Far North Queensland Draft Regional Plan 2025

planning for a stronger, more liveable and sustainable community

DRAFT
have your say
Consultation on the draft regional plan: Help shape the future of FNQ—tell us what you think about the draft regional plan.

Important note: All submissions must be "properly made". For the purposes of feedback, a "properly made" submission will need to:
- state the name and address of the submitter
- be made in writing and signed by the submitter
- be made on or before 8 August 2008
- be a structured response under the headings of the draft regional plan and/or other matters for consideration.

Forward your submission to:
FNQ Draft Regional Plan Feedback
Department of Infrastructure and Planning
PO Box 5194 Cairns Qld 4870
or fax +61 7 4039 8866

You have until 8 August 2008 to provide your feedback. Feedback on the draft regional plan will assist the Department of Infrastructure and Planning to finalise the regional plan, which will be released in late 2008.

For more information on the draft regional plan contact:
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Copies of the draft plan are available:
- online www.dip.qld.gov.au
- for viewing at most council chambers, libraries and customer service centres within the local government areas covered by the regional plan
- for free on CD-ROM or in hard copy by contacting Department of Infrastructure and Planning offices in Cairns and Brisbane by phoning 1300 721 194 by emailing FNQ2025@dip.qld.gov.au

Department of Infrastructure and Planning offices:
- Level 2 Orchid Plaza 79-87 Abbott Street Cairns
- Level 1 63 George Street Brisbane

Draft regulatory maps
A set of draft regulatory maps (151 cadastre based (1:50,000) maps in total) form part of the Draft State Regulatory Provisions associated with the draft regional plan. The draft regulatory maps are available separate to the draft regulatory provisions. The maps allocate all land in the region into three land use categories.

Hard-copy sets of the maps are available for $300 per set (plus postage and handling). This set includes only the 38 maps showing land parcels included in the urban footprint and rural living area land use categories.

Copies are available for purchase or viewing at the Department of Infrastructure and Planning office in Cairns or Brisbane. Phone 1300 721 194 to place and order. Payment can be made by cash, cheque or credit card.
Far North Queensland
Draft Regional Plan 2025
planning for a stronger, more liveable and sustainable community
Foreword

Far North Queensland is a unique area, with a character valued by residents and visitors alike.

This region is one of Australia's most popular tourist destinations and has experienced continued residential growth, with people moving here to enjoy the relaxed tropical lifestyle.

It is estimated that around 100,000 people will move to the region in the next 20 years. While such growth can lead to economic prosperity, we need to manage it in a way that balances development with the local lifestyle.

In 2006, the Queensland Government committed to the development of a statutory regional plan for Far North Queensland to provide for further growth in the region while protecting the regional landscape and rural industry.

Regional planning is not new to Queensland, however it now has a statutory basis. A statutory regional plan offers a preferred settlement pattern, limitations on inappropriate urban development, the maintenance of rural lands through regulatory provisions, the identification of a regional activity centres network and protection of significant green space.

When finalised, the Far North Queensland Regional Plan 2025 will respond to the specific needs of the region. It will allow the state, in collaboration with local communities, to achieve desired planning and development outcomes. We must ensure social, environmental and economic systems are sustainable into the future.

It is about planning for and managing growth to ensure that your quality of life is protected in the future. We have to ensure smart growth so our communities can thrive, remain accessible, maintain their natural beauty and be better places for following generations.

A vital next step in the process is to obtain the ideas and concerns of the communities in the region. Your views are needed to finalise this regional plan and we strongly encourage feedback during the public consultation process.

The release of the draft regional plan is your opportunity to have a say. We are seeking input on the consolidation of development to limit urban sprawl, the management of rural residential development, the protection of regional landscape and rural production values and planning for future infrastructure needs. Get involved and have your say on the future development of the region.

The Honourable Anna Bligh MP
Premier of Queensland

The Honourable Paul Lucas MP
Deputy Premier and Minister for Infrastructure and Planning
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Background

In February 2000 the Queensland Government officially launched the *Far North Queensland Regional Plan (FNQ2010)*. Since its release, it has been considered the main strategic planning framework for guiding growth and development in the FNQ region over a 20 year timeframe.

The plan dealt with a range of key environmental, natural resource, economic, social, urban development and infrastructure issues facing the region and recommended holistic strategies and actions to address these issues. *FNQ2010* is the foundation of this draft regional plan. The previous assumptions and conclusions of the former regional plan have now been reassessed in light of changes that have occurred in the region since its release in 2000.

Regional plans are about thinking regionally and acting locally. Increasingly they are looking beyond the planning phase to the implementation of plans to achieve on-ground outcomes. Regional plans prepared under the *Integrated Planning Act 1997* (IPA) seek to achieve ecological sustainability by planning at a regional level to manage development and its effect on the environment. The plans provide a structure to link infrastructure to population growth in expanding regions, and development of on-ground actions to support sustainability of rural regions. Integration of state, regional and local planning across the broader planning framework in Queensland is essential to achieve these outcomes.

Outcomes sought include:

- the timely delivery of infrastructure to cater for growth
- confidence and certainty for infrastructure providers, business, investors and communities about land use in their region
- efficiencies in service and infrastructure delivery
- opportunities for partnerships between all levels of government and communities.
Moving from voluntary to statutory

Historically, regional planning in Queensland has been a voluntary activity, which relied on cooperation between stakeholders to develop outputs which were advisory in nature. Regional plans typically focused on the facilitation and coordination of planning activities undertaken by state and local government and guided future land use and major activities. These plans were non-statutory in their implementation.

Non-statutory regional plans provide guidance for communities to adapt to, and meet the challenges associated with, rapid growth or decline, changing demographics and infrastructure delivery. However, the absence of powers and commitment to achieve effective implementation of non-statutory regional plans was regarded as a shortcoming by some stakeholders. Consequently, many regional communities have not always been able to respond adequately to issues facing their region.

Recent amendments to IPA now allow all new or amended regional plans to have statutory effect. Under a statutory regional plan all development and land use in the region will need to comply with the relevant regional plan. Where a state plan, policy or code, or a local government planning scheme contradicts the regional plan, the responsible planning authority must amend the document to ensure alignment and subsequent implementation. Regional plans are intended to complement and strengthen existing plans and other planning instruments are considered when preparing a statutory regional plan. Where there is a clear inconsistency between a statutory regional plan and another planning instrument, the regional plan will take precedence.

The most significant variation from the former non-statutory FNQ2010 to this draft regional plan is that it will be a statutory document under IPA. While the former regional plan included a suite of strategies to achieve desired outcomes, a number of these strategies were not progressed because of the plan’s voluntary status. By making this document statutory, it will ensure that it is the pre-eminent plan for the region, taking precedence over all other planning instruments.

The regional plan does not attempt to take the place of economic, environment or social plans such as conservation or tourism plans or strategies. It includes regional planning policies that both directly and indirectly achieve environmental, social and economic outcomes to achieve ecological sustainability for the FNQ region and in doing so, meets the objective of section 1.2.1 of IPA.

The task of shifting from a voluntary to a statutory plan requires significant refinement of former strategies to ensure the statutory regional plan aligns clearly with the intent of IPA. In developing the draft regional plan, policies that have a land use planning focus and can be delivered through a range of IPA planning tools (e.g. planning schemes, priority infrastructure plans, the Integrated Development Assessment System) have been named ‘land use policies’.

It is recognised that the desired regional outcomes of the plan cannot be achieved through the above land use planning mechanisms alone. Implementation of the strategies and actions of aligned plans, such as the natural resource management plan for FNQ, are critical to achieve the region’s vision. The specific policies that are to be implemented through these aligned plans have been named ‘aligned policies’.

Figure 1 illustrates the relationship of the regional plan with other planning programs (both statutory and non-statutory).

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Figure 1: Relationship of regional plan with other plans and strategies

- Regional economic strategies
- Regional social development strategy
- Regional tourism strategies
- Regional conservation strategies
- Regional natural resource management plan investment strategies
- Regional coastal management plan
- Regional transport plans
- Regional infrastructure strategies
- Regional vision and desired regional outcomes
- Other regional strategies

1 Except state planning regulatory provisions.
Purpose of the regional plan

The draft regional plan is intended to guide and manage development within the region over the next 20 years in a manner that realises key environmental, social, economic and urban objectives for the future.

The region has experienced continuous growth in resident population, visitation, economic activity and urban development over the past decade. Expansion of the region’s tourism industry and the national trend of population movement north along the east coast of Australia has driven this growth.

Growth is expected to continue over the next 20 years and beyond. The draft regional plan will help to manage this growth in the most sustainable way to protect and enhance the quality of life in the region.

This plan encompasses a comprehensive policy framework to make decisions on managing the region’s development during this period of growth. The plan:

- identifies sufficient developable land to meet future growth
- ensures growth is provided for in a manner that protects and enhances the region’s natural environment, biodiversity and natural resources
- resolves conflicts between state and local planning policies at a regional level
- establishes sound urban development principles which support a compact, well-serviced and efficient urban form
- promotes the delivery of infrastructure in a timely, cost-effective manner that supports community and economic development
- maintains and enhances the quality of life for existing and future communities
- ensures the region’s growth addresses the possible impacts of climate change and peak oil
- supports a viable and diverse economy with well-located employment opportunities and economic activity centres
- informs the private sector when making business investment decisions with greater certainty of future growth and development objectives.

Preparation

The draft regional plan was prepared jointly between all levels of government and key community groups. The interests of these groups are represented on the FNQ Regional Coordination Committee, which was involved in the development of the draft regional plan. (The function of a Regional Coordination Committee is to advise the state, through the Planning Minister for the region, about the development and implementation of the region’s statutory regional plan). In addition, key stakeholder groups and government agencies contributed through the FNQ Regional Organisation of Councils, advisory panels, a technical working group and planning workshops.

The preparation of the draft regional plan draws upon the widely consulted and accepted FNQ2010, endorsed by state and local government through the former FNQ Regional Planning Advisory Committee in 2000. The plan also relies on current desired environmental outcomes contained in FNQ local government planning schemes as well as other state and local government plans, policies and strategies.

The draft regional plan has been prepared in accordance with chapter 2.5A of IPA which sets out the required procedure that the Planning Minister must follow in preparing and making the regional plan. The key steps include:

- preparing a draft plan
- making the draft plan available for public consultation for a minimum of 60 business days
- considering all properly made submissions on the draft plan
- consulting with the FNQ Regional Coordination Committee.

The public consultation period for the draft regional plan will conclude on 8 August 2008.

Application, implementation and review

The regional plan is a statutory instrument under the Statutory Instruments Act 1992 and a planning instrument under IPA. It has a direct effect in its own right and indirect effect through the amendment and alignment of local government planning schemes and state plans and policies.

Local government planning schemes are the primary mechanisms for planning and managing the urban form. Maximising the performance of planning schemes and applying ‘best practice’ will be critical to providing efficient and effective regional communities.

The desired regional outcomes and policies of the regional plan will be monitored and used in the review of the plan which will be undertaken at least every 10 years. Notwithstanding the above, the Planning Minister can amend the regional plan at anytime under the procedures set out in IPA. Performance indicators will be developed to measure the progress in implementing the plan’s policies, regulations and targets.

The FNQ region

The regional plan applies to the following local government areas within the FNQ region:

- Cairns Regional Council
- Tablelands Regional Council
- Cassowary Coast Regional Council
- Yarrabah Aboriginal Council
- Wujal Wujal Aboriginal Council.

For the purposes of the regional plan, the FNQ region also includes Queensland offshore waters that are part of those local government areas.

Maps 1 and 2 (see Appendix 1) show the location of FNQ and the local government boundaries of the FNQ region.

*The FNQ Regional Planning Advisory Committee became the FNQ Regional Coordination Committee upon designation of the FNQ region under section 2.5A.2 of the Integrated Planning Act 1997 on 6 March 2008.*
The draft regional plan is set out under the following sections:

Part A Introduction—the preamble describes the statutory nature of the regional plan and its process of evolution from the current non-statutory plan. The plan’s purpose, land use planning focus and its relationship with other plans is highlighted, as are the processes for plan preparation, public consultation, implementation and review, as required under the IPA.

Part B Regional vision—the vision statement encapsulates the desired future for the region.

Part C Strategic directions—the strategic directions describe a new approach based on managing rather than responding to growth and establish the broad principles that must be adopted to achieve the vision.

Part D Regional land use pattern—This section describes the preferred settlement pattern to accommodate growth for the next twenty years, establishes the land use categories for the region and includes the justification for and application of the regulatory provisions.

Part E Regional policies—the underlying principles, desired regional outcomes and regional policies described in this section will guide land use planning decisions in FNQ and must be reflected in all relevant plans, policies and codes being prepared or amended by state or local governments in FNQ. The regional policies are also considered a state interest with respect to consideration of local government planning schemes and development applications under the IPA. Explanatory notes are provided to assist in the understanding and interpretation of the policies.

Part F Implementation, monitoring and review—the governance arrangements for implementation and review of the regional plan are described in this section.
The vision for the FNQ region defines the community's long-term aspirations for the region. It is a conceptual image of the type of lifestyle the community wishes to have in 20 years and protect for future generations.

The regional vision for FNQ

FNQ is focused on maintaining the tropical and relaxed lifestyle, where residents and visitors enjoy the surrounding outstanding natural values. The region is made up of vibrant neighbourhoods that form distinct, complementary and self-sustaining urban and rural communities. These communities are separated by wide open spaces and are resilient to the anticipated impacts of climate change and peak oil. The traditional owners of the region and their cultural values are acknowledged and respected.

The region continues to grow in prosperity and attracts national and international residents and visitors who seek a variety of lifestyle, employment, investment and holiday choices. Cairns forms the heart of an efficient and sustainable settlement pattern that protects natural, cultural and agricultural values, addresses the need to reduce greenhouse gas emissions and is supported by high level infrastructure, facilities and services.
FNQ regional vision explained

The vision was developed through contributions from many people, including members of the FNQ Regional Coordination Committee, technical working group and advisory panels and the community.

The FNQ region’s outstanding natural areas, particularly the Wet Tropics and Great Barrier Reef world heritage areas, are protected and preserved. The region is known for its best practice environmental and natural resource management. Through understanding and appreciating the ecological processes that support the region’s natural environment, governments, industry and the community are willing to work cooperatively to conserve these natural values.

The region’s thriving economy offers a wide range of business and employment opportunities. Diversification into alternative and innovative technologies in areas such as health, education, manufacturing, natural resource management and tropical expertise will build on the region’s historical economic drivers and maximise economic prosperity across the region.

People are happy and healthy and have a strong sense of identity and place. The traditional owners of the region are recognised and respected and a harmonious mix of cultures ensures the region offers a multicultural experience. The region’s unique Aboriginal and Torres Strait Islander cultural diversity is protected and progressed, and artistic and cultural experiences that bring people together are abundant.

The community is well-informed and educated. People recognise the impacts climate change and rising oil prices will have on the region, and are well prepared for these. The region comprises a diversity of built communities which complement the tropical climate and natural surrounds, with building designs catering for the extreme climatic events currently experienced and projected for FNQ. The location of industrial and employment centres maximise access to markets while minimising negative impacts on the community and environment.

Appropriate planning ensures that urban and regional communities are linked by an efficient and affordable transport network which gives people real choices about how they travel. Sustainable and affordable housing options are available which enhance tropical character and are close to services and community facilities. These features encourage walking and cycling and minimise overall transport demand and climate change impacts.
During the next 20 years, around 100,000 new residents are expected to migrate to the region, including so-called ‘sea changers’, ‘tree changers’ and ‘rain changers’. If the FNQ vision is to be achieved in order to move toward a more ecologically sustainable future, the region will require major changes in the way planning for growth and development occurs. The draft regional plan proposes a new approach based on managing rather than responding to growth.

In doing so, there are a number of underlying regional planning principles and strategic directions which take into account current and new drivers for growth. These need to be adopted through policy and fully implemented. These principles ensure the long-term ecological sustainability of the region.

The planning principles and strategic directions of the draft regional plan are outlined in this section.
Part C—Strategic directions

Protecting regional landscape and rural production values

The FNQ region has significant landscape features, which include important World Heritage and rural production areas. These features provide significant environmental, economic and social benefits to the region and underpin the region's liveability. The regional landscape provides a number of core landscape values such as areas of high ecological significance, rural production areas, renewable energy resource areas, extractive and mineral resource areas, areas of high scenic amenity, outdoor recreation areas and landscape heritage areas. Controls on rural subdivision and urban and rural residential development will protect these areas from inappropriate urban development, urban sprawl and fragmentation.

Addressing the causes of climate change and impacts

FNQ is vulnerable to the impacts of climate change and is likely to experience sea level increase, hotter dry seasons and wetter wet seasons under projected climate change scenarios. Petrol prices are also expected to dramatically increase as global oil supplies diminish. Such changes will adversely affect tourism, agriculture and the tropical lifestyle of the region. The impacts of climate change and peak oil must be addressed and planned for. The future growth of FNQ will ensure that greenhouse gas reductions are achieved in order to mitigate the impacts of climate change. Strategies must be developed to adapt the region and build its resilience to such impacts.

Urban consolidation and land use efficiency

The regional plan will provide clear definition of the areas designated to accommodate future urban growth with adequate supplies of affordable land provided to meet future urban development needs for the next 20 years. The primary objective in the short term is to ensure future growth in the region predominately reflects the existing urban network and consolidates growth within and immediately adjacent to existing centres. Within future urban growth areas, the regional plan will ensure there is a move toward affordable housing and more energy efficient and sustainable communities, with a more compact urban form and higher densities in appropriate areas. This includes greenfield sites as well as infill and redevelopment of areas that are suitable for renewal and can provide an appropriate mix of housing and higher density outcomes than previously achieved. The trend toward an ageing population and smaller households is reflected in the range of new housing provided.

Higher densities will be achieved in appropriate areas to support the most efficient use of infrastructure and services and facilitate the development of viable communities. This will result in reduced travel times, energy usage and pollution emissions. Planning for urban consolidation will also improve levels of accessibility to services and have fewer detrimental impacts on the region's environmental and natural resource values. New isolated developments and low-density developments such as rural residential will be controlled.

Facilitating growth in Mount Peter

The greatest proportion of growth to the region will occur in the Cairns area. While there will be significant growth in existing areas through infill and redevelopment, Mount Peter, between Edmonton and Gordonvale, will accommodate the majority of the new growth in Cairns.

Mount Peter represents some of the last remaining land in the Cairns area that has few natural constraints. It is important that development ensures the best outcomes with respect to:

- dwelling densities
- infrastructure
- public transport
- employment
- industry and commercial needs
- urban open space needs
- greenhouse gas emissions and peak oil.

The planning and development of Mount Peter will take priority over any other new large greenfield development proposed in the region. New development is expected to provide for a wide range and choice of housing types, location and densities to meet the needs of the community and to complement priority infrastructure investment, particularly for roads, public transport and the development of a new town centre.
Promoting a dynamic, robust and diversified economy

While the region's economy is growing, there is an underlying reliance on tourism and rural production as the economic foundation for the region. The structure of the regional economy is now changing with significant growth in the mining and minerals sector to the west of Mareeba.

The regional plan will support tourism and rural production industries to ensure they are not adversely affected by its policies and regulatory provisions. The regional plan will also encourage the diversification of the economy and the raising of productivity through improved skills development. Greater support will be given to entrepreneurial thinking, clean technology industries and increased integration into the global economy.

The policy outcomes will be achieved through planning and designing mixed-use developments that foster collaboration and networks between business, industry and research institutions. This will ensure the region is better able to create new jobs and accommodate future population projections with high levels of diversified employment opportunities.

Maintaining and enhancing the tropical character through land use planning and innovative design

The FNQ region is unique and this is reflected by the number towns and villages in the region that provide distinct and individual local experiences to residents and visitors.

Urban development that results in urban sprawl and loss of character and identity will not occur in the region. Urban development will be contained within specified areas to protect inter-urban breaks.

Innovative building designs that increase energy efficiency whilst reflecting the region’s tropical flavour will be adopted through improved building codes and style guides.

Limiting growth pressures on the coast

Coastal development is vulnerable to a range of natural hazards such as erosion, sea level rise, storm tide inundation, flooding or cyclones. Significant benefits will be gained by reducing growth pressures in sensitive and high risk coastal areas. This will be achieved by ensuring adequate urban opportunities and housing options are provided in other less sensitive parts of the region.

Decreased development pressures on coastal areas will come from the combined effect of consolidating growth in the Cairns area and Mount Peter, encouraging higher densities through infill and redevelopment, promoting decentralisation in appropriate areas and providing future growth opportunities on the Tablelands. This also provides good outcomes when considering the effects of climate change and sea level rise.

Planning for emergency situations

Urban planning needs to consider the potential for major emergency situations (floods, cyclones, fires, traffic accidents etc.) which will require efficient delivery of emergency services to the community or evacuation of residents and visitors in affected areas. Planning will include provision of emergency access between communities and between the coast and the Tablelands. The approach will include consideration for emergency routes, utilities and services required in times of disaster.

Integrating land use planning with infrastructure planning

Improved integration and coordination of land use planning, infrastructure provision and economic activities at both the regional and local level will significantly improve the efficiencies of providing for future urban development needs.

The draft regional plan determines the preferred settlement pattern for the next twenty years and sets the framework for coordinated and timely delivery of infrastructure and services to support the predicted population growth.

Prior to making commitments about regionally significant infrastructure, the government will undertake a thorough assessment of the infrastructure needs that provide the best overall outcomes for the community. The regional plan will be the dominant planning document for the region. State and local government plans, strategies and policies must be consistent with the regional plan to ensure development meets the needs of the projected population to 2025 and beyond.
PART D—Regional land use pattern

Population growth

The FNQ population is expected to increase by around 100,000 people by 2025. Urban growth must be well managed to protect the region’s unique environment in the face of growth pressures. This requires a good understanding of the rate of population growth, the age structure of the population and their housing preferences. Demographic trends, such as the ageing of the population and decreasing household sizes, will influence the type of housing that must be provided in the future. Increased regional tourism is likely to exacerbate these pressures. Understanding the past and future demographic trends for FNQ, which are summarised below, will help inform planning and result in better outcomes for the community.

Residential land supply studies show there is currently only enough residential zoned land in the region to meet demand for the next 15 years. The regional plan will expand the urban footprint regional land use category to ensure that a 20-year supply is available. The preferred settlement pattern identifies where best to locate the expected growth.

Footnote:
More details can be found in the report – FNQ Region: A past and future demographic profile – by the Department of Infrastructure and Planning’s Population, Information and Forecasting Unit (DIP, 2007a)
Figure 2: Population change by subregion in FNQ from 1976 to 2026

Resident population

The resident population of FNQ has grown considerably over the last 30 years from an estimated 183,674 people in 1976 to 224,251 people in 2006, primarily due to interstate migration. The amount of growth has varied over this period, averaging 2.9 per cent per year between 1981 and 1996, falling to less than 1 per cent in the second half of the 1990s, with a small increase since then (see figure 2).

The growth rate of each local government area in FNQ varied between 1996 to 2001 and 2001 to 2006. Overall FNQ grew at an average of 3,090 people per year between 1996 and 2006. The former Cairns City Council currently has the highest growth rate in FNQ at 3 per cent per year. Cardwell and Johnstone shires decreased slightly during this period, however all local government areas are expected to have positive population growth during the next 20 years (DIP, 2007a).

Population trends

It is estimated that from 2006, the growth rate will increase from around 3,000 new residents per year to approximately 4,500 to 5,000 people every year over the next 20 years, as people migrate to the region in search of new lifestyles. This growth, if not managed effectively and efficiently, will place significant pressure on the environment, urban land availability, water and energy resources and infrastructure.

While FNQ has experienced strong population growth in the past, it is hard to accurately predict what might happen in the future. A range of possible population projection outcomes have been produced based on low, medium and high projections. The draft regional plan is based on the high series projections, which are considered to be the most likely outcome over the 20 year timeframe. Population growth in the region will be monitored and kept under review to ensure future planning utilises the most current data available from the Australian Bureau of Statistics.

Age distribution and household structure

Planning for regional growth requires an understanding of the composition of the population. The FNQ population shares a number of similarities, but also a number of differences with the average Queensland population. Overall, FNQ has much fewer young people, aged between 15-24 years, than the state average, although the former City of Cairns and Douglas Shire have slightly higher averages, which can probably be attributed to the region’s capacity to attract young adult migrants, drawn by work associated with tourism and the coastal lifestyle. The region also has more elderly people than the state average, particularly on the Tablelands, but this is balanced out to some degree by the higher proportion of young people in the former City of Cairns and Douglas Shire.

Overall, as the population expands, there will be an increase across all age groups, which will impact all types of services and infrastructure. For example, the growth in the 15-24 years group and the 25-44 years group will have heavy impacts on the labour force and increase demand for post-secondary education and training required to ensure workers gain appropriate skills. The elderly are likely to need more medical services.
The population structure will shift over time and it is projected that by 2025 the percentage of elderly people will increase from 10 per cent of the population to almost 20 per cent. A considerable amount of this growth is expected to occur in the former shires of Herberton, Atherton, Cardwell, Eacham, Johnston and Mareeba.

In 2001, the average household size was 2.8 people for private houses and 1.7 people for attached dwellings. The size of households is expected to decrease over time, with both older and younger people choosing to live alone. This trend towards decreased household size means that housing demand will continue to be higher than the population growth rate in FNQ. Figure 3 illustrates the changing population structure over time.

Availability of residential land

In 2007 the Department of Infrastructure and Planning undertook a broadhectare study for the region. The Broadhectare Study 2007 (DIP, 2007b) provides a measure of the land supply for future residential development. The study showed there is currently a substantial oversupply of rural residential zoned land across the region, but an undersupply of urban residential land. Importantly the assessment of overall supply of land relates to the region as a whole. In specific locations land supply will be considerably less or more depending on the demand in each area. The study indicated that there is enough land available for urban residential development for the next 15 years, but a shortfall will be experienced within 15-20 years. This shortfall can be accommodated through infill development and redevelopment of existing areas, and the designation of an expanded urban footprint land use category. Figure 4 illustrates the predicted relationship between the amount of housing and the future demand for housing.
Visitors to the region

The FNQ region is one of Australia’s most popular tourist destinations, and tourists comprise approximately 18 per cent of the population in the region at any one time. This is nearly twice the state average. The main tourist focus is coastal areas, particularly Cairns and Port Douglas.

There may be up to 40,000 visitors to the region at any one time, with approximately 30,000 of those spending time in the former City of Cairns or Douglas Shire. Overall, 42 per cent of visitors are from overseas, compared with a state average of 23.5 percent. By comparison, the essentially rural areas of Atherton, Eacham and Herberton are largely made up of permanent residents with most visitors to the area coming from other parts of Australia.

These figures have significant implications for planning and delivering accommodation, water, sewerage, and road infrastructure as well as retail, commercial and social infrastructure. While the tourist population is not included in the residential population figures, the region needs to ensure it has sufficient capacity to accommodate it, generally in hotel and apartment style accommodation.

In 2001, flats, units and apartments in Cairns and the North Coast (Port Douglas, Mossman and to a lesser extent the Daintree) made up 21.6 per cent and 24.3 per cent of housing respectively. These figures are around twice the state average of 12.9 per cent (DIP, 2007a).

Figure 4: FNQ projected demand for dwellings based on population projections

Source: DIP (2007a)
The Cairns Regional Council plan has areas allocated for the future development of flats, units and apartments, including tourist development, primarily in Cairns and Port Douglas. This form of accommodation is often also utilised by tourism industry workers. Tourist accommodation is also prevalent at the beach communities including Mission Beach. Tourism on the Tablelands is often day trips or self-drive rural based accommodation. Adequate zoned land suitable for future tourism activities will need to be provided within local government planning schemes.

Aboriginal and Torres Strait Islander population

The region is home to a significant population of Aboriginal and Torres Strait Islander people totalling approximately 14 000 individuals, mostly living in the urban areas. Aboriginal and Torres Strait Islander people make up one-eleventh of the population, almost three times the state average and almost four times the national average.

Yarrabah and Wujal Wujal Shires have the highest proportion of Indigenous residents, comprising mostly people of Aboriginal descent. Of the other towns and villages in the region, Herberton has the highest proportion of Aboriginal peoples, closely followed by Mareeba. Only in Atherton and Eacham do people of Aboriginal descent make up less than five per cent of the usual resident population.

In absolute terms, Cairns City (including Yarrabah in 2001) had the highest number with almost 8000 Indigenous people, totalling 57 per cent of the region’s Aboriginal and Torres Strait Islander population. Mareeba showed the second greatest number with almost 2000 people followed by Johnstone with over 1300 individuals. Torres Strait Islanders are more concentrated in their locations, with 75 per cent living in Cairns.

The demographic profile for the Aboriginal local government areas of Yarrabah and Wujal Wujal is expected to vary considerably from the region as a whole, with the population comprising a higher proportion of young people, reflecting the high birth rates, and shorter life expectancies in these communities. The number of people per household is also expected to be much higher, due to shortage of housing in these areas.

Although accurate population projections and information on age structures and household densities are difficult to obtain, it is important that planning for the region recognises the significant role of Aboriginal and Torres Strait Islander people within the community and accommodates their special needs.

Implications of growth for the region

The projected growth in the region could result in significant impacts—both positive and negative. The benefits could include an increase in business activity and diversity, better employment opportunities, and significant improvements in the capacity to support major new services and facilities. However, if growth is unmanaged, it could result in environmental degradation, deterioration of natural resources, increased social problems, diminishing amenity and liveability and costly infrastructure provision.

There is likely to be greater demand for a diversity of housing forms to match the needs of a changing household structure, particularly an increase in one and two person households across all adult ages. The workforce will need to increase its level of reliance on older workers if it is to maintain the labour force required to support the region’s economy.

Throughout the region, there has been significant fragmentation of rural land and bushland brought about by rural residential development on the urban fringe and in rural areas. If this trend toward rural-residential living continues, the majority of new dwellings in the region will be constructed as conventional low-density residential subdivisions on isolated or urban fringe greenfield sites. This continued trend combined with inadequate infill and redevelopment of existing urban areas will not meet the projected dwelling density needs required for the region and is simply not sustainable.
As the population increases, there will be increased pressures on services and infrastructure, such as arterial roads, public transport, potable water, local parks, shops and community facilities. While the current and planned power generation capacity of the region is adequate, average household demand for energy is increasing. Total energy consumption by households, industry and transport also generates significant amounts of greenhouse gases, which need to be reduced. The current use of water and energy in the region is also increasing. Efficiency gains from use of water and energy are required to reduce demand, minimise impacts on the environment and to meet the challenges of projected climate change.

Addressing all of these matters will be a major task for the region as whole, some of which can be achieved either directly or indirectly through regional planning.

**Settlement pattern**

The anticipated growth in resident population, visitors and economic activity, combined with the changing household structure, will have a substantial effect on the region's settlement pattern. The regional plan will manage growth by setting a preferred pattern of development for FNQ. The pattern will directly influence the form, location and sequencing of urban expansion.

**Alternative patterns of development**

Six alternative patterns of development for the region were considered, based on assumptions for population—accommodating an estimated additional population of 100,000 people by 2025, land use and employment. The scenarios, modelling and evaluation scores are described in detail in the *FNQ2025 Alternative Patterns of Development Evaluation Report* (DIP, 2007c). The six alternatives are summarised in table 1.

A preferred settlement pattern was determined through a detailed assessment of alternatives, using a triple bottom line (social, economic and environmental) approach and input from key state government agencies and stakeholder groups.

The alternatives were assessed by the FNQ technical working group against desired regional outcomes and a series of evaluation criteria. The desired regional outcomes described in Part E relate to:

- natural environment
- regional landscape and natural resources
- strong communities
- urban communities
- economic development
- infrastructure
- water management
- transport.

While the Cairns transit oriented communities scenario was considered the best option for accommodating approximately 70,000 new residents in Cairns over the next 20 years, none of the other scenarios demonstrated clear advantages over another in terms of accommodating growth elsewhere in the region. A hybrid model was therefore developed, which incorporated the best elements of all the options.
### Table 1: Description of alternative patterns of development

<table>
<thead>
<tr>
<th>Pattern name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coastal growth</strong></td>
<td>Cairns remains the regional centre and continues to grow, but slowly. Half of new residents shift to other towns, with the strongest growth in other coastal towns.</td>
</tr>
<tr>
<td></td>
<td>By 2025, the population of Innisfail and the surrounding Palmerston area doubles, linked to expanding industrial and transport activities.                                                                бродишке, Миссисипи, Порт Дуглас и Таллуи.</td>
</tr>
<tr>
<td></td>
<td>By 2036 the towns of Babinda, Cardwell, Mission Beach, Mossman, Port Douglas and Tully have doubled in population. Growth is driven by strong and diversifying agricultural demand, ‘sea changers’ and increased industrial activity in the towns of Innisfail, Cardwell, Mossman and Tully.</td>
</tr>
<tr>
<td><strong>Tablelands growth</strong></td>
<td>Cairns remains the regional centre and continues to grow, but slowly. Half of the new residents shift to other towns, with the strongest growth on the Tablelands.</td>
</tr>
<tr>
<td></td>
<td>By 2025, the towns of Mareeba, Atherton and Malanda double in population.</td>
</tr>
<tr>
<td></td>
<td>By 2036 the areas of Kuranda/Myola, Dimbulah, Herberton, Julatten/Mt Molloy and Ravenshoe have doubled in population. Growth is driven by strong and diversifying agricultural demand, ‘tree changers’ and ‘rain changers’, and industry and mining expansion in Mareeba.</td>
</tr>
<tr>
<td></td>
<td>In addition, the coastal plain becomes less desirable due to climate change impacts such as increased temperature, increased flooding, more severe cyclones and sea level rise.</td>
</tr>
<tr>
<td><strong>Decentralisation</strong></td>
<td>Cairns remains the regional centre and continues to grow, but slowly. Half of the new residents settle in other towns, with strong growth recorded in all the region’s towns.</td>
</tr>
<tr>
<td></td>
<td>By 2025 all areas have grown slightly, but none have doubled in population.</td>
</tr>
<tr>
<td><strong>Cairns CBD</strong></td>
<td>Most of the region’s 100,000 new residents settle in Cairns. Employment remains centred in the Central Business District (CBD) while housing is scattered at low density throughout the urban area. Edmonton and Smithfield town centres have little employment and do not increase housing densities.</td>
</tr>
<tr>
<td></td>
<td>By 2036 the areas of Atherton, Innisfail, Kuranda/Myola, Malanda, Mareeba, Mossman, Tully and Yarrabah have doubled in population. Growth is driven by a variety of economic, social and climatic factors but relies on the ability of each town to attract adequate employment and services.</td>
</tr>
<tr>
<td></td>
<td>The region’s towns continue to grow, but slowly, with no single area growing more than another.</td>
</tr>
<tr>
<td><strong>Cairns centres</strong></td>
<td>Most of the region’s 100,000 new residents settle in Cairns. There is some increased residential density around the major centres of the CBD, Smithfield and Edmonton. These town centres also experience moderate job growth, and the CBD consequentially diminishes slightly in importance for employment.</td>
</tr>
<tr>
<td></td>
<td>The region’s towns continue to grow, but slowly with no single area growing more than another.</td>
</tr>
<tr>
<td><strong>Cairns transit oriented communities</strong></td>
<td>Most of the region’s 100,000 new residents settle in Cairns, with the highest growth experienced in Mount Peter. A strong rapid transit public transport system is operational, and the land use pattern supports this system.</td>
</tr>
<tr>
<td></td>
<td>The CBD experiences strong residential growth while decreasing in importance for employment. Most new jobs shift to the Edmonton town centre and industrial estate. Some new jobs shift to the Smithfield town centre and James Cook University technology park.</td>
</tr>
<tr>
<td></td>
<td>The sub-regional centres of Palm Cove, Redlynch, Earlville and Gordonvale feature increased residential densities within 1km of transit stations as well as some increased employment.</td>
</tr>
<tr>
<td></td>
<td>The region’s towns continue to grow, but slowly, with no single area growing more than another.</td>
</tr>
</tbody>
</table>
By 2025, around 70,000 of the region’s 100,000 new residents settle in Cairns, with the highest growth experienced west of the Bruce Highway in Mount Peter. A strong rapid transit system is operational, and the land use pattern supports this system.

