How can the old residential courts from the 1980s to 1990s in Guangzhou respond to diversified demands in urban renewal?

Xin Huang
30.06.2017
INTRODUCTION

Introduction to Danwei housing and Guangzhou case
Typical residential environment from the 1980s’ to 1990s’ in China is Danwei housing.

 mono-functional  gated  aging
Danwei housing is part of the welfare built by the work unit (Danwei) to employees.
INTRODUCTION

History of housing policy in China

Typical Danwei housing from the 1980s’ to 1990s’

Housing reform started: Public housing commercializing and the start of commodity housing.

Early practice: increase rent and price, providing the subsidy to encourage purchasing.

Source: adapted from Lin Haotian, 2014
Lack of maintenance in public space and buildings is commonly seen in Danwei housing.
Lack of maintenance in public space and buildings is commonly seen in Danwei housing.

Privately occupied  Random parking  No elevator  Lack of management

Public space
INTRODUCTION

Typical Danwei housing from 1980s’ to 1990s’

Danwei housing

sense of community
mutual trust and support

in scale of individual residential court

in city scale

work balanced live

public sector housing
INTRODUCTION

Danwei housing

- sense of community mutual trust and support
- social structure in transition

Commodity housing

- social bond decreasing lack of maintenance
- new residents moving in

Maintenance by real estate management company

Mixed social groups lack of maintenance

Typical Danwei housing from 1980s’ to 1990s’

Public sector housing

- balanced work
- spatial structure in transition

Private sector housing

- fragmented work
- live

In city scale

Housing reform

INTRODUCTION

Housing reform

Social structure in transition

New residents moving in

Maintenance by real estate management company

Mixed social groups lack of maintenance

In scale of individual residential court
Mortgage slaves

Chinese Dream

INTRODUCTION

No peak in sight: Guangzhou home prices to keep rising in 2017, analysts say

China's Housing Market Bubble: Home Ownership Elusive For Young Buyers And Renters

Behind China's crisis, consumers driven underground - literally

Are pollution, work pressure and housing prices driving people away from Beijing, Guangzhou and Shanghai?

The 'Ant Tribe' of China

The sub-sub-basement dwellers of Beijing are highly skilled and educated – middle-class parents driven underground, both literally and otherwise, to secure a better future for their kids.
Job opportunity in first-tier cities also means higher living expenditure.

Source: https://www.numbeo.com/property-investment/rankings.jsp?title=2016-mid
Guangzhou is located in the strategic location of Pearl River Delta.

A traditional industry city
A global city
A migrant city
A historical city

Source: author
Guangzhou is located in the strategic location of Pearl River Delta.
Like most Chinese cities, central districts of Guangzhou are aging rapidly. Elderly people are mostly living in historical buildings in city center and Danwei housing.
Percentage of old people (>65 year old) of total population in Guangzhou by districts compared with national data in 2010

Source: China National Bureau of Statistics
Elderly people enjoy resting in residential courts.

- Rest and chat with friends
- Supervise grandchildren
- Play card game, Mahjong

Source: author
Or resting in urban public space such as square, commercial complex.

Rest and chat  Supervise  Play card
with friends  grandchildren  game, Mahjong
Guangzhou is one of the main cities with highest population mobility in China.

An attractive and prosperous city is partly reflected on the human capital it has accumulated.
percentage of floating and registered population in Guangzhou of all permanent population in 2015

- floating population: 4,959,200 (37%)
- population with hukou (registered): 8,541,900 (63%)

Source: Guangzhou Bureau of Statistics
Young people commute by public transport to work or school everyday.

They live fast-paced life, prefer eating out, meeting friends, shopping, exercising...
From a grand vision in urban planning,
by rapid urban redevelopment,
Intensifying urban renewal pressure to a global urban image.

