Making a real city for everyone:
spatial transformation towards inclusiveness and vitality
– Dalang as study case

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Delft,
The Netherlands

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Second mentor: Birgit Hausleitner
240,000,000 rural-urban migrants, 60% are young migrants <=30 years old
Shenzhen: a showcase of China's development
Rural land

Agricultural use

Farmland
Rural homestead

Collective ownership

Urban land

Urban land use right

Industrial
Commercial
Educational, etc.

Residential

State ownership

Land requisition
The diagram illustrates the transition from agricultural use to urban land use, with the following key points:

1. **Agricultural use**
   - Farmland
   - Rural homestead

2. **Urban land use right**
   - Compensation to collectives

3. **Urban village**

4. **Ownership**
   - Collective ownership
   - State ownership
China in a transition period

What is China's 'new normal'?

Robert Peston
Economics editor

24 September 2015

The World Struggles to Adjust to China’s ‘New Normal’

Transition from smokestack industries to services and consumers confounds leadership, rattles markets

"New Normal": better quality economic growth (7%)
Vulnerability of young migrants facing industrial transition

**Employment structure**

- Tourism: 7.1%
- Housiekeeping: 9.5%
- Real estate: 18.4%
- Institution: 50.6%
- Transportation & logistic: 8.3%
- Construction: 27.9%
- Other: 0%
- IT facility & service: 0%
- Hotel & catering: 0%
- Retail: 0%
- Manufacturing: 0%

**Education level**

- <=primary school: 33.7%
- Middle school: 44.9%
- >=college: 50.6%
"Urban Renewal Unit Plan" in Shenzhen

Demolition-reconstruction

Partly reconstruction with functional change

Comprehensive improvement/ urban regeneration
Young migrants are the majority of Shenzhen's population & their future employment expectation

Most of the migrants are young migrants <=30 years old

Future job expectation of young migrants

69% want to be self-employed, 38.2% want to start their own businesses in the coming year

Training demand of young migrants

73.8% want to get training
55.9% want to obtain knowledge of self-employment

The average age of the young migrants is 23.7

Most of the population is migrants

76%
How to provide more work opportunities for young migrants?

How does it relate to space, urban planning and design?
"Urban village is the arrival city where the rural-urban migrants can set their foothold."

"Urban village is a place of transition, and a well-functioning arrival city can provide more opportunities for upward mobility."

— Saunders
How does the inclusiveness of young migrants relate to space?

**Affordable work-related space**

- Target group in terms of "affordable": migrants, fresh graduates and other career starters

- Range of work-related space
  1. Workplace
  2. Space related to work services (low-cost training, legal service, etc.)
Research question

How to provide affordable work-related space to facilitate the career development of migrant workers and career starters in urban renewal process during a transition period?
Dalang neighborhood in Longhua district

1. Manufacturing base facing **industrial transition**

2. Over **95%** of the population is young migrants

3. Not highly developed, still have **potential** to deal with the problem
Historical development of Dalang

- Rural homestead
- Farmland
- Collective ownership
- Agricultural use
- State ownership
- Urban land use right
- Urban village
- Land requisition
- Compensation to collectives
- Industrial park
- migrant worker

Companies get the land use right.
Urban pattern
Urban renewal in Dalang
Fashion valley area in Dalang
Spatial analysis
Global (radius=n) & local integration of streets (radius=3)
Research on providing affordable work-related space
What kind of affordable work-related space do they need?
Types of affordable work-related space

1. **Retail store & vendor's space**
   - Catering
   - Grocery
   - Clothing & clothing accessory
   - Sporting goods, hobby, book, and music stores

2. **Workplace with low rent**

3. Space for **work-related services** provided by municipality, NGOs and social enterprises
Clustering Surroundings Street network Building footprint, road & sidewalk

Retailing
<table>
<thead>
<tr>
<th>Catering store</th>
<th>Clustering</th>
<th>Surroundings</th>
<th>Street network</th>
<th>Building footprint, road &amp; sidewalk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clustering with similar stores</td>
<td>Workplace, Complementary stores</td>
<td>Tendency to workplace &amp; other stores</td>
<td>Locate in streets with high between-ness</td>
<td>Large footprint, narrow roads and wide sidewalks</td>
</tr>
<tr>
<td></td>
<td>Residence, Workplace</td>
<td>Minimum turns to workplace &amp; maximum to residential area</td>
<td>Streets with exposure to other streets</td>
<td>More than one frontage</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grocery store</th>
<th>Clustering</th>
<th>Surroundings</th>
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<td>Large footprint</td>
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<table>
<thead>
<tr>
<th>Clothing stores</th>
<th>Clustering</th>
<th>Surroundings</th>
<th>Street network</th>
<th>Building footprint, road &amp; sidewalk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significantly high clustering rate</td>
<td>Workplace, Complementary stores</td>
<td>Tendency to workplace &amp; other stores</td>
<td>On streets with high potential for passing traffic</td>
<td>Narrow roads with wide sidewalks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sporting goods, hobby, book &amp; music stores</th>
<th>Clustering</th>
<th>Surroundings</th>
<th>Street network</th>
<th>Building footprint, road &amp; sidewalk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clustering with similar stores</td>
<td>Workplace, Complementary stores</td>
<td>No important attraction towards other types of retailers</td>
<td>Streets with exposure to other streets</td>
<td>Large footprint, narrow roads and wide sidewalks</td>
</tr>
</tbody>
</table>
Entertainment-related retailing
Overall retailing configuration
Spatial feature

