead agency and collaborating agencies nominated for each action. It is proposed that an Implementation Group be established to facilitate implementation of the Plan's actions. The role of the Implementation Group will be to:

- monitor and report on the progress of individual actions;
- facilitate cross-agency interaction and information-sharing to support the implementation of the Plan; and
- identify and develop opportunities to secure funding for the implementation of the Plan's actions.

As circumstances are likely to change over the next 25 years, it is proposed that the Plan be reviewed when significant events occur (e.g. major land use changes) or at least every five years, consistent with census intervals. It is proposed that the Implementation Group undertake an annual review of the rolling program of actions. The annual review would consider the need for a review of the actions and proposed timing of actions within the Plan.

Implementation Funding

Some of the actions and infrastructure identified in this Plan are currently not funded. Reasons for the identification and inclusion of future (currently not funded) items include:

- the need to identify and preserve transport corridors to ensure that transport and development options are not prematurely restricted;
- the need to identify current and future regional transport requirements in an integrated way;
- the need to identify critical thresholds for design and funding requirements;
- the need to provide opportunities for the Mackay community to understand the decision-making processes; and
- the potential to advance reasoned and demonstrated arguments for possible additional funding.

Road Network

Main Roads funding for roads is provided through the Roads Implementation Program (RIP). This funding includes allocations from the Commonwealth-funded National Highways System (NHS), State-funded allocations for the balance of state roads includes assistance to local governments for local roads as part of the Transport Infrastructure Development Scheme (TIDS). Funding for road infrastructure in the Mackay area is also provided through the Mackay City Council capital works program.

As traffic demand grows, a higher percentage of funding will be required to preserve the existing road system. Significant improvements to the state road network may also need to be achieved over the life of this program.

Continued provision of an adequate road network for the Mackay urban area will require:

- a balance between options for the upgrading and maintenance of existing road transport corridors;

- identification and preservation of future transport corridors; and
- maintenance, upgrading and construction of new bridges and connections to the road network.

Opportunities and constraints on the development of these options include the need to recognise population thresholds and associated traffic generations, and the key objectives and strategies contained in the Mackay City Planning Scheme. The plan indicates a preference for realistic and cost-effective solutions.

Seaport

Financing of seaport infrastructure is the responsibility of the Mackay Port Authority. The Mackay Port Development Plan (1999) sets out infrastructure development proposals for short-term (2005), medium-term (2015), and long-term (2025) development.

Queensland Transport through its Maritime Division also provides and maintains marine infrastructure on the coast and in the Pioneer River.

Airport

Financing of airport infrastructure is the responsibility of the Mackay Port Authority. The development strategy contained in the Mackay Airport 2000 Master Plan provides for short-term (2000 - 2005), medium-term (2005 - 2015) and long-term airside, landside and terminal building infrastructure.

Public Transport

Queensland Transport subsidises public transport through contracts with local bus operators and also provides funding for the development of transit facilities. Subcontracted 'Taxi Transit' services (Monday to Saturday) form part of the service contract for the provision of scheduled services to supplement the current bus services (Monday to Friday) operated by Mackay Transit Coaches.

The Taxi Subsidy Scheme is designed to improve the mobility of people with severe disabilities. The Scheme sets eligibility criteria and provides a fifty percent subsidy on the full cost of taxi fares. Queensland Transport administers the scheme, with Queensland Health assuming responsibility for the assessment of applications.

Cycling and Walking

Current funding for combined footways/bikeways in the Mackay urban area comprises $282,000 by Mackay City Council for financial year 2001/02, and $170,000 by the Department of Main Roads.

Conclusion

Significant funding has been allocated to improve transport infrastructure and services in the Mackay urban area. Cost estimates for some of the proposed infrastructure and service requirements identified in this Plan have not been determined at this stage and require further detailed studies. Agencies need to consider a range of issues in developing their own programs and need to exercise flexibility to adjust their work program to accommodate priority actions listed in the MAITP. The Plan recognises the need for flexibility to accommodate changing circumstances by not staging any proposed transport infrastructure and services until detailed investigations have been completed.

Funding to progress proposed transport investigations have been allocated in the Queensland Transport and Department Main Roads 2002/2003 budgets. It is anticipated that the participating authorities will also provide funding to progress further investigations.

