

Tests for Liveability: Keeping pace with change

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ABSTRACT

This paper highlights the need to develop tests for liveability for practical application in area and development planning at a neighbourhood, place and building level. It introduces the concept of liveability and how a framework might be structured and developed to test for liveability in cities. It discusses some commonly agreed definitions of liveability and associated concepts showing that despite a general concern for liveable places there is a lack of an accepted general concept or value setting method. It introduces Kevin Lynch's performance dimensions for good city form as a candidate conceptual framework for devising a general test for liveability and discusses how these may meet inadequacies in current concepts and measures for liveability.

INTRODUCTION

The prompt to investigate liveability came from a realisation that, while everyone is concerned about liveability, nobody can say precisely what it is. The implication from this realisation is that, as urban researchers and practitioners, we do not have the capability to respond to those concerns for ensuring liveable places from a policy and design perspective.

Particularly, many governments are introducing policies to make more sustainable human settlements. Agreement as to what constitutes liveability is popularly contested, with concerns raised that urban policies and development will lead to less liveable places. The public has identified that its needs for liveable places must be met or, at the worst case, that the degree of liveability currently enjoyed must not be lost. The ensuing debate has made it evident that, whereas most aspects of sustainability can, or will, be objectively measurable, liveability is still a contested concept with no agreed values or identified dimensions.

This paper is part of a wider project that looks at the concept of liveability with the aim to develop tests for liveability that more closely align with the way people live in places. Gaining better understandings of liveability, while acknowledging that there are different ways of living, can lead to different understandings to match ways of living. Liveability, if seen in this way, has implications in terms of how actual places are delivered, policy frameworks are developed and for user's understandings. The focus here will be exploring Kevin Lynch's theory of good city form (Lynch, 1981) as a framework to assess liveability of places. The particular scope of the research is the performance of the physical environment and its part in supporting well-being.

Over the last century popular and professional debate as to whether higher or lower density, and mixed or separated uses is better in liveability terms has been ongoing. Jane Jacobs (1961, 1969) argues for the creation of intense development, citing New York and other USA cities as positive models. An Australian contemporary, Hugh Stretton (Stretton, 1970), found some liveability failings in the lower density cities while acknowledging there were some benefits. In recent discussion claims have been made by community activists, such as Save our Suburbs (Recsei, 2002, Recsei, 2004), and urban professionals and commentators (Troy, 1996, Healy and Birrell, 2004,

O'Connor and Healy, 2001) that planning policies to increase densities and mix of uses will have adverse effects on life-styles and decrease liveability. A countering view is put forward by other urban researchers that cities will fail in liveability if car use and urban sprawl are not curbed (Newman and Kenworthy, 1999). This illustrates the breadth of elements that may contribute to liveability, the diversity of opinion and the potential usefulness of a set of agreed liveability values on which to base urban policy and actions.

The challenge of ensuring liveability contends with a number of issues. We now have a range of built form types that previously did not exist. The proposed forms are unfamiliar to some. Australians, mostly, have experienced a more dispersed urban form. We now have a population that is culturally more diverse and also within cultures people have different needs and aims. The sustainability policy agenda is focusing on a number of hoped for built form and behavioural changes with less car use, more walking; less resource use, including land.

This has in turn led to a tension between the sustainability and liveability agendas as evidenced by public reactions and concerns that adopting sustainable practices, in part through compact cities policies will reduce liveability. Current discussion lacks a clear and agreed understanding of liveability. Some definitions include social and economic criteria and sit more with wider quality-of-life definitions; others fail to acknowledge the contribution of place and setting to liveability. Some definitions are too vague and subjective to be workable in a policy and delivery setting.

WHAT IS LIVEABILITY?

Liveability is described in the literature, generally, as the degree to which a person can function, feel comfortable in and enjoy the place in which they live. David Smith (Smith, 1974) in his review of the British town planning concept of 'amenity', which may be seen as a precursor to the idea of liveability, identified three distinct aspects that have been progressively included in planning legislation over the last century being: first was public health and safety (1909), subsequently visual amenity concerning pleasantness and beauty was added (1951), and finally cultural heritage and preservation (1971). These same values are expressed in current Australian State planning policy (1987).

