Reimaging New Density in Apartment Urbanism

The conflicted social and economic space of apartment complexes in Seoul, Korea

2021.09.21.
P5 presentation
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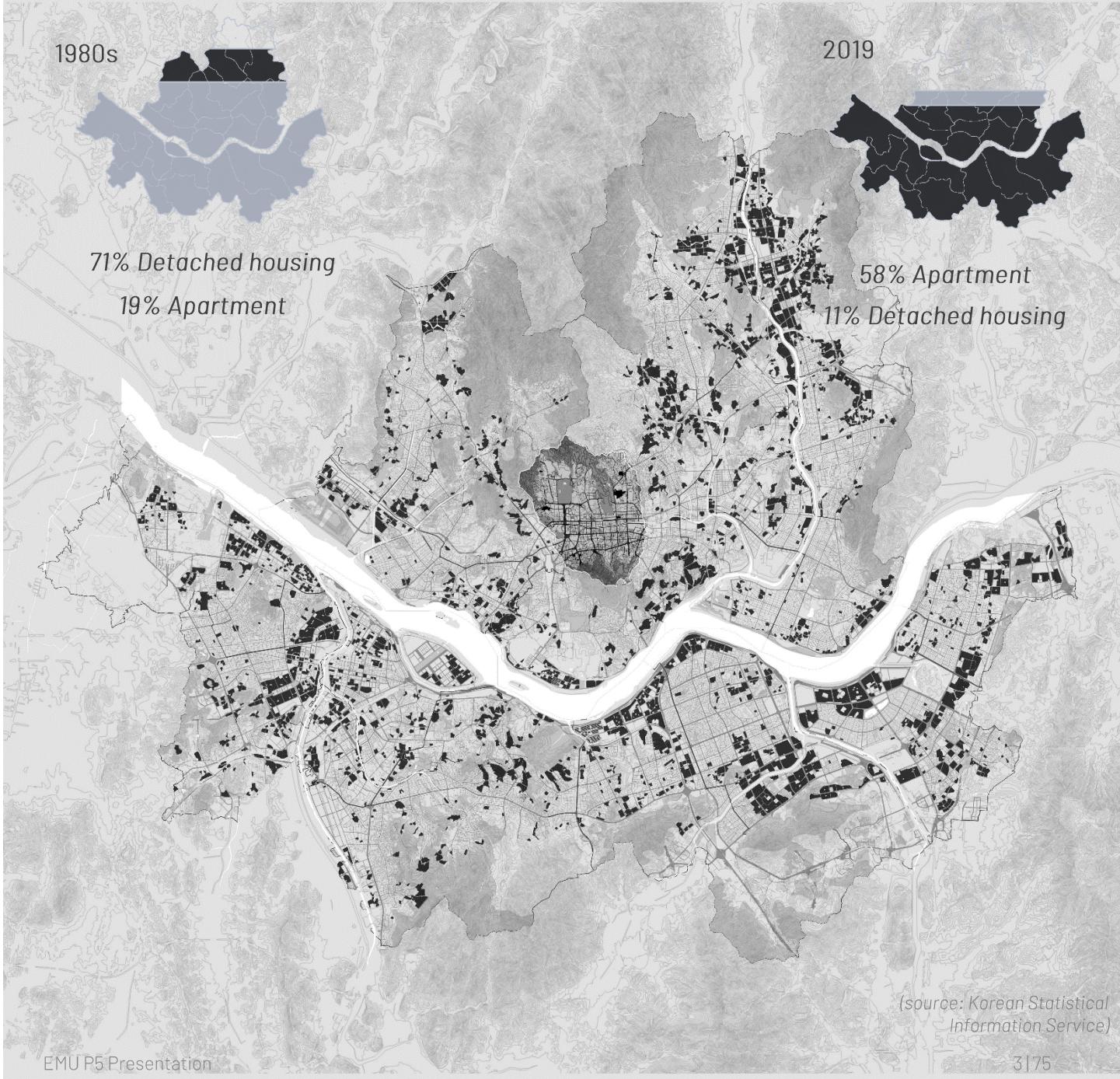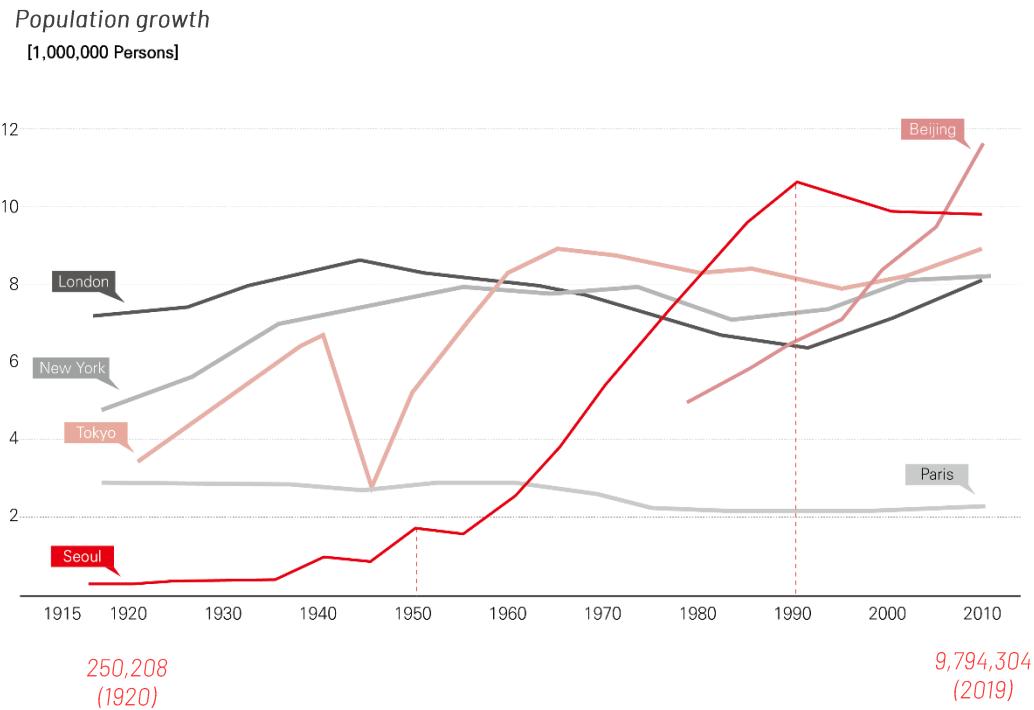Mentors: Dipl.ing. Birgit Hausleitner | Luiz de Carvalho

Part 1 - Introduction and Methodology

Seoul, the republic of apartment complexes

1.1 Introduction

1.1.1 Apartment Complexes as common living environment

The inevitable result from rapid urbanization and the lack of lands with quick and efficient objective from the government.

Population growth

[1,000,000 Persons]

250,208
(1920)

9,794,304
(2019)

1980s

2019

71% Detached housing

19% Apartment

58% Apartment

11% Detached housing

(source: Korean Statistical Information Service)

1.2   Research Statement

1.2.1   The urban island: unintegrated and self-sufficient block

The challenges of current living environment in Seoul arise from the characteristics of apartment complex: **the enlargement and the internalization.** Therefore, the critic that I want to address in this graduation project is not about the high-rise apartment building itself, but the **large-scaled high-rise complexes / blocks** (*danji*) that are conflicted spatially and socially.

Fragmentation
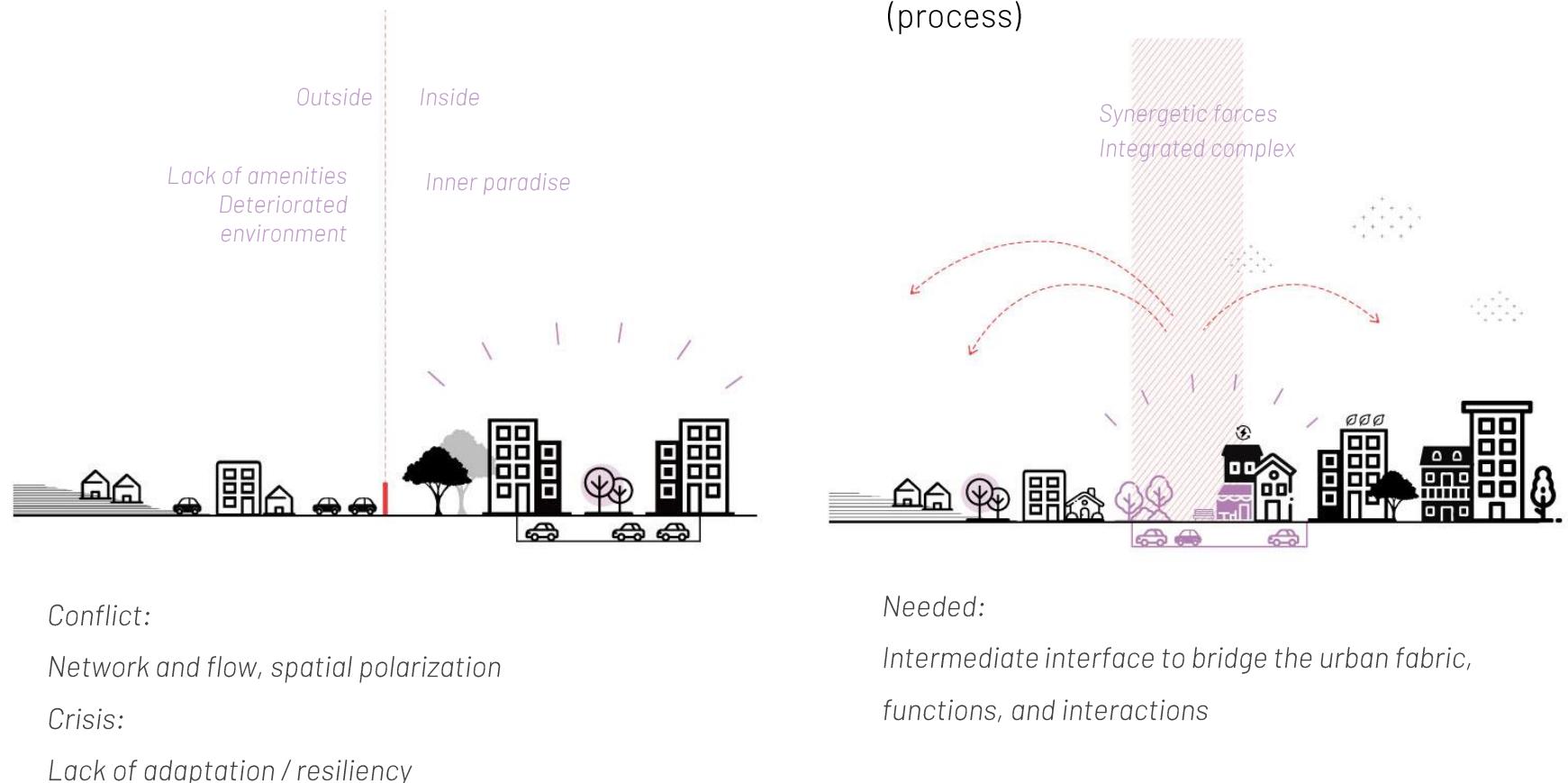
Lack of amenities

Paradise

2021.09.21.

1.2   Research Statement

1.2.2   Problems and objectives

The density issue has been justified by the population density to build the high-rise and enlarged blocks inside of the city. However, the current role of apartment complexes in Seoul is the materialized production in speculating the profits. Meanwhile, Seoul has kept seeking a sustainable regeneration in other housing districts. Due to the lack of infrastructure and the low business profit, the urban renewal projects are complicated in these areas compared to the apartment complexes, which are under cycle of reconstructing its height. Why not think these two fabrics together?

- The edge interface (enlarged territory of *danji*)
- Homogenous buildings (profit oriented market)

Outside   *Inside*

Lack of amenities   *Inner paradise*
Deteriorated
environment

Conflict:

Network and flow, spatial polarization

Crisis:

Lack of adaptation / resiliency

- Open structure to the neighborhoods? (physical)
- Bring back the role of publicity (public sector)?

(process)

Synergetic forces
Integrated complex

Needed:

Intermediate interface to bridge the urban fabric,

functions, and interactions

1.2   Research Statement
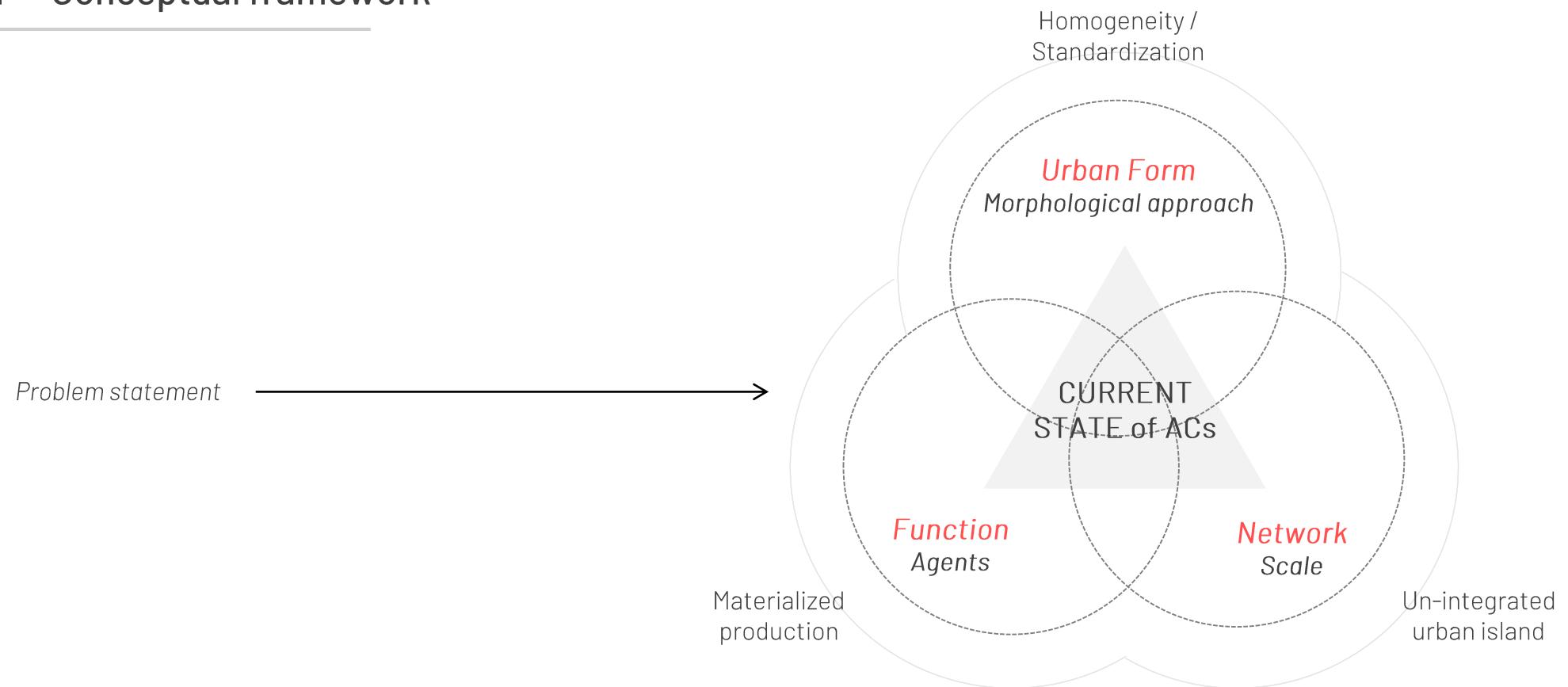
1.2.3   Research questions

The Seoul Metropolitan Area has struggled with difficulties to make consensus on the long-term socially and economically sustainable urban management. When it comes to current urban development trends, it would be hard to conclude that whether they have positive impact on urban fabric as the government's urban management aims at.

"What are the socio-spatial and functional interrelations between the apartment complexes and urban fabric? How can we envision the diverse and synergetic spaces by shifting the role of apartment complexes in perspective of building depth structure?"

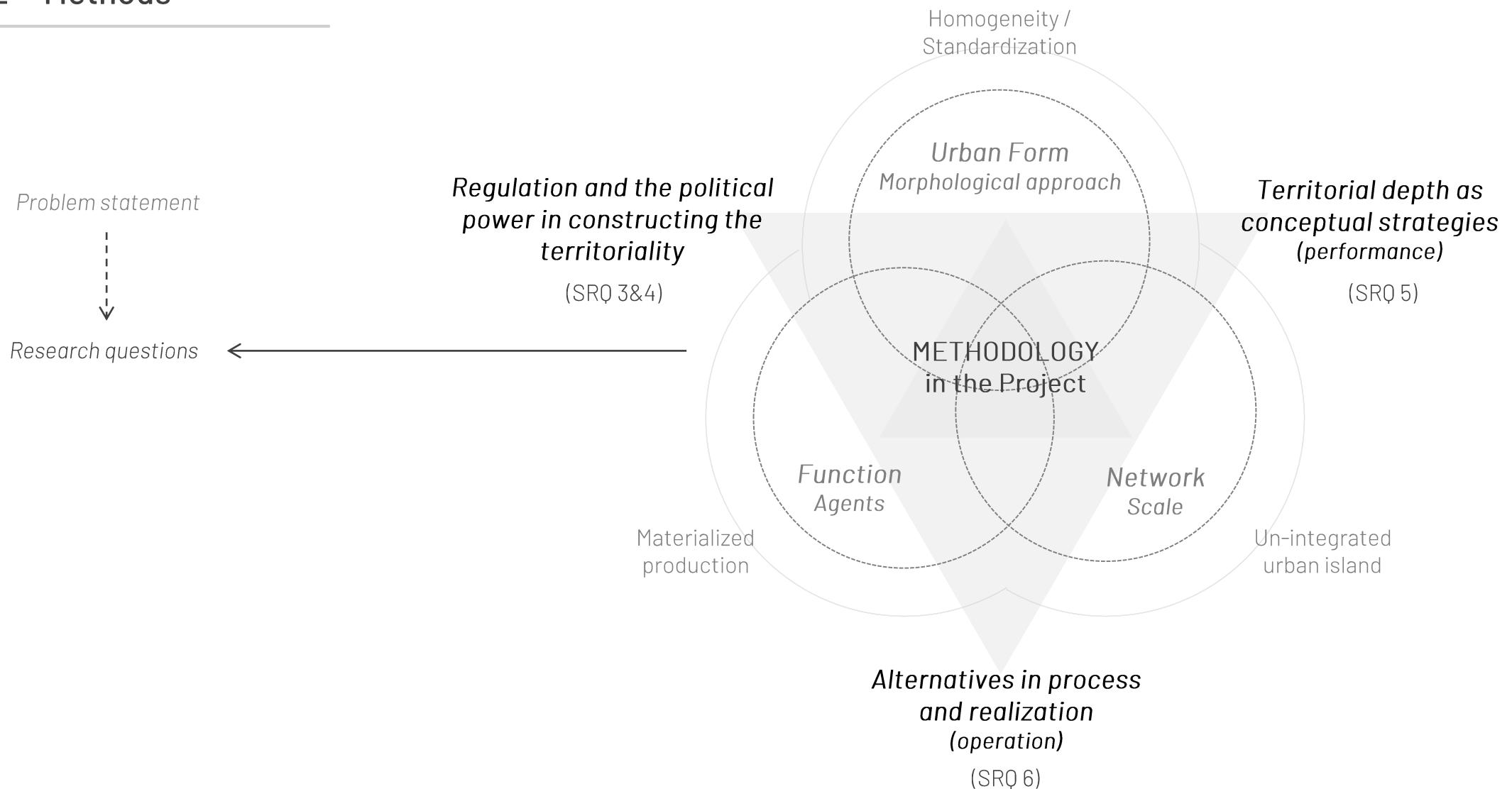| Conceptual background	Analysis	Process
• How to transfer the dynamic in density to the urban life?	• How has the spatial structure of apartment complexes evolve in relation with its immediate urban fabrics as well as policy and the value of the time?	• How does design with the patterns inform new possibilities in designing apartment complexes apart from the traditional custom?
• What are the other practices of qualifying the density beyond the quantification?	• What persistence or convergence is learn in spatial intervention in apartment complexes? What can be transferable from these legacy of modernity? Do they inform a new definition of urban structure, reacting as patterns?	• In what extent, can we adjust the patterns to make transformation to integrate the apartment complexes in to the city?

