

## Well-being, social interaction and physical activity: encouraging healthy behaviours through quality urban design

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**Abstract:** In recent years, the healthy city topic has become more and more present in both research studies and urban actions. According with many principles declared in the Quito New Urban Agenda, the centrality of this topic is due to many important factors, including the climate change; the lengthening of human lifespan; the necessity of a wider accessibility in social, physical and environmental sense. Although the recognition of the importance of liveable spaces for keeping people in good health and improve social interaction, it is difficult to demonstrate that good urban design is capable to reduce hearth and other kinds of diseases. However, the increasing in the number of people who spend time, walk and cycle on the streets can be shown easily and this is a first measure to demonstrate the success of the environment from the healthy point of view.

Starting from these premises, this work will illustrate the principal definition of healthy city mainly related to public spaces and propose the Charter of urban health, liveability and happiness with 25 principles. The principles – following an holistic approach - should be considered as dynamic, in keeping with the increasingly rapid rates of change in a place and are both a check-list and guide lines for sustainable spaces.

**Keywords:** healthy city; well-being; urban design; public space

### Introduction

In recent years, the healthy city topic has become more and more present in both research studies and urban actions (Burns, 2005; Florida et Al., 2013; Friedmann, 2010; Gehl, 2010; Montgomery, 1998-2013; Sepe, 2017). According with many principles declared in the Quito New Urban Agenda (NUA), the centrality of this topic is due to many important factors: the climate change; the lengthening of human lifespan; the necessity of a wider accessibility in social, physical and environmental sense.

The Agenda, adopted during the Habitat III Conference in 2016, represents “a shared vision for a better and more sustainable future”.

Many principles that are contained in the NUA concerns topics related to public spaces, liveability, healthy, networks, and many arguments, which are illustrated in this study.

In the following, a selection of these principles are reported, in order to clarify the general framework in which the paper is presented.

13. We envisage cities and human settlements that:

(b) Are participatory, promote civic engagement, engender a sense of belonging and ownership among all their inhabitants, prioritize safe, inclusive, accessible, green and quality public spaces that are friendly for families, enhance social and intergenerational interactions, cultural expressions and political participation, as appropriate, and foster social cohesion, inclusion and safety in peaceful and pluralistic societies, where the needs of all inhabitants are met, recognizing the specific needs of those in vulnerable situations.

36. We commit ourselves to promoting appropriate measures in cities and human settlements that facilitate access for persons with disabilities, on an equal basis with others, to the physical environment of cities, in particular to public spaces, public transport, housing, education and health facilities, public information and communication (including information and communications technologies and systems) and other facilities and services open or provided to the public, in both urban and rural areas.

37. We commit ourselves to promoting safe, inclusive, accessible, green and quality public spaces, including streets, sidewalks and cycling lanes, squares, waterfront areas, gardens and parks, that are multifunctional areas for social interaction and inclusion, human health and well-being, economic exchange and cultural expression and dialogue among a wide diversity of people and cultures, and that are designed and managed to ensure human development and build peaceful, inclusive and participatory societies, as well as to promote living together, connectivity and social inclusion.

50. We commit ourselves to encouraging urban-rural interactions and connectivity by strengthening

sustainable transport and mobility, and technology and communications networks and infrastructure, underpinned by planning instruments based on an integrated urban and territorial approach, in order to maximize the potential of these sectors for enhanced productivity, social, economic and territorial cohesion, as well as safety and environmental sustainability. This should include connectivity between cities and their surroundings, peri-urban and rural areas, as well as greater land-sea connections, where appropriate.

53. We commit ourselves to promoting safe, inclusive, accessible, green and quality public spaces as drivers of social and economic development, in order to sustainably leverage their potential to generate increased social and economic value, including property value, and to facilitate business and public and private investments and livelihood opportunities for all.

67. We commit ourselves to promoting the creation and maintenance of well-connected and well distributed networks of open, multipurpose, safe, inclusive, accessible, green and quality public spaces, to improving the resilience of cities to disasters and climate change, including floods, drought risks and heat waves, to improving food security and nutrition, physical and mental health,

and household and ambient air quality, to reducing noise and promoting attractive and liveable cities, human settlements and urban landscapes and to prioritizing the conservation of endemic species.

97. We will promote planned urban extensions and infill, prioritizing renewal, regeneration and retrofitting of urban areas, as appropriate, including the upgrading of slums and informal settlements, providing high-quality buildings and public spaces, promoting integrated and participatory approaches involving all relevant stakeholders and inhabitants and avoiding spatial and socioeconomic segregation and gentrification, while preserving cultural heritage and preventing and containing urban sprawl.