The CBD experiences strong residential growth while decreasing in importance for employment. Most new jobs are created in the Edmonton town centre and industrial estate. Some new jobs are based in the Smithfield town centre and James Cook University technology park.

Transit stations are either planned or established for the sub-regional centres of Palm Cove, Redlynch, Earlville and Gordonvale. These centres are experiencing increased residential densities within 1 kilometre of the planned or established transit stations as well as some increased employment.

The region’s towns continue to grow, with the main growth occurring in Mareeba, Atherton, Innisfail, and to a lesser extent Tully and Mossman. By 2025, Mareeba has become a major centre for the Tablelands, as it is central to the mines, has ample industrial land, and its expansion is relatively unconstrained by good quality agricultural land or areas of environmental significance. Mareeba, Atherton and Innisfail have experienced population growth of up to 50 per cent. Tully will have similar growth, but from a smaller population base, while Mossman continues to have similar growth to current trends.

What is a transit oriented community?

Transit oriented communities are mixed use residential and employment areas designed to maximise the efficient use of land through high levels of access to public transport. A transit oriented community has a walker- and cycle-friendly core with a public transport station surrounded by relatively high density residential development, employment or a range of mixed uses.

Transit oriented communities provide benefits at both local and regional levels. Regional benefits can include:

- protection of open space and scenic amenity through the containment of urban sprawl
- more efficient use of land and infrastructure.

Local benefits can include:

- an increased sense of community
- safer, more vibrant urban centres
- improved access to work, shopping and recreational facilities
- an increased variety of services and facilities located closer to where people live and work
- reduced reliance on private vehicles
- higher quality pedestrian and cycling environment
- improved connectivity with neighbouring precincts.
Part D—Regional land use pattern

Preferred pattern of development

The hybrid model forms the basis of the preferred pattern of development, which aims to consolidate growth within existing urban centres and discourage the establishment of satellite suburbs around major towns. This will help to prevent further fragmentation of the landscape, improve the energy efficiency of towns, and reduce travel distances between home and employment centres. A network of centres will be achieved across the region, with an appropriate range of services and facilities provided for each centre. The preferred pattern is based on the resident growth projections across the region shown in table 2.

A large portion of the growth will be in Cairns. Over 70,000 people will be accommodated in the southern corridor, the northern beaches, the western corridor of Cairns as well as further infill sites.

In order to achieve the potential community benefits of this pattern, developers and local and state government agencies must commit to the principles of transit oriented communities in Cairns. It will take time to establish the public transport networks and achieve the residential densities around the transit oriented community, and the early delivery of key transit oriented community sites will require policy and infrastructure support.

There is strategic merit in maintaining vibrant regional communities and it is important to the region to provide economic and employment opportunities outside Cairns. To achieve this, it is recommended that up to 30,000 of the region’s additional 100,000 people settle in the regional areas. This is consistent with the historical long-term (30 year) trend, but against the historical short term (five year) trend of only 15 per cent of the region’s new population moving to areas other than Cairns.

A clear policy of regional development and timely provision of appropriate infrastructure is required to achieve this target of 30 per cent. The focus of the regional growth is to be on the major regional activity centres of Mareeba, Atherton, Innisfail and Tully, with these centres experiencing population growth of up to 50 per cent. Mossman would continue to grow, but at similar growth to current trends.

The towns of Innisfail, Mareeba and Atherton service very different catchments, and will approach a critical mass of population to support public transport and other services in the future. These centres are to receive the majority of the regional growth.

Mareeba, Atherton, Mossman and Innisfail are all close enough to Cairns, Smithfield and Edmonton for residents to commute for work, however, this may slow the economic development of these regional towns. Policy support, such as infrastructure provision and state government incentives to encourage industry development on the Tablelands may be required to ensure the preferred pattern of development is achieved.

Growth in Cairns and the towns of Innisfail, Mareeba, Atherton and Tully are to have a strong focus on the provision of infill development and housing choice—to ensure that the regional growth can be accommodated efficiently, and to accommodate the predicted ageing population and smaller household size.

The preferred pattern of development for FNQ aims to deliver a range of short, medium and long term benefits as outlined following.

<table>
<thead>
<tr>
<th>Local government area</th>
<th>Current population 2006¹</th>
<th>Preferred pattern population 2026²</th>
<th>Preferred pattern population growth 2006 – 2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cairns Regional Council</td>
<td>147,505</td>
<td>223,648</td>
<td>76,143</td>
</tr>
<tr>
<td>Cassowary Coast Regional Council</td>
<td>29,601</td>
<td>37,750</td>
<td>8,149</td>
</tr>
<tr>
<td>Tablelands Regional Council</td>
<td>43,675</td>
<td>56,418</td>
<td>12,743</td>
</tr>
<tr>
<td>Yarrabah Aboriginal Shire Council</td>
<td>3,000</td>
<td>4,500</td>
<td>1,500</td>
</tr>
<tr>
<td>Wujal Wujal Aboriginal Shire Council</td>
<td>470</td>
<td>770</td>
<td>300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>224,251</strong></td>
<td><strong>323,086</strong></td>
<td><strong>98,835</strong></td>
</tr>
</tbody>
</table>

¹ Data source: Population and Housing Fact Sheet, DIP (2007d)
² Unpublished data, Department of Infrastructure and Planning

Table 2: FNQ preferred settlement pattern population projections
Short-term (0–10 years)

In the short-term there will be consolidation of the existing development activities and establishment of a framework for medium and long term development. There are a number of specific activities that will need to be achieved in this time period including:

- establishing an intergovernmental transit oriented communities taskforce, in time for the commencement of the regional plan, to progress the planning of transit oriented communities.
- budgeting\(^4\) for, and delivering public transport infrastructure around key transit oriented communities
- planning and developing increased densities around the proposed public transport nodes at Smithfield and Edmonton (west of the Bruce Highway)
- planning for the future transit oriented communities in Cairns, including at Edmonton, Palm Cove, Redlynch, Earlville and Gordonvale
- budgeting\(^4\) for future public transport infrastructure
- consolidation of development in the existing urban area of Cairns
- planning and staged release of land at Mount Peter
- developing economic and employment strategies targeting specific economic drivers relevant to the growth centres of Mareeba, Atherton, Innisfail and Tully
- proactive development of infrastructure and services to attract residents to Mareeba, Atherton, Innisfail and Tully
- master planning urban growth at Mount Peter, Mareeba, and Atherton to:
  - enable the future residential and economic growth to be accommodated within the urban footprint land use category
  - be responsive to the ageing population by promoting a pedestrian and cycle friendly urban core
  - be responsive to the predicted smaller household size by promoting a range of dwelling types.

Medium-term (10–20 years)

In the medium term there will be consolidation of the preferred pattern of development and a focus on developing the economic strategies to enable the regional activity centres to grow and be responsive to changes in economic and demographic trends. A number of specific actions will be required in this time period including:

- budgeting\(^4\) for, and delivering the public transport infrastructure around the key transit oriented communities sites at Edmonton, Palm Cove, Redlynch, Earlville and Gordonvale
- planning and developing increased housing densities around the proposed public transport nodes at Edmonton, Palm Cove, Redlynch, Earlville and Gordonvale
- reviewing the Kuranda Range Road upgrade and Myola urban development area studies
- ongoing staged release of the southern growth corridor (Mount Peter).

Long-term (20 years and beyond)

In the long-term enough land will be provided to accommodate future growth for the next 20 years. The timing of development will depend on the rate of development within these areas and the timing of major infrastructure and transport upgrades required to facilitate development. An issue for Cairns is that the land currently identified will become exhausted. The long-term strategy includes:

- a review of the likely future urban land needs
- the identification and planning of possible future urban expansion areas
- the need for new or amended economic strategies.

\(^4\) Projects are subject to the normal state government budget assessment process.
Other development options

FNQ2010 considered a series of regional settlement pattern options including development in:

- Mount Peter
- Myola
- Clohesy—Koah
- East Trinity
- Edmonton—Green Hill—Gordonvale
- Goldsborough Valley
- Southedge.

These specific options were reconsidered during evaluation of the alternative patterns of development for this draft regional plan.

The evaluation reinforced the merits of Mount Peter as the primary site to accommodate future growth in the region (see part E, section 4.1). However, the findings suggest development at Myola should be delayed, as the area is not considered necessary to accommodate urban growth within the 20 year planning horizon. The other options are not preferred for a range of reasons, which are summarised in table 3.

Myola has been the subject of significant investigation and consultation, including the Myola Feasibility Study in 2001, the Myola Planning Study completed in 2006 and detailed studies on the Kuranda Range Road undertaken by the Department of Main Roads. These studies have culminated in a planning scheme amendment to achieve a well planned community that manages environmental impacts. However, further consideration of the development potential of this area as part of this evaluation reveals that it is unlikely that land at Myola will be required for urban development in the life of this regional plan. This position reflects the following considerations:

- there is sufficient land available elsewhere throughout FNQ to accommodate growth within the life of this plan
- the plan's policies promote consolidation of population growth around existing centres that provide employment and service opportunities
- peak oil has implications on satellite suburbs
- when funding for the Kuranda Range Road upgrade is provided it will take approximately 10-15 years to construct the road to a level of service that would accommodate the growth proposed for Myola
- the government has made no commitment to fund the Kuranda Range Road upgrade in the short to medium term
- assuming funding becomes available in the short to medium term, growth in this area would not be appropriate until at least 2023.

<table>
<thead>
<tr>
<th>Location</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clohesy—Koah</td>
<td>Not preferred Clohesy—Koah areas were identified in FNQ2010 for development within a 10-15 year timeframe. No feasibility investigations have been undertaken for Closehy—Koah. Further consideration of the development potential of this area as part of the evaluation revealed that Clohesy—Koah will not be required in the life of this regional plan. This position reflects the same considerations as for Myola.</td>
</tr>
<tr>
<td>East Trinity</td>
<td>Not preferred Since FNQ2010 was prepared, a significant part of the East Trinity area has been purchased for environmental purposes, thus the anticipated urban footprint area has been reduced. At the same time, the False Cape development has commenced. The environmental and amenity findings from FNQ2010 have not changed in that:</td>
</tr>
<tr>
<td></td>
<td>- the remaining land is either hillslopes, and not preferred for urban development, or is land that requires extensive earthworks to provide suitable land for urban development</td>
</tr>
<tr>
<td></td>
<td>- there are concerns about the potential environmental impacts of development on Trinity Inlet, Admiralty Island and the Murray Prior Range.</td>
</tr>
<tr>
<td></td>
<td>The area is remote from Cairns in terms of road access, and remote from existing public utility and social infrastructure services. The area is significantly removed from the service and employment opportunities and it would be premature to develop this area while the Mount Peter area is being developed.</td>
</tr>
</tbody>
</table>
Location | Findings
--- | ---
**Edmonton**<br>Green Hill<br>Gordonvale | **Not preferred** This area is located on the eastern side of the Bruce Highway between Swallow Road, Edmonton and Draper Road, Gordonvale. While the land could be sequentially developed in a southern direction as an extension of White Rock or in a northern direction as an extension of Gordonvale, a significant amount of planning would be required to address the agricultural, transport and service implications of such development.

This land is recognised as strategically important agricultural land and it has some of the highest agricultural value in the FNQ region. It is critical to the viability of the Mulgrave Central Mill (Gordonvale).

Development of this land would also place additional pressure on the Bruce Highway, which is experiencing significant traffic volumes and is nearing capacity. Significant planning has been undertaken to address the traffic issues on the highway. This planning has relied on the FNQ2010 direction for growth in the Cairns Southern Corridor (the western side of the highway).

The FNQ2010 planning process involved extensive consultation with key stakeholders including Queensland Transport, Main Roads, Cairns City Council and the Mulgrave Central Mill. The directive of the FNQ2010 has now been taken up by Cairns Regional Council, state government agencies and the landowners and the development industry.

There is no overriding need or planning merit in changing the direction of development in the Cairns Southern Corridor.

**Goldsborough Valley** | **Not preferred** This area has been developed as a low density and rural residential community. Access is constrained by flooding and would require the road to be raised significantly to ensure flood immunity. The area was connected to mains water in 2005, but is not connected to the sewerage system, partly due to economic inefficiencies associated with the undulating topography.

The area has environmental and recreational values which would be negatively impacted upon by increased residential densities. The Goldsborough Valley is also removed from social and economic services and there is very limited capacity for these services to be provided in the Goldsborough area.

The area is located south of Mount Peter, and there are no apparent benefits or efficiencies in developing this area while there is capacity at Mount Peter.

**Southedge** | **Not Preferred** The Southedge area was identified in FNQ2010 as a possible development option, however it did not feature in the preferred development strategy. The development of this area is generally linked with the Southedge Road between Wangetti and the Peninsula Development Road. FNQ2010 identified that the road is not required as part of the region’s arterial road network. FNQ2010 also found that Southedge was not specifically required to accommodate the region’s projected population growth within the life of the plan.

Further consideration of the development potential of this area as part of this evaluation reveals no change to the FNQ2010 assessment. Southedge is removed from existing service and employment opportunities and it would be premature to develop this area while there is a focus on reaching a critical mass of population in Mareeba.
State planning regulatory provisions

The draft state planning regulatory provisions have been prepared under part 5C of IPA as a stand-alone document to complement and provide regulatory support to the draft regional plan. The draft state planning regulatory provisions have been developed to allow application across the state, as regional plans requiring regulatory provisions are developed. In this context, they are prepared as draft ‘statewide’ state planning regulatory provisions but will only have effect within the FNQ region until amendments are made at a later date to incorporate other regional planning areas that undergo the regional planning process.

The draft state planning regulatory provisions, which came into effect when they were gazetted, aim to regulate certain land use and development throughout the region and outline aspects of development that may not occur in stated locations. The application and intent of the regulatory provisions are described in detail in the draft state planning regulatory provisions.

The draft provisions remain in force until the final provisions come into affect or a decision is made not to make such provisions for the region.

Regional land use categories

The preferred pattern of development sets the broad spatial framework for the region to accommodate growth and achieve the desired regional outcomes. Application of regional land use categories translates this intent to individual land parcels. The regional land use categories are contained in the draft state planning regulatory provisions. The draft state planning regulatory provisions allocate all land in FNQ into one of three regional land use categories. These categories provide the spatial context for the preferred settlement pattern of the draft regional plan. The land use categories are shown in maps 3a—3k (see Appendix 1) and are more precisely defined on the regulatory maps (at 1:50,000 scale) which form part of the draft state planning regulatory provisions.

The regional land use categories are:

- Regional landscape and rural production area
- Urban footprint
- Rural living area.
1. Regional landscape and rural production area

Intent: The intent of the regional landscape and rural production area category is to ensure the long-term protection of significant conservation areas, agricultural land and landscape values from inappropriate forms of urban development, particularly encroachment by residential development and fragmentation for rural residential activities. This is achieved through the draft state planning regulatory provisions.

Description: Regional landscape and rural production areas make up the greatest area of land in FNQ (99.4 per cent) and include land comprising one or more of the following values:

- areas of high ecological significance (see part E, section 1.1)
- regional ecosystems that are endangered or of concern
- Wet Tropics World Heritage Area and protected area tenures
- important habitat for cassowary, mahogany glider and other rare and endangered species
- coastal beaches and wetlands
- good quality agricultural land and strategically important agricultural land
- natural economic resources including extractive resources, native forests and forestry plantations
- water catchment and groundwater areas
- outdoor recreation areas and open space
- land forming strategic and regionally significant inter-urban breaks.

Regulatory provisions: A regional landscape and rural production area preserves existing development rights to ensure the continuation of significant activities, including agricultural production, availability of natural resources, water storage, tourism, nature-based recreation and nature conservation. The draft state planning regulatory provisions restrict:

- further fragmentation of land holdings below 60 hectares
- urban development except within established urban areas
- expansion of rural residential development outside areas already allocated within the rural living area or urban footprint categories.

Those rural residential areas not included in the rural living area or urban footprint categories will have a two year opportunity for development.

The draft state planning regulatory provisions do not affect a range of smaller-scale developments, such as single buildings on an existing allotment and some low density, semi-urban developments. These exclusions are detailed in the draft state planning regulatory provisions.

Precinct planning (see part E, section 2.2) will enable local governments to modify the effects of the draft state planning regulatory provisions to facilitate innovative economic opportunities while maintaining regional landscape and rural production values.

2. Urban footprint

Intent: The urban footprint land use category focuses urban growth in areas that are well located with respect to existing and planned urban infrastructure, activity centres and services. These areas provide opportunities for infill and redevelopment in a manner that promotes cohesive communities with close access to existing or planned employment centres.

Inclusion of land in this category does not imply that all such land can be developed for urban purposes. The urban footprint category includes land with a wide range of opportunities and constraints including areas that are flood prone or identified as having biodiversity values of state, regional or local significance.

There may be some land within the category that is protected under state legislation such as the Vegetation Management Act 1999 or in local government planning schemes or local laws, or is otherwise unsuitable for urban development for a range of local reasons. Development in these areas is not considered appropriate or alternatively, must be very carefully managed.

The urban footprint category includes some areas designated or already developed for rural residential purposes. Local governments are required to review these areas as part of their normal planning processes in order to identify potential opportunities to develop or redevelop some of these areas, where appropriate, for more intensive urban purposes.

Description: The urban footprint land use category identifies land predominately allocated to provide for the region’s urban development needs for the next 20 years. The area includes more than sufficient land to accommodate the full range of normal urban uses such as:

- housing
- industry
- business
- infrastructure
- community facilities
- recreation and urban open spaces
- some rural residential areas next to urban areas and well located with respect to urban services and facilities.

This land use category may also contain constrained land, such as wetlands, floodplains, steep hillslopes or areas of high ecological significance, such as important habitat for rare or endangered species like the cassowary or mahogany glider, where development should not occur.
Regulatory provisions: The urban footprint category defines the limits of urban development through the use of cadastral and gazetted boundaries, such as local government planning scheme hillslope overlays.

Generally the draft state planning regulatory provisions do not apply within urban footprint areas and existing planning instruments such as local government planning schemes determine the desired use of land and the preferred timing of development.

3. Rural living area

Intent: Rural residential development is recognised as a valued housing choice in FNQ. Land that is appropriate for rural residential development is included in the rural living area category to ensure future development is located in close proximity to an urban footprint area, where appropriate access to services and facilities can be provided.

Significant areas of land are already developed or allocated for rural residential development in the region and no further land will be allocated for this purpose in the next 20 years.

Some areas of rural residential land that are remote from urban communities or are heavily constrained are not included in this category. These will have a two year opportunity for development.

Description: The rural living area category is made up of large areas currently zoned for rural residential development in local government planning schemes.

Regulatory provisions: Future rural residential development through infill and consolidation of these areas is permitted in accordance with the relevant local government planning scheme requirements.

Master planning

Master planning is the process of developing detailed plans for greenfield, infill or brownfield areas where major urban development is proposed. The process provides for a finer scale of planning than either a regional plan or local government planning scheme, and ensures that there is a coordinated approach integrating both state and local government interests to provide the best planning outcomes for that development. Master planning can occur through normal local government land use planning processes, or be supported by a new statutory framework under the IPA master planning provisions (part 5B of IPA).

Formal identification of an area as a master planned area under IPA can occur through a regional plan, a state planning regulatory provision or a declaration made under section 2.5B.3 of IPA. Master planning under IPA is a staged process. Firstly a structure plan is prepared, which sets out the broad environmental, infrastructure and development intent for the area, including the layout, appropriate land uses and service corridors required to meet future community needs. The structure plan also establishes the requirements and timing for more detailed master planning in specified locations.

The desired regional outcomes, principles and policies of a regional plan and the relevant local government planning scheme are key considerations in preparing a structure plan or master plan.

Part E, section 4.3 of the draft regional plan identifies several areas where master planning is considered necessary to manage future urban development. The process and timing for these master planning exercises will be determined in consultation with local government.
PART E—Regional policies

This section outlines the fundamental principles, policies and desired regional outcomes that will guide FNQ planning and development assessment. It is recognised that the vision of the draft regional plan and desired regional outcomes cannot be achieved through land use planning mechanisms alone (i.e. policies implemented through the IPA). Other statutory and non-statutory plans, strategies and guidelines play an equally important role in this regard. Where achievement of an outcome is also reliant on other aligned plans and strategies, this is highlighted in the text.

Underlying principles

**Ecological sustainability**

Ecological sustainability is defined under IPA as a balance that integrates:

- protection of ecological processes and natural systems at local, regional, state and wider levels
- economic development
- maintenance of the cultural, economic, physical and social wellbeing of people and communities.

IPA seeks to achieve ecological sustainability by coordinating and integrating planning at the local, regional and state level, managing the process by which development occurs, and managing the effects of development upon the environment.

The Queensland Government is also a signatory to the *Intergovernmental Agreement on the Environment 1992* and *National Strategy for Ecologically Sustainable Development 1992*. The following principles apply to all public policy making and implementation within Queensland, including the draft regional plan:

- Integrated and long-term decision making—incorporating long and short-term environmental, economic and social considerations into decision making.
- Intergenerational equity—ensuring the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
- Intragenerational equity—ensuring a fair share of resources and opportunity amongst present generations.
• Precautionary principle—ensuring that, where there are threats of serious or irreversible environmental damage, lack of full scientific certainty is not used as a reason for postponing measures to prevent environmental degradation.

• Conserving biological diversity and ecological integrity—protecting the variety of all life forms, their genetic diversity and the ecosystem of which they form a part, recognising the various services they provide to humans as well as their intrinsic values.

• Internalising environmental costs—ensuring the true costs and life cycle costs (incurred from when inputs are produced through to waste disposal) of protecting and restoring environmental damage are reflected in the price of a product or service.

Ecological sustainability is an underlying principle that will permeate every aspect of the regional plan and its implementation.

**Addressing climate change and peak oil**

Climate change and peak oil are two critical issues in determining the future ecological sustainability of FNQ. The Queensland Climate Change Centre of Excellence, Department of Infrastructure and Planning and Queensland Transport have joined in partnership to develop regional planning responses to climate change and peak oil.

**Climate change**

The available scientific evidence overwhelmingly indicates that climate change is happening, and is a serious global threat demanding an urgent response. The likely impacts are significant for the FNQ region’s environment, economy and communities.

CSIRO projections for FNQ indicate a number of changes compared to the 1990 baseline:

- higher temperatures—average temperature increases of 0.9 to 1.3 °C by 2030 (mid range emission scenario) and 1.5 (low emission) to 2.9 °C (high emission scenario) by 2070
- more extremely hot days—up from three days over 35 °C per year to seven days per year by 2030 and 12-44 days by 2070
- uncertainty about rainfall, with potentially a decrease in rainfall overall by 2070
- increase in cyclone intensity, with maximum wind speeds up by 5–10 per cent by 2050, and increased rainfall (up by 20–30 per cent)
- rise in global sea level of 18-59 cm by 2100, with a possible additional contribution from ice sheets of 10-20 cm or more
- 40 cm increase in height in storm tide for a one in 100 year storm event.

(Source: CSIRO, 2007, Qld Govt et al, 2004)

Research overseas and in Australia indicates that there are significant economic benefits in responding early to climate change—both to mitigate climate change (reduce the amount of climate change occurring, by reducing emissions of greenhouse gases) and to adapt to climate change. In simple terms, earlier reduction of emissions and adaptation to climate change will mean less cost to economic growth and lifestyle.

In 2007, the Queensland Government released two significant strategies to guide Queensland’s response to climate change. *ClimateSmart 2050* is the Queensland Government’s contribution to the national and global effort to tackle climate change. The strategy commits Queensland to play its part in reducing national greenhouse gas emissions to 60 per cent of 2000 levels by 2050 and includes a range of initiatives across all sectors to mitigate greenhouse gas emissions and reduce climate change impacts. The strategy also supports use of renewable energy technologies such as solar power, hydroelectricity, wind, hot rocks and biomass. It also supports increasing the efficiency of energy use by business and residents, encouraging carbon offsets and reducing vehicle emissions by encouraging fuel efficient cars and increased investment in public transport.
The Climate Smart Adaptation Action Plan 2007–2012 outlines the government’s plan for managing the impacts of climate change. The plan supports national actions for adaptation and focuses on building resilience, that is, the ability to withstand or recover from impacts. The actions in the plan:

- have the potential to capture benefits from early adaptation planning
- will reduce vulnerability in key sectors
- establish a foundation for future adaptation actions.

Climate change will have significant impact on the region. The tourism industry is reliant on healthy reef and rainforest environments. Coral reefs are particularly sensitive to temperature increase and climate change induced increases in temperature could cause widespread coral bleaching, with a subsequent impact on specific tourist destinations.

Increased temperatures, reduction in rainfall, and increased frequency or severity of cyclones could also impact severely on the Wet Tropics World Heritage Area, with cyclone-damaged rainforests, loss of biodiversity, and reduction in attractiveness to tourists. Changes in temperature or rainfall could also have significant impacts on the cane, dairying and horticulture industries.

People will also be affected, with climatic changes causing more heat-related health problems, a higher incidence of mosquito-borne diseases, and increased exposure to catastrophic events, such as cyclones, flooding and bushfires.

Peak oil

Peak oil is the point at which production in an oil well, field or region begins to decline. This point is typically reached when one-third to one-half of the oil in a reserve has been extracted. Decline is inevitable due to the loss in pressure as oil is extracted, even with the advanced drilling and extraction techniques available.

In April 2007 the Queensland Government released the Queensland’s Vulnerability to Rising Oil Prices Taskforce Report. The taskforce reported that overwhelming evidence suggests world oil production will peak within the next ten years. It was noted there is an increasing reliance on supplies from politically and socially unstable areas that increase the risk of supply disruptions. Combined with the increasing world demand for oil and oil products, oil prices are anticipated to substantially increase in the future.

The taskforce concluded that Queensland was vulnerable to peaking world oil supplies given supply and demand trends and the regional distribution of the population and industrial base.

While peak oil and climate change are major issues in their own right, they are intricately linked and the combined impacts may be more than the sum of each individual issue. The challenge for the community is to make the transition to a low-carbon economy, reducing atmospheric carbon concentrations and managing the declining availability of oil, which will require a fundamental change in the lifestyle of the entire community.

Given the community’s growing energy consumption and dependence on vehicular transport, the reliance of the region’s economy on tourism and agriculture, and the possible severity of impact on these industries from climate change or peak oil issues, it was imperative they be addressed in the regional plan.

Mechanisms to respond to the joint challenges of climate change and peak oil were considered in establishing the preferred settlement pattern for the region and are incorporated throughout the following policies.
1. Natural environment

Desired regional outcome

The area, function and value of the region's terrestrial and aquatic natural assets, which include the Wet Tropics and Great Barrier Reef World Heritage Areas, are effectively protected and resilient to climate change projections.

The natural environment underpins the regional economy and FNQ lifestyle. The natural beauty of the landscape, relaxed outdoor living, and availability of nature-based recreation and open space, are also vital components of the FNQ character and lifestyle. Nature-based tourism and agriculture rely heavily upon high quality natural areas that deliver ecosystem goods and services.

The region includes extensive areas of the Wet Tropics World Heritage Area and the Great Barrier Reef World Heritage Area (see map 4). The Wet Tropics World Heritage Area is a recognised centre of outstanding biological diversity that is unparalleled on the continent. The Great Barrier Reef World Heritage Area is the largest and most diverse coral reef system on the planet and features outstanding biodiversity of international significance.

These areas represent a major stage of the earth's evolutionary history and are an outstanding example of ongoing ecological and biological processes. They contain superlative natural phenomena, and are some of the most important natural habitats for conservation of biological diversity world-wide.

Rapid urban growth and climate change pose immediate and significant threats to the region's natural assets. The Great Barrier Reef, coastal plain, upland ecosystems, and endemic rainforest species are particularly vulnerable to climate change. Decisive action is required to maximise retention and connectivity of native vegetation and wetlands and to reverse the decline in water quality, biodiversity and coastal condition. Ecosystem resilience will be critical in mitigating and adapting to climate change, and the region's subsequent ecological sustainability.
1.1 Biodiversity conservation

Objective

- The extent, diversity and condition of the region's biodiversity, ecological integrity and supporting ecological processes are maintained and improved and are resilient to the expected impacts of climate change.

Land use policies

1.1.1 Assessable development in the regional landscape and rural production area is located outside of areas of high ecological significance (see map 5). Where there is an overriding need in the public interest for the development it must be designed and operated to avoid, or minimise and offset residual impacts so there is no net loss of the impacted ecological values.

1.1.2 Assessable development within an urban footprint area that is also within an area of high ecological significance (see map 5) must be designed and operated to avoid, or minimise and offset residual impacts so there is no net loss of the impacted ecological values.

1.1.3 Development adjacent to areas of high ecological significance is designed and setback to minimise any adverse impacts on their ecological values.

1.1.4 Development avoids areas of general ecological significance (see map 5) where possible.

1.1.5 Local governments identify and protect areas of high and general ecological significance within their planning schemes.

Aligned policies

1.1.A Existing impacts on wildlife corridors of high ecological significance (see map 5) are mitigated to improve connectivity and increase resilience of ecological communities.

1.1.B Wildlife corridors of general ecological significance (see map 5) are rehabilitated to improve connectivity and increase resilience of ecological communities, including to climate change projections.

Explanatory notes

While much of the region is protected in national parks and World Heritage Areas, there are many areas of ecological significance that fall outside of these protected areas. These areas will be most threatened by urban development. The coastal lowlands, in particular, have been heavily impacted by development in the past. By setting an urban footprint land use area, the opportunity now arises to protect large areas of high ecological significance from further development. Where appropriate, it is possible to maintain or re-establish important wildlife corridors linking the coast to the ranges. This is particularly important when considering the longer-term impacts of climate change, and the need to provide for the migration of critical habitats as climatic conditions change.

Many areas of high biodiversity within the region are afforded protection through the state's protected area network and the Wet Tropics and Great Barrier Reef World Heritage Areas. However, there are extensive areas that are not afforded specific protection. The areas mapped (see map 5) as having high ecological significance are those the state has identified as being of particular interest and in which specific development controls are required. These areas include:

- wetland areas of high ecological significance
- terrestrial areas of high ecological significance
- wildlife corridors of state and regional significance.

Wetlands have been identified from the recently completed Queensland wetland mapping program. This comprehensive Queensland-Commonwealth program has replaced previous incomplete and inconsistent mapping sources. All wetlands protected under state and Commonwealth legislation have been included. Areas of high and general ecological significance have been determined by application of the Environmental Protection Agency's (EPA) biodiversity assessment mapping methodology for aquatic ecosystems. This is a rigorous, science-based method that assesses areas against a range of diagnostic and expert reviewed criteria to determine the relative significance of aquatic ecosystems.

Terrestrial areas of ecological significance have been identified from the extensive mapping undertaken at a fine scale over several years up to the early 2000s and updated since from satellite imagery. In the Wet Tropics bioregion areas of high ecological value include:

- the protected area estate under the Nature Conservation Act 1992
- World Heritage Areas managed under the Wet Tropics Management Plan 1998
- essential habitat of threatened species including Southern Cassowary and Mahogany Glider
- significant dunes in the Wet Tropical Coast Regional Tropical Management Plan 2003 and Cardwell-Hinchinbrook Regional Coastal Management Plan 2003
- regional ecosystems with an endangered or 'of concern' vegetation management status under the Vegetation Management Act 1999
- riparian corridors and priority regrowth areas.
Areas of general ecological significance include other areas containing remnant vegetation. For the Einasleigh Uplands bioregion the areas of relative ecological significance use the terrestrial version of the biodiversity assessment mapping methodology.

Wildlife corridors have been mapped by establishing the shortest, practical and most ecologically appropriate connections between core areas of remnant vegetation. They provide east–west linkages needed to give ecosystems the greatest opportunity to adapt to climate change and north–south linkages to reconnect isolated areas of remnant vegetation along the coast and across the Tablelands. The corridors contain a mixture of remnant vegetation, regrowth and cleared land. Wildlife corridors of high ecological significance as shown in map 5 should be managed to provide connectivity and increased resilience to ecological communities.

Map 5 also shows areas of general ecological significance, which include terrestrial and wetland areas of general ecological significance, and wildlife corridors of local significance. It incorporates spatial data provided by the Commonwealth Department of Environment and Water Resources in relation to matters of national environmental significance, specifically for rare and threatened species, under the Environment Protection and Biodiversity Conservation Act 1999 that could be the subject of controlled actions should habitat be threatened. Acknowledgement of federal interests has been an important consideration of this plan since the regional plan cannot provide certainty to developers without consideration of federal interests. Map 5 can be viewed online at www.epa.qld.gov.au/wetlandmaps.

The region contains numerous freshwater and estuarine wetlands notable for their high biodiversity value. Wetlands play a key role in supporting the diversity and abundance of plants and animals and provide important habitat and refuges for many migratory, rare or threatened species. Wetlands also play important roles in water quality improvement and flood mitigation and provide crucial fish habitat areas that underpin commercial and recreational fisheries (see policy 7.3).

Landholders whose lots abut or include watercourses, drainage lines and other wetlands have a responsibility to maintain adequate widths of riparian vegetation. Continuous riparian corridors associated with watercourses, drainage lines and other wetlands between catchments areas of the region and the coast serve to improve water quality and fish habitat, and reduce run-off impacts to the reef.

The policies included in the draft regional plan provide a practical response to the expected impact of climate change on biodiversity in the region. At a broad level the climate change response strategy for biodiversity is to maximise resilience and connectivity. As much of the core areas of biodiversity significance are located within the protected area estate, the protection and enhancement of habitat corridors between these core areas is an essential policy outcome for the draft regional plan.
The southern cassowary (*casuarius casuaris johnsonii*) and mahogany glider (*petaurus gracilis*) are endangered species under the Nature Conservation Act 1992 and the Environmental Protection and Biodiversity Conservation Act 1999. Both species are a national and state priority for recovery, and are considered biodiversity 'surrogates'—protection of their habitat will result in significant strategic outcomes.

Southern cassowaries are large animals requiring large, diverse areas of habitat and frequent access to clean water. They are also major long distance dispersal agents for large-fruited rainforest trees and considered a 'keystone species'. Mahogany gliders occur in coastal lowland habitats, many of which are endangered from past clearing, and have significant biodiversity value.

The Queensland Government released a discussion paper on environmental offsets in October 2007. An environmental offset is an action taken to compensate for a negative environmental impact that might result from an approved activity or development. Approval requires that the government's environmental standards are met in the first instance.

Environmental offsets are positive measures taken to counterbalance negative environmental impacts that cannot be otherwise avoided or minimised. An offset may be located within or outside the geographic site of the activity or development and should be legally secured (Queensland Government Environmental Offsets Discussion Paper, 2007).
1.2 Coastal management

The natural values of the region’s coast, including its sandy beaches, abundant native plants and animals, tropical rainforests, extensive coastal wetlands and part of the world’s largest coral reef, all contribute to the region’s economic wealth and attract new business enterprises, new residents and tourists.

Careful management of the coast is required to ensure the region’s coastline continues to contribute to the livelihoods and lifestyles of residents and visitors and to ensure its most valued elements are protected and conserved.

Objectives

- The region’s natural coastal resources, including the foreshore, coastal wetlands, marine ecosystems and dunes are protected and maintained and are resilient to climate change.
- The coast is managed to allow for natural fluctuations to occur—including any that occur as a result of climate change and sea level rise—and to protect human life and property from storm tide inundation hazard.

Land use policies

1.2.1 Coastal development is located, designed and managed to avoid or mitigate adverse effects on coastal resources and ecologically sensitive coastal areas.

1.2.2 Development does not occur within the erosion prone area, within a coastal management district; or in a storm tide inundation hazard area, as shown in Map 6, except in accordance with relevant policies of the state and regional coastal management plans.

1.2.3 Development ensures there is no net loss of public access to the foreshore or use of coastal waters, and public access is designed and maintained to conserve coastal resources and maintain public safety.

1.2.4 Local governments identify erosion-prone areas and storm tide inundation areas within their planning schemes.

Aligned policies

1.2.A Coastal processes in areas demonstrating degradation from unintended, consequential or past alterations to the coast are targeted for rehabilitation when works are undertaken in the coastal zone.

