

LIVEABILITY STANDARDS FOR CITIES; AN URBAN DESIGN FRAMEWORK

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Abstract

“A liveable community is one that has affordable and appropriate housing, supportive community features and services, and adequate mobility options, which together facilitate personal independence and the engagement of residents in civic and social life” (AARP, 2005).

A broad concept, Liveability encompasses everything from basic human needs of food, shelter and security to higher order requirements of an individual and social material and immaterial well-being.

Mercer’s Quality of Living Survey, which is the basis for both Global Liveability Index and Forbes Liveable Cities Ranking, looks at the criteria of Recreation, Housing, Economic Environment, Consumer goods availability, Public Services and transport, Political and Social environment, Natural Environment, Socio-cultural environment, School and Education, Medical and health considerations. Similarly, world over, most liveability indices focus on quantitative aspects of infrastructure availability that, while related to, are not themselves elements of the built environment, and the Urban Design components that ensure various facets of Community Liveability have not been looked into in detail.

The Ministry of Urban Development (MoUD), Government of India, has developed a set of ‘Liveability Standards in Cities’ to generate a Liveability Index and rate cities. Here too, the focus is on urban infrastructure, and disregards how the built environment influences how people relate to each other, creates opportunity for community to form, and strengthens depth of our social networks which in turn facilitates social cohesion, cultural continuity, sense of place identity, and resilience of community.

The disjunction between the supportive infrastructure that facilitate the urban life and inadequacy in addressing the basics of liveability in terms of urban design framework are addressed in this paper and focusing on high-density, mixed-use urban neighbourhoods, further attempts to supplement the ‘Liveability Standards in Cities’ with additional urban design criteria to make it a comprehensive tool to assess Liveability of Cities.

Keywords: Liveability, Urban Design, Indicators, Identity, Public Open Spaces.

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Introduction

Liveability is a highly relative term. What would be considered a liveable community in one part of the world might be deemed highly unsatisfactory in another. Hence a focused look into a specific area with similar social, cultural and economic backgrounds might give a more realistic picture of the parameters that would contribute to improving liveability for the said community. This research paper aims at establishing the disjunct between the Liveability parameters mentioned in various indices and the criteria of liveable spaces as outlined in theories of Urban Design; and suggest potential sub-components to the existing framework.

An imperative of the 21st century, sustainability of communities, in terms of enabling the community to endure and prosper keeping its infrastructural adequacy, social cohesion and economic vitality, is of prime importance. Liveability is critical to the establishment of a sustainable community, in creating conditions within the community that encourages people to stay.

“Liveability” is a broad term with no precise or universally agreed-upon definition. The concept embraces cognate notions such as sustainability, quality of life, the “character” of place, and the health of communities. Liveability is an “ensemble concept” (Myers, 1988) (Andrews, 2001) whose factors include many complex characteristics and states, encompassing broad human needs ranging from food and basic security to beauty, cultural expression, and a sense of belonging to a community or a place. On a broad canvas, the satisfaction of Human Needs, as outlined by Maslow may be assumed to describe this.

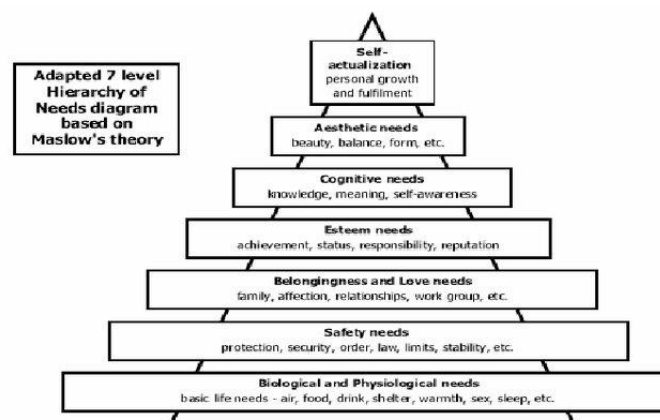


Figure 1: Adapted 7 level hierarchy of needs (David Ward, 2009)