APPENDICES

- Summary of Action Plans
- Summary of Recommended Capital Programs
- Glossary
- Membership of MAITS Committees

Summary of Action Plans

Land use, Transport Planning and Cross-Modal Issues

Lu1 Ensure that transport issues and concerns are identified in the terms of reference for all current and future impact assessment studies.

Lu2 Consider good urban design and integrated regional transport planning principles as contained in *'Shaping Up'* Guidelines, *'Queensland Streets'*, AMCORD and the Mackay, Road Hierarchy Principles.

Lu3 Investigate opportunities to integrate and improve passenger transfers between transport modes in Mackay, including rail, bus, air and sea (in terms of infrastructure and service provision).

Lu4 Guide development in Mackay through the Mackay City Council Transitional Planning Scheme and Mackay Seaport and Airport Land Use Plan (LUP), with regular updates of these planning controls.

Lu5 Consider public transport, pedestrian and cycling movement when planning new and re-developing areas.

Lu6 Improve bus, cycling and pedestrian connectivity and access in existing urban areas, based on detailed needs assessment.

Lu7 Monitor population growth and employment characteristics trends to enable transport strategies and actions to be revised to meet current and future community needs.

Lu8 Ensure the IPA planning scheme for Mackay City Council incorporates the desired outcomes of the MAITP.

Road Network

Rd1 Commence planning for the replacement of Forgan and Hospital bridges to address cross-river capacity, including consideration of approach and major intersection requirements and cycle and pedestrian access.

Rd2 Inform QR of the required status of the disused railway land from Alfred Street to Juliet Street.
- Alfred to Shakespeare Street subject to QT assessment for a future transport corridor;
- Shakespeare to Juliet Street - not required for future transport purposes.

Rd3 Undertake detailed urban road planning studies to address capacity issues associated with:
- Glenpark Street;
- Nebo Road, including intersections;
- Hume Street/River Street link;
- Paradise Street;
- Bruce Highway north of Sams Road;
- Malcomson Street; and
- Rural View to Blacks Beach link.

Rd4 Undertake detailed investigations into the provision of alternative freight routes around the greater Mackay urban area to address the impacts of through transport of freight.

Rd5 Preserve the multi-modal freight corridor between Bucasia Road and the port. Manage the impacts on the retained multi-modal freight corridor land.

Rd6 Preserve land for the multi-modal corridor between the Bruce Highway and the Mackay Port through the Mackay IPA Planning Scheme.

Rd7 Develop a management plan for the multi-modal freight corridor.

Rd8 Continue to manage the road network through:
- maintaining road safety standards that are responsive to local needs;
- reviewing of traffic signal phasing to reduce delays;
- maintaining road signage in accordance with local and state standards;
- maintaining the road asset; and
- undertaking road safety audits to consider the needs of all road users.

Public Transport

Pt1 Review and ensure the adequacy of QT's accessibility standards for the disabled continue to be met by the public transport system in Mackay.

Pt2 Undertake a public transit planning study to identify future public transport needs for the Mackay area.

Pt3 Examine opportunities to provide additional public transport services, and improve frequencies:

- in the peak period;
- additional midday services;
- on weekends;
- to the Northern Beaches (via Mackay-Bucasia Road)
- to major attractions (eg shopping centres, hospitals);
- linking the airport and Paget rail passenger terminal to the CBD;
- to the small craft harbour and East Point as residential/tourist development in the Mackay Port area proceeds; and
- for trips with both origins and destinations outside the CBD.

Pt4 Monitor and expand on recent initiatives by QT to increase service areas and frequencies.

Pt5 Examine opportunities to implement innovative bus service types, eg. zoned, demand-responsive and deviated route service.

Pt6 Seek opportunities to implement enhanced taxi technologies, eg. GPS, EFTPOS and Internet bookings through partnerships with stakeholders.

Pt7 Examine opportunities to provide bicycle storage on buses.

Pt8 Examine opportunities to increase available information on public transport services, eg. printing of route information in the local Classified Commercial phonebook (PDC), signage and displays at shopping centres, and timetable and route information at public transport stops.

Pt9 Monitor public transport share to evaluate the success of implemented improvements, with a target of 5% by 2015.

Pt10 Promote, educate and increase awareness of public transport eg. the provision of a Travelsmart project.

Pt11 Seek opportunities for better fare integration for the public transport system.