Explanatory notes

The coast is experiencing increasing pressures from urban and other development. Many changes to the coast’s foreshore are natural in origin, such as sediment transport along the coastline and fluctuations to the location and form of the coast as a result of natural physical interactions between the coast and the sea. The impacts of climate change on coastal systems include:

- sea level rise and increased shoreline erosion
- increased flooding caused by higher mean sea levels and changes to runoff rates
- increased coral bleaching events due to rising water temperatures and increased frequency and intensity of tropical cyclones and associated storm surges
- changes to natural ecosystems.
Protection of the coast requires a joint community effort and cannot be achieved through IPA alone. A combination of voluntary and regulatory mechanisms needs to be directed on both private and public land. There are many programs and strategies that assist in achieving the desired regional outcome. Several of the most relevant plans and strategies include:

- State Coastal Management Plan 2002
- Cardwell-Hinchinbrook Regional Coastal Management Plan 2003
- Wet Tropical Coast Regional Coastal Management Plan 2003
- Department of Primary Industries and Fisheries Fish Habitat Management Policies and Guidelines.

The State Coastal Management Plan 2002 and regional coastal management plans have the effect of state planning policies under IPA. Policies under chapter 2.2 of the State Coastal Management Plan provide more detailed direction to ensure development on the coast is not subsequently threatened by natural coastal processes.

Guidelines have been prepared by the EPA to support the implementation of the coastal plans, including:

- Mitigating the Adverse Impacts of Storm Tide Inundation (storm tide guideline)—provides guidance on how to appropriately reflect the coastal hazard (storm tide) policy in planning schemes and development assessment

In addition, the Coastal Protection and Management Act 1995 provides that land within the erosion prone area may be surrendered to the state as a condition of a lot reconfiguration approval and be reserved under the Land Act 1994 for beach protection and coastal management purposes under local government trusteeship. Erosion prone areas and areas of coastal hazard are shown on Map 6.

### 1.3 Air and acoustic environment protection

FNQ is generally considered to have good air quality due to the extent and health of its natural environment and lack of major industrial development. Nonetheless, there may be localised issues of air or noise pollution in specific areas. Excessive noise is the most widely reported form of pollution affecting the community and can seriously affect quality of life. Concentrations of pollutants in the ambient air of FNQ are generally below concentrations permitted in national air quality standards. However, issues may arise where industrial pollution or uncontrollable events, such as fire, leaks or explosions, cause ambient air quality standards to be intermittently exceeded.

A number of measures are available to manage the impacts from noise and air emissions. These range from the use of planning tools such as setback buffers to separate incompatible land uses through to management measures including the installation of emission reduction devices. Each of these measures acts to reduce the potential impacts of emissions on sensitive land uses. Appropriate planning and the implementation of buffers is the preferred option.

### Objective

- Development is managed to maintain and enhance air quality and noise environmental values; to maintain the health and well-being of the community.

### Land use policies

#### 1.3.1 Urban design, industrial and residential subdivision layout, building design and operational practices are adopted that act to minimise air and noise emissions or the impacts of emissions on sensitive land uses.

#### 1.3.2 Development that generates emissions to the air and acoustic environments must be planned, designed, constructed, operated or set back from sensitive land uses to ensure impacts of the emissions on sensitive uses do not exceed the environmental indicators and goals specified under the Environmental Protection (Air) Policy and the environmental objectives under the Environmental Protection (Noise) Policy at the closest sensitive land use site.

#### 1.3.3 Sensitive land uses must be separated from development or areas designated for uses that generate emissions to the air and acoustic environments by a buffer distance to ensure impacts of emissions on sensitive uses do not exceed the environmental indicators and goals specified under the Environmental Protection (Air) Policy and the environmental objectives under the Environmental Protection (Noise) Policy at the closest sensitive land use site.

#### 1.3.4 Noise and air emission sensitive land uses are not located near major transport facilities, or industrial or intensive agricultural land uses.

#### 1.3.5 Noisy outdoor recreational activities, such as motor sports, are located outside the urban footprint category to avoid conflicts with adjacent residential areas.
Explanatory notes

It is not always possible to eliminate the impacts of air and noise pollution. Providing separation distances between industry and other sensitive activities serves to reduce the impacts on health, amenity and quality of life that may result from hazards or from air or noise emissions. Wherever possible, sensitive land uses, such as residential development, should be located away from industrial or intensive agricultural land uses, or major transport routes.

Air and noise pollution is currently managed through:

- Environmental Protection Regulation 1998
- Environmental Protection (Air) Policy (EPP Air) 1997

These acts and policies establish local, regional or national standards such as the national environment protection measure for ambient air quality, and the national environment protection (air toxics) measure. The EPA is able to provide recommended buffer distances between industrial and intensive agricultural activities and sensitive land uses.

The regulatory provisions provide for noisy outdoor recreation activities, such as motor sports, to be located in the Regional Landscape and Rural Production Area, away from urban centres.
2. Regional landscape and natural resources

Desired regional outcome
The environmental, cultural, social and economic features that comprise the region's unique tropical and rural landscapes are identified, maintained and managed sustainably and are resilient to climate change.

Visitors to FNQ often remark on the scenery—the forested hillslopes, rural landscapes and above all, its greenness. These features make the region special and distinct from other parts of Australia. The region's landscape also supports areas of international conservation renown and important primary production. It provides a backdrop for tourism, outdoor recreation and spiritual and cultural pursuits.
2.1 Regional landscape values

The natural areas of the region are characterised by their high biodiversity, agricultural and fisheries productivity and scenic quality. The region's natural environment is also a major economic asset. It contributes substantially to the tourism and natural resources industries, as well as the quality of life and recreational and scenic opportunities. The region's landscapes and natural areas have important cultural values for the region's Indigenous and non-Indigenous communities.

Awareness of the value of the region's open spaces in addressing climate change impacts and in reducing greenhouse gas emissions through renewable energy production or carbon sequestration in forested areas is now growing.

FNQ's landscape has:
- areas of high ecological significance
- areas of good quality agricultural land
- areas of high scenic amenity
- extractive or mineral resource areas
- renewable energy resources
- cultural heritage areas
- outdoor recreation areas
- areas that form inter-urban breaks
- water catchment areas
- coastal waters and foreshores.

Objective
- The region's landscape values are identified, protected and managed through an integrated planning approach.

Land use policies
2.1.1 The value of the landscape for nature conservation, primary production, renewable energy, priority carbon sequestration, cultural heritage, outdoor recreation and scenic amenity is given appropriate recognition in land use planning and development activities.

2.1.2 The significance of cultural landscapes is given appropriate recognition in land use planning and development assessment.

Aligned policies
2.1A A consistent methodology for identifying and valuing regional landscape values is developed and applied across the region.

Explanatory notes
Landscape values often exist on different tenures of land and no single jurisdiction is responsible for their protection and management. For example, scenic landscapes can occur on both public and private land. Important wildlife corridors that link conservation areas may be found on privately owned farm land. The responsibility for preserving landscape values needs to be shared across all levels of government, community and industry. State and local governments must work together to improve integration of land use planning and management processes, in order to address land-based issues and conflicts that may diminish landscape values.

Existing data on landscape values is often difficult to locate and may be incomplete. Methodologies used to collect, analyse and present data are often incompatible. For example, there is much information available on the conservation and agricultural values of the region, but little available on the scenic amenity or cultural heritage attributes.

A regional data collation and information exchange framework is needed based on a regional geographical information system to collate and present data. Using a consistent methodology, regionally significant landscape values can be defined. This information could be used to develop state and local government planning policies to protect and manage the landscape values.

Elements of the former Douglas Shire have been designated as 'iconic' under the Iconic Queensland Places Act 2008. The regional plan will complement and support this legislation by:
- limiting urban growth and development north of the Daintree River
- designating the area between the Daintree River and the Bloomfield River as a Regional Landscape and Rural Production Area
- maintaining existing policies to limit mains power north of the Daintree River and maintain the car ferry crossing on the Daintree River (see policy 6.1.7)
- maintaining the roads between Palm Cove and Port Douglas, and Daintree River to Bloomfield River as scenic routes (see policy 9.4.1).

If necessary, the regional plan and regulatory provisions will be amended to ensure consistency with the Iconic Queensland Places Act 2008.
2.2 Precinct planning

The regional plan protects regional landscape and rural production values from the encroachment of urban activities through the designation of regional landscape and rural production areas. In these areas urban development and fragmentation is controlled. However the region has not yet reached its full economic potential and opportunities to grow and prosper—particularly in the diversification of the primary industries sector—should not be unduly restricted.

It is also necessary to undertake detailed studies in these areas identifying opportunities to maximise the economic potential and long-term sustainability of rural areas. This should be done in a manner that does not impact on regional landscape and rural production values. In FNQ this will be achieved through precinct planning.

Objective

- Precinct planning is undertaken in appropriate areas to achieve regionally significant economic, environmental and social gains.

Land use policies

2.2.1 Local precinct plans are developed in accordance with the relevant guidelines where it can be demonstrated that alternative land uses in the regional landscape and rural production area, other than residential or rural residential uses, can achieve ecological sustainability.

2.2.2 Precinct planning encourages and supports appropriate regional landscape, rural economic and social development opportunities.

2.2.3 Development within a precinct planning area must complement and enhance the regional landscape values.

2.2.4 Urban development (residential and rural residential apart from onsite residences which are incorporated into tourism developments) is not permitted in a precinct.

2.2.5 Onsite staff residences incorporated into tourism developments permitted in a precinct must be permanently retained as part of the tourism development for staff (including their families) accommodation purposes.

Explanatory notes

A range of local government planning mechanisms currently exist for planning and managing rural areas. Precinct planning will enable local governments to modify the effects of the draft state planning regulatory provisions in a manner that facilitates innovative economic or social development opportunities to effectively maintain regional landscape and rural production values. Development within a precinct would need to meet certain performance criteria, such as minimising impacts on areas of high ecological significance or strategically important agricultural land.

Planning precincts will be determined by a precinct plan—a document prepared by local governments and approved by the Planning Minister. The precinct plan will include all necessary information as determined by the FNQ Regional Precinct Planning Guideline. This guideline is modelled on the rural precinct planning guidelines prepared for South East Queensland, but contemplates a broader range of activities in regional landscape and rural production areas, such as agricultural, tourism or Indigenous enterprises.

A precinct plan will detail the planning intent and proposed planning scheme amendments to establish and manage the planning precinct. It should demonstrate the relationship between the planning intent for the precinct and other planning initiatives such as economic development strategies, infrastructure planning, natural resource management plans and environmental management strategies.

Precinct planning will not lead to:

- the review of the urban footprint or rural living area boundaries
- an increase in lots available for residential or rural residential development
- the establishment of an urban activity within a planning precinct that does not directly support regional landscape and rural production values.

Precinct planning will allow for onsite residences to be incorporated into tourism developments for staff actively employed onsite within the development. Such residences should be consistent with the scale and form of the tourism development and identifiable as staff residences. The intended purposes of providing local accommodation to staff actively working at the development should not be compromised by on-selling the staff residences to the broader population.

Precinct plans may be prepared for a number of purposes, including but not limited to:

- primary industry
- intensive animal production
- rural industry
- tourism and ecotourism
- Indigenous land use
- extractive resources
- forestry
- water supply
- nature conservation
- outdoor recreation and open space.

2.3 Natural resource management

The region’s natural resources include rainforests, marine and freshwater wetlands, agricultural land, native plants and animals, minerals, air and water. Natural resources underpin the region’s major economic activities, such as tourism, agriculture, forestry and fisheries. Most natural resources are limited and some are non-renewable. If not properly managed, population growth in the region could have significant environmental, social and economic impacts on natural resources.

Objective

- The economic, environmental, social and cultural values and functions of the region’s natural resources are recognised, valued and managed to achieve ecological sustainability.

Land use policy

2.3.1 Local governments consider natural resource management plans when preparing or amending planning schemes for their area.

Aligned policies

2.3.A Integrated management of land within the regional landscape and rural production area is achieved through a partnership approach between federal and state agencies, local government, regional natural resource management bodies, traditional owners, landholders and the community.

2.3.B Natural resource management plans for the Wet Tropics and Northern Gulf are recognised through natural resource management in the FNQ region.

2.3.C The Wet Tropics Management Plan 1998 and associated strategies are recognised in managing the Wet Tropics World Heritage Area.

2.3.D Opportunities to use alternative approaches within the agricultural sector to meet both economic and environmental outcomes are explored such as carbon trading and environmental offsets.

2.3.E Agriculture and rural land use are managed to minimise FNQ’s contribution to climate change and increase resilience to its impacts.

Explanatory notes

The region comprises a range of different land tenures, from national parks, private land and leasehold grazing properties (see map 7). Improved management practices are required across all land to prevent overuse or degradation of natural resources. Natural resource management groups and state agencies are working closely with landholders and industry to improve catchment management techniques to reduce the impact of sediment and nutrient run-off on waterways, and ultimately on the Great Barrier Reef. Many programs to control feral plants and animals are also underway. Much of this work is currently occurring and will continue to be implemented through the natural resource management bodies for FNQ and the Gulf. Strategic direction is provided in the natural resource management plans for the region: Sustaining the Wet Tropics—A Regional Plan for Natural Resource Management 2004–2008 and Northern Gulf Regional Natural Resource Management Plan 1995. The Wet Tropics Management Plan 1998 and associated strategies also provide direction for management of the Wet Tropics World Heritage Area.

Land use planning decisions and urban development can have a significant effect on the environment and access to and use of natural resources. An assessment is required to understand the impacts of development on recreation, scenic amenity, aesthetics, society, scientific research and environmental values. It is also important to assess the economic value of these resources. An holistic approach to the assessment and allocation of natural resources must be applied, considering all potential user groups and non-economic uses in an equitable and fair manner. Further development of appropriate and equitable environmental offset mechanisms is required.

An important component of resource management and resource allocation decisions is the identification of resource availability and development opportunities. Significant land use assessment work has already been undertaken in the region to identify natural resources such as good quality agricultural land, areas of high ecological significance, fish habitats and forestry plantations.

Further assessment will continue to analyse and map natural resources in the region. The impacts of climate change and peak oil on natural resource availability and subsequent effects on industry and the community will also need to be considered. Opportunities may exist to benefit from the region’s ecosystem services through carbon sequestration and carbon trading, as well as through environmental offsets. These opportunities should be further explored.

Most resource management actions take place at the landowner and community level. Sustainable natural resource and environmental management relies on statutory and non-statutory mechanisms and can only be achieved through the commitment and involvement of community and industry groups. To achieve this, there needs to be effective communication in the development of strategies, regulations, policy and management practices relating to the management of the region’s natural resources.
2.4 Scenic amenity, outdoor recreation and inter-urban breaks

The region has a diverse range of outstanding landforms and seascapes. The features which combine to create the region’s visual imagery include mountain ranges, coastal escarpments, beaches, rivers, valleys, agricultural land, creeks, rainforests, wetlands, estuaries and islands. Scenic values are an integral part of the World Heritage significance of both the Great Barrier Reef and Wet Tropics World Heritage Areas.

Outdoor recreation activities are also highly valued by residents and tourists and commonly rely on natural settings. These activities include bush walking, white water rafting, diving, photography, fishing, bird watching, camping, rock climbing, bike riding, horse riding and scenic flights.

Inappropriate development has the potential to diminish the region’s outstanding scenic and recreational values.

Objectives

- The visual amenity of the region’s natural landscapes and seascapes is protected and enhanced.
- The region’s tropical outdoor lifestyle is valued, protected and managed to provide a range of experiences which enhance liveability.

Land use policies

2.4.1 The visual amenity of the region’s landscapes and seascapes is protected and enhanced by assessing proposed developments on landscapes that are vulnerable to visual impact due to their prominence, topography or degree of ‘naturalness’.

2.4.2 On coastal hillslopes and headlands contained between the boundary of the Wet Tropics World Heritage Area to the west and the Great Barrier Reef lagoon to the east; and from the Daintree River to the north and Cardwell Gap to the south:

a) in urban footprint and rural living areas:

   i) reconfiguration of a lot and other development inconsistent with a council planning scheme does not occur on slopes greater than 1:4 or upwards to and including the ridgeline unless there is an overriding need for essential community service infrastructure.

   ii) other development consistent with a council planning scheme and located on slopes greater than 1:4 or upwards to and including the ridgeline is impact assessable.

b) in the regional landscape and rural production area:

   i) development inconsistent with a council planning scheme does not occur on slopes greater than 1:6 or upwards to and including the ridgeline.

   ii) development that is consistent with a council planning scheme and sited on slopes greater than 1:6 or upwards to and including the ridgeline is impact assessable.

c) assessment will focus on effective design and siting measures employed to protect and enhance the visual amenity of the landscape and community feedback. Design and siting elements may include the use of appropriate colours, materials, architectural design, landscaping, retention and revegetation of native vegetation to protect and enhance the natural scenic amenity of the landscape or seascapes.

2.4.3 Coastal local governments identify hillslopes of gradient 1:4 and 1:6 within their planning schemes.

2.4.4 Public access to significant popular viewpoints is retained, and views protected from development that diminishes the scenic values.

2.4.5 Outdoor recreation development considers climate change impacts on public health, safety and access including from heatwaves, bushfires, flooding and coastal inundation.

2.4.6 A regional network of roads, bicycle and pedestrian trails is provided to ensure good connection between urban areas and regional open space resources.
2.4.7 Major urban areas, towns and villages are separated from regional landscape and rural production areas by inter-urban breaks that protect the character and identity of regional communities.

**Aligned policies**

2.4.A A range of outdoor recreation opportunities is available within and outside the protected area estate to meet the diverse needs of the community whilst maintaining the landscape values of the region.

**Explanatory notes**

The region has outstanding scenic landscapes and seascapes, including the Cairns scenic rim, the rainforested hillslopes which form a backdrop to the coastal lowlands, the rocky headlands and the seascapes of the Great Barrier Reef lagoon and the spectacular panoramas or ranges and valleys associated with the Atherton Tablelands. These and other visual features are widely used to promote the region, and are important to the tourism industry and the general quality of life. Many landscapes also hold important cultural, spiritual and aesthetic values, particularly for the region’s Indigenous peoples.

Some scenic landscapes are highly vulnerable to visual impact due to their prominence, topography or degree of ‘naturalness’. Inappropriate or poorly designed urban and infrastructure development has, in the past, led to degradation of these natural landscapes. These impacts need to be rehabilitated and future losses avoided.

A particular landscape feature that is highly valued in the region is its hillslopes. Inappropriate subdivision on hillslopes has affected visual amenity and a number of developments on hillslopes are prone to landslide. This type of development will no longer be permitted unless the area has a gradient less than 1:4, or there is an overriding need in the public interest. Public utilities, such as telecommunication towers or power transmission lines, would be allowed, however they should be designed and located to minimise the impacts on scenic amenity. Outside the urban footprint and rural living areas, development on slopes with a gradient greater than 1:6 will be made impact assessable to ensure development is sympathetic to the landscape values of the area.

Assessment of hillslope development by local government should focus on siting and design measures to protect and enhance the visual amenity of the landscape and on input from the community. Consideration should be given to the use of appropriate colours, materials, architectural design, landscaping, retention and revegetation of native vegetation to protect and enhance the natural scenic amenity of the landscape or seascape. These provisions should be reflected in the planning schemes of coastal regional councils.

Important landscape features and viewing points need to be firstly identified and their significance evaluated, if they are to be adequately protected. The *FNQ2010 Scenic Landscape Evaluation Study* was undertaken to support FNQ2010. This study needs to be reviewed and a consistent assessment of scenic values applied across the region to identify areas of regional significance.

The region needs to provide for a wide range of outdoor recreation activities for residents and tourists on a sustainable basis, recognising and protecting the natural environment values of the area. Development of outdoor recreation opportunities on private land outside the protected area estate will reduce pressures on these areas while also contributing to the diversification of the economy.
Recreation areas need to be integrated with urban communities in a way that improves linkages between the urban footprint land use area and outdoor recreation environments and encourages accessibility to outdoor recreation opportunities from existing and new development areas.

Noisy outdoor activities, such as motor sports, should to be located away from residential development. Where appropriate, local government should identify suitable sites for regional motor sport facilities within the planning scheme (see section 1.3).

FNQ has a network of many interconnected urban areas that are separated by rural or natural land, each with its own special identity, character and role. These urban areas are contained within urban footprint areas and framed by the regional landscape and rural production area. The area that distinguishes one footprint from another is referred to as an inter-urban break and is located within the regional landscape and rural production area. These areas are protected from inappropriate urban development and subdivision through the state planning regulatory provisions and play an important role in maintaining regional character and identity.

The Wet Tropics Management Authority has developed a series of plans and strategies that aim to protect and manage the Wet Tropics World Heritage Area, whilst maintaining scenic values and outdoor recreational opportunities. Examples include:

- Wet Tropics Management Plan 1998
- Wet Tropics Nature Based Tourism Strategy 2000
- Wet Tropics Walking Strategy 2001

2.5 Primary production

Agriculture, forestry and fisheries are major contributors to the regional economy and are dependent on the use of its natural resources. FNQ is fortunate to have large areas of good quality agricultural land which provide the basis for its extensive agricultural, horticultural, dairying and grazing industries (see map 8). Maintaining suitable and accessible agricultural land is key to enhancing the long-term viability of the region's agricultural industries.

Encroachment of urban, rural residential and non-agricultural farming activities on agricultural land poses a major threat to the region's economic future. The draft regional plan, by setting an urban footprint area and controlling further subdivision in the regional landscape and rural production area will contribute towards protecting good quality agricultural land from further sub-division.

Management of the state's forestry and fisheries resources is undertaken through specific legislation—the Forestry Act 1959, Forestry Plantations Queensland Act 2006 and the Fisheries Act 1994. The interface with IPA generally only occurs indirectly, where forestry or fisheries activities may be impacted by development.

While much of the region's rainforest is protected within the Wet Tropics World Heritage Area, there is still potential for a strong and lucrative forestry industry in the region in the form of private farm forestry, sustainable management of native forests and broadhectare plantations.

The commercial and recreation fishing industry provides significant economic value to the region through direct employment, processing fish products and support services. Fisheries activities in the region include commercial fisheries, game fishing, aquarium, recreational, traditional and aquaculture. Increased population, coastal development and climate change impacts have the potential to place these fisheries resources under a high degree of stress.

Objectives

- Good quality agricultural land is identified and protected for on-going agricultural production.
- The region's forestry resources are identified, and sustainably managed to maximise benefits to the community.
- The region's fishery resources are identified, and sustainably managed to maximise benefits to the community.

Land use policy

2.5.1 Good quality agricultural land is protected from urban development, and only utilised where there are no reasonable alternatives available.

2.5.2 Appropriate buffer distances between incompatible uses and agricultural operations on good quality agricultural land are provided through sensitive land use planning (see policy 1.3.4).

2.5.3 New or intensified development in or adjacent to fish habitats or key fishing grounds is avoided through appropriate buffers (see policy 1.1.2).

2.5.4 Marine, estuarine and freshwater habitats are protected, enhanced and managed to maintain sustainable fish stock levels, maximise fisheries' production for the on-going benefit of the community (see policy 1.1.2).
Explanatory notes

Good quality agricultural land

Some loss of agricultural land is inevitable, given the shortage of land along the coast and in other areas suitable for urban development. However, it is in the best interests of the economic well-being of the region that agricultural land is protected wherever possible and only utilised where there are no reasonable alternatives available. This approach has been taken in determining the preferred settlement pattern for FNQ and in setting urban footprint areas.

The state government has produced the State Planning Policy 1/92: Development and Conservation of Agricultural Land. Local governments are required to take this into consideration and using local knowledge, determine appropriate mechanisms to be imbedded into local government planning schemes that ensure the following:

- Good quality agricultural land is identified and mapped in local government planning schemes
- Farming activities with no specific requirement for good quality agricultural land, such as intensive animal husbandry, are discouraged from utilising good quality agricultural land
- Good quality agricultural land is not severely fragmented as to make viable primary industries unviable
- Family transfers are managed to prevent fragmentation of the agricultural land holdings
- Incentives for land-holders are developed and maintained to retain good quality agricultural land for productive agricultural use
- Consideration is given to economic aspects of agricultural industries and good quality agricultural land in planning and development decisions
- Mechanisms to resolve conflicts between agriculture and urban land use activities are established.

Past settlement patterns and subdivision approvals have resulted in a highly fragmented rural landscape across the region. The draft state planning regulatory provisions establish a minimum lot size of 60 hectares in FNQ to prevent further fragmentation of rural zoned lands. Precinct planning will enable smaller lot sizes where considered appropriate for intensive farming activities, provided there is no intensification of residential development (see policy 2.2.1).

Forestry

Forestry is a form of agriculture, albeit one with a long crop rotation cycle. There is a need to identify and target land suitable for forestry production, having regard to a range of environmental, social and economic factors. Forestry operations can assist in meeting environmental objectives through reforestation and rehabilitation of natural areas and sustainable harvesting practices. Forestry can also play a part in the reduction of gas emissions through carbon sequestration and the resulting limitation of global warming.

Fisheries

Commercial fleets in the region are located at Cairns, Innisfail and Port Douglas. Recreational fishing occurs throughout the region but fishing tourism is primarily based in Cairns and Port Douglas.

The region has high accessibility for fishing, which places pressure on available fish stocks. Increased conflict between commercial, recreational and tourist fishing is likely to arise as the region's population increases, particularly in the Cairns and Port Douglas areas. Opportunities for sustainable aquaculture to supplement the region's native fisheries should be encouraged and development assessment processes streamlined to better reflect the level of environmental risk.

The Department of Primary Industries and Fisheries has developed a range of policies and strategies to guide sustainable management of the region's forestry and fishery resources. Examples include:

- Queensland plantation strategy (in preparation)
- Policies, codes and guidelines on the management of fish habitats
- Sustainable land-based aquaculture policy.

2.6 Extractive industries and mineral resources

The region's quarry and extractive products of sand, gravel and quarried rock are of considerable importance to regional industries, particularly the construction industry (see map 9).

The availability of extraction sites on the coast is becoming more restricted due to environmental constraints and expansion of urban areas. Consequently, extraction industry operations on the Tablelands are becoming increasingly important.

State Planning Policy 2/07: Protection of Extractive Resources identifies the location of extractive resources of state or regional significance as key resource areas. These areas indicate where extractive industry development is appropriate, and aims to protect those resources from development that might prevent or severely constrain current or future extraction when the need for the resources arise. The location of key resource areas has been a consideration in setting the boundaries of the urban footprint areas.
Objective

- Extractive industries and mineral resources, and associated transport corridors and buffers are:
  - identified
  - protected for potential future extraction
  - managed to minimise the impacts on environmental values.

Land use policies

2.6.1 Key resource areas and associated transport infrastructure are protected in accordance with State Planning Policy 2/07.

2.6.2 Extractive industries avoid loss or degradation of environmental values. Where loss cannot be avoided, impacts are minimised and mitigated.

2.6.3 Where extractive resources are removed from agricultural areas, the impacts of extractive activities on primary industries should be minimised and locations rehabilitated where appropriate for agricultural use.

Explanatory notes

Extractive industries can generate substantial noise, dust and traffic movement. Conflicts can be created if urban development is located in close proximity to extractive industry sites. The location of key resource areas and associated buffer zones and transport routes has been considered in determining areas for future growth, so that such conflicts are avoided in the future (see policy 1.3.2).

Within key resource areas there may be state or regional biodiversity or good quality agricultural land values. While utilisation of the extractive resources in the mapped key resource areas take precedence, any adverse impacts on those other values should be avoided or mitigated to the greatest practicable extent.

The region also includes historic tin and gold mining areas, many of which are now within the Wet Tropics World Heritage Area, where applications for new exploration and mining tenures are not accepted. Mining operations and leases are dealt with under the Minerals Resources Act 1989—outside the IPA process—and administered by the Department of Mines and Energy. Key mineral resource areas will continue to be identified and should be protected from inappropriate development by local government planning schemes.

Mineral deposits are known to exist in the region and some are commercially viable at present. The current mining boom is likely to result in significant growth in mining operations in the west of and to the north of the region. Mareeba is well placed to act as an important service centre for the mining industry. The provision of freight and port infrastructure to support future mining activities within or adjacent to the region needs to be considered in infrastructure planning (see policy 8.3.1).
3. Strong communities

Desired regional outcome
The region’s communities are vibrant, safe and healthy and resilient to climate change, and diversity is welcomed and embraced.

The FNQ region has been identified as having one of the fastest growing populations in Queensland, which creates continuous change and challenges for communities. Rapid urban growth may bring prosperity to the region, but can cause disadvantage to some sections of the community if the growth is not well planned.

Building strong communities in FNQ will be assisted by improving the quality and safety of the built environment through sensitive urban design, strengthening activity centres, ensuring housing meets demand, and adequately planning for community services and facilities.

The government’s vision for Aboriginal and Torres Strait Islander Queenslanders is to have their cultures affirmed, their heritage sustained and to have the same prospects for health, prosperity and quality of life as other Queenslanders.

Indigenous people are an integral part of, and make a major contribution to, the FNQ regional community, sharing and contributing to the region’s culture, economic and social development. The regional plan provides opportunities for Indigenous Queenslanders to be involved in planning processes and have input into decision making and management processes.
3.1 Social planning

Social planning is an essential component of all land use planning and should be integrated into precinct planning, structure planning, master planning and infrastructure planning processes. It can help identify necessary community facilities and services, and help designate land for community uses in planning schemes.

Social planning can also be used to identify community and social issues and impacts in the planning and development process, and mitigate potential adverse social impacts of growth and development in the region, including climate change and peak oil impacts.

Consideration of socio-demographic trends and population shifts such as ‘sea change’, ‘tree change’ and the ‘grey nomad’ tourist movement helps to inform planning for future growth and infrastructure provision. For example, consideration of the ‘grey nomad’ movement has, in some cases, led to the retention of existing caravan parks as a means of providing tourist and affordable accommodation. An ageing population has implications for a range of planning and design matters, such as residential design and provision of transport, and community and health services.

Objective

- The social needs of the community are appropriately considered in planning and development processes to maintain and enhance the quality of life.

Land use policies

3.1.1 Land use planning and development decision-making processes incorporate social planning considerations.

3.1.2 Socio-demographic information is used to identify the effects of growth and change on regional communities and to inform social infrastructure planning.

3.1.3 Planning and development of new residential areas provides equitable access to services and avoids creating areas of disadvantage.

3.1.4 Greenfield communities and redevelopment areas are integrated with existing or adjacent communities to encourage social cohesion.

3.1.5 Appropriate levels of infrastructure and services are provided to rural towns and villages, consistent with the preferred settlement pattern and network of activity centres for FNQ (see policy 4.2).

3.1.6 Planning and development urban design principles are adopted to ensure communities are resilient to the impacts of climate change and adapt in ways that minimise the region's contribution to the causes of climate change (see policy 4.5).

Explanatory notes

Demographic trends for the region suggest the proportion of older people in the population will increase considerably over the next 20 years and more people, both young and old, will live alone. This has implications for the way cities and towns are planned, and housing and services are provided.

Older people will need housing within walking distance of shops and public transport. As the population ages and people live longer, residents will increasingly need options to stay in the community.

Climate change and peak oil will also affect the way people live. Housing should be designed to cope with increased temperatures and more frequent cyclonic events. Increases in petrol prices will place higher demands on public transport services. The government's ClimateSmart Living campaign aims to help people understand how they can minimise and adjust to the impacts of climate change.
3.2 Social infrastructure

Social infrastructure refers to the community facilities, services and networks which help individuals, families, groups and communities meet their social needs, maximise their potential for development, and enhance community wellbeing. They include:

- universal facilities and services such as education, training, health, open space, recreation and sport, safety and emergency services, religious, arts and cultural facilities and community meeting places.
- lifecycle-targeted facilities and services, such as those for children, young people and older people
- targeted facilities and services for groups with special needs, such as families, people with a disability, Aboriginal and Torres Strait Islander peoples and people of culturally and linguistically diverse backgrounds.

Additional community services and facilities will be required to meet the needs of an increasing regional population, and respond to changing community needs over time.

Objective

- The current and future needs of the community are met through coordinated and timely planning and provision of appropriate social infrastructure.

Land use policies

3.2.1 The coordinated provision of community services and facilities is considered and incorporated in land use planning.

3.2.2 Accessible social infrastructure is provided that is well located in relation to transport, residential areas and employment, in accordance with the regional activity centres network (see policy 4.2).

Aligned policies

3.2.A Planning and delivery of social infrastructure is improved by developing and linking with existing collaborative working relationships.

3.2.B Hubs of co-located multipurpose community facilities and services are provided, which can respond to changing and emerging community needs.

3.2.C Community inclusion is promoted by providing an equitable, affordable and appropriate public transport system in the principal regional activity centre.

Explanatory notes

While social planning considerations should form an integral part of all land use planning, the delivery of social services is outside the scope of IPA. Collaborative partnerships are required between land use planners and service providers to ensure the desired regional outcome is achieved.

Social infrastructure should be provided in appropriate locations, consistent with the network of regional activity centres (see policy 4.2) and should be accessible to all residents of FNQ, including those in urban fringe areas, rural communities, and more remote Aboriginal communities. Social infrastructure should be provided in sequence with new residential development, particularly in greenfield areas located in outlying and fringe localities with high service and transport needs.

A number of services can be co-located and integrated in service centres or hubs (eg. co-location of health practices or cultural and arts facilities), enhancing community access and use. Communities also require access to places and spaces which can be used for a range of purposes. This includes multi-purpose community spaces and facilities which can respond to changing and emerging community needs over time.

The provision of human services and associated infrastructure should acknowledge and account for the movement of people within FNQ—for example between Cairns and rural centres and between FNQ and adjacent regional areas such as Cape York, Torres Strait and the Gulf region.

Several strategies and programs that can inform social planning and social infrastructure provision are:

- Social Infrastructure Planning, Implementation Guideline No.5 (DIP, 2007)
- Service Plan and Master Plan for the Cairns and Hinterland Service District (Queensland Health, in preparation)
- Land Use and Public Transport Accessibility Index (Queensland Transport).
3.3 Healthy and safe communities

There are key links between urban planning practice and health determinants in a community. Research shows evidence of key links between the health of a community and a range of factors\(^6\) including:

- social disadvantage
- population characteristics
- social cohesion and sense of community
- access to social infrastructure
- safety and perceptions of safety
- housing affordability and housing density
- accessibility and transport
- physical activity and availability of public space and open space
- civic participation
- climate change and energy consumption
- water demand management.

Urban planning and design play a crucial role in the development of safe and healthy communities. Urban design strategies are highly relevant in building safe communities and involve consideration of:

- good access and connections to places
- variety of place
- adaptability and versatility
- pedestrian focused approaches
- sight lines and surveillance
- appropriate lighting
- space and place making.

**Objective**

- Communities are well designed, safe and healthy local environments that encourage active community participation and healthy lifestyles and prevent crime.

**Land use policies**

3.3.1 Crime prevention through environmental design principles are considered in the design and layout of greenfield communities and redevelopment areas.

3.3.2 State and local government and developers consider community health and safety issues in the planning and development of new urban areas and redevelopment sites.

**Aligned policies**

3.3.A Community health and safety in urban and rural environments is improved by providing appropriate social infrastructure, places for community activity, and involving local communities in planning processes.

3.3.B Best practice urban design is utilised to create built environments that enhance community health and safety (see section 4.5).

**Explanatory notes**

The draft regional plan is based on the premise that all people have a right to access and use public space. The provision of public and community space is essential to support community activity and wellbeing, particularly in newly developing and redeveloping areas. Provision of a range of places for community activity is important in fostering physical and mental health and wellbeing.

Open space, sport and recreation spaces and facilities, and walking and cycling paths are crucial in contributing to the physical and mental health and well being of a community, particularly in greenfield development. New development should be planned and designed for accessibility, particularly for people with a disability and for our ageing population.