The field of environmental psychology defines liveability as a person's experience of and ability to function in, and enjoy, a place (Frick, 1986). Urban design sees it as connected to the physical characteristics of a place, but also is affected by the social and economic circumstances and the management and governance aspects of that place (Frey, 1999). Bell (2000), in a New Zealand guide to urban design and management, defines liveability as "unique combinations of amenity values (open space, design, and vegetation), heritage, location, and intangibles (being people's perceptions of environmental attributes)".

It can be seen that over time the idea of liveability has expanded from a concrete concern for public health and safety to a diverse and seemingly unconnected set of aspects to make up a mixed bag of concrete and subjective but none the less valued set of concerns and desires. Liveability criteria descriptions focus on a list of artefacts that may contribute to achieving liveability, but they use a mixture of criteria types, some expert driven, some popularly assumed, making any assessment task difficult to meaningless. They also offer up incomplete lists that do not accommodate the possibility that there may be other lists that may satisfy people's needs for liveability. Generally definitions are the result of a community consensus approach mixed with an expert opinion approach, arriving at a list of 'things' considered important to people in environments. Basic needs such as water quality for human health have objective measures, while the question of 'what is good design' for example or 'what is visually pleasing' relies on a subjective interpretation and is frequently contested. The

individual responses are real and valid but are not helpful in achieving agreement on means to ensure well-being and can hinder making liveable urban environments.

One of the more comprehensive definitions comes from the Clinton-Gore Administration's *Livable Communities Initiative Report on Community and Quality of Life*. It states "Livability encompasses broad human needs ranging from food and basic security to beauty, cultural expression, and a sense of belonging to a community or a place... It refers to the extent to which the attributes of a particular place can, as they interact with one another and with activities in other places, satisfy residents by meeting their economic, social, and cultural needs, promoting their health and well-being, and protecting natural resources and ecosystem functions" (Stein, 2002).

Urban policy driven by expert opinion only, can be incomplete in its conceptualizing liveable outcomes and can lead to unsatisfactory results as demonstrated in the various failed public housing projects across many countries. Policy driven by popular opinion can also be problematic in that it can rarely encompass all the voices and can lead to inequities and injustice, as demonstrated in the prioritizing of car (adult middle class male) access at the expense of child and elderly access and mobility in the form of a safe walking environment. Popular opinion can also emphasize a focus on negative impacts of actions at the expense of safeguarding existing positive but unrecognised aspects of urban living or future generations' needs, as exemplified in the campaigns to deter urban development. This can result in population loss and subsequent loss of local services and facilities in areas due to inadequate levels of patronage.

Liveability is of interest to many groups and sectors, and their particular perspective of places shapes their concept of liveability. Citizens make place choices to optimise their comfort, opportunities and desires, characterised as liveability (Moudon and Ryan, 1994). In a market economy such as Australia areas of high property price and therefore desirability, strongly correlate with high liveability (Stover and Leven, 1992). In this perspective of liveability the spatial unit of interest to the occupants or user is that area they use, including but not necessarily limited to the neighbourhood (Karp et al., 1991). Governments, through provision of infrastructure and services, and policy initiatives of incentives or regulation, focus on liveability as levels of service provision and access, basic land use and building standards, and minimised environmental impacts (Wong, 1994). The spatial unit therefore may be regional, city or system wide. Business' interest in spatial information about liveability can focus on business advantage factors, such as access, zoning, workers, crime rates and housing (Boyer and Savageau, 1981), or on living 'hardship' payment levels for expatriate executives (Mercer, 2002). Each of these commercial uses has differing definition of liveability. The spatial unit applicable is complex as it varies with business type and activity level.

These sector viewpoints have developed their particular interpretation of liveability according to their stake in a place (Hubbard, 1994). As well, each individual person has a unique definition of what makes a liveable place for them, shaped by their personality, experiences and needs (Sirgy, 1986). Each definition suits the application need and is shaped by the values and perceptions of the assessor, and none provide a complete and general picture of human well-being related to place liveability.