The design and structure of spaces we inhabit can be very influential in the life of a town or city and to the building of community in and of itself. Satisfaction of human needs and the extent to which they are satisfied can be one of the factors that decide how liveable a place of inhabitation is. As we look at Maslow's pyramid, we can recognise different levels of needs that are directly or indirectly influenced by the built environment; be it Safety needs of having security, law and order, stability of community, protection from crime, etc.; Belongingness and love needs such as family, relationships within and without the neighbourhood, affiliation to groups, etc.; Esteem needs of status, community reputation, etc. Or Aesthetic needs of beauty of the built environment we inhabit, the quality of spaces around us, availability of spaces for rest, relaxation and recreation, or even the Quality of life that is enabled by the spaces we use for work, family, friends, and community.

“Quality of life” emerged as a concept within the Social Indicators Movement of the 1960s and questioned basic assumptions about the relationship between economic and social well-being and the complex nature of individual and social material and immaterial well-being (Council, 2002). Quality of life might refer to a citizen’s satisfaction with residential environments, traffic, crime rate, employment opportunities, or the amount of open space (Myers, 1988). This paper intends to assess the factors of the built environment that affects the quality of life of an urban area, and thus contributes to its Liveability.

Measuring Liveability

World over, most liveability indices focus on quantitative aspects of infrastructure availability that, while related to, are not themselves elements of the built environment, and the Urban Design components that ensure various facets of Community Liveability have not been looked into in detail. Taking an example from available literature, the table below sums up the most popular indices world over:

	Mercer's Quality of Living Survey	EIU's Global Liveability Index	Monocle's Most Liveable Cities Index	CASS's study on liveable cities
Categories / Indicators	39 indicators in 10 categories	30 indicators in 5 categories	11 indicators	13 indicators
	<ol style="list-style-type: none"> 1. Political & social environment 2. Medical & health considerations 3. Socio-cultural environment 4. Schools & education 5. Economic environment 6. Public services & transportation 7. Recreation 8. Consumer goods 9. Housing 10. Natural environment 	<ol style="list-style-type: none"> 1. Stability 2. Healthcare 3. Culture & environment 4. Education 5. Infrastructure 	<ol style="list-style-type: none"> 1. Safety/crime 2. Medical care 3. Climate/sunshine 4. International connectivity 5. Public transportation 6. Quality of architecture 7. Environmental issues and access to nature 8. Urban design 9. Business conditions 10. Pro-active policy development 11. Tolerance 	<ol style="list-style-type: none"> 1. Life expectancy 2. Percentage of population with tertiary education 3. Number of doctors per 10,000 population 4. Number of Primary schools per 10,000 population 5. Crime rate 6. Air quality 7. Temperature 8. Green coverage ratio 9. Housing price to income ratio 10. Number of shopping malls per 10,000 population 11. Area of roads per capita 12. Density of drain pipelines 13. Water coverage ratio

Figure 2: Categories/Indicators of Liveability (Yanjiang, 2018)

Mercer’s Quality of Living Survey, which is the basis for both Global Liveability Index and Forbes Liveable Cities Ranking, looks at the criteria of Recreation, Housing, Economic Environment, Consumer goods availability, Public Services and transport, Political and Social environment, Natural Environment, Socio-cultural environment, School and Education, Medical and health considerations.

Liveability and Urban Design

The quantification of the data that supposedly measures the liveability of a place, often disregards the multitude of intangible, qualitative factors of urban living that enriches urban life. The basic, overarching objectives of Urban Design, namely Character, Continuity & Enclosure, Quality of the Public Realm, Ease of Movement, Legibility, Adaptability, and Diversity aim at providing the residents of any city with a vibrant, lively, safe, secure, urban life, satisfying even the unexpressed requirements of the users. Urban Design parameters that focus on quality of life, community liveability, and social sustainability, the ideals that would be the guiding characteristics of

designing a liveable city, can be derived from a multitude of interconnected as well as independent theories that supplement the above described objectives of urban design.

