

Draft Residential Densities Strategy Mackay: **Health Impact Assessment**



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Authors: Felicity Carless and Colleen Gunning

For further information

Colleen Gunning
Manager, Health Promotion Services
Mackay Public Health Unit
Tropical Regional Services
Division of the Chief Health Officer, Queensland Health
Ph: (07) 4911 0404
Email: colleen_gunning@health.qld.gov.au

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Executive Summary

The Mackay Regional Council area is one of the fastest growing in Queensland, with strong growth forecast over the coming decades. Managing the challenges associated with high population growth is one of the drivers of Council's *Draft Residential Densities Strategy* which outlines its vision for more compact urban areas within the region.

Recognition of the relationship between land use planning and health is not new and nationally there is much interest in translating this knowledge into practice. A tool which has emerged to contribute to this practice is Health Impact Assessment (HIA), a process which engages decision makers to consider health impacts in their planning, policy and program deliberations.

To identify indirect health impacts that may be associated with the *Draft Residential Densities Strategy*, Queensland Health initiated a Health Impact Assessment with assistance from the Department of Communities, Mackay Regional Council and the Centre for Health Equity Training Research and Evaluation.

Using a rapid HIA process, including collection of data via literature review and stakeholder consultation, and development of a population profile, the HIA project team generated these recommendations.

Ensure co-location of, or provide connectivity to, recreation facilities, services and education and employment hubs in all master plans for residential areas to encourage active transport / physical activity and community connectivity, enhance road safety and decrease air pollution.

Ensure the provision of supportive infrastructure, including seats, drinking taps and shaded areas; and soft infrastructure, with a focus on community education, to promote and encourage better use of recreation facilities.

Invest in infrastructure, both hard and soft, to build community cohesion and connectivity and include strategies to ensure better use of community facilities.

Foster inclusion and resilience by encouraging community participation in the planning and design of new developments.

Encourage community governing of residential developments.

Ensure the principles of Crime Prevention through Environmental Design are endorsed and incorporated at the design phase.

Encourage the use of 'smart growth' and urban/housing design principles that create greater diversity in housing.

Increase public transport services, including frequency and time of services and effectiveness of current routes to ensure a high growth patronage of the service.

Enhance the integration and connectivity of public and active transport networks, with particular focus on coordinating the installation of transport infrastructure with residential and other developments and co-location of transport nodes with these developments and services.

Design streets to prioritise pedestrian and cyclist movement and incorporate road design features such as narrower lanes, traffic calming devices and landscaped streetscapes to support lower speeds.

Incorporate into planning processes measures to actively deter car use in higher residential density areas.

There has been growing awareness of the area of HIA in Mackay and this HIA contributes to this emerging interest by ensuring that potential health impacts are considered as part of development, policy, programs and planning. This HIA provides targeted direction for optimal community outcomes in planning processes.

Background

The Mackay Regional Council area is one of the fastest growing in Queensland, with a population at June 2010 of 118,842 and an average annual growth rate of 2.9% (2005-2010)¹. Strong growth is forecast, with a projected regional population heading towards 200,000 over the coming decades. This growth is fuelled by the expanding mining industry in the Bowen and Galilee Basins, a resurgence in agribusiness, growth in tourism and an emerging marine sector. As well, the region hosts much of the engineering, manufacturing and mining services industries supporting the regional economy.

Mackay Regional Council has a strong background in working cross-sectorally to improve community outcomes, including partnerships with Queensland Health to address a range of issues. Mackay Public Health Unit is part of Queensland Health's Division of the Chief Health Officer, which 'promotes inclusive and connected communities and healthy behaviours by working in collaboration with a range of government and non-government agencies to empower communities to address health problems at the local level'².

Queensland Health is accountable for driving an integrated cross-government approach for achieving the Queensland Government's *Toward Q2* target of reducing obesity. This Health Impact Assessment (HIA) represents a contribution to this priority.

Introduction

This report details findings of a HIA undertaken on Mackay Regional Council's *Draft Residential Densities Strategy*. The HIA was initiated by Health Promotion Services, Mackay Public Health Unit, Tropical Regional Services, with assistance from the Centre for Health Equity Training Research and Evaluation (CHETRE) and other partners.