Catering store

Grocery store

Clothing store

Entertainment (sporting, music, etc)
### Summerized retailing configuration principles in this context

<table>
<thead>
<tr>
<th>Catering store</th>
<th>Spatial configuration feature</th>
<th>Spatial condition</th>
<th>Overall conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Concentrate in urban village;</td>
<td>- Ground floor;</td>
<td>1. Tendency of clustering;</td>
</tr>
<tr>
<td></td>
<td>- Positive relation with street integration;</td>
<td>- Wide sidewalk &amp; narrow road.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Along the routes from industrial parks to urban villages.</td>
<td></td>
<td>2. Strong positive relation with street integration;</td>
</tr>
<tr>
<td>Grocery store</td>
<td>- Concentrate in urban village;</td>
<td>- Ground floor;</td>
<td>3. Concentration along the routes between industrial parks and urban villages;</td>
</tr>
<tr>
<td></td>
<td>- Positive relation with street integration;</td>
<td>- Wide sidewalk &amp; narrow road;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Along the routes from industrial parks to urban villages.</td>
<td>- Corner shop.</td>
<td>4. Isolated fashion valley and central part fragmented the area.</td>
</tr>
<tr>
<td>Clothing store</td>
<td>- High rate of clustering;</td>
<td>- Ground floor;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Concentrate near fashion industry parks;</td>
<td>- Wide sidewalk &amp; wide road with more passing traffic.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Locate on roads with large amount of passing traffic.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporting goods, hobby, book &amp; music store</td>
<td>- Concentrate in urban village;</td>
<td>- Upper floor;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Surround main gathering spots of commercial activity;</td>
<td>- Wide road with more passing traffic.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Positive relation with street integration.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Low-rent work related space

Number of Group Innovation Space in Chinese Cities

Shenzhen

Low-rent workplace & additional services for starters.
### Summerized principles of low-rent work-related space

<table>
<thead>
<tr>
<th>Type of affordable workplace</th>
<th>Target group &amp; Management characteristics</th>
<th>Stakeholder</th>
<th>Location</th>
<th>Spatial distribution</th>
<th>Functional demand &amp; Spatial feature</th>
</tr>
</thead>
</table>
| 1. Makerspace / Hackerspace | - Maker: people with the same interests to make something  
- Membership & self-governance | - NGO, individuals          | ![Diagram](image1)       | ![Diagram](image2)   | Lecture & activity                    |
| 2. Co-working space         | - Starters: long-term lease, short-term lease, pass-byers  
- Sharing facilities and services | - Developer  
- Private investor | ![Diagram](image3)       | ![Diagram](image4)   | Individual desk  
Conference room  
Fixed workplace  
Individual desk  
Service & Entertainment  
Fixed workplace  
Conference room  
Service  
Facility  
Cafe  
Individual desk  
Conference room  
Aptartment  
Shared workplace |
| 3. Business incubator       | - Starters: fixed tenants for certain years (1-3 years) through application  
- For enterprise incubation | - Municipality  
- Private investor | ![Diagram](image5)       | ![Diagram](image6)   |                     |
| 4. Startup cafe             | - Starters: short-term lease, pass-byers  
- Meeting people, interaction and sharing information & knowledge | - Private investor (service company) | ![Diagram](image7)       | ![Diagram](image8)   |                     |
| 5. Startup community        | - Starters & entrepreneur in higher status  
- Long-term apartment lease with free access to workplace and facilities  
- Build up interpersonal connections | - Developer  
- Service enterprises | ![Diagram](image9)       | ![Diagram](image10)   |                     |
What kind of urban environment can facilitate the long-term operation of these spaces?
<table>
<thead>
<tr>
<th>Time</th>
<th>Descriptive</th>
<th>Mathematically analytical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961</td>
<td>Jacobs</td>
<td>Hillier &amp; Hanson</td>
</tr>
<tr>
<td>1984</td>
<td>Lynch</td>
<td>Marcus</td>
</tr>
<tr>
<td>1995</td>
<td>Montgomery</td>
<td>Pont</td>
</tr>
<tr>
<td>1996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td></td>
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<tr>
<td>1995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Jacobs**
- Diversity
- Permeability
- Different building ages
- People
- Mixture of primary and secondary use
- Short urban block
- “Street eye”