99. We will support the implementation of urban planning strategies, as appropriate, that facilitate a

social mix through the provision of affordable housing options with access to quality basic services and public spaces for all, enhancing safety and security and favouring social and intergenerational interaction and the appreciation of diversity. We will take steps to include appropriate training and support for service delivery professionals and communities in areas affected by urban violence.

100. We will support the provision of well-designed networks of safe, accessible, green and quality streets and other public spaces that are accessible to all and free from crime and violence, including sexual harassment and gender-based violence, considering the human scale, and measures that allow for the best possible commercial use of street-level floors, fostering both formal and informal local markets and commerce, as well as not-for-profit community initiatives, bringing people into public spaces and promoting walkability and cycling with the goal of improving health and wellbeing.

109. We will consider increased allocations of financial and human resources, as appropriate, for the upgrading and, to the extent possible, prevention of slums and informal settlements, with strategies that go beyond physical and environmental improvements to ensure that slums and informal settlements are integrated into the social, economic, cultural and political dimensions of cities. These strategies should include, as applicable, access to sustainable, adequate, safe and affordable housing, basic and social services, and safe, inclusive, accessible, green and quality public spaces, and they should promote security of tenure and its regularization, as well as measures for conflict prevention and mediation.

114 (d) Urban freight planning and logistics concepts that enable efficient access to products and services, minimizing their impact on the environment and on the liveability of the city and maximizing their contribution to sustained, inclusive and sustainable economic growth.

118. We will encourage national, subnational and local governments to develop and expand financing instruments, enabling them to improve their transport and mobility infrastructure and systems, such as mass rapid-transit systems, integrated transport systems, air and rail systems, and safe, sufficient and adequate pedestrian and cycling infrastructure and technology-based innovations in transport and transit systems to reduce congestion and pollution while improving efficiency, connectivity, accessibility, health and quality of life.

149. We will support local government associations as promoters and providers of capacity development, recognizing and strengthening, as appropriate, both their involvement in national consultations on urban policies and development priorities and their cooperation with subnational and local governments, along with civil society, the private sector, professionals, academia and research institutions, and their existing networks, to deliver on capacity-development programmes.

This should be done by means of peer-to-peer learning, subject-matter-related partnerships and collaborative actions, such as inter-municipal cooperation, on a global, regional, national, subnational and local scale, including the establishment of practitioners' networks and science policy interface practices (<http://habitat3.org/the-new-urban-agenda/>).

Although the recognition of the importance of liveable spaces for keeping people in good health and improve social interaction, it is difficult to demonstrate that good urban design is capable to reduce hearth and other kinds of diseases. However, the increasing in the number of people who spend time, walk and cycle on the streets can be shown easily and this is a first measure to demonstrate the success of the environment from the healthy point of view.

Starting from these premises, this work will illustrate the principal definition of healthy city mainly related to public spaces and propose the Charter of urban health, liveability and happiness with 25 principles carried out in the framework of the IRISS CNR research project "Contemporary urban landscape design: place identity,

happiness, liveability, health and sustainability” (Responsible: M.Sepe). The principles – following an holistic approach - should be considered as dynamic, in keeping with the increasingly rapid rates of change in a place and are both a check-list and guide lines for sustainable spaces.

### **Well-being, social interaction and physical activity**

The relationship between healthy, liveability, happiness and urban design are the complex result of multiple elements which play different roles in the city system. Improving these factors with sustainable urban design, and preserving place identity as well, is a great challenge (Carmona, et Al., 2010; Lynch, 1960; Madanipour, 2003; Porteous, 1977; Relph, 1976; Sepe, 2013-2015). To suitably understand this complex system, in the following the topics are illustrated separately.

With respect to the health theme – which is strongly connected with liveability and happiness -, recent studies (AAVV, 2017) report that firstly it is important to identify reasons why people who live in cities have greater risk to have health problems because of different factors. These include: disparities; crowding, noise, pollution, which can produce stress and encourage people in avoid social relationships that are important for mental well-being; low presence of green, which results in possible reduction of leisure time, security and privacy; the increasing use of the Internet followed by a decreasing in the use of public space; the demand of always more specific types of food; the increasing in metropolitan, street and city sports of different kinds.

Urban design and planning can contribute to decrease mental health problems and improve happiness in the city by reducing those risk factors. The Mind the Gaps frameworks created by McCay (AAVV, 2017) identify four topics to make tangible the urban planner help, even though no one city still embodies all of them. Topic 1 is, as affirmed in different theories, access to urban green places, which can have many good factors including encourage exercise and social interaction; Wilson affirms that the good effect of green space stands in the fact that humans have biological need satisfied by the contact with other species; Ulrich states that the good effect is due to the contemporaneity of experience with aesthetics of nature and distance from every day problems; the Kaplan (Rachel and Stephen) theory proposes that natural sites take the attention of people more than the non-natural because these last need contemporary concentration on many elements.

