

**ACELG Local Government Researchers Forum  
Sydney UTS 14-15 December 2011**

**Title of Paper: Connectivity, Sustainability, Flexibility and Accessibility - Indicators for Liveable Rural and Remote Communities: A Liveable Communities Assessment of Gunnedah Shire**

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**ACKNOWLEDGEMENTS:**

Hunter New England Population Health would like to acknowledge the input of the Aboriginal partners: Red Chief Local Aboriginal Land Council, Gunida Gunyah Aboriginal Corporation and Min Min Aboriginal Corporation. Without their trust and dedication this work would not have been possible.

**AIMS:**

The environment in which we live plays an important role in the health and well-being of our communities, whether it is the type of buildings we live in, the amount of open space we have for leisure activities, our access to education and employment, the availability of fresh and nutritious food, our feelings of safety or the health impacts of climate, water and air quality (Srinivasan, O'Fallon and Dearth, 2003).

In recent times, governments have become increasingly aware of these factors which play a role in community wellbeing and have legislated to ensure that these factors are given close consideration in all aspects of policy making and planning.

Recent changes within Local Government have required the reporting of their integrated strategic planning process. The development of a set of indicators will enable individual local governments to determine which indicators meet their strategic planning reporting requirements and to establish baseline data for measuring the impact of future development decisions.

To date there has been little cohesion in developing a set of indicators for New South Wales that enable local governments to readily measure the liveability of their communities and to establish a method of comparison of future progress towards achieving community goals.

Furthermore, as part of the current study, a review of available community indicators highlighted the particular challenges for communities where there are few new developments and the infrastructure and services are already well established, or where, as in the case of rural communities, the availability of infrastructure and services, as well as rates income for councils is substantially less than in urban areas.

A review of the literature revealed limited examples of liveability assessments in rural settings. There is very little research reviewing different indicators and their relation to liveability in rural settings.

Evidence, however, does indicate that those living in rural areas of Australia experience worse health outcomes than those living in urban areas (Dixon and Welch, 2000; Humphreys and Hegney, 2002). “Health outcomes, as exemplified by higher rates of death, tend to be poorer outside major cities. The main contributors to higher death rates in regional and remote areas are coronary heart disease, other circulatory diseases, motor vehicle accidents and chronic obstructive pulmonary disease (e.g., emphysema). These higher death rates may be attributable to differences in access to services, risk factors and the regional/remote environment” (Australian Institute of Health and Welfare website).

Even more significant is the poor state of Aboriginal and Torres Strait Islander health. In reviewing the resources available to guide planners, developers and health professionals in the area of healthy built environments, little evidence was found with regard to the perspectives of Aboriginal and Torres Strait Islanders people.

While some work has been undertaken in developing evidence-based frameworks and indicators to assist in the planning of liveable urban centres, there has been little addressing the divergent needs of rural and remote communities. Residents within these areas often face different challenges and concerns from those of urban communities, resulting in differing planning priorities. High Aboriginal populations also place different demands in addressing needs in culturally appropriate ways.

As part of the Liveable Communities Project, Hunter New England Population Health (HNEPH) undertook a literature review and consultation with key stakeholders and the community in order to define a liveable community and the specific design elements that will make a community liveable. The outcome of that research was the development of a resource to guide existing and future planning processes to help create more liveable communities: *Building Liveable Communities in the Lower Hunter Region* (Wells et al, 2007). As part of the resource, four principles of liveability were identified: Connectivity, Flexibility, Accessibility and Sustainability.

In order to test the application of the four principles of liveability articulated in *Building Liveable Communities in the Lower Hunter* (Wells et al, 2007), HNEPH has been working with Gunnedah Shire Council and local governments throughout the Lower Hunter Region of New South Wales to conduct a series of Liveability Assessments. Each Liveability Assessment collected and collated information about a range of wellbeing outcomes which are affected by the built environment including:

- Access to affordable and healthy food;
- Access to and use of public transport;
- Access to and use of active transport;
- Access to and use of recreation facilities and public spaces;
- Access to education and employment;
- Access to services and facilities; and
- Social capital and community safety.

The primary aim of the Gunnedah Liveable Communities Assessment was to pilot the development and utilisation of liveable community indicators for rural and remote communities, the results of which aimed to assist local government to incorporate health and wellbeing factors into community planning, with particular reference to Aboriginal and Torres Strait Islander populations.

