Healthy Neighborhood

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Abstract—*The built environment includes all of the physical parts of where we live and work (e.g., homes, neighbourhoods, offices, streets, open spaces, and infrastructure). The built environment influences a person's level of physical and social activities. Which lead to poor health outcomes such as obesity, cardiovascular disease, diabetes, and some types of cancer. Around the world, communities face pressing health challenges related to the built environment. The built environment is part of the health problem. But it is also part of the solution.*
Half the world's population now lives in cities. Meeting the demand for healthy living will require new development features, as well as investment in strategies that have proven returns, like parks. Human health is affected by many factors, such as the foods we eat, the air we breathe, the water we drink, and whether we can walk or bike to work or school.
Neighborhood is Designed and Managed to Complement and Enhance Performance of Surrounding Land Uses, Including Adjacent Neighborhoods and The Region as a Whole. The design and programming of a neighborhood or building affect both its health and its value. Neighborhoods are Designed and Operated to Minimize Crime, and to Provide Residents and Visitors with a Safe, Secure Environment. Open spaces as a vital constituent of the neighborhood's physical structure, have an important role to play to enhance the urban built environment. The paper aims to investigate the roles of neighborhoods- in urban built environment to achieve sustainability goals and objectives. However it follows an approach based on both the social and ecological neighborhood's ability to tackle sustainability issues. In this paper we are dealing with to understand the role of neighborhood in a larger scale to elevate urban built environment from architectural point of view.

1. INTRODUCTION

Due to rapid urbanization, people are getting attracted towards the city and urban areas where they are hoped to get more and more facilities and amenities to survive in better living conditions, as a result of this trend, the limits of the city increases day by day for proper planning and proper management in urban areas concept of neighbourhood planning is coming as a new trend now a days.

Neighbourhood are nothing but a group of people coming and staying together. It can be defined as clusters of households and dwellings, with both residential and non-residential functions, often with buildings and amenities offering choices for recreation, work, shopping, and education. Their built environment interconnects and allows neighbours and neighbouring dwellings to share infrastructure and services.

The reason for this may range from staying together for social security, sharing skills to have a complete and contained area, helping each other for production of food, protection from invaders, etc.

Great neighbourhoods don't happen by accident. They are the result of careful planning and thoughtful design that creates places that are sustainable, walkable, vibrant, social, and livable which increase the quality of life for residents of all ages and incomes. Great neighborhoods contribute to the prosperity of our city, attracting new people, new business and creating vitality while allowing the city to respond to change over time. Great neighborhoods are the foundation of a great city.

2. HOW IS A GREAT NEIGHBORHOOD DESIGNED?

Designing great neighborhoods or improving on existing residential communities begins with looking at the many components and layers that create a great neighborhood and understanding how these pieces are integrated and assembled.

To create a great neighborhood in a city the following nine principles to be followed. (Refer **Fig. 3**)

1. Start with the existing Natural Areas and Opportunities for Ecosystem Enhancement
2. Outline a Mix of Land Uses
3. Ensure the neighbourhood is well connected to provide Multi-modal Choice
4. Strive for a more Compact Urban Form and increased Density to create distinct neighbourhood nodes
5. Integrate a variety and mix of Parks and Community Spaces
6. Provide for Housing Opportunity and Choice
7. Build in Resilience and Low Impact attributes that enhance the neighbourhood
8. Create a Safe and Secure Neighbourhood
9. Encourage elements that add to the neighbourhoods Unique Identity

An ideal neighbourhood should have the following features:
- Unit of Urban Planning
- Street System
- Facilities
- Population
- Sector

- Size and Density
- Neighbourhood walkways
- Protective Strips

3. THE CONCEPT

As an ideal concept to develop a neighbourhood unit we are discussing Garden city principles by Sir Ebenezer Howard. Garden city is the most potent planning model in western urban planning.

Garden City is an impresive diagram of THE THREE MAGNETS as shown in **Fig. 1**, namely the town magnet, country magnet, with their advantages and disadvantages and the third magnet with attractive features of both town and country life. People prefered the third one namely Garden City.

Core garden city principles as shown in **Fig. 2**

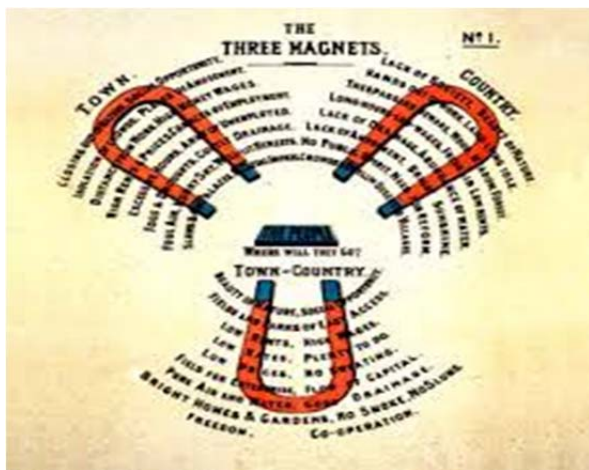a. Strong community
b. Ordered development
c. Environmental quality