2.1.1   Conceptual framework

Homogeneity /
Standardization

Urban Form
Morphological approach

Problem statement →

CURRENT
STATE of ACs

Function
Agents

Network
Scale

Materialized
production

Un–integrated
urban island

2.1 Methodology: The triangulated approach

2.1.2 Methods

Problem statement

Research questions

Regulation and the political power in constructing the territoriality

(SRQ 3&4)

Homogeneity / Standardization

Urban Form
Morphological approach

Territorial depth as conceptual strategies
(performance)

(SRQ 5)

METHODOLOGY
in the Project

Function
Agents

Network
Scale

Materialized production

Un-integrated urban island

Alternatives in process and realization
(operation)

(SRQ 6)

2.1 Methodology: The triangulated approach

2.1.3 Theoretical underpinning

Densification / intensification

Urban Form

Legibility
(Lynch, 1960)

Diversity
(Jacobs, 1961)

Dynamicity

Practice

Liveabiltiy
(van Dorst, 2005)

Function

Network

Patterns

Mixed-use
(Jacobs, 1961;
New urbanism)

Permeability /
Accessibility
(Jacobs, 1961; Hiller and
Hanson, 1984; Gehl, 2010)

Active interface
(Jacobs, 1961; Gehl, 2010)

Theory / Analysis

Patterns

Design practice

**Institutional depth
for diverse
involvement**

**Territorial depth
between public and
private domain**

Urban Form
object

DEPTH
STRUCTURE

Function
user

Network
relation

**Scalable depth for
adaptation**

Part 2 – Multi-scalar analysis

Timeline and general profile of Seoul

3.1 The Territorial Construction

3.1.1 Overview
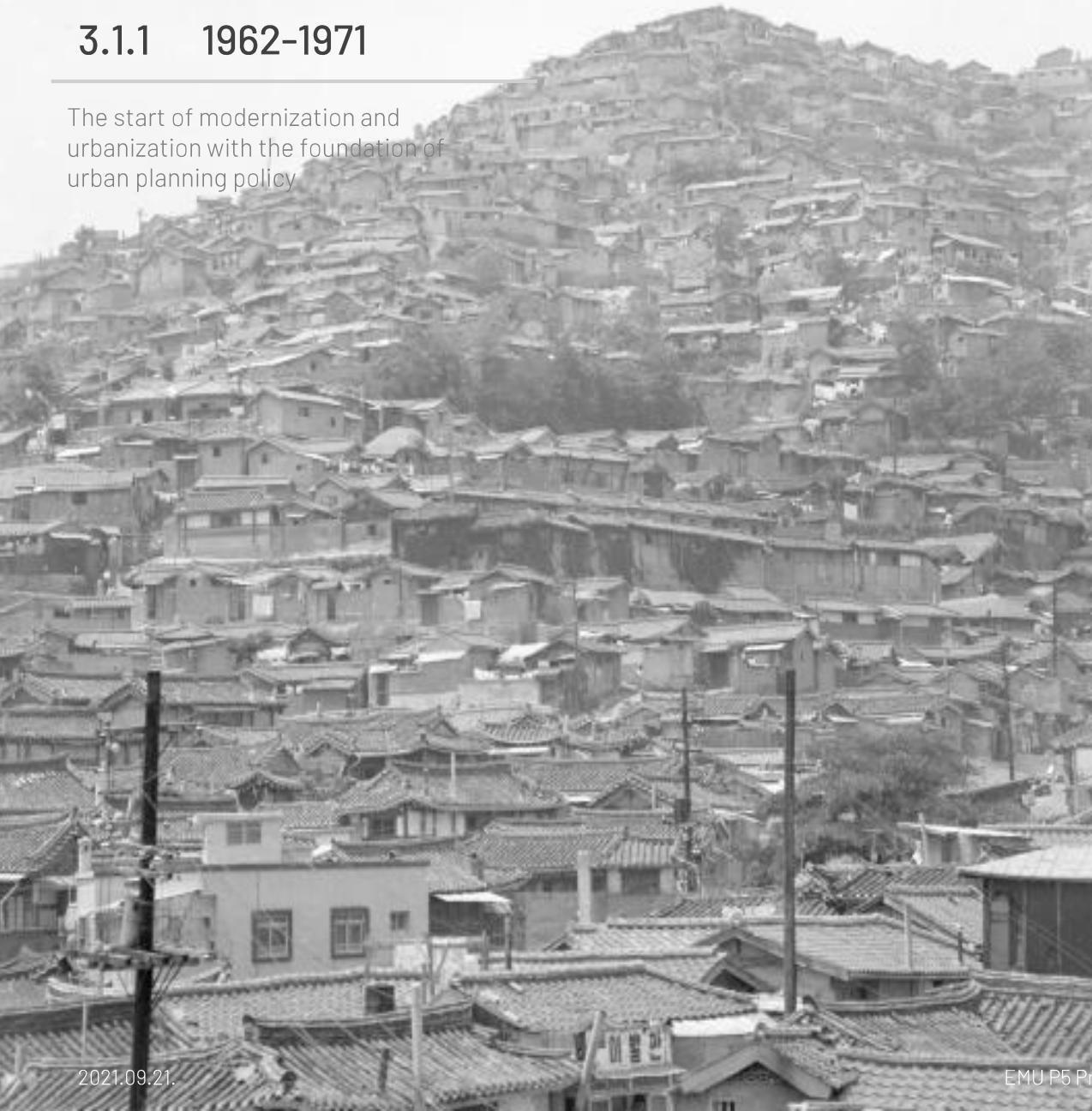
The current apartment complexes in construction year.

(1960s)
1970s
1980s
1990s
2000s ~
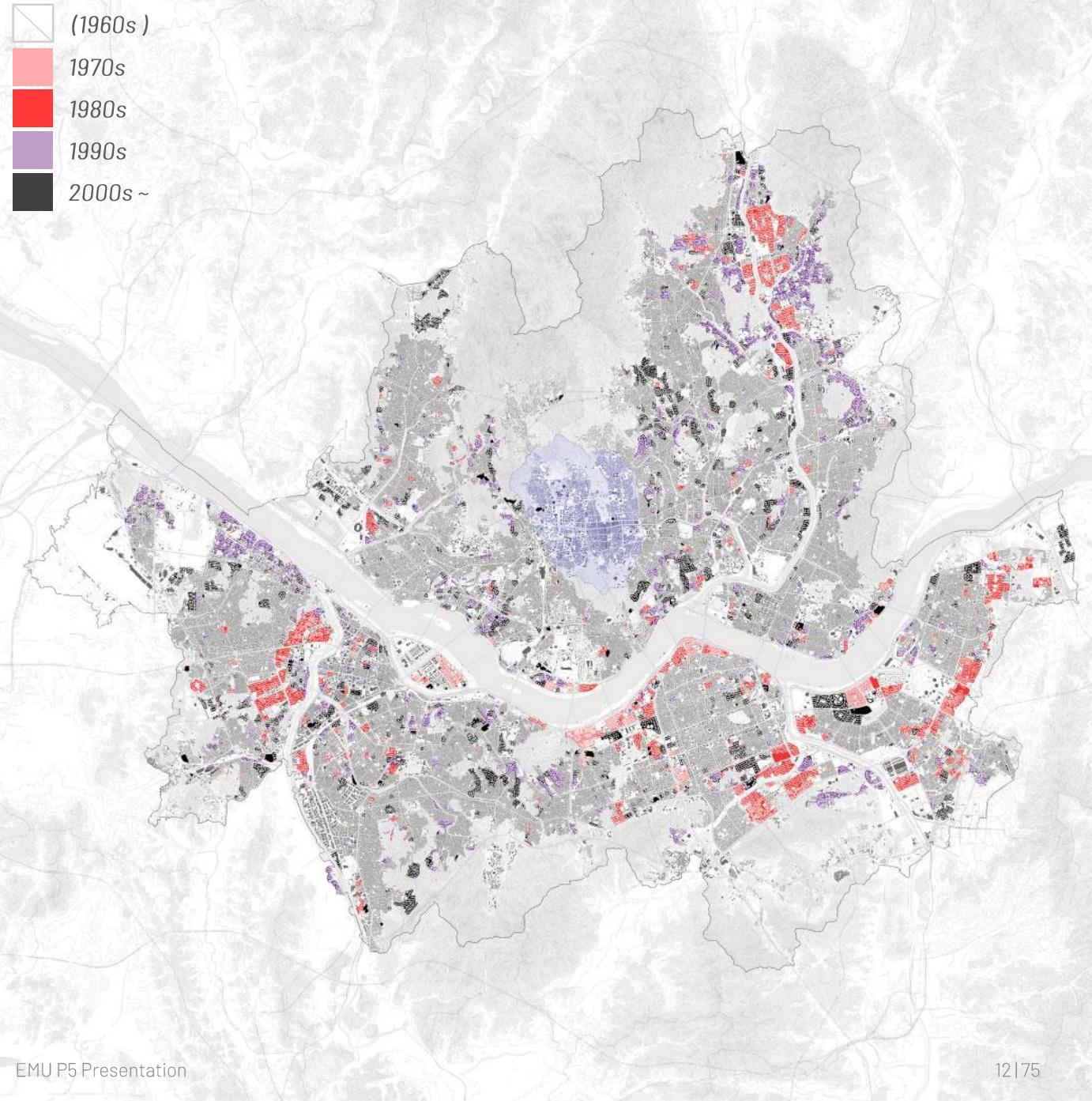
(source: Seoul Open Data Plaza; modified at QGIS)

3.1   The Territorial Construction

3.1.1   1962–1971

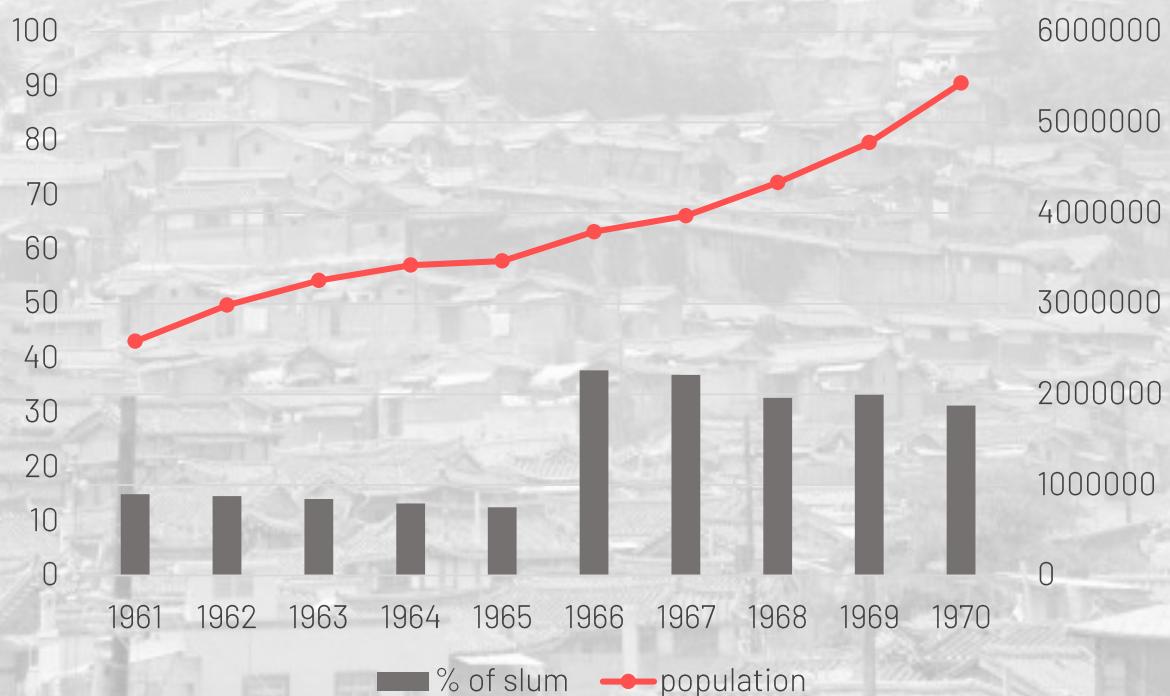The start of modernization and urbanization with the foundation of urban planning policy
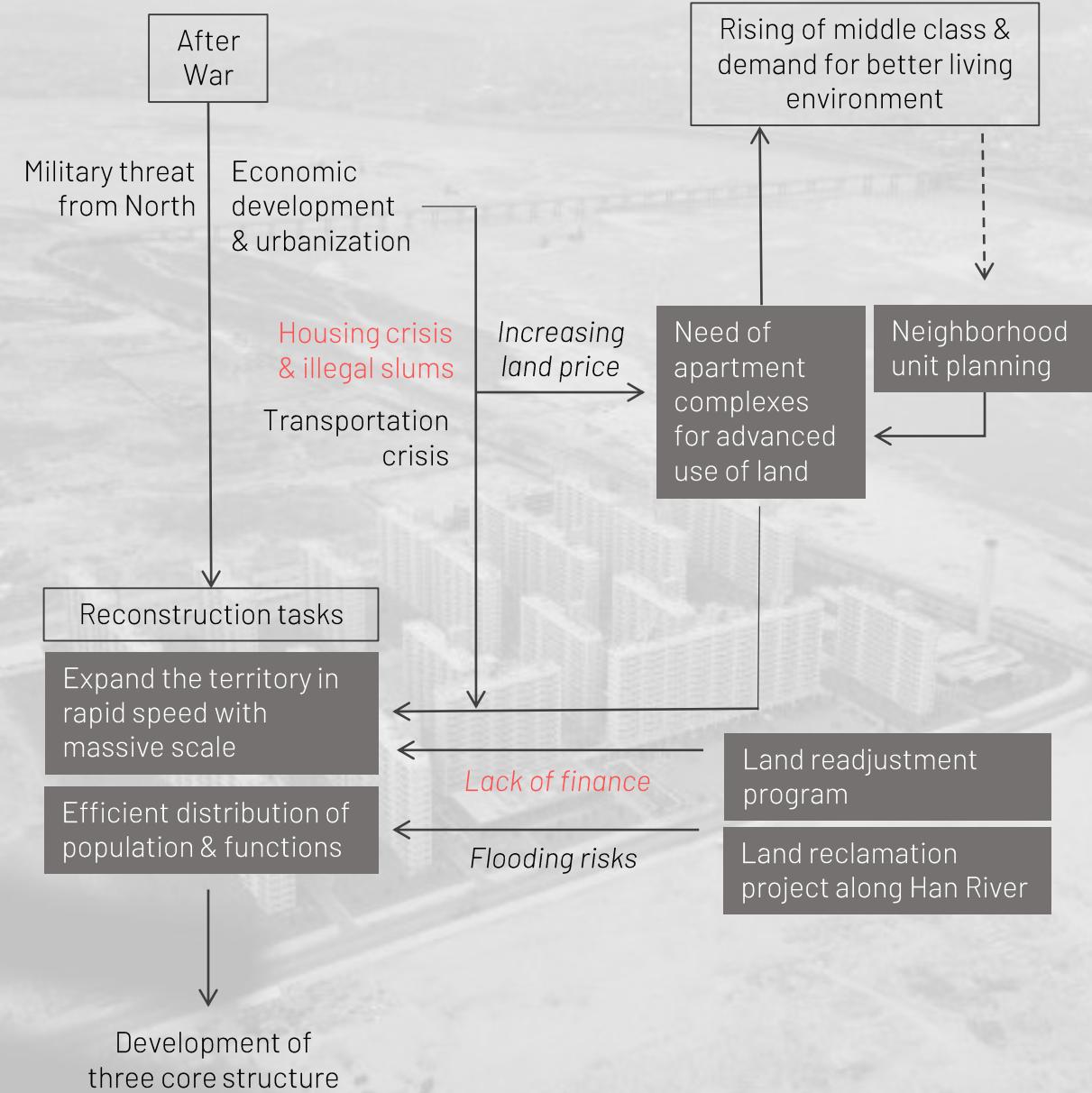
(source: Seoul Museum of History)

3.1   The Territorial Construction

3.1.1   1962–1971

The start of modernization and urbanization with the foundation of urban planning policy

100
90
80
70
60
50
40
30
20
10
0

6000000
5000000
4000000
3000000
2000000
1000000
0

1961 1962 1963 1964 1965 1966 1967 1968 1969 1970

█ % of slum   ●— population

(source: Kwon, 2012, p.139; https://data.si.re.kr/node/373

After War

Rising of middle class & demand for better living environment

Military threat from North

Economic development & urbanization

Housing crisis & illegal slums

Increasing land price

Transportation crisis

Need of apartment complexes for advanced use of land

Neighborhood unit planning

Reconstruction tasks

Expand the territory in rapid speed with massive scale

Efficient distribution of population & functions

Lack of finance

Land readjustment program

Land reclamation project along Han River

Flooding risks

Development of three core structure

3.1 The Territorial Construction

3.1.1 1962–1971

The start of modernization and
urbanization with the foundation of
urban planning policy

1 – First apartment complex in 1962
2 – Migration project for displaced people (1968-71)
3 – Collapse disaster of Wau civic apartment in 1970
4 – Hangang mansion apartment complex in 1970
5 – Yeuido Demonstrative apartment complex in 1971

a – Historic city center inside of fortress
b – Cheonggye elevated expressway
c – National 1st highway
d – 3rd Han River bridge
e – Land readjustment program
f – Han River embankment project in 1967
g – Jamsil district reclamation in 1971

Expanded territory in 1963

Decreased territory

Flooding risk area

Waterbody before embankment

Land readjustment program

Major road networks

Railway

40km

(source: Seoul Museum of History)

3.1.1   1972–1981

Proliferation of southern Han River areas
and acceleration of enlargement

100 [%]

Ratio of northern population

80

60

40

20

0

Ratio of southern population

1960   1965   1970   1975   1980   1985   1990   1995   2000

(source: The Seoul Institute, 2013, http://data.si.re.kr/node/55513)

Continuous lack of
housing quantity

Generalization of massive
provision of housing

Concern for living
environment

Limitation on land
readjustment program

Need for planning in
scale of neighborhood

Connected
infrastructures

Land use management

Neighborhood unit plan

Apartment District zoning

Urban planning tasks

Facilitate the development
of southern areas

Restriction of
development in the north

3.1   The Territorial Construction

3.1.1   1972-1981

Proliferation of southern Han River areas
and acceleration of enlargement

6 – Banpo Jugong Apartment Complexes in 1973
7 – Jamsil Jugong Apartment Complexes in 1975
8 – Hundai Apgujeong Apartment Complexes
9 – Dunchon Jugong Apartment Complexes in 1979

e – Gangnam district development by Land
    Readjustmnet program
h – Development restriction area (green belt zone)
    in 1971
i – 1st line of subway in 1974
j – Apartment district zoning in 1976
k – Urban Redevelopment Act for clearing slum in 1976

h   Development restriction areas

    Decreased territory

i   Apartment District zoning

j   Slum Clearance

Land readjustment program

Major road networks

Railway

0

40km

3.1 The Territorial Construction

3.1.1 1982-1991

5 million housing project and massive
housing development at peripheries

10 - Gaepo Jugong partment Complexes in 1983
11 - Goduck Jugong Apartment Complexes in 1984
12 - Mokdong New Town development
13 - Sanggye New Town development
14 - Asian athletic game Apartment Complex in 1986
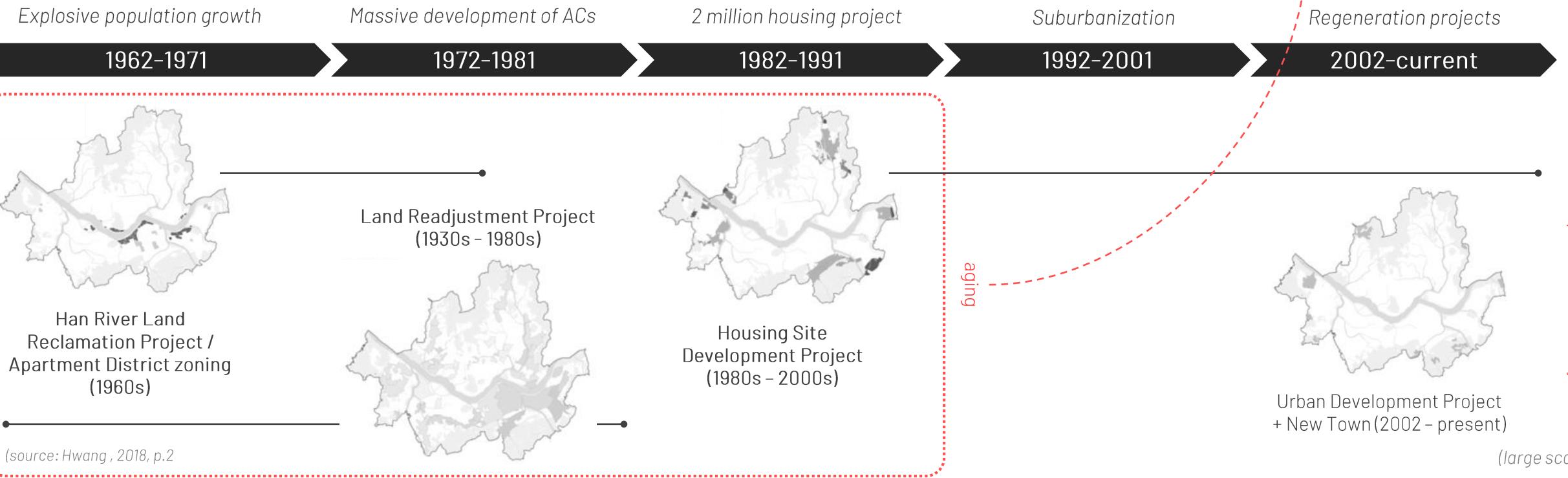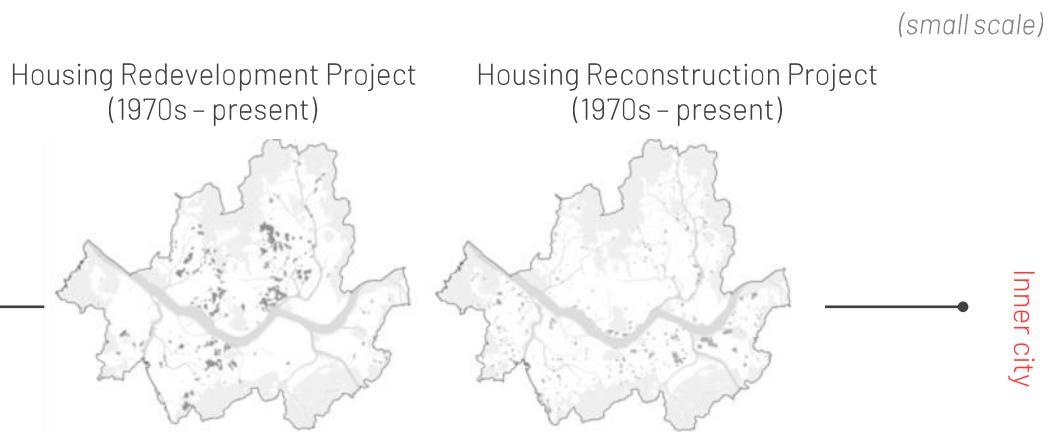15 - Olympic game Apartment Complex in 1988

l - 2rd subway line in 1980
m - 3rd and 4th subway lines in 1985
n - Han River Comprehensive Development Plan

Decreased territory

Land Readjustment program

Housing Site Development program

Major networks (including subway)

3.1.2   Summary (policy)

(small scale)

Housing Redevelopment Project
(1970s – present)

Housing Reconstruction Project
(1970s – present)

Inner city

Explosive population growth

Massive development of ACs

2 million housing project

Suburbanization

Regeneration projects

| 1962-1971 | 1972-1981 | 1982-1991 | 1992-2001 | 2002-current |

Han River Land
Reclamation Project /
Apartment District zoning
(1960s)

Land Readjustment Project
(1930s – 1980s)

Housing Site
Development Project
(1980s – 2000s)

aging

Expansion of territory

Urban Development Project
+ New Town (2002 – present)

(source: Hwang , 2018, p.2)

(large scale)