The *Draft Residential Densities Strategy* is intended to outline Council's vision for more compact urban areas within the region. It seeks to encourage the delivery of well designed higher density residential development and consequently, increase the overall average density of residential development in identified urban areas. The *Draft Strategy* articulates the need for, and benefits of, higher density residential development; identifies key precincts and corridors suitable for higher densities; and provides design principles for new development. It aspires to enhance the sustainability and liveability of the region and demonstrates Council's commitment to managing the challenges associated with high population growth³.

What is Health Impact Assessment?

Health Impact Assessments aim to engage decision makers so that they consider health impacts and the determinants of health in their deliberations early in the project lifecycle. Although there are many definitions of HIA, it is generally accepted that HIA is 'a combination of procedures, methods and tools by which a policy, program, or project may be

¹ Mackay Region, http://www.mackay.qld.gov.au/business/economic_development/mackay_region accessed 22nd August 2011.

² Queensland Health, Division of the Chief Health Officer Preventative Health Strategic Directions 2010-2013 Queensland Government, Brisbane, 2010.

³ Draft Residential Densities Strategy http://www.mackay.qld.gov.au/business/planning_and_development/strategic_planning/local_and_regional_planning/region_wide_strategies/residential_density_strategy.

judged as to its potential effects on the health of a population, and the distribution of those effects within the population⁴.

The HIA method has been structured across a number of steps

- Screening
- Scoping
- Identification
- Assessment
- Decision making and recommendations
- Evaluation and follow up.⁵

This document outlines the process and outcomes of these steps in relation to the HIA of Mackay Regional Council's *Draft Residential Densities Strategy*.

Relationship between planning and health

Recognition of the relationship between land use planning and health is not a new phenomenon. The profession of town planning originated out of concerns for the health and wellbeing of people⁶. Today, planning concepts such as smart growth, green growth, and transit and pedestrian oriented development all advocate for the development of cities that enable the location of employment, housing and community facilities in close proximity. Identified opportunities to significantly improve health and wellbeing outcomes at the community level through improved planning processes include:

- Physical activity – Provision of facilities and design of environments encouraging physical activity.
- Good food – Availability of and access to nutritious, affordable food.
- Social and mental health – Provision and design of places, houses and neighbourhoods to encourage social interactions and supportive relationships.
- Community engagement – Involvement of communities in state and local planning, reducing community stress and increasing sense of place and belonging.
- Public health – Design and management of houses and neighbourhoods to reduce disease and health risks and manage illness, injury and disability and the factors that cause them.
- Access and geographic equity – Equitable access to services, facilities and support mechanisms that facilitate good health and wellbeing.
- Climate change – Climate change impacts and adaptation of the urban environment
- Perceptions and fear – Perceptions of the condition and safety of the urban environment as a barrier to health and wellbeing.⁷

There are many other resources that have been developed in recent years to demonstrate the potential to deliver improved health outcomes through planning: for example, Active

⁴ Health Impact Assessment (HIA), World Health Organisation, 2008 <http://www.who.int/hia/en/> accessed 22nd August 2011.

⁵ Harris, P., Harris-Roxas, B., Harris, E. & Kemp, L., Health Impact Assessment: A Practical Guide, Centre for Health Equity Training, Research and Evaluation (CHETRE). Part of the UNSW Research Centre for Primary Health Care and Equity. University of New South Wales, Sydney, 2007.

⁶ Thompson, S., A planner's perspective on the health impacts of urban settings. NSW Public Health Bulletin 2007, Vol. 18(9-10), pp. 157-160
www.healthyplaces.org.au/userfiles/file/plannersperspectiveonhealthThompson.pdf (accessed 12 August 2011).

⁷ South Australian Health, Planning for Health: A study of the integration of health and planning in South Australia, Futures Planning Pty Ltd, 2009
<http://www.health.sa.gov.au/pehs/branches/health-promotion/0904-planning-for-health-report.pdf> .

Healthy Communities⁸, Healthy Spaces and Places⁹, Healthy Urban Development¹⁰, Complete Streets¹¹ and Creating Healthy Neighbourhoods: Consumer preferences for healthy development¹². However, the relationship is often complex and indirect. Planning terminology differs from the language of 'health' and it can be difficult to show cause and effect which in turn, can make it difficult to advocate for the design of sustainable and supportive environments that place health at the centre of planning considerations.

Clearly, in theory, the health and planning sectors are linked, but there is still effort required to translate this theory into practice. It is anticipated that this project will contribute to closing this gap.