The number and diversity of parties involved, the complexity of interest in and diversity of perception of liveability has made identifying and assessing what is liveable problematic. It gives a level of complexity to devising a general method to test and measure liveability for evaluation of proposed actions in urban management (Grayson and Young, 1994). Generally the response to establishing a definition has been either to accept an expert's opinion or to go through a public consultation process. Both methods have justification. The expert uses objective, quantitative data to analyse situations for effects on a population's well-being or standard of living, however,

underpinning value judgements are often assumed but not stated. Conversely while people know what is important to them and what they want, not all people participate in the value setting process. A difficulty arises when different or incomplete interpretations of well-being and liveability are presented and there is little consensus on what it is or how it can be achieved.

While liveability as a specific concept has received scant attention from theorists, the related and overarching concepts of ‘quality of life’ and ‘well-being’ have been more thoroughly considered and investigated. ‘Quality of life’ has been measured in terms of ‘utility’, through happiness, satisfaction of desires or preferences, as developed by J. S. Mill (Mill, 1863), or in terms of ‘opulence’, through command of commodities and real wealth as developed by Adam Smith (Smith, 1776) or by ‘freedoms’, whether libertarian rights (Friedman, 1962) or means of freedoms (Rawls, 1999 (1971)). But some theorists consider these to be inadequate concepts that fail to reflect an actual thriving human life and have proposed more flexible and inclusive concepts of ‘quality of life’ and ‘well-being’. The principal theorist in this field is Amartya Sen, an economic theorist and philosopher whose interests are in development economics. He defined well-being as the enhancement of capabilities, and capabilities as the freedom of a person to lead one kind of life or another. A failure of basic capabilities for living will lead to an unliveable situation. This is a more robust characterization of liveability and un-liveability, than the conventional characterization of a place having or lacking various ‘commodities’. Living is a combination of ‘doings and beings’ and the quality of that living is constrained by the capability to achieve functionings that one values (Nussbaum and Sen, 1993, Sen, 1993). Sen’s characterization of well-being and quality of life is used to frame the concept of liveability in this study.

TESTING FOR LIVEABILITY

Current tests that purport to measure liveability have varied basic purposes. For example some tests have a purpose other than testing liveability of place. William Mercer “World’s Most Liveable Cities” ratings (Mercer, 2002) or the *Economist’s* ‘World-wide Cities Liveability Rankings’ (Kenny, 2004) are designed to inform the setting of global corporations’ executive payments in different international localities. The European Foundation for the Improvement of Living and Working Conditions’ *Monitoring Quality of Life in Europe* (Fahey et al., 2003), principal purpose is to inform regional resource allocation priorities. These studies, while methodologically sound, are regional and include wider social and economic criteria. Both Mercer and the Economist ratings of Melbourne were used to assert that Melbourne is the “World’s most liveable city” – perhaps it is for male global corporate executives.

For some tests, while measurement methods may be rigorous and the study is place-based, the theoretical context and the rationale for test criteria selection is not made explicit or is restricted to ready data availability. A local example: the study on *Melbourne’s Liveability* – published the Melbourne Age (Terrill, 2005). Where place is addressed, more often the approach is to skip over defining what is liveability and, based on assumptions, move directly to describing how to go about designing a place that is liveable. Examples are ‘*Living Cities- A case for urbanism and guidelines for re-urbanization*’ (Tanghe and Vlaeminck, 1984), and ‘*The Living City – how urban residents are revitalizing America’s neighbourhoods*’ (Gratz, 1989). A critical logical step of clearly describing the quality liveability is missing. The gap between knowing how liveable your city is by comparing it to liveability of other cities and the task of designing liveable cities needs to be filled.

The task is to achieve better understandings of liveability that can lead to making liveable places. The starting point I have chosen for this discussion is the question put by Kevin Lynch “what makes a good city”, (Lynch, 1981) as he was trying to find norms for good and bad that could be used for urban policy, resource allocation and deciding where and what to build.

LYNCH'S THEORY OF GOOD CITY FORM

Kevin Lynch was an urban theorist who did address fundamental questions of liveability. He developed a concept of liveability dimensions corresponding to the value-spaces he identified as fundamental to an urban environment. He describes a liveable city as one that enhances continuity of culture and survival of its people; that increases a sense of connection in time and space; and that permits and spurs individual growth and development. The physical setting makes significant contribution to these objectives.