3.1.2   Summary (power-interest)

Government calls for restoring the publicity

(source: Hwang , 2018, p.2

Explosive population growth	*Massive development of ACs*	*2 million housing project*	*Suburbanization*	*Regeneration projects*
1962-1971	**1972-1981**	**1982-1991**	**1992-2001**	**2002-current**
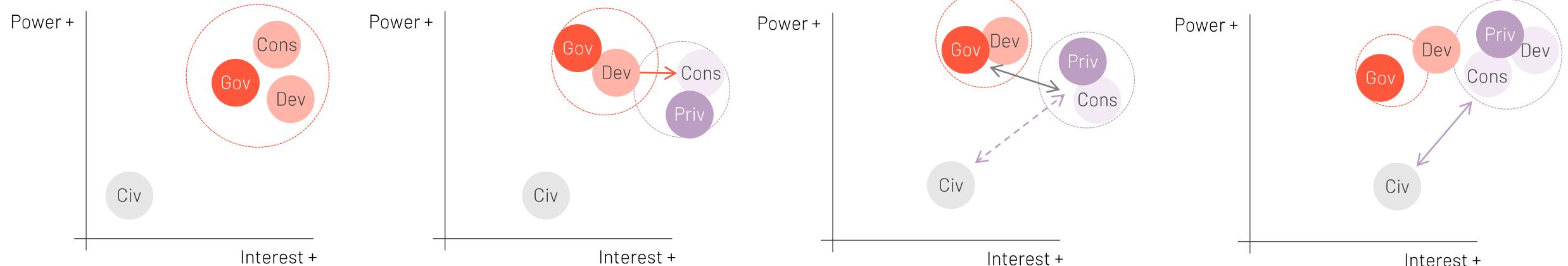
3.2.1   Case blocks

The overview of the apartment complexes
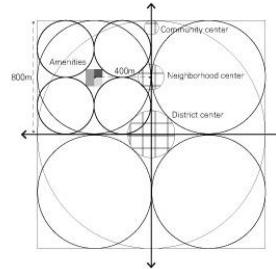for diachronic and synchronic studies

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1960s ~ HOUSING STANDARDS AND HEIGHT CONTROLS

There are strict regulations regarding the protection of privacy, sunlight and the view. The distance between the buildings has to be 0.8 of the height of the buildings, based on the sunlightable building face. It guarantees a minimum of 2 hours of sunlight between 9 to 15 during the winter period.
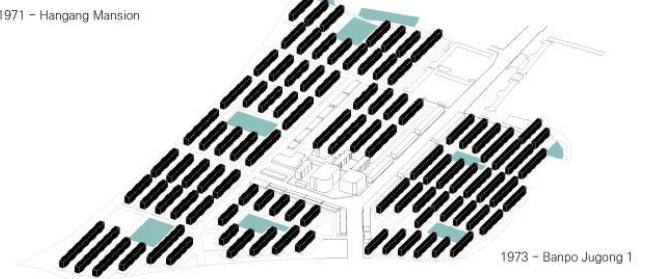
1   **2**   **3**
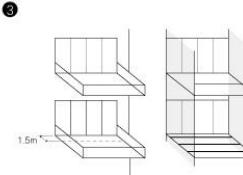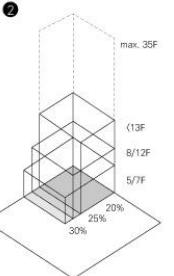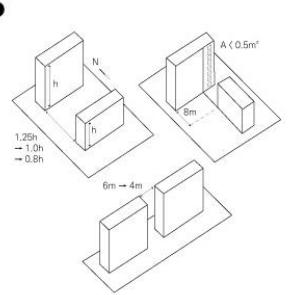
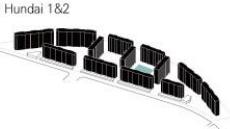### 1976 ~ NEIGHBORHOOD UNIT CONCEPT, TOD AND APARTMENT DISTRICT

The Seoul local self-government laws proposed that the apartment district development is based on neighborhood unit planning. It contains fundamental principles such as elementary central neighborhood and separate network of vehicles and pedestrians. Meanwhile, the Transit-Oriented Development by Calthorpe in 1990s introduced to promote the high-density mixed development around the subway stations.
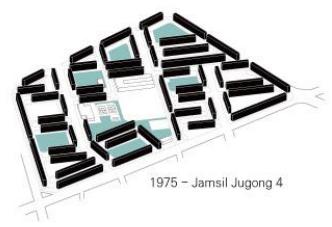

1971 – Hangang Mansion

1975 – Hundai 1&2

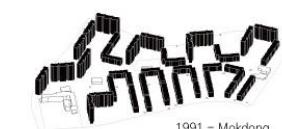1988 – Olympic village

1973 – Banpo Jugong 1

1975 – Jamsil Jugong 4

1991 – Mokdong

2009 – Banpo Xi

1962 Urban Planning Law
National Housing Corporatoin established

1967 First national highway constructed

1968 Development of south district of Han River started

1972 District designation in Uban Planning Law

1974 First subway line opened

1976 Apartment District
Housing Redevelopment Act

1980 Housing Site Development Projects
5 million housings project

1984 Housing Reconstruction Act

1989 1st suburban New City planning
Seoul Housing & Communities Corporation established

1990 TOD concept introduced

2000 Seoul local self-government bylaw (restriction)
Apartment District commissioned to Seoul

2002 Urban and Residential Environmental Improvement
New Town Development Project

2003 Apartment District Abolished
Public housing provision plan

2005 Balcony extension legalized

1960   1970   1980   1990   2000

3.2.2   Form

- Plot – Individual plots to agglomerated into massive size

- Buildings: Linear form to clustering , and to the towers in the park (human-scale to non-legibility)

- Open space:
- separate playgrounds in early stage,
- semi-private communal space in between the clustered buildings,
- open to the street (more interactive with the context),
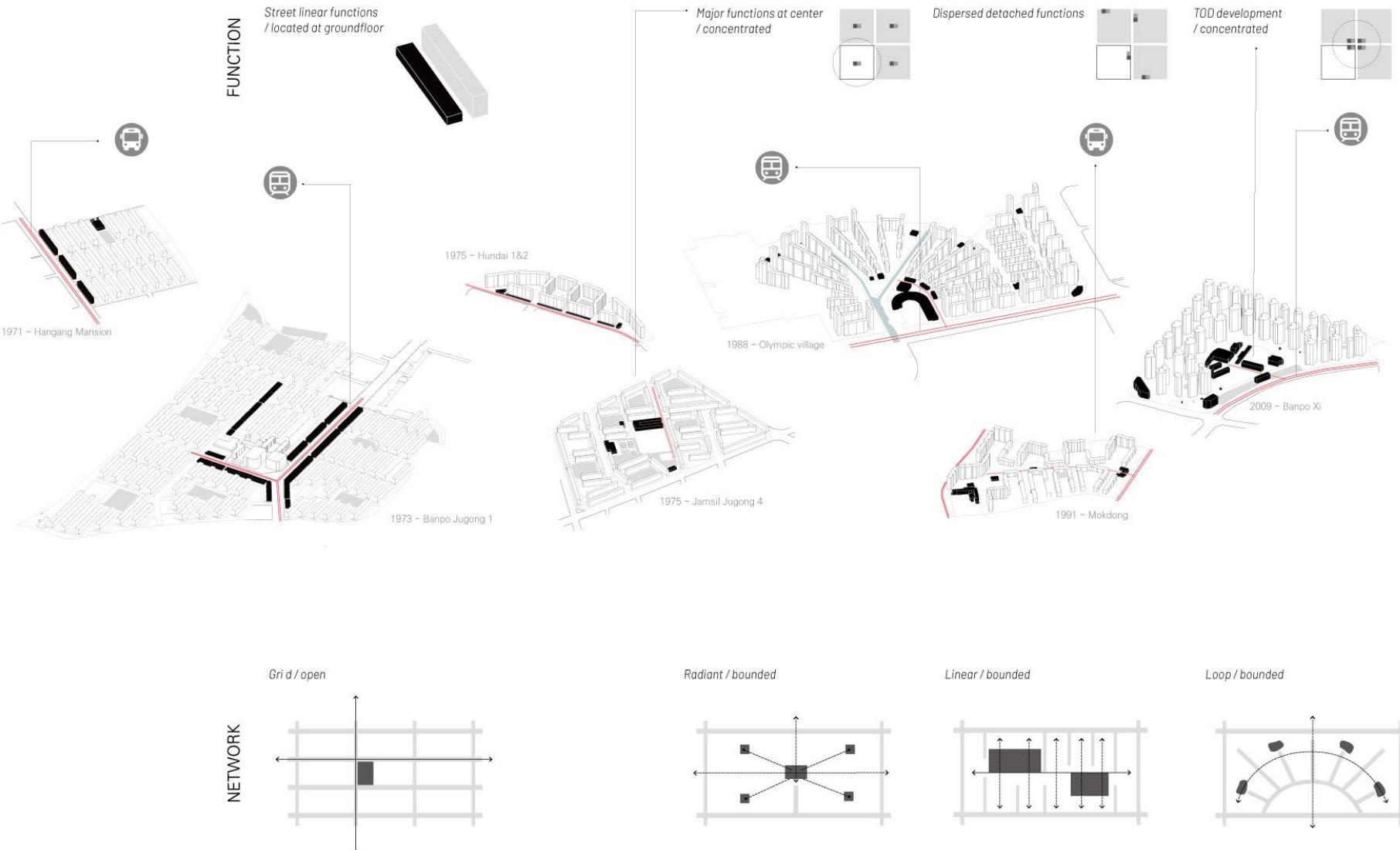- And spreading parks with pedestrian-friendly environment

PLOT SIZE
Avg. 2.3 ha

100m
24m

90m
220m

530m
330m

75m
80m

520m
300m
630m

630m
625m

1971 – Hangang Mansion

1975 – Hundai 1&2

1988 – Olympic village

1973 – Banpo Jugong 1

1975 – Jamsil Jugong 4

1991 – Mokdong

2009 – Banpo Xi

BUILDING HIEGHT

5 floors
Uniform

15 floors
Uniform

6/8/10/12/14/15/16/24 floors
Diverse

5/12/14/15 floors
Diverse

26~29 floors
Diverse

ALLIGHMENT

Linear

Cluster

Open

In-between

3.2.3   Function / network

- Retail functions:
- Linear street market along the street
- Located in center of the block for supporting the locals
- Detached as separate building on the edge
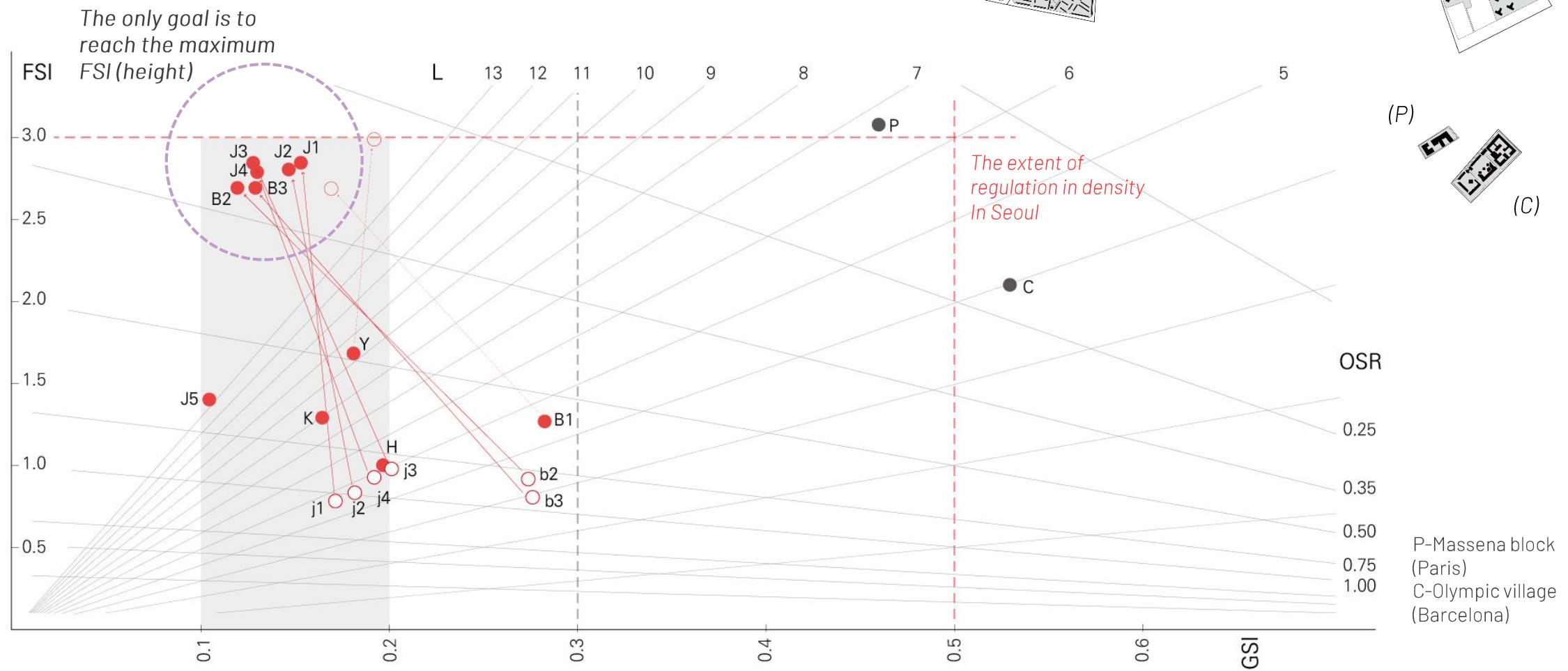- TOD concept to become more higher level of function to support locals and citizens

- Network:
- Linear with core integrated part
- Bounded network due to neighborhood concept (separate the pedestrian and vehicle movement
- Underground parking lot frees the network design, no static format (curved)

FUNCTION

Street linear functions / located at groundfloor

Major functions at center / concentrated

Dispersed detached functions

TOD development / concentrated

1971 – Hangang Mansion

1975 – Hundai 1&2

1988 – Olympic village

2009 – Banpo Xi

1973 – Banpo Jugong 1

1975 – Jamsil Jugong 4

1991 – Mokdong

NETWORK

Grid / open

Radiant / bounded

Linear / bounded

Loop / bounded

3.2 Representative ACs

3.2.4 Density profile

The space matrix of Seoul blocks (island) in perspectives of density

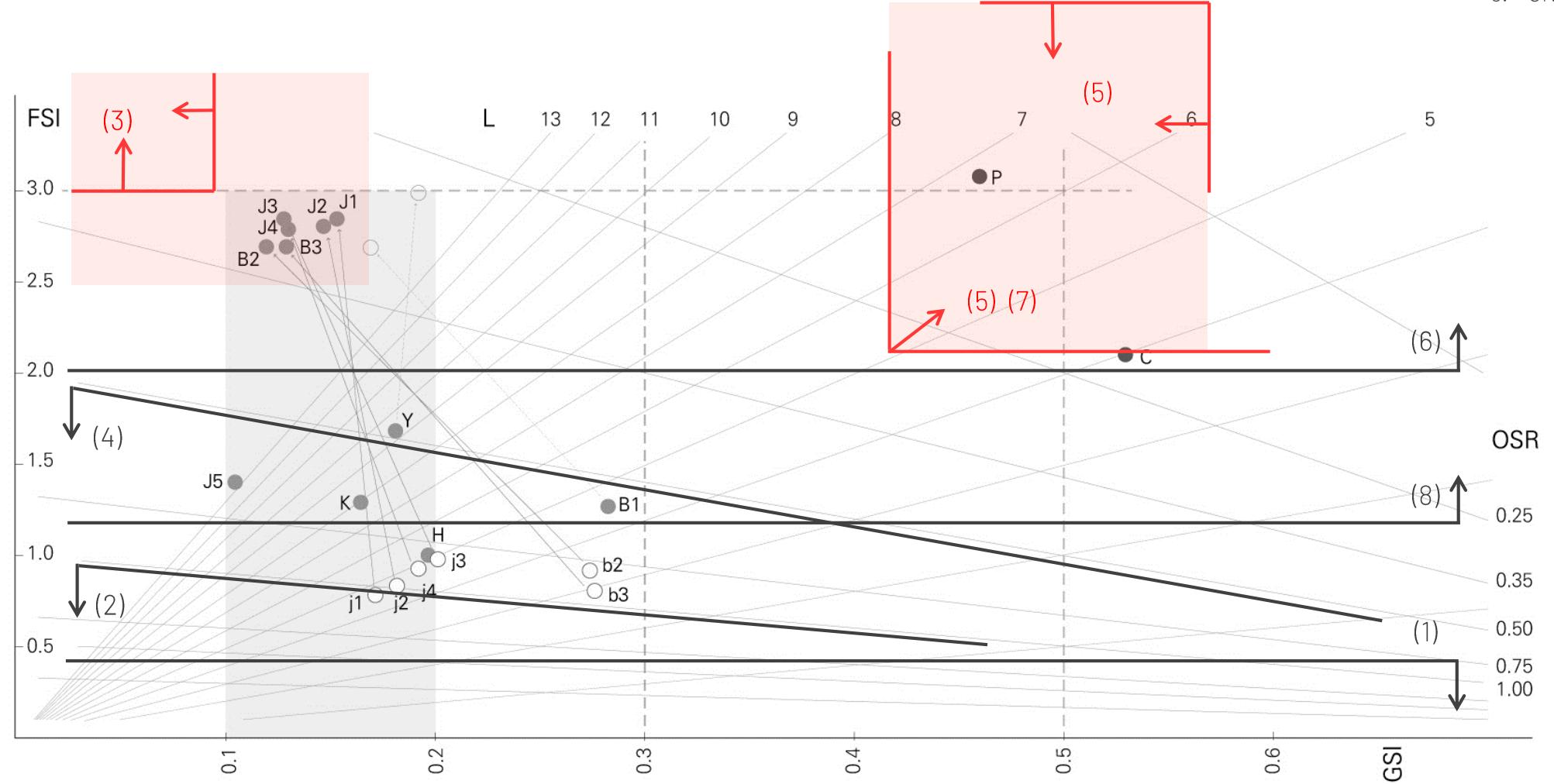*(H)* *(Y)* *(B1)* *(j 1-4)* *(J5)* *(K)* *(B2)*

(B3)

The only goal is to reach the maximum FSI (height)

(P)

(C)

The extent of regulation in density In Seoul

P-Massena block (Paris)
C-Olympic village (Barcelona)

3.2.4　Density profile

The doctrines on the density and the reversing trends.

1. Unwin (1912)
2. Hoenig (1920s)
3. Le Corbusier (1920s)
4. Gropius (1930)
5. Jacobs (1961)
6. Lozano (1990)
7. Compact (1990)
8. UN Habitat (2015)

(source: Berghauser Pont and Haupt, 2020, p. 210)

4.1   General Profile

4.1.1   Socio-economic structure

The cluster analysis on population structure: population density (ha), single-person households, children, working, and elderly groups.
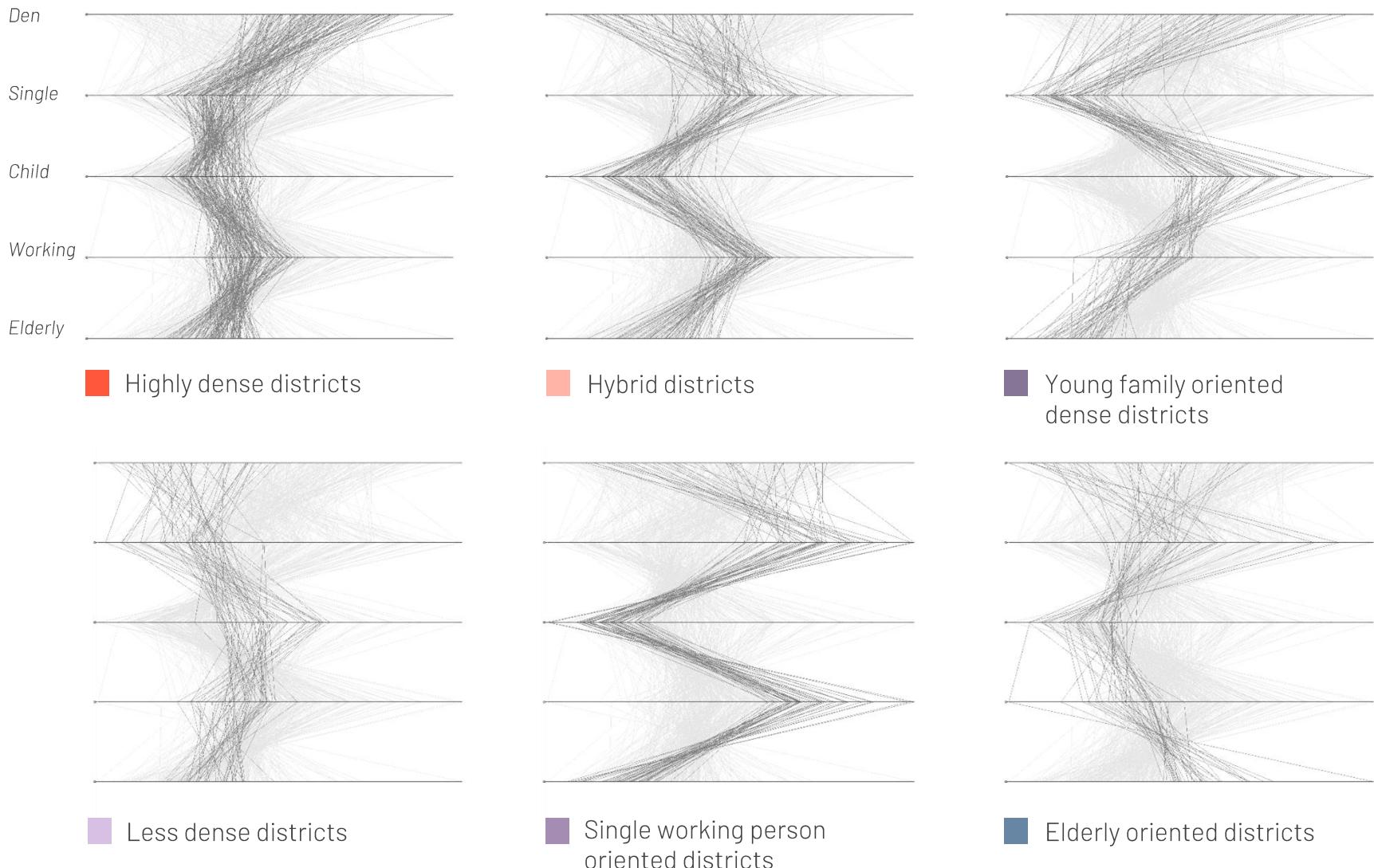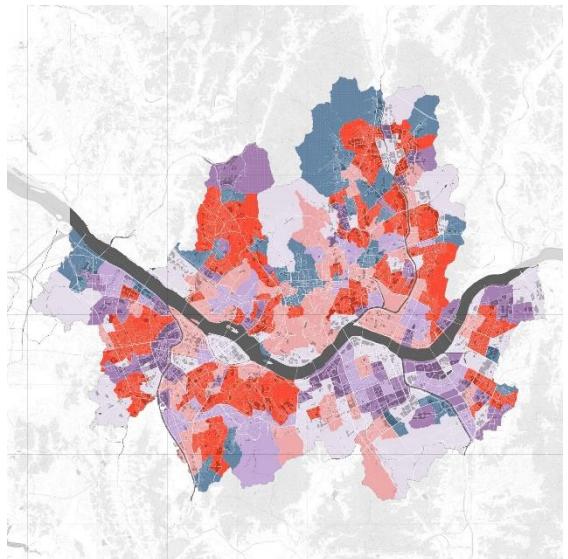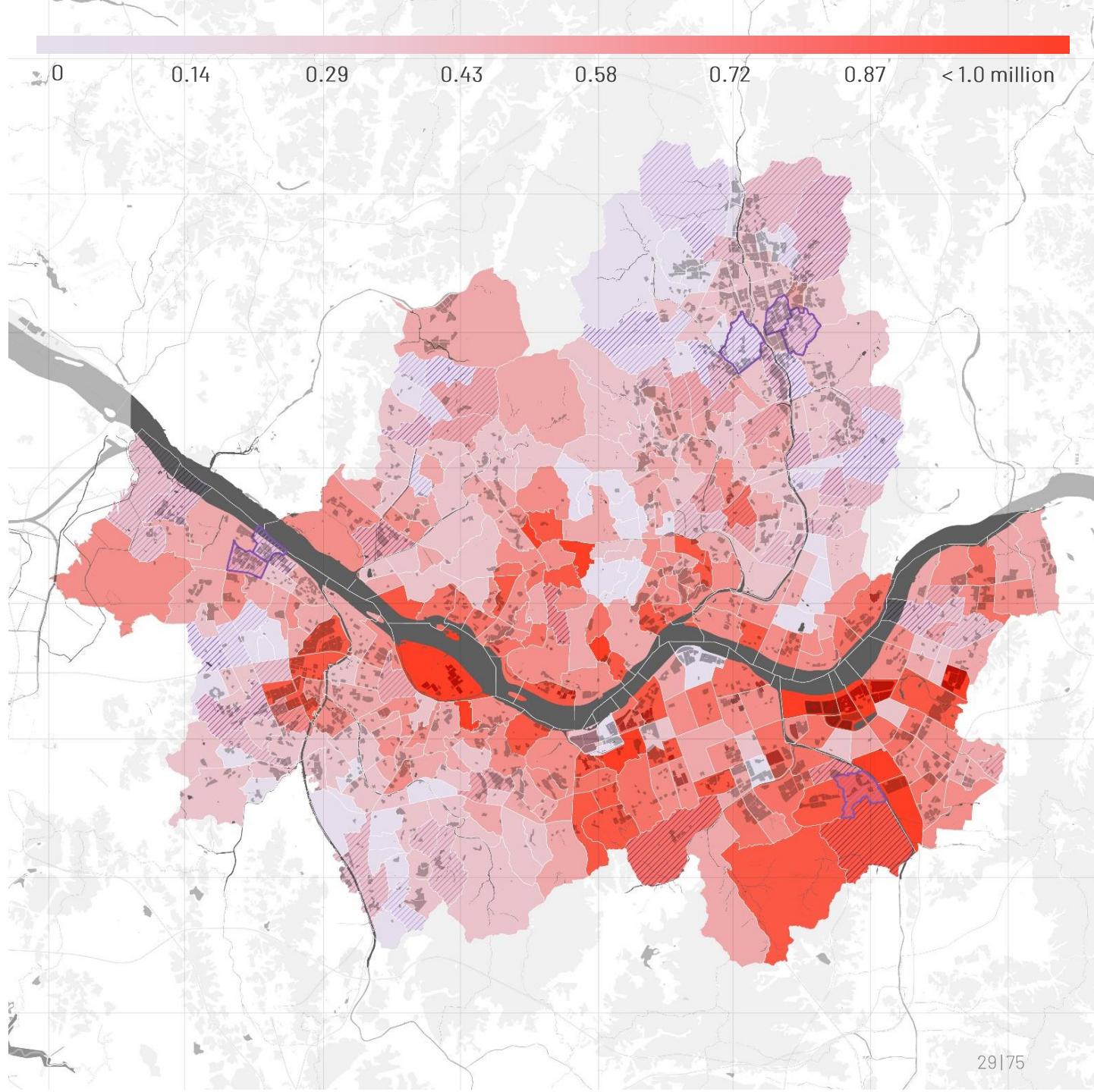
Highly dense districts