To cite a few theories, Jan Gehl, in his theories on Public Spaces and Public Life, also presented in his work on Life between Buildings, and Cities for People, focus on the following parameters as the three main elements that make up cities: Life, Space, and Buildings, and the ways in which they interact to allow for vibrant cities. Life has to come first, and this liveliness arises from activities that need stimulants. These stimulants can be planned precincts, forms allowing for complex interactions, and reasons for people to come together and interact.

This brings us to Ian Bentley, who states the following as parameters of Responsive Environments, that is, environments that provide users with maximum degree of choices to have enriching experiences within them: Permeability (where people can go, and where they cannot), Variety (the range of uses available to people), Legibility (how easily people can understand what opportunities it offers), Robustness (the degree to which people can use a given place for different purposes), Visual Appropriateness (whether the detailed appearance of the place makes people aware of the choices available) , Richness (people’s choice of sensory experiences), and Personalization (the extent to which people can put their own stamp on a place).

Project for Public Spaces, New York, which carried on the seminal work of William H Whyte, state the following as the main components of Placemaking, an exercise that creates spaces with Identity and Sense of belonging: Uses and Activities, Comfort and Image, Access and Linkages, and Sociability.

Taking a comprehensive look at how Urban Design influences the way we live, Ernest Sternberg, in his Integrative Theory of Urban Design, compiles the following theories:
 Good Form – Beholder’s experience of Space as elaborated by Camilio Sitte
 Legibility – Ease with which we perceive and navigate the spaces as elaborated by Kevin Lynch
 Vitality – Life of the city as elaborated by Jane Jacobs
 Comfort – Physiological and Psychological Comfort of inhabitants
 Meaning – Genius Loci, and Existential space as elaborated by Norberg Schulz

Table 1 : Summarizing the theories (Source: Author)

<i>Factors that enrich Urban Life</i>		
<i>Theory/Book</i>	<i>Proponent/Author</i>	<i>Parameters/Factors</i>
Objectives of Urban Design	-	Character Continuity & Enclosure Quality of the Public Realm Ease of Movement Legibility Adaptability Diversity
Responsive Environments	Ian Bentley et. al	Permeability Variety Legibility Robustness Visual Appropriateness Richness Personalization
Life between Buildings	Jan Gehl	Life – Activities Space

		Buildings
Social Life of Small Urban Spaces/Project for Public Spaces	William H Whyte	Uses and Activities Comfort and Image Access and Linkages Sociability
Integrative Theory of Urban Design	Ernest Sternberg	Good Form – CamilioSitte Legibility – Kevin Lynch Vitality – Jane Jacobs Comfort Meaning – Norberg Schultz

Based on these theories, a few parameters have been identified as potential sub-components to the categories of Liveability stated in the 'Liveability Standards in Cities' developed by the Ministry of Urban Development (MoUD), Government of India, to generate a Liveability Index and rate cities. In the current Index too, the focus is on urban infrastructure, and disregards how the built environment influences how people relate to each other, creates opportunity for community to form, and strengthens depth of our social networks which in turn facilitates social cohesion, cultural continuity, sense of place identity, and resilience of community. These proposed sub-components intent to bring in design objectives to the forefront in the Liveability discourse.

Analyzing 'Liveability Standards in Cities', Ministry of Urban Development (MoUD), Government of India

FEATURE CONTAINED IN SCPs	CATEGORY	PILLAR OF COMPREHENSIVE DEVELOPMENT
Citizen Participation IT Connectivity ICT-enabled Government Services	1. Governance	Institutional
Identity and Culture	2. Identity and Culture	Social
Education	3. Education	
Health	4. Health	
Safety and Security	5. Safety and Security	
Economy and Employment	6. Economy and Employment	Economic
Housing and Inclusiveness	7. Housing and Inclusiveness	Physical
Open Spaces	8. Public Open Spaces	
Mixed Land use Compactness	9. Mixed Land Use and Compactness	
Energy Supply Underground Electric Wiring Energy Source Energy Efficiency	10. Power Supply	
Transportation and Mobility Walkability	11. Transportation and Mobility	
Water Supply Water Management	12. Assured Water Supply	
Sanitation Waste Water Management	13. Waste Water Management	
Waste Management	14. Solid Waste Management	
Air Quality	15. Reduced Pollution (‘Noise Pollution’ and ‘Pollution of Surface Water Bodies’ have also been included)	

