

Social Infrastructure Planning and Sustainable Community: Example from South East Queensland, Australia

Suharto Teriman*, Tan Yigitcanlar** and Severine Mayere***

Social infrastructure and sustainable development represent two distinct but interlinked concepts bounded by a geographic location. For those involved in the planning of a residential development, the notion of social infrastructure is crucial to the building of a healthy community and sustainable environment. This is because social infrastructure is provided in response to the basic needs of communities and to enhance the quality of life, equity, stability and social well being. It also acts as the building block to the enhancement of human and social capital. While acknowledging the different levels of social infrastructure provision from neighbourhood, local, district and sub-regional levels, past evidence has shown that the provision at neighbourhood and local level and are affecting well-being of residents and the community sustainability. With intense physical development taking place in Australia's South East Queensland (SEQ) region, local councils are under immense pressure to provide adequate social and community facilities for their residents. This paper shows how participation-oriented, need-sensitive Integrated Social Infrastructure Planning Guideline is used to offer a solution for the efficient planning and provision of multi-level social infrastructure for the SEQ region. The paper points out to the successful implementation of the guideline for social infrastructure planning in multiple levels of spatial jurisdictions of Australia's fastest growing region.

Key words: social infrastructure, community, sustainable development

Field of Research: Social Environment / Urban Development

1. Introduction

The growing interest in sustainable development agenda is bringing the issue of sustainable infrastructure into the forefront of public discourse because as Cougill (1996) rightly says, the provision of sound and adequate infrastructure is of paramount importance to achieve urban sustainability. On a macro level of urban development, provision of efficient infrastructure systems facilitates the delivery of goods, services and information, and supporting the area's physical, economic and social growth. On a more localised, micro scale of residential development, provision of infrastructure notably at the

* Suharto Teriman, School of Urban Development, Queensland University of Technology, Brisbane, Australia Email: suharto.teriman@gmail.com

** Tan Yigitcanlar, School of Urban Development, Queensland University of Technology, Brisbane, Australia Email: tan.yigitcanlar@qut.edu.au

***Severine Mayere, School of Urban Development, Queensland University of Technology, Brisbane, Australia Email: severine.mayere@qut.edu.au

neighbourhood level is being seen as the building block to nurture sustainable setting of human living environment. Chougill (1999; 2007) acknowledges the active considerations of sustainability issues in human settlements, including micro residential neighbourhood scale because they occupy an increasing percentage of urban land uses. It is also a central element which Edwards (2000, p. 12) describes as “the agent that cements communities” by linking together economic development, environment and social welfare. In addition, its location and design further contributes to community spirit and an essential factor to achieving quality of life (Ekins, 2000).

Developers normally provide basic physical infrastructure, also known as the ‘technical infrastructure’ (Timmeren et al., 2004) alongside development phases. On the other hand, social infrastructure, which are the focus of this paper, are provided by developers or responsible agencies, either on a similar fashion or as and when the needs arise at later stages of habitation. This paper is structured as follows. Following introduction, the second section gives a theoretical and working definition of social infrastructure as used in this paper, and the associated domains and elements of social infrastructure. We also highlight the values and issues in regard to the usage of these infrastructure. In the third section, we present the inter-relationship between social infrastructure and neighbourhood within the context of sustainable community, and explain how infrastructure provision fits into this frame. We then proceed to explain how investment in social infrastructure is being viewed both in economic and social terms and how it can contribute to quality of life and the overall sustainability and liveability of neighbourhoods. We present how a participation-oriented, need-sensitive Integrated Social Infrastructure Planning Guideline is utilised for the planning and provision of social infrastructure at different levels of jurisdiction within South East Queensland, Australia’s fastest growing region. The conclusion points to potential factor impacting the successful implementation of the guideline.

2. Understanding Social Infrastructure

Broadly, infrastructure are structural elements that allow goods and services to move between different people and places. They can be divided into two broad categories: physical and economic infrastructure (Teriman et. al., 2010) such as roads, railways, airports, water supply, energy and sewerage systems; and social infrastructure which includes housing, health and education facilities (Choguill, 1996; Bigotte & Antunes, 2007; Hardwicke, 2008). There has been a rise in interest around the concept of social capital and capacity building and how physical and social infrastructures come into play and stimulate the production of social knowledge and cohesion. This is of particular interest notably of social infrastructure which does not commonly discussed as compared to physical infrastructure. Nevertheless, both physical and social infrastructure are extremely important for building a healthy community.