Hybrid districts

Young family oriented dense districts

Less dense districts

Single working person oriented districts

Elderly oriented districts

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
# of neighborhood	152 units	73 units	57 units	52 units	48 units	42 units
Pop ulationdensity	377	198	303	150	275	195
% of single-person HH	31.63	43.74	18.00	23.90	57.13	36.82
% of children	9.77	8.08	15.80	12.37	6.17	7.58
% of working	73.87	76.47	72.31	72.39	81.12	70.76
% of elderly	16.36	15.45	11.89	15.24	12.70	21.66
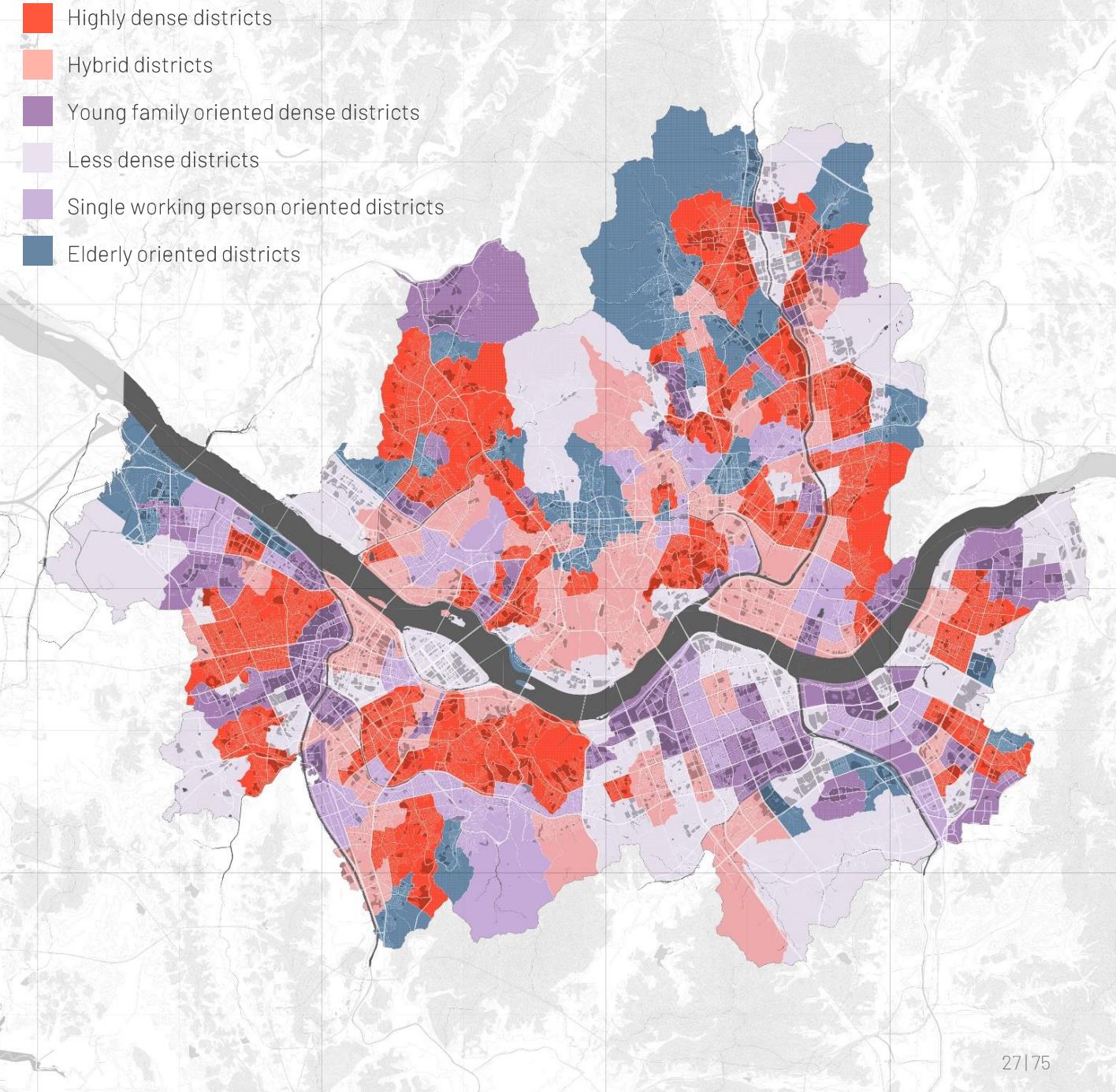
(source: Open Data Plaza; modified at GeoDa)

4.1.1   Socio-economic structure

The cluster analysis on population structure: population density (ha), single-person households, children, working, and elderly groups.

Den

Single

Child

Working

Elderly

🟥 Highly dense districts

🟧 Hybrid districts

🟪 Young family oriented dense districts

🟪 Less dense districts

🟪 Single working person oriented districts

🟦 Elderly oriented districts

4.1   General Profile

4.1.1   Socio-economic structure

The average sales price of apartment buildings in 2020 with the low-income class accumulated districts (hatches)

0   0.14   0.29   0.43   0.58   0.72   0.87   < 1.0 million

(source: https://map.seoul.go.kr/spm/gly/policy/view.do?POLICY_NO=110)

4.1   General Profile

4.1.2   Housing types

The cluster analysis on housing types:
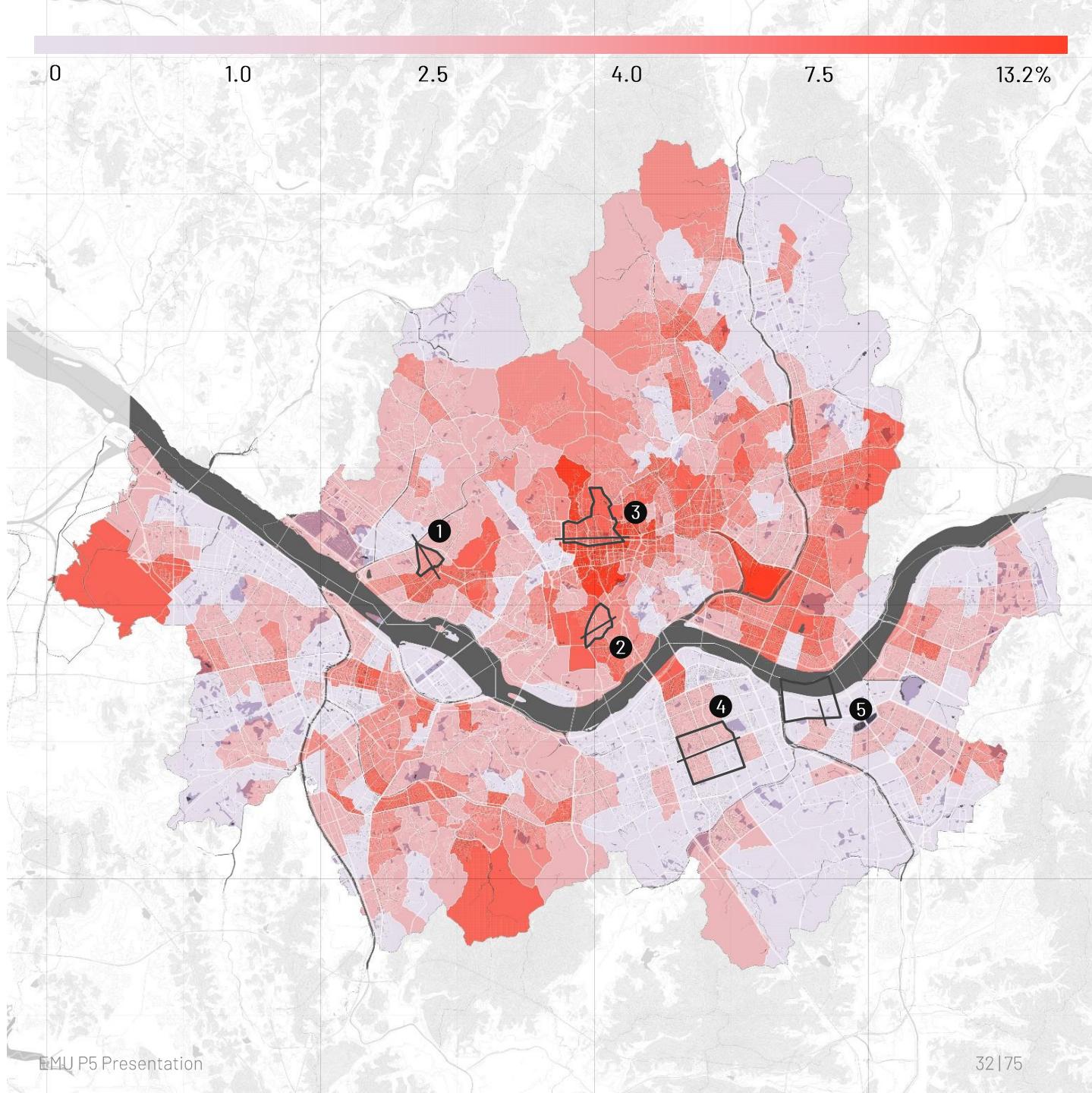detached housing, multi-family housing,
and apartment complexes.

Apartment dominant districts

Apartment oriented districts

Multi-household housing dominant districts

Mixture of detached and multi-household districts

Mixture of single and multi-household districts

Detached housing dominant districts
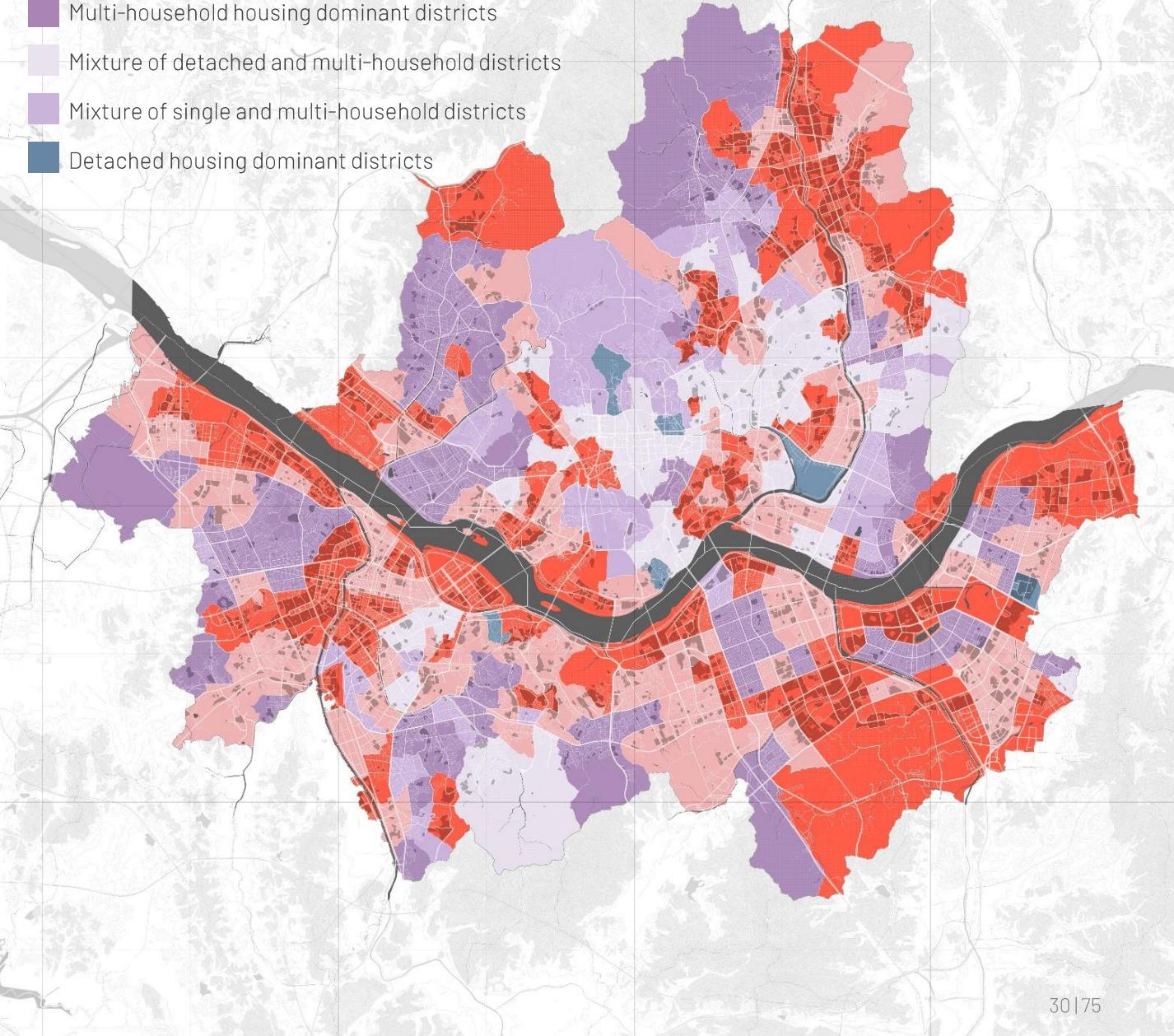
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
# of neighborhood	126 units	107 units	91 units	49 units	45 units	6 units
% of apartment	90.59	62.79	23.94	46.00	13.78	10.10
% of multi-household	5.73	27.15	62.44	24.97	53.04	17.06
% of detached	3.27	9.03	12.25	26.58	31.40	69.10

40km

(source: Open Data Plaza; modified at GeoDa)

4.1.2   Housing types

The cluster analysis on housing types:
detached housing, multi-family housing,
and apartment complexes.

■ Apartment dominant
districts

■ Apartment oriented
districts

■ Multi-household housing
dominant districts

■ Hybrid districts

■ Mixture of single and multi-
household districts

■ Detached housing
dominant districts

4.1 General Profile

4.1.3 Streetscape

The % of mixed use (detached house with shop)
(source: Open Data Plaza; modified at QGIS)

0   1.0   2.5   4.0   7.5   13.2%

1) Yeonnam

2) Gyeongridan

3) Jong-ro

4) Taheran

5) Jamsil

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(source: map.kakao.com

4.1.3   Streetscape

Active districts

Gyeongridan & Yeonnam

- Originally detached housing district
- Inducing commercial function
- Gentrification ongoing
- active use of roof
- semi-direct to the building using terrace (narrow pedestrian street)
- non-residential functions on groundfloor

(source: map.kakao.com)

Historic Center

- Setback for POP
- Bicycle network
- Porous network (attached retail building)
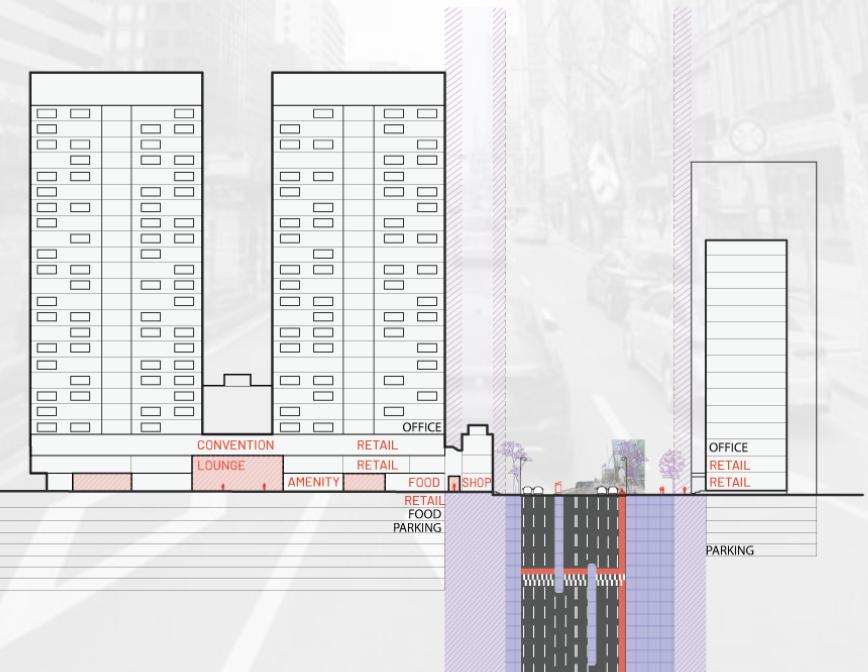
Gangnam District

- Setback for POP
- Lack of space to stay compared to the width of the road
- Non-residential functions on groundfloor (usually for public usage)

CONVENTION RETAIL
LOUNGE RETAIL
AMENITY FOOD
OFFICE
SHOP RETAIL
RETAIL RETAIL
FOOD
PARKING PARKING

CO-OFFICE
CO-OFFICE
CAFE
LOUNGE
FOOD AMENITY
PARKING PARKING

4.1.3　Streetscape

Residential districts

Jamsil District

- Street between two apartment complexes in Jamsil district
- Wide road for vehicle
- Elevated wall as buffer (not accessible)
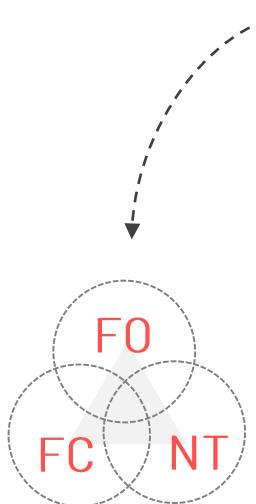- Groundfloor as piloti structure