Figure 3: Categories and Indicators of Liveability (Source: Liveability Standards in Cities, 2017)

As we explore in detail, the seemingly elaborate framework of liveability assessment is found to have quite a few shortfalls in addressing the quality of spaces need to have a vibrant urban life. The disjunct between the supportive infrastructure that facilitate the urban life and inadequacy in addressing the basics of liveability in terms of urban design framework are addressed in this paper and focusing on high-density, mixed-use urban neighbourhoods, further attempts to supplement the 'Liveability Standards in Cities' with additional urban design criteria to make it a comprehensive tool to assess Liveability of Cities.

For this paper, the researchers intend to focus on Identity and Culture from the Social Pillar of Comprehensive Development and Public Open Spaces from the Physical Pillar of Comprehensive Development, as demonstrative examples to showcase the possibilities of enhancing the existing framework.

The framework of Liveability selected for analysis viz. the MoUD Guidelines, looks at the category of **Identity and Culture**, under the **Social Pillar of Comprehensive Development**, and subsequently states the following parameters of measuring Liveability in cities:

1. Restoration and reuse of historic buildings (Core)

This category considers the “extent to which planning and development in the city respects historic buildings/sites and the existing cultural landscape, through projects for preservation/restoration and adaptive reuse; expressed as Average for buildings listed by ASI, State ASI and Local Authority”. Historic buildings being a tangible asset and reminder of the origins and evolution of any city, this parameter is to be detailed out in consideration to the following parameters as well, as derived from the literature reviewed. Imageability, Landmarks and Legibility suggests at Identifiable origins, destinations, vivid paths, pauses at activity nodes, identifiable districts with definite boundary edges made distinct with variants of built mass, all parts of the city image that are key components of the city’s identity and culture.

Not only the landmark structures, but the historic inner-city area, usually neglected, converted into slum-like settlements, or maybe gentrified and hence inaccessible to a major section of the population, have to be identified as well. Visual Appropriateness, of interventions, extensions and redevelopments in the city are to be monitored under the Index, since this factor, as elaborated by Ian Bentley, asserts the implications of form in creating or giving agency to the identity of a community, and have to be raised and converted into measurable parameters.

Identity is not only one that is associated with the tangible, but a major component of the Community Memory lies in Character and Continuity of Cultural Identity. Identifying those intangible parameters of the unique cultural, regional identity of the city, which maybe artforms, crafts, or textiles, and spaces that address the production and marketing of these assume prominence as a facet of the city’s Liveability.

2. Percentage of ecologically important areas covered through projects for restoration (Core)

This category considers the extent to which the city has taken ecologically sensitive areas (natural heritage) into consideration during the process of planning and development. Ecologically sensitive sites will include surface water bodies, urban watershed (natural drainage lines), coastlines, riverfronts, wetlands and urban forests; the restoration of which can lead to a better urban environment.

Currently expressed as percentage of ecologically important sites covered through projects for restoration, this parameter becomes a mere statistic rather than exploring the importance of such spaces as places of sustenance to the city, and important spaces of community memory and collective ownership. When this parameter is expressed only as area, its relevance in being considered under the category of Identity and Culture becomes suspect.

At this juncture, it is required to bring within the purview of the Index, the lakes, rivers, wetlands, coastlines, forested areas, parks, and any other zone that might be a part of the identity of the space, and might be responsibly developed into spaces of identity, recreation, passive social activities, and as urban lungs. Thus, the strategies of development and restoration become the measurable parameter that needs to be monitored as a part of the Index, rather than the area covered.