Fig. 1: Three Magnets

Fig. 2: Garden City Principle

The above mentioned principles can be achived by (refer **Fig. 3**):

a. Unified ownership of the land to prevent individual land
b. Speculation and maximise community benefit
c. Careful planning to provide generous living
d. Working space while maintaining natural qualities
e. Social mix and good community facilities
f. Limits to growth of each garden city
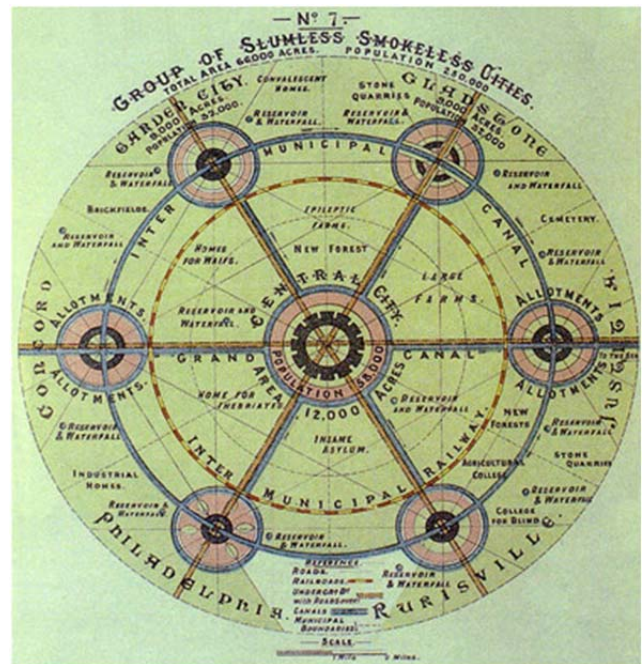g. Local participation in decisions about development

Fig. 3: City development Concept

4. NEIGHBORHOOD PLANNING AND DESIGN

Planning decisions influence neighborhood configuration, housing design, parks, location of stores and schools, as well as factors such as traffic density and air and water quality.

These characteristics, in turn, affect physical and psychological health for people of all ages. Planning Should Consider Public Health. Landuse distribution should be done from High density commercial/ community areas to medium/ low density neighborhood and community parks for better quality environment for the residents. (Refer **Fig. 4**).
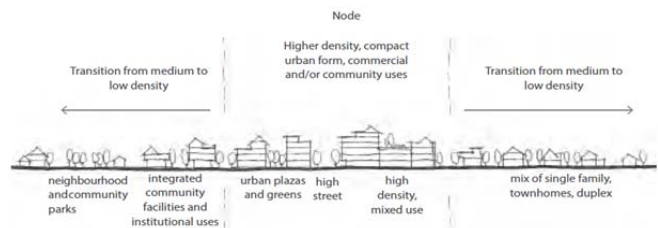

**Fig. 4: Distribution of Lansuse as per Density**

The factors such as density of communities, presence and size of parks, land-use mix, height and size of residential structures, food store location, and how roads are laid out affect people's physical health and psychological well-being as shown in **Fig. 5**. Most of the major health problems plaguing the population today, from psychological distress to heart disease to diabetes, have significant environmental causes. Health should be an important consideration in planning decisions.
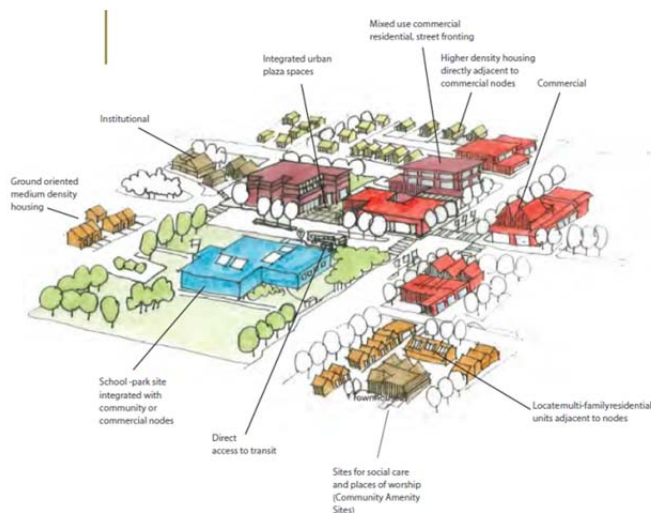
Fig. 5: Mixed-Use Community Development

Having natural areas nearby promotes well-being. Access to or views of the natural environment improve cognitive functioning and improve recovery from surgery and illness. People who live near parks and open space are more physically active.