Principles of crime prevention through environmental design should be used to design new places and spaces which enhance community safety\(^7\). Other relevant guidelines include:

- Northern Area Health Services Plan—Future Directions 2007–2012 (Queensland Health, 2007)
- Strong Communities Handbook, 2006

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\(^7\) Draft CPTED Guidelines for Queensland, September 2006 (Queensland Police Service, Department of Communities, DLGPS).
3.4 Community engagement and capacity building

Regional planning is not just about land use planning. It is about building new communities, and integrating them with existing communities. The development of new communities involves not only the built environment, but also how people live and work together, the relationships that are formed in that community, how the community develops over time, and its capacity to deal with and respond to change.

Community engagement relates to the decision making processes involving government and community interactions, ranging from information sharing to community consultation, and in some instances, active participation in government decision making processes. Strong community engagement practice enables strong community support and ownership of the outcomes.

Community capacity is the set of skills, relationships and networks that collectively exist in a community. These provide social support, especially when people need assistance. The more capacity a community possesses, the more likely it is to be able to take part in and influence decisions and processes for change.

Objective
- Engage the community and build community capacity through the planning and development of future communities.

Land use policies
3.4.1 Community engagement is incorporated in planning processes, enabling local communities to identify, articulate and enhance their sense of place and wellbeing.

3.4.2 Community engagement and community capacity building programs are implemented when planning for greenfield developments and redevelopment projects.

Aligned policies
3.4.A Traditional owners are recognised as stakeholders in land use planning processes and their relationship with the land, sea and natural resources is respected.

3.4.B The special interests of Indigenous people are taken into account in the management and development of the region.

Explanatory notes
Community capacity is particularly important in newly developed areas and areas undergoing significant change and redevelopment. Capacity building events and activities can develop social capital and help to create a strong sense of identity and belonging in a community.

A framework for effective engagement with traditional owners should consider regional, sub-regional and local levels of planning. Traditional owners are building capacity to engage in these planning processes through a culturally appropriate engagement framework. Traditional owners have expressed a desire for proper acknowledgment, respect and commitment to progress their interests and responsibilities through planning processes.

When engaging Aboriginal and Torres Strait Islander communities, it should be recognised that both traditional owners and historical and contemporary residents are important stakeholders with differing needs and aspirations. The Strong Communities Handbook provides guidance in community capacity building.
3.5 Sense of community, place and identity

A sense of place and local identity can be found in the distinctive features of an area’s physical landscape, built environment, population characteristics, economy, arts and cultural heritage. It can also be based upon the relationships, networks and connections between the people who live and work in a community. This sense of place and local identity is important in the building of new communities, and sustaining existing communities (see policy 2.1).

Objective

- Manage urban and rural growth and development to create, maintain and enhance a sense of community, place and local identity throughout the region.

Land use policies

3.5.1 Adequate provision is made for public spaces and places for community activities when planning and designing greenfield developments and infill areas (see policy 3.6.4).

3.5.2 Local character and identity is reinforced through planning and development of activity centres, rural towns, greenfield developments and infill areas.

3.5.3 Indigenous people’s strong connection to land and sea is recognised and respected when planning for development of activity centres, rural towns, greenfield developments and infill areas.

Explanatory notes

FNQ has a unique tropical character which can define an individual’s sense of place (see policy 4.5). Developing a sense of place is particularly important in greenfield development. Community engagement can inform planning for new development by identifying key local characteristics that define a place and the elements of a place that are important to local people. Community engagement can also result in greater community ownership of planning and design outcomes.

The provision of public spaces and places, used for a range of community activities, are an essential component of any greenfield, infill or redevelopment process (see policy 3.6.4). Retaining the character and sense of place of existing rural communities in FNQ is also vital.

Aboriginal and Torres Strait Islanders have strong family and cultural ties that are closely connected to the land and sea. Maintaining the connection with their land is important for social and cultural well being. Respecting these strong connections to the land and sea is important for the on-going survival of their culture.
3.6 Cultural heritage, arts and cultural development

Cultural heritage places and landscapes are places (either natural or built) which are important to the community because of their cultural heritage significance. The regional plan recognises the significance of different cultures and the importance of conserving Indigenous, non-Indigenous, natural and cultural heritage.

Aboriginal and Torres Strait Islander cultural heritage places and landscapes are especially important in FNQ. Indigenous cultural heritage may include significant areas, objects or places with evidence of archaeological or historic significance of Aboriginal or Torres Strait Islander occupation.

Intangible aspects such as language, song, stories and art is part of the Aboriginal and Torres Strait Islander peoples' strong sense of heritage as well as physical places and objects. Protecting knowledge and information associated with cultural heritage places is as important as the physical protection of a place.

FNQ has a diverse range of cultures, involving the unique customs, beliefs, values, knowledge, heritage, traditions and way of life of this area. New residents will bring new ideas, innovation and fresh energy to the region, ensuring its vigorous multicultural and international focus will continue to develop and prosper.

Cultural spaces, centres, and facilities play an important role in providing a place for community events, functions, meetings, and festivals, used by a range of different cultural groups. Maintaining and establishing regionally significant infrastructure for cultural events, entertainment, sport, and conventions will foster creative art, recreation and leisure industries that will stimulate wealth and job creation (see policy 3.5).

Objectives

- Identify, protect and manage the region's unique cultural heritage, including historic places and landscapes of significance to the community.
- Support cultural development and the arts through the planning and provision of cultural infrastructure and spaces.

Land use policies

3.6.1 Places of cultural heritage significance are protected and managed to conserve the cultural heritage significance of those places through local government planning instruments (see Queensland Heritage Act 1992).

3.6.2 Indigenous cultural heritage in the form of landscapes, places and objects is protected, managed and conserved through local government planning instruments (see Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Heritage Act 2003).

3.6.3 Provision of public spaces for cultural activities, events and festivals, including cultural precincts where appropriate, is considered when planning communities, particularly in greenfield development.

3.6.4 New developments incorporate arts and cultural infrastructure and facilities at a scale that is consistent with the scale of the development.

Aligned policies

3.6.A Where the knowledge is available, and it is culturally appropriate, places of significance are added to the Aboriginal cultural heritage register.

Explanatory notes

The protection, conservation and management of Aboriginal and Torres Strait Islander cultural heritage is undertaken through the Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003.

These laws establish a duty of care for all land users regardless of tenure which extends to all levels of government as well as developers. It requires that all reasonable and practicable measures are taken to ensure activities do not harm cultural heritage. For some activities a cultural heritage management plan is required, such as those developments requiring an environmental impact study.

The legislation established a cultural heritage register that records significant sites along with guidelines that set out reasonable and practical measures to avoid harming cultural heritage. This helps Queenslanders to meet their duty of care.

Non-Indigenous cultural heritage includes artefacts, places and buildings that are commonly of European origin. Historic cultural heritage also covers shipwrecks and artefacts from pre-colonial occupation, such as visits by Indonesian fishermen to northern Australia prior to 1788.

The major piece of historic cultural heritage legislation is the Queensland Heritage Act 1992. The Act makes provision for the conservation of Queensland's cultural heritage by protecting all places and areas entered in the Queensland Heritage Register. The register now comprises state heritage places, archaeological places and protected areas. Development of a place registered under the Act is assessable development.
The Act also requires a local government (unless it has been exempted) to keep a local heritage register of places of cultural heritage significance in its local government area. The Queensland Heritage Regulation 2003 includes a local heritage place code—an IDAS code for development on a local heritage place. The Queensland Heritage Regulation 2003 also includes a list of local governments for which the local heritage provisions do not apply, as their planning schemes are determined as having satisfactorily identified and provided for the conservation of heritage places in its local government area.

The EPA is currently undertaking a statewide survey of Queensland’s heritage places. Key historical themes that are relevant to the different regions of Queensland have been identified in the Queensland Cultural Heritage Places Context Study—Report to the EPA and these themes should be utilised by a local government when undertaking a local heritage survey of its area.

### FNQ—Examples of historical themes (non-Indigenous only)

#### Peopling places
- The role of Chinese in mining industry and commerce
- The role of Chinese, Japanese, Italians and South Sea Islanders in development of agriculture
- The presence of Afghans on the mining fields and the use of camels to transport ore prior to railways

#### Exploiting, utilising and transforming the land
- Mining, in particular development of tin mining in Herberton district and copper around Chillagoe
- Sugar industry focussed on Tully, Innisfail, Babinda, Cairns and Mossman
- Timber industry on the Atherton Tablelands
- Agriculture, particularly in the Innisfail district and on the Atherton Tablelands
- Development of hydroelectricity schemes on the Barron and Tully rivers

#### Developing secondary industries
- Tourism industry centred on the Great Barrier Reef and the Tablelands with Cairns as the focal point

#### Moving goods, people and information
- Development of transport routes to the Atherton Tablelands—both road and rail

#### Maintaining order
- The use of the far north in World War II
3.7 Indigenous local government areas

Within the FNQ region there are two Aboriginal council areas—Yarrabah to the east of Cairns and Wujal Wujal on the northern boundary of the region. Whilst these councils aim to provide services such as road building and maintenance, rubbish removal and many of the services that mainstream councils provide, they are disadvantaged by not having the same major income stream from levying rates.

Aboriginal councils largely manage land that is Deed of Grant in Trust under the *Land Act 1994* which precludes individuals holding title or owning their block of land. Consequently most of the Aboriginal councils’ income is reliant on grants from both federal and state government. Aboriginal councils often take responsibility for a broad range of activities within communities, not just municipal functions.

In 2004, wide ranging legislative reform was initiated by the Queensland Government to transition Aboriginal community councils to full shire council status by 2008. January 2007 saw the final transition of Aboriginal councils to full shire council status and the councils are working towards developing planning schemes that are compliant with IPA. The draft state planning regulatory provisions in the regional plan will have no effect on these communities until the IPA planning schemes are in place.

Objective

- Indigenous local government areas meet best practice land use planning and local government administration frameworks, which provide equitable access to infrastructure and services for all community members.

Land use policies

3.7.1 IPA planning schemes are prepared for Wujal Wujal and Yarrabah local government areas.

Explanatory notes

The *Partnerships Queensland: Implementation Progress Report 2006* confirms the government’s continued commitment to improved governance for Aboriginal and Torres Strait communities. Partnerships Queensland is the Queensland Government’s primary policy initiative for Indigenous Queenslanders and provides advice and support to local government in establishing successful partnership arrangements. Aboriginal and Torres Strait Islander peoples’ involvement seeks to empower their community to identify its own issues, strategic directions and solutions.

The *Community Governance Improvement Strategy* is a major initiative under the government’s *Meeting Challenges, Making Choices* strategy to build capacity and strengthen the standard of corporate governance in Aboriginal shires. It is a comprehensive package of activities aimed at improving the standard of local government in Aboriginal and Islander communities.

Capacity building of councils is one component of a whole-of-community need. A strong, autonomous and capable local government network is fundamental in addressing disadvantage in a broad range of cultural, economic, social and physical indicators in Queensland’s Aboriginal and Torres Strait Island communities.

State and local governments responsible for planning and land management must gain an enhanced appreciation of the valuable contribution that Aboriginal and Torres Strait Islander peoples can provide.

For land use planning processes to adequately address the needs of the Aboriginal and Torres Strait Islander community they must include appropriate involvement mechanisms that recognise the diversity within this community. Localised, place-based partnerships have proven to be an effective mechanism for engaging Aboriginal and Torres Strait Islander peoples and identifying the diversity of issues.

Local government is in the best position to foster localised partnerships with the Aboriginal and Torres Strait Islander community. A successful example of place-based partnerships in FNQ is the Negotiation Tables initiative from the Office of Aboriginal and Torres Strait Islander Partnerships in the Department of Communities. The partnerships have been based on understanding and respect for cultural differences.
4. Urban development

Desired regional outcome
The region has an interlinked network of well planned, discrete, sustainable urban centres which reflect best practice urban and tropical design and offer convenient and accessible residential, employment, transport and other service opportunities.

The FNQ region is expected to increase by approximately 100 000 residents by 2025. This growth will vary across the region and Cairns, as the major urban centre, will grow more rapidly than the region as a whole. Such a level of growth will place high demand on urban systems, infrastructure and services.

The region contains a number of other important urban centres including the coastal towns of Mossman, Innisfail and Tully, and the Tablelands centres of Mareeba and Atherton. There are a substantial number of smaller towns and villages together with a number of rural-residential estates adjoining these centres and within the rural areas.

The development of the region’s urban centres is influenced by tourism, agriculture and service industry activity. Tourism is a prominent influence on Port Douglas, Kuranda and Mission Beach. Other centres such as Atherton, Mareeba and Innisfail rely heavily on primary industries and their role as service centres for surrounding districts.

The location, layout, land use mix and operational aspects of the region’s urban areas have a significant impact on accessibility, cost-efficiency, protection of natural areas and agricultural lands, community quality of life and opportunities for economic activities.

Managing population growth and associated change in a way that protects the region’s natural resources, biodiversity and lifestyle values requires a sustainable settlement pattern. This will be based on efficient utilisation of land and infrastructure, and tighter controls over ad-hoc and dispersed forms of development. To achieve this, government, industry and community must adopt a smarter approach to urban land use planning, considering the following principles:

- strengthen and direct development in and around existing centres
- encourage mixed land use development
- provide for a range of housing opportunities and choices
- improve land use efficiency through infill and redevelopment
- promote opportunities to develop a pedestrian environment
- provide vibrant open spaces and people oriented centres
- foster distinctive, attractive communities with a strong sense of place
- preserve open space, farmland, and areas of high environmental significance
- provide for a variety of transportation choices
- encourage community and stakeholder collaboration in development decisions.

Application of these principles will improve the quality of FNQ urban areas, as will enhanced coordination of land use planning, economic activities and infrastructure provision. Development must be sequenced to ensure the timely provision of infrastructure to new areas. Residential development and employment areas should also be closely linked to ensure better infrastructure efficiencies.

The tropical FNQ region is particularly vulnerable to potential disasters. Climate change, natural hazards and their effects must be considered in land use planning. Planning responses must address natural hazard risks such as the threat of cyclones, bushfire, drought, storm surge, sea level rise, tsunami, increased occurrences of freak weather conditions and the impacts these events may have on communities and the regional economy.
4.1 Urban structure

To ensure sustainable development, future growth must be contained within existing urban areas and managed in a way that:

- uses land efficiently
- minimises transport demands
- encourages the cost effective provision of infrastructure and services
- mitigates and adapts to possible climate change issues
- is consistent with the community’s economic, social, cultural and environmental values.

This is achieved through identifying a preferred settlement pattern and regional land use categories (see part D).

Identifying regional land use categories and setting an urban footprint boundary provides certainty for government, the development industry and the community about areas appropriate for urban development and those which are to be maintained to protect and enhance natural and rural values.

By 2025, approximately 50,000 new dwellings will be required to accommodate the projected population growth and new household formation in the region. Continuing to provide a high proportion of these dwellings as low-density detached houses on the urban fringe will not match the changing structure of households or projected needs of the population. Land needs to be used more efficiently. This can be achieved by aiming to provide higher density residential development in appropriate areas that is attractive and liveable.

A shortage of land is not yet the main driver for urban consolidation in the region. The cost of servicing low density settlements and impacts on the landscape values are the critical factors. Consolidation is not appropriate for all situations and should only be adopted after detailed planning has been undertaken.

Urban growth in some rural townships such as Herberton, Ravenshoe and Cardwell is constrained by the location of state-owned land. Land tenure and native title resolution processes are often protracted and have the potential to constrain the orderly development of such townships.

Objective

- The preferred settlement pattern for the region achieves an appropriate balance between economic, environmental and social outcomes and accommodates the majority of growth within the urban footprint areas through land use efficiencies.

Land use policies

4.1.1 Urban growth is contained within urban footprint areas through accommodating urban developments in existing urban and regional centres or within identified urban growth areas, in accordance with the preferred settlement pattern (see maps 3a–3k).

4.1.2 Development, transport and land use minimises the region’s contribution to the causes of climate change and ensures that industries, communities and the natural environment are resilient to the impacts of climate change.

4.1.3 Development in the areas planned for urban growth is appropriately sequenced to coordinate the provision of infrastructure and services.

4.1.4 The character and identity of regional centres is protected by preventing urban development in identified intra- and inter-urban breaks.

4.1.5 Areas of environmental significance and scenic amenity are provided within the urban footprint area and appropriate levels of protection are achieved through local government planning schemes.

4.1.6 To achieve a more compact urban form, residential development in greenfield, infill and redevelopment sites (outside identified regional activity centres and transit oriented communities) should achieve average housing densities of 15-20 dwellings per hectare or above for the greater Cairns area and 12-15 dwellings per hectare or above for urban areas outside Cairns.

Explanatory notes

The preferred settlement pattern for FNQ directs growth in the region towards the most appropriate areas to achieve ecologically sustainable communities (see part D). All land within the region falls within one of three land use categories—urban footprint, regional landscape and rural production or rural living areas—which provide the spatial boundaries for urban development.

Within urban footprint areas, urban consolidation aims to:

- limit the high infrastructure costs of low density sprawl
- discourage excessive car use
- improve housing affordability through providing an increased variety of housing
- improve the economics of public transport
- increase accessibility to jobs and services
- mitigate air and water pollution.

Not all land within urban footprint areas will be suitable for development. There may be some areas of environmental significance such as wetlands or riparian areas which should be protected. Similarly, development in areas of high scenic amenity or areas subject to natural hazards, such as flooding should be limited. These can form intra-urban breaks. Local government planning schemes should provide appropriate controls on development in these areas.

Urban consolidation will largely be achieved through planning mechanisms contained within local government planning schemes. However, if development continues at the densities currently permitted under local government planning schemes, it is projected that Cairns will achieve an...
average residential density of 10.93 dwellings per hectare, while Atherton and Mareeba will achieve average densities of 9.43 and 8.0 dwellings per hectare respectively. These residential densities need to be increased if we are to create sustainable communities and prevent further urban sprawl.

An average dwelling density of 15–20 dwellings per hectare is proposed for greater Cairns, while an average of 12–15 dwellings per hectare is considered appropriate for regional centres outside Cairns. These densities will largely be achieved through the development of greenfield sites and in areas undergoing infill and redevelopment. Even higher densities are proposed in certain regional activity centres (see section 4.2) or transit oriented communities (see section 8.1) to ensure the most effective use of infrastructure and services.

Table 4: Current and target housing densities for FNQ

<table>
<thead>
<tr>
<th>Local government area</th>
<th>Urban residential1 (average density—dwellings per hectare)</th>
<th>Rural residential1 (average density—dwellings per hectare)</th>
<th>Urban residential target for 20252 (average density—dwellings per hectare)</th>
<th>Urban residential target for 2025 (average lot size m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atherton</td>
<td>9.43</td>
<td>1.77</td>
<td>12-15</td>
<td>830-670</td>
</tr>
<tr>
<td>Cardwell</td>
<td>6.37</td>
<td>1.41</td>
<td>12-15</td>
<td>830-670</td>
</tr>
<tr>
<td>Douglas</td>
<td>9.44</td>
<td>0.98</td>
<td>12-15</td>
<td>830-670</td>
</tr>
<tr>
<td>Eacham</td>
<td>8.76</td>
<td>1.91</td>
<td>12-15</td>
<td>830-670</td>
</tr>
<tr>
<td>Herberton</td>
<td>4.44</td>
<td>0.22</td>
<td>12-15</td>
<td>830-670</td>
</tr>
<tr>
<td>Johnstone</td>
<td>8.81</td>
<td>1.85</td>
<td>12-15</td>
<td>830-670</td>
</tr>
<tr>
<td>Mareeba</td>
<td>8</td>
<td>0.43</td>
<td>12-15</td>
<td>830-670</td>
</tr>
<tr>
<td>Cairns City</td>
<td>10.93</td>
<td>1.69</td>
<td>15-20</td>
<td>670-500</td>
</tr>
</tbody>
</table>

Source: Broadhectare Study—DIP, 2008.

1 Average densities based on density projections under current planning scheme zonings.
2 Higher densities to be achieved in master regional activity centres and transit oriented communities.
Mount Peter is identified in the preferred settlement pattern as the major focus for growth in FNQ for the next twenty years. The area was first identified in FNQ2010 as a future urban area, and is also recognised in the planning scheme for the City of Cairns. A number of land use and transport planning exercises have confirmed this option. A structure plan is currently being prepared for this area.

There are three main components to Mount Peter:

1. The area between Edmonton and Gordonvale on the western side of the Bruce Highway—after considering waterways, hillslopes, and vegetation constraints, there is a developable area of approximately 1550 hectares. This area will contain a mix of residential densities, subregional and district level centres, open space and recreation areas.

2. The Edmonton town centre site, located on Mill Road (approximately 50 hectares)—this is intended to be developed for commercial, retail and residential uses, with a strong focus on transit oriented communities, pedestrian and cycle access.

3. Land on the eastern side of the Bruce Highway along Thompson Road (approximately 250 hectares)—this is intended to be developed for industrial and storage uses.

The final population for Mount Peter has not been finalised but it is the priority urban growth area for Cairns. The aim is to achieve higher population densities than has been achieved in past greenfield development, and to provide for higher housing densities and mixed use developments within transit oriented communities. Higher population densities will:

- enable efficient infrastructure and services, including public transport, recreational space, community facilities and the retention of green spaces within the corridor
- reduce the need for future urban areas to be developed (on good quality agricultural land).

There is approximately 1551 hectares of developable land in the Mount Peter planning area. There are a number of density scenarios that have been considered in providing adequate residential dwellings to meet the expected population growth for Cairns. The preferred option is that a population greater than 50 000 people would be accommodated in this planning area (see option 4 in table 5).

The demand for land in the surrounding area is high and the supply rate of developable land is beginning to lag. Structure and master plan development and provision of infrastructure is a high priority. The timing and release of land must be well managed to achieve desired regional outcomes and avoid ad hoc development.

Urban development is also proposed on Cairns northern beaches, though infill and development in and around the Smithfield area. Outside Cairns, population growth will be focussed primarily on the existing regional town centres of Mareeba, Atherton, Innisfail and Tully, and to a lesser extent Mossman and Cardwell. Mareeba is the preferred regional growth centre because:

- urban development in Mareeba is not likely to have a significant impact on natural and environmental values
- the area is relatively unconstrained by good quality agricultural land
- development will build on the existing social and community infrastructure
- Mareeba has serviced land available for residential and industrial growth
- it optimises access to economic, employment and service opportunities
- it is cost effective in the provision of water, sewerage and road infrastructure
- it provides future decision makers with flexibility to adequately consider and manage future growth issues.

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Table 5: Mount Peter density scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Density (dwellings per hectare)</th>
<th>Population</th>
<th>Average lot size (m²)</th>
<th>Developable land (hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>28 538</td>
<td>1250</td>
<td>1551</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>35 673</td>
<td>1000</td>
<td>1551</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>42 808</td>
<td>833</td>
<td>1551</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>53 510</td>
<td>667</td>
<td>1551</td>
</tr>
</tbody>
</table>

Source: Cairns City Council, 16 November 2006.
4.2 Regional activity centres

A network of regional centres has been developed based on a statewide characterisation of activity centres, their functions, services and populations. Settlements in the region are categorised from principal regional activity centre to village activity centre (see table 6). Activity centres are mostly urban concentrations of business, employment, research, education, services, higher density living and social interaction. The FNQ region has a diverse range of activity centres fulfilling a variety of roles.

The network of activity centres considers the social and economic role of cities and towns across the FNQ region. Identifying the types of urban services and facilities existing in particular location enables the government and community to better understand the level of investment in infrastructure and services appropriate for that centre. Good planning practice provides sufficient services and facilities for the majority of the population and considers both efficiency and equality of access.

Determining a network of activity centres is the first step in strategic planning. From this, decisions can be made on the most appropriate scale of developments and activities suitable for each activity centre. This will assist in determining whether a particular urban centre is the most appropriate location for future growth.

The assessment of the FNQ activity centres network considered current and projected population, historical development, known and likely future industry and commercial opportunities. A centre where rapid growth is likely—such as Cairns—needs to be supported by planning and infrastructure to manage growth. The assessment also considered other influences such as environmental and natural resource constraints which may affect the scale and direction of growth in certain centres.

Development outside the centres can threaten the viability of existing activity centres and should be controlled. Stand-alone developments such as corporate offices, superstores along main roads, or clusters of highway convenience retail outlets often have poor accessibility and rely solely on car based transport. This can undermine the operation and role of activity centres and limit urban services. Such development is inconsistent with the strategic intent of the regional plan. It can diminish the vitality of activity centres and detract from their economic growth by decreasing public and private investment in their activities, facilities and infrastructure. It may not always be appropriate to locate certain development in an activity centre, however. In such cases a full assessment must be undertaken to demonstrate why it needs to be located outside an urban footprint area.

Objective

- Land use planning results in a region of connected cities, towns and villages that are appropriately serviced to meet each centre’s requirements.

Land use policies

4.2.1 Urban development and associated employment, housing, transport and community services are located in regional activity centres—as identified in the regional plan—and are at a scale consistent with the intent of the regional activity centre (see table 6 and map 10).

4.2.2 To prevent inappropriate land use and development outside activity centres, new development that is not consistent with the regional activity centres network (see table 6 and Map 10) is not supported.

4.2.3 The regional activity centres network promotes appropriate development to align residential locations, employment opportunities, transport, infrastructure and community services.

Explanatory notes

The FNQ regional activity centres network is described in table 6, with activity centres shown on map 10. The network of centres is dynamic and there may be changes over time. Any significant change in role and function of a centre, will come through the regional plan review process, rather than through development approvals and planning applications.
Table 6: FNQ regional activity centres network

<table>
<thead>
<tr>
<th>Activity centre</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Principal regional activity centre** | The Cairns CBD and the adjacent residential, commercial, seaport and industrial area is the region's principal regional activity centre. It accommodates the largest and most diverse concentration of urban activities. For some activities it has a statewide function particularly in the tourism sector. It is the key focus of government administration, retail, commercial and specialised personal and professional services. In addition it accommodates significant cultural, entertainment, health, education and public transport facilities. The centre has the highest population and employment concentration in the region. It also has the greatest level of housing mix and density and attracts large numbers of new residents and tourists. The centre is supported by key regional infrastructure including the Cairns Base Hospital, Cairns Seaport, Cairns International Airport and James Cook University.  
   The regional plan aims to achieve infill and redevelopment, with minimum residential densities of no less than 40 dwellings per hectare and up to or greater than 150 dwellings per hectare through high-rise development in appropriate areas. |
| **Major regional activity centre**   | FNQ's major regional activity centres include the business district and immediately surrounding streets and properties. These centres accommodate key concentrations of employment and population. They also serve business, agriculture, convenience retail and service uses. These centres may include local government administration, state government regional offices and important health, education, cultural and entertainment facilities. These centres typically comprise some level of local public transport to support a growing residential component. Major regional activity centres are usually supported by functions such as hospitals, tertiary education and a local airport or seaport.  
   The regional plan aims to achieve infill and redevelopment, with minimum residential densities of no less than 20 dwellings per hectare and up to or greater than 120 dwellings per hectare through high-rise development in appropriate areas. |
| **District activity centre**       | These centres are linked to and complement the principal or major regional activity centres. They accommodate key concentrations of employment and residential development and provide business and convenience retail functions. They may accommodate small district or branch offices of government and cultural and entertainment facilities. They may also provide a focus for specialised economic activity and employment for functions such as retail, agriculture and tourism.  
   The regional plan aims to achieve increased residential densities in appropriate areas in district activity centres while ensuring there is no loss of character and identity. |
| **Village activity centre**        | A village activity centre is generally small in size and population. There is usually a strong focus on maintaining the surrounding natural environment and regional landscape values. These centres provide cultural or rural lifestyle opportunities supported by a small retail and commercial precinct. Some employment is located within the village however most employment for residents is usually provided through primary production or the surrounding principal and major activity centres.  
   The regional plan aims to achieve localised growth that supports the local economy and local community. Any future growth would maintain the village character of the centre and it is not intended that these centres would be serviced by a wide range of urban services and functions. |
The major urban areas in FNQ are described below.

Cairns Regional Council

As a principal regional activity centre, Cairns is the highest ranked activity centre in FNQ. It has emerged as one of Australia’s leading regional centres, with an expanding influence on domestic and international economic activities. A high proportion of the region’s economic activities and employment opportunities outside of the primary industry sector are concentrated in Cairns. The regional plan will strengthen the role of Cairns as an international centre and facilitate regional economic development.

Urban development in Cairns is constrained by a number of physical factors such as the rainforested coastal ranges, Barron River flood plain, Trinity Inlet and the coastal foreshore. Expansion of the Cairns urban areas is taking place mainly on good quality agricultural land, most of which is or has been used for cane farming.

The central Cairns area has undergone significant consolidation over the past 15 years, particularly with the development of medium density housing in both existing and new urban areas. All of the central Cairns areas have high levels of access to employment and service opportunities. The preferred long-term strategy is to continue efficient and attractive urban consolidation.

To build on the strengths of the Cairns area, major service centres near Smithfield and Edmonton/Gordonvale will be established. The existing retail and commercial facilities will form the basis for a sub-regional centre at Smithfield providing retail, commercial and business facilities, as well as employment at the Cairns northern beaches.

The southern corridor is the most active development area in Cairns. The regional plan identifies Mount Peter—the area between Edmonton and Gordonvale, west of the Bruce Highway—as the preferred area for accommodating long-term future growth. An additional population that exceeds 50,000 people could be accommodated at Mount Peter. Development in this corridor should be concentrated in urban nodes or villages, separated and linked by open space with efficient transport networks. This area will also be supported by the development of the Edmonton town centre to be located west of the Bruce Highway. The Edmonton town centre will provide key retail and community business services. It is intended that industry facilities only be located on the east side of the Bruce Highway in Edmonton.

The northern corridor has a number of active development areas (Brinsmead, Redlynch, Smithfield and the northern beaches) as well as potential for infill of existing urban areas. District centre capabilities are well advanced at Smithfield and Redlynch. Development is expected to continue strongly, however land availability is an issue. Based on current development rates, land supply is likely to be constrained from about the year 2010. This will require a reassessment of the area and its potential to achieve greater urban consolidation.

Mossman and Port Douglas are district activity centres with Mossman acting as the administrative, service, agricultural and industrial centre. Port Douglas is a combined tourist and urban node—providing major tourist accommodation—and is the tourist service centre in the area. The area also includes the village centres of Cape Tribulation and the Daintree.
Over recent years, population and development growth has been driven by the expansion of tourism in Port Douglas. Future development is likely to be dominated by tourism, recreation and lifestyle. Areas of highest activity are likely to be Port Douglas, Mossman, coastal settlements north of Mossman and the Daintree/Cape Tribulation area north of the Daintree River.

Around 82 per cent of the Douglas area is designated as a World Heritage Area. Substantial natural habitat and good quality agricultural land also exists on private land. The Douglas area is also constrained by lack of suitable areas to provide water storage. As a result, the north coast has a restricted capacity to accommodate major urban growth demands.

In recognition of the environmental and scenic values of the Daintree/Cape Tribulation area, expansion of urban development north of the Daintree River will continue to be restricted.

**Cassowary Coast Regional Council**

The Cassowary Coast includes the coastal plain between Babinda and Cardwell and extends west to Tully. Innisfail and Tully are the two main urban centres. The Innisfail CBD and surrounding suburbs is the major urban and services centre in the southern part of the region. The south coast is predominantly agricultural with a number of significant natural areas and features supporting the agricultural and tourism industries.

The coastal centre of Innisfail provides a diversity of facilities and services for work as well as cultural experiences. The area around Innisfail is predominantly agricultural land—with considerable reserves of good quality agricultural land—which provides the greatest employment in the area. The surrounding rural village centres include Bingil Bay, El Arish, Flying Fish Point, Mourilyan and Wangan.

Tully provides a major focus for business, employment, administration and community activities in the central part of the southern coast. A significant amount of employment here is based around primary industry activities such as agriculture, horticulture, dairy and beef cattle, fishing, aquaculture, mining, quarrying and forestry.

While Innisfail and Tully are major regional activity centres on the southern coast, there are a number of smaller town centres and seaside communities where the natural surroundings provide a preferred lifestyle choice that will be preserved. Cardwell and Mission Beach provide a highly valued mix of tourism and permanent residential communities. Growth in Mission Beach will be contained to ensure the natural values of the area will be protected for future generations.

**Tablelands Regional Council**

The Tablelands has a number of different landforms, from rolling hills in the higher southern tablelands area around Millaa Millaa to relative dry flat plains west of Mareeba. Physical restrictions to development on the Tablelands are fewer than those on the coastal plains however the general topography and expanses of good quality agricultural land do restrict development.

Population growth on the Tablelands is distributed throughout a number of urban centres and villages as well as scattered rural residential developments.
Mareeba

Mareeba functions as a major regional activity centre and industrial centre for the Tablelands. It also provides a wide range of business, agriculture, industry and community activities. Mareeba presents a number of opportunities as a service, industry and population centre. The area has plenty of land suitable for urban development and is well serviced by air, rail and road infrastructure. It is also an important service centre for agriculture, activities associated with the Mareeba Dimbulah Irrigation Area, and the emerging mining sector.

Mareeba will be promoted as the major industry and service centre for the northern Tablelands. The future growth of Mareeba is likely to depend on the development of new economic and employment opportunities. Economic activity needs to provide employment opportunities and wealth creation, which in turn can support an increase in population.

Atherton

Atherton functions as a major regional activity centre and provides the key administrative centre for the Tablelands. It provides a high level of commercial and retail opportunities as well as rural industry functions. Atherton will continue to grow and provide the community with appropriate infrastructure and services including a wide range of commercial, industrial, educational, professional and social facilities and services. Increased housing densities will be encouraged to minimise further encroachment of residential development on good quality agricultural land.

Eacham

Eacham is rural by nature, with dairy and beef production contributing significantly to the economy. The economy is diversifying through primary products, timber plantations, tourism services, retirement and aged care services, innovative craft activities and knowledge based enterprises. Malanda is the district activity centre in this area and is surrounded by village activity centres such as Yungaburra and Millaa Millaa.

Herberton

The district activity centres in the Herberton area are the townships of Herberton and Ravenshoe which are the key business, retail and community towns. These townships support the surrounding rural areas and provide a range of housing and lifestyle choices and supporting facilities. Future development will reinforce the community focus of the towns that support the rural, tourism and mining activities occurring in the area, both on rural land and in surrounding village activity centres such as Innot Hot Springs.

Village activity centres

Other village activity centres, such as Kuranda, Cape Tribulation, Yarrabah and El Arish, are important for the range of residential and lifestyle opportunities and services they extend to the surrounding rural communities. The village centres will provide the highest level of convenience possible for small village and rural populations, considering limitations on the range of services imposed by small trade area populations.

The range of facilities and services in a village centre is not expected to exceed a general store or convenience store, a small hardware store, a service station, motor vehicle and machinery repairs and other small operations necessary to support tourism and the local community.

Yarrabah Aboriginal Shire Council

Yarrabah is an Aboriginal community situated on Deed of Grant in Trust land in the valley between Mission Bay and Oombunghi Beach, approximately 50km directly east of Cairns. It is a village activity centre.

Most employment in the area is provided through government services, council and the Community Development and Employment Program. Current community services include the health centre, hospital, child care/welfare centre, schooling, recreational facilities, youth centre, women’s centre, community hall, church and radio station. Infrastructure and services will continue to grow in this shire to ensure the community has appropriate facilities.

Wujal Wujal Aboriginal Shire Council

Wujal Wujal is an Aboriginal community situated on Deed of Grant in Trust land in the Bloomfield valley on the northern side of the Bloomfield River. The existing community facilities in this village activity centre include council offices, supermarket, community police, community hall, a health centre and other facilities such as a sports oval, church and community centre.
4.3 Urban form and master planning

Planning for the location, layout, land use mix and operational aspects of the region’s urban areas provides positive community benefits in accessibility to services, cost-efficiencies in the provision of infrastructure, quality of life and opportunities for economic activities.

Master planning of brownfield, greenfield or infill development sites can improve integration of state and local government interests at an early stage in the development process. It can ensure principles of urban consolidation are adopted, preferred housing densities are met, and environmental and infrastructure corridors are protected. Areas proposed for future master planning are:

- Mount Peter
- Atherton
- Mareeba
- transit oriented communities in Cairns.