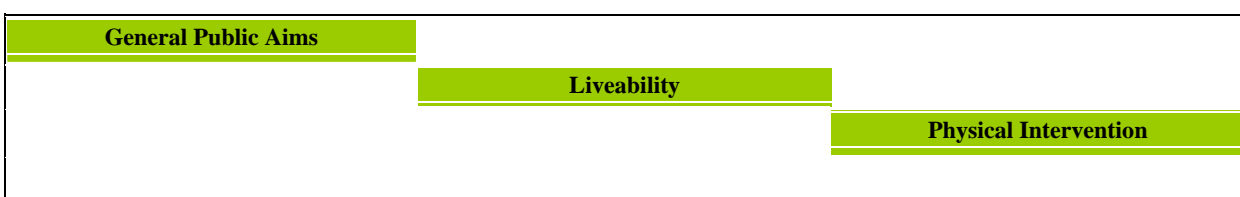
Lynch's theory addresses the complex environment of forming cities, of human actions in an existing physical environment, of human needs and desires, and being marked by a decision process that is fragmented, plural and characterised by reaction and trade-offs. The theory concerns settlement form, which is defined as the spatial arrangement of people doing things, the spatial flows and the physical features significant to those actions. The ground for the theory is the spatial-temporal distribution of human actions, with acknowledgment of directly linked social, cultural and psychological aspects.

The constraints that Lynch places on a normative theory of Good City Form are that it: be purposeful; deal directly with settlement form; connect values to form; accommodate plurality, conflict and possibilities; respond to diversity; be applicable at all scales and situations; and be flexible and responsive to changed values and purposes. The basic assumption is that good settlement must match the needs and aims of people. This means it is more than the sum of their functions and also that in a diverse and changing society, a place must be able to accommodate that variety and change. The goal is "making settings that accommodate people, support their well-being and pursuing their own plans and aspirations".

The Dimensions for Liveability

A means of applying the valued human functionings and capabilities to a physical setting is needed to realise the objective of creating liveable places. Lynch's theory of good city form offers a potential means to achieving this. Lynch, asked "What makes a good city?" because urban policy decisions, resource allocation, or how to build "must use norms about good and bad, [and establishing] values are an inevitable ingredient of decision" (Lynch, 1981). His aim was to examine what makes a good settlement that is responsive to the human context and connects human values to actions affecting the spatial, physical city, and to propose a normative theory that connects statements about how a city works with statements about its goodness.

Defining what is a good settlement is a task that has frequently been avoided as being impractical. But finding these norms is at the core of a concern for understanding liveability and is also crucial for achieving liveable places. Lynch's theory is based on a set of general performance characteristics that aim for "goals which are general as possible, and thus do not dictate particular physical solutions, and yet whose achievement can be detected and explicitly linked to physical solutions". For example neither "a pleasant environment", being too general, nor "a tree on every lot", being too specific, but "the microclimate should fall within such and such a range in summer". Liveability criteria aim for some general goals, just below aspiration statements yet just above physical solutions, at a level where their achievement can be detected in the physical solution.



The Location of the Concept of Liveability

Performance Dimensions

Lynch developed a set of performance dimensions for the spatial form of cities based on the identified foundation values of continuity, connection and openness. The process of identifying appropriate performance characteristics uses three selection criteria. First are fundamental, physical human constraints and needs. Second are the cultural practices and habits linked to place and form. The third requirement is that characteristics must have the qualities of 'dimensions', which do not presuppose values or be 'standards'. 'Dimensions' are characteristics of the performance of cities related to their spatial qualities and are scalable "along which different groups will prefer to achieve different positions" (Lynch, 1981). Lynch maintains that by using performance dimensions it is possible to analyse city form and indicate a location on any dimension. Dimensions of liveability should link between spatial form and human purpose, be able to accommodate diversity and change, and will be connected to spatial qualities.