It must however be noted that social infrastructure concept goes beyond a simple categorisation of physical or ‘hard’ infrastructure that helps in the

provision of human services. It also includes what is termed as 'soft' infrastructure (SACOSS, 2009), which includes the social environment, services and programmes that support the accumulation and enhancement of human capital (Williams & Pocock, 2010; Casey, 2005). Examples of soft infrastructure include health, education, employment and training, and public safety. Still others explain social infrastructure, or social planning (Lang, 1990) around economic perspective. Economists Chin and Chow (2004, p141) for instance refer social infrastructure as those that influence the 'final individual's time allocation between market and diversive activities'. Hall & Jones (1999, p84) believe it as 'the institutions and government policies that determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce output'. In this regard, economists and politicians therefore have the tendency to implicitly refer to social infrastructure as investment in human capital, through the provision of physical elements that help in the provision of human services (SACOSS, 2009).

Within urban planning context, which is the focus of this paper, the definition of social infrastructure goes one step further; they are considered as elements that makes a positive and meaningful impact on the quality of life for members of the targeted community (GCCC, 2007). In other words, it reflects on the provision and availability of facilities that support the formation, development and maintenance of quality of life. These include social and spiritual relationships, health and well-being, education, employment and leisure. Within urban planning context, social infrastructure elements can be categorised into three groups (OUM, 2007) as follows:

- (i) Community facilities, which refer to buildings that house a range of services such as community centres, place of worships, hospitals and health centres.
- (ii) Community services, which refer to programmes that benefit the community such schools and day care, library services, skills development, recreation and sporting programmes.
- (iii) Supporting physical infrastructure, which includes urban elements that promotes the well-being, lifestyles and enjoyment of the community such as pedestrian and cycling networks and facilities, special needs facilities, sports and recreation facilities, and shopping facilities.

3. Social Infrastructure and Sustainable Community

Successful communities would normally treasure their social infrastructure (Parr, 2008) because these are places and programmes where citizens and associations collectively use and utilise to build healthy communities. For those involved in the planning of a residential development for example, the notion of social infrastructure is crucial to the building of a healthy community and sustainable residential environment. This is because social infrastructure is provided in response to the basic needs of communities and to enhance the quality of life, equity, stability and social well being. It also acts as the building block to the enhancement of human and social capital. While acknowledging

the different levels of social infrastructure provision from neighbourhood, local, district and sub-regional levels, past evidence however has shown that the provision at neighbourhood and local level and are affecting well-being of residents the most and contributing to the overall neighbourhood sustainability.

The terms community usually refers to a form of arrangement in which a group of individuals from a common social or physical background such as a neighbourhood interact with each other or doing things together and derive important personal benefits for their well-being (Volker et al., 2007). The neighbourhood in this context refers to 'an area of dwellings, employment, retail, and civic places and their immediate environment that residents and/or employees identify with in terms of social and economic attitudes, lifestyles, and institutions' (USGBC, 2009, pxvi). Describing it as comprising both the physical and social elements, Jenks and Dempsey (2007) argue that a neighbourhood include a district, representing an area where people live, and a community, representing the people themselves, who live in that particular area. A good characteristic of neighbourhood would be compact, pedestrian friendly and mixed-use area (CNU, 1996), and having a walkable catchment to its facilities. A typical way of making a rough estimation of a neighbourhood size is based on a comfortable distance of 5-minute walking from the centre of the neighbourhood to its edge.

Sustainable community is about maintaining and enhancing the quality of life (Barton et al., 2010), the community's interests, needs and culture, through addressing issues pertaining to economic, environmental and social health. The concept, as shown in Figure 1, is built upon a strong, long-term integration and interdependency between these three pillars. Economic vitality for example contributes to sustainable communities by converting natural resources into products in an ecologically sustainable manner for society consumption. These numerous products and services availability provide range of options to the community, and such opportunities help promote better quality of life. Another important aspect inherent in these three-pillar relationships is to foster a strong sense of belonging within the community, which is argued to be the key element in creating healthy and sustainable communities (Urban Task Force, 1999).

