Walkable Urbanism Impacts on Quality of Life Improvement

Case Study: Knowledge and Innovation Community, Shanghai, China
Adha Viala – Urban Health Games
Content

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  - State of the art theory
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1. Research motivation and topic

“Above all, do not lose your desire to walk. Every day I walk myself into a state of well-being and walk away from every illness. I have walked myself into my best thoughts, and I know of no thoughts so burden-some that one cannot walk away from it”

*Søren Kierkegaard*

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**Walking as daily activity**

- Basic transportation option
- Active transport
- Reduce dependency on motorized transports
- Recreational activity

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- Goldberg (2014): 80% of the young demographic group want to live in the walkable neighborhoods.
- Florida (2014): Walkability even has a role in the growth of innovative start-up economy.
- GSG (2014): Survey on 703 American workers to discover their opinion regarding walkable urbanism, 80% would like to live in an area where they could walk or use public transportation easily.
2. Research design | State of the art

**Walkable urbanism**

- Encourage more usage of non-motorized transport
- Still relatively rare in Asian cities
- Mix-use functions
- Priority on walking infrastructure
- Connected with public transportation

**Walkability rate**

**Quality of life**

- UN Definition: “the notion of human welfare measured by social indicators”
- Quality of life ≠ where to live
- Quality of life ≠ GDP per capita or Standard of living. It cannot be measured only from financial sector

**Health**  
**Economic**  
**Urban characteristic**
2. The state of the art | Urban planning in China

- Heavy dependency on private motorized transport
- Smog related problems
- Physical activities related to commuting ↓30% in two decades
- Shanghai is the 24th most congested city in the world

Car-boom in early 1990s
Car ownership: ↑145x in a decade
Auto-oriented planning → sub-urban & highways
Satellite cities: from 1990 to 2014, Shanghai’s built area ↑162% & density ↓67%
## 2. Research design

<table>
<thead>
<tr>
<th>Question(s)</th>
<th>Hypothesis</th>
<th>Method(s)</th>
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</thead>
<tbody>
<tr>
<td>1. How was the implementation of walkable urbanism concept in Shanghai?</td>
<td>Limited implementation in Shanghai, and why?</td>
<td>• Literature review</td>
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<td></td>
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<td>• Expert interviews</td>
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<td></td>
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<td>• Case study selection</td>
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<tr>
<td>2. Is KIC perceived to be a walkable urban development?</td>
<td>Walkable or not walkable from the user’s perspective</td>
<td>• Case study: quantitative (Walk Score) and qualitative (Expert assessment) methods</td>
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<tr>
<td>3. What are the impacts of walkable urbanism on the quality of life at KIC?</td>
<td>Higher economy return and healthier community</td>
<td>• Cross analysis of walkability and quality of life indicators</td>
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<tr>
<td>4. What can we learn from KIC as a model of walkable urbanism in Asian cities?</td>
<td>Benefits from implementing walkable urbanism</td>
<td>• Results analysis</td>
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2. Research design | Case study selection

- Shanghai’s city center

The districts in Shanghai
Source: [http://goo.gl/HXif4k](http://goo.gl/HXif4k)

- City center → high density (50,000 inhabitants/sq km) & prime business center
- Contradictive growth pattern in housing prices between pre- and post 2012
- Yangpu district → average pattern following the trend line

The mean yearly growth of residential rent price in Shanghai downtown districts
Source: Author’s calculation based on Ehomeday (2016)
2. Research design | Case study selection

- **Yangpu district**
  - Government’s pilot project
  - Emphasis on national economy improvement
  - Goal to be an innovative service district

Yangpu’s fiscal revenue:
- In 2000 → RMB 1.6 billion
- In 2011 → RMB 6.45 billion

Service sector → 77% to the total revenue

A: KIC, B: New Jiangwan Town, C: Rainbow City, D: Tongji New Village, E: Pingliang, F: SIFC

Source: Google Maps
2. Research design | Case study selection

- Yangpu district

  1. Knowledge and Innovation Community
     Average Walk Score 77

  2. New Jiangwan Town
     Average Walk Score 38

  3. Rainbow City
     Average Walk Score 92

  4. Tongji New Village
     Average Walk Score 81

  5. Pingliang
     Average Walk Score 73

  6. Shanghai International Fashion Center
     Average Walk Score 72
2. Research design | Case study selection

Analysis

- KIC receives an excellent average Walk Score and has the best residential values

The comparison of average Walk Score
Source: Walk Score and Google Maps

The comparison of average residential values
Source: Ehomeday (2016); Peng (2015); Villable (2016)
2. Research design | Case study selection

- Knowledge and Innovation Community, Shanghai

- Government’s strategy to “revitalize Shanghai with science and technology” and “to develop the knowledge and innovation zone in Yangpu district.”