Possible sites for transit oriented communities requiring further investigation include proposed public transport notes at Edmonton, Smithfield, Palm Cove, Redlynch, Earlville and Gordonvale, as shown on map 15.

The timing and process for master planning will be determined in consultation with state agencies and the relevant local government.

Objective

- Urban development is consolidated and compact, ensuring the most efficient use of land whilst maintaining function, cost effectiveness and a high quality living environment.

Land use policies

4.3.1 New development and redevelopment incorporates efficient and compact urban forms which encompass innovative urban planning design and building principles appropriate to the region (see section 4.5).

4.3.2 Higher density and mixed-use development is focused in and around regional activity centres and public transport nodes and corridors.

4.3.3 For large greenfield sites of regional significance, a structure plan and detailed master plan is prepared prior to developing the site (see part D).

4.3.4 For transit oriented communities, a structure plan and detailed master plan is prepared prior to development to ensure housing density, mixed use objectives and public transport linkages are achieved.

4.3.5 Greenfield and infill development is urban areas achieves urban consolidation and maintains the region’s character and identity.

Explanatory notes

Urban form relates to the internal layout of urban areas and the relationship between land use activities, infrastructure, services, transport and the surrounding landscape and environment.

Many towns and villages have evolved over time, often with insufficient thought given to the most appropriate location of different land uses. Local government planning schemes are the primary mechanisms for planning and managing the urban form. Maximising the performance of planning schemes and applying best practice is critical to providing efficient and effective urban forms.

Best practice principles for FNQ include:

- development of mixed housing types
- higher residential densities in new and existing urban areas
- joint venture arrangements between land-holders on a local area basis to reduce development inefficiencies arising from fragmented development
- energy efficient subdivision and building design to suit the region’s tropical environment
- incorporation of emergency service requirements, such as tsunami warning evacuation routes, into planning, design and construction
- multiple use of land and mixed land use to consolidate and revitalise the urban environment.

Most new residential development in the region has been occurring as greenfield development, typically on the fringe of existing urban areas or isolated rural residential development. Unconfined urban sprawl is likely to have significant impacts on the region’s natural conservation and resource values.

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* Master planning and structure planning processes are described in more detail in Section Part D.
Redeveloping existing urban areas to cater for population growth is a priority in certain locations. Local governments must investigate and promote redevelopment opportunities in urban areas with good access to employment, services and facilities, taking into consideration community and social values.

To ensure urban development uses land efficiently, a robust and reliable system for monitoring the land and housing supply market will be established by the Department of Infrastructure and Planning. This will be established in conjunction with local government and the development industry to enable the rate and type of development, land stocks, dwelling yields and population changes to be monitored.

The population capacity will be reviewed regularly and appropriate adjustments made to ensure that 15 to 20 years of projected regional land supply is maintained. Dwelling targets for regional activity centres will be developed in consultation with local government and will be based on the most current information available. The targets will consider:

- current and projected population of a local government area
- predicted occupancy rates for detached and attached housing
- transport and urban form
- amount of available greenfield development areas.
4.4 Housing mix and affordability

Housing development in FNQ has been historically dominated by detached housing on individual allotments. To date, higher density housing opportunities have been mostly confined to the Cairns central business district and the inner suburbs. Greater opportunities are needed for attractive and innovative medium residential density housing and consolidation to meet population increases, use land more efficiently and provide affordable housing in the future.

To achieve a mix of housing choice and ensure housing affordability, all new greenfield and redevelopment projects should ensure the provision or retention of a minimum level of affordable housing to cater for both the entry buyer and low-income housing market.

Objective

- A range of housing types are provided to meet the diverse needs of the community.

Land use policies

4.4.1 The urban footprint areas provide a residential land supply of 15 to 20 years across the region to ensure sufficient land is available for residential development to meet the needs of the region's projected population, consistent with the preferred settlement pattern.

4.4.2 A variety of housing options are provided in major residential developments to meet diverse community needs, and achieve housing choice and affordability.

Aligned policies

4.4.A Local government monitors the rates of development and availability of land stocks on a regular basis.

Explanatory notes

Housing affordability and mix means the ability of people to pay for their housing (whether purchasing or renting) and the appropriateness of available housing to meet community needs. Providing diverse and affordable housing options is a significant issue at the local and national level. Housing affordability issues generally affect new home buyers and low to middle income households. The Department of Infrastructure and Planning has developed the Queensland Housing Affordability Strategy which will ensure that the state's land and housing is on the market quickly and at the lowest cost.

Regional plan policies can influence the supply of appropriate and affordable housing in FNQ by promoting a variety of housing forms and ensuring sufficient land is available for development in urban footprint areas, so the market is not constrained.

All new greenfield and redevelopment projects should consider the retention and provision of a minimum level of affordable housing, to cater for both the entry buyer and low income housing market.

Higher density housing will provide greater options for the changing household structure—the trend toward one to two person dwellings. Many activity centres in the region could also accommodate higher densities of residential development, which would maximise affordability and improve access to employment and services. Achieving higher densities may require a major cultural shift in the provision of housing, particularly in rural activity centres.

Housing and land costs and supply will be monitored across the region on a regular basis to gauge market performances and identify potential problems as they arise. There should also be a review of government housing and housing assistance programs to ensure they are compatible with improved housing affordability in the community.

There are a number of factors outside regional planning that impact on housing affordability, such as market influences, interest rates, finance industry structure and government housing policies.
4.5 Urban character and design

The regional plan seeks to protect and maintain the highly valued tropical character and identity of the region in the face of strong growth. A key part of FNQ’s character and identity is the tropical nature of the region and the built environments and lifestyles which have evolved because of it. Tropical design principles underpin and reinforce good sustainable design. Incorporating tropical design principles into future development at the neighbourhood, suburb, town and city level will protect the region’s tropical character and identity. Tropical design principles for FNQ include:

- Protect the integrity and character of the hills, mountains and ridgelines which frame and define the tropical environment.
- Integrate natural elements and the natural environment with development of the built environment.
- Design for climate including orientation to allow for breezes, daylight and sunlight and opportunities to enjoy the natural environment.
- Balance building heights with vegetation similar to heights of mature shade trees where appropriate.
- Incorporate local vegetation in planned and existing transport corridors including all roads, rail corridors, and bicycle and pedestrian routes.
- Provide shaded open space areas, streets and pedestrian pathways with continuous vegetation and large shade trees.
- Create an open and permeable built environment where design allows for the presence of nature, water and a sense of openness and movement.
- Develop outdoor centres for dining, entertainment and recreation, and sheltered access to public services and facilities, particularly public transport.

The suburbs of the FNQ region contain many old homes and buildings rich in character. As the demand for units and other high density residential houses increases, particular care must be given to the planning and design of new buildings to ensure the style and character of the area is enhanced rather than eroded.

Although the whole region is classified as tropical, it is recognised that there are sub-regional variations such as coastal, range, tableland, rural and river valley, which each have different built forms and lifestyles. Maintaining this unique built form strengthens the local sense of place and identity.

Objective

- Urban development enhances the unique character of the region and is designed to minimise energy consumption and exposure to natural hazards, while maximising social cohesion.

Land use policies

4.5.1 New urban development reflects the distinct cultural and tropical lifestyle values of the region, responds to climatic characteristics and encourages sustainable use of natural resources.

4.5.2 Tropical design principles are incorporated within all aspects of urban planning and development.

4.5.3 Sustainable building design principles are incorporated within all aspects of urban planning and development.

4.5.4 High quality open space and public places are incorporated within urban centres (see section 3.5).

4.5.5 Sub-regional variations in built form, design and lifestyle are identified and maintained.

4.5.6 The amenity of residential areas is protected from the impacts of major transport facilities (highways, ports, railways, airports), high impact industrial areas and other incompatible uses.
4.5.7 Adequate and accessible open space is provided within the built environment that allows access to the natural environment and supports an outdoor lifestyle.

Explanatory notes

Liveability describes the overall attractiveness of an area as a place to live and is a key reason why people move to and stay in FNQ. The term relates to the character of the urban form, which is the relationship between buildings, public and private spaces, local streets, neighbourhoods and natural landscapes, and to the general aesthetics and feel of the urban environment (see section 3.5).

Local governments, through local planning schemes, identify and incorporate local urban character and cultural values and designs in all development projects. State government and local councils should lead by example through the design of public buildings that reflect the region’s character and climate and complement the surrounding urban, rural and natural environment.

Rapid urban growth can swamp existing urban values and lead to a loss of local amenity, community identity and cultural heritage. The objective of the urban character and design policies is to achieve a regional built environment that protects and enhances quality of life while achieving sustainable outcomes through innovative design.

Councils should ensure all new development, redevelopment and design of public areas, urban neighbourhoods and civic buildings reflect the tropical character and identity of the region. Developments should incorporate:

- regional and local open space
- attractive streetscapes with shade trees
- cultural and social values
- water and energy use efficiencies
- a choice and diversity of buildings.

This will be achieved through developing flexible performance-based mechanisms which protect, manage and enhance cultural diversity, urban character and encourage innovation in urban design.

Numerous programs, policies and guidelines are available which can assist councils and developers in identifying appropriate urban design criteria suitable for FNQ. These include:

- Cairns City Council—Cairns Style Guide
- Queensland Government—Smart Housing Program
- Queensland Government—ClimateSmart 2050 Living Program
- Queensland Building Code—Sustainable Buildings
- Transit oriented community principles (see part D)

A tropical design standard for residential, commercial and public uses should be developed and applied for FNQ addressing climate appropriateness, reduction in greenhouse gas emissions, character protection and sustainable use of natural resources.
4.6 Rural residential development

The draft regional plan recognises rural residential as a lifestyle choice in the region but will ensure it is managed on a sustainable basis with reasonable access to services and does not adversely affect the environmental and economic integrity of the region.

Over the last two decades, rural residential developments have emerged as a major component of the housing market in FNQ. Large rural residential estates have been established in localities near existing centres such as Cairns, Mareeba, Atherton, Herberton and Ravenshoe. A considerable proportion of this development is taking place on areas of good quality agricultural land or areas of high ecological significance.

There are large amounts of land designated for rural residential development in the region that are not yet developed. The preferred settlement pattern for FNQ has taken into account the existing availability of land allocated for this purpose. An assessment of land zonings across the region (DIP, 2007e) has determined that there are adequate supplies (in some cases an over-supply) of rural residential development for the next 20 years and as such, no further rural residential development is identified in the regional plan.

The majority of rural residential development is located within the rural living area or urban footprint land use categories. Rural residential development may continue to occur as per the local government planning schemes in these areas.

Any future rural residential development in these areas must ensure that it is managed appropriately by providing higher density yields, while maintaining environmental and landscape values.

There are opportunities to redevelop existing rural residential areas to higher densities with an urban footprint area through re-subdivision, introduction of urban village nodes, and increasing allowable development densities in areas not yet developed.

Areas currently zoned or designated for rural residential purposes in a local government planning scheme and located in the regional landscape and rural production area will have a limited opportunity to develop for this purpose and are affected through the draft state planning regulatory provisions.

Objective

- Manage rural residential development to prevent fragmentation and alienation of agricultural land and loss or degradation of areas of high ecological significance (see map 5), and ensure efficient use of land and cost-effective delivery of services and infrastructure.

Land use policies

4.6.1 Future demand for rural residential housing is provided from within the existing stock of appropriately zoned land.

4.6.2 The rate of growth of rural residential developments within existing stock of appropriately zoned land in areas suitable for future urban development is limited.

4.6.3 Construction of residential dwellings and ancillary structures within land zoned for rural residential purposes is confined to a building footprint which reduces the exposure to natural hazards and minimises loss of native vegetation through locating structures in existing cleared areas and co-locating service corridors.

Explanatory notes

Rural residential development is an urban activity characterised by large lots of between 2500 m² to one hectare in a semi-rural setting. Allotments are generally connected to a power supply, and not connected to reticulated sewerage or water.

Rural residential living is a desired form of urban development by some sectors of the community however it has environmental, social and economic implications that need to be taken into account in order to achieve wider regional objectives.

Land areas required for rural residential development are significantly greater than conventional urban development. Rural residential developments have very low populations and housing densities (under four dwellings per hectare). They consequently take up significant areas of land to accommodate a small proportion of the population. This means available land resources are used more quickly than conventional residential development. This places increased pressure on urban areas to expand which in turn impacts on land with high economic or environmental value. In addition, many rural residential development areas are located away from established urban centres, thereby providing poor access to trade and employment opportunities, social services such as schools, school buses, medical facilities retail shops and community facilities.

As rural residential communities develop, pressure is growing for additional services and facilities which are difficult to provide in a cost effective manner. Residents of rural residential areas often suffer stress-related problems due to poor access to services, facilities and employment opportunities. Management of natural hazards such as bush fires must also be a consideration for rural residential development (see section 4.7).
4.7 Mitigation of hazards

Various parts of the FNQ region are at risk from natural hazards such as cyclones, floods, storm tide inundation, landslides and bushfires. These risks have been given greater emphasis through the growing awareness of the effects of climate change. Development in natural hazard prone areas is a significant community safety issue. The expense of the repercussions of developing in these areas is a significant burden on government, business, industry and individuals. Most significantly, individuals can be severely impacted by the loss of homes and personal possessions when natural disasters occur.

Population growth, lifestyle changes and increased economic activity are generating pressure for development in these areas. In particular, this is occurring along the coast and waterways, in bushlands and on steep slopes. Further development in these areas exposes the community to risks and should be avoided.

Objective

- Development minimises the potential adverse impacts of natural and industrial hazards on people, property and the environment, leading to a safer community and better quality of life.

Land use policies

4.7.1 Measures to mitigate potential adverse impacts of floods, storm tide inundation, bushfires, cyclones and landslides are imposed by identifying:

- Natural hazard management areas
- Planning scheme strategies and measures
- Development assessment
- Land management practices.

4.7.2 New development in existing coastal centres incorporates design mechanisms to ensure the effects of natural disasters are mitigated (see section 1.2).

4.7.3 Measures are imposed to prevent crocodiles from entering new development and redevelopment in locations close to the ocean, watercourses or drains.

4.7.4 Maritime infrastructure is designed and located to minimise the potential for boat strike impacts on marine wildlife such as turtles and dugongs.

4.7.5 Provision is made for managing retreat from existing developed areas likely to be severely affected by storm tide inundation (see section 1.2).

4.7.6 The potential adverse impacts of hazardous and high impact industries is addressed by identifying:

- High impact industry areas
- Planning scheme strategies and measures
- Development assessment (see policy 1.3.2).

4.7.7 Emergency service and disaster resilience needs are addressed in regional infrastructure planning and development.

4.7.8 New developments are built to withstand severe cyclones.

Explanatory notes

Mitigation

The preferred approach to dealing with natural hazards is to avoid future development in hazard prone areas. In developing the preferred settlement pattern for FNQ, natural hazards were considered a constraint to future development. This ensured that future urban areas are not located where hazardous events are likely to occur.

Most local government authorities in FNQ have addressed disaster management in some way, as required under the Disaster Management Act 2003. However, state and local governments need to coordinate regional data sets and apply a consistent approach in identifying natural hazard areas and associated risks. This can inform land use planning, development assessment and disaster management plans.

Once identified, these areas are to be mapped in local government planning schemes. Conditions should be placed on development where appropriate.

Adaptation

There are a number of existing urban settlements in the FNQ region that are susceptible to the potential impacts of natural hazards. In these areas an adaptation approach will strengthen the community's overall resilience to potential impacts. This involves improved prevention, detection, response and recovery systems to protect the community, environment, businesses and infrastructure from the threat of disasters.

Regional infrastructure facilities and services should be strengthened where appropriate. These can be addressed through local government planning schemes and structure and master planning. Land use planning in these areas should ensure new development and redevelopment minimises risk to people, property and the environment and mitigates the cost of recovering from natural disasters.
The potential of major emergency events requires a land use planning approach to ensure efficient delivery of emergency services to the community and evacuation of residents and visitors in affected areas. The provision of a world-class emergency and disaster management service will result in a safer community and better quality of life for FNQ residents, particularly in coastal areas where risks are high.

The Queensland Government has a number of existing policies to assist in the management of natural hazards, including:

- State Planning Policy 1/03: Mitigating the Adverse Impacts of Flood, Bushfire and Landslide
- Guide for the State Coastal Management Plan: Mitigating the Adverse Impacts of Storm Tide Inundation.

Major emergency situations including floods, fires, chemical hazards and traffic accidents and the associated necessary response by emergency services need to be considered when planning new development. Useful references include the district disaster management plans and disaster district community recovery Plans for the Cairns, Mareeba and Innisfail districts.

Local governments need to identify areas with high probability of acid sulphate soils to ensure development to which State Planning Policy 2/02 applies is assessable against the scheme and includes a code consistent with section 5 of the policy.

In addition, the Department of Infrastructure and Planning, in partnership with the Australian Building Codes Board and James Cook University, is investigating the effects of cyclones and climate change on buildings. This will better inform government on whether current building codes are sufficient to resist potential global warming impacts. The department is also working on improving State Planning Policy 1/03 with respect to bushfire prone areas.
5. Economic development

Desired regional outcome
A strong, ecologically sustainable and diversified economy, building on new and existing regional and sub-regional competitive advantages and specialisations.

FNQ has a vibrant economy that has demonstrated strong growth over time. The strength of the region’s economy lies in the quality and depth of its primary and tourist industries which underpin economic activity.

The region’s close proximity to many of Australia’s trading partners in Asia and the South Pacific presents many opportunities for greater economic activity. FNQ has the potential to be a leader in tropical and climate change expertise, building on its developing resource base in knowledge and service industries.

The continuing movement of people into the region will drive employment forward. The region’s capacity to create employment and support the preferred pattern of development requires specific sub-regional strategies focusing on:

- preserving the region’s natural economic and environmental advantages
- diversifying the region’s economic base
- continuing to provide land for industry and economic activity that creates employment close to where people live
- continuing to support primary industries in rural locations
- developing skills to support industry and regional growth.

Other factors that support economic growth and development include providing infrastructure and services such as transport and freight networks, education and research institutions and water and energy.

The region is an attractive place to live and work, with its tropical lifestyle and high quality of life. Maintaining this attractive lifestyle will be important in attracting skills and investment for a sustainable economy.
5.1 Economic growth and diversification

FNQ has a growing economy traditionally based on agriculture and tourism industries. There are strategically important agricultural areas surrounding Mareeba—Dimbulah, Atherton, the southern Tablelands, the coastal plain between Cairns and Cardwell and the Mossman area. Tourism is based on the Wet Tropics and the Great Barrier Reef World Heritage Areas. Mining industries are emerging in the Mt Garnett and Chillagoe corridor.

Continued diversification of the region's economic base is important to minimise impacts of global trends and major events—including from climate change—on the region's overall economy. The natural and rural values provide great economic opportunities and further economic pursuits must ensure those values remain. This relatively narrow economic base of the region, however, places it in a vulnerable situation. Tourism, mining and to a lesser extent primary industries, are susceptible to external influences such as international trends and commodity markets. The region's economic base needs to diversify in order to develop greater robustness. This will provide a wider range of employment and economic opportunities for the community.

Cairns is the major commercial, business and service centre for FNQ, Cape York, the Gulf of Carpentaria and Papua New Guinea. Cairns accommodates key regional infrastructure such as the international airport, seaport and James Cook University. Innisfail, Tully, Atherton and Mareeba are major regional activity centres that provide commercial, business, retail and services for the urban community and surrounding rural areas.

The region's employment opportunities are largely concentrated in Cairns. A greater range of employment options must be provided outside of Cairns in locations convenient to residential areas to ensure employment options and diversity is available across the region. The draft regional plan supports the expansion of established areas of economic activity and identifies areas of emerging and future employment (see maps 11a and 11b).

Objectives

- A diversified regional economy characterised by industries and economic activity centres which build on existing regional and sub-regional competitive advantages and specialisations.
- The region's economic base diversifies, based on industries and activities which complement the significant environmental values of the region.
- Economic development minimises the region's contribution to the causes of climate change and ensures industries are resilient its impacts.

Land use policies

5.1.1 Land use planning and development activities provide opportunities for economic growth, while minimising impacts on the environment and the community.

5.1.2 Economic activities with a direct connection to the rural, natural or resource value of the surrounding area are encouraged in regional landscape and rural production areas, provided they do not include residential development and are of an appropriate scale.

5.1.3 Job creation, employment diversity and opportunities are maximised in centres of economic activity, including town centres, major industrial areas, ports, knowledge centres, and mining areas.

5.1.4 Suitable sites for future economic activity areas, including industrial land and appropriate buffers, are identified and protected from other forms of development in local government planning schemes.

5.1.5 Economic growth occurs in an ecologically sustainable manner to maintain and protect the significant natural, cultural, spiritual and scenic amenity values of the region.

5.1.6 Self-containment throughout the region is promoted through the integration and co-location of a mixed range of employment opportunities with residential development.
Part E—Regional policies

Aligned policies

5.1.A Support is provided for economic employment opportunities for Indigenous communities.

5.1.B Regularly updated economic data, particularly following release of census data, is used for economic planning and development for the region.

Explanatory notes

Diversifying the regional economy is a primary aim of the Queensland Government's Centres of Enterprise initiative. The initiative aims to grow FNQ's general aviation sector and develop commercial opportunities across a range of other sectors that enhance specific expertise developed in the tropics.

The Leading Smart Regions initiative and the Growing Regional Business—Growth Program are designed to support traditional and emerging industries, attract more businesses to Queensland's regions, create new jobs and increase the export capacity of existing companies.

Economic development strategies already exist or are being developed for some of the sub-regions and existing local government areas. Climate change and its potential impacts need to be considered when developing economic strategies. The potential impacts may provide threats to the tourism industry and opportunities for the agricultural industry.

The increasing role of Cairns as a regional, domestic and international airport hub is likely to increase employment opportunities in aviation and related industries. This will include expansion into more sophisticated services of the education and training, finance, brokerage, insurance, aviation and marine industries.

There is a significant shortage of land for future industrial expansion in the northern and southern precincts of Cairns. Locational imbalances also exist at Cardwell-Tully and Malanda-Milla Milla. Priority should be given to protecting and providing suitable land for future industry in these areas. The availability of affordable land is often an impediment for the establishment of new industries.

Emerging major employment and economic activity areas include:

- future industrial land at Edmonton, east of the current Bruce Highway
- Edmonton town centre, west of the current Bruce Highway
- industrial land at Mareeba
- mining and extractive industries in the Mt Garnett to Chillagoe corridor.

Mixed use development at Edmonton will contribute to a vibrant and sustainable town centre, which balances key economic and community goals. The Edmonton town centre will be positioned around the Edmonton public transport station and will integrate multiple modes of transport including bus services, taxis, cycling, walking and private vehicles. The Edmonton town centre will grow into a transit oriented community providing a range of local job opportunities for residents in Edmonton and the southern corridor.

To provide employment close to where people live, existing major employment and economic activity areas will also need to grow. The main centres are:

- Cairns CBD
- Cairns airport and seaport
- Smithfield town centre
- entertainment, cultural and convention centres in Cairns
- educational and research centres at James Cook University
- Innisfail, Tully, Atherton and Mareeba principal activity centres
- Mourilyan seaport.

Sustainable economic development and employment have been identified by the Queensland Government as a priority for Aboriginal and Torres Strait Islander communities including:

- assisting Indigenous people to increase their economic independence and employment opportunities
- improving their quality of life by building local and regional business capacity.

An Indigenous Business Development Grant Scheme has been established for this purpose.
5.2 Industry and business development

The FNQ region is in a strong position to build on its natural competitive advantages, which are centred on tourism and primary industries. This has driven specialisation in aviation and marine services and tropical expertise. There is also significant potential for the region to expand business opportunities into new areas to capitalise on the region’s strengths.

Manufacturing in the region is associated with the processing of primary products and providing equipment and engineering services to agriculture, mining and tourism. The region has a diverse manufacturing sector that includes industries such as food and beverage, biotechnology, aviation, marine, electronics, general light manufacturing, steel fabrication and boat building. With close proximity to Papua New Guinea and other Pacific markets, the sector is well positioned for the future.

Marine tourism and commercial and recreational fishing are significant economic activities for the region, recognised nationally and internationally. The marine industry is well established and supplies products and services to defence, recreational and commercial markets. The diversity of coastal conditions allows every aspect of sea training to be undertaken. Cairns is a major supplier of marine training in the state and this sector growing rapidly.

Mining in the region has re-emerged on the wave of a global resource boom. This has stimulated exploration and mine development. Herberton has become a major zinc producer and Mareeba has considerable metallic and non-metallic mineral diversity. There is also considerable activity in the adjacent Etheridge Shire that could generate downstream activity in service centres in the region.

The region has strong links to external mining activities as a base for fly-in/fly-out mining operations in remote areas. Providing services to the mining industry is important to the regional economy and may provide opportunities for future economic diversification and growth.

Construction, wholesale and retail, finance and business services are also significant industries primarily based on supporting primary industry, tourism and the needs of a growing regional population.

Investment in buildings, equipment and infrastructure is expected to continue to drive growth of industry in the region. Future growth opportunities include growing service areas nationally and internationally, and support for the growing biotechnology industry.

Knowledge and service industries cater to an emerging world market, particularly in developing nations. These industries include education, research, training, health and professional services.

**Objective**

- Promote and expand business activity, increase business competitiveness and encourage regional exports and import replacement.

**Land use policies**

5.2.1 Future mining and extractive industries and associated processing operations are protected from conflicting land use and supported by appropriate infrastructure.

5.2.2 An adequate supply of land to accommodate future growth in operations, and suitable facilities to support diversified aviation and marine trades and services, are provided at air and sea ports.

5.2.3 Opportunities for expansion of business and industry are facilitated and promoted through the identification, protection and planning (including reuse and rehabilitation) of suitable sites.

5.2.4 New business and industry initiatives in regional village activity centres, including home based business, that build on local strengths and opportunities are facilitated and supported.

**Explanatory notes**

The government has named Cairns and the FNQ region as centres of enterprise for regional aviation, tropical expertise and marine. The initiative works to build the economic strength of Queensland’s regions.

A wide range of programs support economic and business development. These include:

- the Queensland Investment Incentives Scheme
- Significant Regional Projects Scheme
- revised Queensland Industry Development Scheme
- an industry and sectoral projects scheme.

These programs are aimed to encourage:

- innovation
- greater productivity
- growth in exports
- stronger regional economies
- new investment
- improved business capability.
5.3 Innovation and technology

The region has potential to become an internationally-recognised centre of tropical expertise. Scientists and practitioners are developing unique knowledge through adaptation to the local environment in areas such as tropical health, environmental management, primary industries, and tropical living—encompassing Aboriginal and Torres Strait Islander culture, built environment, disaster management, tourism and education.

Excellent educational institutions—from primary to tertiary levels—and vocational centres serve the region. Domestic and international demand continues to grow. The international education industry is a major contributor to the local economy. In 2003 more than 14,700 students came to Cairns to study.

The ongoing development of the James Cook University Smithfield campus will be a key factor in diversifying economic activity and increasing access to education and training in the region.

A key issue for industry is developing the skill base and critical mass required to service the increased demand for services. In many industries there is currently a shortage of skilled and experienced workers. The reasons for skill shortages are complex and varied. It is likely to be a symptom of economic conditions, demographic change, cyclical changes in labour demand, emerging demands of new technology and regional issues.

Objective

- Foster innovation and develop technological capabilities in the region to enhance existing and emerging industries.

Land use policy

5.3.1 The development of a range of regional education and training infrastructure that is accessible and attractive to the community and international students and supports skills development in the workforce is encouraged in the principal and major activity centres (see section 4.2).

Aligned policy

5.3-A Research and innovation infrastructure is developed in the region.

Explanatory notes

James Cook University delivers world-class education and research outcomes across a range of disciplines, with particular emphasis on subjects of special relevance to the tropics and its location in Australia and the Asian-Pacific region. Currently there are 3,200 students in Cairns but there is potential for this number to grow.

The Australian Tropical Forest Institute is housed on the James Cook University Cairns campus, and features the Tropical Landscapes Joint Venture and Australian Tropical Herbarium. This combines collections from the Australian National Herbarium in Atherton, the Queensland Herbarium in Mareeba and the university campuses with state-of-the-art molecular science laboratories essential for modern plant research. It is also home to the Reef and Rainforest Research Centre.

The establishment of a School of Tropical Dentistry will provide a significant boost to James Cook University and to the dental workforce in northern Australia in the long-term.

Tropical North Queensland TAFE provides vocational education and training for more than 13,000 students annually from six campuses located at Cairns, Innisfail, Tully, Atherton, Mareeba and Mossman.

There are a number of private English language schools in Cairns catering for international students.

The Cooperative Framework on Tropical Science, Knowledge and Innovation was formally entered into by the governments of the Northern Territory, Queensland and Western Australia in 2004. This 10 year agreement expresses the desire and commitment of the three governments to work together to:

- realise the potential of tropical science, knowledge and innovation to enhance the economic performance of northern Australia and the nation as a whole
- protect the unique tropical landscapes
- improve the quality of life of people living in the tropics of Australia and other nations.
5.4 Primary industries

Primary industries form a significant sector of the economy. Activities include agriculture, horticulture, dairy, fishing, aquaculture, mining and forestry. These industries have benefited from high quality natural assets including agricultural land, water, forests and fishery resources.

The gross value of (farm gate) production of primary industries in FNQ is estimated at $1.1 billion in 2006-07, accounting for almost 11 per cent of Queensland’s primary industry production. Total primary industry gross value of production in FNQ has grown at an average of 4.7 per cent per annum since 1999–2000—higher than the state average of 3.1 per cent. The value of major processed products added an extra $553 million in 2006.

There are substantial differences in production areas and crops within the region. Sugar and bananas dominate coastal areas and dairying does on the Tablelands. Other primary agricultural products include vegetables, tropical fruits and substantial beef cattle industries.

In 2001 the industry employed approximately 7870 people, accounting for 8.8 per cent of total employment in the region.

Fish habitats form the basis of the commercial, recreational and Indigenous fisheries in Queensland. These three fishing industry sectors are important from an economical, social and cultural perspective.

The commercial fishing catch is worth $15-20 million annually to the regional economy while recreational fishing is a popular leisure activity with ongoing economic benefits from local and tourist participation. These fisheries have significant flow-on benefits for regional and national economies. Fishing also has significant cultural heritage value to the Indigenous communities in FNQ. Other marine related industries include cultured pearl production and the aquaculture farming of clams, redclaw, prawns, fish and crocodiles.
Part E—Regional policies

Objective

- Maintain a profitable and sustainable agricultural sector in rural areas and fishing industry adjacent to coastal areas, producing and marketing a diverse range of products for domestic and export markets.

Land use policies

5.4.1 Strategically important agricultural land is maintained for current and future productive agricultural use, considering ecological sustainability.

5.4.2 Sites and corridors for infrastructure which supports agricultural activity, are maintained and protected to support the operation of those facilities and the ongoing operation of agricultural industries.

5.4.3 Threats to primary production from incompatible development are identified and managed through land use planning.

5.4.4 Potential conflict between primary industries and urban activities is managed through land use planning and, where appropriate, developer established buffers.

Aligned polices

5.4.A A sustainable fishing industry located adjacent to coastal areas is facilitated, producing and marketing a diverse range of products for domestic and export markets.

5.4.B Strategically and historically important fishing grounds are identified and maintained for current and future fish harvesting commensurate with ecological sustainability.

Explanatory notes

There are considerable opportunities to enhance the region's agricultural industry through expansion of existing activities, development of value-adding processes and the introduction of new crops.

State Planning Policy 1/92: Development and Conservation of Good Quality Agricultural Land, protects agricultural land as an economic resource. The Department of Natural Resources and Water has mapped areas of strategically important agricultural land that include good quality agricultural soils and associated infrastructure, such as processing facilities and haul routes, that support the agricultural industry (see map 8). Planning Guideline Separating Agricultural and Residential Land Uses (State Planning Policy 1/92) provides guidance on establishing buffers to protect agricultural land.

Options are also being investigated to extend existing and new irrigation schemes to increase the productivity of agricultural land.

Management of fish habitats is delivered through the Fisheries Act 1994. The key provisions deal with marine plants and other fish habitats, declared fish habitat areas and waterway barriers. Marine plants include saltmarsh, mangrove and seagrass communities and may include Melaleuca and other tidal plant species.

Private development extending onto fish habitats is to be avoided. Where there are no alternative locations for constructing new public infrastructure on fish habitats, the development impacts should be temporary or minimised through design, scale of development, and best management practice during construction and operation phases.

Where development impacts to fish habitats are likely, appropriate offset and onsite mitigation measures are to be addressed and implemented. Offsets may include land exchange of fish habitats, greater security for existing fish habitats, restoration of degraded fish habitats and funding of fish habitat research to facilitate better management.

Department of Primary Industries and Fisheries departmental policies, codes and guidelines on the management of fish habitats document in detail the specific management principles and technical considerations for:

- marine plants
- declared fish habitat areas
- insect control
- dredging and extractive activities
- offsets
- mitigation
- waterway barriers
- restoration
- buffers
- ponded pastures
- erosion
- beach replenishment.
5.5 Tourist development

Tourism has been the fastest growing industry in FNQ over the past three decades and provides significant employment benefits for the region. The development of the Cairns International Airport, improved access to high quality natural attractions such as the reef and rainforests, and increased global travel has contributed to this growth.

Tourism fast facts

- Approximately 2.3 million people visited the Tropical North Queensland tourism region in the year ending June 2007.
- FNQ is the largest destination area for international visitors in Queensland.
- Tourism expenditure in FNQ was $2.1 billion in the year ending 2006.
- Direct tourism related employment was 16,619 in 2001.

Sources: The Economic and Social Impacts of Tourism, FNQ Planning Region, DIP (2007f) and Smart Stats for QLD—as at 5 October 2007, Tourism Queensland

The region’s tourism industry is predominantly based on natural and cultural features. Tourist activities are primarily concentrated between Cairns and Cape Tribulation along the coast, and those areas of the Great Barrier Reef with direct access from Cairns, Port Douglas and Mission Beach. Key visitor attractions include the Great Barrier Reef, the Wet Tropics Rainforest, scenic landscapes and natural areas and a tropical climate. Protection of the natural attractions and character of the region is important to the sustainability of the tourism industry in the region.

Although the tourism industry is looking to diversify into areas such as cultural and business tourism, nature-based activities are expected to remain the major draw card and promotional product for the region. Sustainable opportunities must be identified and developed to cater for nature-based tourism needs over the long-term. Future opportunities in the tourism sector lie in:

- the potential to increase the region’s business tourism market
- ecotourism with the presence of two World Heritage listed sites side by side in the region
- the expansion of cultural tourism.
**Objective**

- FNQ's international reputation as a world-class destination for nature-based and sustainable tourism is maintained and enhanced.

**Land use policies**

5.5.1 Tourism developments incorporating a residential component are located only within the urban footprint areas.

5.5.2 Small scale tourism development located within the regional landscape and rural production area must:

a) minimise impacts of development on good quality agricultural land
b) not occur in areas of high ecological significance (see map 5)
c) increase connectivity of ecological areas, where possible, through rehabilitation of native cover
d) reflect that the nature and scale of the tourism activity is secondary to the primary rural use when developments are located within strategically important agricultural land.

5.5.3 Medium to large scale tourism development in the regional landscape and rural production area is managed through a precinct planning approach (see section 2.2).

**Aligned policies**

5.5.A Ecotourism infrastructure development and maintenance (such as visitor facilities) reflects best-practice minimal impact design and procedures appropriate to the setting and maximise presentation opportunities.

5.5.B Safe, reliable and appropriate access to ecotourism attractions is provided.

5.5.C The cumulative number, location and type of visitor sites is managed so that they do not adversely affect World Heritage values while maximising options for presenting the area.

5.5.D Adequate and appropriate levels of private and public infrastructure are provided on a timely basis to support and enhance the ecologically sustainable development of the leisure and business tourism industry.

5.5.E The development of sustainable cruise shipping infrastructure and services is facilitated.