Health Impact Assessment Methodology

Screening

Screening determines whether a HIA is appropriate, ensuring that time, effort and resources are targeted appropriately¹³.

Completion of the screening tool presented by the CHETRE, University of New South Wales identified that the *Draft Residential Densities Strategy* had the potential to positively influence health, directly or indirectly, through:

- Improvements in public transport usage and integration of services;
- Provision of active transport opportunities through walking and cycling;
- Increased opportunities for private investment and business innovation;
- Improvement of the overall quality and surveillance of places;
- Provision of a range of housing choices for various lifestyles and age groups ;
- Building communities that offer fair access for all to services and employment opportunities; and
- Protection of good quality agricultural land which contributes to access of healthy food.

It was acknowledged that, conversely, depending on its application, the *Draft Strategy* had the potential to impact negatively on the health of the population by reducing physical activity levels and community safety, and compromising mental health. With these considerations in mind, it was determined that conducting a HIA was appropriate.

⁸ Active Healthy Communities: a resource package for local government to create supportive environments for physical activity and healthy eating, available at www.activehealthcommunities.com.au .

⁹ Planning Institute of Australia, Healthy Spaces and Places: A national guide to designing places for health living, ACT, 2009 www.healthyplaces.org.au.

¹⁰ New South Wales Department of Health, Healthy Urban Development Checklist: A guide for health services when commenting on development policies, plans and proposals, Sydney, 2009 copies available at www.health.nsw.gov.au .

¹¹ Institute of Public Works Engineering Australia Queensland Division Inc., Complete Streets: Guidelines for Urban Street Design, Brisbane, 2010.

¹² National Heart Foundation of Australia, Creating Healthy Neighbourhoods: Consumer preferences for healthy development, 2011 available <http://www.heartfoundation.org.au/SiteCollectionDocuments/creating-healthy-neighbourhoods.pdf> .

¹³ Harris et al op cit.

Scoping

Defined as 'the key step, if not the most important step in the HIA process',¹⁴ this stage involves planning and designing the HIA and setting out its parameters¹⁵.

A scoping workshop was facilitated with key stakeholders, some of whom then formed the project team. Given the HIA process timeframes, it was decided a formal steering committee would not be established, though interested persons were identified and agreed to provide comment and direction to the project team when necessary.

A draft scoping statement provided a basis for the workshop, and on finalisation provided both a plan for the HIA and terms of reference for the project team.

Time presented a specific challenge. By the time the opportunity for a HIA had been identified, Mackay Regional Council's *Draft Residential Density Strategy* public consultation period was drawing to a close. Mackay Regional Council proposed that the HIA report could be presented in parallel with the final Strategy to Council. This, coupled with staff capacity consideration led the team to scope the HIA to be conducted at a 'rapid' level.

The Scoping stage outlined the objectives of the project. Main data sources for the HIA would be a review of the published literature on the links between housing [residential densities / urban footprint] and health, supported by both a population profile of the Mackay region and stakeholder consultation.

Specifically, the project considered equity impacts on the region's *children and older adults*. The HIA sought to answer the [equity] questions: would some benefits/ costs be experienced to a greater extent by one group and not others, and what actions might be taken to maximise positive and mitigate negative health impacts?

The project team identified a number of values to underpin the HIA and further define its scope. The social or wellness model of health, which incorporates the social determinants of health, formed a basis for the approach, and three such determinants were considered:

- community safety (as exemplified through unintentional injury, healthy active ageing);
- physical activity; and
- mental health (social cohesion and connectedness).

¹⁴ EnHealth Council, Health Impact Assessment Guidelines, Commonwealth of Australia, Canberra, 2001.

¹⁵ Harris et al op cit.

The selection of these determinants of health and population characteristics is congruent with Queensland policy drivers. *Toward Q2: Tomorrow's Queensland*¹⁶ frames the Queensland Government's 2020 vision for Queensland around five ambitions to address current and future challenges:

Strong: a diverse economy powered by bright ideas.
Green: protects our lifestyle and environment.
Smart: delivers world-class education and training.
Healthy: makes Queenslanders Australia's healthiest people.
Fair: supports a safe and caring community.