## METHODS:

Each Liveable Communities Assessment involved the collection of data via community telephone survey, along with publicly available data sources (2006 Household Census (Australian Bureau of Statistics website) and information held by Local Council. Indicators and measures used in the data collection process were from a *Liveability Assessment Tool* (Hunter New England Population Health, 2011) containing measurable indicators of community liveability, which was developed, based on the principles and elements of liveability defined in the publication: *Building Liveable Communities in the Lower Hunter Region* (Wells et al, 2007). Additional descriptive indicators were also included so as to explore barriers to the attainment of indicators of community liveability and opportunities for improvement.

In order to develop the list of indicators into the *Liveability Assessment Tool*, the Project Team documented the specific indicator or descriptor, the question used to obtain the information, the rationale and potential implications, where the data could be obtained, the level at which the data was available and identified the most recent data available.

The *Liveability Assessment Tool* provides a series of indicators and measures of liveability, divided into 15 focus areas:

- Understanding the community
- Access to quality employment
- Access to fresh food
- Access to physical activity
- Access to flexible and affordable housing
- Access to public transport
- Access to early childhood services
- Access to education
- Access to health services
- Access to community facilities and public spaces
- Access to communication
- Community safety
- Social cohesion and participation
- Environmental sustainability
- Expectation and future development desires.

For example, in 'Focus Area: Access to Physical Activity', an indicator of liveability is 'the use of and satisfaction with footpaths and cycle ways'. One of the corresponding measures for this indicator is 'the proportion of people who are satisfied with the shading of footpaths in their neighbourhood'. The *Liveability Assessment Tool* provides example survey questions and lists possible data sources for obtaining such data. For the Gunnedah Liveability Assessment, modifications were made to some of the questions within each focus area to ensure the questions were relevant in a rural context.

Data to inform the Gunnedah Liveability Assessment was initially gathered via a community survey that involved the Computer Assisted Telephone Interview (CATI) method. The interview sample consisted of 561 people residing across the Gunnedah Local Government Area. Evidence suggests that CATI has the potential to provide a representative sample with greater response rates than other types of data collection. For the current study, the sample for the CATI survey was drawn from owner-occupier lists provided by Gunnedah Shire Council and phone numbers were then sourced using the electronic White Pages. This process resulted in a sample that included home owners whose phone numbers were listed in the White Pages. While the consultations were extensive, it was recognised that Aboriginal people were not adequately represented.

In order to ensure that the study contained an adequate representation of the views of the Shire's Aboriginal residents, a targeted consultation with Aboriginal and Torres Strait Islander people was undertaken. This targeted consultation was conducted in partnership with the Red Chief Local Aboriginal Land Council, Gunida Gunyah Aboriginal Corporation and Min Min Aboriginal Corporation and based on the model established in the Lower Hunter Region, conducting a pen and paper survey with a convenience sample of the Aboriginal and Torres Strait Islanders population, distributed as closely as possible to the demographics of the ABS profile for the Gunnedah Shire.

The development of the methodology and the delivery of the Aboriginal Consultation were directed by a Consultation Steering Group. The focus of this governance structure was to allow for direct and complete community control of the consultations and to facilitate sensitivity to local needs. The Steering Group comprised of representatives of each of the partner organisations, Aboriginal local government representatives and other community members as appropriate. The inclusion of local government representatives on the Steering Group ensured that the Consultation outcomes would be useful to Gunnedah Shire Council in informing their strategic planning.

On completion of the Aboriginal Consultation, 97 surveys had been completed, and data was compared with data from the CATI survey. The comparison identified a number of differences between the two survey samples.

#### **FINDINGS:**

As part of the Liveable Communities Project, Liveability Assessments have been conducted in partnership with five Lower Hunter local governments and one rural local government. Through these partnerships, HNEPH has developed and tested a suite of liveability indicators and measures. Furthermore, the Project Team has undertaken targeted Aboriginal Consultations with three Local Aboriginal Land Councils (LALC) and two Aboriginal Community Controlled Organisations (ACCO) in the Lower Hunter and Gunnedah regions, to develop and test a model for engaging with Aboriginal communities to investigate the effect of the built environment on the health and wellbeing of Aboriginal people.

The results from each of the Liveability Assessments have indicated that the four principles of liveability (flexibility, accessibility, connectivity and sustainability) are common to all study areas, as are the fifteen focus areas. Where the differences between urban and rural communities lie is in the relative priorities of the subdivisions of the focus areas.

The study areas assessed could all be described as 'in transition'. The study areas in the Lower Hunter Region are experiencing a period of rapid growth and expansion, whilst Gunnedah is in a similar position to many rural centres, experiencing a decline in population, particularly in the 20-35 year age group. This transition is further complicated by the conflicts of a traditional agricultural region facing the expansion of mining, which is impacting on the community in a wide range of areas.

