EVOLVING DANWEI HOUSING

An alternative way to develop former public housing in Shenzhen, China

P5 Presentation

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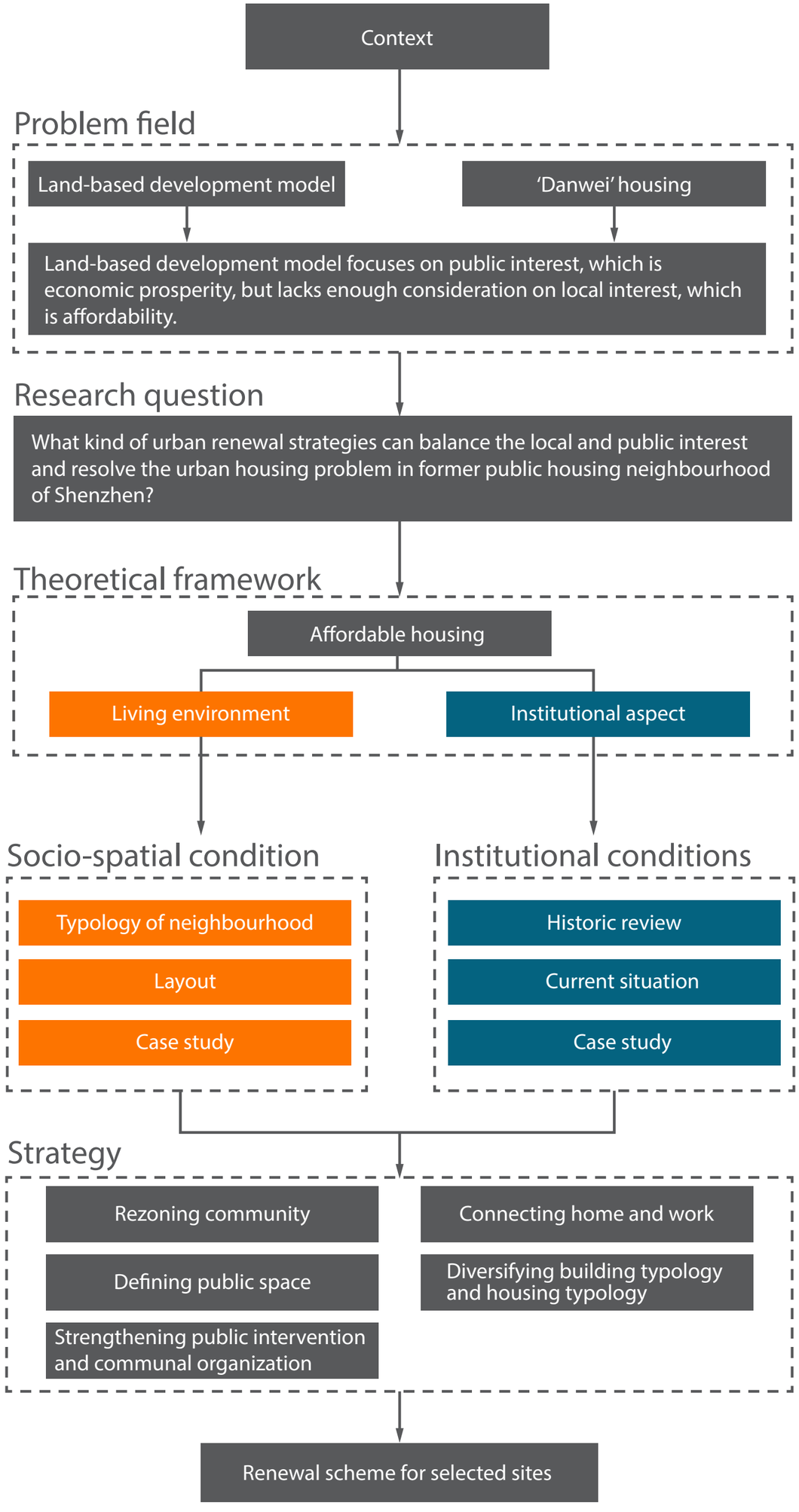

Context
Problem field
Land-based development model
'Danwei' housing
Land-based development model focuses on public interest, which is economic prosperity, but lacks enough consideration on local interest, which is affordability.
Research question
What kind of urban renewal strategies can balance the local and public interest and resolve the urban housing problem in former public housing neighbourhood of Shenzhen?
Theoretical framework
Affordable housing
Living environment
Institutional aspect
Socio-spatial condition
Typology of neighbourhood
Layout
Case study
Institutional conditions
Historic review
Current situation
Case study
Strategy
Rezoning community
Connecting home and work
Defining public space
Diversifying building typology and housing typology
Strengthening public intervention and communal organization
Renewal scheme for selected sites

PROBLEM FIELD

THEORETICAL FRAMEWORK

SOCIO-SPATIAL CONDITION

INSTITUTIONAL CONDITION

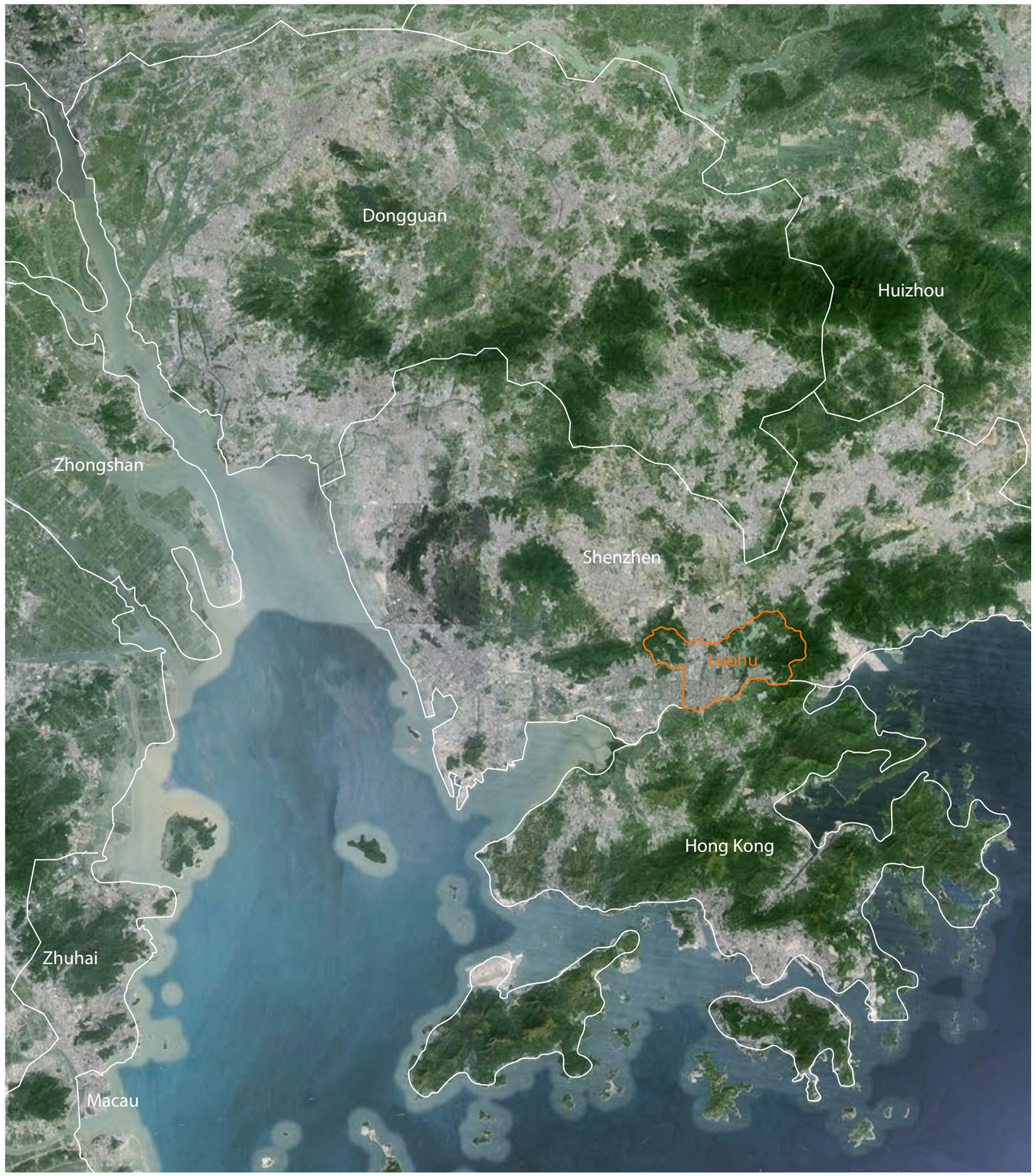
STRATEGY

RENEWAL SCHEME

RESEARCH SITE

Luohu as the research site

- A district of Shenzhen
- High density and highly developed



DANWEI HOUSING

Danwei housing in Luohu (Source of base map: Google map)

Typical Danwei housing (Source: superjie)

DANWEI HOUSING

'Danwei' housing and decreasing affordability

- Relatively low rent/price and good location
- 'Danwei' housing neighbourhoods provide opportunities for migrants to settle in the city
- Socio-spatial condition in the neighbourhood is degrading
- To improve competiveness of the city, on-going urban renewal and infrastructure construction is upgrading inner city.
- Land-based development leads to high housing price and threatens housing affordability

Danwei housing

Degradation

Commodity housing

High housing price

PROBLEM STATEMENT

Problem statement

Land-based development model focuses on economic prosperity but lacks enough consideration on affordability.

This project aims at a more balance way of urban renewal for danwei housing neighbourhood that not only contributes to economic prosperity but also:

- Enhance housing affordability for disadvantaged groups;
- And improve socio-spatial conditions.

Research question

What kind of urban renewal strategies can enhance housing affordability for disadvantaged groups and improve socio-spatial conditions of danwei housing neighbourhoods in Shenzhen as well as contribute to economic prosperity?

AFFORDABILITY

PROBLEM FIELD

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Housing affordability

- What is housing affordability
- Affordable housing and social issue
- The ethics of affordable housing
- Measure of housing affordability
- What increases housing price (rent)

Living environment

- A decent living condition is the central issues.
- Convenient public service, infrastructure and spatial planning contribute to affordability.
- Prevent homogeneity in neighbourhood.
- High quality of living environment may increase price. Improvement should be based on their need.

Prevent homogeneity
Need of each income group

District scale

Connection between work and housing; public transport; accessibility; walking environment.

Neighbourhood scale

Public space concerning safety; walking environment; functions and facilities.

Housing scale

Housing typology; single room for low-skilled workers and young profes-sions; apartment for family.

Institutional aspect

- The provision of affordable housing can be operated by multiple actors.
- Necessary to have an organization for participation and management of the community.

Public private partnership

Incentives for private sectors

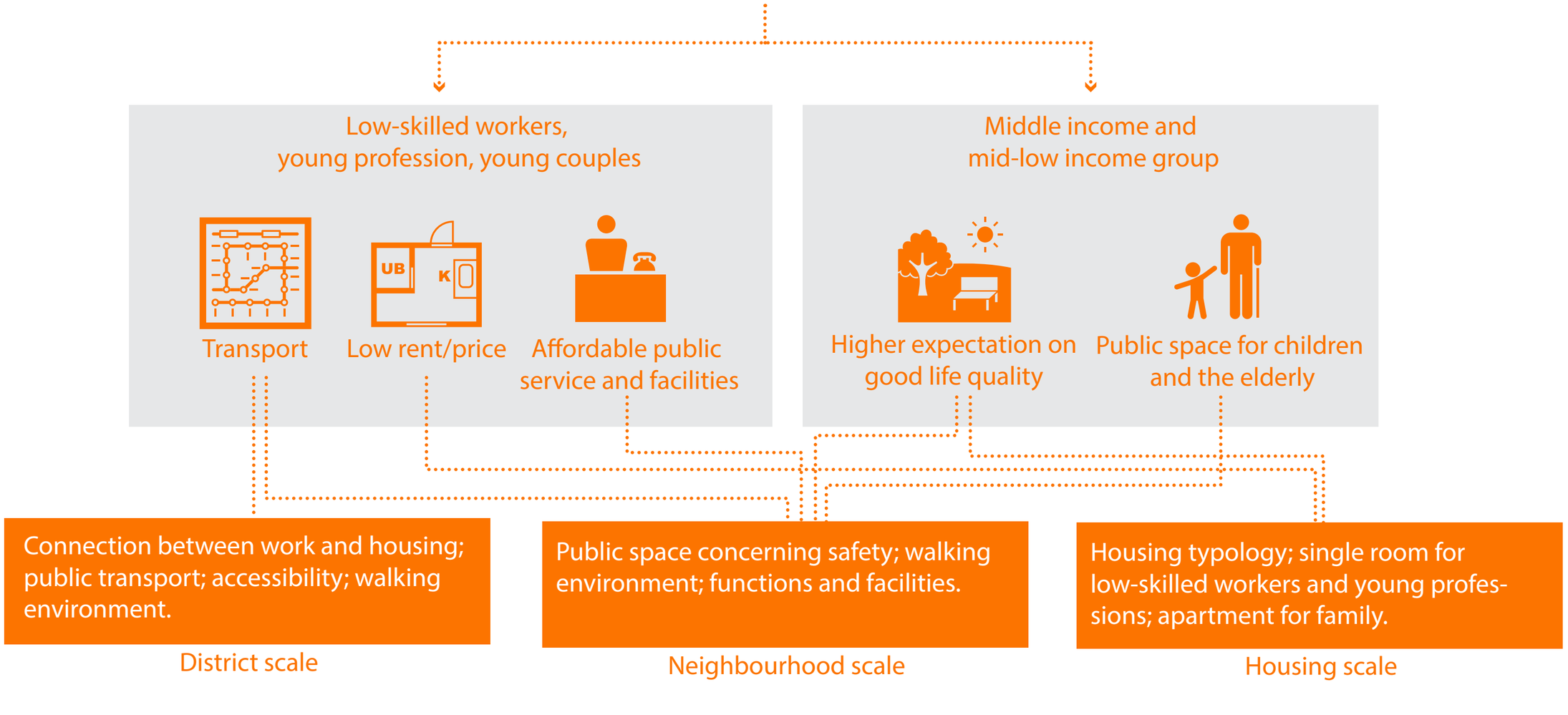
· Funding
· Design flexibility
· Simplification of regulatory procedure

Social commitment

·Transparency in the partnerships
· Encouraging social participation
· Financial aid for certain social groups

Housing affordability and living environment

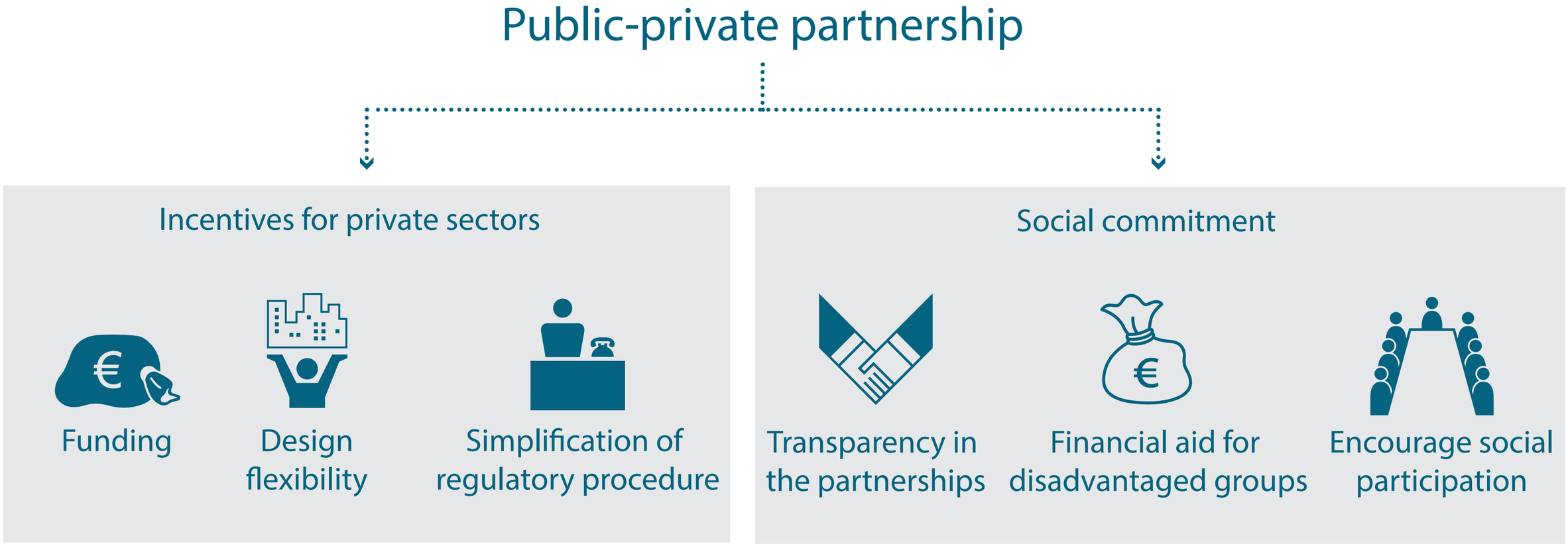
- A decent living condition is one of the central issues for affordable housing.
- However, high quality of living environment may increase price. Improvement of living environment should be based on their current and future need.
- Affordable housing concerns different income groups. Homogeneity can harm disadvantaged group's opportunity of self-enhancement. In China, low and middle income groups suffer from high housing price. Affordable housing should be kept 'affordable' at the current stage.
- Convenient public service, infrastructure contribute to affordability.



INSTITUTIONAL ASPECT

Facilitating disadvantaged group's accessibility to decent housing

- The provision of affordable housing can be operated by multiple actors.
- Incentives attract the participation of private sector.
- Government should not lose social commitment.



INTRODUCTION

THEORETICAL FRAMEWORK

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RENEWAL SCHEME

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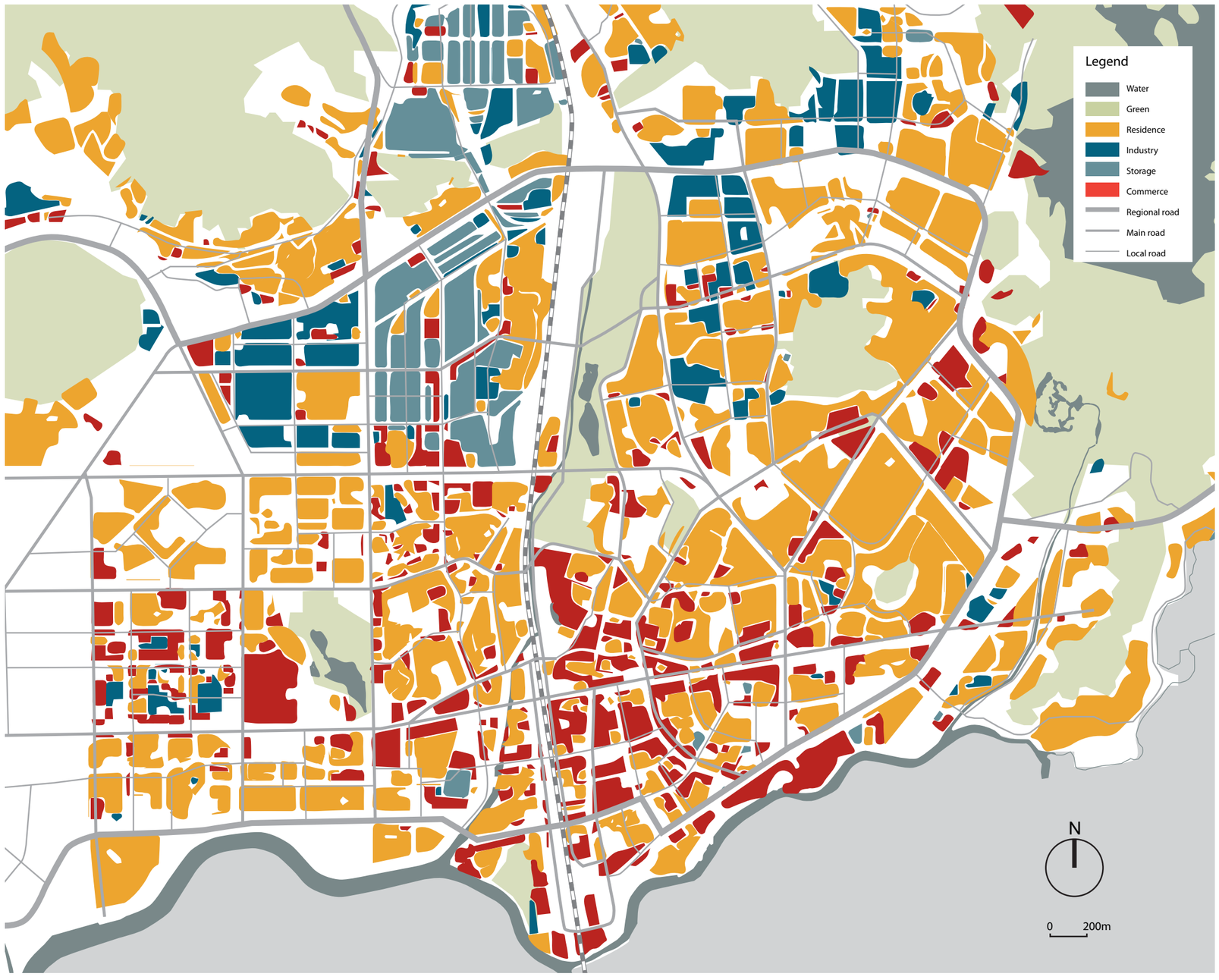
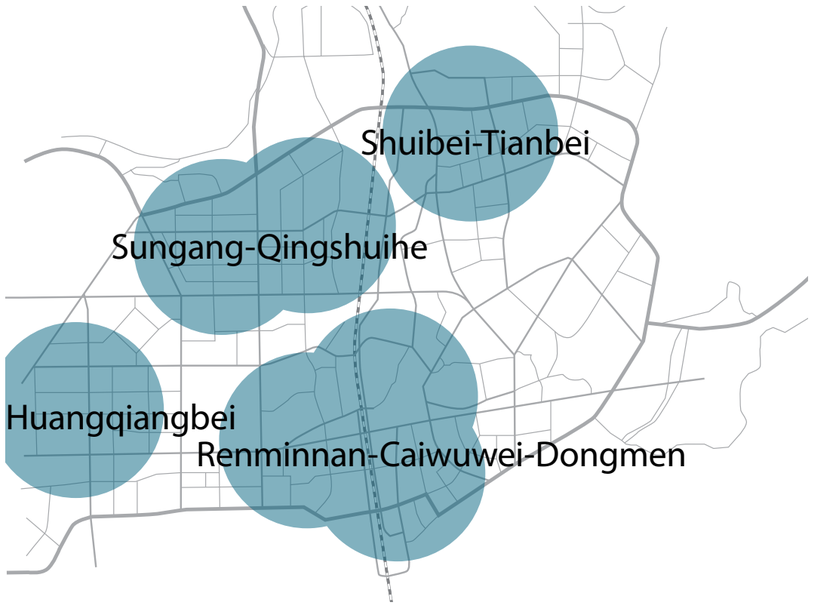
CENTRALITY

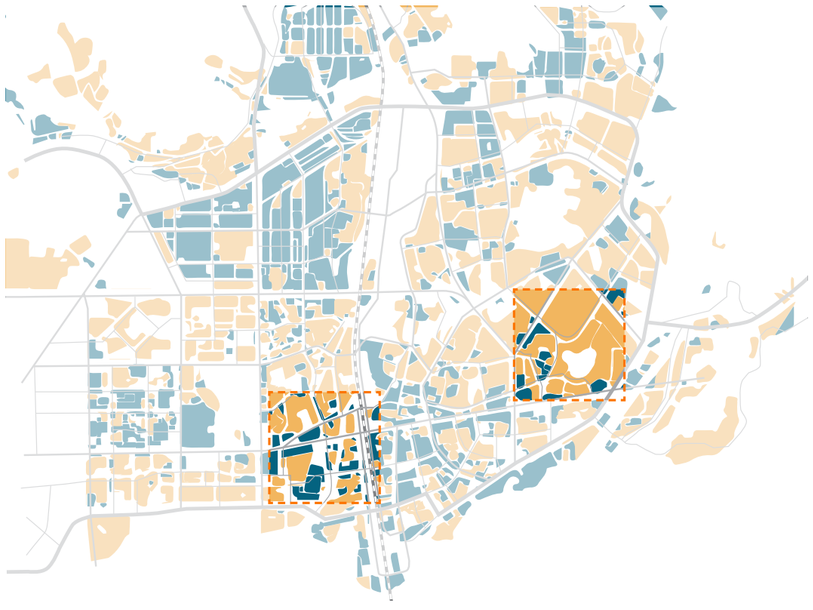
- Centrality and the spatial structure of neighbourhood decide the composition and the distribution of functions, which relates to job opportunities and the quality of living environment.