3. Hotel Occupancy (Core)

This category has been included as it is expected to indicate the extent to which the city is frequented by tourists/visitors for various purposes such as tourism, business, etc. Expressed as Average of various categories of hotels, the initial inference is that this parameter fails to consider the factors that contribute towards the unique identity of the city.

However, the explanation of this parameter states that high average hotel occupancy rates across different times of the year indicate a flourishing inflow of visitors, fuelled by improvements in economic productivity and business environment, concerted efforts towards upkeep and marketing of local heritage and ecological assets (eco-tourism), and availability of adequate opportunities for exploring local identity and culture.

Here, the policy makers have given emphasis on how these assets can be leveraged for revenue, rather than how they are a part of the identity and Imageability of the city. While income generation from tourism remains an important factor in historic town revitalization initiatives, the researchers raise the question of how “Hotel Occupancy”, rather than the concerted efforts, becomes a parameter of measuring liveability. As we look at the heritage and ecological assets, and the local identity and culture, as suggested here, we arrive back at the factors of Visual Appropriateness, Richness, Imageability, Landmark elements, Character and Continuity of Cultural Identity experienced through a vibrant social realm as well. The necessity of documenting said factors assume importance as parameters to be considered in the Liveability Index.

4. Percentage of budget allocated towards cultural/sports activities (Supporting)

This category has been included as it is expected to indicate the focus of the City Government on encouraging cultural and sports activities in the city. It is stated that active budgeting and expenditure by city governments on such cultural/sports activities can facilitate a vibrant socio-cultural environment within cities.

5. Number of cultural/sports events hosted by city authority (Supporting)

This, along with the previous Indicator, indicates the focus of the City Government on encouraging cultural and sports activities in the city. While some of the activities may be actively funded through ULB funds, others may be supported by the city administration through facilitation of permissions and provision of land/facilities.

Expressed as percentage of City's expenditure, and as Number of cultural/sports events hosted by the city authority in the preceding year respectively, the index fails to consider the opportunities for community building offered by the conduct of such activities. This brings us to the ideas of Urban Life and activities as theorized by Jan Gehl, Jane Jacobs, William Whyte, and the like.

Jan Gehl identifies a framework of outdoor activities that take place in any successful public space: necessary activities, optional activities and social activities. The events hosted, if they can be assumed to fall under the framework of optional or social activities, play a major role in establishing community connect and foster inclusivity. Thus, the natures of events, the target user group, the accessibility of spaces where they are held, are all associated parameters to be considered. Vitality of the city, as elaborated by Jane Jacobs as the gregarious concept that allows an urbanite who takes active role in urban life, is another aspect that enshrines the Identity and cultural presence of the urban area. As summed up by Alan Rowley, concepts of mixed use, fine grain, high density and permeability, then become part of the ensemble factors that need to be quantified and measured to summarize Identify and Culture as a measurable of Liveability.

The MoUD Guidelines for **Public Open Spaces under the Physical Pillar of Comprehensive Development** sums up measurement in a mere two factors.

1. *Per capita availability of green spaces (Core)*

This parameter of measurement is described as the extent to which urban greens and open spaces such as recreational spaces, organized greens and common spaces like flood plains, forest cover, vacant lands etc. are available in the city leading to a better urban environment.

2. *Per capita availability of public and recreational places (Core)*

This indicator denotes the extent to which recreational and public spaces are available in the city for recreation, social interaction and active physical activities. Such spaces are stated to include “playgrounds, stadiums and sports complexes, city and district parks, neighbourhood parks and tot-lots, zoological/botanical gardens, multi-use open spaces and maidans for cultural events, publicly accessible waterfront areas, promenades, public squares etc.”

However, the use to which these spaces are put form the crux of urban life, and upon analyzing the MoUD Guidelines for **Public Open Spaces**, we can see that the attempt has been at just quantifying the availability of spaces based on statistical data, and no attention has been given to assessing the quality, variety or usage of said spaces. Another observation in continuation from Identity and Culture is that there has been no attempt to link the cultural/sporting events held in the city to the spaces which play host to these events.