Pt12 Encourage and promote the use of 'Shaping Up' Guidelines in the provision of public transport facilities and services, and in the integration of public transport with other transport modes.

Pt13 Establish a public transport consultative committee, comprised of local agency, industry and community representatives, to monitor the results of implemented measures and identify future issues and needs.

Pt14 Monitor taxi share and revise the number of licences issued to meet current Queensland Transport benchmarks and demand.

Pt15 Ensure that safe and direct walking/cycling pathways are provided to/from public transport through development assessment undertaken under the Planning Scheme.

Pt16 Undertake an audit of kerbside infrastructure to support accessibility to buses (eg design of street and kerb for wheelchairs).

Pt17 Undertake an audit of kerbside infrastructure to enhance bus passenger comfort and safety and security (eg design and provision of bus shelters, lighting and visibility of bus stops, shade areas).

Cycling

Cy1 Continue implementation of infrastructure and network aspects of the Mackay City Council Bicycle Plan, with annual reviews of implementation of the Plan for the first five years and every two years thereafter. The Plan needs to be included in the Mackay City IPA Planning Scheme.

Cy2 Maintain Mackay City Council Bicycle Advisory Committee to guide implementation of the Mackay Bike Plan and cycling actions arising from the MAITP.

Cy3 Nominate/ appoint a Bikeways Coordinator within Mackay City Council to oversee implementation of the Mackay City Bicycle Plan to ensure that recommendations are advanced.

Cy4 Promote a doubling of mode share to 6% by 2010 with a further increase to 10% by 2015 in line with the Mackay City Council Bicycle Plan, and consider the incorporation of additional targets as included in the Queensland Cycle Strategy.

Cy5 Monitor bicycle mode share to evaluate the level of success of implemented bicycle improvements and to monitor progress towards targets.

Cy6 Conduct regular review of facilities to identify where improvements are required.

Cy7 Develop supporting facilities at key destinations to encourage cycling, including secure bicycle parking/storage; shower/locker facilities; and signage and line marking. Include a code for end-of-trip facilities in the Mackay City IPA Planning Scheme.

Cy8 Review provisions for cyclists in the City Heart.

Cy9 Develop a bicycle education and awareness strategy, incorporating initiatives for education, encouragement and enforcement (including development of a Bikeways brochure).

Cy10 Adopt appropriate cycling design guidelines in the initial planning process for all infrastructure development such as the *'Shaping Up'* Guidelines, AUSTROADS Part 14, Mackay City Council Bicycle Plan and Mackay City Council Planning Scheme.

Cy11 Make provision for cycling during construction, reconstruction, linemarking and new developments on arterial, sub-arterial and collector routes e.g. sealing of road shoulders, provision of bicycle lanes or separate facilities.

Pedestrian Issues

Pd1 Use AUSTROADS Part 13 as the standard for pedestrian network planning and design. Aspects include:

- consideration of movement and safety of pedestrians in the local road network;
- provision for pedestrian movement in the major road network and on existing/new bridges where possible;
- provision for wheelchair and pram requirements; and
- use of environmental design to assist crime prevention and personal safety.

Pd2 Observe AMCORD, *'Queensland Streets'* and Mackay Road Hierarchy Principles in relation to development planning, including:

- the mapping and assessment of existing pedestrian networks around major nodes (eg shopping centres); and
- consideration of walking/cycling pathways to/from public transport through development assessment undertaken under Mackay City Planning Scheme.

Pd3 Plan and design pedestrian facilities for shopping centres and public transport facilities to provide for safe and efficient pedestrian connections which promote walking to and from off-site locations.

Pd4 Consider bicycle and pedestrian interaction in planning and design of networks.

Pd5 Monitor pedestrian mode share data over time to evaluate the success of pedestrian improvements and to identify future needs.

Pd6 Map the existing pedestrian network (i.e. 'Ped Shed' analysis) around major attractors such as shopping centres, public transport facilities and schools to identify where the network could be improved or made more accessible to pedestrians.

Pd7 At the local area level, identify deficiencies in the existing pedestrian network by way of community consultation, combined with field inspection, 'Ped Shed' analysis and comparison with standards.

Pd8 Develop improvement, promotional and education programs for the Mackay urban area's pedestrian network to improve safety and amenity (e.g. landscaping, lighting, shade and pedestrian water access).