Functions



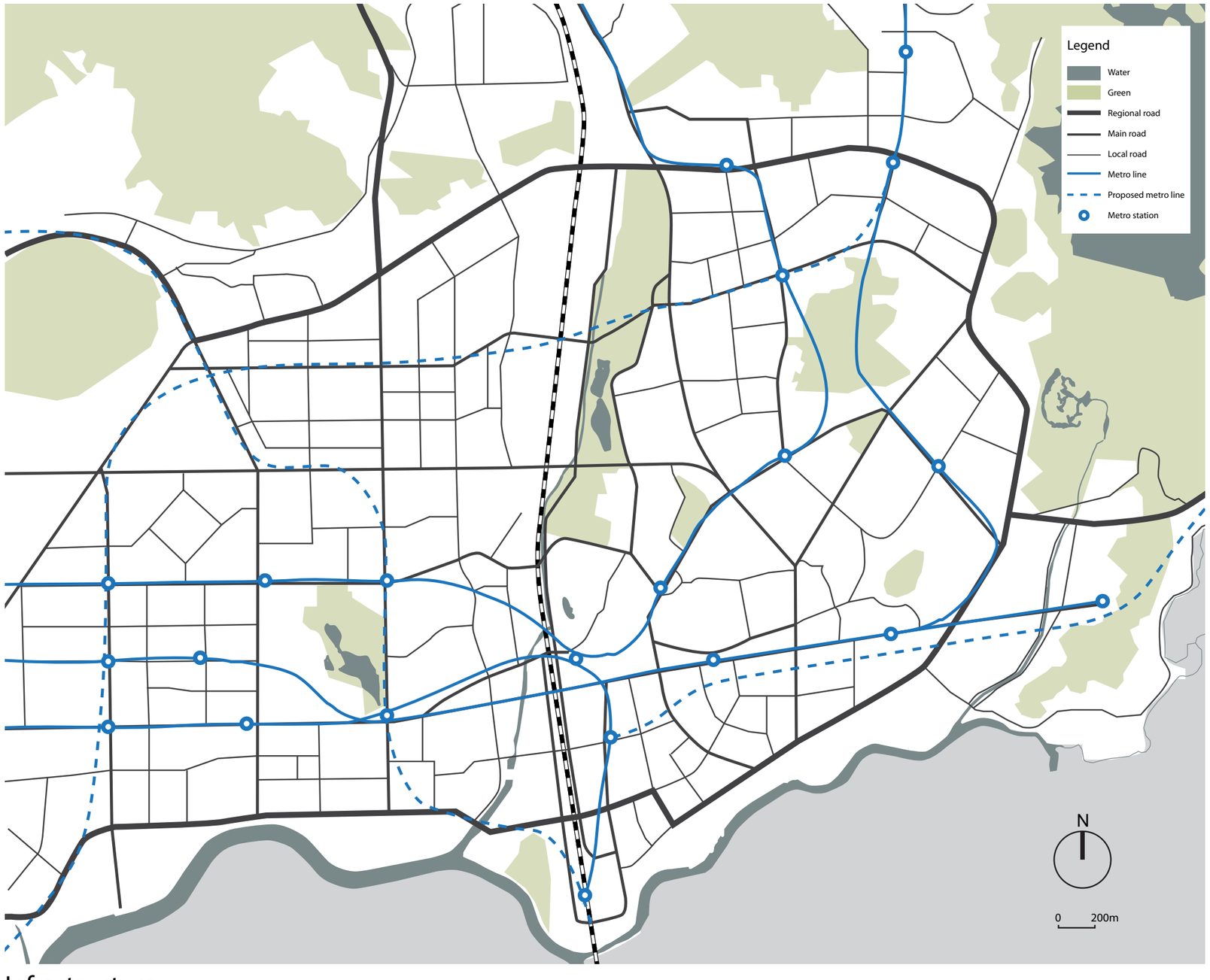
Centres



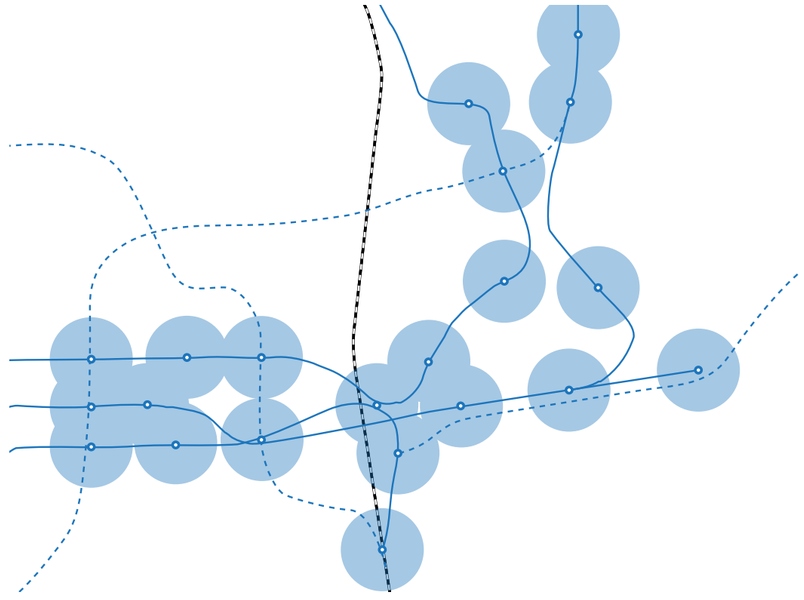
Two types of spatial structure

INFRASTRUCTURE

- Public transport and road shape the connection between home and work. Also, the accessibility on neighbourhood scale influences the quality of living environment



Infrastructure



Unbalanced distribution of metro station

Two types of road structure

OPEN SPACE

- Open space near housing can be an attraction for middle-income group.

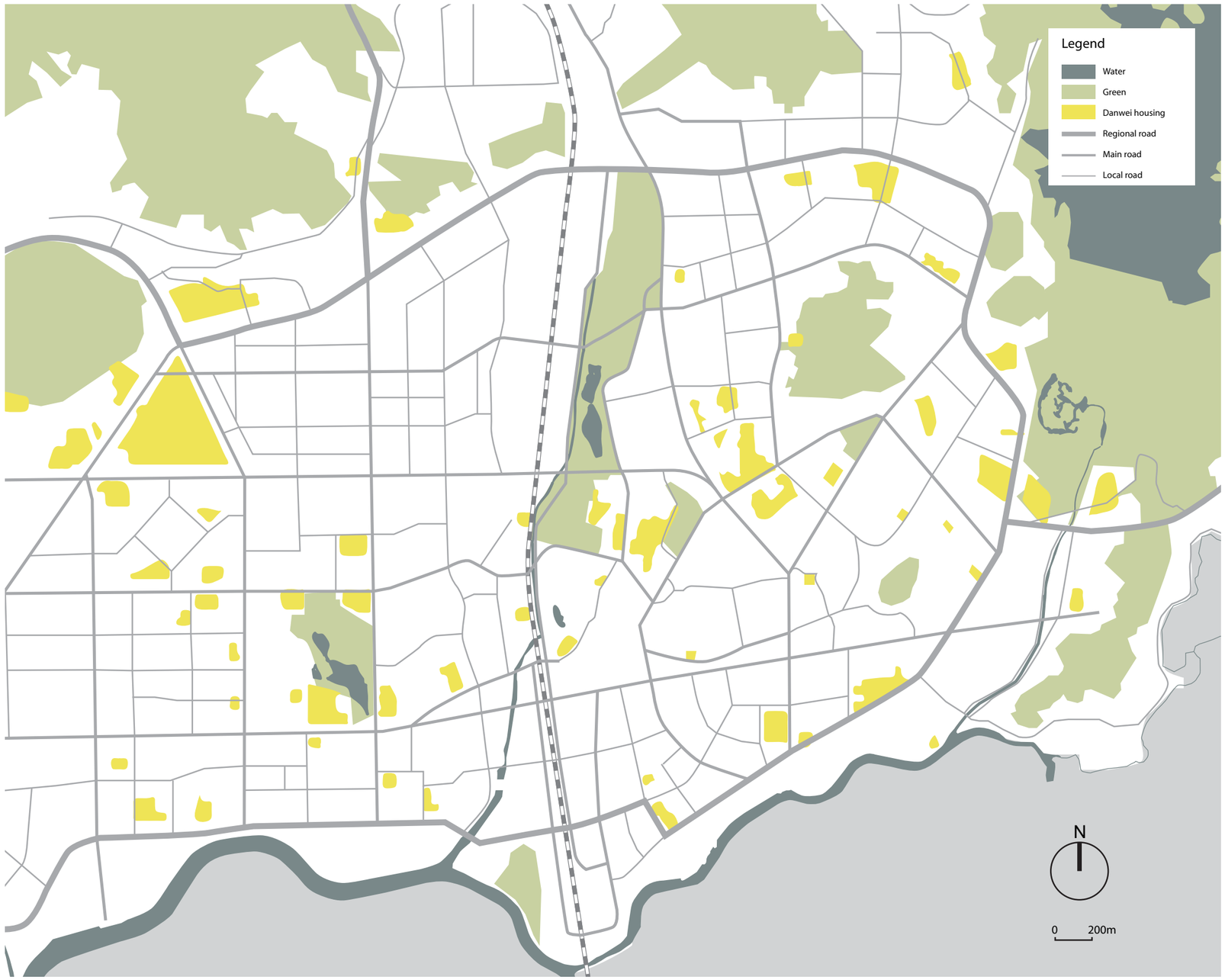
Open space

Lack of small community open space

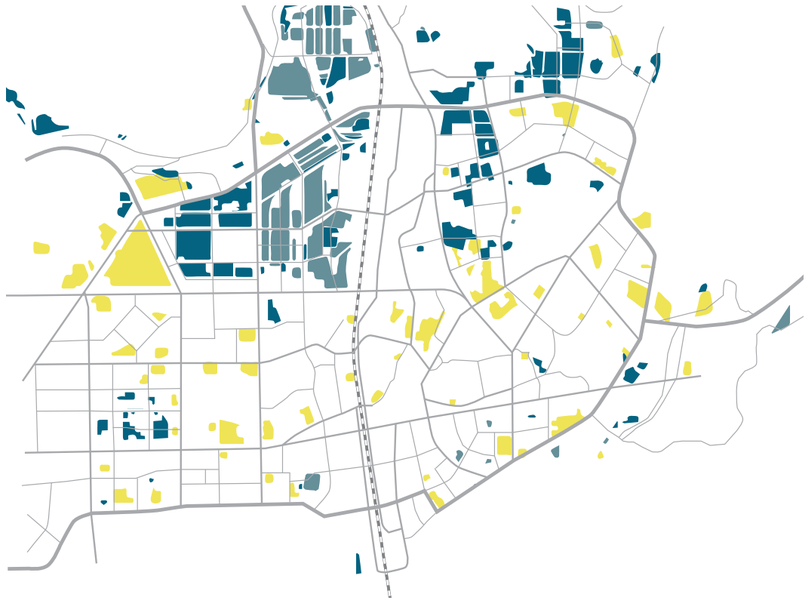
Preserved green space as potential place for recreation

PUBLIC FACILITIES

- Public facilities near housing can improve low-income group's affordability and sufficient public facility is middle-income group's main concern.



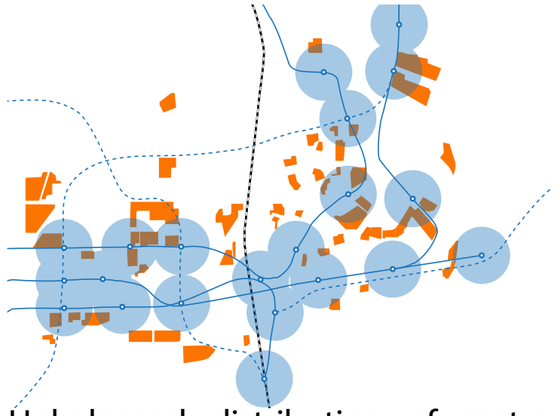
Public facilities



Convenient public facilities in Luohu except in Sungang-Qingshuihe, an industrial zone

CRITERIA

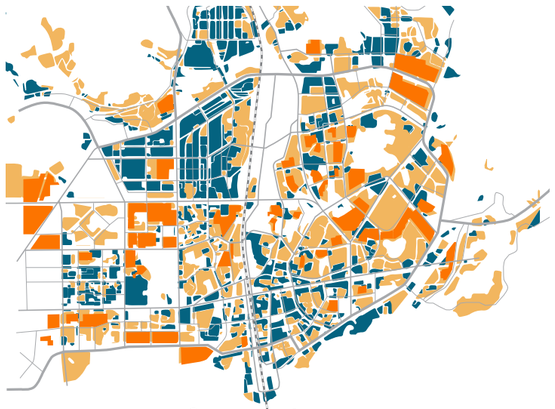
Centres



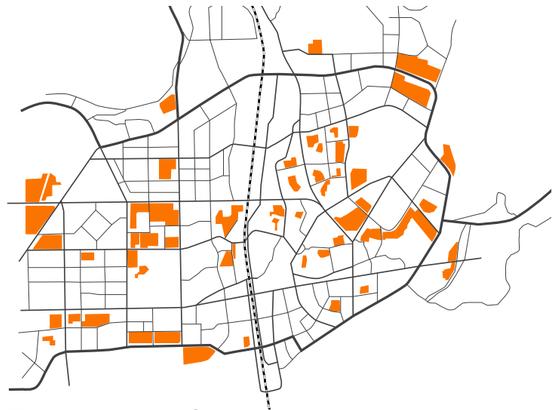
Unbalanced distribution of metro station

Lack of small communal open space

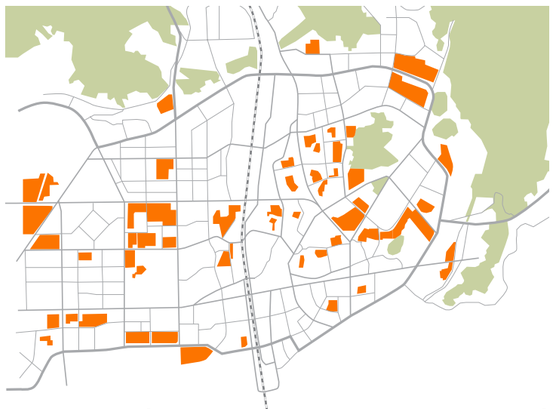
Lack of public facilities in industrial and warehouse zones



Two types of spatial structure

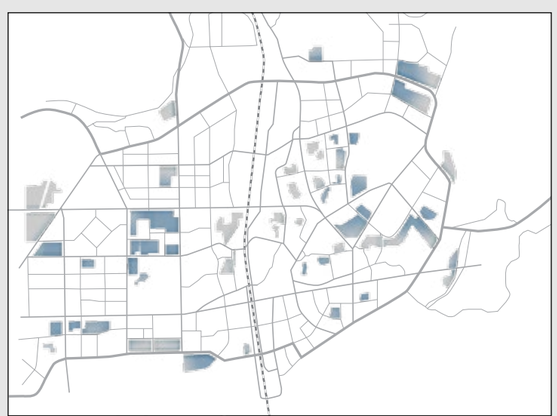


Two types of road structure



Preserved green space as potential place for recreation

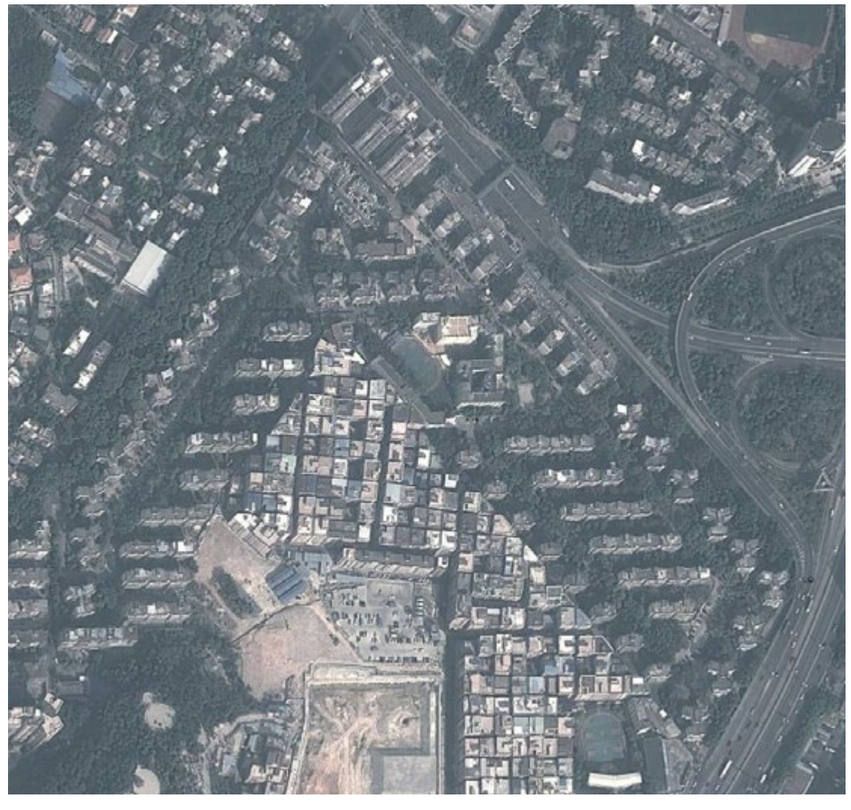
Centrality



Accessibility of transport

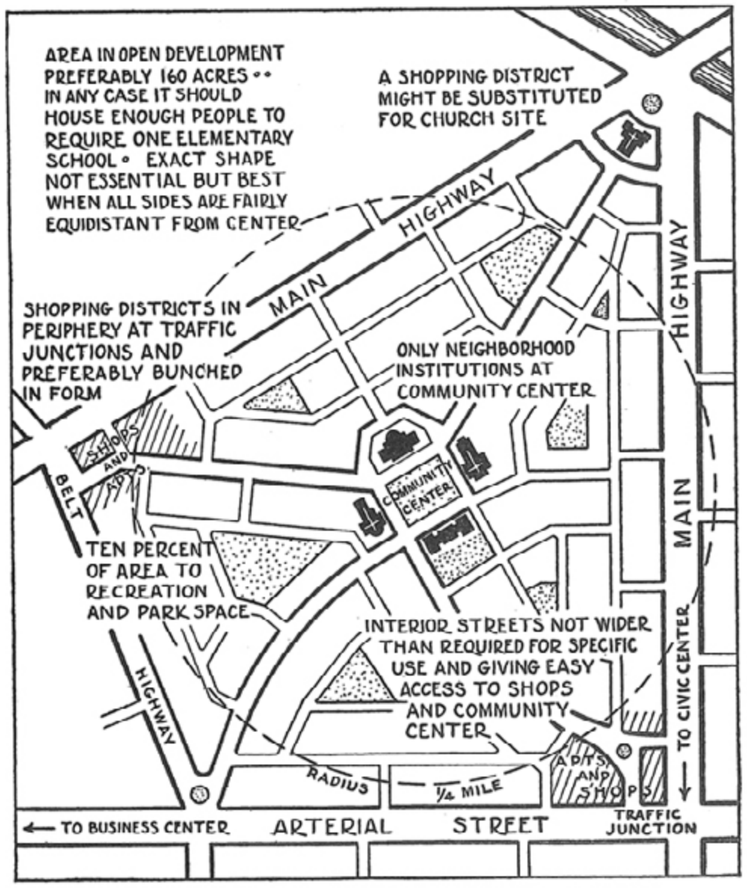
Accessibility of open space

Convenience of public facilities

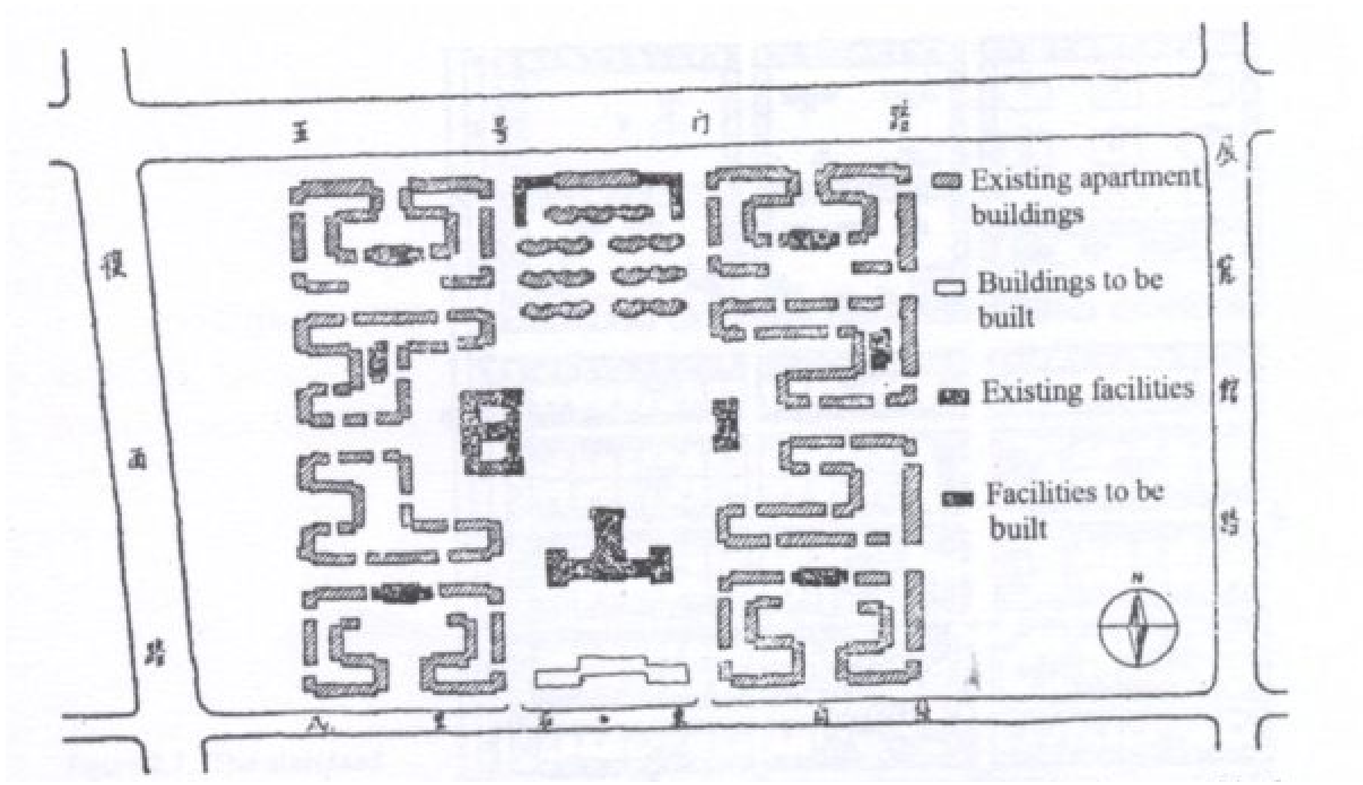


THE CONCEPT OF NEIGHBOURHOOD UNIT

- Despite the difference of contexts, danwei housing has similar spatial design because of the influence of Clarence Perry's neighbourhood unit.