Furthermore, Queensland Health's Preventative Health Strategic Directions 2010-2013¹⁷ vision is to help Queenslanders adopt healthy lifestyle behaviours. These directions outline the key priority areas of work as:

- Collaborating across government and sectors, and enabling infrastructure.
- Healthy communities.
- Healthy children.
- Healthy workers.

Identification

*The identification stage develops a profile of the community or population likely to be affected by the proposal and collects information to identify the potential health impacts of a proposal*¹⁸.

This stage, Identification, is often completed in conjunction with the next stage of the HIA, assessment; however it is important to note that there are distinct differences to each stage. Identification is the gathering of information on potential health impacts. The first 'doing' step of the HIA, the identification phase of the Mackay project included the following.

Population profile

Mackay is amongst the fastest growing regions in Queensland and has an estimated resident population of 118,842 with an annual growth rate of 2.9% (2005 - 2010). Based on state figures, Mackay is projected to sustain continued, strong growth over the years ahead. Positive growth forecasts anticipate a Mackay region population heading towards 200,000 over the next two decades¹⁹.

The *Draft Residential Densities Strategy* identified five urban areas of the region, namely, Mackay, Sarina, Walkerston, Marian and Mirani in its application. Consequently, a brief population profile was compiled of each area using data from Australia Bureau of Statistics²⁰ and the Office of Economic and Statistical Research²¹.

¹⁶ The State of Queensland, Department of Premier and Cabinet Queensland *Toward Q2: Tomorrow's Queensland* Government, Brisbane, 2008.

¹⁷ Queensland Health, Division of the Chief Health Officer *Preventative Health Strategic Directions 2010-2013* Queensland Government, Brisbane, 2010.

¹⁸ Harris et al op cit.

¹⁹ Mackay Regional Council, Mackay Region, 2011a www.mackay.qld.gov.au/business/economic_development/mackay_region accessed 22nd August 2011.

²⁰ Australian Bureau of Statistics, 2011 www.abs.gov.au.

²¹ Office of Economic and Statistical Research, 2011 www.oesr.qld.gov.au .

From an equity perspective, it was noted that:

- Mackay urban area is currently, and projected, to be the locality with the largest growth within the Mackay Regional Council area. The Northern Beaches (within Mackay urban area) and Mirani statistical local area (SLA) are forecast to have faster growth rates than Mackay urban area.
- Sarina and Mirani communities have older populations than Mackay and Marian.
- The seniors' population is growing faster than the child population and becoming a larger proportion of the population. This will gradually raise the median age across the region. The fastest population growth amongst seniors is forecast in Sarina SLA.
- Population growth amongst children is relatively even across the region.
- 'Couples with children' families were numerically the largest household group in 2006. From 2016 the largest household group becomes 'couples without children' families which is also the fastest growing household group. 'Lone person' households are also growing faster than 'couples with children' families.
- As a result of these changes, average household size decreases from 2.69 in 2006 to 2.54 in 2031.
- Sarina and Mirani communities experience more disadvantage than the Mackay urban area. Disadvantage-need-risk (DNR) rankings²² indicate that Sarina possibly has a higher need for services for vulnerable children and families than Mirani.

Literature review

The Centre for Health Equity Training Research and Evaluation (CHETRE) undertook the literature review, commissioned by Queensland Health. The scope of the review, as directed by the parameters of the HIA, was the association of higher housing density and health with a particular focus on physical activity, community safety, and mental health with further attention on the two population groups: children and older people.

Overall the review found the relationship between housing density and health is complex and context specific, and the literature on the impact of housing density on health outcomes is inconclusive. There is a large amount of heterogeneity between studies which makes it difficult to compare studies or investigate pooled effects, and results from studies are often contradictory. The review of the considerations of housing density within HIAs also demonstrated a lack of consideration for housing density impacts on health. This suggests that the impacts of housing density are context specific and the design of higher density housing needs to be fit for purpose²³.

The full document *Housing density and health: A review of the literature and health impact assessments*²⁴ is available on request or for download from www.HIAconnect.edu.au. The executive summary is in Appendix 3. Some main findings are outlined below:

Physical activity

Evidence suggests higher density housing can provide an environment supportive of higher levels of physical activity. Higher density combined with greater connectivity and having destinations within walking distance support walking. Residents of higher density areas tend to walk more than residents of less dense areas, and tend to have lower obesity levels.

²² DNR rankings for populations and issues are developed by the Department of Communities as part of matching human services to priority community needs.