**Lynch**
- Human activity
- Process & control
- Physical form
- Vitality
- Sense
- Fit
- Access
- Control
- Efficiency
- Justice

**Montgomery**
- Activity
- Image
- Urban form
- Mixed use
- Street life & people watching
- Fine-grained economy
- Imageability
- Knowledgeability
- The public realm

**Gehl**
- Necessary activity
- Optional activity
- Social activity
- Pedestrian & cyclist
- Walkable city

**Criteria**
- Mapping the spatial distribution of functions and density
- Verify the rules

**Mapping**
- No pre-existing rules in human’s brain
- Description retrieval system
- Randomness
- Natural movement determined by urban grid itself
- Underlying urban structure and movement economy
- Correlate numbers indexing observed function with numbers indexing spatial patterns
- Retail, building density, land use

**Mathematically analytical**
- Add density and diversity to accessibility
- Plot syntax method
- Place syntax method
- Density, urban form and layout
- Performance of the urban

**Case study of Successful Chinese urban space**
- Montgomery
- Gehl
- Lynch
Principles

1. **Mixture** of primary and secondary use

2. **Fine-grained** street network for pedestrian

3. Attractive **public space**
What are the potential spatial resources in the area?
Potential spatial resources
Potential spatial resources
Vision

1. **Affordable work-related space system:**
   - Space for small businesses in retailing;
   - Space for starters in creative industry related to fashion design, etc;
   - Space for training and other public services related to work.

2. **Vibrant urban environment:**
   - Production oriented space with cultural and creative activity;
   - Lively space for daily consumption;
   - Green walking system along waterfront.
Current spatial structure
Mixed use strategy
Open network strategy
Public space strategy
Spatial structure after
Street integration comparison

Before

After
Current green & blue system
Improvement of green & blue system
Current economic space system
Current public space system
Improvement of public space system
Overall systematic improvement
The locations of key interventions
Current situation of fashion valley
Upper scale structure & functional demand for a common vision

- Commercial & residential development
  - Catering
  - Hotel
  - Financial service
  - Apartment

- Public service
  - Exhibition/fashion show
  - Conference
  - Information

- Affordable work-related space
  - For starters into retailing:
    - Retail stores
    - Creative market
  - For starters into creative industry:
    - Low-rent workplace
    - Public platform for starters
Plane before intervention
Plane after intervention
Multiple types of affordable work-related space
Stakeholders: resources, interests and constraints

**Municipality**
- **Resource:** Urban renewal policy
- **Interests:**
  1. Prosperity of fashion valley
  2. Well-being of migrants
- **Constraints:** Limited budget to do urban renewal and provide affordable space

**NGO**
- **Resources:** Low-cost service
- **Interests:** Provide assistance to vulnerable group
- **Constraints:** Limited budget to find a space of proper location and spatial quality

**Migrant & Starter**
- **Resources:** Labour force
- **Interests:**
  1. Affordable space for work & improving their skills
  2. Improvement of living environment
- **Constraints:** Limited income

**Urban Village**
- **Resource:** Property ownership
- **Interests:**
  1. Gain on investment
  2. Improvement of living environment
- **Constraints:** Give compensation to municipality for functional change and built volume expansion

**Developer**
- **Resource:** Capital
- **Interests:** Gain on investment
- **Constraints:** Give compensation to municipality for functional change and built volume expansion

**Service Company**
- **Resource:** High-end service and management
- **Interests:** Profits from providing service
- **Constraints:** Limited budget to do renovation by themselves
Design & trade-offs between stakeholders
Rules for creating a vital urban environment by involving stakeholders

Legend
- Public space
- Commercial space
- Affordable work-related space

1. Public square for multiple activities
2. Ground floor for public and commercial use
3. Continuous pedestrian street
Transformation approach
Public space & open network
Fashion avenue before intervention
Fashion avenue after intervention
Key elements and design guidelines

1. Widening sidewalk
2. Crosswalk & connection
3. Public building
4. Pedestrian space
Street in industrial park before intervention
Pedestrian street after intervention
Key elements and design guidelines

1. Public building
2. Pedestrian street
3. Space for extension
4. Creative square
5. Affordable space
Key elements and design guidelines of vacant hotel
Current situation of neighborhood center
Upper scale structure & functional demand for a common vision

- Commercial & residential development
  - Catering
  - Retailing
  - Hotel
  - Apartment, etc.

- Community center
  - Cultural center
  - Training school
  - Library, etc.

- Affordable work-related space
  For starters into retailing:
  - Retail stores
  - Vendors' space along waterfront pedestrian street
  For starters:
  - Low-rent workplace
  - Training school, etc
Waterfront after intervention
Key elements and design guidelines

1. Renovation of waterfront
2. Footbridge & connection
3. Building for commercial use
4. Flexible space for vendors
Bottom-up transformation of factories
Community space after intervention
Key elements and design guidelines

1. Added shared space
2. Community public space
3. Renovation of waterfront
THANK YOU!