- Objective: to connect multilayer users through walkable community

- Main characteristics:
  - Mix use functions and accessibility with public transportation
  - Small building blocks which are connected with narrow streets and plazas
  - Excellent sidewalks condition, with solid pavement and enough walking space
3. Results | Walkability Audit

- **Questionnaire**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>18-24 years old</td>
<td>66.7%</td>
</tr>
<tr>
<td>25-34 years old</td>
<td>20.8%</td>
</tr>
<tr>
<td>Under 18 years old</td>
<td>4.2%</td>
</tr>
<tr>
<td>25-54 years old</td>
<td>4.2%</td>
</tr>
<tr>
<td>More than 55 years old</td>
<td>4.8%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>University student</td>
<td>71.4%</td>
</tr>
<tr>
<td>Employed in company</td>
<td>14.3%</td>
</tr>
<tr>
<td>Retired</td>
<td>14.3%</td>
</tr>
<tr>
<td>Public service</td>
<td>4.8%</td>
</tr>
<tr>
<td>Others</td>
<td>4.8%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

The results from questionnaire at KIC (n=29)

- 93% of the respondents stated that they enjoy walking at KIC
- KIC is perceived to be a walkable urban place.
3. Results | Walkability Audit

- Expert assessment | Walking experience

Target group: students with architecture or urban planning background

Based on Jan Gehl’s 12 quality criteria of pedestrian landscape (Gehl, 2010)

Firstly the safety aspects: high percentages of Strongly Agree and Agree responses were visible on questions related to protection against traffic and crime. Secondly the comfort aspect: the responses were mixed on all questions. Lastly the delight aspect: the vast majority of the answers were Neutral.
3. Results | Walkability Audit

Expert assessment | Walking experience

The proportions of expert assessment responses on three questions categories (n=5)

The comparison of Walk Score and expert assessment results
3. Results | Quality of life audit

- **Health**

  - **Measurement tool:**
    - Personal health variables (CDC, 2008; McCann & Ewing, 2003)
  
  - **Literature review:**
    - Decreasing the obesity chance: 35% in a walkable area; 60% in a non-walkable area (Speck, 2013)
    - Increasing physical activity and active lifestyle

  - **Results:**
    - Limited health profile
    - No direct correlation could be proven
3. Results | Quality of life audit

▶ Economic

The yearly residential As Sold Price (ASP) in RMB per square meters
Source: Shui On Land (2014)

Measurement tools:
- Increase on retail, office, and residential value (Leinberger & Lynch, 2014)
- y-o-y residential price increase by 5% (Church, 2014; ULI, 2015)

Results:
- From 2007 to 2014: 140% increase on residential value
- From 2007 to 2014: average 17% increase in y-o-y residential price
- No direct causal relationship was proven
3. Results | Quality of life audit

Measurement tool:
- 12 quality criteria concerning pedestrian landscape (Gehl, 2010)

Results:
- Comfort: all street sections received > 60% Agree responses
- The most comfortable street sections: KIC Office Park & Daxue Rd.
1. How was the implementation of walkable urbanism concept in Shanghai?

2. Is KIC perceived to be walkable?
   - KIC is perceived to be walkable
   - Benefits of walkable urbanism → healthier and happier residents, profitable investment and better urban planning
   
3. What are the impacts of walkable urbanism on the quality of life at KIC?

4. What can we learn from KIC as a model of walkable urbanism in Asian cities?
   - People’s demand for walkable urbanism
   - Strong cooperation between all stakeholders is essential
   - Improvement on the urban planning code

Shanghai government → implementation of sustainable planning

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Adha Viala | Urban Health Games
5. Outlooks

- Further cooperative studies with other field of studies are recommended
- Investment in walkable urbanism → can improve quality of life
Thank you for your attention.
Are there any questions?