The challenges for local governments in the Lower Hunter Region include both greenfield and infill developments which provide them with the opportunities to implement best practice development options in providing for the majority of factors that have a positive impact on the future health of the population. These options including encouraging greater use of active transport, building connectivity into the equation by incorporating grid pattern street development, ensuring adequate provision of open space, provision of passive and active recreation opportunities, provision of flexible housing options and employment opportunities.

The options facing rural communities are less numerous. There is frequently little new development and the questions revolve around making best use of what is currently available. In the case of Gunnedah, weighing up the options associated with balancing the development of employment opportunities with the increases in housing costs, with preserving prime farming land for future food security and protecting the vital ground water aquifers while enabling the explorations for future mining opportunities produces many difficult challenges, particularly when faced with the small rates base of the local Shire. The Shire also faces the challenges of meeting the health needs of an expanding aged population, together with ensuring that a rapidly growing young Aboriginal population has access to the services it needs for healthy development.

The following tables show the proportion of respondents reporting behaviours or satisfaction with regard to a number of areas within selected focus areas. Data is provided for the rural sample (Gunnedah CATI sample), the Gunnedah Aboriginal Sample and for urban respondents. Urban respondents come from five different urban study sites and a range of proportions is reported here for comparison purposes.

Table 1 shows the proportion of responses with regard to physical activity. With regard to using active transport to school, the highest proportions were reported among Gunnedah Aboriginal respondents and urban respondents.

Table 1: Access to Physical Activity

Liveability Indicator	Accessibility	Flexibility	Sustainability	Connectivity	Measure	Gunnedah CATI Sample	Gunnedah Aboriginal Sample	Urban respondents
Participation in Active Transport	✓		✓	✓	Proportion of students who use active transport to travel to school	15%	29%	5% - 34%
Use of and Satisfaction with Sport and Recreation Facilities	✓				Proportion of people who have used neighbourhood parks, picnic areas, playgrounds or reserves in the last month	32%	68%	28% - 50%
					Proportion of people who are either very or mostly satisfied with the amount of open space, such as parks, sporting fields and reserves, within their neighbourhood	91%	64%	67% - 84%
Use of and Satisfaction with Footpaths and Cycle ways	✓				Proportion of people who have used neighbourhood footpaths in the last month	81%	-	80% - 87%

					Proportion of people who are satisfied with the quality (e.g. paving/lack of cracks) of the footpaths in their neighbourhood	69%	15%	46% - 85%
					Proportion of people who have used neighbourhood cycle ways in the last month	28%	27%	19% - 35%

One of the most obvious and frequently recognised disparities was with regard to accessing a GP when needed, as shown in Table 2. A lower rate of difficulty was reported among urban respondents (19%-48%), compared to rural respondents (78%) and Aboriginal respondents (77%). Difficulty in accessing a dentist was also reported at higher levels for rural and Aboriginal respondents.

Table 2: Access to Health Care Services

Liveability Indicator	Accessibility	Flexibility	Sustainability	Connectivity	Measure	Gunnedah CATI Sample	Gunnedah Aboriginal Sample	Urban respondents
Access to GP Services	✓				Proportion of people who had difficulty accessing a GP when needed within the last 12 months	78%	77%	19% - 48%
Access to Dental Services	✓				Proportion of people who had difficulty accessing a dentist when needed within the last 12 months	50%	57%	11% - 29%

Similar rates of fruit consumption were reported for all respondents. Respondents from the Gunnedah Aboriginal sample reported the lowest consumption of vegetables, compared to the rural CATI sample and urban respondents, as shown in Table 3.

Table 3: Access to Fresh Food

Liveability Indicator	Accessibility	Flexibility	Sustainability	Connectivity	Measure	Gunnedah CATI Sample	Gunnedah Aboriginal Sample	Urban respondents
Healthy Food	✓	✓	✓	✓	Percentage of people who consume the recommended two	61%	56%	54% - 66%

<b>Consumption</b>					serves of fruit per day			
					Percentage of people who consume the recommended five serves of vegetables per day	21%	13%	18% - 24%

With regard to perceived safety, a high proportion of respondents from all samples reported feeling safe whilst walking in their neighbourhood at day. When compared to perceived safety at night, much lower proportions were reported, as shown in Table 4.