Urban renewal in Chinese cities is a market-driven process to achieve modernization in a short time.
Conflicts between interests of local stakeholders and the government have been revealed intensively in the urban renewal process.
The promotion of commodity housing and urban renewal on other housing typologies have limited affordable housing options for diversified demands.
How can the old residential courts from the 1980s to 1990s in Guangzhou respond to diversified demands in urban renewal?
How to understand these phenomena from theoretical perspectives?
The spatial, economic, and social manifestation that we see in Chinese cities is a localized modernization process under the hierarchical urban planning system.
The top-down planning system together with the idea of rapid modernization have resulted in the contemporary city at present.
During the industrial transformation, new social groups are emerging, working in new industries, and embracing new lifestyle.
The concept “New Urbanization” has emphasized the essential concern of sustainability in urban development and industrial transformation.
The dynamic balance is built up between industries and human capital in industrial transformation. On the contrary, the bond between industries and housing is lost.
Owing to the fast development of Internet platform, and logistics, new industries are becoming more flexible in demand of space.
In response to “urban sicknesses” in Chinese cities, to build harmonious and livable city is listed as essential goal in “New Urbanization” strategy.
THEORETICAL FRAMEWORK

Livable city determinants

conceptual model of livable city in Guangzhou

/ general principles /

GLOBAL ECOSYSTEM

NATURAL ENVIRONMENT

INFRASTRUCTURE

LOCAL ECONOMY

COMMUNITY

LIFESTYLE

PEOPLE

Climate stability, biodiversity
Air, water, land, natural habitats
Accessibility, convenience, affordability
Social capital, social network, safety, public space
Social justice, balance, equity

status quo in Guangzhou

/ local situation /

Residential environment deteriorating
Diversified social groups and spatial demands
Intensifying urban renewal pressure
Missing housing options

Guiding principles of different target groups

/ specific principles /

Elderly people

convenient commuting
housing affordability
necessary facilities
more public space
walking environment
age-friendly housing

Young starters

job opportunities
more public space
walking and cycling environment
more dwelling type options

Level of governance scale

City

Neighborhood

Building
What can be concluded from the local situation in the Guangzhou case?
Until 1911

Early industrialization appeared before the Revolution of 1911.

Source: Zhou, 2014
SITE ANALYSIS ON CITY SCALE

1911-1949

Industrialization started growing before war.

Legend
- urban built area
- second industry
- city wall of Qing Dynasty
- urban expansion tendency

Source: Zhou, 2014
Industrialization started flourishing during the early days of new China. Urban structure was influenced by industrial distribution.
New industries emerged in the first 5 years of economic reform. Urban structure was gradually formed.
1984-1991

Industrial park started flourishing.
Industries gradually move to urban suburban areas, which determined contemporary Guangzhou urban structure.
Guangzhou Master planning (2011-2020)

Manufacturing industries are guided to move to suburban districts. Central districts focus on developing modern service industries.

Source: Guangzhou Government
The development of housing and spatial distribution are closely related to industrial expansion.
In each period, housing typology is also distinctive, and reflected on the spatial distribution.
The Danwei housing is located in high housing price and land value areas in Guangzhou.
SITE ANALYSIS ON CITY SCALE

HISTORICAL CENTRAL AXIS

NEW CENTRAL AXIS

TRANSPORT HUB

STADIUM

CBD

CULTURAL CENTER

LANDMARK

CREATIVE INDUSTRY

MANUFACTURING HISTORY

URBAN PARK

URBAN VILLAGE

CENTRAL AXIS EXTENSION IN PLAN

HISTORICAL DISTRICT

NATURAL SCENERY

CANTONESE CULTURE

VISION IMAGE OF NEW CENTRAL AXIS SOUTH SECTION (2010)

Source: Guangzhou Land Resources and Planning Commission

Development of central axis

Source: author

SITE ANALYSIS ON CITY SCALE

HISTORICAL CENTRAL AXIS

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Development of central axis

Source: author
SITE ANALYSIS ON CITY SCALE

Development of central axis

Source: author
New Central Axis north section
Haizhu District-planned area for New Central Axis extension
site area - Kecun
SITE ANALYSIS ON LOCAL SCALE

Relationship of industry and housing in local scale

Source: author
SITE ANALYSIS ON LOCAL SCALE

Relationship of industry and housing in local scale

Source: author
New industries are emerging from transforming former Danwei factories. Local economies are mutually supporting each other in a network.
PUBLIC SPACE
Is the space that can be publicly used, and mostly publicly owned.