**Explanatory notes**

FNQ offers a choice of tourism styles, from conventional hotels and apartments in main centres such as Cairns and Port Douglas to small-scale nature-based tourism ventures focused on the natural environment. The draft regional plan aims to maintain a mix of tourism choice by focusing medium to large scale tourism developments in urban footprint areas, while allowing small-scale tourist developments within regional landscape and rural production areas. This also allows for opportunities for economic diversification for rural landholders.

A small-scale tourist accommodation facility, such as backpacker hostel or farmstay, may be located in the regional landscape and rural production area, provided the tourism activity has a direct connection to the rural, natural or resource value of the area, does not dominate rural production functions on strategically important agricultural land and does not impact on areas of high ecological significance. A small-scale tourist accommodation facility is defined as a tourist facility that has a maximum capacity of 20 accommodation units, can house a maximum of 100 people and covers no more than 1000 square metres with buildings.

It is recognised that some larger scale tourism developments may be appropriate within the regional landscape and rural production area, but these require more detailed assessment of the possible impacts of the development on the landscape values, and on neighbouring communities. The infrastructure requirements to service the development, such as roads, power and water also need to be considered. A precinct planning approach is proposed, to enable an integrated assessment by both local and state government (see sections 2.2 and 6.1).

Integrated resorts which incorporate a residential component within the resort complex are not considered consistent with the landscape values of the regional landscape and rural production area. These would undermine the intent of the preferred settlement pattern for the region (see part D).

The Queensland Tourism strategy, combined with a Destination Management Plan for Tropical North Queensland, provides a detailed strategy for growing tourism in FNQ and Queensland as a whole. The tropical north Queensland destination management plan is a directional rather than a prescriptive document. It should be used as a guiding tool for the development of tourism strategies and business plans and as a basis for further planning and discussion between partners and stakeholders.

Tourism Queensland and Tourism Tropical North Queensland have undertaken a marketing campaign to encourage people to ‘change their latitude’. It is a global message with applications in both the domestic and international markets.

There are approximately 130 000 aircraft movements annually in Cairns. Cairns Port Authority is investing $180 million to expand and upgrade the domestic and international airport terminals to cater for the growing demands of tourism in the region.

The Queensland Cruise Shipping Plan provides a whole-of-government framework for developing cruise shipping by adding value to industry initiatives and planning, developing, managing and marketing cruising in Queensland waters.
6. Infrastructure

**Desired regional outcome**

Timely provision of infrastructure to meet community and industry needs in a cost effective and efficient manner, consistent with retention of the region’s environmental, social and economic values.

Rapid population growth and low density urban development in FNQ has made it difficult to provide well located and timely infrastructure. Increasingly, the form and density of development must be planned to assist in providing efficient and cost effective infrastructure and services. Infrastructure helps shape and attract development. The provision of new infrastructure and the maintenance of existing assets are strategic tools to achieve the preferred regional settlement pattern.

It is intended that key infrastructure will proactively support the preferred development pattern rather than react to demand. Key challenges include:

- maximising the use of existing infrastructure by managing it efficiently and effectively
- finding better ways to prioritise and coordinate new infrastructure projects
- establishing the correct balance between funding new infrastructure and maintaining existing assets
- harnessing innovative funding and delivery mechanisms.

Timely provision of appropriate infrastructure is also critical to achieving the government’s economic development and employment objectives. For example, development at Mount Peter is dependent on the availability of transport, energy and water infrastructure.
Part E—Regional policies

6.1 Infrastructure, planning and coordination

Significant cost and service efficiencies can be achieved by improving coordination between individual infrastructure agencies and between infrastructure, land use and economic planning agencies.

Infrastructure planning will be undertaken by the government to support the regional plan, establishing priorities for regionally significant infrastructure over the next five, ten and 20 year planning timeframe. Infrastructure planning will ensure state agencies align their infrastructure and service priorities with the regional plan. It will also provide greater coordination of infrastructure and services provided by state agencies and government owned corporations, as well as local government and the private sector.

Infrastructure planning is the principal mechanism for identifying, prioritising and delivering infrastructure projects to support the regional plan and is based on the principle that strategically focused infrastructure investment will help to lead and support the preferred pattern of development and achieve key policy outcomes. In some instances, this means implementation ahead of existing need.

Objective

- Infrastructure is proactively planned, coordinated and provided to support desired regional growth in an efficient and effective manner, minimising the region's contribution to the causes of climate change and build resilience to the impacts of climate change and peak oil.

Land use policies

6.1.1 Development in the areas planned for urban growth is appropriately sequenced to coordinate the provision of infrastructure and services.

6.1.2 Demand for resources and services is managed to influence consumer behavior in order to maximize the efficient use of transport, energy and water resources and delay the need for additional infrastructure and supply.

6.1.3 Key sites, corridors and buffer areas for current and future regional infrastructure and services are identified, preserved, protected and where appropriate, proactively acquired and managed.

6.1.4 Where adverse impacts cannot be avoided, impacts on key sites, corridors and buffer areas are minimised or mitigated in accordance with best practice.

6.1.5 New infrastructure corridors avoid areas at increased risk from flooding, storm surge, bush fires or cyclone damage due to climate change or are designed and constructed to mitigate the risk.

6.1.6 Development and infrastructure provision north of the Daintree River is managed to protect the iconic values of the area (see policy 2.1.3).

6.1.7 Local government takes account of Queensland Government infrastructure priorities, in preparing structure plans, master plans and priority infrastructure plans.

Aligned policies

6.1.A Desired regional growth is supported by coordinating, planning, prioritising and sequencing infrastructure through strategic plans, programs, budgets and statutory planning.

6.1.B Infrastructure is supplied in a coordinated, efficient and orderly way, and encourages urban development in areas where adequate infrastructure exists or can be provided efficiently.

6.1.C Opportunities for infrastructure providers to work collaboratively to coordinate the planning, provision and sequencing of infrastructure sites and corridors are encouraged and facilitated.

Explanatory notes

Infrastructure coordination takes place at national, state, regional and local levels. To ensure coordination with local government, the Queensland Government is holding regular sub-regional infrastructure forums with councils. These forums complement other state and local government infrastructure processes such as the Main Roads and Local Government Road Management and Investment Alliance 2002-2007 and will ensure a shared understanding of infrastructure issues and priorities.

In preparing structure plans, master plans and priority infrastructure plans9, local government should take account of Queensland Government infrastructure priorities.

To achieve the strategic intent of the regional plan, sites and corridors for infrastructure such as transport and freight networks, pipelines, dams, transmission and distribution lines must be identified and preserved well ahead of time. Where possible, infrastructure sites and corridors should avoid areas of high ecological significance (see map 5), particularly east-west corridors across

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9 Priority Infrastructure plans are prepared by Local Government in accordance with IPA Chapter 5, Part 1 and the Integrated Planning Regulation 1998 (s4 and19).
coastal lowlands. Infrastructure planning may identify a number of investigations where, dependent on circumstances, it would be prudent to preserve potential corridors and sites at an early stage (see policies 1.1.1 and 8.4.c).

Co-locating infrastructure has the potential to reduce the need for new infrastructure sites and corridors, thereby reducing the overall cost to the community. For example, emergency services, transport and public utilities could be co-located in generic infrastructure corridors.

It is important that development north of the Daintree River remains low key and sustainable to protect the values of the Wet Tropics World Heritage Area and character of the area. Adjacent settlements and development will be limited and provision of infrastructure networks will be minimised (see section 2.1).

The Queensland Government’s Smart State Strategy supports education, training and skills, research and development, and innovation. It provides funding initiatives for infrastructure to support research facilities and technology incubators.

Demand management aims to make better use of existing infrastructure by modifying consumer behaviour, rather than directing limited resources towards major new or upgraded infrastructure. The principles of demand management are commonly considered in relation to transport, water and energy resources.

Demand management initiatives can include a broad range of economic, social planning and regulatory tools, such as:

- educational or incentive measures to bring about voluntary changes to consumer behaviour, including reductions in use
- the introduction of technology to make better use of existing resources
- restrictive pricing measures designed to reflect the true cost or increase the comparative attractiveness of alternatives.

6.2 Infrastructure funding

Timely funding of infrastructure is required to ensure orderly development that supports the preferred settlement pattern. Funding of regional infrastructure must address whole-of-life costs to ensure equity between current and future beneficiaries and users. Where appropriate, options for funding and delivery of these projects will be evaluated through the Queensland Government’s value for money framework. This framework promotes innovation and ensures maximum effectiveness of planned investment.

Objective

- Facilitate efficient funding of infrastructure to new and existing urban areas.

Land use policies

6.2.1 State infrastructure agreements are developed between the Queensland Government and benefiting landowners and developers, where state infrastructure is provided.

6.2.2 Funding and charging mechanisms for infrastructure in the region are efficient, appropriate and transparent.

Aligned policies

6.2.A Funding and charging policies for infrastructure services in the region are efficient, appropriate and transparent.

Explanatory notes

The value for money framework was developed to provide the basis for the implementation of Queensland’s public private partnerships policy. It provides a comprehensive set of procedures by which to evaluate the full range of project delivery options for infrastructure and identifies the best value for money outcome for government and the community. The framework has been endorsed by the Queensland Government and applies to all infrastructure projects above $100 million over the life of the asset.

There are a number of funding and charging mechanisms used to finance infrastructure projects and services. These include:

- federal and state taxes
- local government rates
- state agency funding
- special purpose levies
- user charges
- private investment
- public private partnerships
- developer contributions.

The Queensland Government has a process to identify projects that are suitable for public private partnerships.

Where the government is providing major new infrastructure to facilitate development in the region, landowners and developers of new areas who stand to benefit significantly will be required to contribute to infrastructure provision through a state infrastructure agreement.
6.3 Energy

FNQ is experiencing increasing demand for energy, driven by strong population and economic growth, major industrial development and changing lifestyles, including increased use of electrical appliances such as air conditioning.

The two critical electricity issues facing the region are security of supply and the internal distribution of high voltage electricity. Long-term planning is essential to ensure that the region’s electricity needs can be met in an efficient, effective and environmentally acceptable manner and on a basis which gives greater guarantee of supply.

The Queensland Government is committed to ensuring that consumers have access to reliable, secure and competitively priced energy. At the same time, the government recognises the need to manage and reduce greenhouse gas emissions through cleaner energy production and enhanced energy efficiency to achieve a sustainable energy sector for the benefit of all Queenslanders.

Reducing greenhouse gas emissions from Queensland’s energy sector is a key energy policy focus. The government has introduced regulations and incentives that will ensure the state’s continued energy security, while balancing industry competitiveness and climate protection. These measures do not include nuclear power. In response to community concern, the government has legislated to prohibit the development of nuclear facilities in Queensland.

The Queensland Government has determined that there is a need to set a target for greenhouse gas emission reductions. In 2007 Australian government jurisdictions agreed that a national emissions trading scheme would place Australia on a path towards achieving a 60 per cent reduction in national emissions by 2050, compared with 2000 levels.

Objective

- Sustainable energy generation, transmission and distribution capacity is provided and maintained, using viable alternative energy sources where practicable, to service existing and future settlement patterns and meet the needs of a growing population and industry.

Land use policies

6.3.1 Viable renewable energy source generation, including sugar mill, landfill, hydro, solar and wind farm generators, are recognised as legitimate land uses and supported for their contribution to reducing greenhouse emissions.

6.3.2 Energy efficient principles are included in the design and layout of new urban areas and developments.
6.3.3 Demand management principles are implemented in the design and construction of new development to improve energy efficiency and reduce energy demands.

6.3.4 Underground electricity is provided in new urban areas where appropriate.

**Aligned policies**

6.3.A The reliability and security of electricity supply is enhanced to support regional growth.

**Explanatory notes**

The majority of the region’s electricity supply is provided from Powerlink and is distributed by Ergon Energy. The primary supply consists of two major powerlines, one along the coastal plain from Ingham and a second along the Tablelands through Ravenshoe and Mareeba.

There are hydro-electric power stations at Tully and Barron Gorge. Both of these facilities are used to supplement the supply from the state grid. Proposals have been considered for development of a large hydroelectric scheme known as the Tully-Millstream to expand the region’s generation capacity. The future of this scheme is dependent on the long-term strategies adopted by government to meet state and regional electricity demands. The scheme is currently not in the government’s forward electricity generation strategy.

On 3 June 2007, the Queensland Government released its *ClimateSmart 2050* strategy containing several new energy policy initiatives to assist Queensland in meeting the Queensland Government’s greenhouse gas emissions target. *ClimateSmart 2050* positions Queensland’s stationary energy sector to invest in new technologies and maximise energy conservation in Queensland businesses and homes.

Key elements of the Queensland Government’s new Smart Energy Policy (outlined in *ClimateSmart 2050*) to reduce greenhouse gas emissions through cleaner, diversified generation include:

- Queensland renewable energy fund
- 10 per cent renewable and low-emission target scheme
- solar feed-in tariff
- increase of the Queensland gas scheme target from 13 per cent to 18 per cent.

These new initiatives will stimulate investment in renewable energy and gas-fired power stations in Queensland to diversify the state’s energy generation mix, and provide support for households to install domestic solar power systems.

The smart energy policies will build on the outcomes already achieved by the Department of Mines and Energy in reducing the state’s reliance on coal based generation through:

- the Queensland 13 per cent gas scheme
- investment in renewable energy
- geothermal energy legislation
- green energy consumer products.

Renewable energy plays an important role in the state’s generation mix with biomass (primarily bagasse or sugar cane waste) the most commonly used renewable resource in Queensland. Currently the state has the capacity to generate approximately 400 megawatts of biomass-fired electricity. The use of biomass as an energy source has added value to Queensland’s sugar industry.

Currently, renewable energy generation accounts for 3.2 per cent of Queensland’s electricity generated each year. This includes both on- and off-grid electricity generation. Under the 10 per cent renewable and low-emissions target scheme, electricity retailers will be required to source 10 per cent of their annual energy sales from Queensland-based renewable and low-emissions generators by 2020.
The government has invested in a number of renewable energy generation assets in FNQ, including:

- Barron Gorge hydro station
- Kareeya hydro station
- Koombooloomba hydro generator
- Wind Hill wind farm.

As a result of national competition reforms, the electricity industry in Queensland operates as an open market. The government’s principal role in this market is to ensure a supportive investment climate exists which encourages timely investment to meet emerging demands.

The electricity generation sector is competitive, with substantial private sector interest in providing future generating capacity. The government will monitor investment activity to ensure there is adequate generation capacity for the region as it grows.

A major challenge for the gas industry in FNQ is the distance from gas supplies and lack of infrastructure such as pipelines. This limits the ability to provide gas distribution networks.

In ClimateSmart 2050, the government commits to all its office buildings being carbon neutral by 2020 and to offset emissions from the vehicle fleet, offsetting 50 per cent by 2010 and 100 per cent by 2020.

Houses built in new, master-planned communities will need to take account of tropical design principles to better recognise the important relationship that exists between the natural and built environments. This means houses will be more energy efficient and will add value to FNQ’s long-term housing stock (see section 4.5).

A workshop on energy efficient house design in tropical Queensland, held in 2005 in Townsville found that the fundamental features of good housing design for the tropics are air flow, shading and orientation. Other important design factors are insulation (including roof ventilation) and surrounding vegetation and other relevant landscaping features.

From 1 March 2006, changes to the Sustainable Building Queensland Development Code required new houses to be more sustainable, ensuring they use energy more efficiently. This is anticipated to result in new houses using 33 per cent less electricity. As part of these laws, all new houses will be required to have energy efficient lighting in at least 40 per cent of the house and greenhouse efficient hot water systems such as solar, heat pump or gas hot water

In 2006, the government committed to mandating a blend of five per cent ethanol in all petrol produced in Queensland by 2010. This mandate supports the government’s $7.3 million Ethanol Industry Action Plan to develop Queensland’s ethanol industry and future. This initiative will reduce greenhouse gas emissions by approximately 500 000 tonnes each year.
6.4 Waste

Urban growth will place pressure on local governments to deal with the waste generated by an increasing population. Local governments in the region are already actively seeking ways to manage waste more efficiently. Specific initiatives include reviewing options to promote reduction, re-use and recycling of wastes together with improved coordination of waste management strategies. Local government amalgamation may result in further coordination of waste strategies.

The proximity principle—fostering and encouraging local solutions for waste management and resource recovery—will be encouraged where feasible. The focus will be more on providing local facilities rather than regional, such as transfer stations. Recycling and other waste recovery facilities may need to be regional to achieve economies of scale and for proximity to transport infrastructure. Landfill facilities should also be regional but these are the least preferred method on the waste hierarchy.

The preferred location for any future landfill facilities is the western side of the Great Dividing Range, removed from the Wet Tropics, the coastline and Great Barrier Reef. Any future landfills should be located in geologically stable areas that are not flood prone nor adjacent to areas of high ecological significance.

Objective

- Manage solid waste in the region to minimise adverse impacts on the environment and the community and promote sustainable waste management practices.

Land use policies

6.4.1 An integrated and coordinated network for sustainable waste management and resource recovery is adopted across the region to achieve greater resource use efficiencies and effectiveness, and better environmental, social and economic outcomes.

6.4.2 Any future landfills are located in geologically stable areas, and are not flood prone or adjacent to areas of high ecological significance.

Aligned policies

6.4.A Waste generation is avoided in the first instance. Where waste generation cannot be avoided, practices are implemented to reuse, recycle or recover wastes and materials prior to disposal.

6.4.B Waste disposal to landfill is minimised through applying waste recovery techniques which gain optimum recovery of reusable and recyclable materials.

6.4.C Waste is recognised as a resource and diversion of wastes for further processing, reuse and recycling is facilitated.

6.4.D Pollution of the reef is reduced through storm water quality improvement devices and litter prevention and management (see section 7.1).
6.4.E The proximity principle is adopted by fostering and encouraging local solutions for waste management and resource recovery, while recognising that some facilities need to be regional to achieve economies of scale and be close to transport infrastructure.

6.4.F Best practice waste pricing is adopted balancing the true cost of waste management and encouraging waste reduction, reuse, and recovery.

Explanatory notes

The Environmental Protection (Waste Management) Policy 2000 and the Environmental Protection (Waste Management) Regulation 2000 clarify waste management practices in Queensland and provide improved environmental outcomes. Developed in conjunction with local government and industry, the legislation benefits Queensland communities through safer disposal practices and cost savings from improved planning and management of waste services.

The policy provides a preferred waste management hierarchy and principles for achieving good waste management. The waste management hierarchy moves from the most preferred to least preferred method:

- waste avoidance
- waste reuse
- waste recycling
- energy recovery from waste
- waste disposal.

The principles for achieving good waste management include:

- the ‘polluter-pays principle’—all costs associated with waste management should, where possible, be born by the waste generator
- the ‘user-pays principle’—all costs associated with the use of a resource should, where possible, be included in the price of goods and services developed from that resource
- the ‘product-stewardship principle’—the producer or importer of a product should take all reasonable steps to minimise environmental harm from the production, use and disposal of the product.

These principles and the waste management hierarchy provide a basis for waste management programs that may be required as a condition of approval for an environmentally relevant activity for industry, for voluntary industry waste reduction programs and for state and local government waste management strategic plans.

The State of Waste and Recycling in Queensland 2006 report gives a high level overview of current rates of waste generation, recycling and waste sent to landfill. The report shows approximately 85 per cent of 87,000 households have access to kerbside recycling. In FNQ, only 5 out of 10 local governments provide kerbside recycling. Council size and remoteness currently have a significant bearing on councils’ ability to provide kerbside recycling.

Some local councils are currently part of a regional waste initiative where organic waste is being transported and processed in Cairns at the Bedminster bioconversion plant. Collected recyclable materials from Cairns and Douglas are sorted into different products at a materials recycle facility in Cairns for processing and reuse.

Solid waste disposal facilities in the region are both local government and privately owned. Existing waste management infrastructure in the region comprises two operating landfills, 29 waste transfer stations and one material recycle facility in Cairns. Springmount waste management (landfill) facility near Mareeba has 140 hectares of land and is expected to last 50 years. Springmount has the potential to produce green electricity from the landfill gas.
6.5 Information communication technology

Communications play a critical role in economic development, education and the health and wellbeing of communities, particularly those located in remote areas. Improved information communication technology (ICT) services are needed if residents of FNQ are to optimise global communication opportunities.

The Australian Government has principal responsibility for the policy and regulatory environment of the telecommunications industry. State and local governments are constrained in the range of actions available to them to influence investment in telecommunications infrastructure. The regional plan has a limited role in this regard.

Objective

• Provide affordable access to reliable and robust high speed telecommunication throughout the FNQ region to ensure access to markets, information and services.

Land use policies

6.5.1 Any new residential subdivision in urban footprint areas facilitates connection to the digital network.

Aligned policies

6.5.A Access to reliable and robust high speed telecommunications is facilitated throughout FNQ.

6.5.B Early provision of conduits or optic fibre in new developments, multi-tenanted buildings and major infrastructure projects is considered to reduce time delays and the cost of providing telecommunications infrastructure and services.

Explanatory notes

In recent years, the ICT policy environment has been progressively deregulated. While a more competitive marketplace for infrastructure has developed, the incumbent infrastructure provider is still the main supplier of the “last mile”—the connection to the individual or end user, mainly using existing copper wire connections.

There is duplicated access to advanced fibre optic telecommunications in many metropolitan areas, but gaps exist in most outlying and more remote areas. The optimal technology to provide the next generation broadband is still considered to be fibre optical cable, but other technologies such as asymmetric digital subscriber line (ADSL), wireless and broadband over power line technology will also be used in particular situations to satisfy demand, particularly in multistorey buildings, and outlying and remote areas.

At present, there are differing processes applied by local government when assessing approvals for telecommunications infrastructure. State and local governments are working together to review this, with the aim of providing a consistent approach to infrastructure approvals across the state. It is expected that this, together with other possible measures such as mandating the provision of conduits or optic fibre in new developments, multi-tenanted buildings and major infrastructure projects, will reduce time delays and the cost of providing telecommunications infrastructure and services across the state.

The Queensland Government released Smart ICT: Taking it to the World in December 2004. The government recognises the importance of telecommunications to industry, the ICT sector, government and the community, and is preparing a new Queensland telecommunications strategy to promote the development of telecommunications infrastructure throughout the state.

Broadband services are an indispensable component of business growth and efficiency in modern economies as well as being a powerful enabling technology for the ICT industry and an important ICT industry sector in their own right. Terrestrial broadband services are becoming progressively more available in major regional centres through the initiatives of the government, such as Reef Network and SmartNet. The government will continue to use its buying power to influence the rollout of affordable broadband and mobile phone facilities in regional areas and to assist regions in developing strategies that will also attract local telecommunications support services.

The Reef Network delivers high speed communications to Queensland’s coastal region through underground fibre optic cable running under the 1820 km rail corridor between Brisbane and Cairns. The network has significantly reduced the costs of high speed communications to Queenslanders living in the coastal regions. As part of the SmartNet procurement process, individual agreements have been reached between the Queensland Government and ICT providers.
7. Water management

Desired regional outcome

Water for the region is safe, reliable and adequate for community needs and water quality meets human use and environmental requirements through the ecologically sustainable development of the region’s water resources.

Water is a precious and limited resource necessary for life. Climate variability, climate change and other risks highlight the need to diversify water sources.

The sustainable management of the water cycle is crucial to the ecological health of the region. The region’s waterways support a wide range of natural ecosystems including World Heritage areas. In addition water is necessary for urban development, irrigation, power generation, recreation, and cultural and social activities. The ongoing need for water must be balanced with the needs of the environment. Further, residents will need to adapt to climate variability.

Based on current demand projections, the region will need more potable water by 2025 to meet future urban and rural growth. Demand for water is increasing as a result of population growth, increased economic activity and the expansion of irrigation areas. Urban demands are likely to increase primarily in the northern beaches of Cairns and the southern corridor between Cairns and Gordonvale. Increases are also expected in the northern Tablelands, Atherton, Port Douglas and Mission Beach.

Urban centres must apply demand management initiatives to reduce pressure on the region’s water resources. It is also important for water efficiency gains to continue to be sustained by the rural sector. The region’s water catchments are shown in map 12.
7.1 Water quality

FNQ is renowned for its pristine waterways and has many unique and highly valued environmental, natural, economic and recreationally important catchments. Urban and rural activities should result in the protection and the ecologically sustainable management of these unique assets, including the water of high ecological value.

Rural activities and land clearing are a major source of nutrients, sediments and other pollutants impacting on riverine, estuarine and coastal water quality. Similarly, groundwater aquifers are increasingly affected by human activities including unsustainable extraction and contamination from saline water inflows and septic tanks. Lowering of watertable levels can result in acid sulphate soils exposure. The potential impact of degraded water quality on the region's waterways and the Great Barrier Reef lagoon system has been identified as a significant issue.

Managing water catchments assists in protecting water quality and quantity, particularly by improving the quality of rivers and water bodies in the region and providing for environmental flows. Declining urban stormwater quality is a significant threat in urban centres. Point sources of wastewater are also a consideration.

Objective
- Achieve the environmental values and water quality objectives specified in the Environment Protection Policy (Water) for all surface and ground waters of the region by applying best practice environmental management.

Aligned policies

7.1.1 Developing or clearing native vegetation within a waterway, wetland, riparian area or floodplain is avoided through the use of appropriate buffer zones. Where development is unavoidable, adverse impacts to the waterway, wetland, riparian area or floodplain are mitigated through best practice design, rehabilitation and management.

7.1.2 All development is planned, designed, constructed and operated in accordance with best practice environmental management to achieve site water runoff quality that protects or enhance environmental values and meets water quality objectives of all regional surface, tidal and groundwater.

Explanatory notes

Maintaining water quality is critical to the long term health of the region's waterways and wetlands, and the Great Barrier Reef lagoon. Vegetated riparian areas and wetlands play a vital role in filtering sediment and nutrient run-off, leading to improved water quality. It is therefore important that land clearing and development in such areas is avoided, and where possible, these areas should be rehabilitated. Where practical, development should be set back from waterways or waterbodies.

Suggested setback distances\(^\text{10}\) from a waterway or waterbody are:

a) 200 m to a wetland of high ecological significance (see map 5)

b) 100 m to a wetland of general ecological significance (see map 5) or each high bank of an estuary channel

c) 50 m of each high bank of a waterway of stream order five or greater

d) 25 m of each high bank of a waterway of stream order between one and four.

\(^{10}\) Setback distances are consistent with Regional Vegetation Management Code: Coastal Bioregions under the Vegetation Management Act 1999.
There are a number of government instruments (relevant to IPA regional planning) aimed at the ecologically sustainable management of water, waterways and wetlands. These include:

- **Environmental Protection (Water) Policy 1997** Schedule 1 (environmental values and water quality objectives for waters) and the Queensland Water Quality Guidelines 2006
- **Cardwell-Hinchinbrook Regional Coastal Management Plan 2003** and **Wet Tropical Coast Regional Coastal Management Plan 2003**, which provide assessment criteria for development proposed within 100 m of a wetland
- land and water management plan requirements and overland flow capture guidelines under the **Water Act 2000**
- regional vegetation management codes for coastal bioregions, which provide criteria for assessing development in proximity to wetlands and waterways.

The **Environmental Protection (Water) Policy 1997** is currently being reviewed by the EPA and a State Planning Policy (Water Quality) is also under preparation.

The EPA Best Practice Environmental Management Guidelines—Water Quality (in preparation) will demonstrate how development can achieve best practice environmental management. This guideline will replace the current **Stormwater Quality Control Guidelines for Local Government 1998**.

The Environmental Protection (Water) Policy describes the community and government endorsed environmental values and water quality objectives to be achieved for water quality management. These objectives should be achieved by managing urban point sources, as well as urban diffuse and rural diffuse (stormwater) sources. They are not only important for consideration in the licensing of potentially polluting activities under the **Environment Protection Act 1994** but should also be taken into account in development assessment, planning, works and community action.

Water quality improvement plans prepared under the natural resource management plan for FNQ will assist in achieving the desired regional outcomes of the regional plan. They have been prepared for the Douglas Shire and Tully River, and are in preparation for the Barron River and Trinity Inlet. Other water quality improvement plans will be scoped in 2008 with a view towards their development in 2009 (including the Russell, Mulgrave, Johnstone, and Herbert).

The **Queensland Water Quality Guidelines 2006**, with 2007 Minor Updates developed by the EPA are technical guidelines for the protection of aquatic ecosystems. They complement the national water quality management strategy and include locally and regionally relevant water quality data for fresh, estuarine and marine waters.

The Queensland Government is currently preparing water resource plans across the state to determine bulk water allocations between various water uses, including for environmental flows, to ensure the availability of water and water quality for water dependent ecosystems to sustain ecological processes and environmental values. The Department of Natural Resources and Water has prepared the resource planning guideline **Policy and Code for Preserving Water Quality in Declared Catchment Areas**, which applies to all dams used or intended to be used for drinking water supply and not limited to those currently declared. The guideline recommends that potentially polluting activities should be prohibited from the immediate catchment of the storage.

The Reef **Water Quality Protection Plan 2003** is a joint initiative of the Queensland and Australian governments. The goal of the plan is to halt and reverse the decline in water quality entering the Great Barrier Reef within 10 years. Water quality entering the Great Barrier Reef lagoon is impacted by land sourced pollutants such as sediments, nutrients and chemicals entering reef catchment waterways. The reef plan is focused on ways to improve the quality of water, through improved farming and grazing practices, to reduce diffuse sediments and nutrients from entering the reef waterways.

Under the reef plan, local government are to implement best practice environmental management for all waste water treatment plants by 2010. Local government are also to achieve a goal of 100 per cent beneficial reuse of average dry weather flows of treated water reclaimed from waste water treatment plants by 2018. Activities by industry, community groups and government agencies are also underway to improve the quality of the water flowing into the Great Barrier Reef.

The catchments of the Staaten River and Hinchinbrook Island have been declared Wild Rivers under the **Wild Rivers Act 2005**, in recognition of the pristine quality of the rivers, creeks and streams in these catchments. Water allocations, mining and certain developments under IPA, such as agriculture, animal husbandry and material change of use are restricted in a declared Wild River area (refer Part 3, **Wild Rivers Act 2005**).

**Targets**

- By 2010, local governments use best practice environmental management to prepare and implement urban storm water management plans for all urban centres with populations greater than 10,000, or with populations greater than 5000 if located within 10km of tidal waters.
- By 2018, local governments achieve a goal of 100 per cent beneficial reuse of average dry weather flows of treated water reclaimed from waste water treatment plants.
7.2 Total water cycle management

Total water cycle management recognises the finite limit to the region's water resources and the inter-relationships between the uses of water and its role in the natural environment.

Key principles of total water cycle management include:

- considering all water sources, including groundwater, wastewater and stormwater
- using all water sources sustainably
- allocating and using water equitably
- integrating water use and natural water processes, including maintaining environmental flows and water quality.

The government is currently developing a recycled water regulatory framework to ensure a consistent and robust approach is applied to water recycling schemes across the state. The key objectives of the framework are to protect public health and ensure water recycling infrastructure continues to operate, particularly where a recycled water scheme is critical to a community’s urban water supply.

Local government subsidies for water and sewerage infrastructure are provided by the Queensland Government through the water and sewerage program. Projects that reduce consumption or water losses or improve sewerage treatment and disposal are eligible for subsidy under this scheme. The environment infrastructure program, commencing in 2008, will provide subsidies for a wider range of projects, including stormwater, flooding and erosion control. Local government is required to adopt total water cycle management principles, minimise water losses and adopt water consumption targets in order to qualify for subsidies.

Objective

- Water is acknowledged as a valuable and finite regional resource that needs to be managed on a total water cycle basis, balancing the uses of water and its role in the environment.

Land use policies

7.2.1 Water planning in FNQ is based on the principles of total water cycle management.

7.2.2 Best practice principles are adopted in the planning, design and construction of water cycle infrastructure (including water supply, sewerage, drainage and water quality).

Aligned policies

7.2.A Improved catchment management to maintain water quality and the health of the Great Barrier Reef is achieved in accordance with the Reef Water Quality Protection Plan 2003.

7.2.B Best practice environmental management principles are adopted in the planning, design and operation of sewage and wastewater collection, transport, treatment, disposal and reuse.

Explanatory notes

The Queensland Government’s strategic priorities for water in the region are to:

- ensure more efficient management and use of water
- increase the supply of water to accommodate growth in the region
- diversify water supplies to manage climate variability, climate change and other supply risks
- ensure policy frameworks and subsidies support total water cycle management
- review institutional arrangements to ensure efficient, sustainable and equitable coordinated regional water planning and the delivery of bulk water supply and treatment services.

Urban and rural residential water cycle infrastructure (including water supply, sewerage, drainage and water quality) must be planned for in a priority infrastructure plan and charged for under an infrastructure charges schedule. Desired standards of service for each network must be set.

The FNQ Regional Organisation of Councils development manual sets out procedures and requirements that are consistent with IPA and its supporting legislation. They represent best practice in accordance with accepted current state and national standards for design and construction.

Reticulated sewerage infrastructure is generally provided only in major urban centres. Proposals are currently being considered to provide sewerage services to a number of smaller towns, however, most villages and rural residential developments rely on onsite disposal systems such as septic tanks. The region’s reticulated sewerage systems all provide at least secondary level of treatment, with treated effluent generally being discharged to local waterways or coastal waters.
7.3 Water planning

The National Water Initiative Agreement, signed in June 2004, commits Queensland to work with the Australian Government and other states and territories to progress national water reforms. Implementation of water reforms by state and local government has been underway in FNQ for a number of years.

The Queensland Government is currently preparing water resource plans across the state to determine bulk water allocations between various water uses, including environmental flows.

Objectives

- Water in the region is sustainably managed to provide for the allocation and use of water for the physical, economic and social well being of the people of Far North Queensland.
- Security of supply is increased and overall system costs minimised by planning and coordinating regional water supplies.

Land use policies

7.3.1 New development and its sequencing is consistent with projected water supply development scenarios in the FNQ Regional Water Supply Strategy.

7.3.2 Land for potential significant water resource development, such as dams, weirs or agricultural irrigation, is identified and protected from urban development or incompatible uses.

Aligned policies

7.3.A The water planning process is open, transparent and equitable and ensures water is managed in an ecologically sustainable way whilst achieving the best use of available water supplies.

7.3.B Efficient and cost effective regional water supply infrastructure is provided to maintain or enhance reliability and levels of service while ensuring maintenance of environmental and social values of source streams and aquifers.

7.3.C Climate change considerations and new projections are integrated into:
   a) decisions about water infrastructure
   b) water-quality management of dams and reservoirs
   c) water quality improvement programs
   d) assessment of flood risk in urban and infrastructure planning

7.3.D Water supply sources are diversified to reduce dependence on vulnerable supplies.

Explanatory notes

The draft FNQ Regional Water Supply Strategy was released in September 2007. The strategy identifies where there are potential water supply shortfalls in the long-term and opportunities and constraints for new or augmented supply sources. In particular, climate change creates risks for yield and the reliability of water supplies in the region. Map 13 identifies key water resources in the region.

A resource operations plan is used to implement a water resource plan and defines the rules that guide the allocation and management of water to achieve the objectives and outcomes set in the water resource plan (e.g. efficient use of water). In addition, a resource operations plan provides enhanced certainty and security for human consumptive water use and for the environment.

Trading rules are set to provide for a water market—a mechanism to allow water to move to the highest value use—which in turn promotes efficient use of a scarce resource. The trading rules ensure that the movement of water occurs within sustainable bounds.

A water resource plan for the Barron Basin was developed in 2002 and a Barron Resource Operations Plan in 2005. These planning documents provide a balance between environmental needs and human consumption in the short-term. The operations plan sets out the rules and requirements that guide the day-to-day management of stream flows and water infrastructure to achieve the Water Resource (Barron) Plan 2002 objectives.

A water resource plan has also been developed for the Mitchell River, which covers part of the former Mareeba Shire. A plan is also under development for the Wet Tropics.
7.4 Water demand management

A key challenge in planning for future urban growth is ensuring efficient use of our precious water supplies and reducing water consumption through improved management of our demand for water. Numerous strategies are underway to improve water use efficiency in urban and rural areas.

Objective

- Incorporate demand management in planning and building standards to manage consumer behaviour and demand for water.