A diagram of Clarence Perry's neighbourhood unit (Source: New York Regional Survey, Volume 7)



A danwei housing neighbourhood in China influenced by neighbourhood unit (Source: dyl703.wordpress.com)

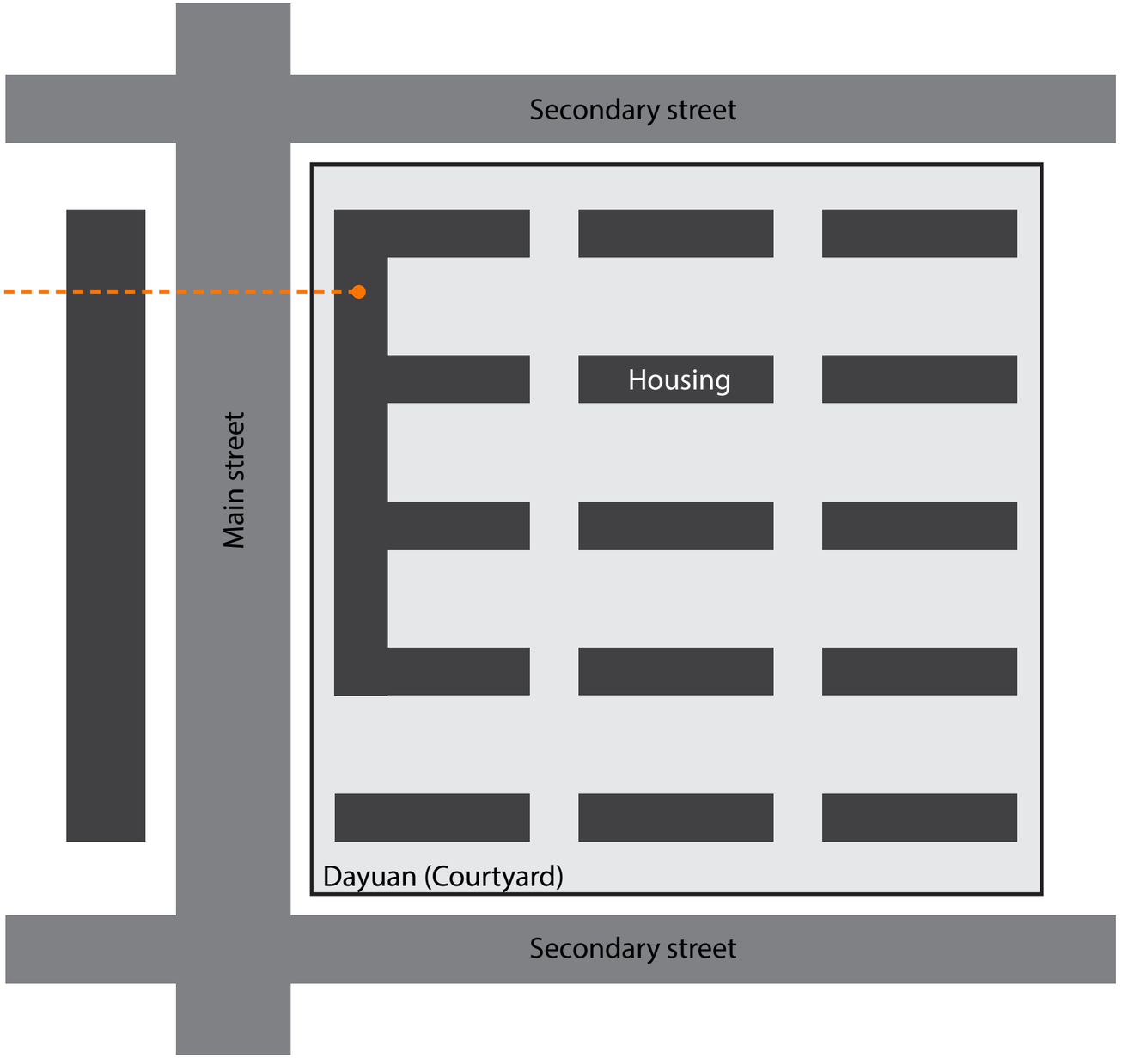
SPATIAL LAYOUT

Dayuan (courtyard)

- A dayuan is the territory of danwei housing neighbourhood. Shops are usually located at the edge. These enable residents' social control on the community.
- But in some big neighbourhoods, shopping street and passing exist because neighbourhoods are mono-functional. This increase anonymity and change the atmosphere of the neighbourhood.

Shops along main street

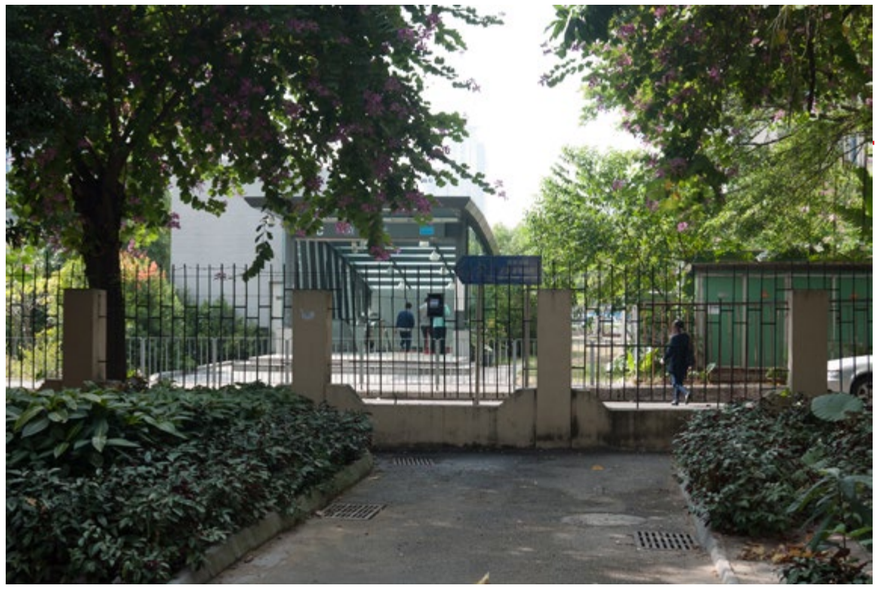
Shooping street



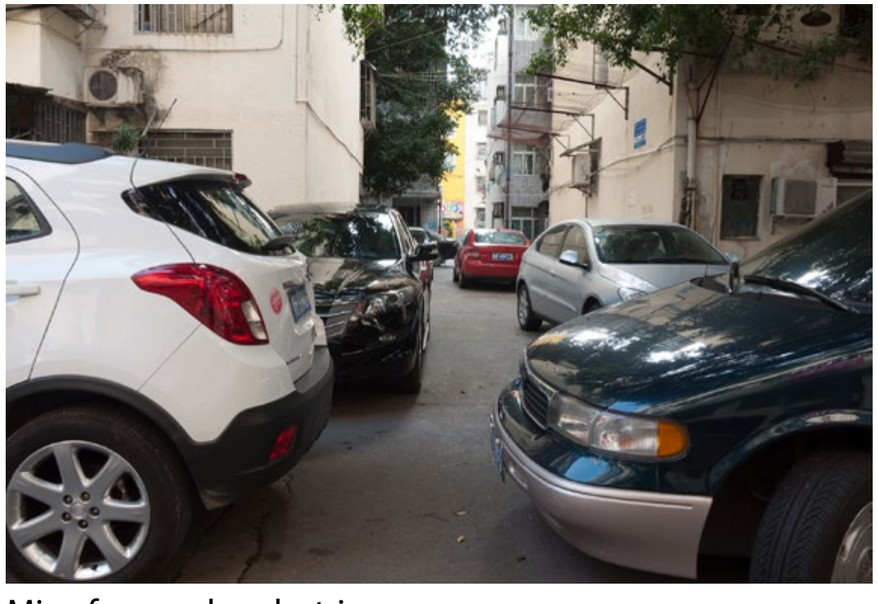
LAYOUT

Connection

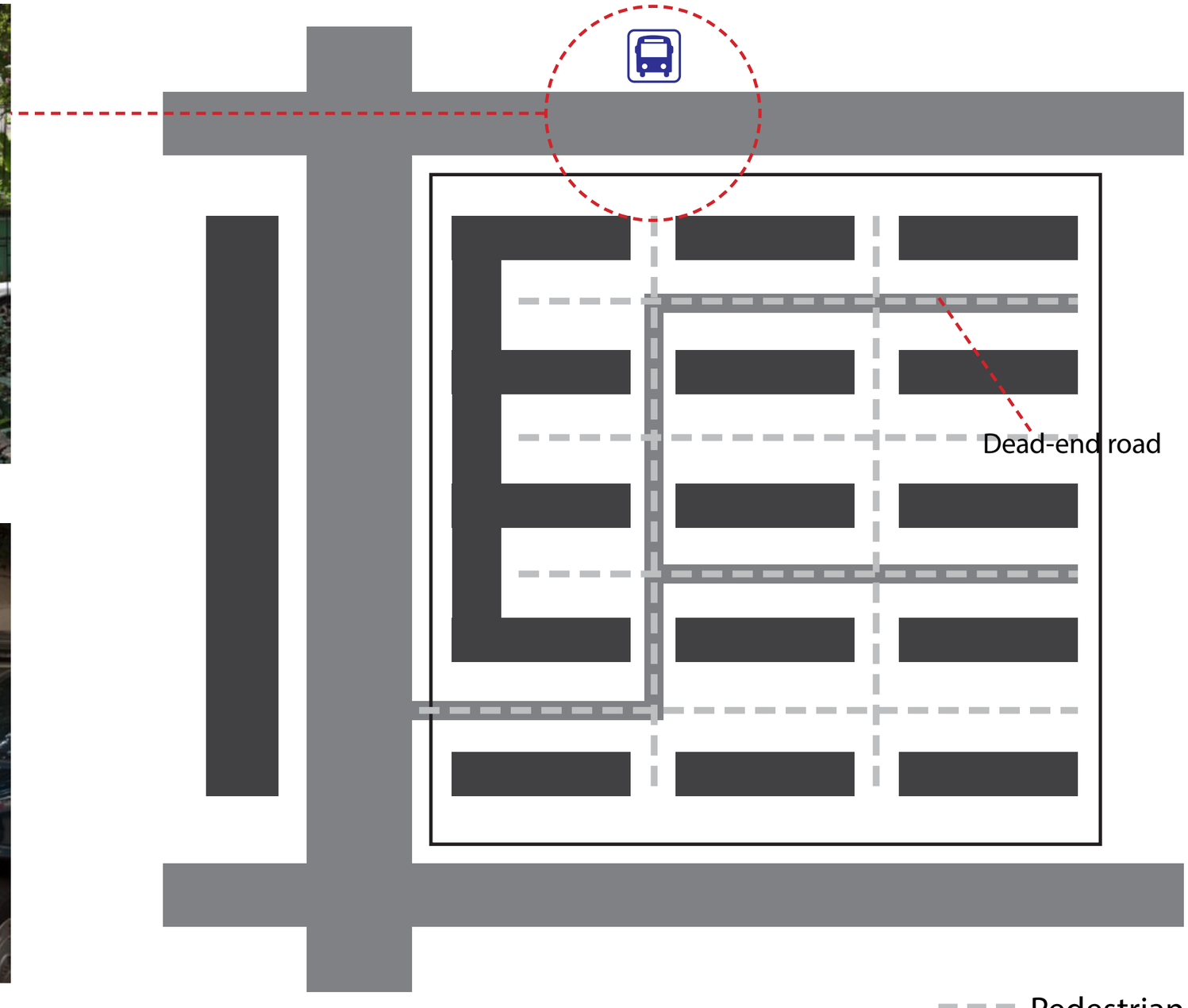
- Dead-end road in the neighbourhood helps to reduce passing.
- Division of car and pedestrian increase safety.
- Disconnection between home and public transport and work place.



Lack of connection



Mix of car and pedestrian



Morphology

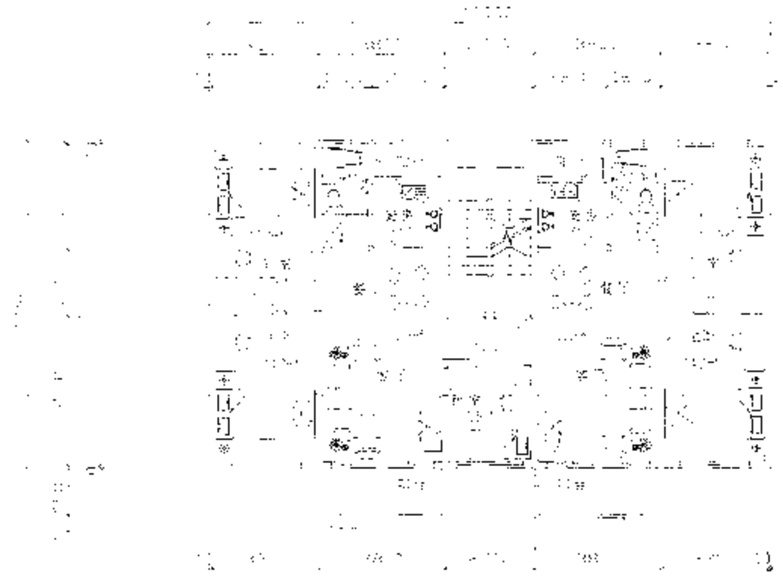
- Standardized design results in homogenized and confused space.
- There is serious shortage in parking lot.
- Privatization of public space weakens deterioration to some extent.
- The main users of the public space are the elderly and children. May lack of facilities or public space.

Confused space

Uncontrolled parking

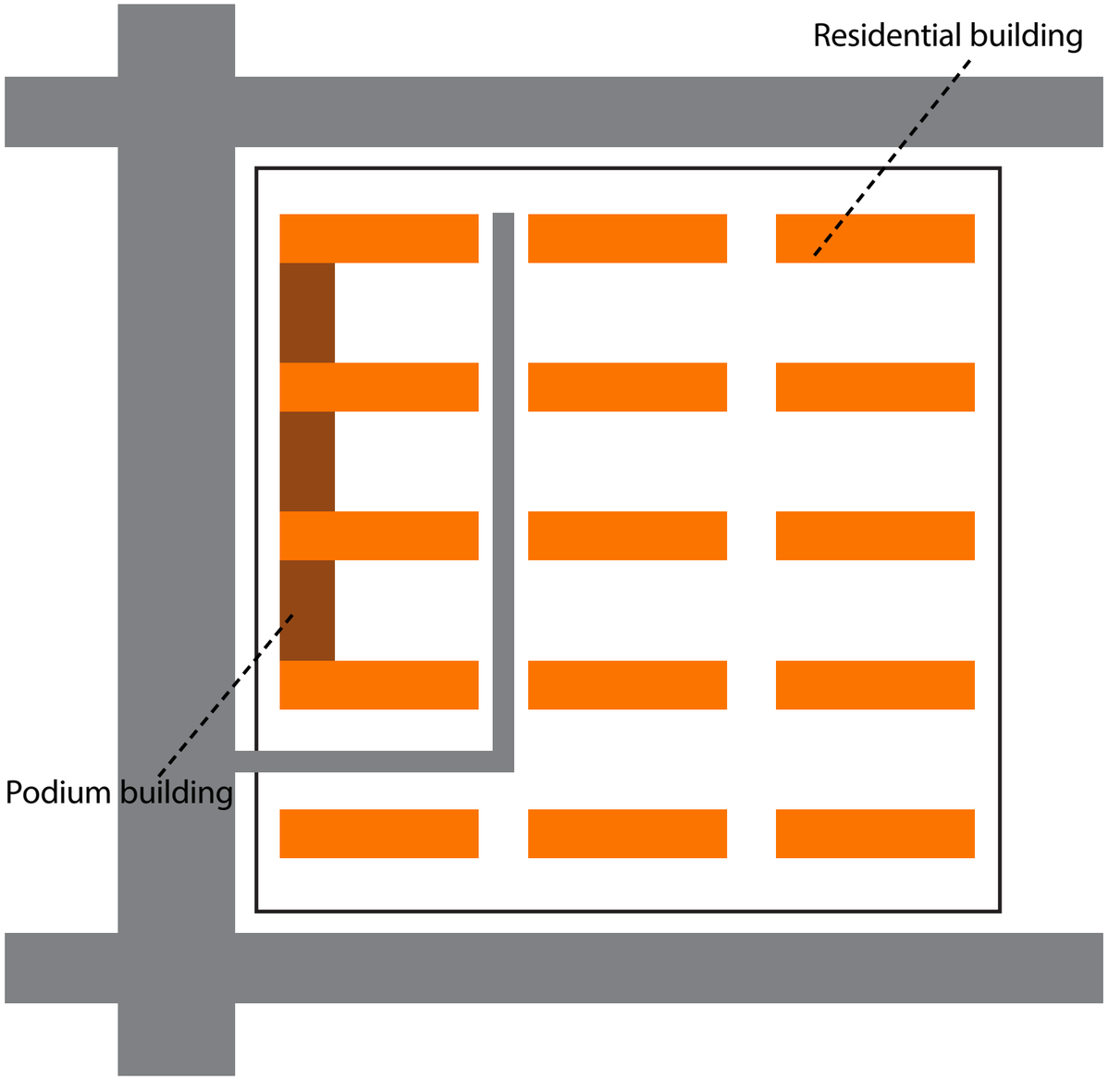
Building and housing typology

- Buildings lack of proper maintenance.
- Standardized architectural design lacks of housing typology diversity. There is a desire for diversity of typology as the living standard rises and the composition of resident changes. Unorganized transformation may aggravate housing deterioration.



A typical floor plan: two apartments of 80-90m^2

Informal transformation



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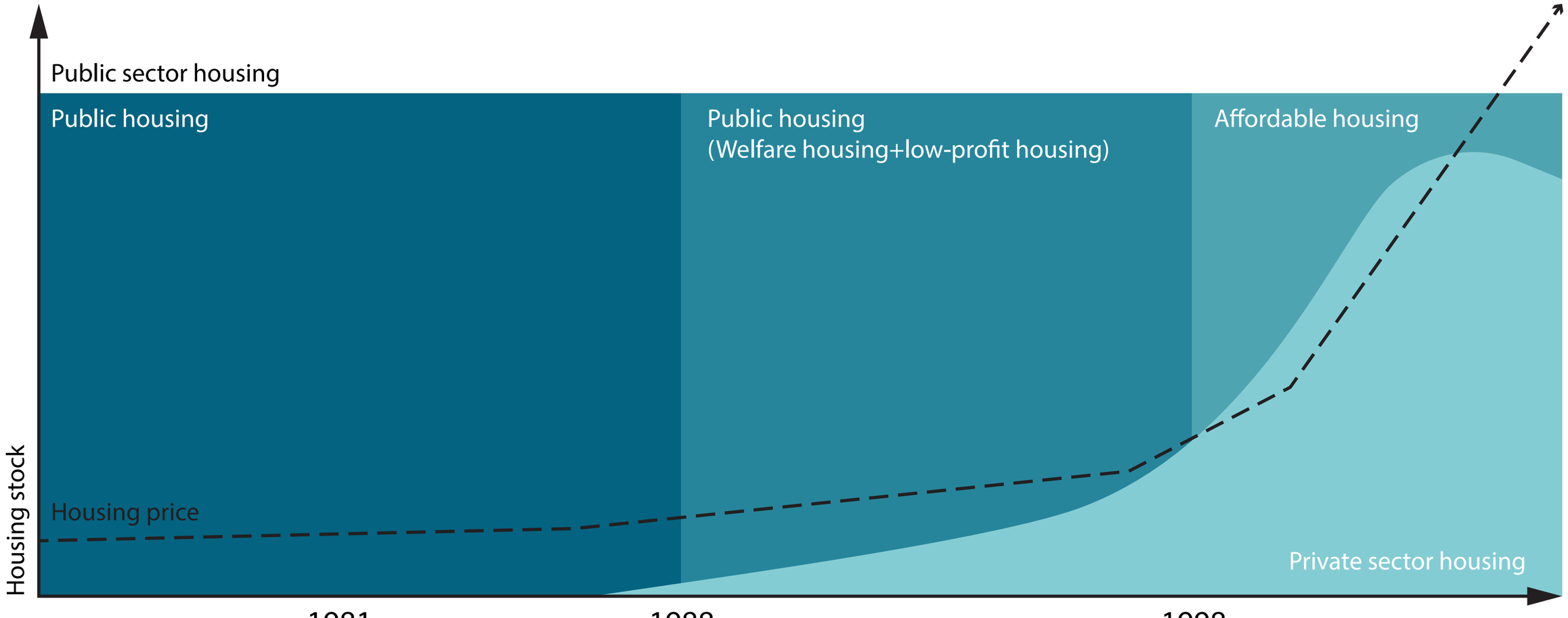
STRATEGY

RENEWAL SCHEME

HISTORIC REVIEW

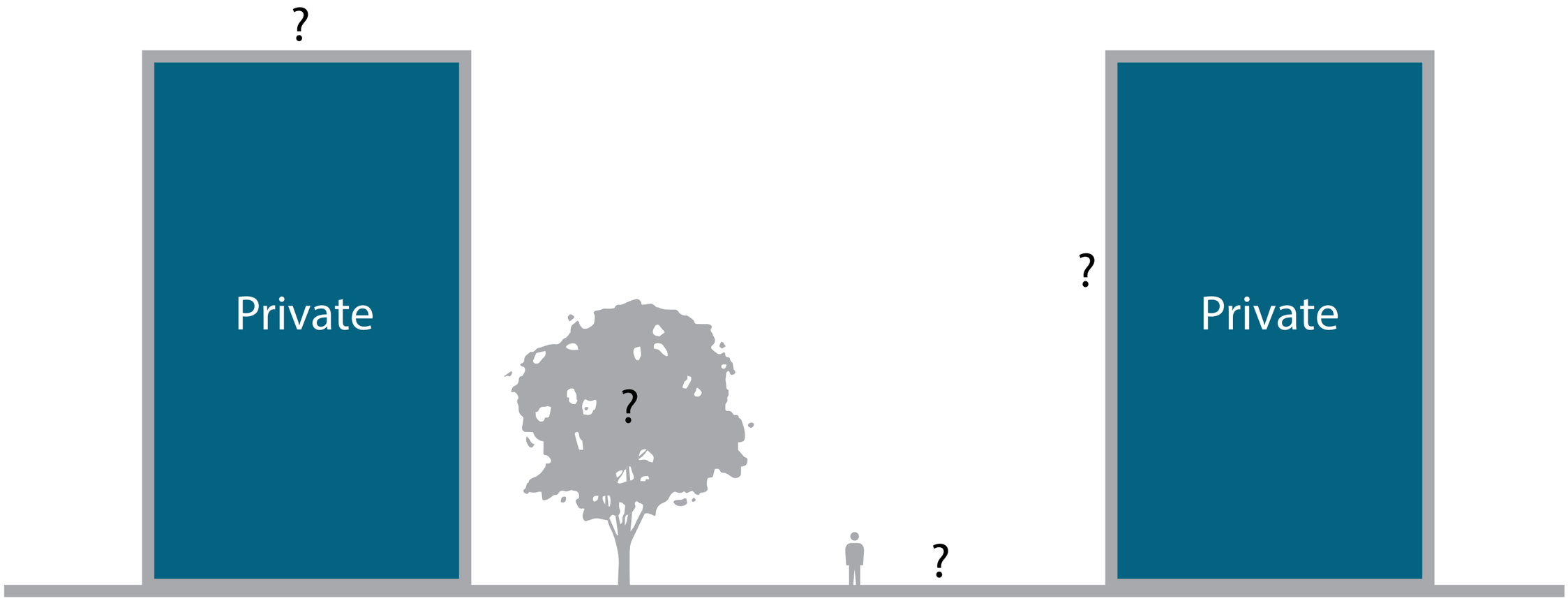
- State retreated from housing stock gradually.
- Over-marketization of housing stock threaten the interest of those who are unable to get decent housing in free market.
- Public sector intervention in housing stock and local participation need to be strengthened to realize social just.