Pd9 Develop a pedestrian plan to ensure that pedestrian networks are appropriately planned and designed to account for pedestrian use, origins and destinations.

Pd10 Provide and promote pedestrian access to the Pioneer River including direct riverbank access.

Pd11 Publish a guide to local walking and hiking trails and suitable destinations of interest for both local residents and tourists.

Travel Demand Management

Dm1 Raise awareness of demand management techniques and benefits. Eg. Private vehicle use impacts.

Dm2 Review parking policies to be more demand management orientated, and develop parking plans for major centres (eg. CBD).

Dm3 Encourage and implement demand management measures to reduce single occupancy vehicle usage such as:

- employee incentives;
- shuttle services;
- ride-sharing;
- staggered work hours;
- telecommuting;
- promotion of public transport; and
- promotion of walking and cycling.

Dm4 As traffic volumes increase, investigate opportunities for bus priority measures and High Occupancy Vehicle (HOV) lanes.

Dm5 Monitor transport system pricing on a Queensland-wide basis and its application to Mackay.

Freight Movement

Fr1 Form a joint agency/industry committee to further investigate modal transport issues associated with the transport of sugar cane and other commodities.

Fr2 Develop the B-Doubles network to provide efficient freight access for trade and industry – review current B-Double routes to identify gaps and problems.

Fr3 Undertake a review of the transport requirements including B-Doubles, over-dimension, dangerous and hazardous goods routes within Mackay industrial areas and connection to the port, railhead, highways and other manufacturing centres.

Fr4 Undertake detailed urban road planning study to investigate upgrading of Malcolmson Street/Evans Avenue to provide medium-term road access to the Port of Mackay.

Fr5 Rehabilitate Harbour Road pavement to maintain continued high standard access to the Port of Mackay.

Fr6 Preserve long-term road acesss to the Port of Mackay, including the future multi-modal freight corridor.

Fr7 Form a local agency/ industry committee to address the impacts of haulage, for example, cane from farms to sidings, including ongoing monitoring of effects.

Fr8 Undertake detailed investigations into the provision of alternative freight routes around the greater Mackay urban area to address the impacts of through transport of freight.

Fr9 Assess the implications of trial use of B-Doubles for quarry product transport.

Aviation

Av1 Provide a designated road route with appropriate signage from the CBD and major tourist service and accommodation areas to the airport.

Av2 Upgrade/expand airport facilities and infrastructure in line with the Mackay Airport Master Plan as passenger movements, the capacity of the aircraft and freight movements increase.

Av3 Monitor freight movements through the airport in order to provide improved access and modal transfer where required (eg. transfer of perishable goods).

Av4 Ensure that future development in and around the Mackay Airport is compatible with relevant planning policies. These include the Mackay Airport Masterplan and soon-to-be-implemented State Planning Policy and Planning Guidelines for the Planning and Management of Development in the Vicinity of Certain Airports and Aviation Facilities, and Mackay City Planning Scheme.

Port, River and Marine

Po1 Implement the Mackay Port Authority Port Development Plan (PDP), including upgrade/provision of transport and freight-related infrastructure as demand on port facilities increases.

Po2 Ensure that development in and around the port area is compatible with the PDP, the Port Land Use Plan (LUP) and associated planning schemes (Mackay City Council Planning Scheme).

Po3 Plan and provide maritime infrastructure in accordance with the Queensland Government's Maritime Capital Investment Plan.

Po4 Ensure continued implementation of the Queensland Coastal Contingency Action Plan (including NATPLAN, REEFPLAN and MPA Oil Spill Contingency Plan) for oil-spill events impacting on the Mackay area, including the river and coast areas.

Po5 Investigate future staged development of the port access road link (dependent on outcomes of Action Fr6).

Rail Infrastructure and Services

Rl1 Review Mackay railway station passenger infrastructure, especially inter-modal connection facilities.

Rl2 Investigate provision of improved public transport services between the rail passenger terminal at Paget, the CBD and the Long Distance Coach Terminal.

Rl3 Assess cane railway crossings using the risk scoring matrix developed by the Queensland Level Crossing Safety Steering Group, with input from the rail and relevant rail/road authority or owner as appropriate.

Rl4 Ensure compatibility between QR rail infrastructure improvements and the Mackay Port Development Plan (PDP).

