Placemaking for Healthy Cities: Research into Practice

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Centre for the Future of Places

KTH (Stockholm) research centre evolving from the Future of Places partnership, a 4-year forum developing key messages for the New Urban Agenda, bringing together over 1,500 researchers, professionals, government leaders and activists from 275 organizations in 100 countries.

The forum’s focus is on public space as the essential connective framework for healthy urbanization.
Public space and health in the New Urban Agenda:

...human health and well-being

...physical and mental health

...social interaction and inclusion

...household and ambient air quality, to reducing noise

...promoting attractive and liveable cities [and] human settlements

(etc)
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Valuing the Benefits of Public Space Systems (Mehaffy, 2015)
EXECUTIVE SUMMARY

Recent research has provided a clearer picture of the importance of interconnected public space systems in cities—that is, the connected systems of streets, plazas and parks, and the private-space systems that adjoin them. Following are key conclusions of the new research:

1. **Economic benefits.** The economic interactions of a city are dependent, to a surprising degree, on a well-connected, well-functioning public space system. To the extent this system is degraded or nonexistent, the city’s economy will under-perform.

2. **Transport benefits.** Well-designed streetscapes can increase walking and public transit use, and help to reduce vehicular traffic congestion (and the cost of building and maintaining expensive vehicular infrastructure). The corollary is that a degraded streetscape system will contribute to induced demand for automobile travel, resulting in greater congestion, infrastructure cost and other negative impacts.

3. **Social benefits.** A comfortable, attractive public realm promotes social interaction and formation of social capital, which in turn promotes social resilience.

4. **Health benefits.** A walkable public space system promotes activity, exercise and stress reduction.

5. **Environmental benefits.** Cities with well-connected, quality public space systems reduce dependence on automobiles, and increase the ability to exploit compact, resource-efficient neighbourhood types that further reduce environmental impacts.

6. **Benefits for the elderly, children and vulnerable populations.** A well-connected, safe public space system provides choice of mobility for those who are unable to drive automobiles, and also affords opportunity for exercise, recreation and social interaction.

7. **Benefits from tourism, and from company/employee relocation.** A walkable public realm is more attractive to tourists who will more likely return, and are more likely to share their positive experiences with others. Walkable streets with shops provide the number one most popular activity for tourists—shopping—which in turn further benefits the local economy. In addition, companies considering relocation of offices are increasingly responding to preferences of employees who seek (among other amenities) attractive, walkable and accessible public spaces.
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Many of these benefits are systemic, that is, they are fully achieved only when these systems function well as a whole. In addition, there are other factors that contribute to each of these benefits, and it is often difficult to tease out the causative role of the different factors for a given locale.

For both reasons, it is difficult to quantitatively measure the direct effects of specific local changes. Nonetheless it is possible to measure indicators of public space benefits, as we will discuss in the second part of this document.
Summary

The recent findings from the sciences show that cities are complex adaptive systems with their own characteristic dynamics, and – if they are going to perform well from a human point of view – they need to be dealt with as such. At their very cores are the public space systems that connect human beings to all their other parts, and ultimately, to one another.

*If these public space systems are well-structured and connected, then, as the research demonstrates, the city outperforms relative to baseline. If these public space systems are fragmented, sprawling, privatised, or in poor condition, then the city will under-perform.*

This implies that we must place greater value on walkable public space systems, and greater priority on their creation improvement. Among other things, it means we must replace older models of car-dominated planning with newer models of well-connected, multi-modal, pedestrian-centred cities. Indeed, that is a key agenda item for the upcoming Habitat III United Nations conference, for which this author has consulted.

However, to improve these public space systems, we must do more than change our ideas of design. We must re-assess our current systems of planning, building and managing cities—the laws, codes, standards, models, incentives, and disincentives that effectively make up the modern "operating system" for urban growth. To make better cities, we need to shift to an evidence-based approach, able to draw on the best lessons of science and history about the making of well-functioning, good cities, from a human point of view,
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Are cities the problem – or are they the solution?

“The cities of the 21st century are where human destiny will be played out”

- Herbert Girardet
We in developed economies need to recognize the urgent need to overcome poverty and its ills...
But is our model of urbanisation actually providing all of what cities can?

... Health improvements
... Life opportunities
... Human development
... Sustainable growth
... Quality of life?
We are getting serious unexpected consequences - health, resource depletion, etc…
Increasing inequality, with too many excluded -- and for those not excluded, unsustainable “externality costs” (resource depletion, pollution, health impacts, ecological damage, climate change...) 