In fact, older, urban residents who have places to walk and access to parks and tree-lined streets live longer. Trees and natural areas may bolster a sense of community by drawing people together and enhancing social connections.
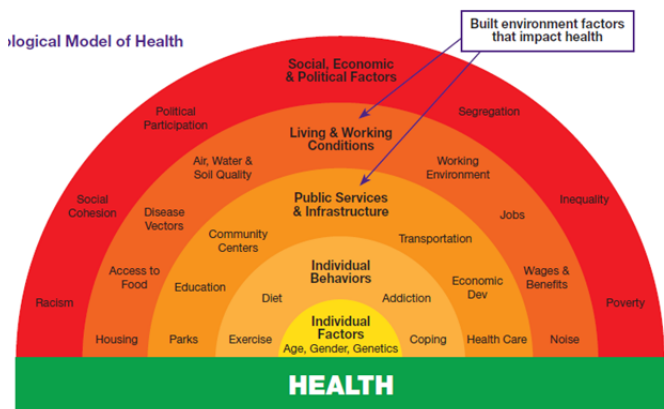
Fig. 6: Socio-Ecological Model of Health

Land-use planning, such as zoning, often influences community attributes such as soil contamination, safety of drinking water, traffic density, and water, air, noise, and light pollution. (refer **Fig. 6**)

For example, studies show that noise affects reading skills in children, elevates blood pressure, and increases stress hormones. Residents who live in neighbourhoods where they must depend on cars for transportation have reduced physical activities and increased obesity rates.
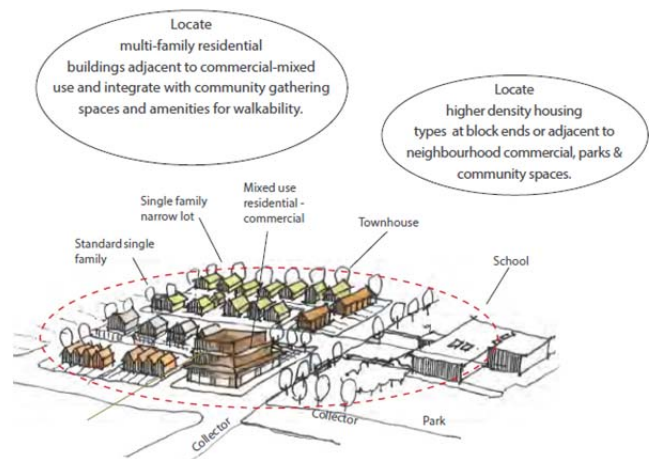
Fig. 7: Landuse Allocation

As shown in **Fig. 7** planning decisions that influence the location of supermarkets, fast-food eateries, farmers markets, and convenience stores can profoundly affect people's diets and their health. People who live in a neighborhood with a supermarket are more likely to eat the recommended amount of fruits and vegetables. Further, wealthier neighborhoods have more supermarkets than do poorer neighborhoods, and poor communities have more places to buy and drink alcohol.

The characteristics and quality of housing directly affect people's physical and mental health. A home that is cold and damp or has allergens may cause respiratory illnesses and asthma in the residents.

The height and size of housing also has health effects on residents—high-rise housing is associated with psychological stress, particularly among low-income mothers of young children. Children who lived in 14-story public housing were found to have greater behavioral problems than children living in three-story public housing. Social isolation may be one reason for this, because parents are less likely to let their kids play outside if they live high up in a large building. And, finally, crowding has detrimental effects on both mental and physical health.

Wells asserts that when many of these risk factors exist together, they are likely to have even stronger impacts on mental and physical health.

5. NEIGHBORHOOD DESIGN AFFECTS WALKING IN UNEXPECTED WAYS

Rates of inactivity have reached epidemic levels in putting individuals at risk for obesity and associated health problems. The general expectation is, and previous research has shown, that people who live in mixed-use neighborhoods with sidewalks and shared recreation spaces walk more and, thus, get more daily exercise.

Where cul-de-sacs and P-loops exist, provide off-street pedestrian links.