Tourism

TM1 Support Mackay Tourism Development Board in the proposed Mackay Regional Signage Project through formation of a District Tourist Signage Committee to consider the provision of:

- 'welcome' and interpretive signage at key access points in Mackay;
- educational and interpretive signs along scenic road routes in accordance with design standards; and
- directional signs along roads to clearly direct tourists to particular destinations.

TM2 Determine the appropriateness of existing designated road linkages between the Bruce Highway, Mackay City and the coast for tourism purposes.

TM3 Consider design requirements for scenic roads to cater for slow speed environments at points of interest (eg. turn-off lanes) in the provision of new and upgraded roads.

TM4 Provide tourist roadside facilities along scenic and popular tourist routes and destinations as appropriate.

TM5 Monitor and participate in statewide tourism-related strategies contained in the Strategic Tourism Roads Strategy.

Environmental and social considerations

En1 Develop and implement Environmental Management Systems (EMSs) which consider transport planning and infrastructure provision.

En2 Incorporate environmental standards and controls in planning and design of transport projects.

En3 Implement ongoing monitoring (air, noise, water) of the transport system based on appropriate codes to determine impacts and devise amelioration strategies.

En4 Raise community awareness of environmentally responsible transport system usage and potential benefits.

En5 Monitor transport accessibility to ensure equitable coverage in the Mackay urban area.

En6 Incorporate physical access criteria in the planning and design of upgraded/ new transport system facilities.

En7 Plan and design for safety and security measures in upgraded/new transport system facilities.

En8 Implement ongoing auditing of safety and security of the transport system, including development of local action plans for pedestrian and cycle paths.

En9 Consider environmental, social and economic considerations and include appropriate consultation when carrying out Impact Assessment Studies for transport infrastructure and facilities.

Summary of Recommended Capital Programs

Road Network

CRd1 Commence planning for the replacement of Forgan and Hospital Bridges to address cross-river capacity, including consideration of approach and major intersection requirements.

CRd2 Undertake detailed urban road planning studies to address capacity issues associated with:

- Glenpark Street;
- Nebo Road including intersections;
- Hume Street/River Street link;
- Paradise Street;
- Bruce Highway north of Sams Road;
- Malcolmson Street; and
- Rural View to Blacks Beach link.

CRd3 Undertake detailed investigations into the provision of alternative road network routes to address the impacts of through transport of freight.

CRd4 Upgrade Mackay – Bucasia Road (intersections) and Eimeo Road deviation.

CRd5 Upgrade Mackay – Bucasia Road (4 lanes) rail overpass/interchange Habana Rd.

CRd6 Upgrade Bruce Hwy/Bucasia Rd intersection.

CRd7 Continue to manage the road network including:

- maintaining road safety standards that are responsive to local needs;
- reviewing traffic signal phasing to reduce delays;
- maintaining road signage in accordance with local and state standards;
- maintaining the road asset; and
- undertaking road safety audits.

Public Transport

CPt1 Undertake a public transport planning study to identify future public transport needs for the Mackay area.

CPt2 Contribute towards local bus services.

CPt3 Contribute towards 'taxi transit' services.

CPt4 Continue Taxi Subsidy Scheme to improve the mobility of people with severe disabilities.

Cycling

CCy1 Implement infrastructure in accordance with the Mackay City Council Bicycle Plan.

Freight Movement

CFr1 Undertake a freight transport study to assess future infrastructure and route requirements for heavy vehicles (B-Doubles, over-dimension, dangerous and hazardous goods) in the Mackay area.

CFr2 Undertake detailed urban road planning study to investigate upgrading of Malcomson Street/Evans Avenue to provide medium-term road access to the port of Mackay.

CFr3 Rehabilitate Harbour Road pavement to maintain continued high standard access to the port of Mackay.

CFr4 Undertake a detailed investigation into the provision of long-term road access to the port of Mackay.

CFr5 Undertake detailed investigations into the provision of alternative freight routes around the greater Mackay urban area to address the impacts of through transport of freight.

Aviation

CAv1 Develop airside, landside and terminal building infrastructure in accordance the Mackay Airport Master Plan.

CAv2 Develop airside, landside and terminal building infrastructure in accordance with the medium-term plan in the Mackay Airport Master Plan.

CAv3 Develop airside, landside and terminal building infrastructure in accordance with the long-term plan in the Mackay Airport Master Plan.