- Road
- Open space
- Spontaneous space
Traffic flows mainly come from residential areas and people working in this area.
Ground floor openness is an essential element for a lively, walkable and safe street.
People mostly walk in residential areas. Some paths are barred by enclosing fences.
The conflicts of elderly people taking rest, pedestrians walking and parking are shown in the use of public space.
The frequency of using these spaces differ from one to another owing to its location and space configuration.
SITE ANALYSIS ON LOCAL SCALE

space configuration-isometric image

1

2

3

4

5

space configuration

photo
Spontaneous spaces are created by users, therefore representing clearly their spatial demand and daily pattern.
Good public space should be flexible to include different activities to happen.
Conflicts of using public space have asked Danwei housing to improve walkability, connection to public transport, parking for cars and bicycles, open space for activities, mixed functions such as gym, convenience store and teahouse for different residents.
**Conclusions and visions**

**Theoretical framework** + **Site analysis** → **Visions**

**Conclusions 1:** There are conflicts between interests of upper scale and lower scale in urban renewal.

**Conclusions 2:** There are conflicts between flow of movement and place.

There are conflicts between network and individuals.

**Vision 1:** To cultivate and motivate the development of local economy.

**Vision 2:** To alleviate spatial conflicts in public space and improve the level of livability.

Determine overall guiding principles.
What strategies can be explored in multiple scales to achieve the visions?
STRATEGIES

Guiding principles of different target groups

<table>
<thead>
<tr>
<th>Level of governance scale</th>
<th>Elderly people</th>
<th>Young starters</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>walking environment</td>
<td>convenient commuting</td>
</tr>
<tr>
<td></td>
<td>necessary facilities</td>
<td>job opportunities</td>
</tr>
<tr>
<td></td>
<td>more public space</td>
<td>housing affordability</td>
</tr>
<tr>
<td></td>
<td>walking environment</td>
<td>cycling environment</td>
</tr>
<tr>
<td>Neighborhood</td>
<td>necessary facilities</td>
<td>necessary facilities</td>
</tr>
<tr>
<td></td>
<td>more public space</td>
<td>more public space</td>
</tr>
<tr>
<td>Building</td>
<td>age-friendly housing</td>
<td>walking and cycling environment</td>
</tr>
<tr>
<td></td>
<td>more dwelling type options</td>
<td></td>
</tr>
</tbody>
</table>

Spatial analysis
/site area/

Institutional analysis
/site area/

Principles of spatial intervention
/design principles/

Institutions to motivate
/Institutional suggestions/

Enhancing & Supporting

Source: author
The vision is based on bottom-up collaboration mode in urban renewal to create a cooperated and balanced relationship between industry, affordable housing in urban development and urban renewal.
Institutional suggestions and design principles

City scale of governance

Current situation
- residential area
- enclosing fence
- motorway
- pedestrian way

Urban design guidance
- multifunctional floor
- increase openness
- bicycle shelter
- cycling path

Neighborhood scale of governance

Current situation
- enclosing fence
- open space
- poor condition housing
- roadside parking
- motorway
- pedestrian way

Urban design guidance
- multifunctional floor
- increase openness
- car-free area
- roadside parking
- shared road
- roadside planting
- pocket parking
Institutional suggestions and design principles

Building scale of governance

Current situation
- standard dwelling type

Danwei housing

Urban design guidance
- flexible dwelling types for diversified demands
- green roof
- elevator for elderly people
- multifunctional floor

New housing in Danwei neighborhood
- green roof
- residential floors
- multifunctional floor
- open ground floor
- underground parking