History of housing reform

OWNERSHIP

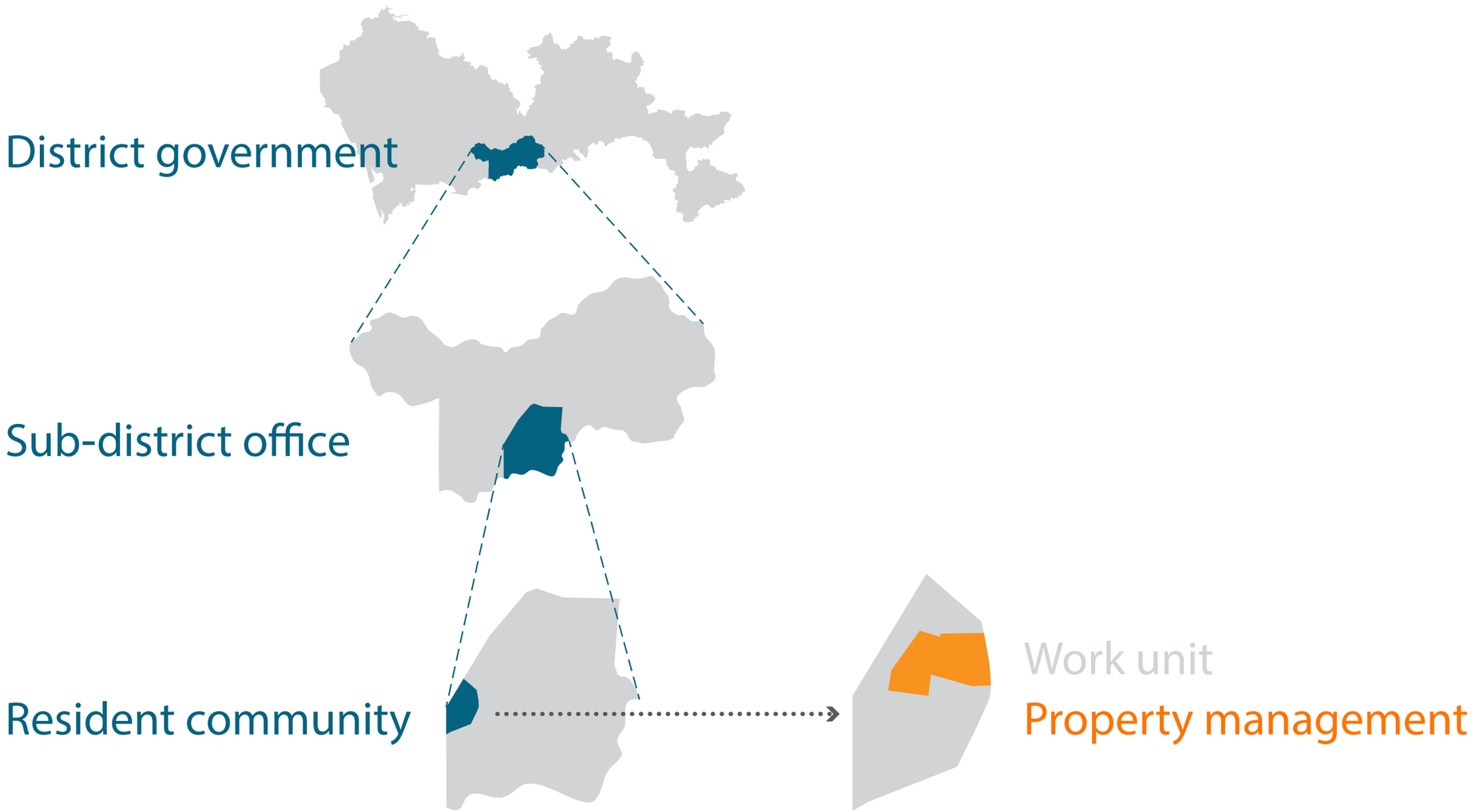
- Housing reform commercialized the apartment but did not clearly define the ownership of shared space.
- Ambiguity of former public housing ownership lead to difficulties in transaction and maintenance, but this also provide a possibility for public sector's re-intervention.



Ambiguous ownership

ORGANIZATION AND MANAGEMENT

- A top-down governance structure: district government, sub-district, resident community
- Resident community does not work well in maintaining the neighbourhood. It still remains a governmental organization, which cannot become a place for citizen participation. And it cannot effectively satisfy residents' need and represent their interest.



Structure of governance

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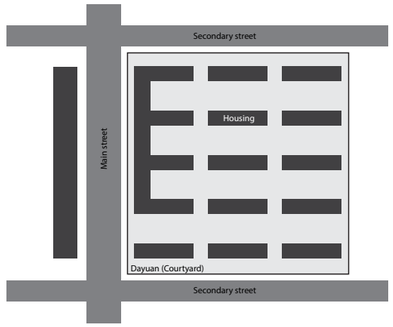
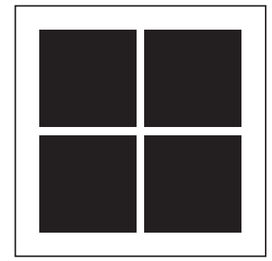
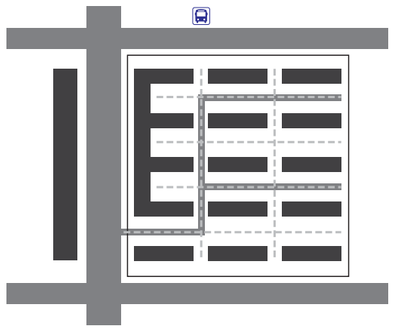


Dayuan
- Three-level spatial structure
- Context specific conclusion
- Boundary condition variation
- Passing in neighbourhood

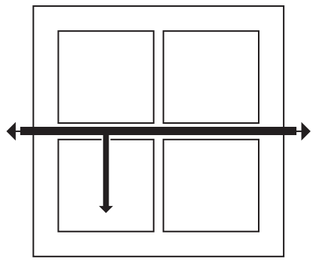


Rezoning community

- Define privacy levels according to existing function and passing
- Encourage small scale concentration



Connection
- Dead-end road
- Lack of space for commerce
- Division of car and pedestrian
- Disconnection



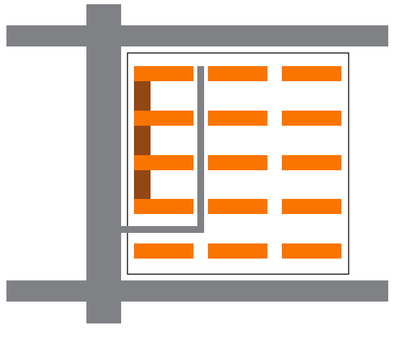
Connecting home and work

- Strengthen main streets
- Restrict passing in neighbourhood units

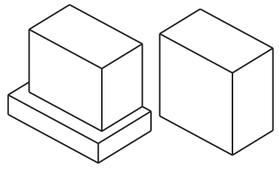
Morphology
- Homogenized public space
- Shortage in Parking
- Privatization of public space
- The elderly and children as main users
- Lack of public facilities

Defining public space

- Integrate public space and functions, connections
- Create enclosed neighbourhood unit through public space design
- Clarify ownership

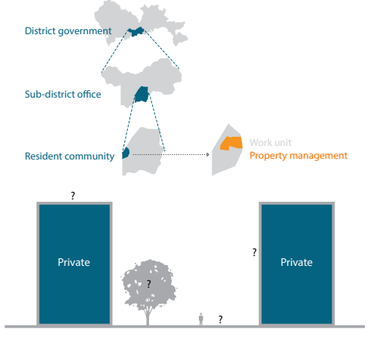


Building typology
- Deterioration
- Lack of housing typology diversity
- Unorganized transformation
- Diversity on ground floor
- Diversity of resident



Diversifying building and housing typology

- Diversify housing for different income groups
- Diversify function



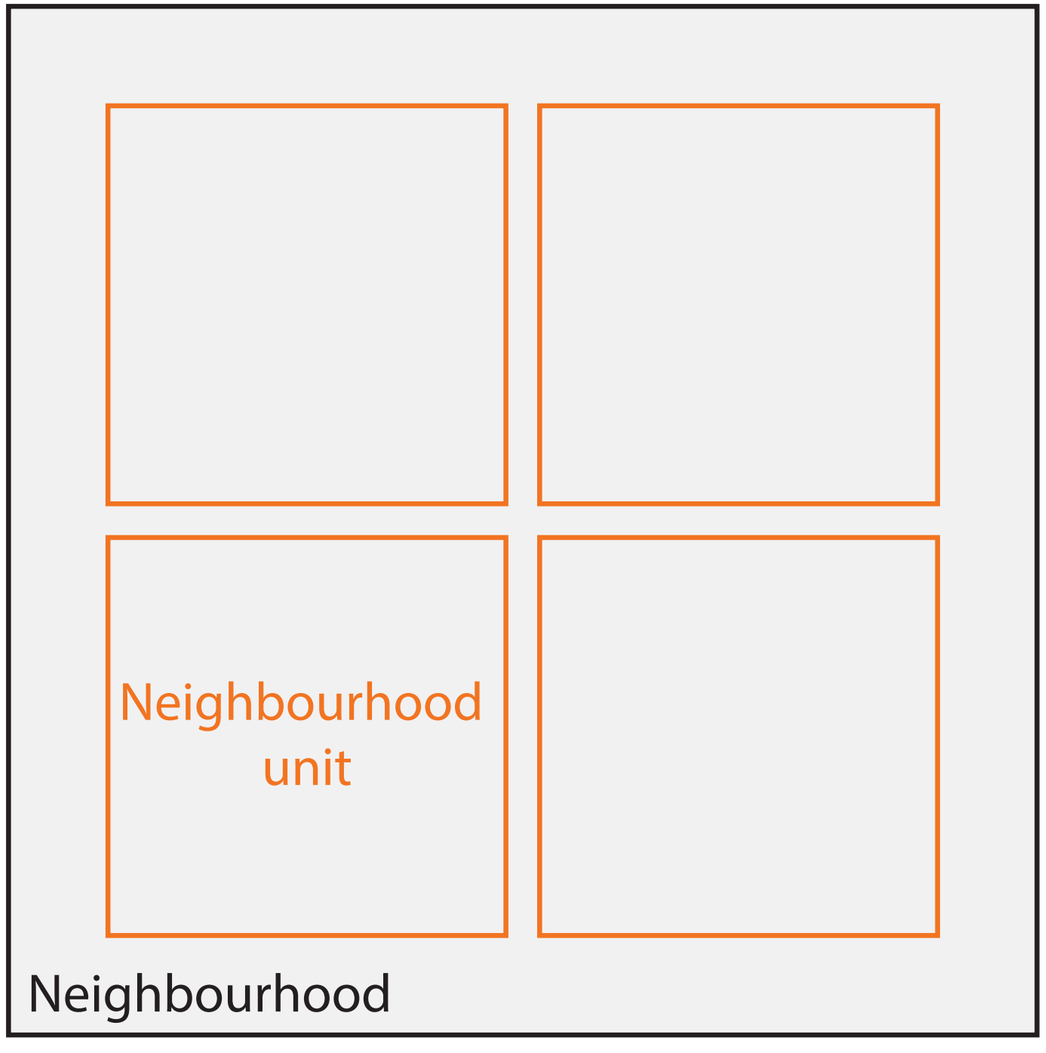
Institutional aspect
- Over-marketized housing stock
- Ineffective top-down governance
- Ambiguous ownership

Strengthening public intervention and communal organization

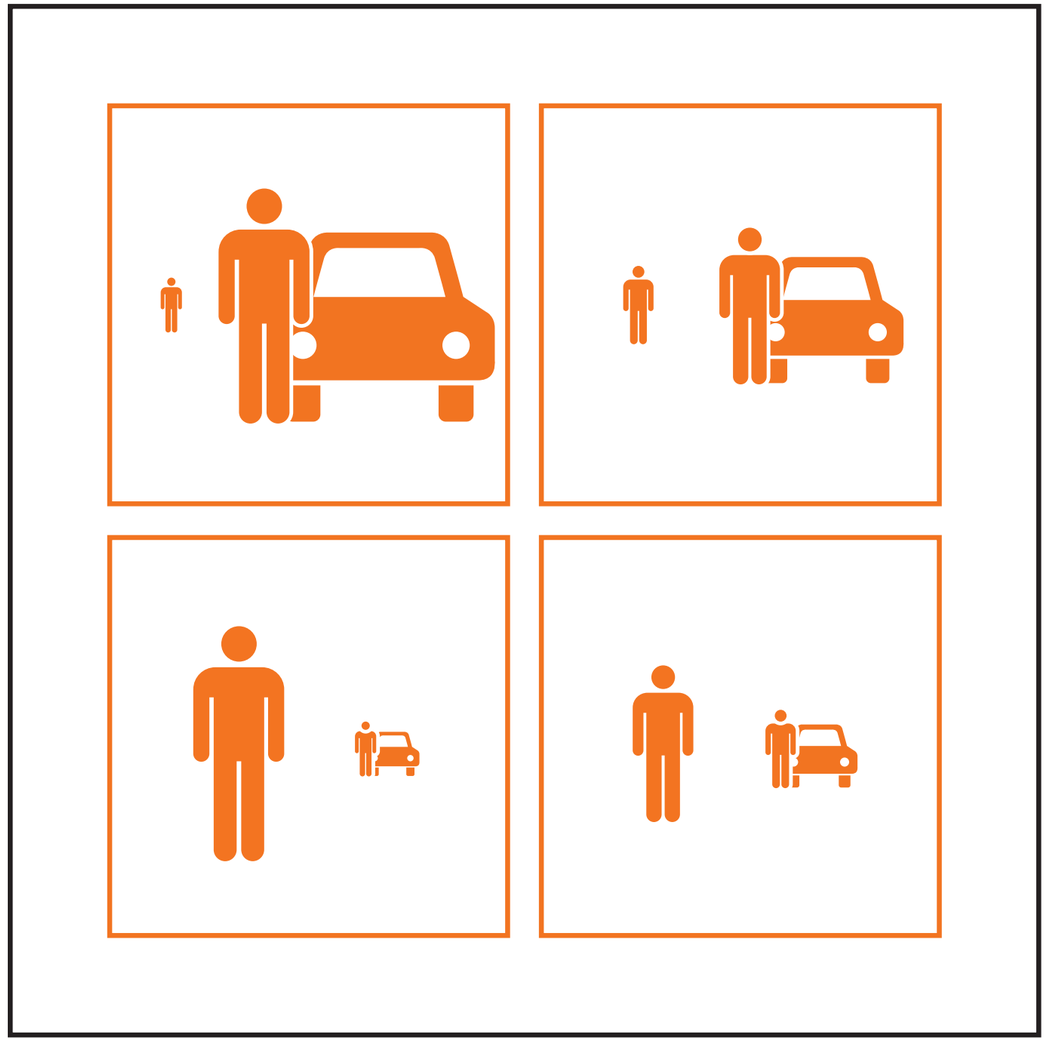
- Establish housing association
- Encourage communal participation

REZONING COMMUNITY

- Defining the privacy of space to reduce anonymity.
- Small scale concentration of income groups reduces conflict as well as prevents homogeneity.



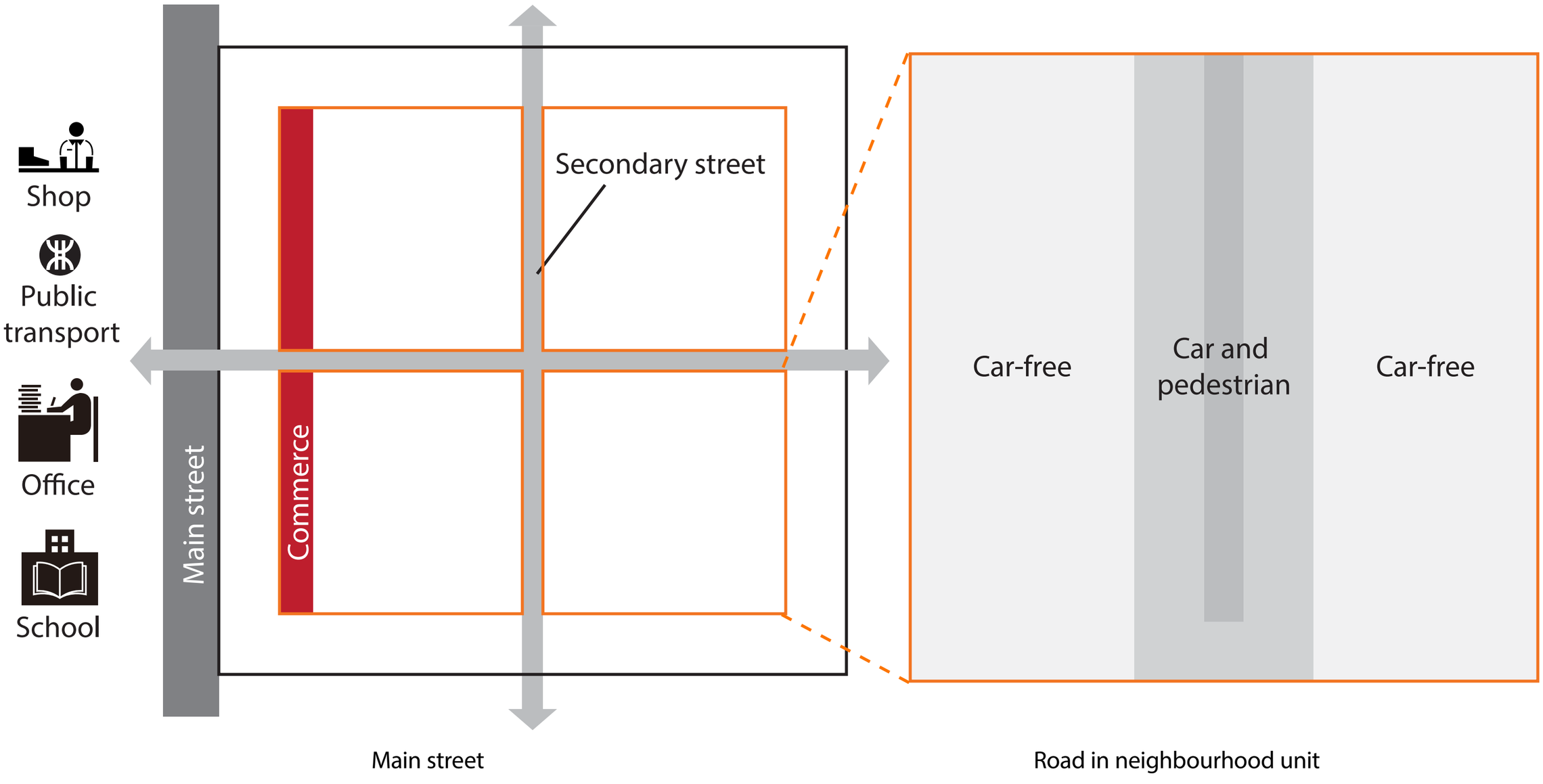
Neighbourhood unit



Different proportion of income groups

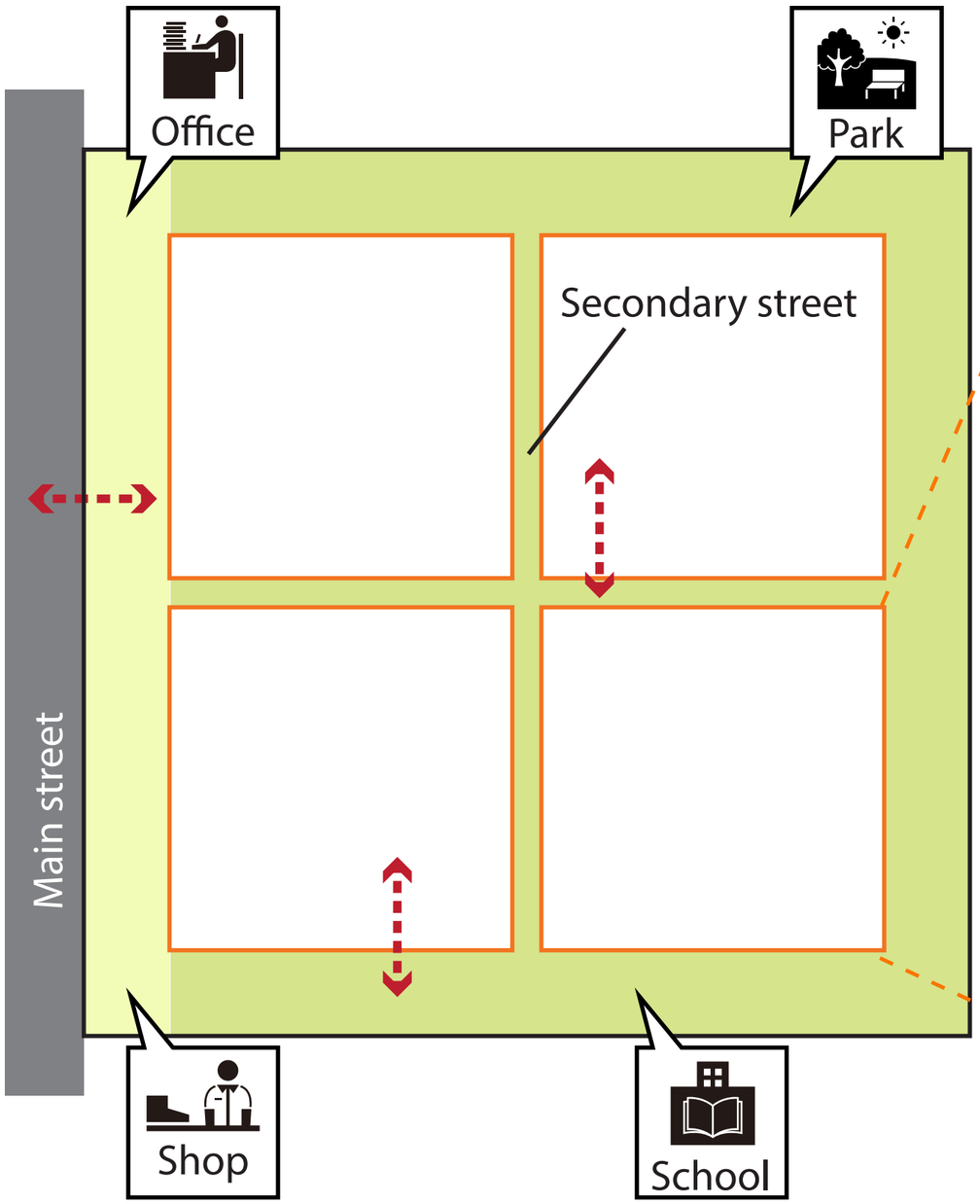
CONNECTING HOME AND WORK

- Connect home and shops, public service, office, schools, etc.
- Restrict passing and divide car (parking) and pedestrian.