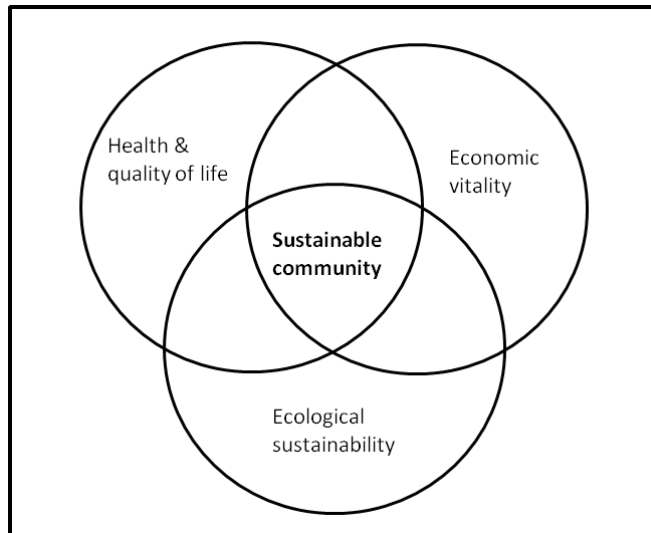


Figure 1: Sustainable community (adapted from Barton et al, 2010)

Planning for sustainable community is therefore not an ad-hoc or unique occurrence; it is a continuous process involving resource exploitation (WCED, 1987), that must encompass the integration of economic development, social concerns, and environment protection in a mutually reinforcing manner, and not advancing at the expense of the others (Cobb et al., 1995). This is important because within sustainable communities, people are expected to be able to live, work and enjoy quality time in a safe environment, and utilise all available social infrastructure and facilities for their well-being. Efficiency, especially of spatial distribution and adequacy of the facilities and services provided are of paramount concern, because within a local council area, communities at neighbourhood levels remain the largest users of social infrastructure. In order to accommodate these requirements, the existence of good social infrastructure is therefore very critical to achieve functional, strong and sustainable communities (GCSC, 2007).

4. Investment in Social Infrastructure

There is substantial evidence that the economic benefits of providing social infrastructure far out-weigh the costs of provision (Casey, 2005; Karoly & Bigelow, 2005; Sharp et. al., 2002). Governments across the developed world are increasingly concerned with the cost of failing to provide for adequate social infrastructure for their communities. These failures have left the communities in a state of disadvantage, and the governments having to address complex social problems and costly remedial measures due to past failure to invest in social infrastructure. Casey (2005, p4) rightly summed up that 'investment in social infrastructure has an economic dividend as well as a social one', and therefore there is a genuine reason to include provision for social infrastructure requirements in development plans and proposals. From the social point of view, the existence of adequate social infrastructure has been known to enhance quality of life and create strong communities, and acts as a strong attraction to external investment and induce growth.

The determination and provision of social infrastructure in both developed and developing countries generally follow traditional planning standards that were based on population-to-facility ratios. This method of forecasting such facilities, although less comprehensive, is still very much in practice and is preferred for its legitimate reasons: it represents a fair distribution of state or local funding based on demonstrable need. This type of straight forward and easily quantifiable standards based on quantitative analysis and forecasting of demographic profiles also presents clear guidance for the funding agencies to oversee funds budgeting and allocations. One drawback of such approach however, is the fact that the demonstrated needs requirement might not reflect the actual severity of actual needs for that particular area or neighbourhood. Examples include physical or psychological barriers such as highway and railway lines that prohibit access to service and facilities, and the differing levels of social and physical resource bases or cultural traditions between different communities.

These shortfalls not only are politically indefensible, they can also adversely impacting the quality of life for some other communities where such need is genuinely required but was understated due to the low population-to-facility ratio estimation. In order to take cognisance of these variations and to ensure efficient provision of social infrastructure facilities, countries such as Australia, the United Kingdom, Canada and more recently New Zealand are introducing social infrastructure planning alongside other infrastructure planning as part of their spatial regional development plan. The following section highlights an application of social infrastructure planning in South East Queensland (SEQ), the fastest growing region in Australia in terms of economic and spatial development.

5. Social Infrastructure Planning in Australia: the SEQ Experience

Urban planning in Australia has become more organised through government and policy reforms during the late 1990s with the introduction of more orderly and streamlined planning system. Queensland in particular has introduced the Integrated Planning Act 1997 (IPA) as a primary legislation guiding the state's planning and development mechanism. Within this framework, the Office of Urban Management (OUM) has produced the South East Queensland Regional Plan 2009–2031 (SEQ Plan) and the South East Queensland Infrastructure Plan and Program 2006–2026 (SIP Plan) to manage growth in the region, and in particular to co-ordinate a sustainable approach to planning, development and infrastructure provision, which include social infrastructure supporting urban growth in SEQ. This outcome is in response to the fact that SEQ is currently Australia's fastest-growing metropolitan region (Figure 2), with a population of 2.7 million, and forecast to grow significantly to 3.7 million by 2031(OUM, 2009).