Every town and city aspires to have great public places. As derived from Whyte's work and elaborated by PPS, a great place is accessible and well connected to other important places in the area; is comfortable and project a good image; attracts people to participate in activities there; and is a sociable environment in which people want to gather and visit again and again(PPS). Thus, it is not enough just provide a space; the space needs to be an integral part of the urban fabric of the locality and the city as well as be enmeshed in the activities of the city.

The Urban and Regional Development Plans Formulation and Implementation (URDPFI) guidelines, 2014 prescribe benchmarks for open spaces in cities, based on importance and extent, under the categories of Housing Area Park (Less than 5,000 sq.m.), Neighbourhood Park (5,000 -

10,000 sq.m.), Community Park (10,000 - 50,000 sq.m.), District Park (50,000 – 2,50,000 sq.m.), and Sub-City Park (2,50,000 sq.m. & above).

Each of these categories intend for the spaces to play host to events of various scales and magnitudes, and addressing various user groups to form a social and community contact and connect, from neighbourhood level to city and regional level.

Jan Gehl, in *Life between Buildings*, draws attention to the need for contact. Contact may be of low intensity or of mild interactions, but they are a prerequisite for more complex interactions between various user groups and stakeholders, and thus a stimulant for urban life. This need for contact helps Gehl identify a framework of outdoor activities that take place in any successful public space: necessary activities, optional activities and social activities. These flourish when spaces are designed with sympathy to human scale and scope of senses (Gehl, 2011). Thus it is not sufficient for a Liveable City to merely have per capita availability of public spaces, but also to ensure that they possess the qualities that would prove conducive to a vibrant urban life.

The parameters of responsive environments, as outlined by Ian Bentley, can be incorporated into the guidelines as well. Variety, the range of uses available to people in the public space, is key to ensuring the space is used for necessary, optional and social activities. This can be enumerated only if we know the citizens needs, the habits of urban life and the calendar of events the city plays host to. Robustness, the degree to which people can use a given place for different purposes, while similar to the variety of uses, also brings attention to the degree of inclusivity of the space. Whether it is age, gender, physical ability, social or racial status, the space must be accessible and usable by any and all to be truly public. Personalization, the extent to which people can put their own stamp on a place, while making it easy for appropriation for various levels of activities, also ensure the space becomes a part of community memory and collective ownership. This is key to making the space a regular destination for various events and activities, or daily social interactions, thus making the space a vital part of the urban life.

Also paramount to establishment of a recognizable and relatable Social Structure and Place Identity (Vijayan, 2019), Public Open Spaces need to be quantitatively and qualitatively analyzed to ensure optimal contribution to Liveability.

Conclusions

This paper was an attempt at re-assessing the focus placed by Liveability Indices on urban infrastructure, and their disregard towards how the built environment influences the ways in which people relate to each other, creates opportunity for community to form, and strengthens depth of our social networks which in turn facilitates social cohesion, cultural continuity, sense of place identity, and resilience of community. The intent of this study was to establish the disjunction between the supportive infrastructure that facilitate the urban life and inadequacy in addressing the basics of liveability in terms of urban design framework. Towards this, the 'Liveability Standards in Cities' published by the Ministry of Urban Development (MoUD), Government of India, was selected for analysis with focus on two categories as case examples, and further attempts to supplement selected categories of the 'Liveability Standards in Cities' with additional urban design criteria to make it a comprehensive tool to assess Liveability of Cities. The research into these two categories established the necessity of an urban design perspective in addressing parameters of Identity and Culture as well as a human-centric, inclusive approach towards the assessment of Public Open spaces. The paper also suggests the various dimensions to be considered to make these categories more comprehensive so as to enable an effective

assessment of Urban Liveability. While limiting this paper to analyzing these two categories, further research is intended to include all categories of assessment.

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