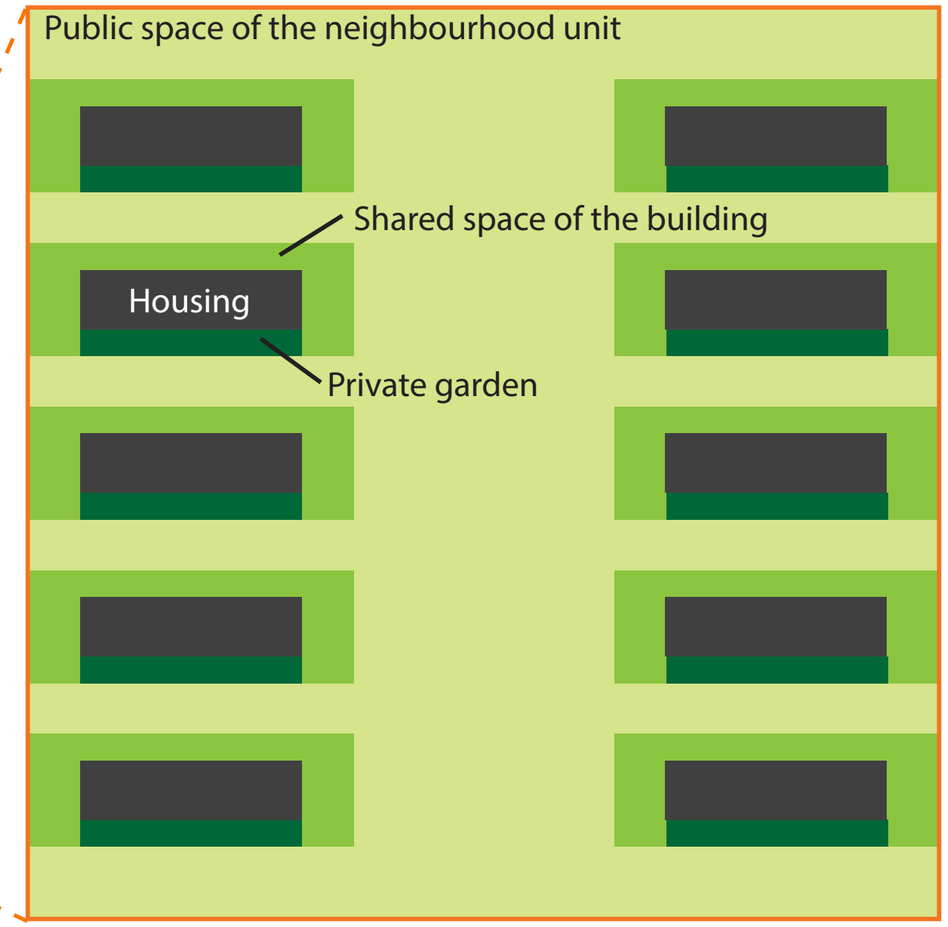


DEFINING PUBLIC SPACE

- Integrate public space with local business and connections.
- Create enclosed neighbourhood unit through public space design.
- Clarify ownership.
- Facilities for children and the elderly.

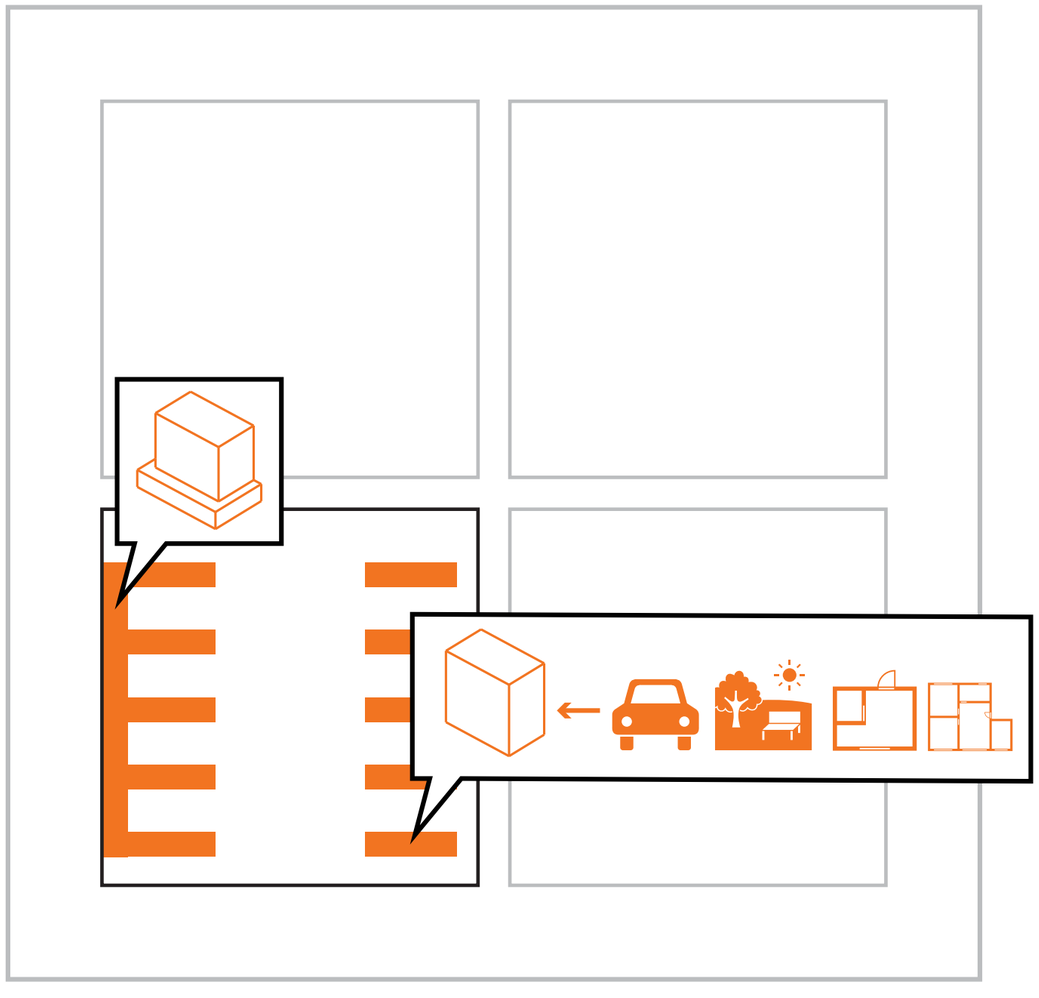


Public space on neighbourhood scale

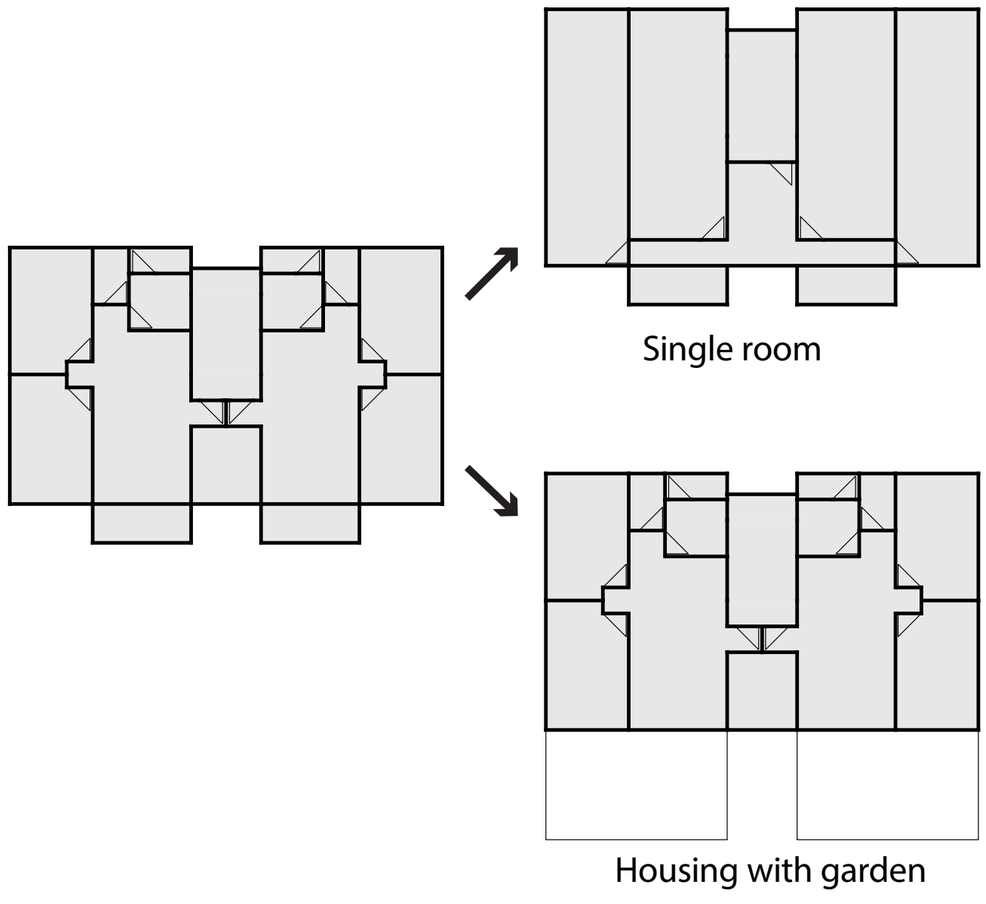


Public space in neighbourhood unit

- Diversify housing typology for different income groups.
- Diversify functions to buildings, shops, office and parking. The selection of added function depends on the location of building.

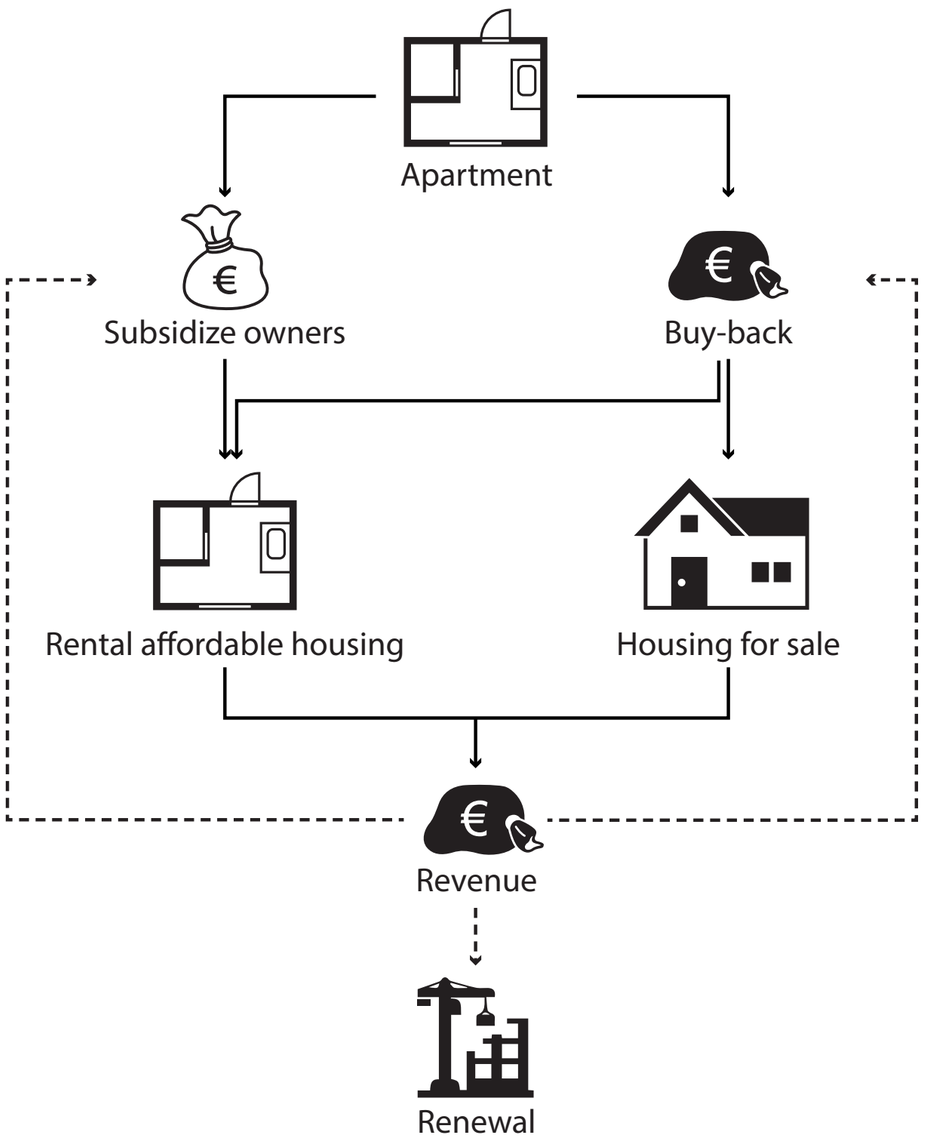


Diversifying building typology

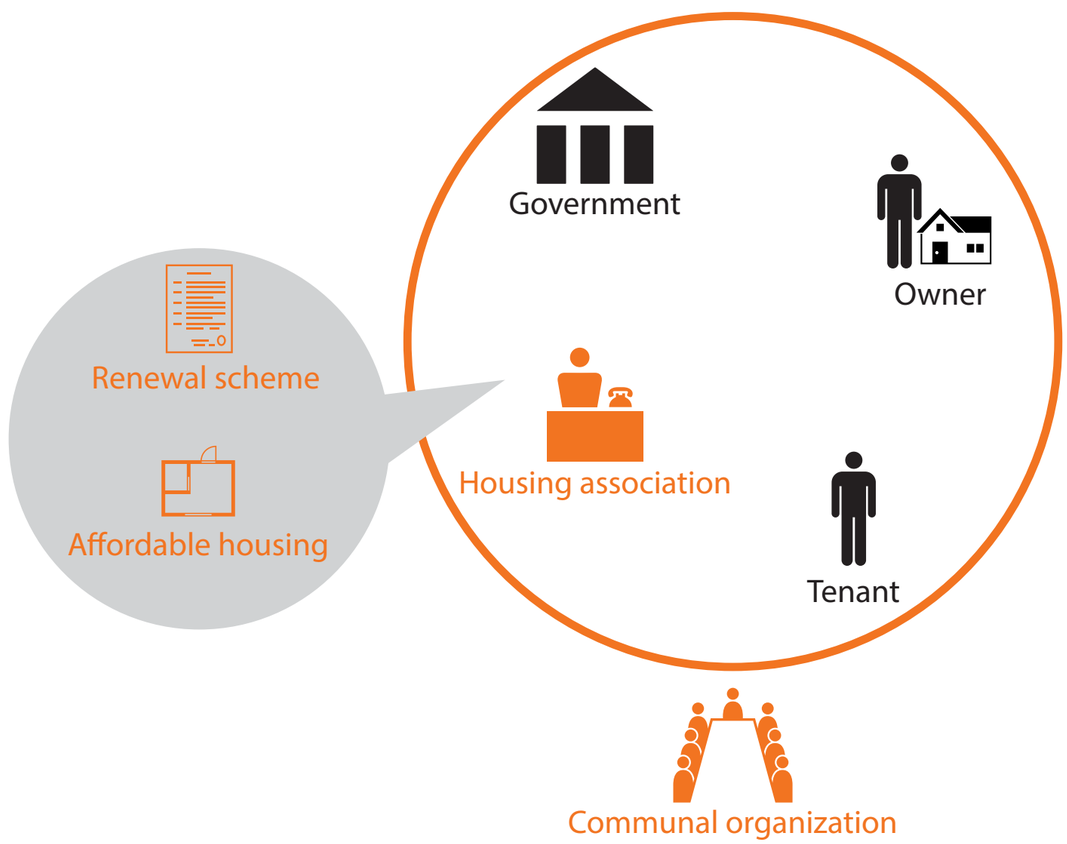


Diversifying housing typology

- Strengthen public intervention through the establishment of housing association. A non-profit organization which is subsidized by government. The housing association is responsible for operating renewal scheme and leasing or selling affordable housing.
- Establish community organization that involves owner, tenant, housing association and government. An organization for holding discussion on daily communal affairs and renewal.



Public intervention in affordable housing



Housing association and Communal organization

INTRODUCTION

THEORETICAL FRAMEWORK

SOCIO-SPATIAL CONDITION

INSTITUTIONAL CONDITION

STRATEGY

RENEWAL SCHEME

FROM CONTEXT AND STRATEGY TO INTERVENTION

Context

- Centrality
- Accessibility
- Open space
- Public facilities

Strategy

- Rezoning community
- Connecting home and work
- Defining public space
- Diversifying building and housing typology
- Strengthening public intervention and communal organization

Institutional transformation

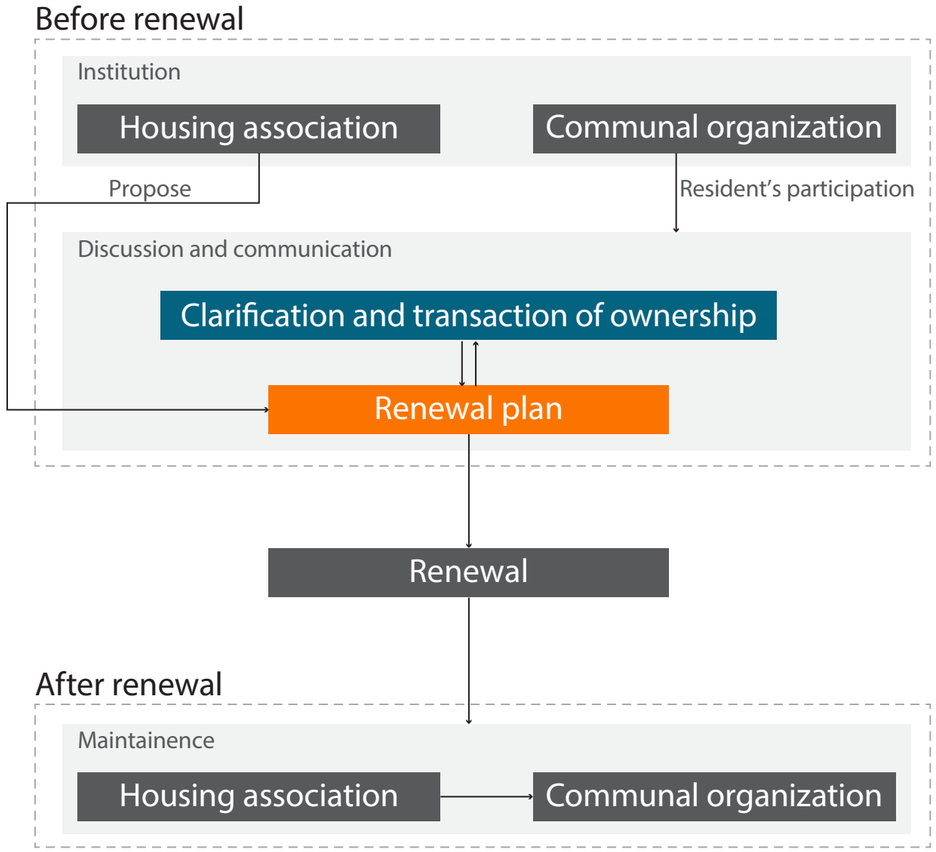
- Transformation model

Spatial transformation

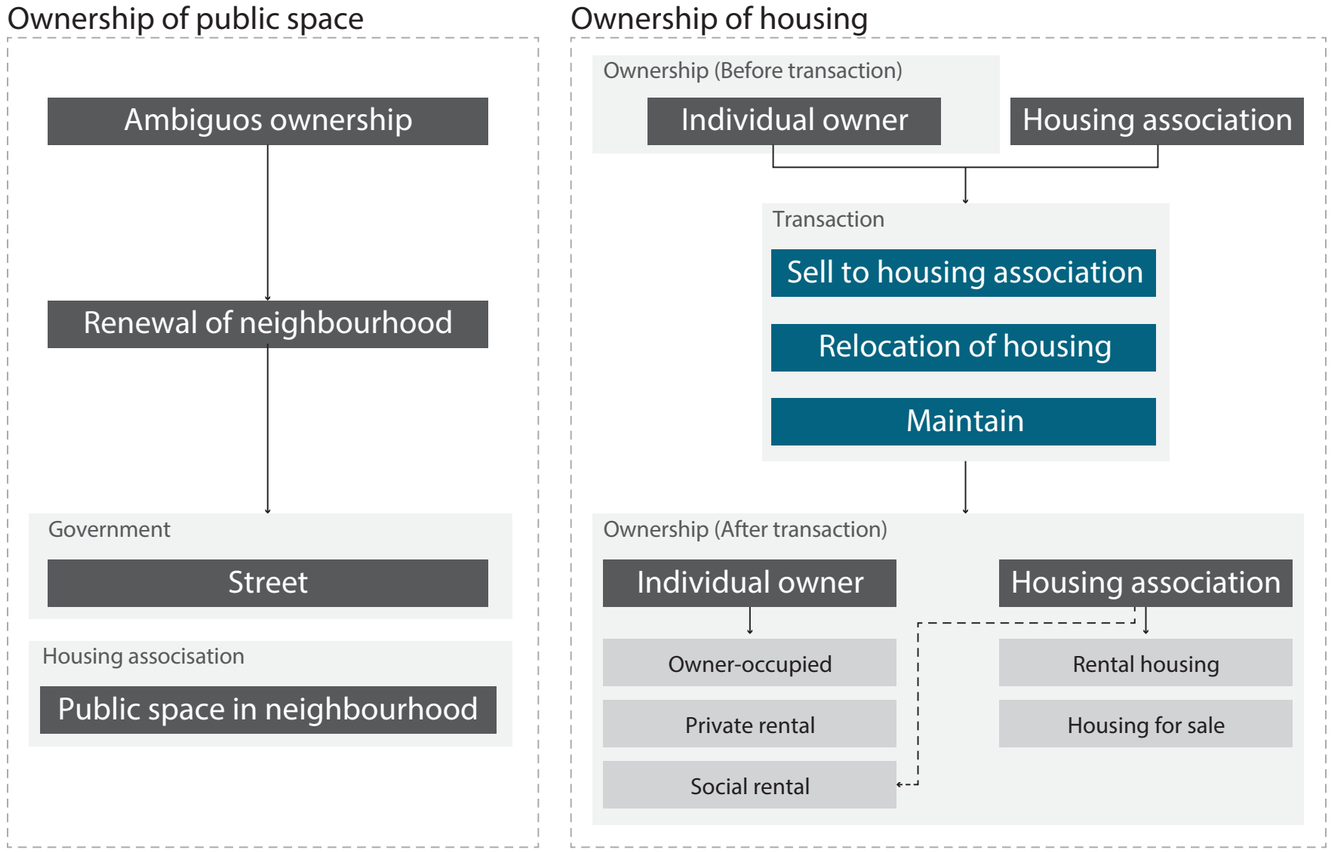
- Spatial structure
  - Nanyuan
  - Huali
- Principle of intervention
  - Nanyuan
    Huali

TRANSFORMATION MODEL

- Housing association is established to guarantee affordability as the goal of renewal.
- Clarification of ownership and responsibility can reduce conflict and keep the quality of neighbourhood environment after completion.
- Community participation reflects residents' demand into the plan so that the renewal can really benefit the residents.