PILOTI
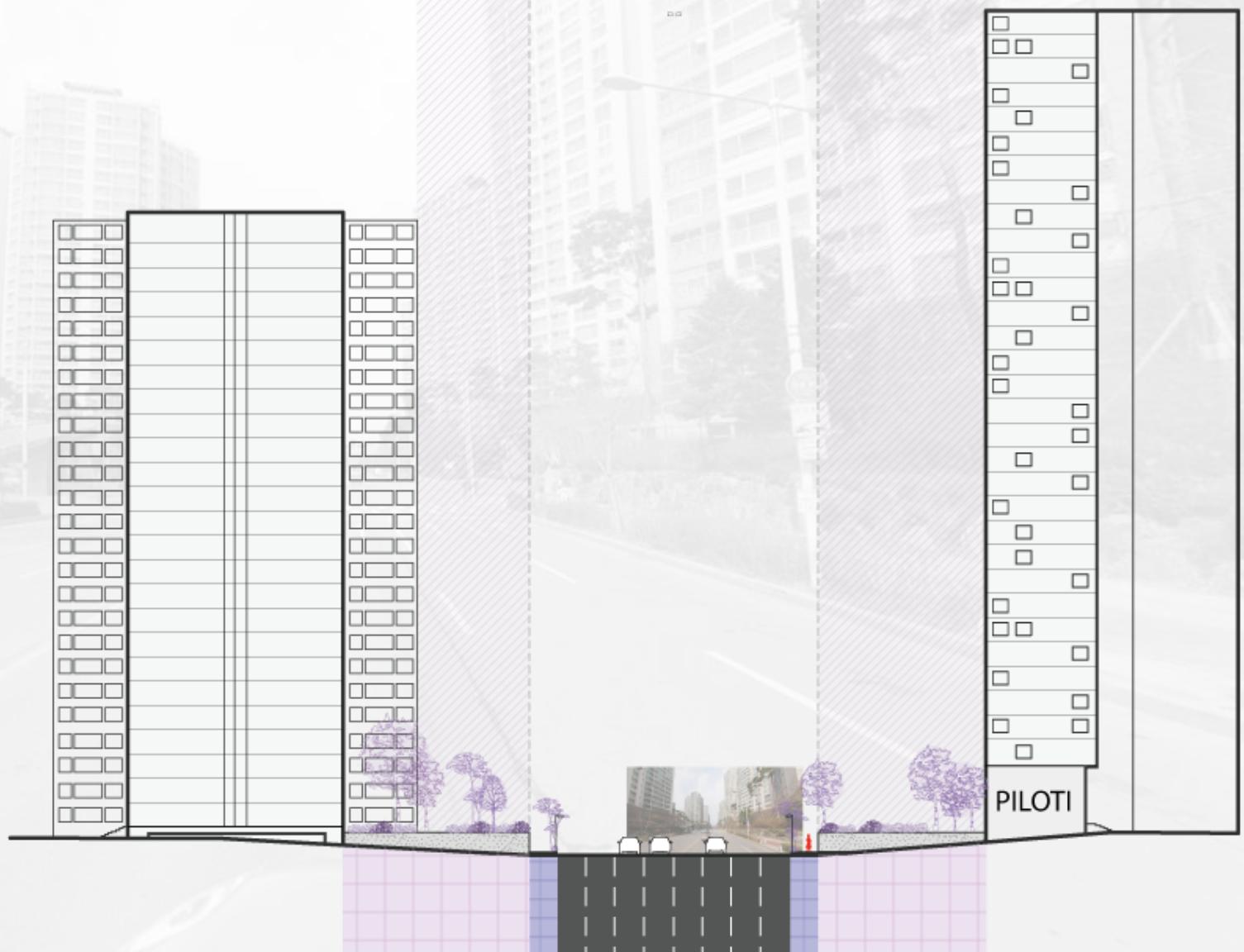
Part 3 – Design exploration

Patterns and two conditions

4.1.1   Overview

Cards of pattern

T / S / I

Code of depth strategies

Title of pattern

Framework – Scale - Derivation

Region   Theory
Neighborhood   Case
Block   Policy
Street   Context
Interface
Building

FO

FC   NT

Diagram

Description

Relation w/ other patterns

T.01
GENERATIVE STREET
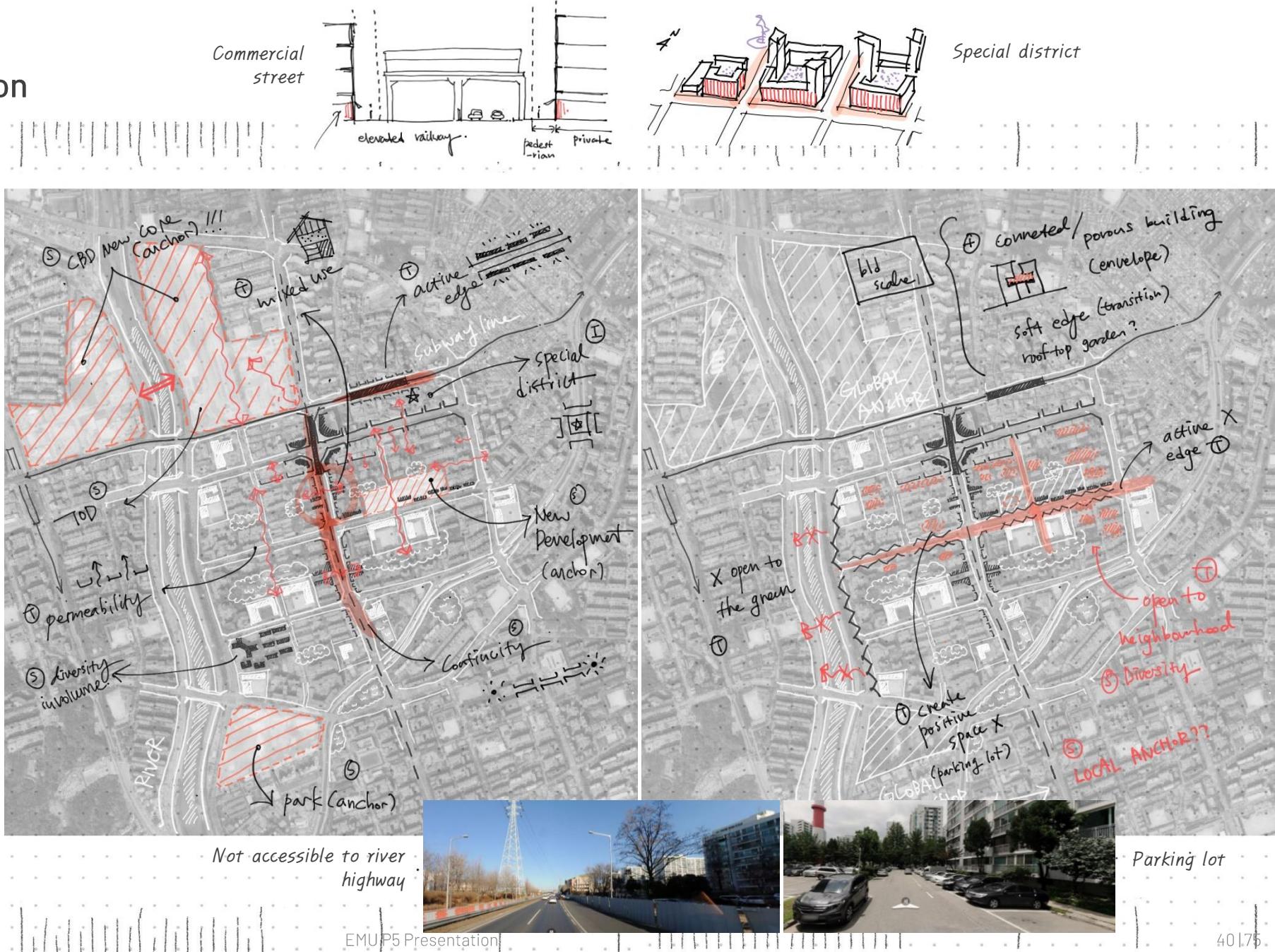## INTERFACE • ACTIVE FACADE

FUNCTION/NETWORK - INTERFACE - THEORY

The generative street interfaces allow the interaction between private and public and connect the opportunities of contact and exchange (Jacobs, 1964; Sim, 2019). One of the challenges in designing the active facade is how to define the fronts and the corresponding backs - whether to make distinction or give hybridity.

Relational to:
T.01 / T.02 / T.03 / T.04 / S.07

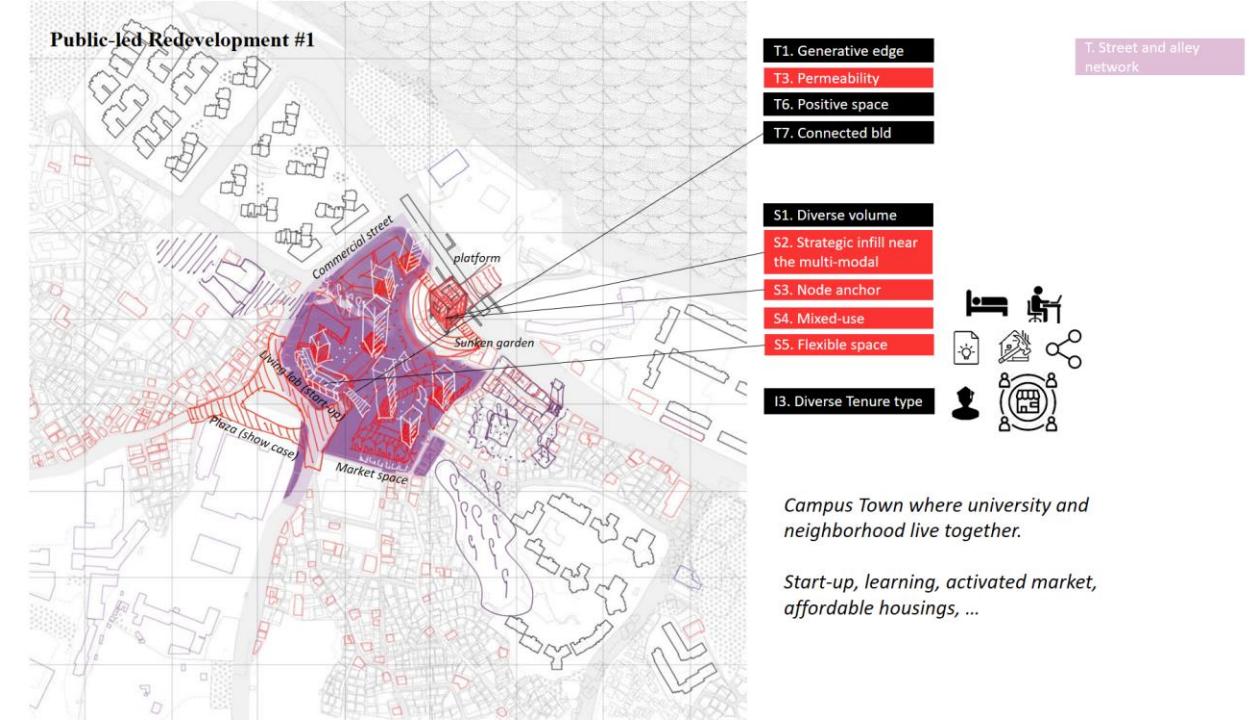# 4.1 Introducing patterns

4.1.2 Preliminary exploration

Application exploration to see the
interacting and conflicting forces

*Commercial
street*

Special district

*Existing features:
porous building, mixed use building*

*Not accessible to river
highway*

Parking lot

4.1 Introducing patterns

4.1.2 Preliminary exploration

Application exploration to validate the local transferability

Public-led Redevelopment #1

T1. Generative edge
T3. Permeability
T6. Positive space
T7. Connected bld

T. Street and alley network

S1. Diverse volume
S2. Strategic infill near the multi-modal
S3. Node anchor
S4. Mixed-use
S5. Flexible space

I3. Diverse Tenure type

Commercial street
platform
Sunken garden
Living lab (start up)
Plaza (show case)
Market space

Campus Town where university and neighborhood live together.

Start-up, learning, activated market, affordable housings, ...

Public-led Redevelopment #2

T. Space appropriation
T. Separate vehicle and pedestrian movement
S. Ecological aspect???
S. Sound proof?

T1. Generative edge
T2. Continuity
T3. Permeability
T5. Open to the green
T6. Positive space/ shared space

S1. Diverse volume
S4. Mixed-use

I2. Intermediate architect
I3. Diverse Tenure type

Underground parking entrance
Community space
Terraced housing
Community space
Underground parking entrance
Borrow the logic

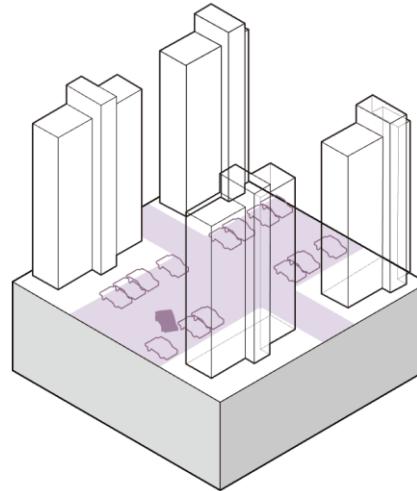*Synergetic residential neighborhood with shared benefits...*
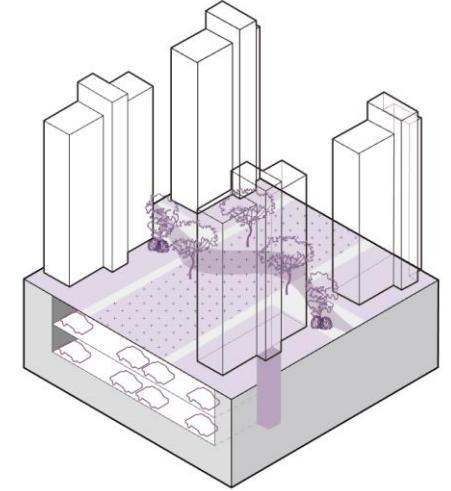
4.1   Introducing patterns

4.1.2   Preliminary exploration

Specific zoom to the apartment complexes
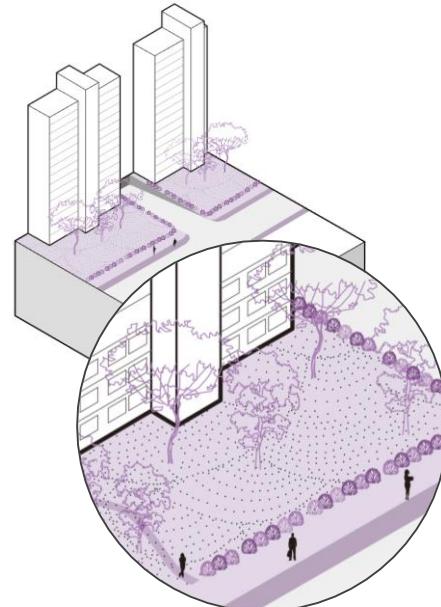in perspective of boundary edge and inner
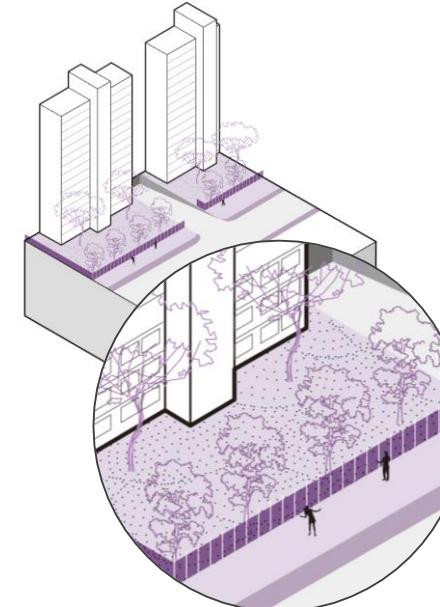space: private–public transition

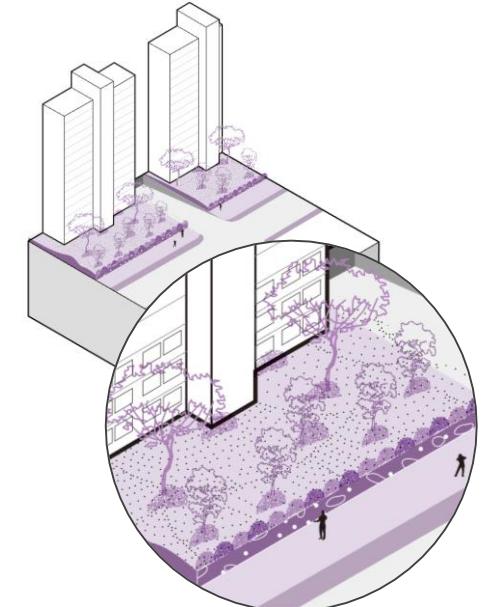occupied parking

unlegible large park

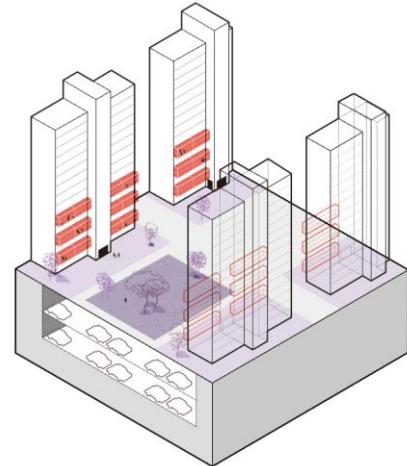vegetation boundary

bounded wall
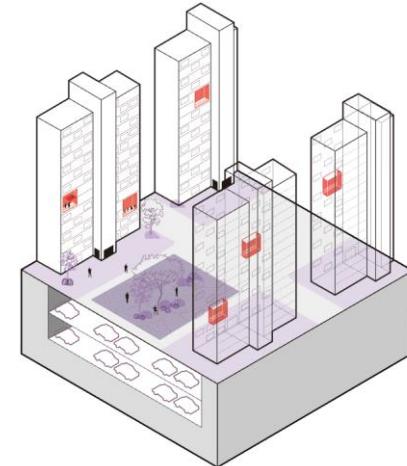
elevated ground

4.1   Introducing patterns

4.1.2   Preliminary exploration

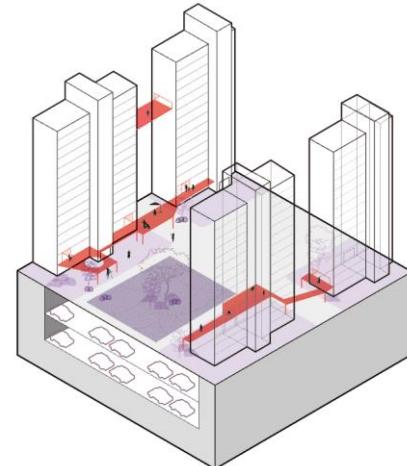Application exploration to see the
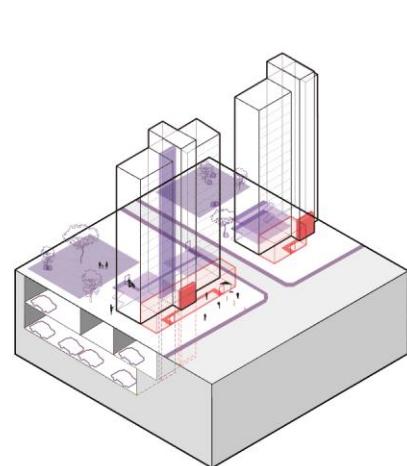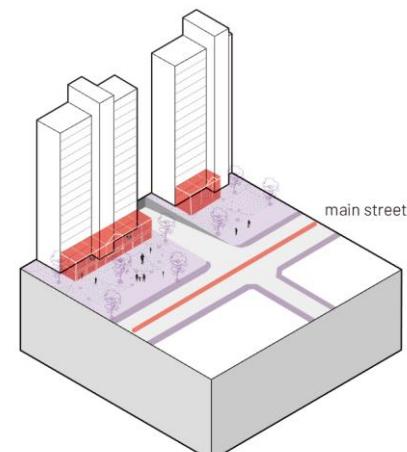interacting and conflicting forces
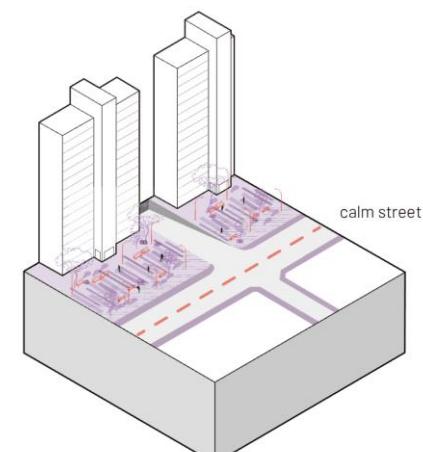

terrace gardens

void facade

connected deck

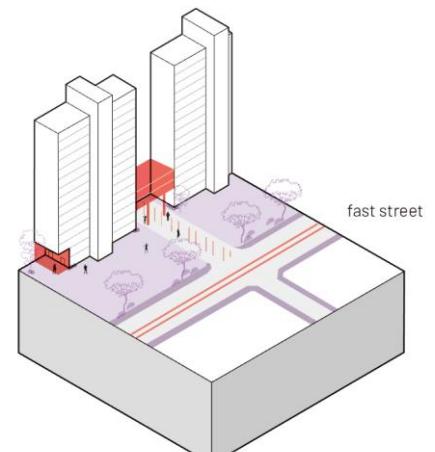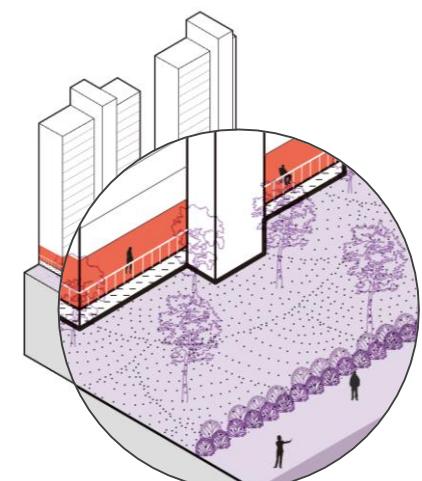separate entrance

active groundfloor

main street

street furniture

calm street

porous network

fast street

natural privacy

List of patterns

T.01
GENERATIVE STREET INTERFACE · ACTIVE FACADE
FUNCTION/NETWORK - INTERFACE - THEORY

The generative street interfaces allow the interaction between private and public and connect the opportunities of contact and exchange (Jacobs, 1964; Sim, 2019). One of the challenges in designing the active facade is how to define the fronts and the corresponding backs – whether to make distinction or give hybridity.

Relational to:
T.01 / T.02 / T.03 / T.04 / S.07 / 0.00 / 0.00

T.02
PEDESTRIAN PERMEABILITY THROUGH THE BLOCK
FUNCTION/NETWORK - INTERFACE - THEORY

The medium-sized blocks have acknowledged for increasing connectivity and activities along the streets (Jacobs, 1964). Yet, the adequate size of the blocks is controversial as too small block can be susceptible to traffic congestion. The porosity through the block maintains the connectivity in both movement of people without deconstructing the mega-structure.

Relational to:
T.01 / T.03 / T.04 / T.07 / S.02 / S.03

T.03
TRANSPARENT · VISIBLE GROUNDFLOOR
FORM/FUNCTION - INTERFACE - THEORY

The groundfloors need visibility to connect the people with activities through the private and public realm, while ensuring the distiction between them. From the pespective of city at eye level, it accentuates the experiences on the street through the visual continuity.