Land use policies

7.4.1 Demand management principles are adopted in the planning, design and construction of water cycle infrastructure, including water supply sewerage and drainage.

Aligned policies

7.4.A The sustainable allocation and best use of water is achieved by:

a) facilitating the highest value and best use of water through trading existing water entitlements

b) promoting efficient use of water, for example, by improving demand management and reusing and recycling water

c) developing additional least cost water supply sources where demand cannot be met through the above measures, and where unallocated water is available.

7.4.B Water use efficiency is promoted by encouraging water efficient technologies and practices.

7.4.C Water consumption targets are used for water supply planning and financial assessment purposes.

7.4.D Initiatives to improve water efficiency in the rural sector are promoted.

7.4.E Industrial and commercial developments are encouraged to meet best practice approaches in minimising water use and using water efficiently.

7.4.F Best practice water pricing is adopted, based on a structure that reflects the true cost of water and encourages more efficient use.
Explanatory notes

The FNQ Regional Water Supply Strategy will review residential water consumption for each local government area and set targets to reduce losses in water system distribution. The draft strategy applied a target of 10 per cent reduction in per capita water usage over three years to forecasts for all urban centres. The Cairns City Council’s Water Demand Management Strategy also contains a number of demand management initiatives.

The timing for additional sources of water could be extended if effective demand management measures are embraced across the region. This relates to how efficiently the community uses and manages its water resources. New infrastructure needs to include demand management principles (including metering and water efficient devices) to reduce consumption. Existing infrastructure also needs to be adequately maintained to minimise water loss. These measures can delay the need for additional water infrastructure.

Following the review of the Local Governing Bodies Capital Works Subsidy Scheme, subsidies for traditional and alternative sources of supply, pressure and leakage management, and measures to reduce water consumption will be linked to their cost effectiveness. The Water Act 2000 requires water service providers to develop and implement leakage management plans.

Subsidies to promote the widespread take up of water efficient devices, water recycling and use of fit-for-purpose water by business are available through the government programs ecoBiz and Statewide Business Water Efficiency Program. The government is also working to reduce commercial and industrial water use and is developing water consumption targets for high-rise buildings. The government’s Water Smart Buildings program promotes water efficient practices in state buildings and across state programs.

Building Codes Queensland has introduced a mandatory sustainable building part in the Queensland Development Code that requires the installation of 3-star rated or AAA rated shower heads, dual flush toilets and pressure-limiting devices in new houses. Mandatory water savings targets applied across the state from 1 July 2007 to applications lodged for construction of new houses.

Queensland’s WaterWise program will continue to provide education materials for schools, community groups and the general public on water efficiency. The Home WaterWise Rebate Scheme provides rebates to householders across the state from July 2006 to June 2009.

To support better water efficiency, the Queensland Government is also:

- requiring water service providers to issue water use information to tenants of residential rental properties to enable greater water consumption awareness
- developing standards and guidelines for usage based residential water tariffs and pricing recycled water
- developing guidelines for the formulation of outdoor water conservation plans which will be required of water service providers
- undertaking the Queensland Government’s responsibilities for the ongoing implementation of and expanding the Water Efficiency Labelling Standards Scheme for domestic appliances
- investigating how local government can equitably share the cost of meeting water consumption targets amongst water consumers.

- implementing the Rural Water Use Efficiency Program to assist farmers in introducing water efficiency practices to their farms
- preparing guidelines to assist local governments in providing water consumption information on consumer water bills
7.5 Water supply

More efficient management of existing water supplies and identification of new supplies is required to provide for the projected increase in population by 2025. The FNQ Regional Water Supply Strategy identifies the government’s investment priorities for additional water supplies, including investigating new dams and weirs, and supporting water recycling and alternative water sources.

The strategy will recommend an appropriate balance of water supplies to meet regional demands, taking into account likely yields, costs of supply and supply risks for each source. One of the constraints in providing for future water supply is the high environmental value of much of the region. Substantial areas of water catchment are protected by national park tenure and World Heritage listing, and the impact of water storage or water extraction on these values needs to be carefully considered.

Opportunities to maximise the use of existing water supplies are being fully explored.

Objective

- Provide assured supplies of water to meet the reasonable needs of growth and development in the region.

Land use policies

7.5.1 Future catchment and storage areas as indicated in the FNQ Regional Water Supply Strategy are identified and protected through land use planning.

7.5.2 Opportunities for water harvesting and storage on site are supported in new development.

Aligned policies

7.5.A The impact of drought, climate change and other supply risks are minimised by diversifying water supply sources.

7.5.B New and upgraded existing dams and weirs are developed as part of an integrated water supply system where appropriate.

7.5.C Recycled water and stormwater are used as alternatives to potable water where appropriate and on a fit-for-purpose basis.

7.5.D Greywater reuse is provided for in sewered areas, having regard to the protection of water quality and public health.

7.5.E Desalination is used as an alternative water supply source where appropriate (for example, where it is cost effective and in the public interest).

7.5.F Groundwater aquifers are managed on a sustainable and controlled basis for water supply and storage.

Explanatory notes

The FNQ Regional Water Supply Strategy identifies and reviews alternative water supply and demand management options and develops a strategic direction for water supply in the region through to 2055. The aim is to balance water demands and supplies across the region. A comprehensive policy framework will be provided that identifies further investment priorities for water in FNQ.

The strategy seeks to ensure sustainable allocation and best use of water is reached by adopting a hierarchy of three key principles:

- facilitating the highest value and best use of water through trading of existing water entitlements
- promoting efficient use of water (for example, by improving demand management and by reusing and recycling water)
- developing additional least cost water supply sources where demands cannot be met through the above measures, and where unallocated water is available.

There is potential to develop additional and alternative water sources in the region through the construction of new dams, raised dams, stormwater harvesting (including rainwater tanks), wastewater reuse, reuse of irrigation runoff or desalination. Establishing new dams is a very expensive and lengthy process, and is not without environmental and social costs. There are only a few suitable locations in FNQ for new dams. These potential sources, as indicated in table 7 and map 13, must be protected from inappropriate development. Map 14 shows existing developed water resources in FNQ.
Table 7: New and contingent water supply options for FNQ

<table>
<thead>
<tr>
<th>Location</th>
<th>Water supply option</th>
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<tbody>
<tr>
<td>North Coast</td>
<td>1. Daintree River intake</td>
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<td></td>
<td>2. Wonga bore field—Whyanbeel Creek</td>
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<tr>
<td></td>
<td>3. High Falls Creek—Mossman River intakes</td>
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<tr>
<td></td>
<td>4. Mossman River aquifer</td>
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<td></td>
<td>5. South Mossman River</td>
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<td></td>
<td>6. Mowbray River aquifer</td>
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<tr>
<td>Cairns area</td>
<td>7. Northern Beaches aquifer</td>
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<tr>
<td></td>
<td>8. Barron River—Lake Placid extraction</td>
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<td></td>
<td>9. Mulgrave River aquifer</td>
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<tr>
<td>Inland</td>
<td>10. Raising Tinaroo Falls Dam</td>
</tr>
<tr>
<td></td>
<td>11. Off stream storage for Yungaburra</td>
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<tr>
<td></td>
<td>12. Atherton Basalt aquifer—North Johnstone River</td>
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<tr>
<td></td>
<td>13. Off stream storage from North Johnstone River</td>
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<td></td>
<td>14. Off stream storage for Ravenshoe supplies</td>
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<td></td>
<td>15. Millstream Dam 12.4 km adopted middle thread count</td>
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<td></td>
<td>16. Wild River storage</td>
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<td></td>
<td>17. Raising Collins Weir</td>
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<td></td>
<td>18. Nullinga Dam</td>
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<td></td>
<td>19. Algoma Weir</td>
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<td></td>
<td>20. Hodgkinson Formation</td>
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<tr>
<td></td>
<td>21. Lake Mitchell</td>
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<tr>
<td>Non-site specific options</td>
<td>22. Rainwater tanks</td>
</tr>
<tr>
<td></td>
<td>23. Water recycling</td>
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<td></td>
<td>24. Greywater reuse</td>
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<td></td>
<td>25. Seawater desalination</td>
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<td>26. Purified recycled water</td>
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<tr>
<td></td>
<td>27. Surface water harvesting through privately owned dams.</td>
</tr>
</tbody>
</table>

Source: FNQ draft Regional Water Supply Strategy 2007

The government is utilising existing water supplies more efficiently and promoting the use of recycled water (including dual reticulation) in residential development and public spaces.

Recycled water is already in use in the region by industry, agriculture and for irrigating open space areas. Expanding the use of wastewater may reduce the need for potable water, potentially delaying infrastructure upgrades. However, new infrastructure may be required for this option.

Stage one of the sustainable housing policy made installation of rainwater tanks in new houses and apartments mandatory in accordance with the Queensland Development Code. Stage two of this policy will review further measures and consider extending this mandate to cover renovations, apartments and other accommodation.

The Plumbing and Drainage Act 2002 and the Queensland Plumbing and Wastewater Code complements the government’s commitment to water savings through the implementation of a wide range of measures including sub-meters, expanded use of treated greywater and blackwater re-use trials. Desalination technology is improving and may become economically and ecologically viable in the future.

The Water Act 2000 requires water service providers to develop drought management plans to ensure communities are prepared for periods of drought.

Regional water service providers need to gather common and consistent information about water consumption and wastewater management as part of their regular reporting regimes.
7.6 Rural water

Rural communities need reliable and safe water supplies to meet domestic needs and support a diversity of agricultural pursuits. Some rural communities are concerned that urban growth will create competition for water between rural and urban users.

Since 1999 water efficiency gains have been achieved through stage three of the rural water use efficiency initiative. Targets by industry groups vary from a modest commitment for a significant percentage of growers participating in best practice management programs through to a 15 per cent reduction in water usage.

A water resource plan is being developed for the Wet Tropics. As stated earlier, the Barron Resource Operations Plan was finalised in 2005. Such plans will provide a sustainable framework for managing, taking and allocating water, including rural water use.

The FNQ Regional Water Supply Strategy includes a component to address rural water issues. These issues include the efficiency of water use, water management, on-farm management practices for recycled water and additional supplies of water for rural use.

Irrigation is primarily concentrated in the Barron River catchment, particularly in the Mareeba Dimbulah Water Supply Scheme. Alternative economic sources of water for rural use could link to irrigation farming expansion in the future. The water supply strategy identifies several thousand hectares of land suitable for irrigated agriculture. Existing and future water resources, infrastructure and irrigation areas need to be protected from encroachment.

Objective

- Ensure rural water needs are met in an efficient and sustainable way.

Land use policies

7.6.1 The safety and efficiency of the water infrastructure network for existing and future primary production areas is protected.

Aligned policies

7.6.A Water resource management and allocation decisions incorporate consideration of rural water use requirements.

7.6.B The efficiency of rural water use is improved, particularly irrigation systems.

7.6.C Alternative economic sources of water for rural use are utilised where available.
8. Transport

Desired regional outcome

Communities are connected through an ecologically sustainable and integrated transport system that promotes tourism, public transport use, walking and cycling, provides safe, efficient and effective movement of goods and people, and facilitates access to places and services.

The quality of life for people living in FNQ relies on a transport system to connect the wider community with goods, services, employment and other people. Efficient and effective transport is also essential for future economic development. The vitality of the region relies on connections with other regions, both domestic and international.

Modelling indicates that without land use changes, and supporting policy intervention, FNQ’s total vehicle kilometres travelled will increase 147 per cent by 2036, yet the population increase will be approximately 73 per cent. Increased vehicle travel means more emissions, congestion and road accidents. It is also a good indicator of demand for road maintenance and upgrades.

In Cairns alone, total vehicle kilometres travelled will increase by 73 per cent by 2036, as the population grows by approximately 93 per cent in the same period. A network of transit oriented development and strong policies could limit this vehicle travel increase to just 15 per cent.

The impacts of greenhouse gas emissions, air and noise pollution, accidents, and congestion must be managed effectively to assure future ecological sustainability for FNQ. Peak oil and climate change also present threats to meeting transport and economic needs. Alternative transport and fuel sources will become increasingly important.

The use of cars in FNQ is growing faster than the population. There are far more cars, being used more often and driven further than ever before. While private cars will continue to be used into the future for trips in FNQ, the alternatives—public transport, walking and cycling—are more sustainable transport modes and must be made more viable and attractive. They produce less greenhouse emissions per person and are more resilient to peak oil risks.

The foundations are in place for an integrated transport system in FNQ. The Cairns area is fortunate to have a network of cane rail and other corridors that could be used for busways in the future. A strong busway network is envisaged for the future to improve the public transport system and increase bus use in the principal activity centre. Further planned investment in public transport infrastructure and services will make public transport a more attractive choice in the future.

At the same time, new roads, better road networks, and improvements to existing roads are being planned to address the most congested parts of the network and ensure effective regional connections.

The region has an established arterial road system with external linkages to Cape York, the Gulf of Carpentaria and southern areas of the state and country. However, further development of the freight road system is important to support economic development, particularly mining and agriculture.

The Cairns International Airport provides international and domestic air services for the region. It is Australia’s busiest regional airport and the fifth busiest overall, with approximately 130 000 aircraft movements annually. Cairns International Airport has a role in servicing the region’s domestic and international tourism industry.

Major seaport facilities are provided at Cairns and Mourilyan Harbour.

Queensland Rail operates freight and tourist rail services between Cairns and Brisbane. Rail facilities also exist between Cairns and the Tablelands and currently carry freight and tourists. The region also has an extensive network of light cane rail tracks throughout the coastal plain servicing sugar mills.

There are opportunities to expand community access to public transport, including those who do not have access to a private vehicle or choose not to drive. Walking and cycling networks provide flexibility as well as significant health and environmental benefits.

Over time, an effective, integrated network of roads, railways, sea ports and airports will support the competitiveness of industry and business and meet community needs.

The success of the transport components of the regional plan will be complemented by strategies aimed at reducing dependence on private vehicle travel in the region.

All levels of government will continue to have a role in managing and developing the FNQ transport system.
8.1 Integrated transport and land use planning

The Queensland Government aims to achieve a sustainable transport system throughout Queensland. Integrating land use and transport planning contributes to this aim. Done effectively, it produces an environment where public transport, walking and cycling can support a greater proportion of trips than at present and reduce the reliance on private motor vehicles. It can also reduce the length or frequency of trips for people and goods and minimise congestion.

Integrating land use, transport and employment can play a key role in achieving social, economic and environmental sustainability in the region. By shaping the pattern of development and influencing the location, scale, density, design and mix of land uses, integrated planning can help to create stronger communities and lessen travel needs. Accommodating future residential and employment growth in areas with good access to high-frequency public transport and a mixture of land uses promotes social equity, travel choice, and maximises efficient use of existing and planned infrastructure.

Objectives

- Achieve an efficient, integrated transport system that meets environmental and community needs in an ecologically sustainable manner, supports a more compact pattern of urban development and promotes the self-containment of travel in sub-regions within FNQ.

- Maintain efficient transport connections within the region and with other regions.

Land use policies

8.1.1 Land use and transport planning are integrated to support efficient land use, efficient movement of people and goods, and industry competitiveness and growth.

8.1.2 Appropriate forms of transit oriented communities are close to public transport nodes and corridors as indicated in map 15 and in accordance with tables 8 and 9.

8.1.3 Demand for car travel is managed—to limit the need for future road upgrades—through land use and travel choices that promote use of lower impact modes including walking, cycling and public transport.

8.1.4 Opportunities are increased for people to travel by public transport, cycling and walking to major destinations including employment and education locations, health, welfare and support services, shopping centres, and recreational and social venues.

8.1.5 Appropriate end-of-trip facilities including bicycle parking, showers and change rooms are incorporated into developments that are likely to attract significant numbers of bicycle trips, such as business centres, workplaces, community facilities, educational facilities and retail developments.

8.1.6 Scenic amenity, shade, rest facilities, and street lighting are considered in the design and construction of walkways and cycle paths.

8.1.7 An appropriate range of transport choices is provided, including inter-modal connectivity between rail, road, air or sea transport through freight and passenger terminals.

8.1.8 Industries are located in proximity to appropriate road and rail corridors and markets. Freight dependent development is encouraged in proximity to major transport access points.

8.1.9 Complementary industries are co-located to minimise transport requirements and increase resilience to potential impacts of peak oil.

8.1.10 Transport planning considers the risk of major catastrophic events, such as cyclones or floods, and transport infrastructure is located and designed to avoid or minimise the impact of such events (see section 4.7).

Aligned policies

8.1.A The community's access to employment, education and services is improved while transport emissions are reduced.

8.1.B Planning for public transport is integrated with planning for other modes of transport.

8.1.C Cyclist and pedestrian requirements are integrated into future public transport planning and infrastructure.

8.1.D Climate change considerations are included in programs to improve the appeal and amenity of public transport.

8.1.E Appropriate bus-based public transport coverage is provided, and bus priority allocated on the road network where necessary.
Intermodal transportation involves the use of more than one mode of transport to transfer goods or people efficiently. Transport terminals facilitate transfer between modes as well as providing storage facilities.

Clustering of like industries and storage facilities in strategic locations, particularly key freight transport nodes, maximises transport efficiencies.

Access to a public transport system that conveniently connects people with goods, services, places and other people is essential in large urban centres. The 2005 Cairns Integrated Public Transport Plan expresses the vision that the public transport system will:

- provide an attractive alternative to the car that people will use
- better meet the needs to the transport disadvantaged in the community
- deliver a mode share consistent with sustainable outcomes
- make a positive contribution to moderating transport corridor needs in environmentally sensitive areas
- support the local economy, in particular, providing for tourist needs
- provide public transport services in a pro-active manner to discourage families from purchasing a second car.

Other related plans and strategies include:

- Southern Cairns Integrated Land Use and Transport Study 2002
- Peninsula Freight Study 1999
- Cairns Bus Priority Study 2005
- Shaping Up, Queensland Residential Design Guidelines
- Queensland Transport’s Interest in Planning Schemes (AMCORD guidelines)
- Queensland Cycle Strategy 2003
- Rail Network Strategy for Queensland 2001
- Queensland Aviation Strategy 2002
- Cairns Mulgrave Regional Transport Study.

Transit oriented communities

Establishment of transit oriented communities in Cairns is a key element in the preferred pattern of development for FNQ. Transit oriented communities would incorporate appropriate higher densities but would be complemented by lower densities in the preferred housing mix. Potential transit oriented communities in Cairns include Edmonton, Smithfield, Palm Cove, Redlynch, Earlville and Gordonvale, as indicated on map 15. For more information visit www.transport.qld.gov.au/ciptp.

Transit oriented communities will vary in size. Catchment sizes will relate to pedestrian accessibility, generally within a comfortable 10 minute walk of the transit node, or 400–800 metres. Walking distances can be affected by topography, climate, intervening roads and other physical features.

Appropriate uses will vary in each community and could include residential, commercial, retail, recreational and community facilities. Transit oriented communities should promote transit supportive land uses to reduce dependence on private car travel.

Car parking provision in activity centres and transit communities should be reduced over time. This reflects proximity to high frequency transit services and access to goods and services in mixed use centres.

Park-and-ride lots may be a part of the FNQ transit system but generally only where a station is not part of an activity centre. Surface parking lots specifically devoted to park-and-ride should generally not be located within transit communities, or should be designed in a manner that does not separate the station from the community it is intended to serve.

New public transport stations should be located in areas with mixed use development potential (both greenfield and infill) and transit facilities should be designed to allow for direct pedestrian and cycle connections to adjacent communities. Tables 8 and 9 describe the principles and character of transit oriented communities in more detail.
### Table 8: Transit oriented communities—principles for Cairns

<table>
<thead>
<tr>
<th>Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of infrastructure and services</strong></td>
<td>Development is focused on nodes or corridors with high frequency transit services and where infrastructure capacity exists or is viable to provide.</td>
</tr>
<tr>
<td><strong>Level of development</strong></td>
<td>Development occurs at a higher scale, appropriate to the locality and the local government planning scheme intent.</td>
</tr>
<tr>
<td><strong>New development</strong></td>
<td>Transit oriented community principles are applied in new developments where transit stations exist or are proposed.</td>
</tr>
<tr>
<td><strong>Land use</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Transit oriented communities are dominated by transit supportive land uses.</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>Higher densities appropriate to the location of the proposed transit oriented community are incorporated.</td>
</tr>
<tr>
<td><strong>Mix</strong></td>
<td>Transit oriented communities integrate an appropriate mix of use and services as indicated in table 9.</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td>Transit oriented communities contribute to greater activity in the location to provide a sense of vitality and security.</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td>Transit oriented communities provide a mix of uses and services that contribute to local employment.</td>
</tr>
<tr>
<td><strong>Housing</strong></td>
<td>Transit oriented communities provide a range of housing options to meet the diverse needs of the community.</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Adaptability</strong></td>
<td>The built form allows adaptation or redevelopment over time to adjust to changing communities.</td>
</tr>
<tr>
<td><strong>Built form</strong></td>
<td>Transit oriented communities incorporate best practice tropical design to promote character, amenity and maximise energy and water efficiency.</td>
</tr>
<tr>
<td><strong>Open space</strong></td>
<td>Transit oriented communities create a sense of place and provides a high quality public realm to promote social cohesion, interaction and safety.</td>
</tr>
<tr>
<td><strong>Integration</strong></td>
<td>Transit oriented communities are designed to seamlessly integrate the transit station with the surrounding community.</td>
</tr>
<tr>
<td><strong>Parking</strong></td>
<td>Car parking is located, designed and provided in a way that supports walking, cycling and public transport accessibility and promotes mode shares.</td>
</tr>
<tr>
<td><strong>Transport</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Mode share</strong></td>
<td>Transit oriented communities contribute towards targets for cycling and public transport mode shares.</td>
</tr>
<tr>
<td><strong>Transport efficiency</strong></td>
<td>Transit oriented communities facilitate connections between modes and maximises public transport efficiency.</td>
</tr>
</tbody>
</table>
Table 9: Transit oriented communities—typology for Cairns

<table>
<thead>
<tr>
<th>TOC Type</th>
<th>Desirable land use mix</th>
<th>Connectivity</th>
<th>Housing density and scale</th>
</tr>
</thead>
</table>
| **Type 1** | • high density multi-unit dwelling  
             • primary office and service centre  
             • centre for entertainment (theatre, cinema, civic theatre, convention centre, restaurants, nightclubs, cafes, bars, regional gallery, etc.)  
             • primary employment centre  
             • higher order retail | • hub of transit system, including bus rapid transit and local bus  
                                    • strong pedestrian and cycle connectivity  
                                    • access to long distance bus and rail | • 150 dwellings per hectare at core, 100 dwellings per hectare at fringe  
                                            • high scale—up to or greater than 15 stories |
| **Type 2** | • combination of high density multi-unit, medium density multi-unit, town houses, shop top living  
             • alternative office centre  
             • secondary service centre  
             • minor entertainment (cinema, restaurants, bars, cafes, etc.)  
             • strong employment centre  
             • retail | • linked to principal and major regional activity centres by bus rapid transit  
                                    • local bus services  
                                    • strong pedestrian and cycle connectivity | • 100 dwellings per hectare at core, 70 dwellings per hectare at fringe  
                                            • high scale – up to 8 stories |
| **Type 3** | • combination of medium density multi-unit, town houses, shop top living  
             • retail focus  
             • business and commercial component  
             • opportunity to consolidate surrounding areas with higher density residential. | • Linked to principal and major regional activity centres by bus rapid transit  
                                    • local bus services  
                                    • strong pedestrian and cycle connectivity | • 70 dwellings per hectare at core, 40 dwellings per hectare at fringe  
                                            • moderate scale—up to 5 stories |
<table>
<thead>
<tr>
<th>TOC Type</th>
<th>Desirable land use mix</th>
<th>Connectivity</th>
<th>Housing density and scale</th>
</tr>
</thead>
</table>
| **Type 4** | • medium density multi-unit housing around station  
• town houses  
• dual occupancy  
• detached dwellings on compact lots (villas and cottages)  
• minor retail and convenience stores  
• childcare | • linked to bus rapid transit by local bus services  
• access to principal and major regional activity centres by bus rapid transit | • 40 dwellings per hectare at core, 30 dwellings per hectare at fringe  
• low scale—up to 3 stories |
| **Type 5** | One or more of the following:  
• medium-density multi-unit housing around station  
• town houses  
• institutional housing  
• education  
• hospital  
• sport & recreation  
• related minor uses (convenience shop, cafes, small office)  
• tourist attractions | • linked to principal and major regional activity centres by bus rapid transit  
• local bus services  
• strong pedestrian and cycle connectivity | • no minimum residential density  
• moderate to high scale—consistent with local government intent for the area |
8.2 Transport networks

The layout and design of new neighbourhoods and suburbs have a significant impact on future travel demands. Most new urban development occurs on relatively small land parcels. Incremental and fragmented development makes it difficult to build neighbourhoods that support pedestrians, cyclists, public transport and efficient transport networks. The design of a well connected street network can save travel time and cost and reduce greenhouse gas emissions through reduced vehicle travel.

Objective

- Highly connected transport networks provide strong links between activity centres and surrounding areas, to enable good accessibility, route and mode choice.

Land use policies

8.2.1 All streets are carefully planned to provide facilities not only for vehicles, but also for public transport, pedestrians and cyclists.

8.2.2 The street network is highly connected within the development, with the surrounding area and between activity centres.

8.2.3 A movement network is established which provides convenient linkages to activity centres, schools, public transport stops and stations, and other destinations.

8.2.4 A road and street network is provided with an efficient bus service that can be conveniently and safely accessed on foot from most dwellings.

8.2.5 A safe and convenient bicycle network, including on-road and off-road routes, is provided to meet the needs of all cyclists.

8.2.6 A safe and convenient network for pedestrians is provided along street networks, linking residences and providing access to points of attraction within and beyond the development.

8.2.7 The principal cycle network plan for FNQ as indicated in map 16 is progressively implemented.

Aligned policies

8.2.A Shoulders on the higher order road network are progressively sealed to improve cyclist and general traffic safety.

8.2.B Overtaking lanes are progressively provided on roads with higher vehicle volumes.

8.2.C A network of functional, legible and convenient street signs is established, which clearly distinguishes between arterial routes and local streets, based on traffic volume, vehicle speed, public safety and amenity.

Explanatory notes

The form of cities and towns and the relationships between land uses and transport networks have a fundamental influence on:

- the number of trips people need to make
- the distances people need to travel
- the proportion of trips that can be made by public transport
- the cost-effectiveness of, and level of service provided by, public transport
- the proportion of trips that can be made by walking or cycling.

Travel patterns and behaviours are influenced by transport network design on two levels:

1) Regional—travel demand is influenced by the connectivity between neighbourhoods and the nature of the arterial road network. Trunk transport network planning is able to guide development at this level.

2) Local—travel demand is influenced by the connectivity of local street networks and the provision of safe and direct pedestrian and cycle routes within neighbourhoods.

The local street network should be highly interconnected with frequent junctions wherever possible with arterial routes to help limit travel distances and to promote walking, cycling, public transport usage and a strong sense of community. This creates a responsive network where motorised traffic volumes and speeds are managed.

Complete streets which incorporate facilities for cars, bicycles, pedestrians and public transport, are designed and operated to enable safe access for all users. Pedestrians, cyclists, motorists and bus riders of all ages and abilities are able to safely move along and across a complete street.

Walking and cycling should be safe, convenient and attractive transport modes, providing a genuine, sustainable alternative to private cars. They are also enjoyed as recreational activities in their own right. There are also health benefits where neighbourhoods are designed to encourage people to walk and cycle. These are active forms of transport that involve some kind of physical activity and contribute to health and well being.
FNQ has gained national attention for its high rate of cycling. However, recent data suggests the region is experiencing a small decline in cycling. Between 2001 and 2006, the per cent of FNQ residents who cycled to work fell by 0.5 per cent. These trips have not been replaced by other sustainable modes, such as walking or public transport, but rather by an increase in private vehicle use. It is likely this trend also applies to school trips.

The Queensland Cycle Strategy 2003 set a target for areas outside SEQ to increase cycling 50 per cent by 2011 and 100 per cent by 2021. To achieve this target, FNQ must adopt a regional approach to encouraging cycling by:

- linking cycle routes across local government boundaries to provide a safe, interconnected network
- supporting compact urban communities and locating key services near residential areas
- providing high quality end-of-trip facilities such as bike racks, bike lockers, showers and changing rooms in regional activity centres
- ensuring public roads are planned, designed and operated to optimise cycle access and safety.

Queensland Transport’s Principal Cycle Network Plan for FNQ identifies key links between and in regional activity centres. The plan will be used to prioritise state and local government investment in cycling. The plan recognises two types of routes:

1) Principal cycle routes—the most important routes for cycling in the region, serving a variety of shorter trips (less than 20km) for work, school, shopping, recreation and tourism.
2) Iconic recreation routes—two major spines to enable long-distance cycle touring along the coast and highlands of FNQ.

For more information on the Principal Cycle Network Plan visit www.transport.qld.gov.au/Home/Projects_and_initiatives/By_region/North_queensland/

The Action Plan for Pedestrians 2004-2006 will also guide initiatives to improve pedestrian safety and to encourage walking.

There are challenges in managing road freight including ensuring road space is shared effectively between heavy vehicles, passenger vehicles and other road users.

There are also physical and environmental constraints between the coast and the Tablelands. The number of crossings of the range is few and the capacity limited. This places constraints on growth west of the range.

The Department of Main Roads’ Road Improvement Program outlines short term road improvements for other state controlled roads and roads of regional significance. Queensland AusLink Network Forward Strategy 2009-10 to 2013-14 outlines desired improvements for federally funded AusLink network roads.

Road transport is an integral part of the network for moving people and goods. The efficiency of this network is critical for industry competitiveness and growth and quality of life. FNQ has a significant drive tourism industry which relies on road transport.

The railways that connect Cairns to the south and the Gulf of Carpentaria are important for freight and passenger travel and tourism.

8.3 Transport infrastructure

Identifying and protecting transport infrastructure and corridors is critical to sustaining current transport operations and meeting future transport needs. It is important that potential conflicts between key transport infrastructure and urban development are mitigated so the community can continue to enjoy the transport benefits of this infrastructure with manageable impacts on adjacent land uses.

Objective

• Affordable and efficient air, sea, rail and road transport infrastructure supports a vibrant economy and meets community and tourist needs.

Land use policies

8.3.1 The strategic freight network in FNQ, as indicated on maps 17a and 17b is protected from encroachment from noise sensitive land uses. Non-noise sensitive land uses are only appropriate if current and future transport infrastructure needs are not compromised.

8.3.2 Regionally significant corridors for future bypasses, as indicated on maps 17a and 17b, are protected from encroachment from all urban activities.

8.3.3 Opportunities for bus rapid transit are protected, including the preservation of disused cane rail corridors for future needs.

8.3.4 Noise sensitive land uses near major transport corridors (such as main roads, busways and railway) are avoided where practicable. Where unavoidable, new urban areas are buffered from the noise and visual impacts of major transport corridors and facilities. Non-noise sensitive development may be recognised as buffers (see section 1.3).

8.3.5 Current and future transport infrastructure needs are appropriately provided for as part of any development adjacent to a major transport corridor.

8.3.6 The Cairns Airport and Mareeba Aerodrome are protected from urban encroachment, including noise sensitive development, and any other development that may impact on current or future operations.

8.3.7 Sea ports and their access roads and operations at Cairns and Mourilyan are protected from encroachment of noise sensitive land uses except where permitted in land use plans for strategic port land.

8.3.8 Adequate strategic port land at Cairns and Mourilyan is made available for coastal uses, such as commercial fishing, other land based marine activities and logistics (including bulk sugar terminal, live cattle or forestry cargo handling facilities).

8.3.9 Disused rail corridors and ancillary infrastructure are preserved where feasible, to meet current and future demands for alternative transport or movement of freight.

8.3.10 The concurrent use of rail corridors for non-rail transport and communication purposes is promoted, consistent with corridor lease terms and without compromising safety and rail operations.

8.3.11 Future bus rapid transit corridors as shown on map 15, are protected from encroachment from urban activities.

Aligned policies

8.3.A Air transport is facilitated to meet basic access and regional development needs in rural and remote communities.

8.3.B Freight movement in urban areas is managed to minimise noise and other nuisances.

Explanatory notes

New transport infrastructure can have significant land requirements. Opportunities can be lost or compromised as land is developed. Potential land acquisition has significant economic and social impacts. There are also amenity considerations for sensitive land uses near transport infrastructure. New land uses can also encroach on major transport corridors such as main roads, busways and railway.

The preferred option is to avoid placing noise sensitive land uses near transport corridors where practicable. If development is unavoidable, then design and construction should include buffers, appropriate building orientation and insulation to mitigate noise and visual impacts for the receiving environment. Transport infrastructure providers also have a role of mitigating noise and visual impacts at the source.

Where development occurs adjacent to a major transport corridor, appropriate provision needs to be made for current and future transport infrastructure needs. The region’s existing public transport networks are shown in map 18.

Disused light cane rail corridors may ultimately provide opportunities for future public transport systems to service transit oriented communities and growing urban areas in Cairns.
The Department of Main Roads aims to provide efficient road transport infrastructure, minimising noise impacts from state controlled road construction and maintenance activities. *The Road Traffic Noise Management: Code of Practice* provides guidance and instruction for the assessment, design and management of the impact of road noise.

State Planning Policy 1/02 *Development in the Vicinity of certain airports and aviation facilities* sets out the state’s interest concerning development in the vicinity of airports and aviation facilities considered essential for the state’s transport infrastructure. The policy applies in the vicinity of designated airports and aviation facilities but does apply to those facilities themselves. State Planning Policy 1/02 applies to Cairns and Mareeba airports in FNQ.

The Cairns Port Authority Land Use Plan November 2006 is a statutory document similar to a local council planning scheme to control land uses on strategic port land.

The *Port of Mourilyan Land Use Strategy 2003* is intended to be used in conjunction with the Port of Mourilyan’s Environmental Management Plan.

The *Coastal Protection and Management Act 1995* includes buffers for ‘coastal dependent state significant land uses’ such as ports.

The Rail Network Strategy for Queensland identifies specific strategies relating to policy and planning for the future of Queensland’s rail infrastructure and rail corridors.

Modern communities have growing infrastructure needs, including telecommunications and reticulated water supplies. Queensland’s rail corridors present a unique opportunity for transport and communication services. It is also possible to utilise a disused rail corridor for recreational purposes, including walking, cycling or horse riding trails. Concurrent uses need to be consistent with corridor lease terms and must not compromise safety and rail operations.

For rail, there are challenges in improving the share of the freight task, particularly for heavy long distance loads. There are opportunities for freight movement by rail from the Tablelands (for example, transporting molasses from Arriga sugar mill).
8.4 Sub-regional transport

While an important function of the regional plan is to define urban footprint areas, it should also influence the pattern of development within and outside these areas to ensure transport efficient land use patterns are produced. This outcome will significantly reduce the overall transport task and encourage more healthy and environmentally friendly modes of transport such as walking, cycling and public transport. These outcomes dramatically reduce the community’s expenditure on transport infrastructure, transport services, vehicle use and fuel use, and it also reduces greenhouse emissions. Initiatives to achieve this include:

- encouraging towns and cities to be relatively self contained with employment and community services, so residents don’t have to travel to other towns or cities for jobs and services
- designing the urban fabric of towns and cities to locate residential areas as close as possible to activity centres (including economic, retail, educational, recreational and community centres)
- establishing transit oriented communities so medium density residential development and activity centres are located adjacent to each other along a public transport spine such as a busway corridor
- planning sub-divisions so the road and pathway network caters for walking and cycling in all directions, and efficient bus-based public transport coverage is achieved over at least 90 per cent of primary and principal activity centres.

Objective

- Regional transport systems support the preferred settlement pattern for FNQ and are well planned to protect regional landscape values, while minimising expenditure on transport infrastructure, transport services, vehicle use and fuel use.

Land use policies

8.4.1 The staged provision of public transport infrastructure occurs in sequence with the preferred pattern of development.

Aligned policies

8.4.A Transport systems in FNQ protect and enhance public safety through the design, construction and improvements of transport infrastructure.

8.4.B Sub-regional roads provide good visual amenity on the major approaches to urban centres through the provision of landscaping and vegetation.