Design high volume multi-use trails with separate lanes for pedestrian and cyclist traffic or provide signage to indicate shared pathways.
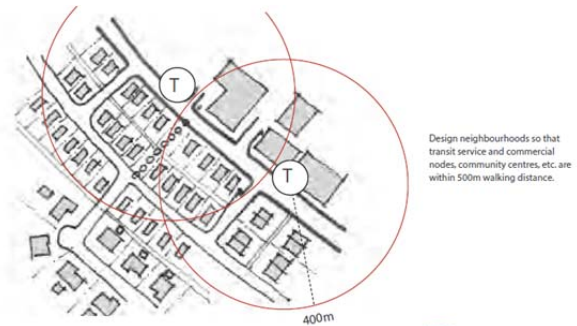
Fig. 8: Pedestrian Links and Signage

In a study of how the design of neighborhoods influenced residents' walking, found that, to the contrary, women living in so-called "neo-traditional" mixed-use neighborhoods did not walk significantly more than women residing in suburban neighborhoods with large lots, no sidewalks and shared recreation space. The residents in mixed-use communities walked less. A possible reason was that the area businesses might not have been pedestrian- or family-friendly, for instance liquor stores or strip clubs. Safety concerns or fear of crime might also deter walking. As per norms a neighborhood should be designed in such a way that all the facilities should be within 500mts as shown in **Fig. 10**. Neighborhood design factors that did promote walking were streets laid out in intersecting grids and fewer culs-de-sac (also known as "loops and lollipops" patterns).

Age, income, and body mass index were not significant predictors of walking, although race and household size were associated with how much the women walked.
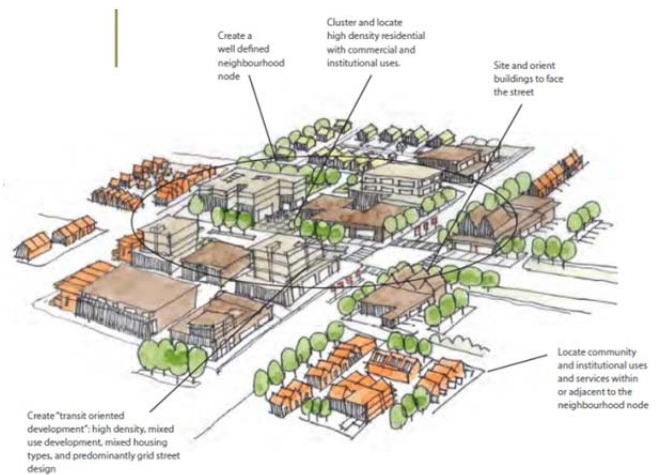

Fig. 9: Providing Walkways leads to Health Habits

Design neighbourhoods so that transit service and commercial nodes, community centres, etc. are within 500m walking distance.

Fig. 10: Accessibility to various services

Further research is needed to better understand these findings. The participants in this study were not randomly selected and the sample was small. The use of pedometers did not allow assessment of where and why people were walking. And finer-grained environmental measures would give more information about neighborhood characteristics.

Create a well defined neighbourhood node

Cluster and locate high density residential with commercial and institutional uses.

Site and orient buildings to face the street

Create "transit oriented development": high density, mixed use development, mixed housing types, and predominantly grid street design

Locate community and institutional uses within or adjacent to the neighbourhood node

Fig. 11: Strategic Placements of Landuse and Transits

Design for a mix of park types and community spaces both large and small. Focus on the quality of park amenity rather than area.

Fig. 12: Specially designed walkways and community gathering areas

6. WHAT INDIVIDUALS CAN DO?

- Give children plenty of opportunities to play outside in natural settings.

- Landscape your yard to enhance natural window views.

- Position your child's (and your) desk to face a natural window view.

- Take family outings to natural areas.

- If possible, choose a house or apartment with access to nearby nature or at least views of nature.

- Walk more and increase outdoor physical activity.

7. WHAT CITIZENS CAN ASK PLANNERS TO DO?

Consider health implications and employ evidence when making planning decisions.

- Plan space for parks and natural areas in residential areas.

- Keep building heights low.

- Build child care centers, schools, nursing homes, and hospitals in natural settings.

- Landscape existing child care centers, schools, nursing homes, and hospitals with as many natural elements as possible.

- Plan new neighbourhoods with walkable, intersecting streets rather than "loops and lollipops" patterns.

8. ACKNOWLEDGEMENT

REFERENCES

[1] Arnfield, A.J. Two decades of urban climate research: A review of turbulence, "Exchanges of energy and water, and the urban heat island". International Journal of Climatology, 2002 pp. 23, 1–26.

[2] Brundtland, G. (Ed.). Our common future: "*The World Commission on Environment and Development*", 1987 Oxford: Oxford University Press.

[3] Red Deer. The City of Red Deer, Neighbourhood Planning and Design Principles. Report, October 2013.

[4] National centre for Environmental health. "Healthy Community Design". Fact sheet series June 2011.

[5] Howard, E. Garden Cities of To-morrow, London, 1947 and 1902 editions.

[6] Howard, E. Garden Cities of To-morrow, London, 1947 and 1902 editions.

[7] Taylor, K. Canberra: City in the Landscape, Halstead Press, Sydney, 2007.

[8] Freestone, R. "Planning Suburban Canberra in the 1920s, in Peter Freeman" (ed) *The Early Canberra House, Federal Capital Press, Canberra*, 1996