Relational to:
T.01 / T.02 / T.04 / T.07 / S.03 /// T.06 / S.05

Gangnam Social Housing, Seoul
Riken Yamamoto & Field Shop

(source: http://www.riken-yamamoto.co.jp/index.html?page=ry_proj_detail&id=87&lng=_Eng)

T.04
FREE ACCESSIBLE GROUND LEVEL
FORM/FUNCTION - INTERFACE - THEORY

The right to access or use the ground level freely is essential in making the inclusive city. The ground level can be the public space with trees and sitting furnitures or the public function without the payment. When the ground level is open to everyone, regardless of gender, age, class, or physical ability, it allows people to share the common experiences.

Relational to:
T.01 / T.02 / T.03 / S.07

T.05
PLEASANT CLIMATE CONDITION
FORM - BLOCK - THEORY

The pleasant climate conditions enhance the quality of the activities at outside suach as the duration and encounter. It is related to the overall health and well-being (Sim, 2019). The micro cliamte can be controlled by the small design of orientation and distance of the building or size of the window.

Relational to:
T.09 / T.11 / T.14

T.06
MULTIPLE USE · MIXED USE
FUNCTION - BLOCK/BUILDING - THEORY

RESIDENTIAL
CO-WORKING
RETAIL

The mono-functional areas are not sustainable in long-term perspective in that it increases the travel time and cost. The mixed use development in both horizontal and vertical way invites various uers and functions and increase the intensity in land use.

Relational to:
S.06 / S.08 / S.09 /// S.04

T.07
OPEN TO THE STREET OR ADJACENT SURROUNDING
FORM/NETWORK - BLOCK - CASE

Not as perimeter block nor tower block, the open block allows the activities as well as visual connection to the inner side of the block. The variety of programs takes a place between the corridors stretching towards the shared communal space. A sensitive design approach is needed between opening the block and securing the privacy.

Relational to:
T.02 / T.08 / T.09

QUARTIER MASSENA, Paris
Atelier Christian de Portzamparc

(source: https://www.archdaily.com/... massena-paris...)

T.08
CONTROL PRIVACY
FORM/NETWORK - BLOCK/BUILDING - CONTEXT

The integration strategy does not have to envure the full openness. The thorough approaches towards in controlling the privacy give comfortability and safety to the residents living there and create more diverse urban space by ordering the depth structure.

Relational to:
T.07 / T.11 / T.14

GWL TERREIN, Amsterdam
KCAP

(source: https://www.kcap.eu/en/projects/v/gwl_terrein/)

T.09
OPEN TO THE GREEN · VEIW TOWARDS THE GREEN
FORM - BLOCK/BUILDING - CASE

The visibility to the nature or the green provides a feeling of connetion to the outside as well as adequate sunlight and fresh air. This can be facilitated with the balconies and terraces using the height differences.

Relational to:
T.05 / T.07 / S.06

T.10
CREATE POSITIVE SPACE · SHARED COMMUNAL SPACE
FUNCTION - BLOCK/BUILDING - CASE

The inner spaces in the block are occupied with vehicles or distributed as green without clear intention. The intended positive spaces in needs of residents result in lingering and social interaction in that space (Gehl, 2011).

Relational to:
T.06 / S.04

LIVING ROOM OF THE SONN-WENDVIERTEL, Wien
Studio Vlay Streeruwitz

(source: https://www.vlst.at/en/prj/sonnwendviertel/#1)

T.11
RESPONSE TO ELEVATION CHANGE · LEVEL DIFFERENCE
FORM - BLOCK/BUILDING - CONTEXT

The level differences give varieties in space and different sequence of experiences, yet control the accessibility by distinguishing the realms. The natural topography itself is a great opportunity to draw the nature into the block with adaptation.

Relational to:
S.1 / R.1.

SHINONOME CANAL COURT BLOCK, Tokyo
Riken Yamamoto & Field Shop

(source: https://arquitecturaviva.com/works/viviendas-oficina-shinonome-7)

T.12
TEMPORARY · FLEXIBLE USE
FUNCTION - BUILDING - CASE/CONTEXT

The temporary and flexible use is one of tactics that is applied for short-term strategy in local context. By testing what works or not throug the pilot projects, the users are able to diversify their needs and obtain their own management skills and organization. It gives a capacity to respond the sudden external changes.

Relational to:
T.06 / T.10 / T.13 / S.08 /// S.10

T.13
STREET TO STAY · THRESHOLD STREET
FORM/FUNCTION - STREET - CASE/CONTEXT

The good street design functions as place to appropriate, not as through movement. It invites citizens to linger and engage with sponteneous public life on the street. The blended boundaries between public and private spaces and adequate furnitures hybrid the realms and enrich the experiences.

Relational to:
S.10 / T.03 / T.04

T.14
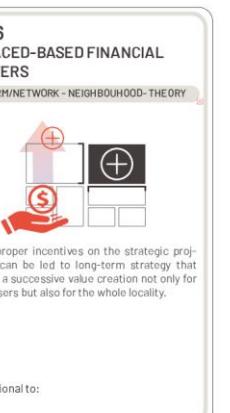### LAYERING AND SOFT EDGE
FORM/FUNCTION - INTERFACE - CASE
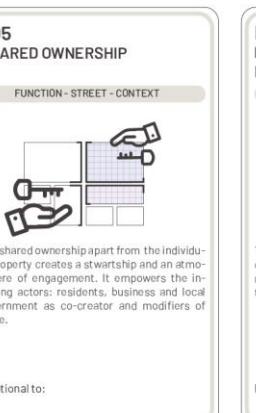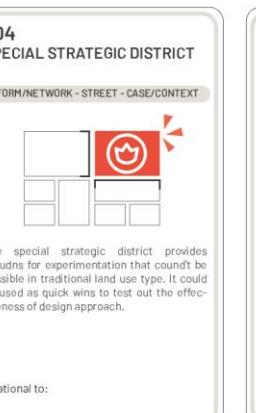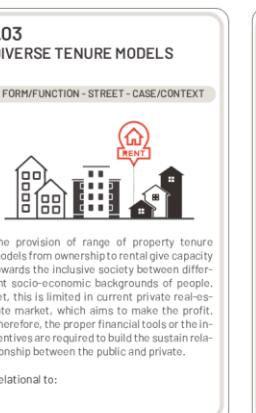
The overlapping method achieve the the bigger impact of result without transforming many things. It considers the time and speed as rhythms, and expands the degree of experience through the senses.

Relational to:
T.06 / T.08 / S.10

S.01
POLYCENTRIC • DECENTRALIZED STRUCTURE
FUNCTION/NETWORK - REGION - POLICY

The previous planning emphasized on the centralized and infrastructural structure, which resulted in unequal distribution of goods and services. The shift from global to locality empowers the compact lifestyle that is creative and authentic, and the networked relationship enables complementary and synergetic relationship between nuclei.

Relational to:
S.02 / S.03 / S.04 / S.08

S.02
STRATEGIC ACCESS TO MULTIMODAL MOBILITY
FORM/NETWORK - REGION - POLICY

The public transport nodes have a potential as a strategic site to gain the investment from various actors due to its accessibility and potential users. A system of integrated mobilities at different scale and speed promotes the various options, therefore, contribute to sustainable transit transition.

Relational to:
S.01 / S.03 / S.04 / T.02

S.03
WALKABLE SERVICE AREA
FORM/NETWORK - NEIGHBORHOOD - POLICY

The local area services all the needs of residents within the walkable range. It focuses accessibility more than the mobility and provides the optimal route between nodes. The potential becomes greater when multi-mobility of slow networks, such as bicycle, enables the sustainable urban growth.

Relational to:
S.01 / S.02 / S.06 / T.01 / T.02 / T.03 / T.04

S.04
PUBLIC FACILITY AS STRONG ANCHOR POINT
FORM/FUNCTION - NEIGHBORHOOD - POLICY

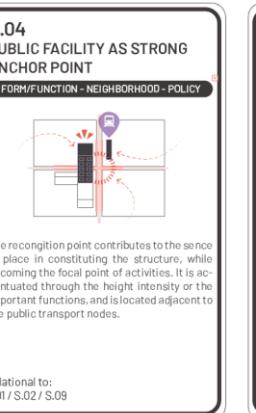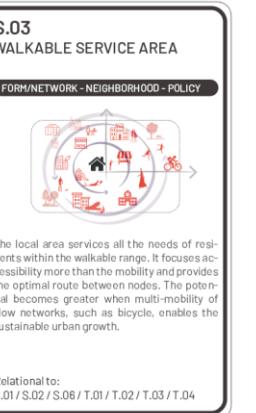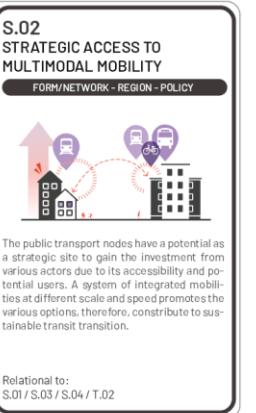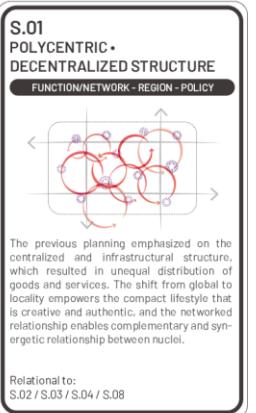The recognition point contributes to the sense of place in constituting the structure, while becoming the focal point of activities. It is accentuated through the height intensity or the important functions, and is located adjacent to the public transport nodes.

Relational to:
S.01 / S.02 / S.09

S.05
IDENTIFIABLE NEIGHBOURHOOD
FORM/NETWORK - NEIGHBORHOOD - THEORY

The identifiable space, or legible space, recognizes the key elements such as clear axes or accentuated point, as wayfinding system without visual interruptions or monotonious features (Lynch, 1960). Conceived as simplified symbols, it is essential to address the orientation and interpretation of the place.

Relational to:
S.02 / S.03 / S.07 / S.09

S.06
DIVERSE PLOT SIZE AND VOLUMES
FORM/FUNCTION - BLOCK - THEORY

The variety in plot sizes and building volumes increase the flexibility to adapt to the external changes and give range of possibilities to the various tenents. Especially the diversity in plot sizes can be linked to the extensive land ownership, and contribute to the processive and gradual transformation.

Relational to:
T.01 / T.06 / T.07 / T.11 / S.09 /// S.01

S.07
CONTINUITY BETWEEN THE NODES
FUNCTION/NETWORK - STREET - THEORY

The connected network between the major focal points increase the overall liveability of neighbourhood by creating walkable environments. The concentrations of mixed-use and activities along the streets ensure the series of experience and vibrant street life.

Relational to:
T.01 / T.02 / T.13 / S.04 / S.10

S.08
CLUSTERED ACTIVITIES
FUNCTION - NEIGHBOURHOOD - CONTEXT

When the groups of similar characteristic are agglomerated, it synergizes the performance and contributes to the efficient use of the space. The comparable or supportive groups can be interconnected in large scale through the shared local infrastructures and foundations.

Relational to:
S.01 / S.06 / T.06 / T.10 / T.12 /// S.03 / S.07

S.09
ACCENT AT CORNER POINT
FORM/FUNCTION - BLOCK - CASE/CONTEXT

The corner point is an important location where the multiple flows of people intersect. Especially, the corner at groundfloor is traded with the highest price in property. The corner point is emphasized by non-residential functions, density or specialized design. This not only increases the legibility but also give identity to the place.

Relational to:
S.02 / S.04 / S.05 / T.06

S.10
STREET CALMING • WOONERF
FORM/NETWORK - STREET - CASE/CONTEXT

The concept of living street by sharing the street with multiple modes balances the busy and quite, and fast and slow movements. It prioritizes the pedestrians without neglecting the motorized traffic. The changes in visual element help drivers to perceive the uncomfortability such as pavements, kerbs, plants or more.

Relational to:
T.12 / T.13 / T.14

WOONERF STREET, Delft

(source: http://mikestravelguide.com/a-bit-of-delft-history/1-bike-and-street-2/)

I.01
PARTNERSHIP BETWEEN THE PUBLIC AND PRIVATE SECTOR
FORM/FUNCTION - REGION - POLICY

The copperative relationship between the public and the private sector enhance the quality of living environment through the cohesive vision and coordinations.

Relational to:

I.02
INTERMEDIATE (PUBLIC) ARCHITECTURE • DESIGNER
FORM/FUNCTION - BLOCK/BUILDING - THEORY

The intermediate public designer involves the whole process of designing the block to fill the gap in policies and zoning plan and coordinates the conflicting interests between the private, public, and civic sectors.

Relational to:

I.03
DIVERSE TENURE MODELS
FORM/FUNCTION - STREET - CASE/CONTEXT

The provision of range of property tenure models from ownership to rental give capacity towards the inclusive society between different socio-economic backgrounds of people. Yet, this is limited in current private real-estate market, which aims to make the profit. Therefore, the proper financial tools or the incentives are required to build the sustain relationship between the public and private.

Relational to:

I.04
SPECIAL STRATEGIC DISTRICT
FORM/NETWORK - STREET - CASE/CONTEXT

The special strategic district provides grounds for experimentation that coundn't be possible in traditional land use type. It could be used as quick wins to test out the effectiveness of design approach.

Relational to:

I.05
SHARED OWNERSHIP
FUNCTION - STREET - CONTEXT

The shared ownership apart from the individual property creates a stwartship and an atmosphere of engagement. It empowers the involving actors: residents, business and local government as co-creator and modifiers of place.

Relational to:
.

I.06
PLACED-BASED FINANCIAL LEVERS
FORM/NETWORK - NEIGHBOUHOOD - THEORY

The proper incentives on the strategic projects can be led to long-term strategy that make a successive value creation not only for the users but also for the whole locality.

Relational to:

4.2.1   Mutual relationship

Scale of application

4.2.1   Mutual relationship

Institutional relationship
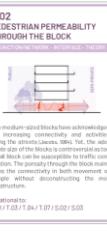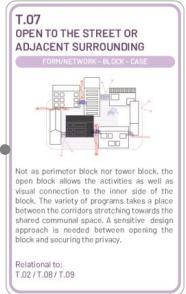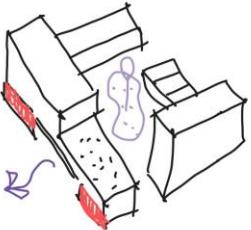
4.2.2   Example of application

Density cluster and the primary pattern

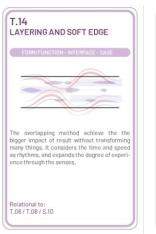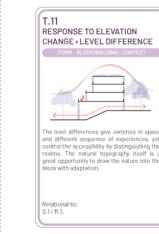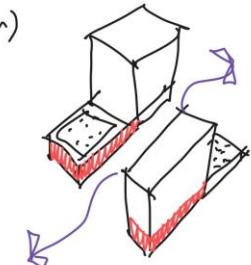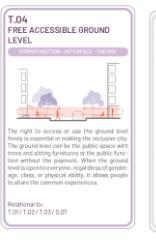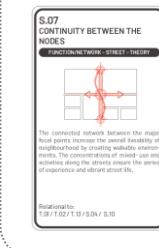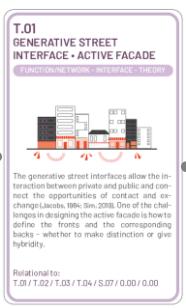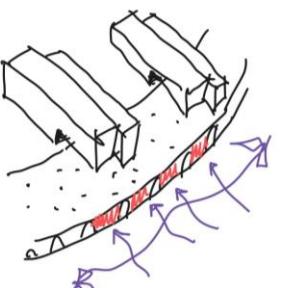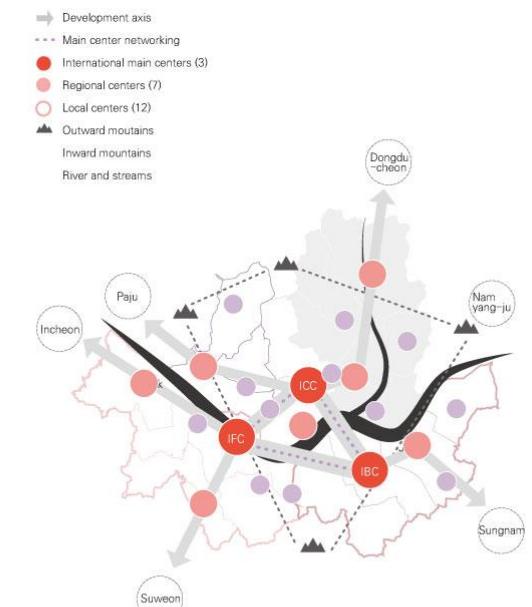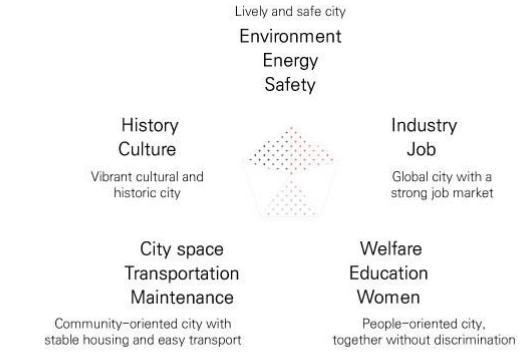# 5.1 Selection of sites

5.1.1 The northern Seoul

Homogeneous apartment complexes
Low and middle-income people
Aging infrastructure
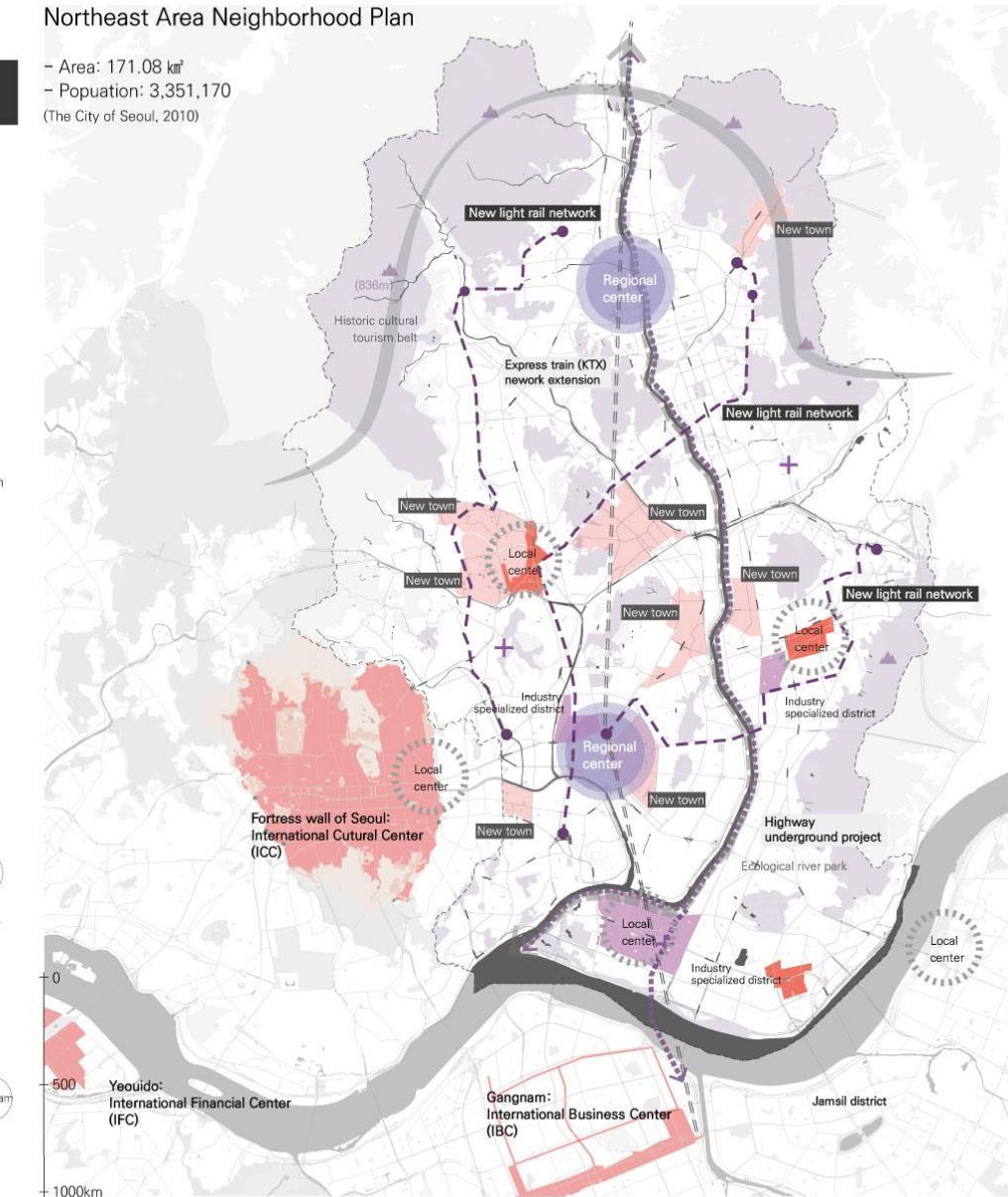New potential as core

(source: SMG, 2014)

2030 SEOUL PLAN

Happy City of Citizens with
"Communication and Consideration"

Lively and safe city
Environment
Energy
Safety

History | Industry
Culture | Job

Vibrant cultural and | Global city with a
historic city | strong job market

City space | Welfare
Transportation | Education
Maintenance | Women

Community-oriented city with | People-oriented city,
stable housing and easy transport | together without discrimination

→ Development axis
---- Main center networking
● International main centers (3)
● Regional centers (7)
○ Local centers (12)
▲ Outward moutains
  Inward mountains
  River and streams

Dongdu-cheon

Paju

Nam yang-ju

Incheon

ICC

IFC

IBC

Sungnam

Suweon

Northeast Area Neighborhood Plan

– Area: 171.08 ㎢
– Popuation: 3,351,170
(The City of Seoul, 2010)

New light rail network

New town

Regional center

(836m)

Historic cultural tourism belt

Express train (KTX) nework extension

New light rail network

New town

Local center

New town

New town

New light rail network

New town

Local center

Industry specialized district

Industry specialized district

Fortress wall of Seoul: International Cutural Center (ICC)

Local center

Regional center

New town

Highway underground project

Ecological river park

Local center

New town

Industry specialized district

Local center

0

500

Yeouido: International Financial Center (IFC)

Gangnam: International Business Center (IBC)

Jamsil district

1000km

Space syntax of 2500m

5.2   Design Exploration

5.2.1   Initial approach

1) Central Activity block
2) Community blocks for new relationship between people
3) Synergetic and symbiosis block
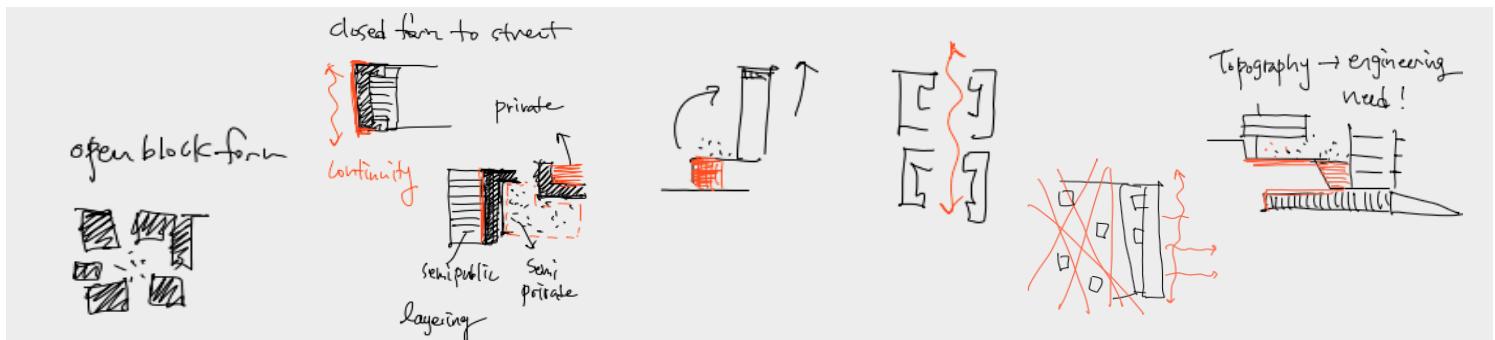
What if we enrich the urban depth to facilitate the centrality and activities?