We have to shift to another way of urbanizing!
First, we need clarity of definitions, e.g.:

*What do we mean by “placemaking”?*

... *markets? ...fairs? ...”pretty places”?*

... *too many things to too many people?*

... *causing bad things, like gentrification?*

... *as some critics say, “rearranging plaza chairs on an urban Titanic?”*
My working definition of *placemaking*:

1. Making **places**, not just **objects**

2. Focusing on **processes**, not just **products**

3. Moving beyond narrow functional **requirements** to address **human experience**

4. Moving beyond elemental models to re-focus on whole-systems phenomena (including **health**)
My working definition of *placemaking*:

5. Developing a detailed understanding of how places are structured, as whole-systems phenomena
“What is required is a new definition of the city, as a contact system, as a set of interactions and flows that define the kinds of networks that enable creativity and innovation to thrive and grow. This is a challenge that now defines the way we must think about all cities.”

- Mike Batty and Peter Ferguson

... These networks occur in physical places, i.e. “place networks”. Let’s examine!
Urbanism: freedom and conflict

“Why do we build cities at all?”

The city brings us together to create....
to create a life, a livelihood, a culture…

But in doing so, we potentially constrain each other's freedom to participate in that life... The structures we create limit the freedom of others. (A wall limits my freedom to enter the other side!)
So the structure of public and private space is the physical counterpart to a political and legal system that “mediates between conflicting freedoms” (Paul Murrain)

Urbanism, in that sense, manifests this “mediation between conflicting freedoms” of the agents (people) who are interacting within the spatial networks of the city
An urban relationship means we can constrain each other's freedom...
Two broad design strategies
One: separation ...(segregation)
A second design strategy... mediation

System of “rooms,” public to private, connected by modulated connections
Urban structure as (approaching a) “just mediation between conflicting freedoms”
This self-organization of the connective networks of urban space is rooted in the scale of human beings, and human experience – what we might call “place networks”
Rooms in a house:

“Rooms” outside the house:

Buildings

Doors

Gates

Windows

Vegetation
We are constantly shaping and modifying this “place network”, in small and large ways, over different spans of time. We close doors, open windows, build walls... build streets and public spaces. This affordance (affording the power to connect, or to exclude) is a key property of cities.
This self-organization transforms the structure of place networks over time....
Venice Transformation
1500-1600 approx.

The transformation of Venice's place networks. Above, the original cadastral plan of Venice's plots and blocks... and the same area after decades of urban evolution have transformed and enriched its place networks.

Source: Muratori (1959)
Through these incremental mediations, the public spaces of the city self-organize. We need to design (the spaces, the rules) to accommodate (generate) that kind of dynamic adaptive change.
ITALY TODAY
Greatly simplified public/private scheme
NORWAY TODAY

Public space?  Human Scale?  Pedestrian experience?
Urbanization is still largely shaped by a model that is now over a century old...

- Romance of the New
- Political Enlightenment
- Technology as Salvation
- The Triumph of Reason

- Mechanical Technology as Ordering Idea (Image, Fashion)
“Modernism’s alchemistic promise – to transform quantity into quality through abstraction and repetition – has been a failure, a hoax: magic that didn’t work. Its ideas, aesthetics, strategies are finished. Together, all attempts to make a new beginning have only discredited the idea of a new beginning. A collective shame in the wake of this fiasco has left a massive crater in our understanding of modernity and modernization.”

-Rem Koolhaas
The Athens Charter
Congrès Internationaux d'Architecture Moderne
...But where is the active public space?
Rationally segregated urban elements: the capsule of home and the capsule of workplace, connected by the capsule of the car – but no public space!
When we segregate uses and mechanize connections, we sever the tissue of natural connections – and that has profound consequences for how the city works, and how its residents consume resources.
We have used this period of growth to move many out of poverty...

But we need to transition to a more sustainable model, that relies more on the inherent and natural capacities of cities, and less on unsustainable levels of resource use and depletion, with all their consequences and “negative externalities” (incuding health)...

We need to move from a period that relies too much on...

- Economies of SCALE and STANDARDIZATION

And more on...

- Economies of PLACE and DIFFERENTIATION

...But what does this mean in practical terms?
Structural Insights:
Structural Insights:
Christopher Alexander (1965), “A City is Not a Tree”
“Overlap,” “Multiplicity of Aspect,” “Semilattice” etc
NETWORK THEORY

Understanding how a system of connections functions, and transforms over time (e.g., social networks, economic networks, technological networks, ecological networks...)