²³ Haigh, F., Ng Chok, H. & Harris, P., *Housing density and health: A review of the literature and Health Impact Assessments*. Centre for Health Equity Training, Research and Evaluation, University of New South Wales, Sydney, 2011.

²⁴ Ibid.

However studies indicate people who walk regularly choose to live in neighbourhood environments that promote walkability.²⁵

Community safety

Evidence is limited about the relationship between higher density housing and community safety. Perceived safety issues and traffic danger may lead parents to stop children playing in the street or walking/ cycling. Increased traffic density results in increased risk of road traffic accidents. However there is also evidence increased density is associated with shorter trips and lower speeds. Children and older people are particularly vulnerable to road traffic accidents and when asked parents cited fear of traffic danger as a reason for preventing children from walking to school.²⁶

Mental health- social cohesion and connectedness

Architectural and urban design may impact (positively or negatively) on levels of social inclusion, isolation and the ability of certain groups (disabled people, the elderly and families with young children) to access community and social networks and services. As with most of the potential impacts identified, research suggests it is not necessarily high density that causes impacts on mental wellbeing (for example dissatisfaction) but related factors such as noise, traffic, community engagement and built environment aesthetics.²⁷

Housing density and HIAs

Evidence from HIAs suggest implementation of high density housing works best with planning that incorporates and embraces quality urban design. These include socially connected and purposefully built infrastructure that is equitably accessible to a wide range of people, promotes safety and active transport options to lower car dependence, provides opportunities for lower income earners to afford homes and places human health as a core feature.²⁸

Stakeholder consultation

A stakeholder focus group, consisting of members of Mackay Regional Council's Community Development Team, was conducted to provide additional data. Members of the Community Development team whose areas of work were relevant to the identified demographic profiles, social determinants of health or the urban areas in the *Draft Residential Densities Strategy* were invited to participate in a consultation workshop.

Facilitated by the Health Promotion Team of Mackay Public Health Unit, the workshop provided participants with an overview of HIA, the scope of the HIA and a summary of the *Draft Residential Densities Strategy*. A visioning activity and two specific scenarios were then used to further elicit information around the social determinants and specific demographic profiles identified.

²⁵ Haigh et al op cit.

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

Identification of potential impacts

In preparation for the assessment phase a summary of the key themes from the literature review and stakeholder consultation was collated. This data, along with the population profile was assessed and triangulated ²⁹ (a comparison of data from two or more sources) by the project team to identify areas of impact to be assessed, relevant to each health determinant.

The indicators identified were:

Physical activity

- Sustainable public and active transport (commuting to school/ work/ recreation).
- Access to park/recreation precincts and facilities; sporting/event precincts and facilities and natural recreation areas.

Community Safety

- Road safety: vehicles.
- Road safety: pedestrians and cyclists.
- Crime (including anti-social behaviour).
- Housing design principles.

Mental Health (social cohesion/ community connectedness)

- Access to community facilities and services/ social infrastructure.
- Connections to social networks within community.
- Crime (including anti-social behaviour).
- Housing design principles.
- Housing affordability.

²⁹ Harris et al op cit pg 21.

Assessment

Following the collection of information in the identification stage, it is necessary to synthesise and critically assess this information in order to prioritise health impacts³⁰. This is known as the assessment stage.

Assessment is a complex task which can be made more manageable by using a matrix to streamline considerations³¹. On this basis, the project team developed a context-specific tool, shown in Table 1, which was (mainly) completed by the project team during a full-day meeting.

Identified information was inserted into the matrix. For each indicator, any specific assumptions were noted. The differential impacts for the general population and the selected demographic profiles were assessed against each health determinant / indicator. Furthermore, notes for possible recommendations/mitigation strategies were also recorded. Importantly, there was constant checking back to the data collected in the identification stage to ensure the assessment reflected this information gathered.

Initially, it was planned to consider each 'density' e.g. medium density, low-medium density, high density in relation to the health determinants and the nature of impacts on the specific demographic profiles. However as the literature review found little evidence relating to specific density types, and since the term 'higher density residential development' is used throughout the *Draft Residential Densities Strategy* to collectively refer to low-medium density, medium density and high density; it was decided that the matrix would be completed under the umbrella 'higher density': referring to the *Draft Strategy* definition, meaning anything higher than low density.