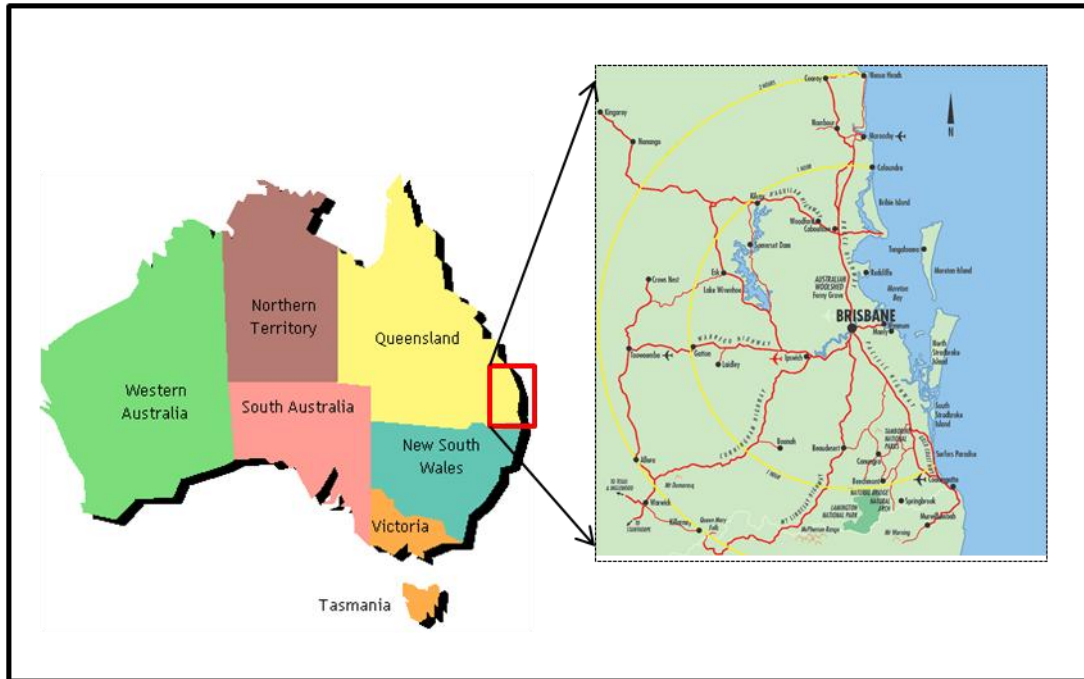


Figure 2: Fastest growing South East Queensland region (adapted from <http://www.sunshinecoast-australia.com>)

Deliveries of social infrastructure in Australia are borne by the local councils, state government and the Federal agencies, with increasing participations from developers and private sectors. To assist these implementing agencies, the OUM produced the SEQ Plan Implementation Guideline No 5: Social Infrastructure Planning (SIP) (OUM, 2007), which has won the Planning Institute of Australia's national Award for Planning Excellence in Social and Community Based Planning 2007. This guideline acknowledged SEQ Plan desire for strong communities outcome with 'cohesive, inclusive and healthy communities with a strong sense of identity and place, and access to a full range of facilities and services that meet diverse community needs, to be delivered by ... maximising access to appropriate social infrastructure' (OUM, 2007; p51). The SIP Guidelines specifically act as a tool to 'support efficiency in infrastructure planning delivery' (OUM, 2007; p8) by providing a generic process for social infrastructure planning in a four-stage process involving profiling, analysis and assessment, solution identification and implementation and monitoring (Figure 3). This process can be tailored according to the strategic planning framework and management structure of individual councils within the SEQ region. The generic nature of this process allows it to be used on different hierarchies of the facilities catchment sizes. These include the neighbourhood level of up to 3000 people, local level (5000-10000), district (20000-30000) or even higher order hierarchy of local government area and sub-regional level.