New housing by roadside
- green roof
- residential floors
- multifunctional floor
- shophouse style with storefronts
- underground parking

New housing
- residential floors
- multifunctional floor
- open ground floor
- underground parking
**Positioning**

new positioning based on the modern and contemporary industrial culture that reflects the Haizhu identity

**Goals**

**Industrial Transformation**
- support high-tech, low-carbon industry, creative new industries in industrial transformation
- promote creative urban renewal mode and multiple collaboration in industrial transformation and old residential areas upgrade

**Living Quality**
- improve living quality in old residential areas by urban renewal
- increase public rental housing supply

**Spatial Quality**
- more open space

**Infrastructure**
- improve cycling infrastructure
- improve public transport accessibility
A new city center with diversified experiences, from modern CBD, to natural park, to authentic street taste.
OVERALL STRATEGY IN RESEARCH AREA

- Creative industry parks
- Residential area
- Creative industry park
- Residential area
- College
- Metro station
- Commercial center
- Mixed-use industry park
- High school
- Elementary school
- Residential area
Strategies of research area

OVERALL STRATEGY IN RESEARCH AREA

Creative industry parks
Metro station
Commercial center
Residential area
Creative industry park
College
Residential area
Mixed-use industry park
High school
Elementary school
Residential area
Residential area
Residential area
Creative industry parks
Creative industry parks
STRATEGIES

OVERALL STRATEGY IN RESEARCH AREA

- Creative industry parks
- Residential area
- Commercial center
- Metro station
- College
- Elementary school
- High school
- New housing in vacant land
- Guarantee partial public rental housing in new development
- Upgrade residential public space
- Upgrade indoor shopping passage
- Improve pedestrian and cycling connections to metro station
- Improve openness between industry parks
- Improve ground floor openness
- Motivate mixed-use
- Transform idle Tobacco factory to mixed-use industry park
- Transform idle film studio into entertainment and commercial area
- Elderly-friendly transformation
- Improve connections between industry parks
- Enhance work-housing relationship in urban renewal
- Transform idle Tobacco factory to mixed-use industry park
- Kecun metro station
- Green area and sports field
- New connections
- Main connections
- Metro lines
- Water

Legend: 
- Kecun metro station
- Residential area
- Industrial area
- Main connections
- New connections
- Metro lines
- Green area and sports field
- Water
Strategies of test design area

Current land use in test design area

TEST DESIGN AREA

- Indoor shopping passage
- Self-build houses
- Temporary parking
- Danwei Residential Court

TEST DESIGN AREA

- Factory
- Idle factory

Strategies of test design area
STRATEGIES

Current land use in test design area:
- Indoor shopping passage
- Vacant plot for temporary parking
- Housing reaching life span in Danwei court
- Idle factory
- Self build housing in poor condition

TEST DESIGN AREA:
- Indoor shopping passage
- Vacant plot for temporary parking
- Self built houses
- Temporary parking
- Idle factory
- Danwei Residential Court
STRATEGIES

PHASE ONE: 0-2 YEARS

- Early commodity housing
- Creative industry parks
- Indoor shopping passage
- Self build homes
- Idol Danwei factory
- Danwei Residential court
- Commodity housing
- High school
- Elementary school

Legend:
- Enclosing walls
- Residential area
- Industrial area
- Other functions
- New connections
- Green area and sports field

Evaluate housing renewal urgency and make renewal scheme.

Search for investment and cooperation to transform idle Danwei factory.

Improve cycling environment: install bicycle shelters.

Upgrade roof top gardens.

Improve cycling environment: install bicycle shelters.

Install elevator for elderly friendly transformation.