Table 4: Community Safety

<b>Liveability Indicator</b>	<b>Accessibility</b>	<b>Flexibility</b>	<b>Sustainability</b>	<b>Connectivity</b>	<b>Measure</b>	<b>Gunnedah CATI Sample</b>	<b>Gunnedah Aboriginal Sample</b>	<b>Urban respondents</b>
<b>Perceptions of Safety</b>				✓	Proportion of people who agree/strongly agree with feeling safe walking in the neighbourhood in day	96%	91%	85% - 97%
					Proportion of people who agree/strongly agree with feeling safe walking in the neighbourhood in night	36%	44%	13% - 47%

As shown in Table 5, a higher proportion of respondents from the rural sample reported that public spaces cater for a range of ages and access needs. A significantly lower proportion of Aboriginal respondents reported that public spaces cater for a range of access needs and for cultural needs.

Table 5: Access to Community Facilities

<b>Liveability Indicator</b>	<b>Accessibility</b>	<b>Flexibility</b>	<b>Sustainability</b>	<b>Connectivity</b>	<b>Measure</b>	<b>Gunnedah CATI Sample</b>	<b>Gunnedah Aboriginal Sample</b>	<b>Urban respondents</b>
<b>Quality and Flexibility of Public Space</b>	✓	✓		✓	Proportion of people who think that public spaces in their suburb either mostly or completely cater for a range of ages	74%	44%	41% - 47%
					Proportion of people who think that public spaces in	73%	28%	40% - 46%

				their suburb either mostly or completely cater for specific access needs			
				Proportion of people who think that public spaces in their suburb either mostly or completely are welcoming to a range of cultural groups	82%	28%	50% - 65%

As shown in Table 6, high levels of social cohesion were reported among rural respondents. Participation in voluntary work was reported at higher levels among rural respondents, compared to urban respondents. A higher proportion of rural respondents and Aboriginal respondents reported attending community events compared to urban respondents.

Table 6: Social Cohesion and Participation

Liveability Indicator	Accessibility	Flexibility	Sustainability	Connectivity	Measure	Gunnedah CATI Sample	Gunnedah Aboriginal Sample	Urban respondents
<b>Connection to Place and Social Cohesion</b>				✓	Proportion of people who either agree or strongly agree with feeling they belong to their neighbourhood	94%	90%	79% - 92%
					Proportion of people who either agree or strongly agree with the notion that they plan to remain a resident of the neighbourhood	85%	84%	78% - 90%
					Proportion of people who either agree or strongly agree that their neighbourhood is a good place to live	92%	88%	71% - 97%
					Proportion of people who do voluntary work	55%	28%	22% - 34%
					Proportion of people who attend community events in their suburb	84%	74%	36% - 68%

## CONCLUSIONS:

The suite of liveability indicators and measures, developed as part of the current study, has enabled the assessment of liveability across a number of geographical areas. The results of each of the Liveability Assessments enabled a set of evidence based recommendations to local governments to inform the development of environments which are more supportive of local communities. In the case of the Gunnedah Liveability Assessment, the Council has used data from the Assessment in drafting its Community Strategic Plan. Many of the indicators contained in the survey relate directly to the areas Council is considering in the Strategic Planning process. Also, Gunnedah Shire Council is considering using the *Liveability Assessment Tool* to conduct future surveys. The Tool will enable Gunnedah Shire Council to streamline some of its consultation in the future and will assist to develop a data set that is representative of the population.

Furthermore, the current study has enabled:

- The identification of needs of Aboriginal people with respect to the built environment compared to the needs of the non-Indigenous population;
- Gunnedah Shire Council to consider the needs of Aboriginal people when developing the strategic plans and policies that will guide the development of the built environment;
- For LALCs and ACCOs to have high quality and locally relevant evidence available to advocate for action to improve the quality of the built environment to better suit their needs.

## RECOMMENDATIONS FOR POLICY AND PRACTICE:

The *Liveability Assessment Tool* provides an evidence based framework against which local governments can assess liveability within a particular geographical area.

Assessing liveability using a consistent set of indicators and measures may allow for:

1. Identification of communities that may be vulnerable to disadvantage caused by poor built environments.
2. Longitudinal or comparative studies of liveability over time or between geographical areas.

While the focus of this paper has been on the development of the *Liveability Assessment Tool* and its application in rural and remote communities and its relevance for Aboriginal and Torres Strait Islander populations, HNEPH recognises the need for a range of strategies to support the use of the Tool. These include capacity building and partnership building strategies. Such strategies were utilised for the Liveable Communities Aboriginal Consultations. These Consultations have resulted in the development of a model for working in partnership with Local Aboriginal Land Councils and Aboriginal Community Controlled Organisations to conduct consultation about issues which impact on health. The model has been tested in a range of situations including in regional and rural settings and with a range of project partners. There is significant potential for this model to be used to guide future partnerships with Aboriginal organisations to investigate and address a range of health issues across NSW.

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