Urban networks... (Built on public space)
What do we mean by “growth”?
What do we mean by “growth”? 
Christopher Alexander:
Structure-Preserving Transformations

- Levels of Scale
- Strong Centers
- Boundaries
- Alternating repetition
- Positive Space
- Good Shape
- Local Symmetries
- Deep Interlock and Ambiguity
- Contrast
  (etc)
Levels of Scale

Gradients

Alternating Repetition

Strong Centers

Boundaries

Local Symmetries
15 Properties of Natural Morphology

1. Levels of scale
2. Strong centers
3. Boundaries
4. Alternating Repetition
5. Positive Space
6. Good shape
7. Local Symmetries
8. Deep Interlock and Ambiguity
9. Contrast
10. Gradients
11. Roughness
12. Echoes
13. The Void
14. Simplicity and inner calm
15. Not-separateness
Structure-Preserving Transformations

Each step is always helping to enhance the whole.

- About 750 BC: Latest centres, New building position
- About 2700 BC: Latest centres, New building position, Phoenix first phase 2700
- About 2600 BC: Latest centres, New building position, First building built 2600
- About 2550 BC: Latest centres, New building position, The Campaspe built 2550
- About 2500 BC: Latest centres, New building position, Oenomaus built 2500
- About 2450 BC: Latest centres, New building position, Oenomaus built 2450
- About 2400 BC: Latest centres, New building position, Oenomaus built 2400
- About 2350 BC: Latest centres, New building position, Oenomaus built 2350
- About 2300 BC: Latest centres, New building position, Oenomaus built 2300
- About 2250 BC: Latest centres, New building position, Oenomaus built 2250
- About 2200 BC: Latest centres, New building position, Oenomaus built 2200
- About 2150 BC: Latest centres, New building position, Oenomaus built 2150
- About 2100 BC: Latest centres, New building position, Oenomaus built 2100
- About 2050 BC: Latest centres, New building position, Oenomaus built 2050
- About 1950 BC: Latest centres, New building position, Oenomaus built 1950
- About 1900 BC: Latest centres, New building position, Oenomaus built 1900
- About 1850 BC: Latest centres, New building position, Oenomaus built 1850
- About 1800 BC: Latest centres, New building position, Oenomaus built 1800
- About 1750 BC: Latest centres, New building position, Oenomaus built 1750
- Each row represents one four-step cycle in the process: 1 contact, 2 latest centres, 3 possible actions, 4 new construction.
Stepwise growth according to rules and processes...

- Genetic algorithms
- Chemical control signals
- Stepwise transformations
- Compounding forms
- Differentiation
- Etc…
Stepwise growth according to rules and processes...

- Segregated use zoning
- Remote design processes
- Bank lending rules
- Traffic engineering
- Market dynamics
- Etc…
Jane Jacobs – strategies of “economic gardening”… combining many ingredients and tools as in a garden, to promote healthy (economic) growth

Understanding “the kind of problem a city is”

(...that sustainable development is!)
A problem “more like gardening than carpentry”

- Finding, building fertile soil (Diagnosing/improving conditions)
- Planting good genetic seeds (Patterns, prototypes)
- Watering and fertilizing (Incentives, funding)
- Pruning/weeding (Regulations)
- Building trellises (Infrastructure, frameworks)

• And combining all of the above, into strategic toolkits!
TRANSLATING RESEARCH INTO PRACTICE:

Promising Examples of Tools and Strategies Needed For Placemaking Practice

(We need more!)
Tools and strategies we need:

1. An evidence base for “why it matters”
2. New models of city-wide frameworks
3. Strategies of finance and economics
4. Diagnostic and assessment tools
5. Database of best practices + outcomes
6. Effective public involvement processes
7. Pilot projects to create momentum

... and all in a shareable “toolkit” format
2. New Models of City-Wide Frameworks
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Urban Extension of Orenco Station, Portland, OR USA
2. New Models of City-Wide Frameworks

Akanda, Gabon City-Wide Master Plan
3. Strategies of Finance and Economics

“Land Value Capture”

“Tax Increment Finance”

(Etc...)
4. Diagnostic and Assessment Tools

**Indicator 11.7.1...**

**Goal 11.** “Make cities and human settlements inclusive, safe, resilient and sustainable.”

**Target 11.7:** “By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.”
4. Diagnostic and Assessment Tools

Indicator 11.7.1: “Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities”

Parks?
Natural areas?
Remote, or close?
Distribution?
What about streets, plazas?
5. Database of Best Practices and Outcomes
New print "Pattern Language" project for growing regions
Followed by online shareable and editable version
5. Database of Best Practices and Outcomes

“Pattern Language” relation to wiki, other open-source tools
7. Pilot Projects to Create Momentum

- **Asia**: “Snowball Projects”
- **Africa**: “Urban Acupuncture”
- **Latin America**
And all of these in a shareable, “toolkit” format...
Thank you!