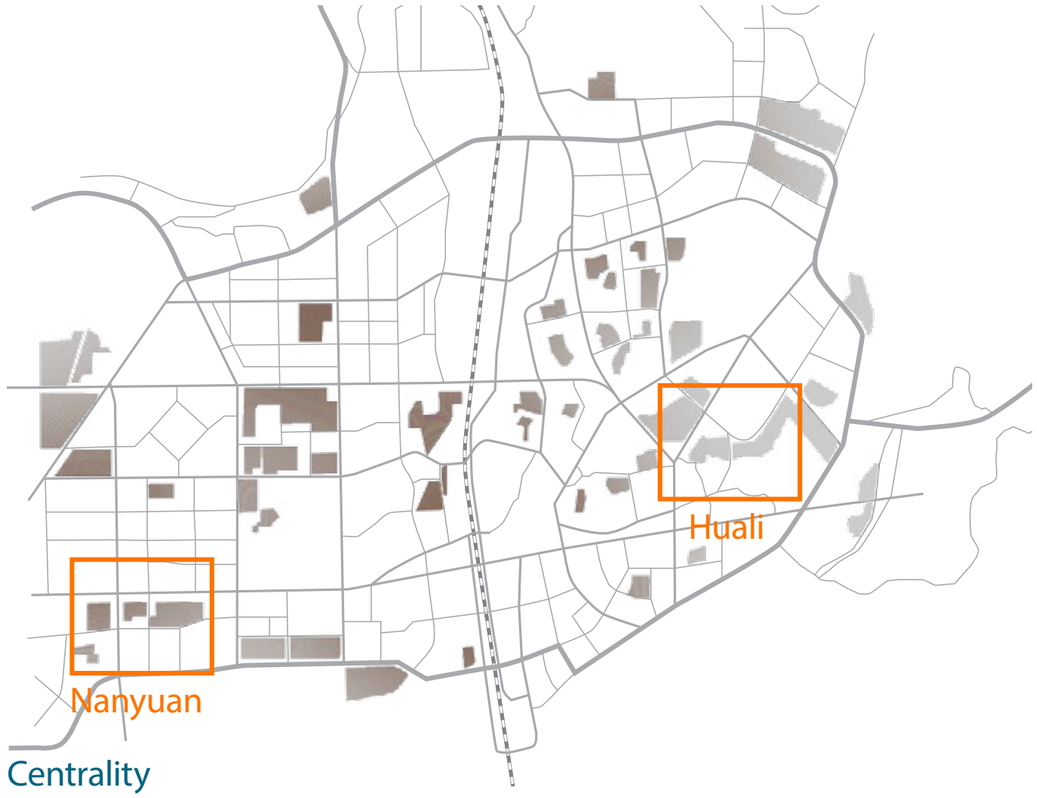
Transformation model



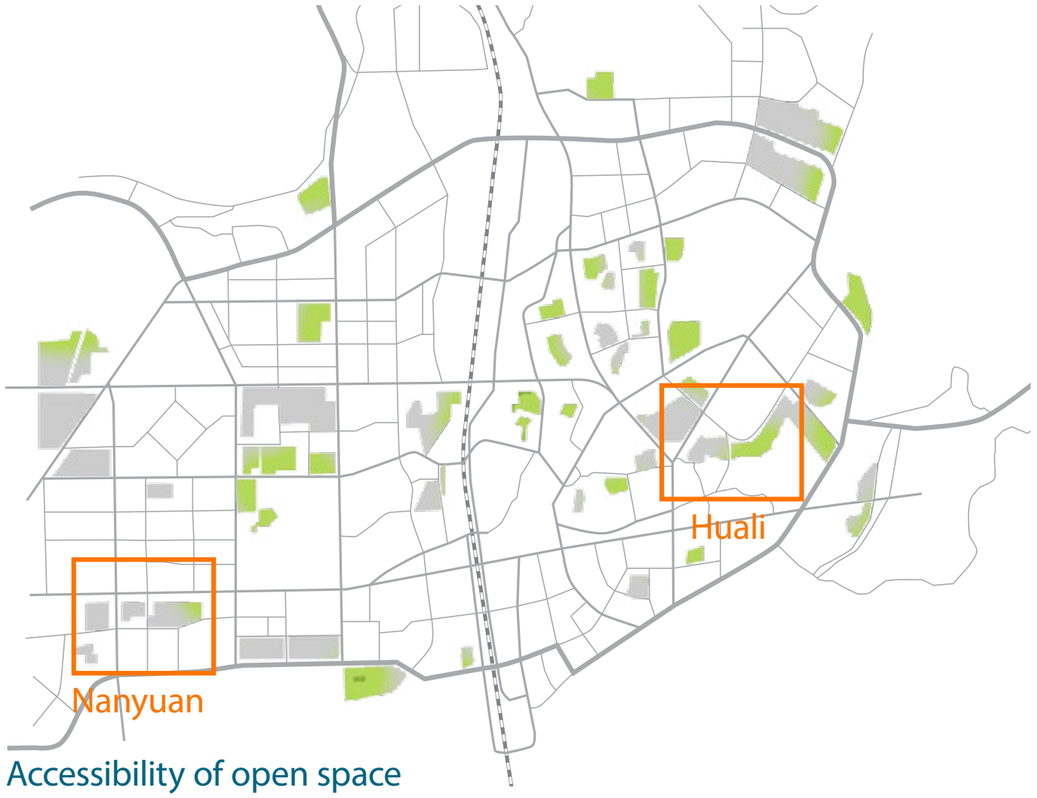
Clarification and transaction of ownership

SITE SELECTION

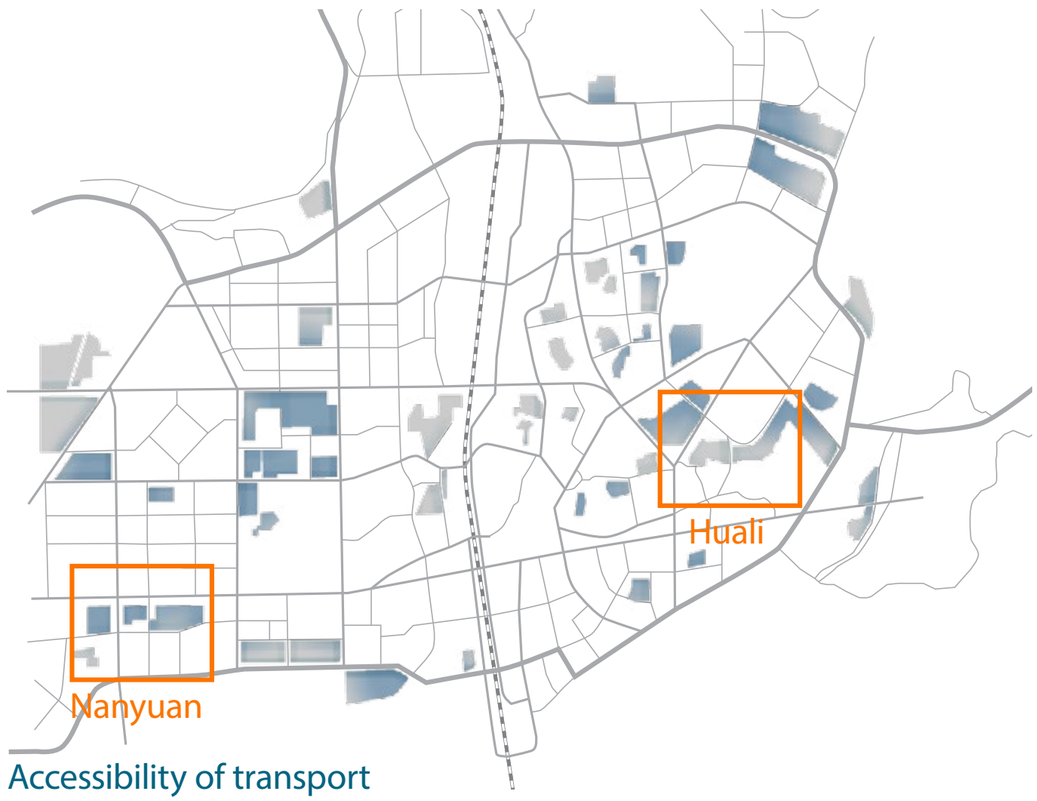
The selection of sites is based on their contextual difference



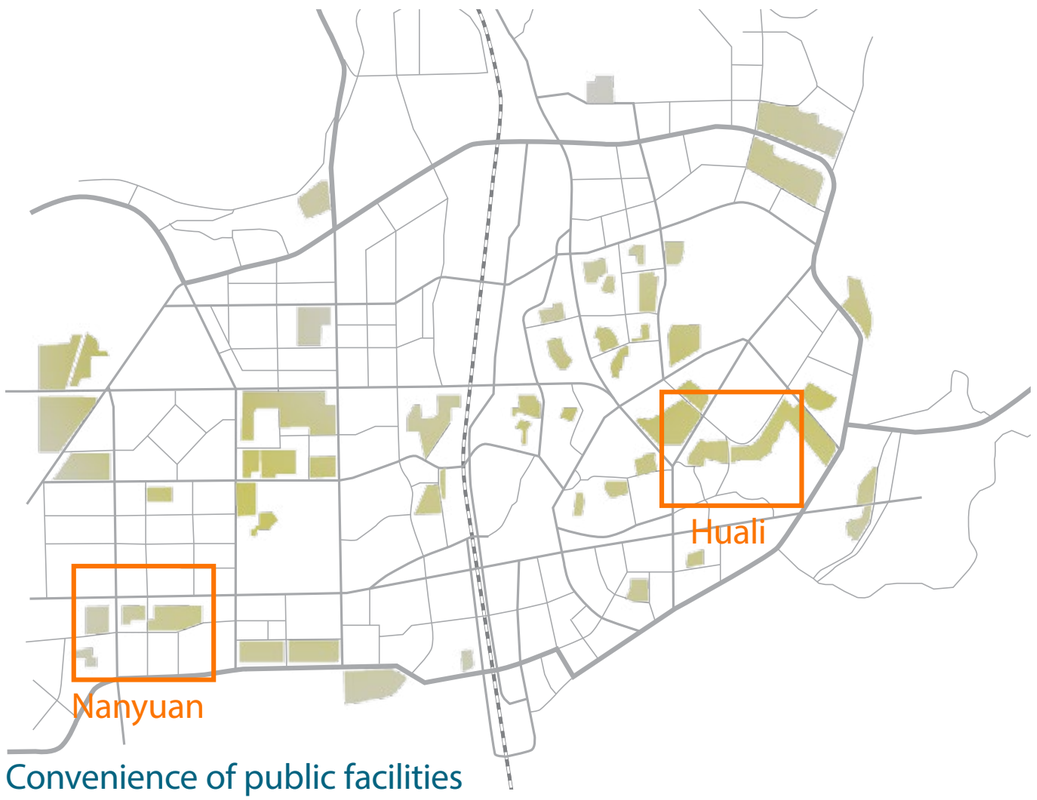
Centrality



Accessibility of open space



Accessibility of transport



Convenience of public facilities

NANYUAN

Function

Commerce

Centre

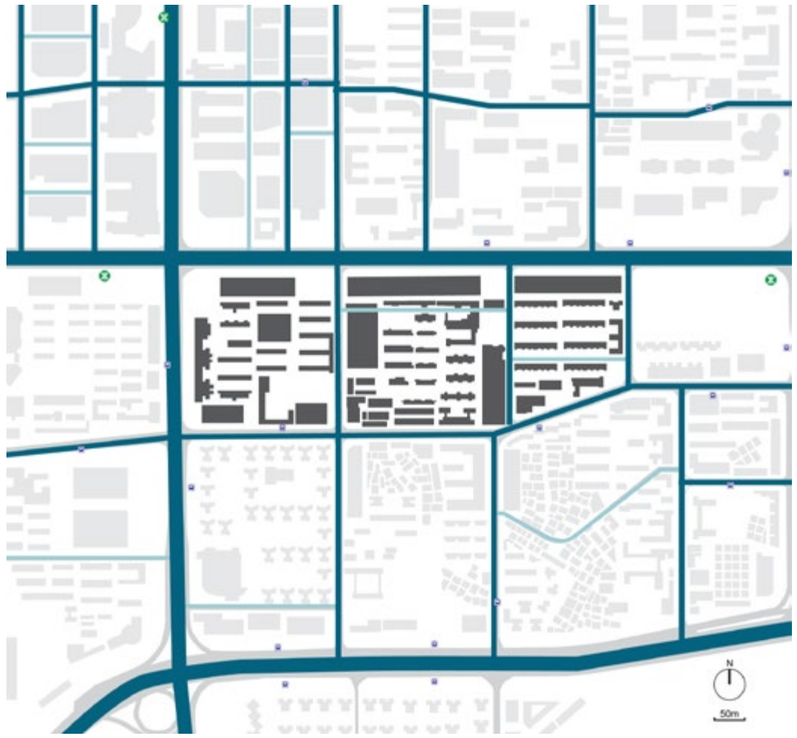
Residence

Scattered residential area

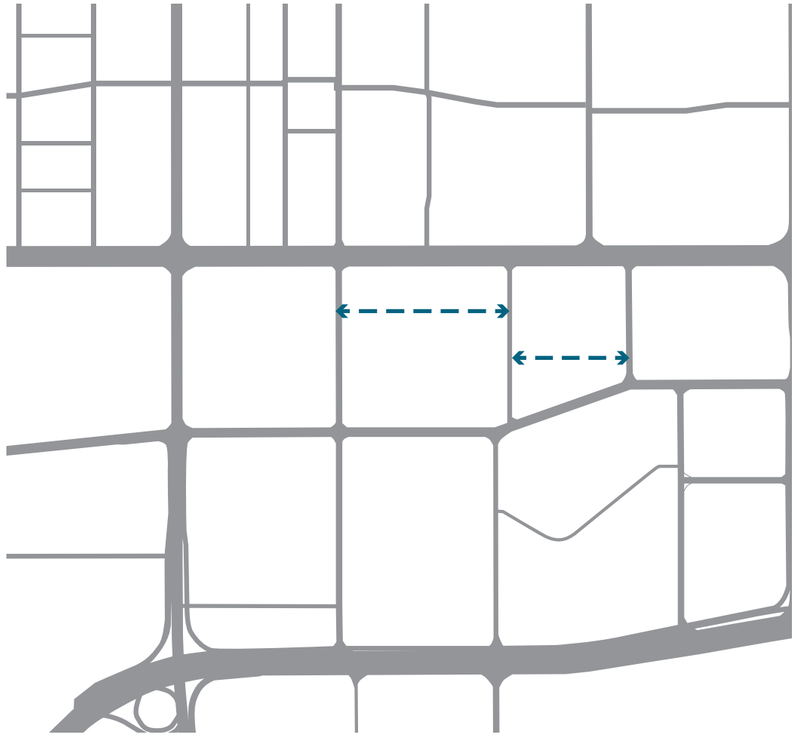
Health care, school and sport

Convenient public facilities

Connection



Connection



Passing in neighbourhood

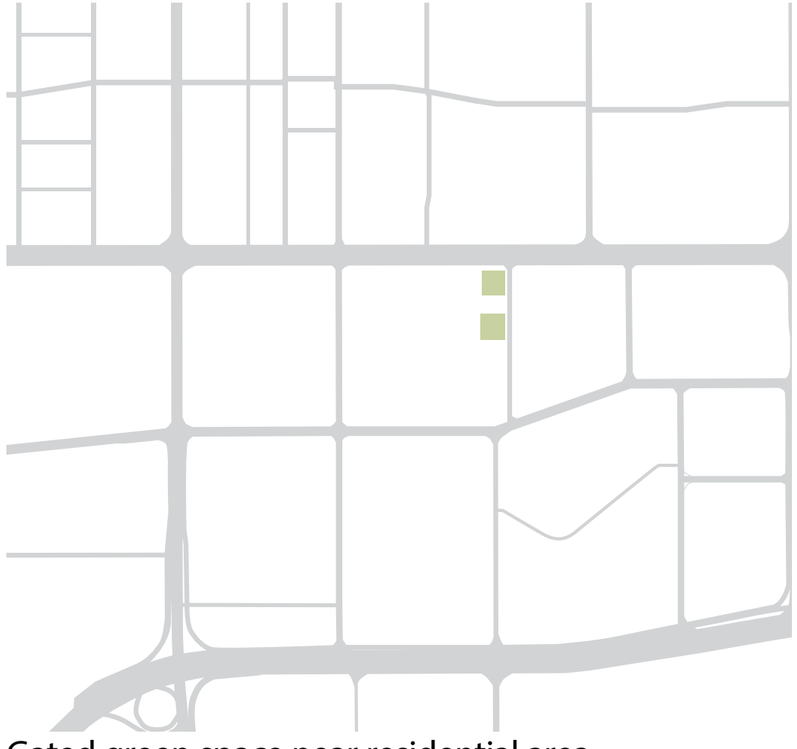
Passing inside neighbourhood (Photo by author)

Road inside neighbourhood (Photo by author)

Open space

Public space

Lack of open space for people (Photo by author)

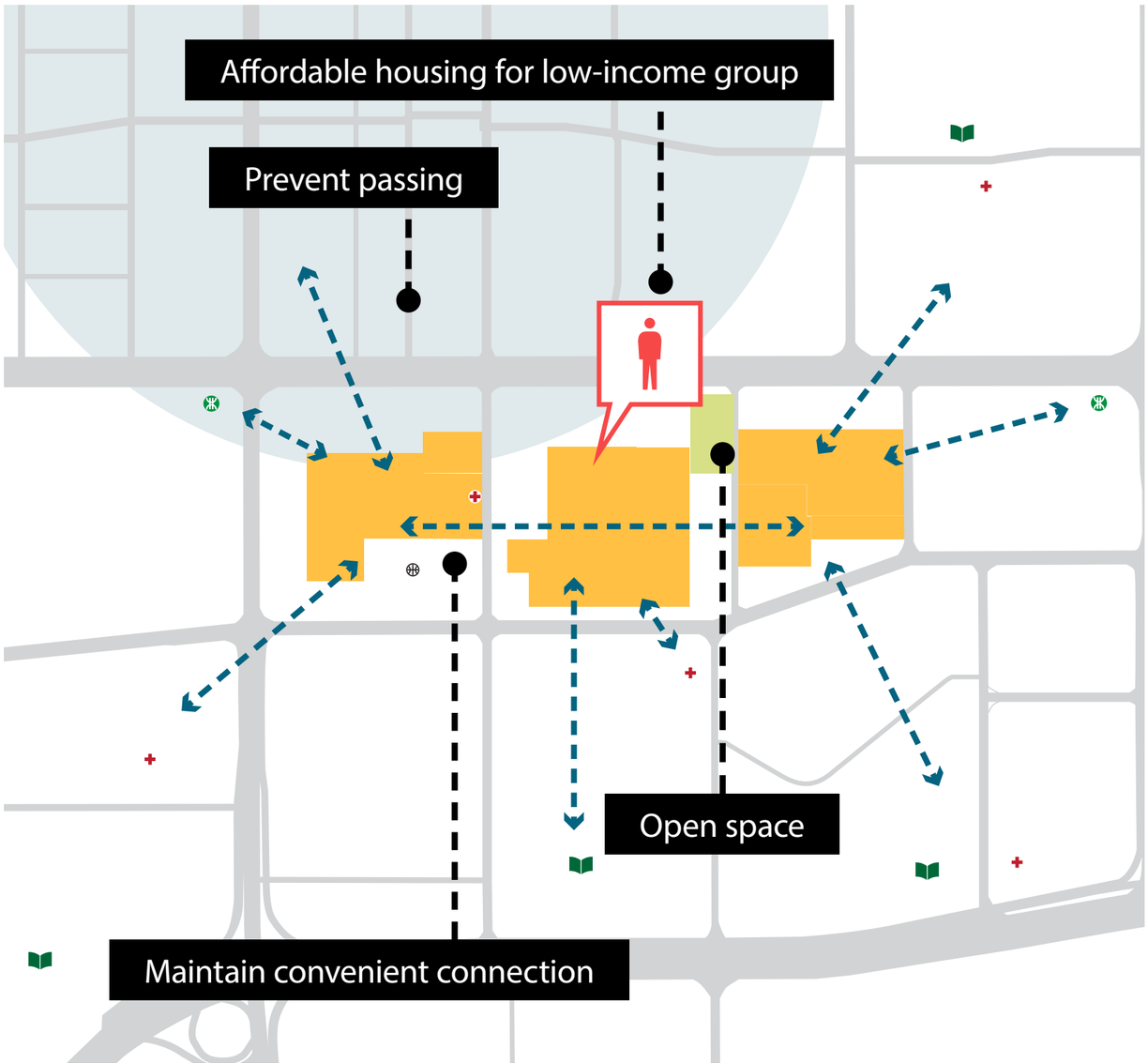


Gated green space near residential area

Gated open space (Source: Tencent map)