Port, River and Marine

CPo1 Develop the seaport, including land reclamation and development, roadwork and dredging.

CPo2 Implement medium-term seaport works in accordance with the Port Development Plan.

CPo3 Implement long-term seaport works in accordance with the Port Development Plan.

Glossary

Accessibility	The ease and convenience of reaching and using a service or location.
Activity nodes	Activity nodes are places where different groups of people gather during the day and/or night. A node might be a railway station, a bus stop, a shopping centre or street corner.
Arterial road	Primary connecting road, from which smaller roads link to more local areas.
B-Double	Over-sized vehicle that is a combination of a prime mover followed by two trailers of which the total length is less than 25 metres.
Biodiversity	The variety of all life forms – the different plants, animals and micro-organisms, the genes they contain, and the ecosystem of which they form a part.
CBD	Central Business District.
Collector road	A road whose primary function is the distribution of traffic between arterial roads and residential streets.
Community transport	Transportation that supports community activities.
Cross-modal	Providing for two or more modes of transportation.
DLG&P	Department of Local Government and Planning.
DMR	Department of Main Roads.
Ecologically Sustainable Development (ESD)	Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.
EPA	Environmental Protection Agency.
Freight network	Designated road and rail transport infrastructure supporting efficient freight movement and minimizing impacts on the community.
Grade separation	Separation of different transport routes using overpasses and underpasses.
Infrastructure	Basic structures (such as roads, railways, wharves and traffic lights) needed for transportation.
Integrated	Combined into a unified system, taking into consideration all modes of transport, land use, social, environmental and economic considerations.
Ktpa	Kilo tonnes per annum.
Local road	A road whose main function includes the distribution of traffic between arterial and collector roads and residential areas, and is under the control of local government.
MAITAP	Mackay Area Integrated Transport Action Plan.
MAITP	Mackay Area Integrated Transport Plan. Also referred to as 'Plan'.

MAITS	Mackay Area Integrated Transport Study.
MCC	Mackay City Council.
MMFC	Multi-modal freight corridor.
MPA	Mackay Port Authority.
MSCAL	Mackay Sugar Co-operative Association Ltd.
Mtpa	Mega tonnes per annum.
Multi-modal	Transport systems incorporating two or more modes e.g. rail and road.
Public transport interchange	Place built for passengers to gain access to public transport or to transfer from one public transport vehicle to another.
QR	Queensland Rail.
QT	Queensland Transport.
QT(SC)	Queensland Transport through the Commercial Service Contract with bus operators.
Ring road	Road encircling an urban area to enable traffic to avoid travelling through that area.
Service contract	An agreement for the provision of transport services between a transport operator and government.
Social justice	Social justice advocates that all people should be able to move freely and safely in urban and rural areas and not be disadvantaged because of their remoteness from community facilities, their economic circumstances or personal impairment.
TIDS	Department of Main Roads Transport Infrastructure Development Subsidy.
Traffic calming	Traffic management techniques aimed at reducing the impact of traffic on local streets.
Transport disadvantaged	People who do not have access to adequate transport.
Transport of system	Infrastructure, services and equipment to provide for the movement people and freight.
Vpd	Vehicles per day.

MAITS Steering Committee

The MAITS Study has been directed by a Steering Committee chaired by Queensland Transport. It also includes senior officers from agencies including:

- Department of Main Roads
- Mackay City Council
- Mackay Port Authority
- Federal Department of Transport and Regions

MAITS Technical Committee

A Technical Committee was also established to advise on technical issues and to provide detailed input to the Study process. The Technical Committee comprised representatives of:

- Queensland Transport
- Department of Main Roads
- Mackay City Council
- Mackay Port Authority
- Queensland Rail
- Department of Local Government & Planning

MAITS Steering Committee

Queensland Transport

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Former Executive Director
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Department of Main Roads

Malcolm Hellmuth: Executive Director (Central)

Ken Williamson: District Director (Mackay)

Mackay City Council

Julie Boyd: Mayor

Greg Breckell: Councillor

Mackay Port Authority

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The Mackay Area Integrated Transport Plan is available on the Queensland Transport internet site:

http://www.transport.qld.gov.au

Contact the Regional Manager Integrated Transport Planning Central, Queensland Transport on (07) 4931 1651 for information regarding the Mackay Area Integrated Transport Plan or other integrated regional transport planning activities being undertaken across the State.