Strategies in test design area.
PHASE TWO: 2-5 YEARS

Strategies of test design area

Creative industry parks
Mixed-use industry park
Indoor shopping passage
Danwei Residential court
Early commodity housing
Commodity housing
Guarantee partial public rental housing in new development
Move to new housing built in the neighborhood and start urban renewal
Motivate mixed-use
Transforming industrial area
Ensure new connections
Legend
- new connections
- residential area
- industrial area
- other functions
- green area and sports field

Strategies in test design area
PHASE TWO: 2-5 YEARS

Strategies of test design area

- Early commodity housing
- Creative industry parks
- Mixed-use industry park
- Indoor shopping passage
- Danwei Residential court
- Commodity housing
- Elementary school
- High school

Legend:
- Enclosing walls
- Residential area
- Industrial area
- Other functions
- New connections
- Green area and sports field

Strategies in test design area:
- Move to new housing built in the neighborhood and start urban renewal
- Guarantee partial public rental housing in new development
- Motivate mixed-use
- Transforming industrial area
- Move to new housing built in the neighborhood and start urban renewal
- Motivate mixed-use
- Transforming industrial area
PHASE THREE: 5-10 YEARS

Strategies in test design area

Legend
- Enclosing walls
- Residential area
- Industrial area
- Other functions
- New connections
- Green area and sports field
- Elementary school

- Creative industry parks
- Indoor shopping passage
- Early commodity housing
- Mixed-use industry park
- Danwei Residential court
- Commodity housing
- Elementary school
- High school
- New housing with more dwelling types, multi-functional floors
- New housing with open dead-end roads

- Upgrade dead-end roads to living roads
- Motivate mixed-use and increase ground floor openness
- Strategic transformation emerges
- Spontaneous transformation emerges
- Strategies of test design area
PHASE THREE: 5-10 YEARS

- Early commodity housing
- Creative industry parks
- Indoor shopping passage
- Commodity housing
- Indoor shopping passage
- Mixed-use industry park
- New housing with more dwelling types, multi-functional floors
- Open dead-end roads
- Elementary school
- Danwei Residential court
- New housing with more dwelling types, multi-functional floors
- High school
- Danwei Residential court
- Commodity housing
- Danwei Residential court
- Upgrade residential roads to living roads
- Spontaneous transformation emerges
- Commodity housing
- Motivate mixed uses and increase ground floor openness
- Legend:
  - Elementary school
  - Enclosing walls
  - Residential area
  - Industrial area
  - Other functions
  - New connections
  - Green area and sports field

Strategies of test design area
DANWEI RESIDENTIAL COURT UPGRADE

- Roof garden
- Increase openness
- Maintain sense of security
- Community square
- Open ground floor
- Car free road
- Gym
- Community center
- Community farm
- Install elevator
- Living streets
- Playgound
- Rooftop garden
STRATEGIES

DANWEI RESIDENTIAL COURT UPGRADE

Test projects

test projects- Danwei residential court upgrade
STRATEGIES

Test projects

test projects- new housing

NEW HOUSING

cycling path
storefronts
open block
terrace

NEW HOUSING

cycling path
storefronts
open block
terrace
STRATEGIES

NEW HOUSING

- open block
- terrace
- secondary urban road
- new housing by roadside
- view from this spot

Test projects
- Test projects - new housing
STRATEGIES

NEW HOUSING

test projects - new housing
OLD DANWEI FACTORY TRANSFORMATION

- Terrace
- Old factory plants transformation
- Conference hall/concert
- Old Danwei factory transformation
- Exhibition
- Workshop
- Research institute
- Enterprises
- Car free zone
- Open square
- Open block
- Cycling path
- Apartment
- View from this spot
- Roadside buildings
- Open block

Test projects

Test projects - Old Danwei factory transformation
OLD DANWEI FACTORY TRANSFORMATION
OLD DANWEI FACTORY TRANSFORMATION

STRATEGIES

Test projects

- Old Danwei factory transformation
- Enterprises/workshop/exhibition/research/institute
- Transformed old factory plant
- Cafe/snack bar
- Sightseeing
- Green roof
- Meeting/rest
- Car free zone
- Bicycle storage
- Conference
- Music festival/concert

Meeting/rest/lunch
THANK YOU!

Xin Huang

30.06.2017