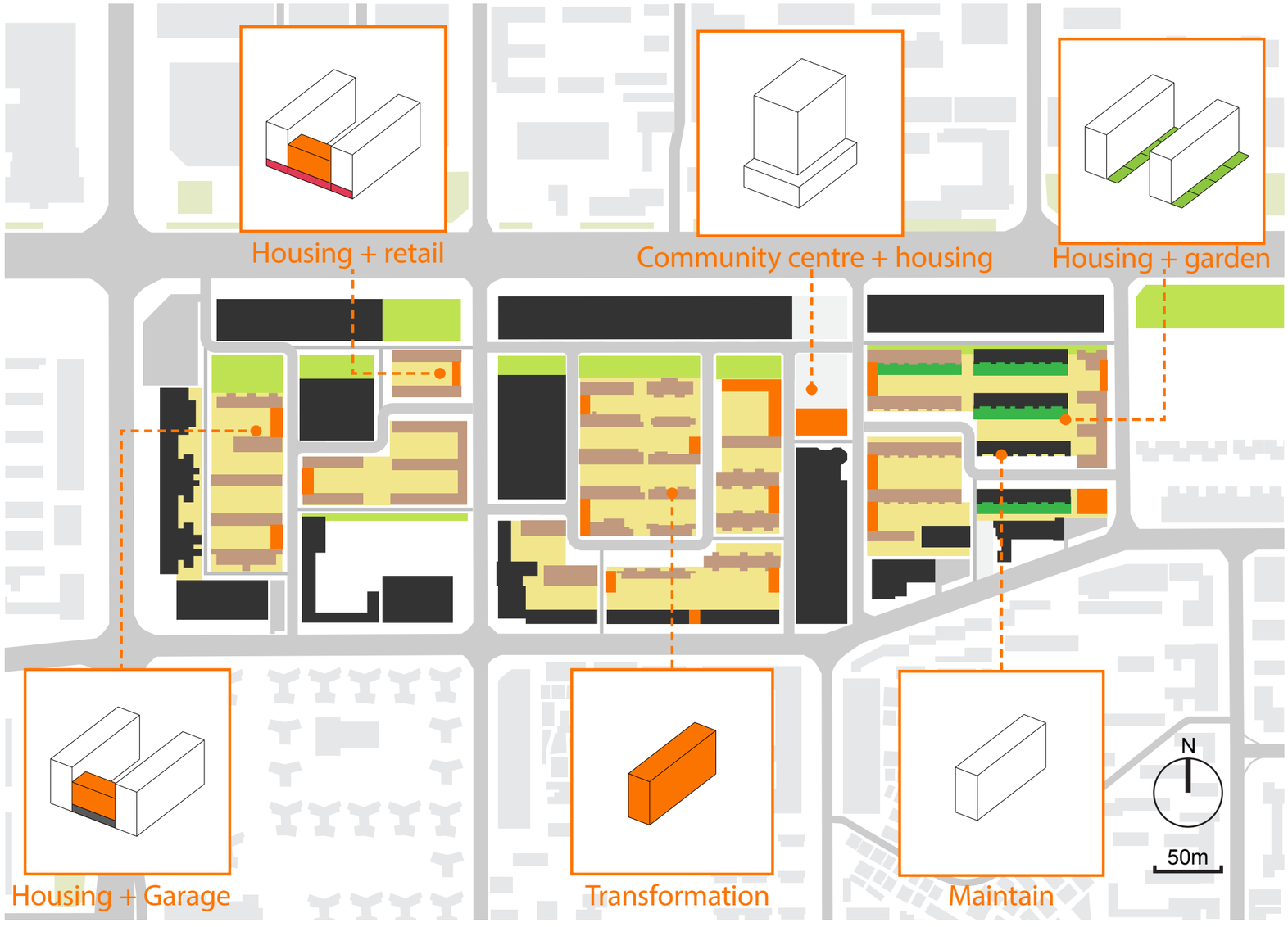
AIM

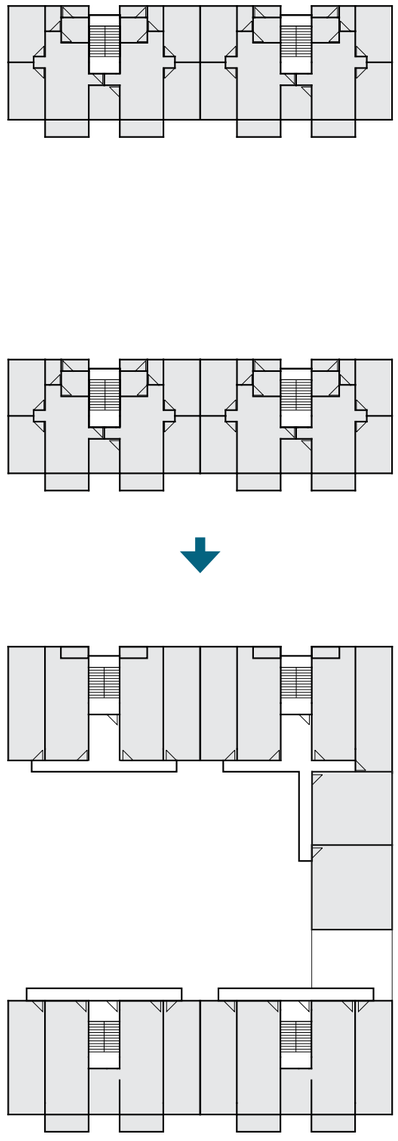
- Nanyuan is in a multi-functional area. It shares facilities with the surroundings and require frequent connections. The neighbourhood has been well integrated with the city.
- The renewal plan aims to keep the residential area as a quiet ‘island’ in a bustling commercial centre.



Towards a safe and affordable neighbourhood

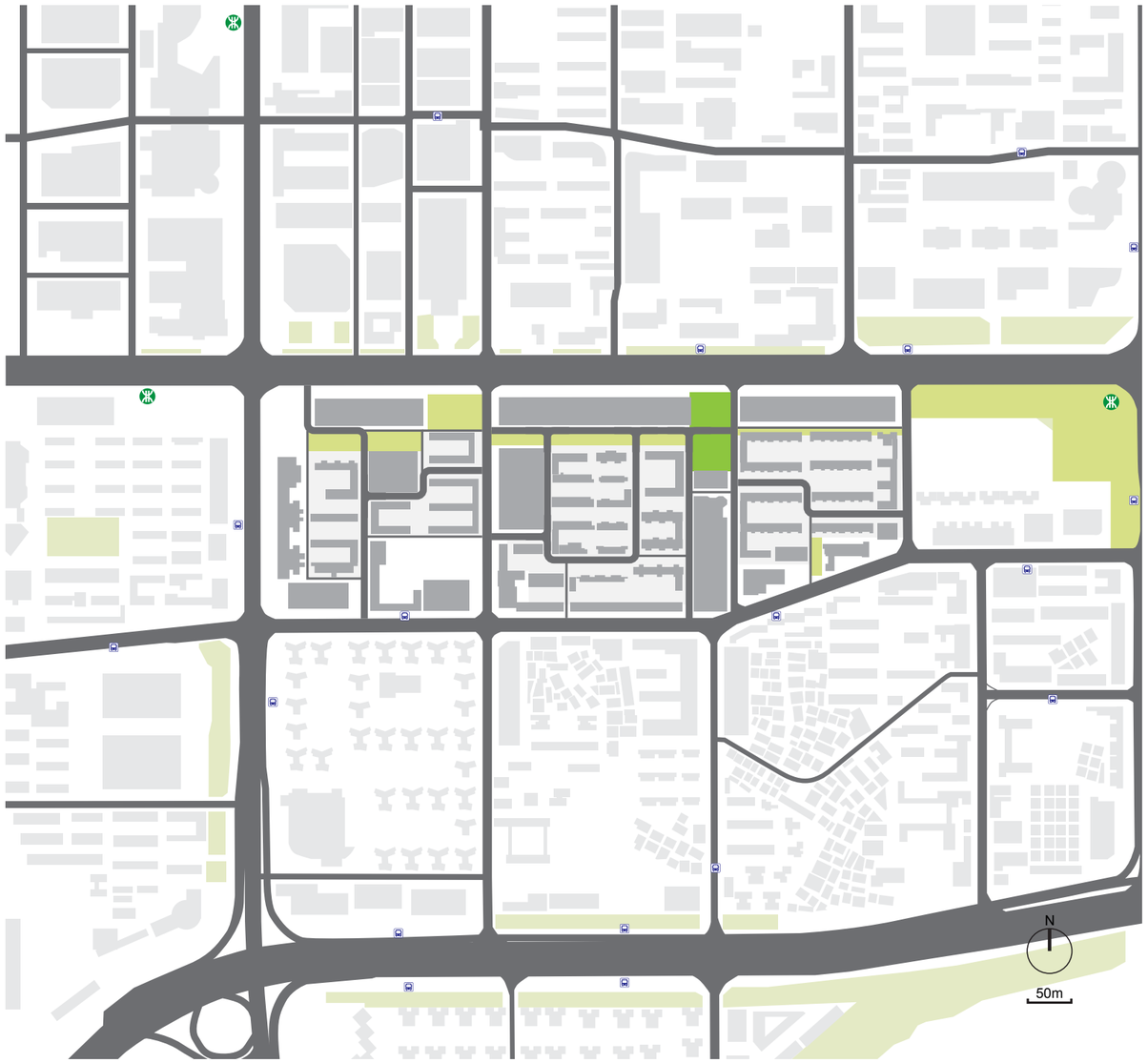
- Rezone the neighbourhood to form smaller neighbourhood units with sense of enclosure
- Each unit targets one income group
- Phasing renewal by neighbourhood units
- New construction compensates the reduction of housing from demolishment.
- Diversity of functions
- Transform some of the existing family apartment to single room.
- A community centre



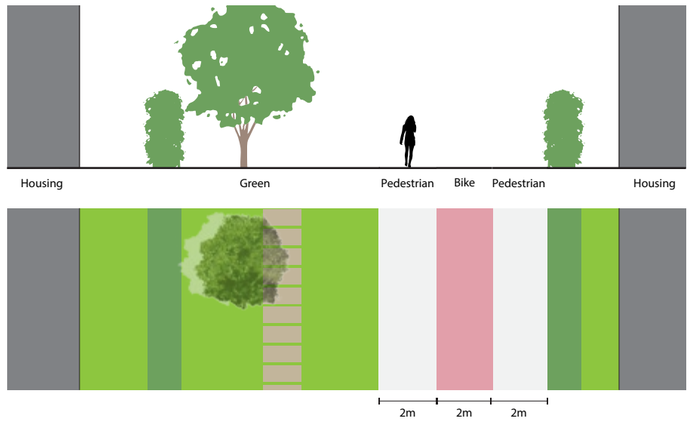


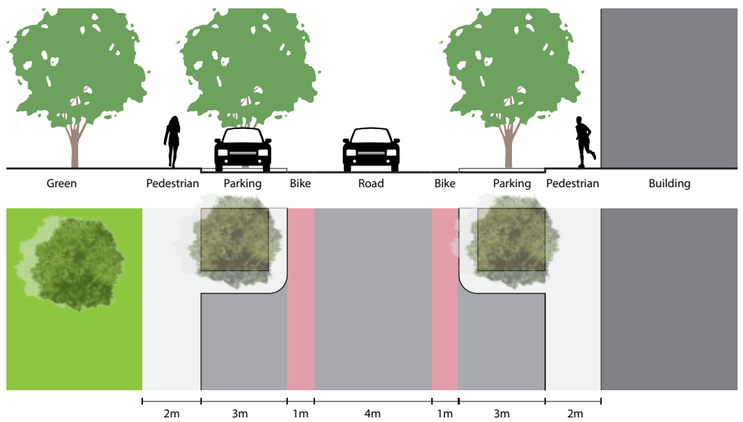
Maintain the convenience of connection

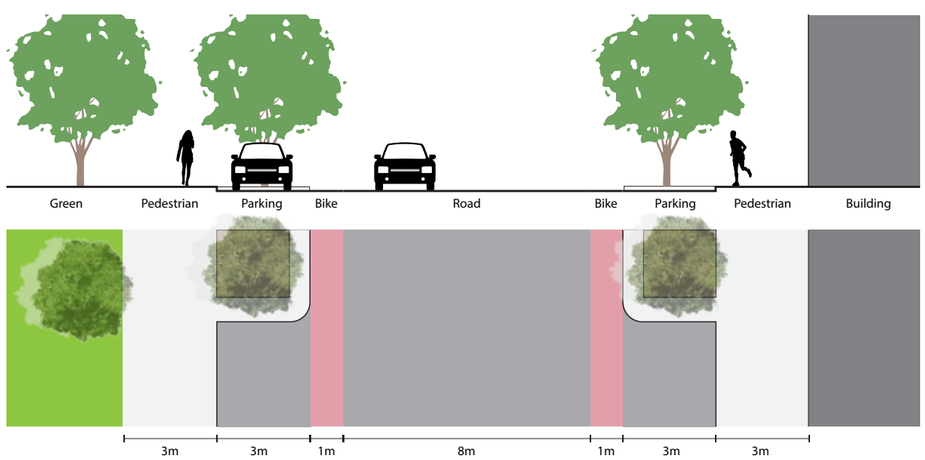
- Restructuring street hierarchy keep convenient connection as an advantage and reduce unwanted passing as well.



Secondary street, footpath and public space







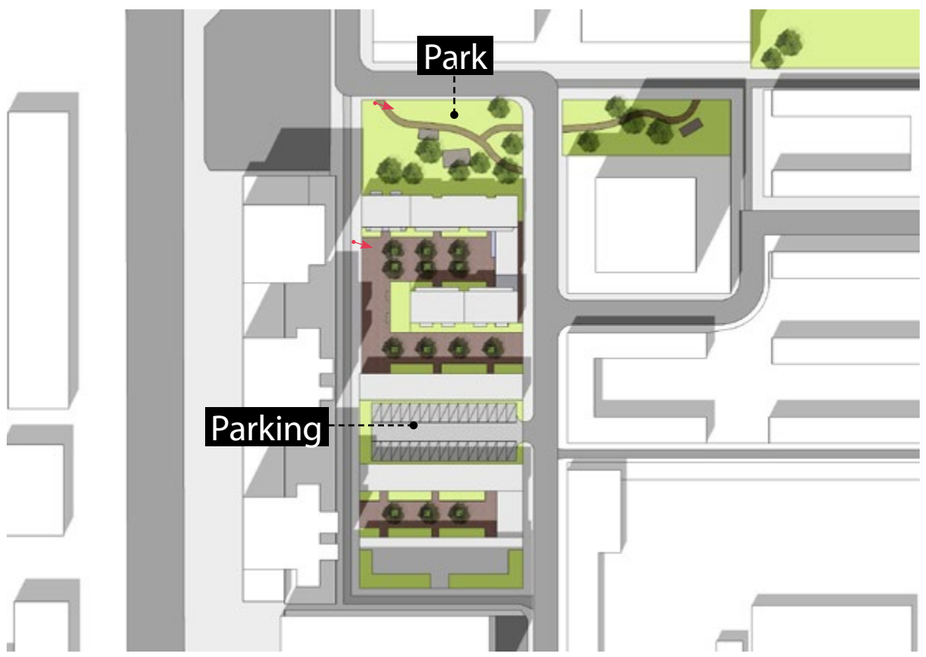
Open space for social interaction

- Open space together with connections acts as buffer zone between commercial area and residential.
- Also, it is for social interaction and recreation.

Urban park

Open space

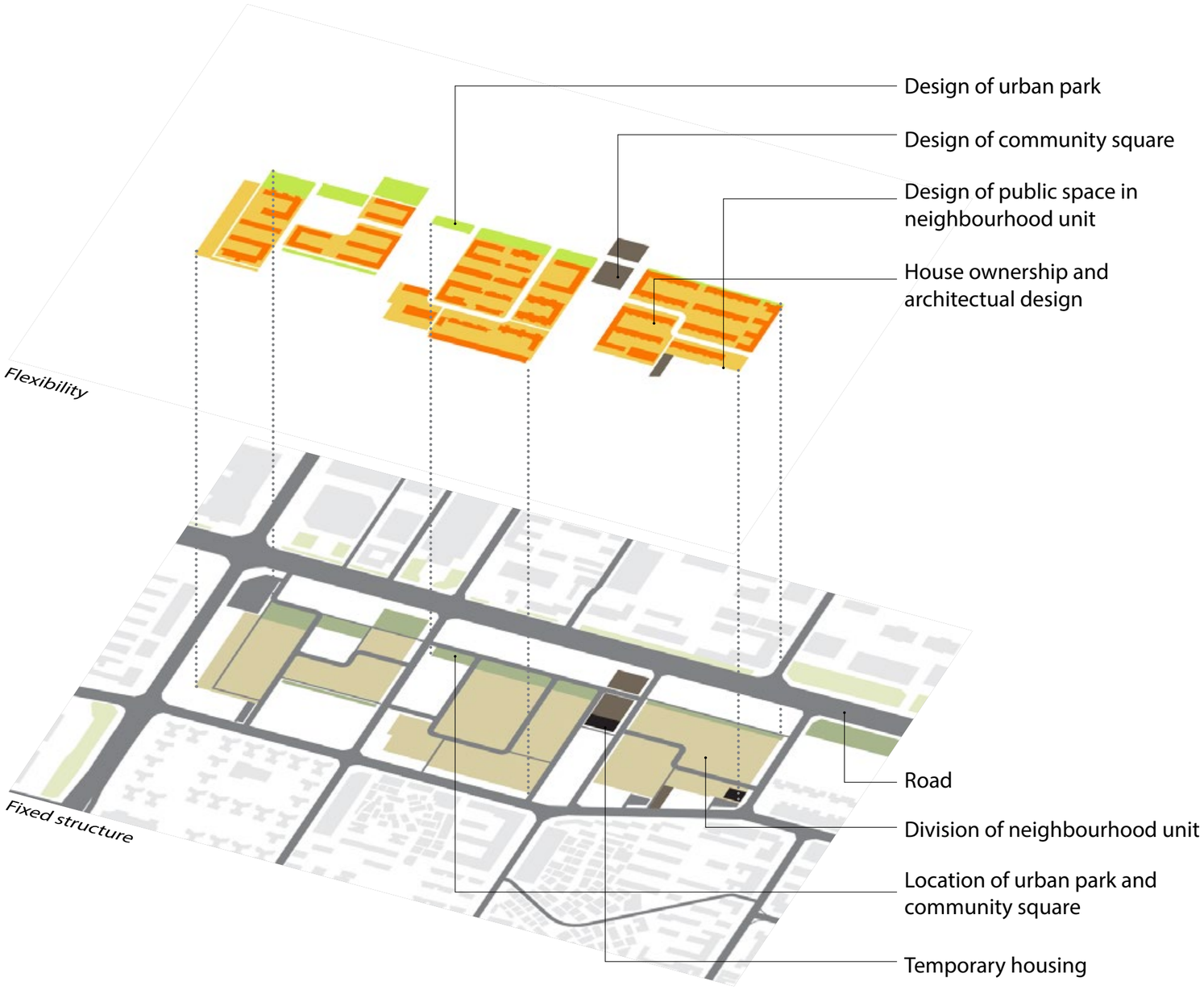
Open space inside neighbourhood unit

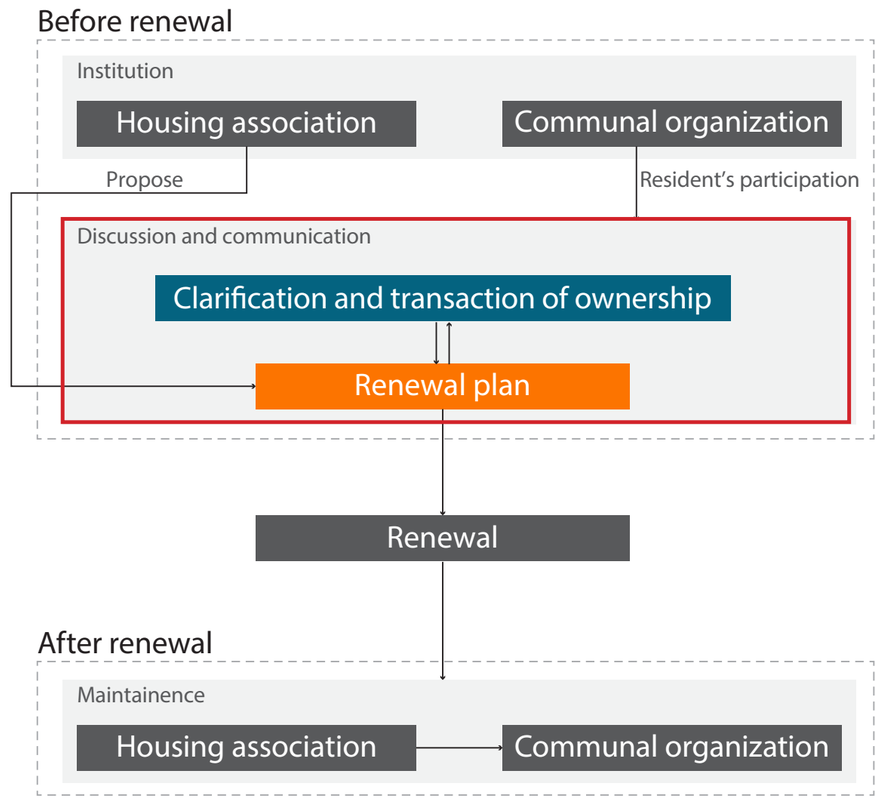


Neighbourhood unit with enclosed space

Flexibility of the plan

- The intervention has presented a possible plan proposed by housing association. After that, discussion takes place between residents and housing association.
- The structure of the plan (road and division of neighbourhood unit) and some parts of the plan (urban park and community square) are unchangeable.