Performance dimensions should have the following relevancies:

- Pertaining to the physical entity:
 - Refer primarily to the spatial physical form of the city;
 - General while retaining connection to particular city form features;
 - A set that covers all relevant settlement features;
- Pertaining to the people and culture:
 - Connected to values and goals of the culture;
 - Locations on a dimension available for differing or evolving values
 - Able to deal with qualities that change over time
- Pertaining to the assessment of dimensions:
 - Locations along a dimension should be identifiable and measurable
 - Dimensions should be independent of one another (not overlap or be co-dependent)
 - The dimensions must be on a comparable scalar level

Dimensions are performance characteristics measuring the performance of an attribute against a human purpose. Imbedded in the dimensions is acknowledgement that they support a set of general human values and needs. Dimensions are interconnected and mutually supporting. They are a scale, for example, from - zero to one – little to much - high to low. The five basic dimensions (with its cluster of measurable qualities) are:

- Vitality - the degree the form support vital functions. Three principal features of a vital environment are:
 - a) Sustenance, with adequate food, water, air, waste disposal.
 - b) Safety, with adequate protection from hazards, poisons, diseases, and fear.
 - c) Consonance, being conducive to maintenance of temperature, rhythms, senses, physical being, and the present and future stability of the total ecology.
- Sense and perception - the degree to which the settlement can be perceived and identified. The principle features are:
 - a) Identity and a sense of place;
 - b) Structure and the sense of how parts fit together and are oriented;
 - c) Congruence and match of abstract form of place and how it expected to function;
 - d) Transparency and the degree to which one can directly perceive the actual operations of a place;
 - e) Legibility and the degree to which inhabitants are able to communicate via the settlement's symbolic physical features about ownership, status, affiliation, proper behaviour;
 - f) Significance and degree the symbolic importance of the culture's values expressed by a place.

- Fit - the degree to which the form and capacity of a place match the needs and behaviour. The adequacy of the behaviour setting to:
 - a) Support current quantity and pattern of actions
 - b) Adapt to future actions.
- Access - the ability to reach other persons, resources and places. Sub-dimensions of access are:
 - a) Diversity of things given access to;
 - b) The equity of access for different groups; and
 - c) Management of the access system (a prime means of social control)
- Control and Ownership- degree of control over use, change, access. Principle features are:
 - a) The certainty of control is the degree to which people understand and can predict the control system;
 - b) The responsibility by which those who control a place should have motives, information and power to do it well for its inhabitants;
 - c) Congruence is the extent to which the actual users of a space control it and have a stake in it.

Two meta-criteria are further identified as essential to assessing the value of the identified dimension qualities.

- Efficiency - the cost of the settlement in terms of other valued things
- Justice - the way in which environmental costs and benefits are distributed among persons; equity; balance of gains among different values

Efficiency and justice meta-criteria can only be measured after prior basic values have been specified. They provide a public good check to any dimension set. These meta-criteria correspond to policy concerns equity and distribution, and opportunity costs reckoning. The purpose of evaluation in this instance is to assess advantage related to the social concerns of providing adequate and equitable opportunity to live well.

PILOT CASE STUDY

A pilot case study was undertaken to test the practical applicability of a dimensions approach. The study applied the Vitality Dimension – the way a place supports vital human functions and access to basic needs. The objective was to explore what aspects of the physical environment may support or detract from Vitality. The pilot study findings were intended to inform development of an assessment method for dimensions. The pilot case study area is Glenferrie - a diverse centre 7 km east of Melbourne. It incorporates a university, primary and secondary schools, a town hall, civic and community services, many churches, strip shopping centre, train station and tram line, industry and commercial, high, medium and low density residential, parks and recreation – a diverse and large resident, worker, student and visitor population. It has all the outward characteristics of an ‘active’ activity centre. The following brief analysis provides a sampling of ideas of how the assessment could be approached, using the Vitality Dimension. Within the Vitality Dimension Lynch has identified a number measurable qualities.