On completion of the matrix, key themes were distilled from the document and considered by the Project Team. Through this process, mitigation strategies to maximise positive health outcomes which emerged could be categorised around the themes of environment (design considerations in the built environment and enhancing the natural environment), transportation (planning and infrastructure) and communities (access to services and infrastructure, and community development). These concepts were refined further to form the HIA's recommendations.

The completed Assessment Matrix forms Appendix 5.

³⁰ Harris et al op cit.

³¹ Ibid.

Table 1 Assessment Matrix (blank)

Scenario	Higher density (the term ‘higher density’ collectively refers to low-medium density, medium density and high density and, therefore, means anything higher than low density)					
Key features	<p>Low density: lot size is larger than 500m²; typical building form includes detached dwellings, semi detached dwellings, attached dwellings.</p> <p>Low-medium density: lot size is between 500m² – 290m²; maximum building height is 3 storeys; typical building form includes detached dwellings, semi-detached dwellings, attached dwellings.</p> <p>Medium density: lot size is smaller than 290m²; maximum building height is 8 storeys; typical building form includes attached dwellings, semi-detached dwellings, low-rise apartments, medium-rise apartments.</p> <p>High density: lot size N/A; maximum building height is to be considered based on the outcomes of the Mackay City Centre Local Area Plan; typical building form includes medium-rise apartments, high-rise apartments.</p>					
Demographic considerations	<p>Children 4 – 12</p> <p>Ageing population : Recognition of the “changing nature” of ageing in the local community ie longer participation in the workforce, tendency to part-time work etc.</p>					
HEALTH DETERMINANT	INDICATOR	SPECIFIC ASSUMPTIONS	NATURE OF IMPACT ON SPECIFIC DEMOGRAPHIC PROFILES (positive, negative, unclear)			NOTES FOR REC’S / MITIGATION STRATEGIES
			General pop’n	Children	Ageing pop’n	
Physical Activity	Sustainable public & active transport (commuting to work/school/recreation)					
	Access to park/recreation precincts & facilities; sporting/event precincts & facilities and natural recreation areas					
Community Safety	Road safety: vehicles					
	Road safety; pedestrians & cyclists					
	Crime / antisocial behaviour					
	Housing design / principles					
Mental Health (social cohesion / community connectedness)	Access to community facilities & services / social infrastructure					
	Connections to social networks within community					
	Crime / antisocial behaviour					
	Housing design / principles					
	Housing affordability					

Assessment discussion

HIA practice places weight on researched evidence, both quantitative and qualitative and, lived experience. The project team identified issues of contextual importance that would be valuable to note in the background of this HIA.

Much attention was devoted to clarifying the context of this project and, in particular, the issues to be addressed. Due to the 'rapid' level of this project and hence the refined scope, a number of themes were identified that were not able to be fully assessed in this HIA. However, the project team considered these issues were significant and notes them here for consideration in the broader context.

Housing affordability is a major component of housing choice for individuals and families. An inability to access affordable housing can result in households having little choice about the location and quality of their housing, and may result in households living in areas that have poor access to community services, employment opportunities and support networks³².

Although housing affordability was not clearly identified in the scope of the HIA, it would be remiss of the project team to not highlight this issue, which is a serious and well-documented problem in the Mackay context. However the *Draft Strategy* does note, specific to the Mackay context, that while it is evident that some forms of higher density residential development can provide affordable housing options, recently constructed high density developments have been provided in 'premium amenity' locations and at premium prices. As such, current high density stock is well out of reach financially for most young adults, many broken families and some older adults who are at higher risk of economic stress³³.

The *Draft Residential Densities Strategy* nominates urban areas suitable for higher density development, including parts of Sarina and Mirani. In terms of disadvantage, the population data collected in the identification stage underscores that the Sarina and Mirani communities experience more disadvantage, and have higher proportions of older residents, than the Mackay urban area. Although it is beyond the scope of this HIA to frame a recommendation in response to these issues, the Project Team suggests that the demographics of Sarina and Mirani need to be considered explicitly prior to increasing residential density in these areas.

As addressed previously, there is a substantial body of work around the built environment and urban design, and their impacts on health. The evidence on *housing density and health* however, is inconclusive. As the evidence on the impacts of housing density is often generalised from assessment of urban design, many of the recommended strategies in this HIA may be better developed through reference to urban design principles, rather than through explicit housing density mechanisms. It is hoped however, that this body of work contributes to the density and health discussion.