These theories can help to understand the positive effect of green space in mental health but are not enough to assume that the design of green space in a site can assure improvement in mental health. There are other factors which can influence negatively benefits in green space such as inaccessibility, bad management, a feeling of threatening that can discourage its use. Green spaces should be designed to be welcoming to different kinds of people and not monopolized by certain groups. Indeed in some cases, green spaces can encourage behaviours, which are anti-social and discourage their use, because people feel unsafe in those spaces.

Successful green spaces should be walkable and have a suitable both physical and visual accessibility, which improve people’s wellbeing. Accordingly, small presence of green in small space, streets or workplace is important as well.

Another important factor is to create different options of transport such as paths for pedestrians and bikes, which help to reduce sedentary habits. Furthermore, it is important to design public spaces with flexible use which are capable to create a sense of belonging and community, providing streets furniture for both resting and chatting and other elements which contribute to social activities and the general perception of wellbeing.

The perception of safety also contributes to a better quality of life and public spaces, and those that are capable to contribute to this feeling are successful. Some features, which can help this feeling, include suitable lighting and clear landmarks.

As Lucy Sauders (AAVV, 2017) affirms people in the last decades are living longer than ever and so it is necessary to have healthier places to allow healthier life to all. This is because the daily activities such as work, travel and leisure are directly or indirectly connected to the place where these occur requiring suitable spaces.

Elements such as air pollution, noise, road dangers and social connectedness can influence our health in different ways. The question is to understand what of these factors influence in a wider ways health and how to address them. Saunders suggests to address all of them at once and implementing good practice in urban design at the largest possible scale.

Indeed, places which are good for people are often healthy as well. In public realm, this often means the diminishing in motorised transport, which is used for carrying people who could instead walk or cycle. Motorised transport impacts in non-positive ways on air pollution and physical inactivity, transforming public spaces in noisy and unwelcoming areas. And these also increase the problems deriving by poor access and road danger, which are particularly important for the most disadvantaged people. Putting people at the centre of the urban design and decision potentially reduce the inequalities. Accordingly, Healthy streets, as Lucy Saunders suggests, identify 10 indicators, which indicate how design urban spaces and transport policies which make people first (AAVV, 2017).

The most two important indicators - pedestrians from all walks of life and people choose to walk and cycle - have the aim to create places in which all people can participate in public life and both healthy and friendly environment design are considered in priority way.

The other eight indicators - People feel relaxed, Easy to cross, Clean air, Not too noisy, Places to stop and rest, People feel safe, Things to see and do, Shade and shelter show –clarify what is necessary to do to create inclusive, appealing and healthy places. Places, which do not have these characteristics, discourage people in using them. All professionals – transport professionals, landscape architects, community groups, artists, planners and developers - are involved in the realization of Healthy streets and all the indicators are necessary for creating them.

A big challenge is to meet the demands of the different stakeholders in order to put in practice the principles, all often in limited spaces. Streets can be contested spaces and every street requires different approach according with social, physical, political or financial questions, which can weight in the general design not always in the same way. The important, as declared by Saunders, is that the general objective is to create public space which work better for people and are healthy and liveable for all.

Furthermore, there exist important factors which create good interactions between places with behaviours, including: the promotion to daily activities such as walking or cycling which help people in having a healthy weight; the facilitation to easy access to healthy food; and the promotion of connected neighbourhoods and economic development.

Finally, the Richard Crappsley' (AAVV, 2017) approach to healthy design is mainly focused on streets and includes: reducing on-street parking and reallocating road space for vehicles, while adding space for walking and cycling; improving both the quality of footway zones and furniture and making easier for all age people to cross the streets; making bicycle infrastructures safer and more comfortable also introducing suitable separation with busy roads; slowing traffic, using different kinds of visual elements and tight corners; improving environmental elements, such as trees, sustainable drainage, shades streets and reduction of traffic noise; adding on-streets activities with both formal and informal activities which encourage people to use the space for social interaction or spend more time there; making safer the streets dissuading crimes and sense of insecurity, improving suitable lighting, natural surveillance; and making streets welcoming for all, improving accessibility.

### **Encouraging healthy behaviours through quality urban design**

The factors described in the previous sections shows that healthy and liveable urban design are capable to influence urban happiness in many ways, contributing to sustainability and the preservation of place identity. Accordingly, in the following, the principles of the Charter of urban health, liveability and happiness will be

proposed. The principles are the results of the experiments carried out with the original Ecolivable+ Design Method (Sepe, 2019). The aim is encouraging healthy behaviours through quality urban design promotion.