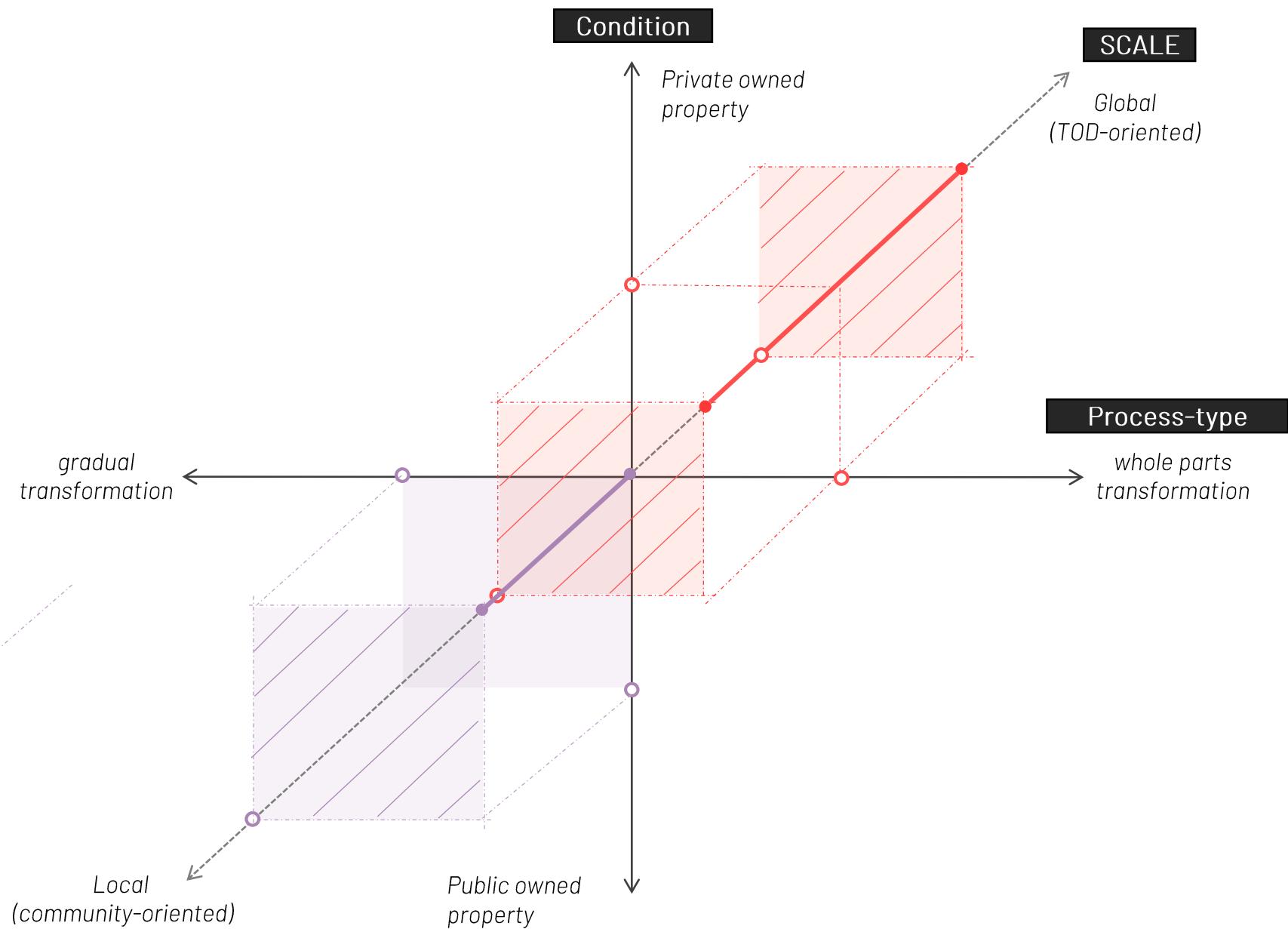*What if we enrich the urban depth to mix the various social groups?*
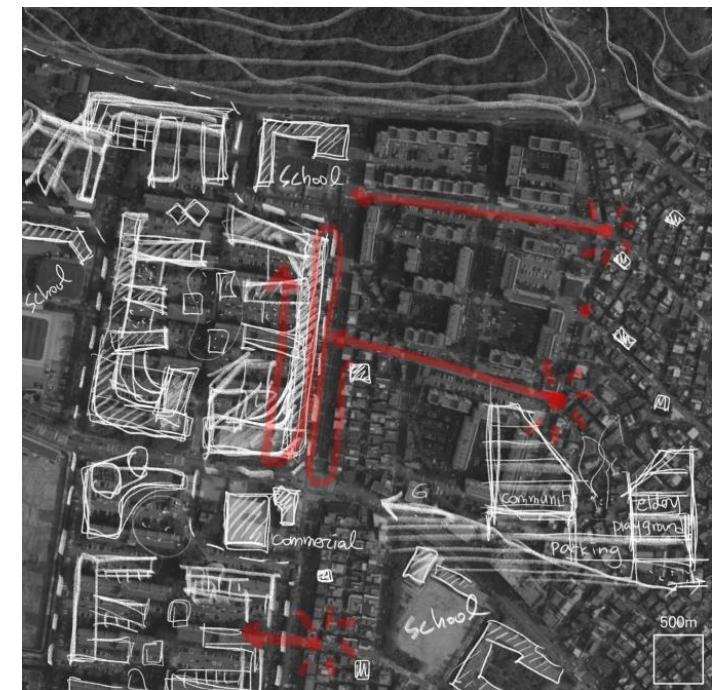
What if we enrich the urban depth to support the improve the quality of overall neighborhoods?

5.2.2   Setting the condition

Two supplementary sites

5.3   Central Activity Block

5.3.1   Context of site

- Private property
- Reconstruction Project

- APT: 99%
- Pop den: 257 /ha
- % single-person HH: 27%
- % of two-person HH: 28%
- % of big family: 45%
- % children: 12%
- % of working: 74%
- % of elderly: 14%
- % of low income: 1.7%
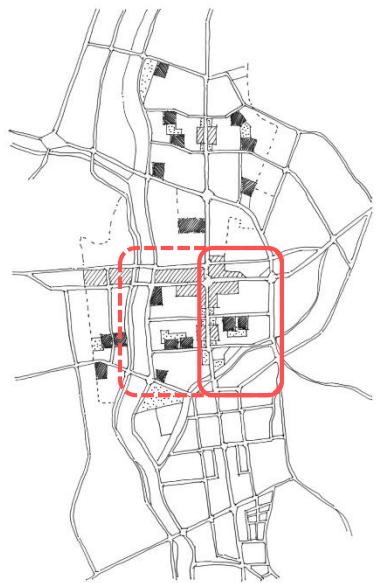
Global network

Nature friendly

Local street-oriented

Local service

- Private property
- Reconstruction Project

Commercial   *Complex (Block) 1*   *Complex (Block) 2*   *Stream*

| | Null space | | Public zone | | Privately owned public space (setback) | | Private zone |
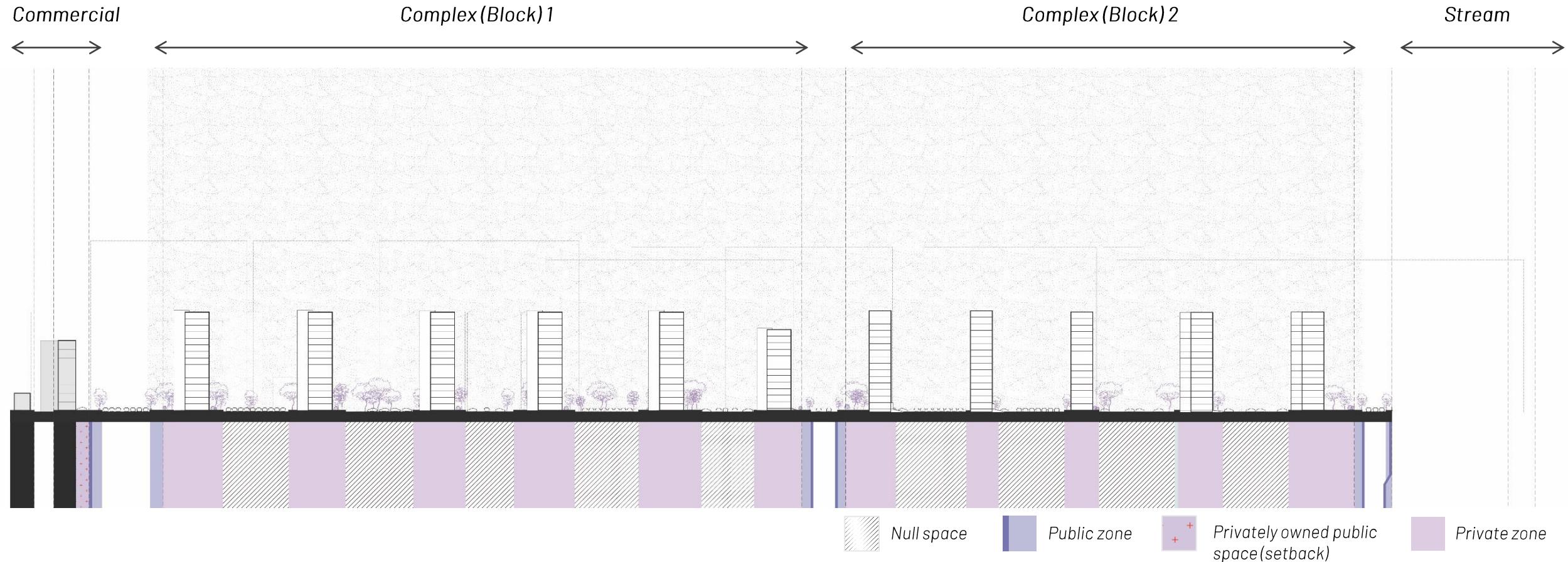
5.3.2   Overview (After)

- Private property
- Reconstruction Project

Commercial

Complex (Block) 1

Complex (Block) 2

Stream

ZONE #1 – Global network

ZONE #2 – Local street

Controlled public zone for people

Public zone

Privately owned public network

Privately owned public space (setback)

Transitional space (vertical / horizontal)

Private zone

5.3.3   Zone 1 – Global Network Interface

- Global network of 8 lanes
- Adjacent to subway station and work spaces
- Target the new comers (1-person households, young workers)
- Provide the shared function

ROOFTOP GARDEN

COMMUNITY

FLEX CO-SPACE

RETAIL

CAFE

GLOBAL NETWORK

SHARED GARDEN

LOCAL STREET

CORRIDOR   LIBRARY

PARKING

PARKING

PARKING

5.3   Central Activity Block

5.3.3   Zone 1 – Global Network Interface
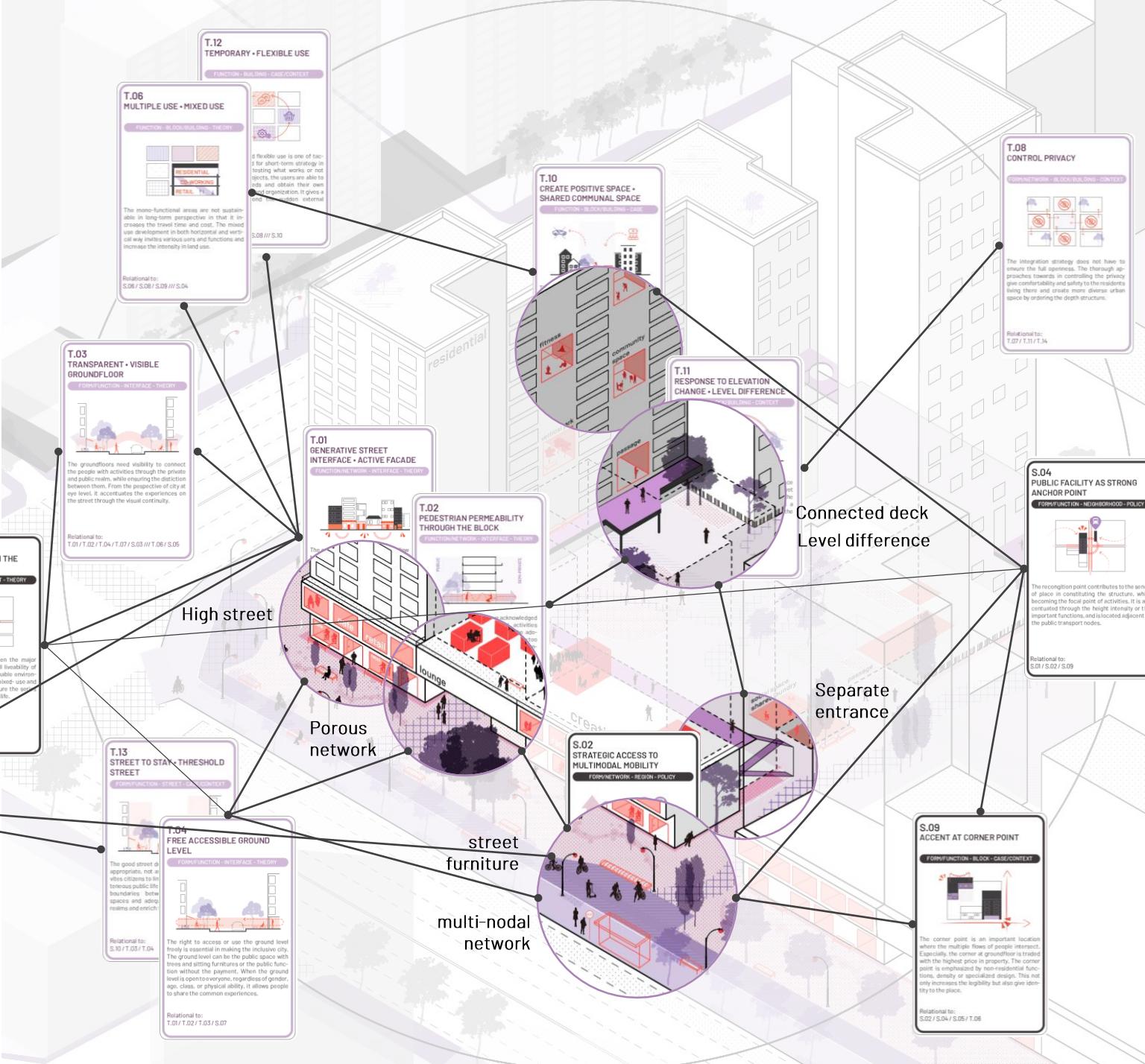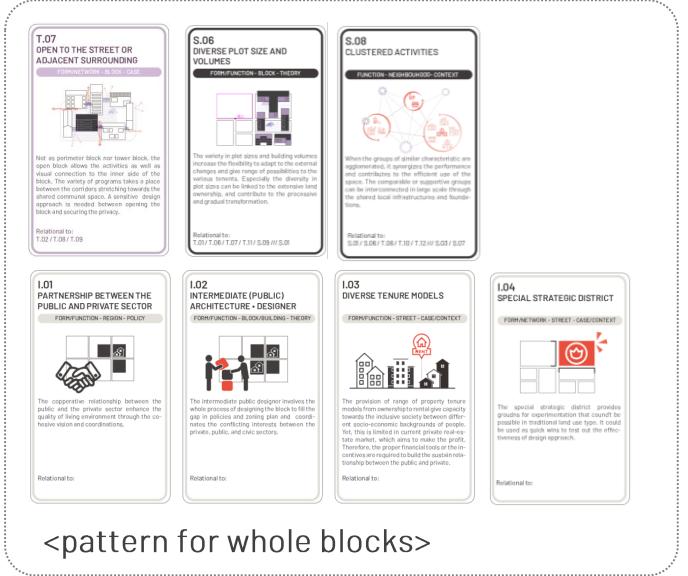
- Global network of 8 lanes
- Adjacent to subway station and work spaces
- Target the new comers (1-person households, young workers)
- Provide the shared function

5.3.3   Zone 1 – Global Network Interface

<pattern for whole blocks>

High street

Porous network

street furniture

multi-nodal network

Connected deck
Level difference

Separate entrance

2021.09.21.

5.3.4   Zone 2 – Local Street Interface

- Local street of 2 lanes
- School zone
- Community functions
- Control the car movement

5.3.4   Zone 2 – Local Street Interface

- Local street of 2 lanes
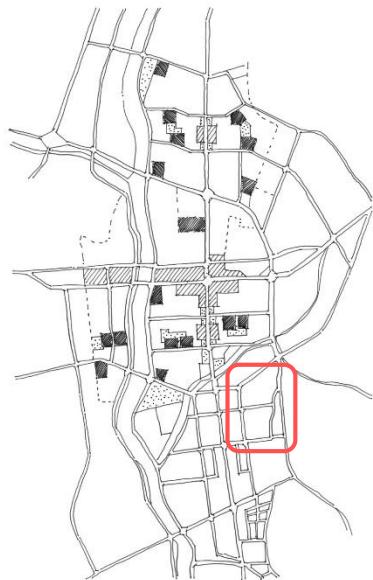- School zone
- Community functions
- Control the car movement