In terms of the population characteristics considered in this HIA, the project team discussed the *changing nature of getting older* and in particular, the reality that many older people are staying in the workforce longer. Strong economic growth and legislative incentives have contributed to this phenomenon, which can contribute to positive health outcomes for older

³² New South Wales Department of Health, Healthy Urban Development Checklist: A guide for health services when commenting on development policies, plans and proposals, Sydney, 2009 copies available at www.health.nsw.gov.au.

³³ Mackay Regional Council, Draft Residential Densities Strategy, 2001b www.mackay.qld.gov.au/business/planning_and_development/strategic_planning/local_and_regional_planning/region_wide_strategies/residential_density_strategy.

people³⁴. Participation in employment can provide opportunities for physical activity, social engagement, build self-esteem and a sense of accomplishment, and provide access to financial resources to support healthy living³⁵.

Recommendations

The Mackay region is the focus of a range of planning activity across all levels of government.

The recommendations presented here are in line with the “regional strategies” identified in the *Draft Mackay, Isaac and Whitsunday Regional Plan 2011*³⁶: the continuity of terminology enhancing the relevance of this HIA’s recommendations. These strategies are also reflected in the planning themes for the Mackay Regional Council’s Draft Community Plan 2011-2031 *Tomorrow’s Mackay: a vision for the community*³⁷.

Connections are first made to the “regional strategies” followed by links to the *Draft Residential Densities Strategy* (if these exist). Recommendations appear in the shaded boxes on pages 19-22. Practical examples, particularly with relevance to older adults and children, follow each recommendation.

Regional Strategy: Natural Environment and local landscapes: Community Green Space Networks

‘A...community green space network which provides opportunities for outdoor recreation, social interaction and healthy lifestyles is critical for the development of a strong economy and cohesive healthy communities’³⁸.

It is noted that, Mackay Regional Council’s *Draft Residential Densities Strategy*’s Location principles: Access and liveability (Part B: section 4) currently reflects this theme.

In addition, the following strategies are recommended for consideration by Mackay Regional Council to further enhance the establishment of green space networks.

Ensure co-location of, or provide connectivity to, recreation facilities, services and education and employment hubs in all master plans for residential areas to encourage active transport / physical activity and community connectivity, enhance road safety and decrease air pollution. Access to schools and parks should be considered for children, and access to health and support services as well as work and social opportunities should be considered for adults.

³⁴ Sydney Morning Herald, More older people working, September 29 2010 www.smh.com.au/action.printArticle?id=1955435 (accessed 28 July 2011).

³⁵ New South Wales Government Family & Community Services Ageing, Disability & home Care www.adhc.nsw.gov.au/individuals/aeqing_well/working_longer (accessed 28 July 2011).

³⁶ Department of Local Government and Planning, Draft Mackay, Isaac and Whitsunday Regional Plan Queensland Government, Brisbane, 2011.

³⁷ Mackay Regional Council, Draft Community Plan 2011-2031 Tomorrow’s Mackay: a vision for the community, 2011c www.mackay.qld.gov.au/_data/assets/pdf_file/0018/111096/Community_Plan_Draft_WEB.pdf.

³⁸ Department of Local Government and Planning op cit.

Ensure the provision of supportive infrastructure, including seats, drinking taps and shaded areas; and soft infrastructure, with a focus on community education, to promote and encourage better use of recreation facilities. Engaging children and older adults in the design of public spaces can ensure their needs are respected and opinions valued.

Regional Strategy: Strong Communities

*'Planning for strong communities is about ensuring that a full range of key social services and facilities are available to meet the changing needs of the community. This requires that the social needs of communities be considered in planning to maintain and improve the quality of life and wellbeing for residents, now and into the future'*³⁹.

Mackay Regional Council's *Draft Residential Densities Strategy* does not explicitly articulate this theme, but does reflect a commitment to active healthy residents.

On this basis, it is recommended to:

Invest in infrastructure, both hard and soft, to build community cohesion and connectivity and include strategies to ensure better use of community facilities.

Access to barbeque facilities for residential street use and welcome programs are examples of initiatives which are inclusive of families with children, and older adults. Co-location of facilities with services for all ages and affordable hire rates for halls for community groups could be strategies to contribute to good health outcomes for children and older adults.

Foster inclusion and resilience by encouraging community participation in the planning and design of new developments.