HUALI

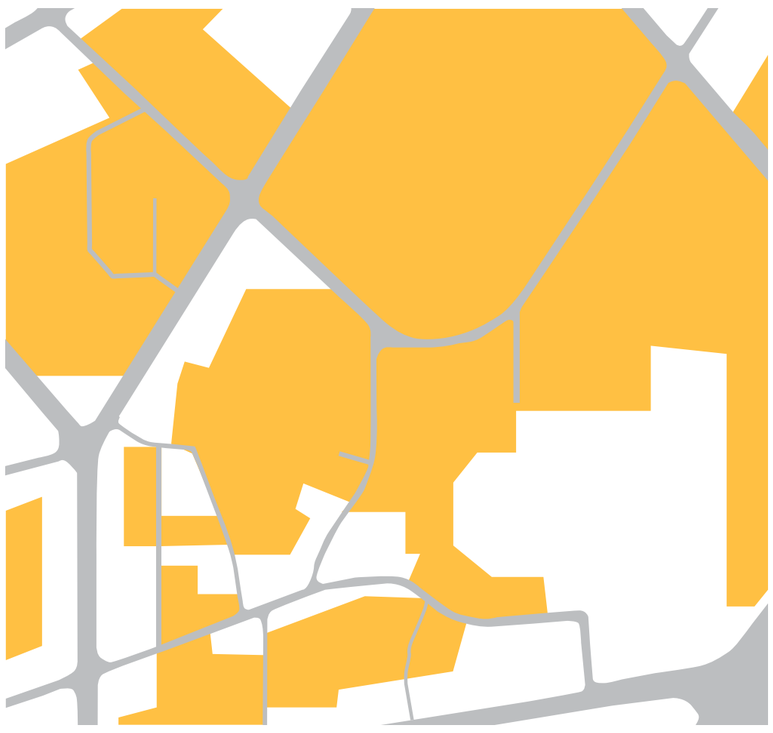
Function

Commerce

Residence

Health care, school and sport

Centres



Large scale residential area

Conenient public facilities

Connection

Connection

Informal connections

Shopping street in the neighbourhood (photo by author)

Open space

Open space

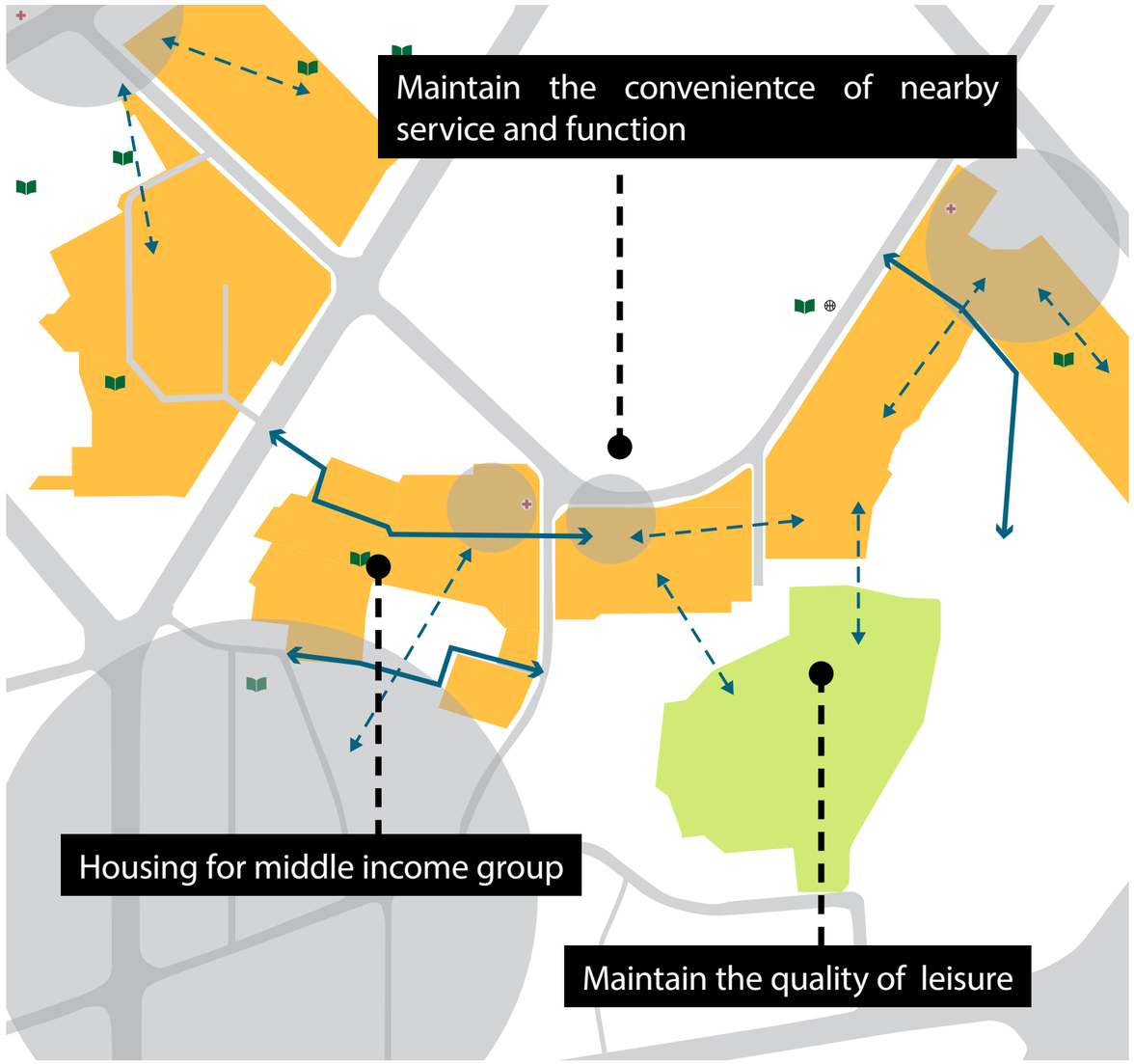
Playground occupied by children (photo by author)

Uneven distribution of green space

Public space of some neighbourhoods is occupied by parking (photo by author)

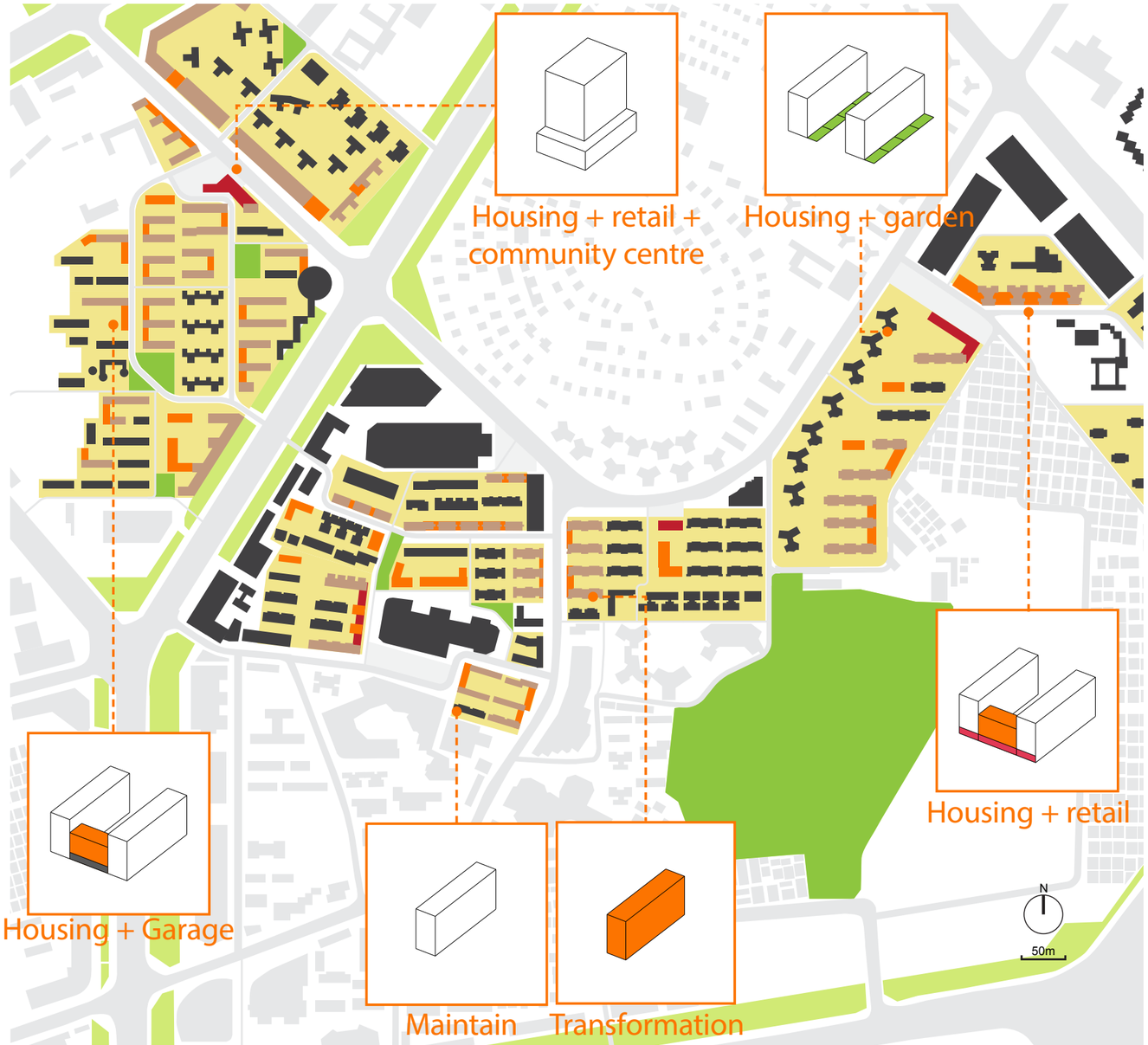
AIM

- Large scale residential area characterises this area. It has the quality of suburban life which implies a leisure living environment.
- Current residents consist of many middle and mid-low income household. The social and spatial conditions indicate that the neighbourhood can be an ideal home choice for middle and mid-low income group.

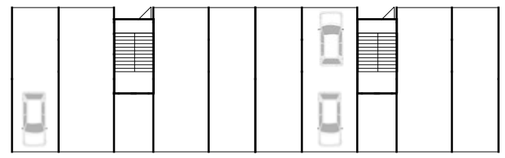


Improve the living standard of neighbourhood

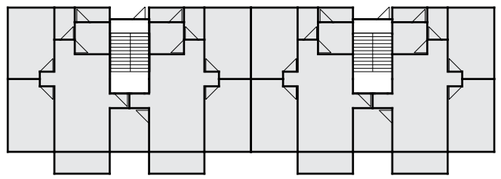
- The design of neighbourhood unit follows the same principle of that in the previous site.
- The difference is that here the housing typology focuses more on middle and mid-low income groups.



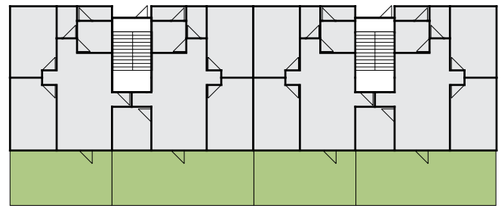
Diversify building and housing typology



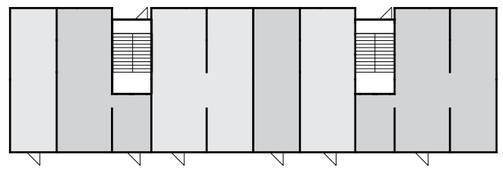
Garage



Transformation of ground floor



Housing with garden



Shop

Strengthen the sense of leisure with open space

- Middle income group pays more attention to environmental quality. Improvement of open space on multiple scales can greatly enhance quality in a high density residential area.

Community square

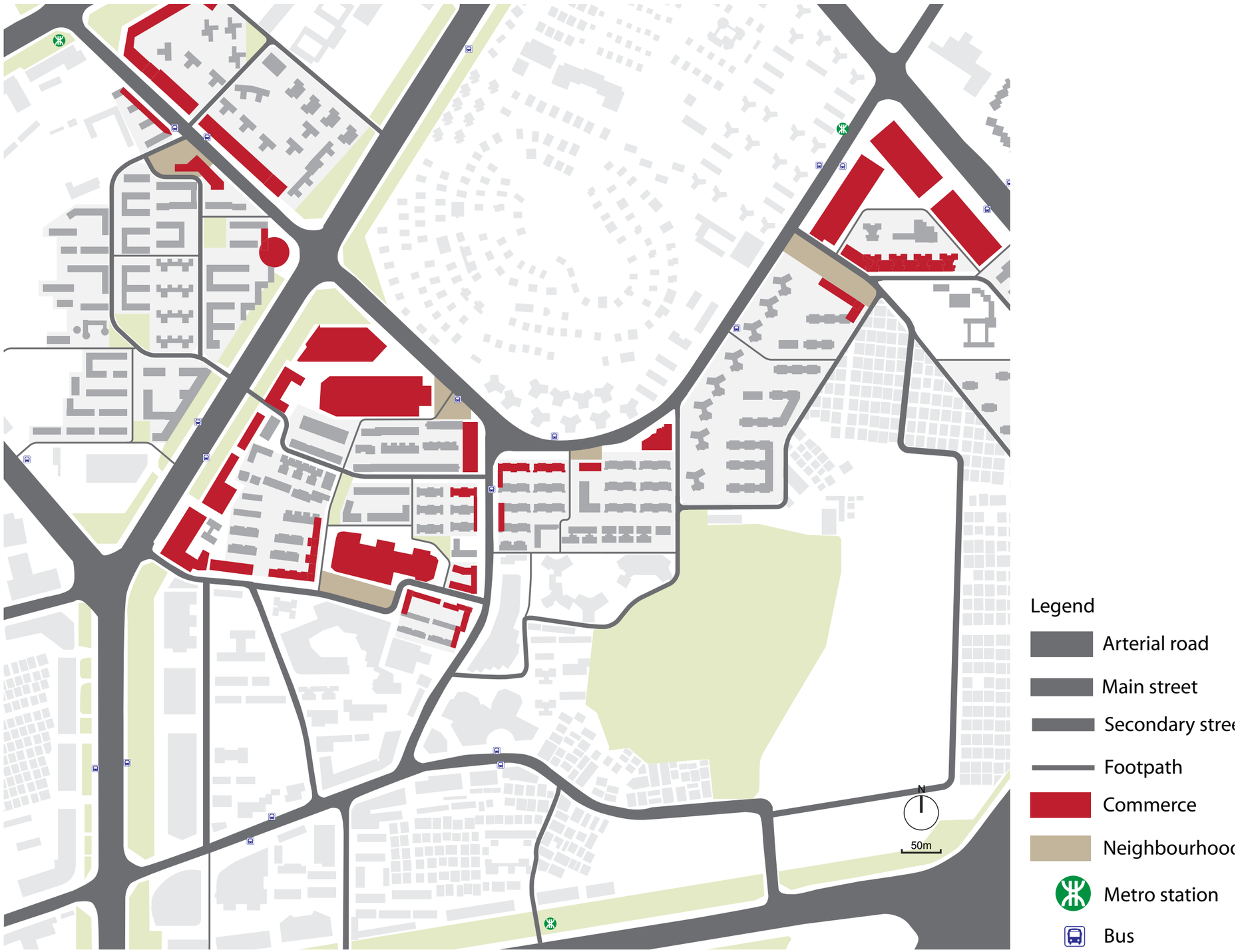
Community park

Open space

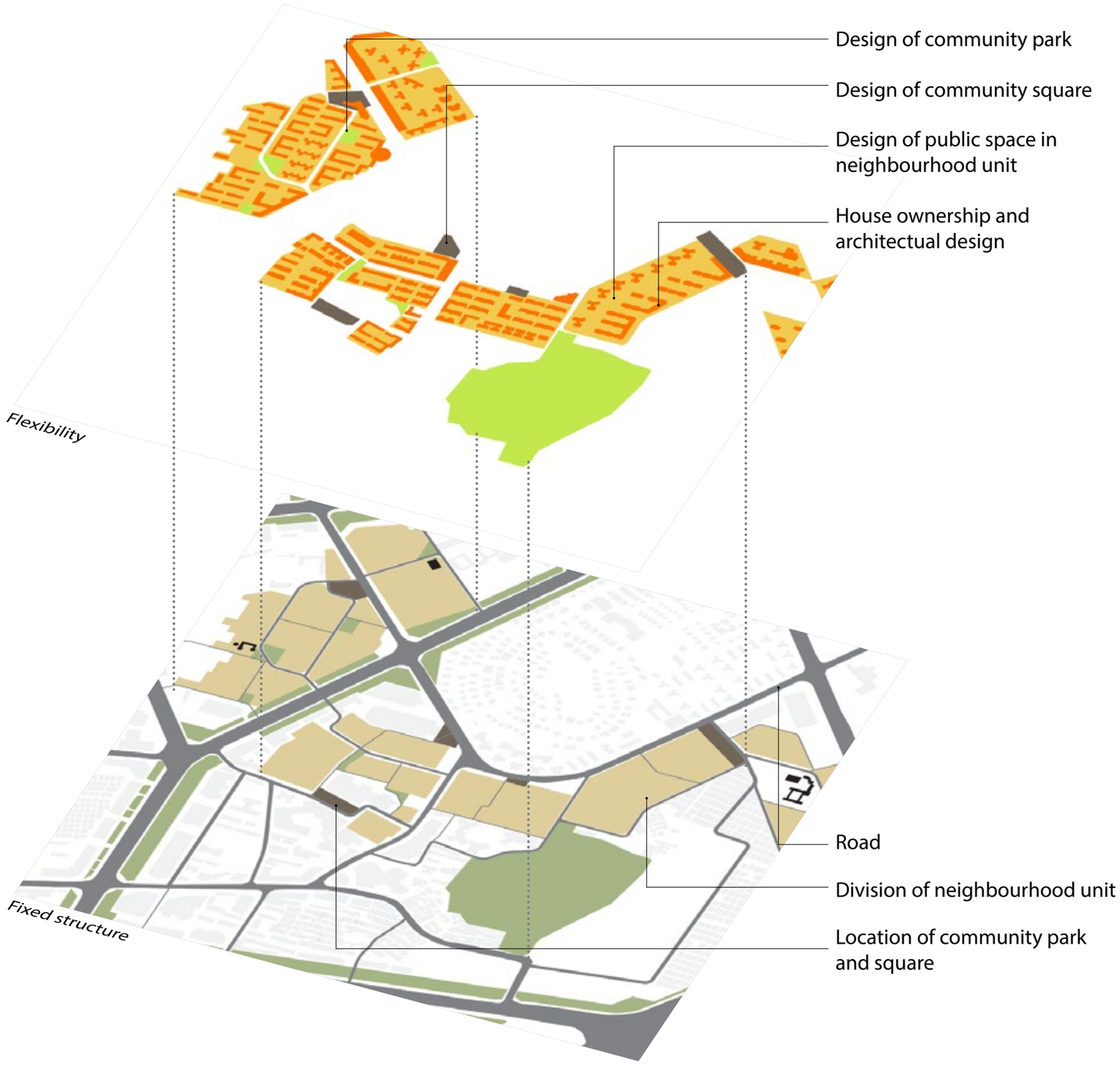
Neighbourhood unit and community park

Connecting home and nearby functions

- The plan improves walking connections and secondary streets between home and functions.
- Commercial activities should be limited at main streets to reduce anonymity in residential area.



Flexibility of the plan



CONCLUSION

Context

- Centrality
- Accessibility
- Open space
- Public facilities

Strategy

- Rezoning community
- Connecting home and work
- Defining public space
- Diversifying building and housing typology
- Strengthening public intervention and communal organization

Institutional transformation

- Transformation model

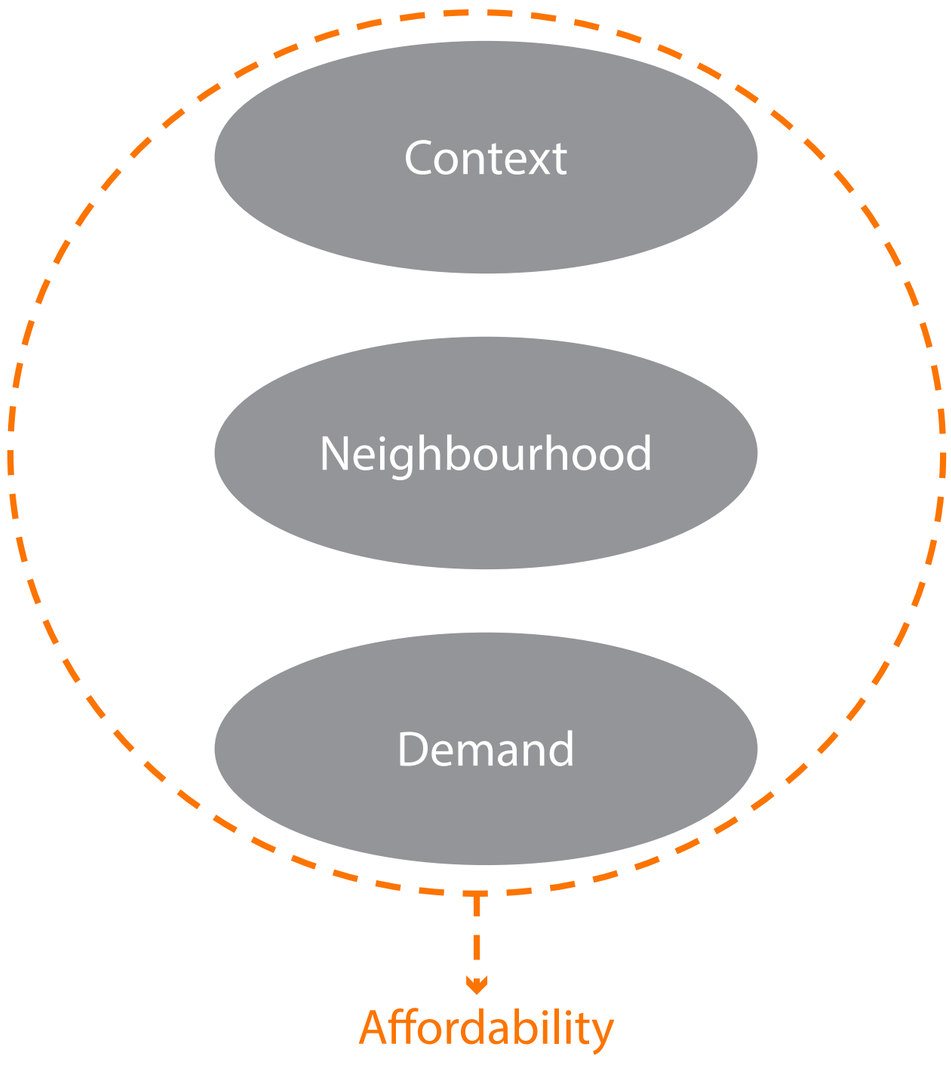
Spatial transformation

- Spatial structure
  - Nanyuan
  - Huali
- Principle of intervention
  - Nanyuan
    Huali

CONCLUSION

Evolving danwei housing

- Land-based development model decreases housing affordability
- Housing affordability is an inextricable term (infrastructure, public service, public space, etc.)
- Enhance affordability through spatial planning and institutional design
- Interpret socio-spatial and institutional condition of danwei housing
- A new renewal model
- Integration of scales facilitates affordability



Integration of scales

EVOLVING DANWEI HOUSING

An alternative way to develop former public housing in Shenzhen, China

P5 Presentation

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25 Jun 2014