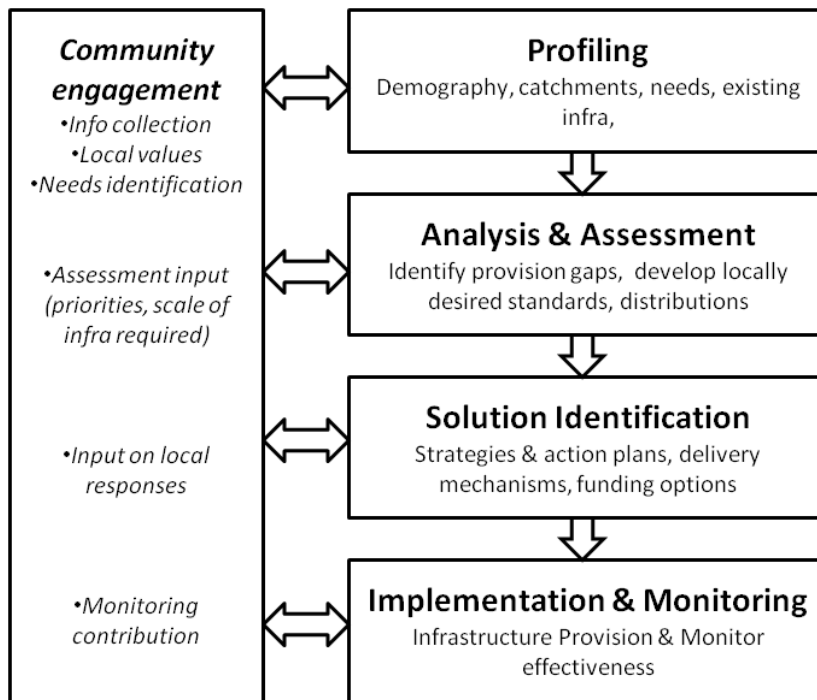


Figure 3: Social Infrastructure Planning Process (adapted from OUM, 2009; WBOP 2009)

The SIP Guidelines interestingly adopts the capacity building approach towards the implementation process by including the all important public participation. Here, stakeholders were given the opportunities to contribute and influence planning processes and outcomes. In this approach, stakeholder participation forms the backbone of any successful integrated planning for their invaluable input into the whole social infrastructure planning and implementation processes. These stakeholders ‘help[s] planners to draw on local knowledge and reflect local values’ (OUM, 2007; p25), which are invaluable source of data in order to provide a solution best-fit the local context. Within this context, such bottom-up empowerment strategy is becoming a key component of creating a healthy social infrastructure or investing in social capital that meets local needs and conditions (Parr, 2008).

As summarised in Figure 3, the SIP Guidelines begins with profiling stage which involves gathering information about the community including its demographic characteristics, needs, existing social infrastructure, settlement patterns, catchments and anticipated future population characteristics. Community engagement in this stage includes providing required information, help identify local priorities and needs. The second stage of the process involves collating and analysing the collected data and performing spatial analysis to identify settlement patterns and likely catchment areas, likely current and future gaps in provision, including planning considerations for identified target groups and needs, and validate these with the affected community. Participation in this stage includes providing input to the assessment and types of infrastructure required. The third stage involves identifying and assessing options and responsibilities for addressing issues and gaps. Here the community participates by reviewing findings and suggesting potential strategies for implementation. The final stage refers to implementing the plans which include funding options and monitoring

framework. Community participation includes contributing towards monitoring exercise.

6. Conclusion

Planning for sustainable community is a continuous process involving resource exploitation integration of economic development, social concerns, and environment protection in a mutually reinforcing manner. It requires a strong integration of social infrastructure as a key success factor in maintaining and enhancing community wellbeing. The Integrated Planning Act 1997 recognised the importance of infrastructure planning, which includes social infrastructure planning as fundamental to land use planning and preparation of development schemes. The existence of SIP Guidelines not only acknowledges this recognition but also highlights the importance of infrastructure investment, including social infrastructure for the well-being and economic prosperity of communities. In addition it also highlights Council's commitment towards providing a strong and integrated approach to all aspects of infrastructure planning. As a key provider of these social infrastructure, and complemented by developers and other sectors, local councils are in a critical position to guide the overall infrastructure planning framework for the community.

However, being a non-statutory guideline, the implementation success of the SIP Guidelines will depend on a variety of factors including stakeholders support. The council's stands on the importance and appropriateness of such guideline for their local area, competition with other mainstream infrastructure projects for council resources, funding commitment from responsible implementing agencies including developers, and also public commitment during the participation process all form success critical factors. For smaller councils, their difficulties include being a relatively small player in the overall provision of community services and facilities, and being unused to taking a coordinating role in this area. Nevertheless, the guidelines definitely present a welcoming tool that will guide Councils, developers and other service providers and also provide a strong advocate for communities to have sufficient resources for creating sustainable communities. This is important because within sustainable communities, people are expected to be able to live, work and enjoy quality time in a safe environment.

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