8.4.C Environmental management practices are adopted in developing and using transport infrastructure and surrounding land, recognising that transport corridors include an increasingly valuable reservoir of wildlife and habitat that play an important role in the conservation of biodiversity.

8.4.D Environment management practices are adopted that minimise and prevent the transportation of pollutants from the region’s transport areas on to the reef lagoon zone.

Explanatory notes

Detailed planning to provide a comprehensive transport network for the region is well underway. The government recognises that roads and other transport corridors can contribute to the fragmentation of habitat and the disruption of ecological processes that underpin the biodiversity values of the surrounding land. In recognising this, the Queensland Government gives substantial weight to the following initiatives when considering and undertaking works on the state transport network within FNQ:

- managing ecologically significant sites and conserving the habitat of endangered flora and fauna
- reducing impacts on flora, fauna and dependent ecosystems through appropriate and practical measures, including minimising vegetation clearance for transport works and undertaking revegetation and restoration works
- where practicable, undertaking works to enhance cross-road connectivity and other measures to reduce the barrier effect of transport corridors on the safe passage of animals and responding to changes in habitat preferences contributed to by climate change and other causal factors
- taking effective measures to protect water quality in receiving waters
- supporting research and education in all matters related to road ecology and the implications for responsible road design, construction, operation and maintenance.
Cairns

Cairns requires well integrated transport options delivering real alternatives to private car travel. This is necessary to support economic development and ensure the environmental and social values of the community are maintained. As the last city on the Bruce Highway supply chain, Cairns is dependent on an efficient transport network to support continued growth in the economy.

If current day transport behaviours continue in Cairns, lifestyle and environmental values may be jeopardised. The draft regional plan presents the vision and opportunities for a well integrated public transport system.

The overall efficiency of existing and future transport infrastructure relies on land use options that provide densities of population and intensities of land use activities to make public transport viable. It will be essential for the public transport system to integrate with surrounding land uses, and provide reliable pedestrian connectivity.

Regional FNQ

The arterial road network outside of Cairns will be a key component in the management of growth over the next twenty years. In particular, the threshold capacities of the existing Bruce Highway, the Kennedy Highway (Kuranda Range) and Captain Cook Highway are major issues for region. Managing traffic volumes on these and other arterial roads within the region may require an innovative approach to planning, design and funding in order to preserve regional environmental and community values.

At a sub-regional level, it is important that development north of the Daintree river remains low key and sustainable to protect the values of Wet Tropics World Heritage Area and the character of the area. Adjacent settlements and development are limited in extent and infrastructure provision is minimised.

The status of the Captain Cook Highway between Palm Cove and Port Douglas as one of Australia’s great scenic drives is recognised. This highway is also constrained topographically and is adjacent to the Wet Tropics World Heritage Area and the Great Barrier Reef. The Captain Cook Highway between Palm Cove and Port Douglas will remain as a scenic tourist drive and local access to the Douglas sub-region.

The significant biodiversity and scenic values of the Mission Beach area are recognised. The access roads are adjacent to the Wet Tropics World Heritage Area and through roads are adjacent to the Great Barrier Reef Marine Park and are likely to remain as a scenic tourist drive and local access.
Kuranda Range Road

A priority action from FNQ2010 was the investigation of options for increasing transport capacity between Cairns and the Northern Tablelands to help facilitate regional freight and passenger movements and allow some urban growth to be diverted from the coastal plain near Cairns to inland areas around Kuranda-Koah. After many years of extensive investigation and community engagement, the Department of Main Roads has:

- found that a four lane upgrade of the existing route is the optimum solution
- identified the footprint of the proposed upgrade and obtained the necessary environmental approvals to enable the project to proceed
- already acquired some land along the corridor.

Regardless of whether or not coastal urban growth is diverted to the Kuranda-Koah area, normal regional traffic growth will eventually require the range road to be upgraded to meet the transport needs of the region. The draft regional plan acknowledges this outcome and supports the preservation of the four lane road corridor.

Inter-regional transport

Queensland is an extensive area with an unevenly distributed population and numerous island communities in the far north. It has the highest percentage of population outside a capital city of any mainland state within Australia, and land transport is disrupted by the annual wet season in northern and western regions.

Inter-regional road, air, rail and sea transport connections, are critical for small and remote communities.

The Queensland Government ensures that certain public transport air services exist for identified transport-disadvantaged communities. There are subsidised services from Cairns to Weipa and Mt Isa via Normanton, Mornington Island (Gununa), Burketown and Doomadgee. There is also a regulated service from Cairns to Thursday Island. This ensures these communities have year-round access to a range of essential business, educational, medical, and cultural destinations.

The Queensland Government also provides financial support for some long-distance bus services in rural and remote Queensland. These scheduled bus operations give people living in rural and remote communities access to essential services at larger population centres. Current inter-regional services to Cairns are:

- Cooktown—Lakeland Downs—Mt Carbine—Mt Molloy—Mareeba—Cairns
- Cooktown—Helenvale—Wujal Wujal—Port Douglas—Mossman—Cairns

Road transport is integral for moving people and goods between regions. The efficiency of this network is critical for industry competitiveness and growth and quality of life. Freight efficient vehicles such as B-doubles and roadtrains are an important part of the inter-regional road transport system.

The railways that connect Cairns to the south and the Gulf of Carpentaria are important for freight, passenger travel and tourism.

Targets

Transport policies in the regional plan and other strategies will be implemented in pursuit of the desired regional outcomes and the following specific targets, that achieve at least:

- 10 per cent of all Cairns trips by public transport by 2036 (Cairns Integrated Public Transport Plan 2005)
- 10 per cent of all Cairns Southern Corridor trips by public transport by 2016 (Cairns Integrated Public Transport Plan 2005)
- 20 per cent of all Cairns Southern Corridor peak hour trips by public transport by 2036 (Cairns Integrated Public Transport Plan 2005)
- 40 per cent job self-containment in Cairns Southern Corridor by 2036 (Cairns Integrated Public Transport Plan 2005)
- 50 per cent increase in person trips by cycling in FNQ by 2011 (Queensland Cycle Strategy 2003)
- 100 per cent increase in person trips by cycling in FNQ by 2021 (Queensland Cycle Strategy 2003).
PART F—Implementation, monitoring and review

The regional plan is intended to establish a basis for better planning, management and development. The value of the plan will be largely determined by how successfully its outcomes are supported and implemented by government and the community.

Effective implementation requires cooperation by community stakeholders and coordination of state and local government activities and plans. Implementing the regional plan involves coordinating and reviewing a range of plans, infrastructure and services.

The monitoring and review elements are critical to charting the progress of land use planning achievements and are essential to the performance based approach. This monitoring and review provides a feedback loop to allow adaptive management as a response to changing circumstances and new information. If regional plans are to achieve their goals and objectives, the planning process (figure 5) must be designed to be cyclical and should not begin or end at a discrete point in time. Instead the process should always be structured to include monitoring, evaluation and feedback as recognition of the need to learn and therefore adapt over time (Low Choy et al. 2002).

Figure 5: The adaptive management planning process

Plan making → Implementation → Review → Monitoring & Reporting

not begin or end at a discrete point in time. Instead the process should always be structured to include monitoring, evaluation and feedback as recognition of the need to learn and therefore adapt over time (Low Choy et al. 2002).
Plan making

The regional plan is a statutory instrument under the *Statutory Instrument Act 1992* with its statutory powers established under section 2.5A of IPA.

Relevant provisions of the legislation include:

- establishing a Regional Coordination Committee¹¹ to advise the Planning Minister on regional issues
- ensuring local government planning schemes reflect the regional plan
- ensuring state and local governments take account of the regional plan when preparing or amending a plan, policy or code that may affect a matter covered by the regional plan
- ensuring development assessment processes, including referral agency obligations for development applications address matters covered in the regional plan
- enabling regulatory provisions to be included in the regional plan
- allowing the Planning Minister to exercise reserve ‘call in’ and direction powers
- establishing processes for amending the regional plan.

Department of Infrastructure and Planning is a concurrence agency for parts of the regional plan's regulatory provisions.

Implementation

The regional plan and the effectiveness of its policies will be regularly reviewed and monitored. This will guide further policy development and assist in future priority projects and actions. Implementation requires cooperation, involving all three levels of government and the community.

The implementation mechanisms for the regional plan will be focused on government and will include:

- incorporation of regional planning outcomes into capital works and service programs and policy making processes of state and local government
- incorporation of regional planning outcomes into local government policies, development assessment processes and local government planning schemes.

In order to facilitate effective implementation of the regional plan, an efficient coordination system to guide, monitor and assist implementation activities is required. In addition, the implementation process should, wherever possible, make use of existing administrative structures and frameworks and avoid duplication of process.

Primary implementation responsibilities for elements of the regional plan will generally be designated to either state government agencies based on portfolio responsibilities or to local government in the region. Lead agencies will be responsible for coordinating the actions of any other agencies which have a role in the implementation of strategies.

An action plan will be prepared in consultation with a Regional Coordination Committee to outline the key priorities for the first five years to implement the regional plan within the regional plan's time frame. The action plan will identify the projects, the actions required and the lead agency.

The implementation process also requires the preparation of detailed action plans, work programs, budget estimates and resource requirements. This work will be coordinated by nominated government agencies. Infrastructure planning to determine the infrastructure requirements that support the regional plan will be undertaken, leading to a budget submission to the government for funding of the major infrastructure components.

Roles and responsibilities

Revised governance arrangements are required to ensure implementation of various aspects of the regional plan. The FNQ Regional Coordination Committee will have an on-going role of overseeing implementation of the plan.

The committee will comprise elected representatives from state and local government and peak body representatives. The primary role of the committee is to provide advice to the Queensland Government, through the Planning Minister, on the development and implementation of the regional plan. The committee will advise on matters such as:

- implementation of the regional plan
- development of priority actions, targets and performance indicators
- effectiveness of the regional plan's policies and strategies
- new or emerging issues for the region.

The committee can consider amendments to the regional plan documents and make recommendations to the Planning Minister, provided the principles, concepts and strategies underlying the plan are not fundamentally altered.

The committee will meet on an as-needed basis, possibly once or twice a year and will deal with major or contentious issues raised through the implementation process.

The Queensland Government will also establish a Regional Planning Implementation Group, comprising senior managers from state and local government agencies as well as representatives from non-government organisations which have responsibility for implementing major components of the regional plan.

The primary role of the group is to provide a broad-based forum to facilitate coordinated implementation of the regional plan and the development of the necessary arrangements and procedures for such implementation.

¹¹ The FNQ Regional Planning Advisory Committee became the FNQ Regional Coordination Committee upon designation of the FNQ region under section 2.5A.2 of the *Integrated Planning Act 1997* on 6 March 2008.
The group provides a whole-of-government approach to infrastructure and services planning, programming, budgeting and review. It will monitor infrastructure planning and delivery across the region and ensure agencies take the regional plan’s targets, projections and strategic directions into account in their infrastructure and services planning. The Regional Planning Implementation Group will:

- undertake overall responsibility for the implementation of the regional plan
- ensure coordinated action by state agencies and local government in the region
- ensure alignment of other statutory and non-statutory plans and strategies with the regional plan
- resolve high level problems and issues as they arise across both levels of government.

The group will meet on a regular basis throughout the year and act to resolve implementation issues. If necessary it can refer regional plan matters to the Regional Coordination Committee for advice.

The group is supported by working groups established as necessary to assist implementation agencies to coordinate the implementation of specific strategies.

The Department of Infrastructure and Planning will provide secretariat support to both the committee and the group and work collaboratively with state government agencies, local government and stakeholders to facilitate and coordinate implementation of the regional plan.

It is intended that each of the above bodies operate together to achieve effective coordination and to assist implementation. Each has a different function and operates at a different level. Together they constitute an integrated approach to coordination of implementation activities in the region.

The rights and responsibilities of individual agencies, authorities and bodies are to be respected and retained, including the responsibility for development, resourcing and funding of programs within their portfolio interests. Implementation will also involve a wide range of community and industry groups and individuals, particularly at the sub-regional and local levels.

Monitoring and reporting

Regional planning is a dynamic process and will not end with the completion of the regional plan. There is a clear need to establish mechanisms to:

- develop appropriate monitoring programs
- set further targets
- monitor progress and changes in the region
- monitor key environmental, social and economic indicators
- identify new and emerging issues
- monitor implementation of the regional plan outcomes
- monitor the effectiveness of the strategies proposed in the regional plan
- periodically review the status of the region
- initiate changes to regional strategies and priorities where required.

Appropriate processes will be established under the implementation structure to further develop targets and monitoring programs, and collect, collate, present and analyse this data.

A regional land monitoring program will be established jointly between state and local government and the development industry to monitor land availability for future development. This program will take into account available broadhectare land stocks, rates of development, development yields and densities being achieved, and population growth and forecast demand.

The responsibility for establishing and maintaining the regional plan monitoring program will rest with the Regional Planning Implementation Group.

Review process

The review process guides further policy development and assists in setting future priority projects and actions.

The regional plan will be reviewed formally at least every ten years in accordance with section 2.5A.10(2) of IPA. In addition, the Planning Minister may amend, replace or approve minor revisions of the regional plan at any time if required.

Any review will include input from government and the community. It will provide an open and accountable process which will involve and inform the community of the outcome of any regional monitoring program.

Community involvement in implementation

The regional plan sets out the need to involve all levels of government, industry and the community in the planning, development and management of the region.

Appropriate consultation and negotiations will be undertaken with the community and relevant stakeholders in the implementation of specific strategies and actions arising from the regional plan. The extent, level and timing of consultation would depend on the particular strategy or action conditions. The responsibility to ensure that appropriate community and stakeholder consultation is undertaken will primarily rest with the individual strategy lead agency. Agency conformity with this requirement will be monitored by the Regional Planning Implementation Group.

Members of the community and specific interest groups can also provide input into the implementation process through the Regional Coordination Committee.
Appendix 1—Maps

Map 1: FNQ location

For information only
Map 2: FNQ region
Note that the Urban Footprint for Yarrabah and Wujal Wujal Aboriginal Councils will have no regulatory effect until such time as a planning scheme prepared under the Integrated Planning Act 1997 is in place.
Map 3d: Cairns regional landuse categories

Legend
- Urban Footprint
- Rural Living Area
- Regional Landscape and Rural Production
- Local Government Boundaries
- Major Roads
- Streets

Regulatory Map
The information on this map is not intended for reference to specific parcels. The map information is indicative only. For the complete map refer to Schedule One of the State Planning Regulatory Provisions – Draft April 2008 administered by the Department of Infrastructure and Planning. The Department of Infrastructure and Planning does not guarantee the accuracy or completeness of the information shown on this map nor does it accept any responsibility or liability for any loss or damage arising from its use.
Sources: Department of Infrastructure and Planning, Department of Natural Resources and Water
Version: April 2008

Appendix 1—Maps
Map 3e: Yarrabah regional landuse categories

Note that the Urban Footprint for Yarrabah and Wujal Wujal Aboriginal Councils will have no regulatory effect until such time as a planning scheme prepared under the Integrated Planning Act 1997 is in place.
Map 3f: Innisfail regional landuse categories

Regulatory Map

The information on this map is not intended for reference to specific parcels.
The map information is indicative only. For the complete map, refer to Schedule
One of the State Planning Regulatory Provisions – Draft April 2008 administered
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liability for any loss or damage arising from its use.
Sources: Department of Infrastructure and Planning, Department of Natural
Resources and Water
Version: April 2008

Legend
- Urban Footprint
- Rural Living Area
- Regional Landscape and Rural Production
- Local Government Boundaries
- Major Roads
- Streets

0 2.5 5 10 Kilometres
1: 250 000
Appendix 1—Maps

Map 3h: Mareeba regional landuse categories

Regulatory Map
The information on this map is not intended for reference to specific parcels.
The map information is indicative only. For the complete map, refer to Schedule
One of the State Planning Regulatory Provisions — Draft April 2008 administered
by the Department of Infrastructure and Planning. The Department of
Infrastructure and Planning does not guarantee the accuracy or completeness of
the information shown on this map, nor does it accept any responsibility or
liability for any loss or damage arising from its use.
Sources: Department of Infrastructure and Planning, Department of Natural
Resources and Water
Version: April 2008

Legend
- Urban Footprint
- Rural Living Area
- Regional Landscape and Rural Production
- Local Government Boundaries
- Major Roads
- Streets

Dimbulah
Mutchilba
Mareeba
Walkamin
Map 3j: Mount Garnet regional landuse categories

Legend
- Urban Footprint
- Rural Living Area
- Regional Landscape and Rural Production
- Local Government Boundaries
- Major Roads
- Streets

Scale: 1:250,000

Regulatory Map

The information on this map is not intended for reference to specific parcels. The map information is indicative only. For the complete map, refer to Schedule One of the State Planning Regulatory Provisions – Draft April 2008 administered by the Department of Infrastructure and Planning. The Department of Infrastructure and Planning does not guarantee the accuracy or completeness of the information shown on this map; nor does it accept any responsibility or liability for any loss or damage arising from its use.

Sources: Department of Infrastructure and Planning, Department of Natural Resources and Water

Version: April 2008
Map 3k: Chillagoe regional landuse categories
Map 4: FNQ World Heritage Areas

Legend
- Wet Tropics
- Great Barrier Reef
- Local Government Boundaries
- Major Roads

For information only
This information in this map is not intended for reference to specific parcels. The map information is indicative only and is subject to ongoing refinement. The Department of Infrastructure and Planning does not guarantee the accuracy or completeness of the information shown on this map, nor does it accept any responsibility or liability for any loss or damage arising from its use. Sources: Department of Infrastructure and Planning, Department of Natural Resources and Water
Version: April 2008
Map 5: FNQ areas of ecological significance
Map 7: FNQ public land
Map 8: FNQ rural production

For information only
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The map information is indicative only and is subject to ongoing refinement.
The Department of Infrastructure and Planning does not guarantee the
accuracy or completeness of the information shown on this map, nor does it
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Sources: Department of Infrastructure and Planning, Department of Natural
Resources and Water.
Version: April 2008

Legend
- Good Quality Agricultural Land
- Strategically Important Agricultural Land
- Mareeba Dimbulah Water Supply Scheme
- Local Government Boundaries
- Major Roads

Kilometres
0 12.5 25 50 75 100
Map 9: FNQ mineral occurrence locations
Map 10: FNQ regional activity centres
Map 11b: FNQ coastal area economic activity

For information only.
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Source: Department of Infrastructure and Planning
Version: April 2008

Legend:
- Hospitals
- Sugar Mills
- Tourist Nodes
- Education Centres
- Industrial Parks
- Shipping Port
- Rail
- Airport
- Local Government Boundaries
- Queensland Rail
- Sugar Cane Trains
- Major Roads

Kilometres

1: 700,000
Map 12: FNQ water catchments
Map 13: FNQ water resources
Map 14: FNQ water supply options
Map 15: Cairns transit oriented communities

Legend
- Transit Corridors
  - Preferred Corridor
  - Corridors Under Investigation
  - Transit Oriented Communities Under Investigation
- Local Government Boundaries
- Major Roads
- Streets

Policy map
The information on this map is not intended for reference to specific parcels. The map identifies areas, towns and corridors generally and does not identify the boundaries of these cities, towns or corridors. The Department of Infrastructure and Planning does not guarantee the accuracy or completeness of the information shown on this map nor does it accept any responsibility or liability for any loss or damage arising from its use.
Sources: Department of Infrastructure and Planning, Queensland Transport
Version: April 2008
Map 16: FNQ cycle network

Legend
- Cycle Routes
- Local Government Boundaries
- Major Roads

Policy note:
The information on this map is not intended for reference to specific parcel boundaries.
The map information is indicative only. For the complete map refer to 'Queensland Transport: The Department of Infrastructure and Planning does not guarantee the accuracy or completeness of the information shown on this map nor does it accept any responsibility or liability for any loss or damage arising from its use.
Sources: Department of Infrastructure and Planning, Queensland Transport, Department of Main Roads Version: April 2008
Map 17a: FNQ regional freight routes
Map 17b: FNQ coastal area freight routes
Map 18: FNQ coastal area public transport

For information only
The information on this map is not intended for reference to specific parcels. The map information is indicative only and is subject to ongoing refinement. The Department of Infrastructure and Planning does not guarantee the accuracy or completeness of the information shown on this map nor does it accept any responsibility or liability for any loss or damage arising from its use. Sources: Department of Infrastructure and Planning, Queensland Transport. Version: April 2008

Legend
- State Regulated Public Transport Routes
  - Local Bus Services
  - Long-Distance Bus Service
  - Towns with Taxi Service
  - Local Government Boundaries
  - Queensland Rail
  - Major Roads

1:1,500,000

Kilometres
Bibliography


Queensland Government (Department of Local Government and Planning), Queensland Residential Design Guidelines, Brisbane.


Queensland Government (State Development and Innovation, Department of Primary Industries and Fisheries) (2004) Sustainable Land-Based Aquaculture Policy.


## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AMCORD</td>
<td>Australian Model Code for Residential Development</td>
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<tr>
<td>CBD</td>
<td>Central Business District</td>
</tr>
<tr>
<td>CRC</td>
<td>Cooperative Research Centres Program</td>
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<td>DIP</td>
<td>Department of Infrastructure and Planning</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<td>EPP</td>
<td>Environmental Protection Policy 1997</td>
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<td>FNQ</td>
<td>Far North Queensland</td>
</tr>
<tr>
<td>FNQ2010</td>
<td>Far North Queensland Regional Plan (current)</td>
</tr>
<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>IDAS</td>
<td>Integrated Development Assessment System</td>
</tr>
<tr>
<td>IPA</td>
<td>Integrated Planning Act 1997</td>
</tr>
<tr>
<td>JCU</td>
<td>James Cook University</td>
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<tr>
<td>LGA</td>
<td>Local Government Area</td>
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<tr>
<td>TOC</td>
<td>Transit Oriented Community</td>
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</table>
Glossary

Agriculture: production of food, fibre and timber, including grazing, cropping, horticulture and forestry.

Aligned policies: policies designed to achieve the desired regional outcomes through planning mechanisms that are not directly land use focused. Aligned policies may include natural resource management plans, tourism and economic strategies, health delivery models, etc.

Alternative pattern of development: detailed assessment of a set of future development scenarios developed for modelling and evaluation purposes only.

Areas of state, regional or local biodiversity significance: areas identified and evaluated according to the Common Nature Conservation Classification System.

Assessable development: development specified in schedule 8, part 1 of the Integrated Planning Act 1997, or for a planning scheme area, development that is declared under the local planning scheme to be assessable development.

Biodiversity: the variety of all life forms including the different plants, animals and micro-organisms, the genes they contain and the ecosystems of which they form a part.

Bioregion: The primary level of land classification in Queensland based on regional geology and climate, as well as major biota.

Broadhectare study: a study assessing future land supply by measuring available land stocks against growth trends.

Brownfield: areas of land previously used for industrial or other purposes available to be redeveloped for alternative purposes.

Cadastre: public register of spatially represented separate properties.

Climate change: a change of climate attributed directly or indirectly to human activity which alters the composition of the global atmosphere, and is in addition to natural climate variability observed over comparable time periods.

Concurrence agency: an entity prescribed under the Integrated Planning Act 1997 as a referral agency with concurrence powers for a development application made under the Integrated Development Assessment System.

Conservation: the protection and maintenance of nature while allowing for its ecologically sustainable use.

Critical habitat: habitat essential for the conservation of a protected wildlife population, or community of native wildlife, regardless of whether special management considerations and protection are required.

Cultural heritage: a place or object with aesthetic, architectural, historical, scientific, social or technological significance to present, past or future generations.

Cultural resource: place or object with anthropological, archaeological, historical, scientific, spiritual, visual or sociological significance or value, including such significance or value under Aboriginal tradition or Torres Strait Island custom.

Deed of Grant in Trust: a type of land tenure issued under the Land Act 1994 that is non-freehold and granted for a particular purpose, commonly for Aboriginal communities where the Aboriginal Shire Council is the trustee.

 Desired regional outcome: regional policies set out the desired regional outcomes, principles and policies to address growth management in a region. The policies guide state and local government planning processes and decision making. Local government planning schemes must be consistent with the intent of the desired regional outcomes, objectives and policies.

Development: building, plumbing or drainage, or operational work, lot reconfiguring, or material change of use of premises.

Dwelling yield: the number of dwellings or lots per hectare.

Environmental offset: counterbalancing unavoidable adverse environmental impacts of development by environmental gains, with the overall aim of achieving a net neutral or beneficial outcome.

Ecological sustainability: A balance that integrates protection of ecological processes and natural systems at local, regional, state and wider levels; economic development; and maintenance of the cultural, economic, physical and social wellbeing of people and communities.

Ecosystem: a community of organisms interacting with one another and the environment they live in.

Ecosystem services: services provided by the natural environment essential for human survival.
Ecotourism: nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable.

Existing urban area: area currently developed for urban purposes, area with current approvals to be developed for urban purposes or area identified to be developed for urban purposes in currently approved planning instruments.

FNQ region: The five local government areas within the FNQ region—the regional councils of Cairns, Tablelands and Cassowary Coast, and the Aboriginal Councils of Yarrabah and Wujal Wujal—and the waters adjacent to these areas (see map 2).

Good quality agricultural land: land which is capable of sustainable use for agriculture with a reasonable level of inputs, and without causing degradation of land or other natural resources.

Greenfield: areas of undeveloped land in the urban footprint areas suitable for urban development.

Greywater: wastewater from showers, laundry, and kitchen sinks, excluding toilet waste.

Integrated Development Assessment System: the system through which development applications are assessed by the relevant assessment manager. Established under Chapter 3 of the Integrated Planning Act 1997.

Implementation action: action which serves to implement part or parts of the regional plan.

Indigenous Land Use Agreement: voluntary agreement between a native title group and others about the use and management of land and waters.

Infill development: new development that occurs within established urban areas where the site or area is either vacant or has previously been used for another urban purpose. The scale of development can range from the creation of one additional residential lot to a major mixed-use redevelopment.

Indigenous cultural heritage: landscapes, places objects and intangible aspects such as language, song, stories and art that hold significance to Aboriginal and Torres Strait Islander people.

Inter-urban breaks: non-urban land areas that separate or surround urban villages, towns and metropolitan areas.

Intergenerational equity: the present generation's responsibility to ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

Intra-urban breaks: non-urban land areas within urban footprint areas which separate suburbs or groups of suburbs.

Key performance indicator: broad measure of sustainability used to monitor the progress of the implementation of the regional plan.

Land use policies: policies with a land use planning focus which can be delivered through a range of IPA planning tools (e.g. planning schemes, priority infrastructure plans, the Integrated Development Assessment System).

Land use study: study establishing a land use pattern and identifying land use categories.

Landholder: landowner, land manager, person or group of people with an interest in the planning area through special lease, mining claim, occupational licence, occupation permit, exploration permit, stock grazing permit, pastoral holding, permit to occupy, and trustees of land set aside for public purposes.

Landscape character: distinct pattern or combination of landscape elements that occurs consistently in parts of the landscape and often conveys a characteristic sense of place.

Master planned area: area where a structure plan is prepared setting out the broad environmental, infrastructure and development intent for the area. A master planned area may be identified under schedule 10 of the Integrated Planning Act 1997.

Mount Peter: The area between Edmonton and Gordonvale, west of the Bruce Highway, representing some of the last remaining land in the Cairns area that has few natural constraints and will accommodate the majority of the new growth to Cairns (formerly known as the southern growth corridor).

Natural resources: soil, vegetation, plants, animals, minerals, air and water that are utilised for economic benefit or community wellbeing.

Net residential density: measure of housing density expressed as dwellings or lots per hectare, calculated by adding the area of residential lots and the area of local roads and parks, and then dividing by the number of dwellings or residential lots created.

No net loss: habitat losses are offset into areas with equal or higher biodiversity values.

Pattern of development: urban settlement pattern to accommodate growth.

Pest species: plant and animal species that have established in areas outside their naturally occurring distributions.

**Planning precinct:** land identified in an IPA planning scheme as a planning precinct using guidelines made under the regional plan.

**Population density:** number of persons per square kilometre.

**Population projection:** population prediction that is the most likely outcome over the 20 year timeframe of the plan.

**Potable water:** water suitable for human consumption.

**Precautionary principle:** where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

**Precinct plan:** document prepared by a local government—and approved by the Planning Minister—detailing proposed planning scheme amendments to establish and manage a planning precinct within regional landscape and rural production areas.

**Preferred pattern of development:** preferred urban settlement pattern to accommodate growth.

**Protected area:** protected areas including national parks, conservation parks, resources reserves, nature refuges, coordinated conservation areas, wilderness areas, world heritage management areas and international agreement areas.

**Protected wildlife:** presumed extinct, endangered, vulnerable, rare or common wildlife.

**Riparian:** banks of land adjacent to a waterway or wetland which contribute to its ecological balance, preservation and continuation.

**Regional activity centre:** centre or proposed centre identified in the regional activity centres network. These centres support a concentration of activity, and may provide a range of activities and services such as higher density living, business, employment and education services, and other urban activities.

**Regional Co-ordination Committee:** committee established by the Planning Minister under section 2.5A.3 of the Integrated Planning Act 1997 to advise the Queensland Government on the development and implementation of the regional plan.

**Regional ecosystem:** vegetation communities consistently associated with a particular combination of geology, landform and soil.

**Regional issue:** an issue with regional significance.

**Regional landscape and rural production area:** the greatest area of land in FNQ. It includes land with one or more of the following values:
- areas of high ecological significance
- regional ecosystems that are endangered or of concern
- Wet Tropics World Heritage Area and protected area tenures
- cassowary, mahogany glider and other rare and endangered species
- coastal beaches and wetlands
- good quality agricultural land and strategically important agricultural land
- natural economic resources including extractive resources, native forests and forestry plantations
- water catchment and groundwater areas
- outdoor recreation areas and open space
- land forming strategic and regionally significant inter-urban breaks.

**Regional Planning Advisory Committee:** committee established by the Planning Minister under section 2.5.2 of the Integrated Planning Act 1997 to advise the Queensland Government on the development and implementation of the regional plan.

**Regional plan:** the FNQ Regional Plan 2025, developed in accordance with section 2.5A of the Integrated Planning Act 1997.

**Regional plan policy:** set out the desired regional outcomes, objectives and policies to address regional management in FNQ. The policies guide state and local government planning processes and decision making. Local government planning schemes must be consistent with the intent of the desired regional outcomes, principles and policies.

**Planning Minister:** minister administering section 2.5A of the Integrated Planning Act 1997.

**Regional target:** particular aim or goal to be achieved by a particular time.

**Regulatory maps:** set of maps referred to in schedule 1 of the regulatory provisions, identifying land categories defined under division 1 of the regulatory provisions.

**Regulatory provisions:** regulatory provisions for the FNQ region made under section 2.5C of the Integrated Planning Act 1997.

**Residential development:** development for a residential purpose at a scale greater than a single dwelling on an existing lot.

**Rural residential purposes:** residential purposes involving single dwellings on lots greater than 2500m².
Rural village: location named in accordance with the Place Names Act 1994 that comprises residential dwellings, some urban activity and is not located within an urban footprint area.

Scenic amenity: landforms and seascapes creating the region’s visual imagery including (but not limited to) mountain ranges, coastal escarpments, beaches, rivers, valleys, agricultural land, creeks, rainforests, wetlands, estuaries and islands.

Sensitive land uses: residential areas, health, education and childcare facilities and areas of high ecological significance.

Settlement pattern: spatial distribution of urban and rural land use, employment, population, centres and infrastructure.


Southern growth corridor: see entry for Mount Peter.

Structure plan: integrated land use plan setting out the broad environmental, land use, infrastructure and development intent to guide detailed site planning for major urban areas.

Strategically important agricultural land: areas of economic significance to the agricultural sector, which may include good quality agricultural land and associated infrastructure.

Traditional owners: Aboriginal people particularly concerned with land if they are members of a group that has a particular connection with land under Aboriginal tradition.

Transit: public transport, for example, bus, rail or ferry services.

Transit oriented communities: mixed-use residential and commercial areas, designed to maximise the efficient use of land through high levels of access to public transport.

Urban activity: residential, industrial, retail, commercial, sporting, recreation or community purpose, normally found in a city or town.

Urban footprint: land predominately allocated to provide for the region’s urban development needs to 2025. The area includes land to accommodate the full range of normal urban uses, such as housing, industry, business, infrastructure, community facilities, recreation and urban open spaces. It may also include some rural residential areas next to urban areas and well located near urban services and facilities. The areas may also contain constrained land, such as wetlands, floodplains, steep hillslopes or areas of high ecological significance.

Urban purposes: purposes for which land is used in cities or towns, including residential, industrial, sporting, recreation and commercial purposes, but not including environmental, conservation, rural, natural or wilderness area purposes.

Vision: the community’s long-term aspirations for the region.

Water resource plan: plan approved under section 50(2) of the Water Act 2000.

Waterway: river, creek, stream, watercourse or inlet of the sea.

Wetland: area of permanent or periodic/intermittent inundation, with water that is static or flowing fresh, brackish or salt, including areas of marine water.

Wildlife corridor: corridors of vegetation linking areas and allowing wildlife movement throughout habitats.

World Heritage Area: sites of outstanding universal natural or cultural significance included on the World Heritage List.

Zoned land: land allocated or identified as a zone, domain or area in a planning scheme, including a strategic plan in a transitional planning scheme.
Acknowledgements

This draft regional plan is the result of contributions from a wide range of government and stakeholder groups and the community. Members of the technical working group, advisory panels and FNQ Regional Organisation of Councils have contributed significant time and resources to the planning process in order to meet the project timeframes. The planning team members have also put in a tremendous effort, which is greatly appreciated. Although it is not possible to list every contributor, their input is recognised and valued.

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- Members of sectoral Advisory Panels
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- FNQ State Agency Champions Network
- FNQ Regional Managers Coordination Network
- Regional stakeholder groups
- Local government
- State government
- Commonwealth government
- Staff from the Department of Infrastructure and Planning

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- The Hon. Warren Pitt—Minister for Main Roads and Local Government and Member for Mulgrave
- Mr Stephen Wettenhall—Member for Barron River
- Mr Jason O’Brien—Member for Cook
- Cr Jim Chapman (Co-Chair)—Former Mayor of Atherton Shire
- Cr Kevin Byrne—Former Mayor of Cairns City Council
- Cr Mike Berwick—Former Mayor of Douglas Shire Council
- Cr Joe Galleano—Former Mayor of Cardwell Shire
- Cr Vince Mundraby—Former Mayor of Yarrabah Council
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- Mr Jeremy Blockey—Cairns Chamber of Commerce
- Mr Keith Noble—Queensland Farmers Federation
- Mr John McIntyre—Tourism Tropical North Queensland
- Prof. Scott Bowman—James Cook University
- Mr Mark Buttrose—Save our Hillslopes
- Mr Robert Blankensee—FNQ Area Consultative Committee
- Mr Russell Butler—Aboriginal Rainforest Council

Queensland Government departments:
- Department of Communities, Disability Services, Aboriginal and Torres Strait Islander Partnerships, Multicultural Affairs, Seniors and Youth
- Department of Education, Training and the Arts
- Department of Emergency Services
- Department of Local Government, Sport and Recreation
- Department of Main Roads
- Department of Mines and Energy
- Department of Natural Resources and Water
- Department of the Premier and Cabinet
- Department of Primary Industries and Fisheries
- Department of Public Works, Housing and Information and Communication Technology
- Department of Trade, Employment and Industrial Relations
- Department of Tourism, Regional Development and Industry
- Environmental Protection Authority
- Queensland Health
- Queensland Police Service
- Queensland Transport
- Queensland Treasury

Local government:
- Atherton Shire Council
- Cairns City Council
- Cardwell City Council
- Douglas Shire Council
- Eacham Shire Council
- Herberton Shire Council
- Johnstone Shire Council
- Mareeba Shire Council
- Wujal Wujal Aboriginal Council
- Yarrabah Aboriginal Council

Commonwealth departments:
- Department of Environment, Water and the Arts
- Great Barrier Reef Marine Park Authority
- Wet Tropics Management Authority