Through building the community's confidence and ability to participate in decision-making the needs and aspirations of children and older adults can be integrated early into planning processes.

Encourage community governing of residential developments. *Developing the capacity of residents to be active citizens contributes to community efficacy and social capital. This in turn forms a basis for improved health outcomes, particularly for vulnerable groups including children and older people.*

³⁹ Ibid.

Regional Strategy: Settlement Pattern

Well planned, designed and defined communities ... offer diverse housing options, access to services, employment opportunities, and active modes of transport and efficient use of land and infrastructure⁴⁰.

Mackay Regional Council's *Draft Residential Densities Strategy's* Design principles (Part B: section 5) currently reflect this theme.

Additionally, these strategies are recommended for consideration to further enhance liveability.

Ensure the principles of Crime Prevention through Environmental Design are endorsed and incorporated at the design phase. *Crime Prevention through Environmental Design elements can enhance community safety, reducing the risk of injury to children and older adults.*

Encourage the use of 'smart growth' and urban/housing design principles that create greater diversity in housing. *Suggested strategies include promoting diversity of lot sizes, ensuring grid like street design, providing housing choice and affordability, encouraging liveable housing design, and incorporating specific guidelines to promote safety such as driveway design/ rear lanes. These activities support safe and healthy lifestyles for families and older adults.*

⁴⁰ Ibid.

Regional Strategy: Integrated Transport

'Quality of life requires an effective and efficient transport system. Public and active transport needs to be integrated into the system to provide access for the whole community... which will provide flexibility as well as significant health and environmental benefits'⁴¹.

This theme is currently reflected in Mackay Regional Council's Draft Residential Densities Strategy's Location principle: Access and liveability (Part B: section 4).

The following strategies are recommended for consideration to enhance the potential for transport provision to contribute to health outcomes:

Increase public transport services, including frequency and time of services and effectiveness of current routes to ensure a high growth patronage of the service. Effective and affordable transport networks ensure equitable access to employment, education, health services and enable opportunities for social and economic participation.

Enhance the integration and connectivity of public and active transport networks, with particular focus on coordinating the installation of transport infrastructure with residential and other developments and co-location of transport nodes with these developments and services. For families and older adults easy access to transport networks is a fundamental health determinant which could be addressed by sensitive land use planning.

Design streets to prioritise pedestrian and cyclist movement and incorporate road design features such as narrower lanes, traffic calming devices and landscaped streetscapes to support lower speeds. Building environments to support active transportation options is critical for the health of children and older adults. Across the life course from childhood to old age, promotion of physical activity reduces the risks of illness and injury.

Incorporate into planning processes measures to actively deter car use in higher residential density areas. Restricting the use of motor vehicles through limiting car parking options, the creation of car free areas,, and community car pooling programs are strategies which can reduce the risk of traffic-related injuries to children and older adults, and encourage increased physical activity across the community.

⁴¹ Ibid

Evaluation and follow-up

Evaluation is the final stage in the HIA process, and is critical for ensuring a more effective intervention⁴².

An evaluation outline was included in the scoping document and covered the evaluation evidence, both process and impact, to be collected.

The process evidence includes:

- Feedback from the Project Team (and key identified persons) relating to the process.
- Feedback from participants of the stakeholder consultation.
- Feedback on process from consultants from CHETRE.

Impact evidence will be assessed via:

- Influence on, and adoption of HIA recommendations within the Mackay Regional Council *Residential Densities Strategy* to be completed within six months following Council adoption of the strategy.

Conclusion

It is acknowledged that there are clear linkages between land use planning and health, and many resources are being generated to support the development of this relationship. However, there is still scope to translate into practice the theory of 'the built environment as an influence on human health', and HIA has emerged as one means to practically integrate health concerns into land use and other planning, policies and programs.

This HIA sought to identify indirect health impacts that may be associated with Mackay Regional Council's *Draft Residential Densities Strategy* and propose strategies to mitigate these impacts. It was a rapid assessment, due time and resource limitations, but it is hoped that this HIA provides targeted direction for optimal community outcomes in planning processes.

Although this HIA has yet to be formally evaluated, as at the completion of the recommendations stage, indications are that this process has been worthwhile. Project team members have gained the experience of undertaking another HIA, and plans are in place to evaluate this process.

⁴² Harris et al op cit

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