1. A healthy, liveable and happy place is a space which can transmit feelings of healthy, liveability and happiness to everyone who uses it.

Accordingly, it is important:

2. To encourage the use of the place by people of different age groups, from children to the elderly
3. To eliminate architectural barriers which might discourage people from frequenting that space
4. To create a suitable balance between the elements of nature, landscape and equipment in the composition elements of the space
5. To have both in streets and public spaces natural lighting during the day and artificial at other times, avoiding artificial light in daily hours.
6. To retain an adequate state of cleanliness and maintenance
7. To create suitable spaces for dogs and domestic animals
8. To create a sense of security and safety to those who walk, cross, rest, and so on in the public spaces
9. To minimise or eliminate the noise generated by public transport
10. To improve suitable cycle lines
11. To fully perceive naturally occurring smells - e.g. wood, grass, sea
12. To have direct contact with natural materials, preferably local, used in the design of the space
13. To have the presence of water in different shapes ( e.g. fountains) which promotes the vitality of the place.
14. To have the possibility of doing actions – such as walking, watching, etc.. - with a moderate or slow pace, promoting opportunities to take breaks in the space
15. To have the possibility of using the space in different weather conditions and seasons, contributing at the same time to its good state of maintenance
16. To preserve both the place identity and the intangible characteristics of the site and its surroundings
17. To both allow and promote different types of functions such as games, breaks, walking, etc..
18. To facilitate gymnastic activities – also slow - with the presence of small equipment or a designated space.
19. To have the possibility of doing actions that normally are not permitted – such as walking barefoot in the water or in designated public areas -, improving a feeling of freedom and joy.
20. To encourage the presence of art in its different forms.
21. To promote sculptures, games, or other elements and amenities which can bring a smile to a person's face promotes a state of liveability and happiness.

22. To promote participation, namely the feeling of being able to contribute to the life of that place increasing the sense of belonging.

23. The consideration of the place as symbolic of the neighbourhood improves the perception of its identity.

24. To promote the educational function which a place has – e.g. clearly displayed information about history of the place etc. or suitable ways to use it - increasing its intrinsic value.

25. To facilitate the use of new technology to increase the knowledge of its intangible values and history, offering a more profound experience of the place.

The principles – following an holistic approach - should be considered as dynamic, in keeping with the increasingly rapid rates of change in a place and are both a check-list and guide lines for sustainable spaces.

## Conclusion

The work illustrated the principal definition of healthy city mainly related to public spaces and the Charter of urban health, liveability and happiness with 25 principles. The New Urban Agenda, adopted during the Habitat III Conference in 2016 was used as a framework and the study concerning urban liveability and healthy were the scientific framework. The *file rouge* of the study presented in this paper is the idea that people have to be considered the centre of any design of place and that a quality urban design is able to strongly improve well-being, social interaction and physical activity encouraging healthy behaviours.

The paper identified the reasons why people who live in cities have greater risk to have health problems because of different factors, including: crowding, noise and pollution, which can produce stress and encourage people in avoid social relationships that are important for mental well-being; low presence of green, which results in possible reduction of leisure time, security and privacy; the increasing use of the Internet followed by a decreasing in the use of public space. Urban design and planning can contribute to decrease mental health problems and improve happiness in the city by reducing those risk factors.

The principles of the Charter of urban health, liveability and happiness – result of the experiments carried with the original Ecolivable+ Design method - which were proposed represent both a checklist and guidelines, which the project has to satisfy in order to enhance the three factors – health, liveability and happiness - of the place in question. As mentioned in the NUA section, the Agenda promotes civic engagement, engender a sense of belonging and ownership among all their inhabitants. Furthermore, it supports the provision of well-designed networks of safe, accessible, green and quality streets and other public spaces that are accessible, promoting walkability and cycling with the goal of improving health and wellbeing.

Accordingly, aim of the Charter of urban health, liveability and happiness is encouraging healthy behaviours through quality urban design promotion. The principles should be considered as dynamic, in keeping with the increasingly rapid rates of change in a place, which lead to continually expanding the concepts of health, liveability and happiness (Taylor et Al.,1998, Zelinka et Al., 2001; Zidansek, 2007).

Next steps of the present study – currently in development - are devoted to identify and create suitable indexes to measure urban health, liveability and happiness or other indexes derived from a combination of these elements. These indexes could be used in a more comprehensive calculation of the sustainability meant in social, environmental and economic meaning of an urban project both in the initial and final phases.

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