That a place sustains life

It is the ability to access basic physiological needs. Measures in place can be:

- Food access - can be measured by levels of occurrence of or access to food markets, or levels of home grown food,
- Water - by supply quality and service level; or public drinking fountains.
- Air - by levels of pollutants or odor.
- Waste - by its level of generation, recycling, or effective management, including public toilet access

Safety – freedom from hazard, violation; access to supporting services

Measures address:

- Hazard from the environment– A measure could be injury levels or preventative features; by falls due to poor pavements, car crashes
- The elements as part of the environment can also pose a safety issue – rain, sun, wind - protection from these contributes to maintaining vitality. A measure of this can be level of provision of protection or of exposure to elemental extremes.
- Threat or Violation – places overlooked from private spaces assists both surveillance and a potential source of assistance that promotes a feeling of safety. Measures may be level of overlooking; levels of visual access along paths.
- Safety Services - It is also crucial to a safe settlement that it maintains health and safety through ready access to services supporting well-being – fire services, police, medical. A measure may be levels and proximity to various key services.

Consonance – supportive human physical environment

Measures to address:

- The Human scale of places is important to a supportive human environment. It is measured in terms of – size, grain, ability to make eye contact, ability to remain in, or negotiate around a place.
- A place that communicates with and nourishes all **the senses**: hearing, touch, sight, smell, taste, and kinesthetic, as well as the less acknowledged senses of temperature, time sense, daily and seasonal rhythms, lifecycle rhythms. A measure could be how well a place supports our biological structure, our well-being; or supports the opportunity to use and develop inherent human powers, the level of choice of which path to take, where to be.

Ecological Consonance – placing humans in nature both living and elemental

People generally value living nature and elements; trees, grass, flowers, birds, animals; to sun, water, fire, wind, stones, interesting paths, grottos and hills. The inclusion of nature is a consistently voiced desire in any public consultation for area planning. A measure of this would focus on the level and quality of nature access and would consider a wider range of elements than ‘parks provision levels’

- The presence and treatment of nature
- The presence and treatment of elements
- Ability to access and connect to nature and elements

The future existence of settlement and natural ecology

Lynch describes as an essential element of Vitality “the present and future stability of the total ecological community”. In addressing the question of the future existence of the settlement and the natural ecology, and how it may be measured in the here and now we will need to look wider. A measure could be:

- How are children accommodated in the settlement, how are their needs and desires met. We may do things differently if we value children.
- How resource use and resource efficiency are affected by the arrangement or management of the place. Here global effects may be made at a local level
- How are pollutants and degrading actions dealt with, or how much an area shifts its environmental effects to elsewhere

The vitality dimension was explored using preliminary criteria based on the vitality aspects identified by Lynch. Elements and conditions of the physical environment that may affect vitality were noted. Initial analysis indicates that using this approach could be applied effectively to other dimensions and to other places. Further work will develop identification criteria, recording and

analyzing methods. This place-based case study supports the selection of an observational method combined with a survey method supported by small area demographic data.

CONCLUDING REMARKS

There is a need for more sophisticated understandings of liveability set in the temporal-spatial context of place and in the context of differing people's needs and aims to accommodate changes in values and means to achieve. It is clear from studies of other places that liveability can be achieved in a wide range of settlement types.

While other urban analysis approaches may focus on functions and functional areas such as traffic, retail, or infrastructure, their approaches are problem-and-solutions based and can miss what people value in place. Policy frameworks do not support practical contextualizing of liveability. They have a gap in the logical steps between 'Overall societal goals' and the physical response - a leap from vision to physical actions.

It is possible to assess a place along the lines of performance dimensions. A dimension approach to liveability could provide a practical bridge between bigger societal goals and physical responses and therefore allow the objective measurement of place qualities. Applying a dimensions approach also provides an opportunity to engage people with making places. The application of liveability performance dimensions for areas could provide a transparent and robust process to establish values, measure settings, and develop plans to deliver liveable places.

Lynch needs to be spatialized and contextualized to actual places with analysis and delivery mechanisms developed. The next steps will be to more thoroughly test Lynch's dimensions, to develop analysis methods and apply them to a number of case areas. The wider research project will examine 4 sites characterized by higher density and mix-use. The study sites will be selected to provide different implementation contexts and a diversity of formal responses.

The developed liveability tests will work with the settlement form and the physical place, its shape, elements, management and will assess how places meet human needs, and collective and individual's purposes. The objective of the wider project is an analysis framework that is practical, has relevance, and can readily inform physical actions.

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