5.3.4   Zone 2 – Local Street Interface

<pattern for whole blocks>

2021.09.21.
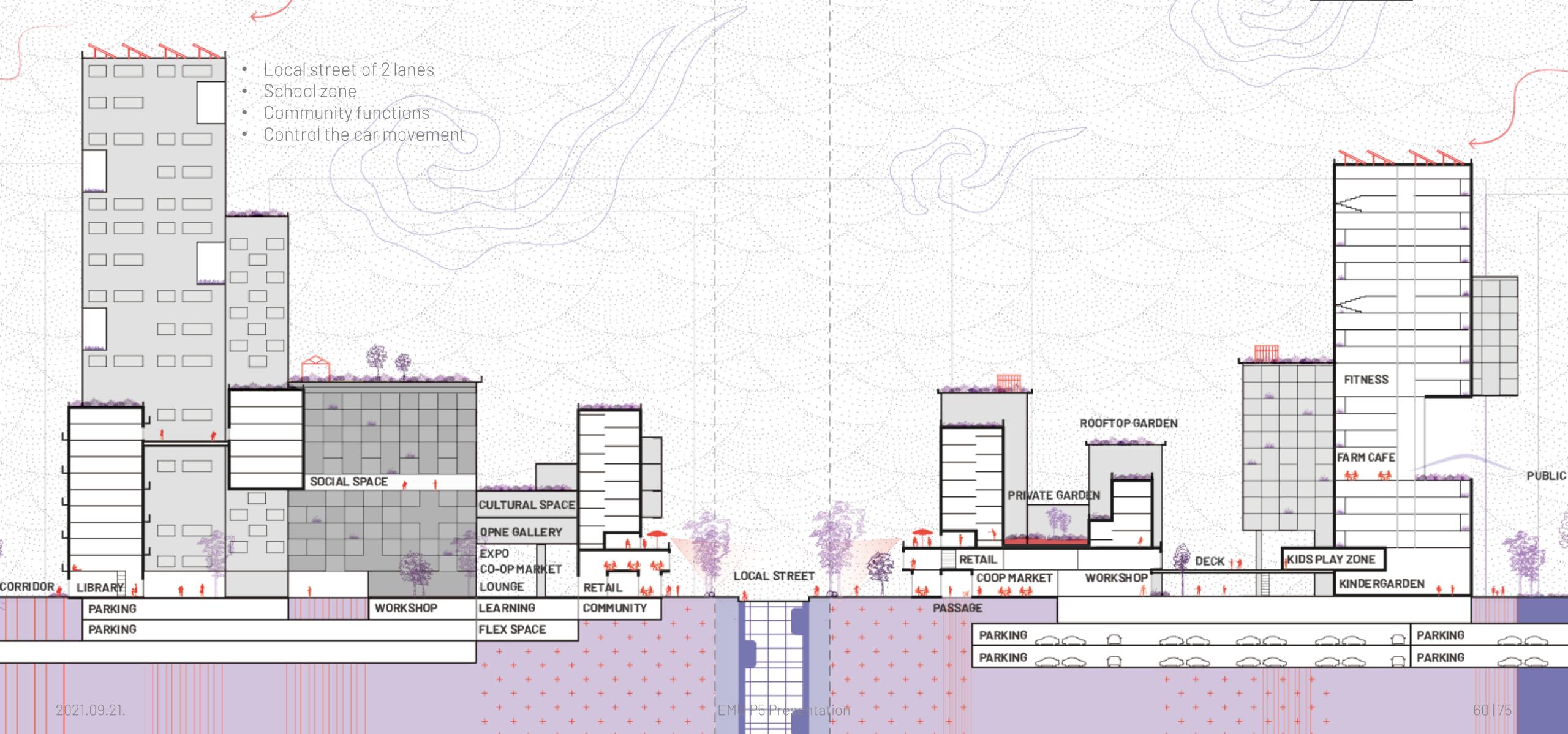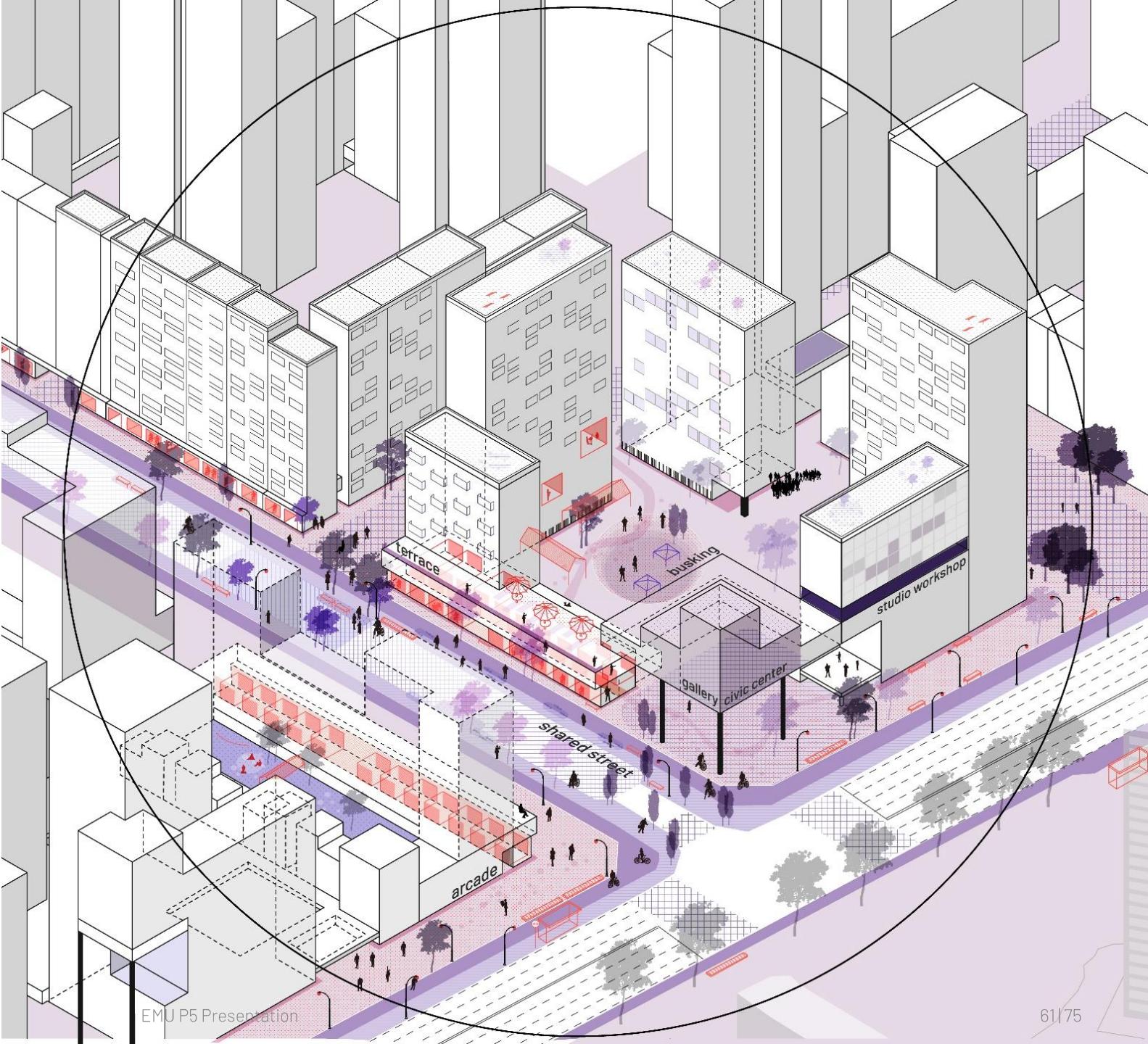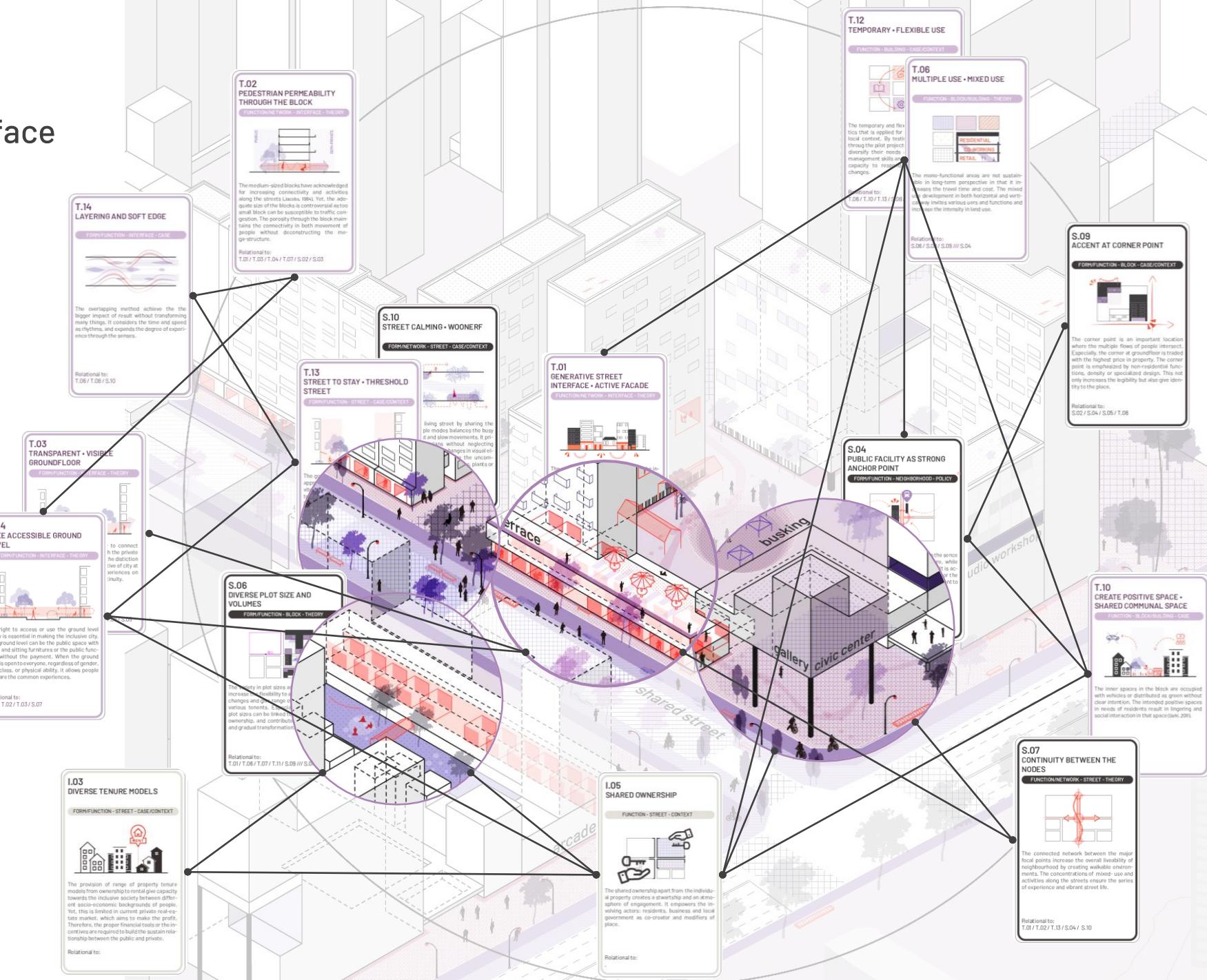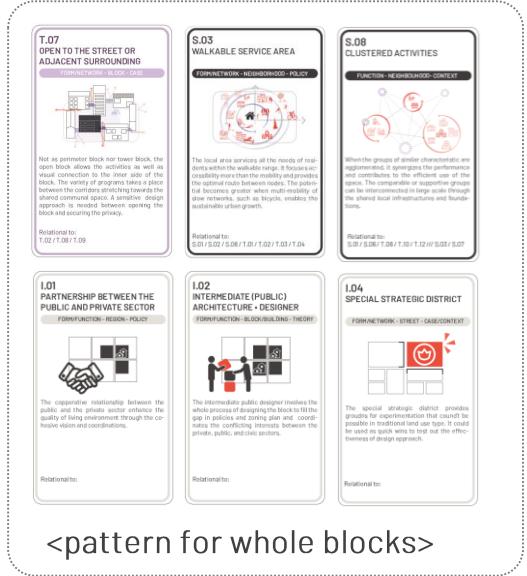
5.4 Community Block for New Relationship

5.4.1 Context of site

- Public property
- Gradual Transformation Project

- APT: 99%
- Pop den: 432 /ha
- % single-person HH: 29%
- % of two-person HH: 30%
- % of big family: 41%
- % children: 10%
- % of working: 70%
- % of elderly: 19%
- % of low income: 9%
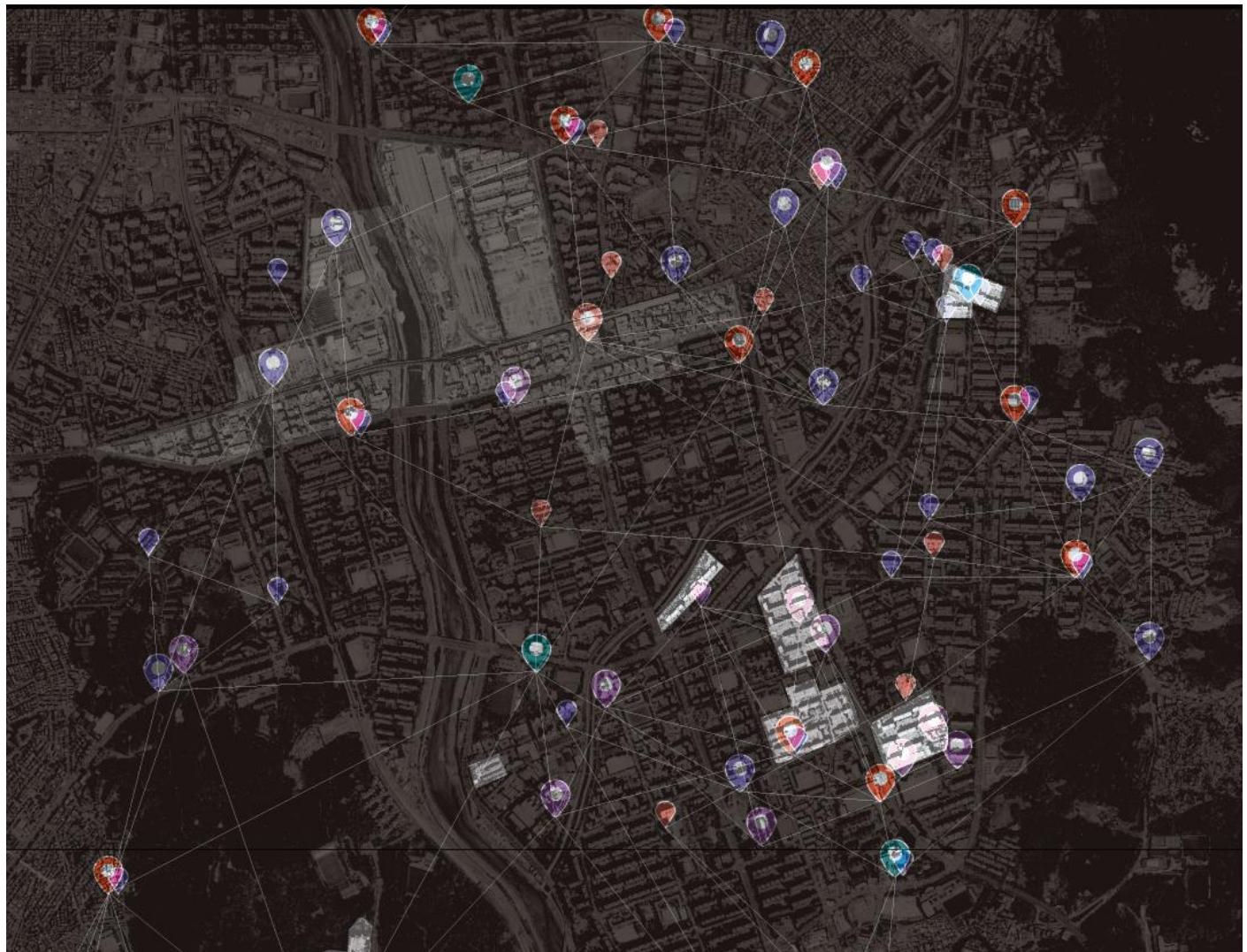
5.4   Community Block for New Relationship
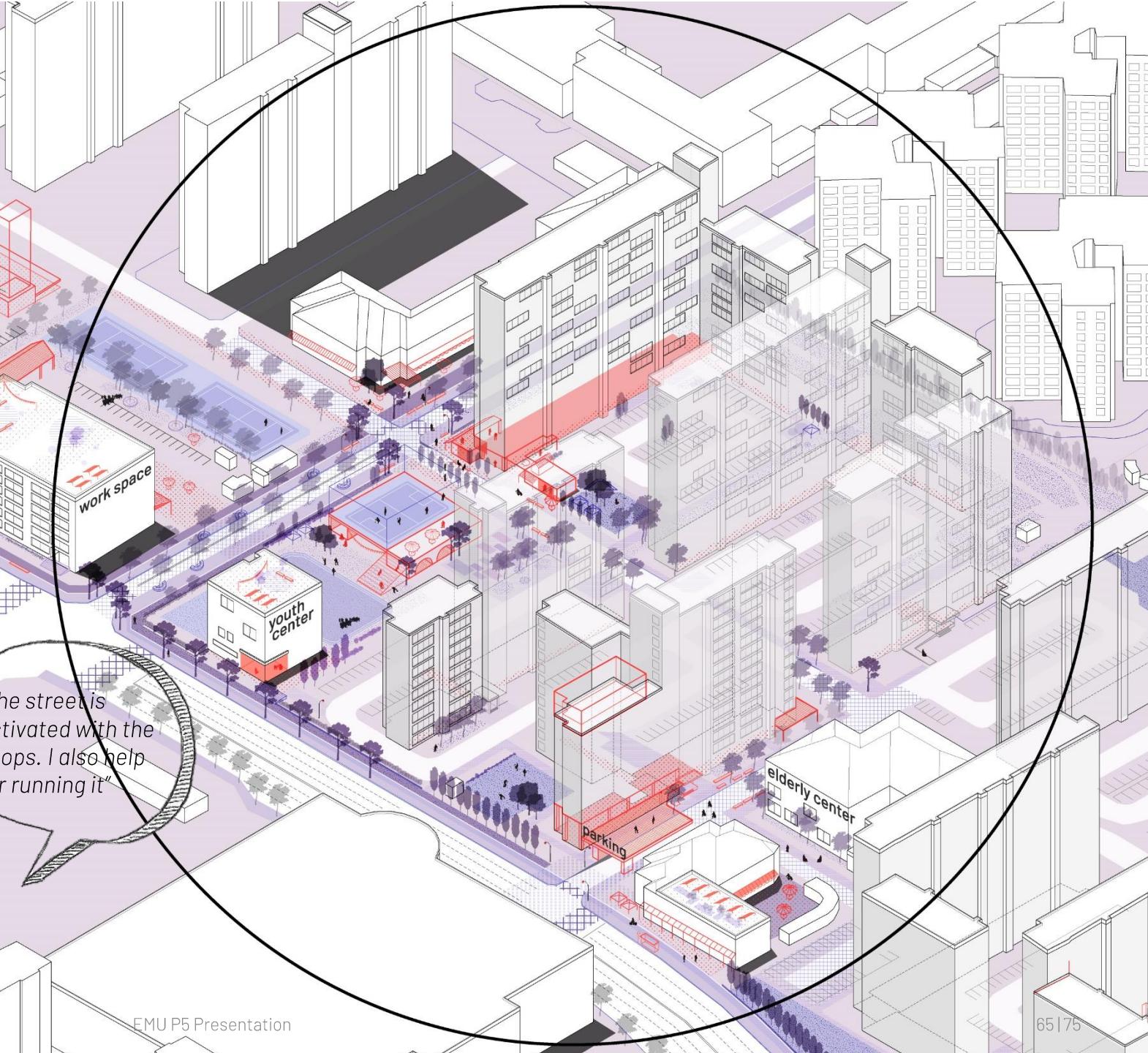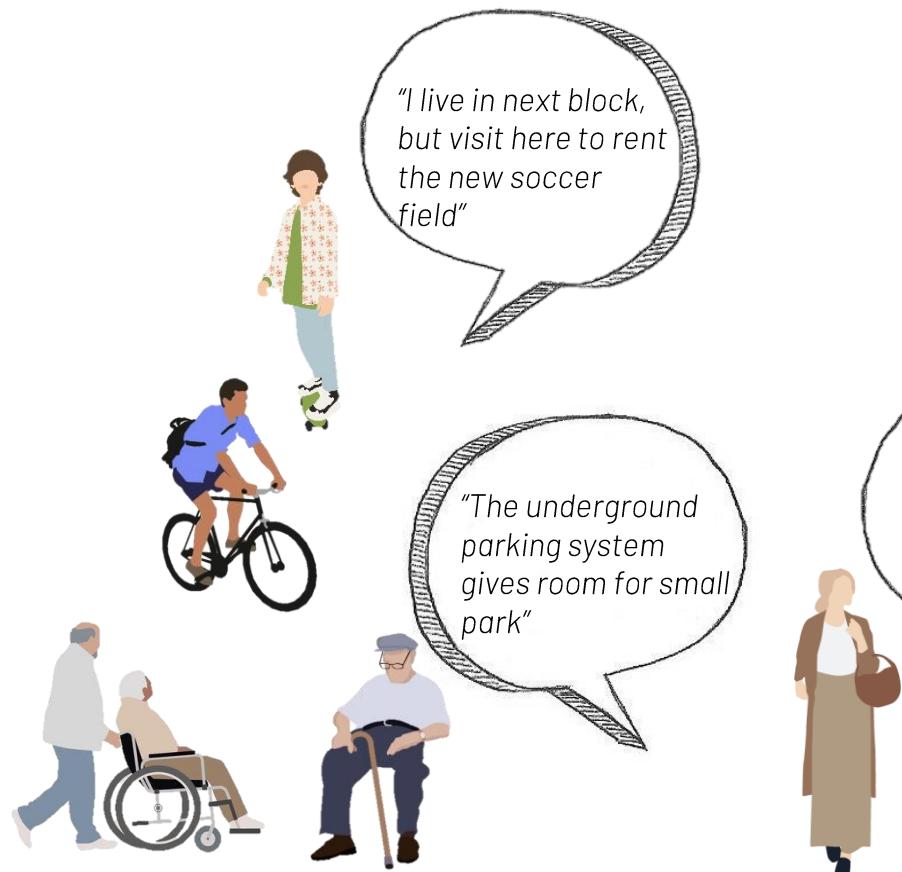
5.4.1   Neighborhood hub interface

- Phase 0: status quo, the aging infrastructure does not meet the demand of the residents

"Need the safe space for cycling"

"Need the space to sit and rest"
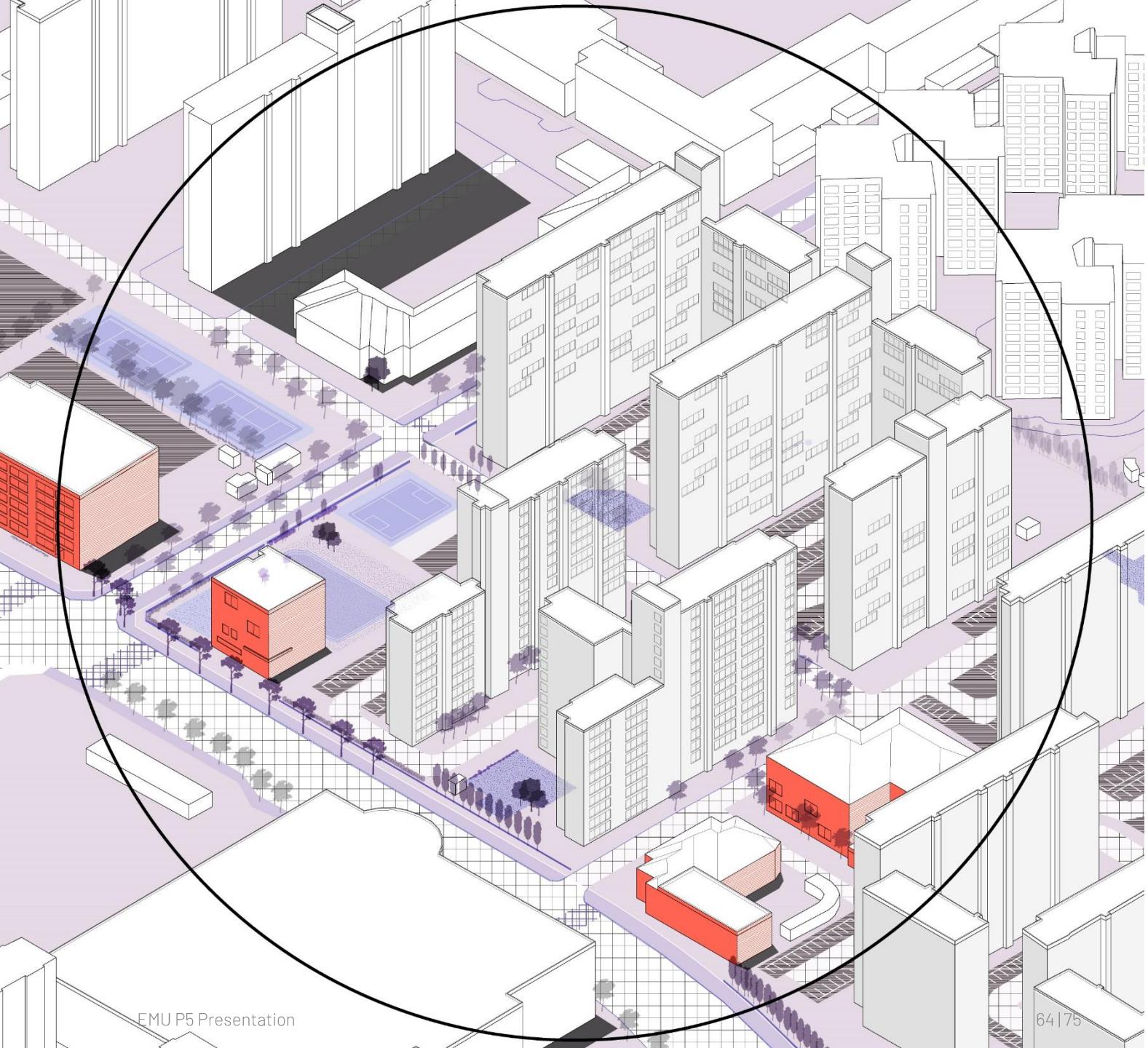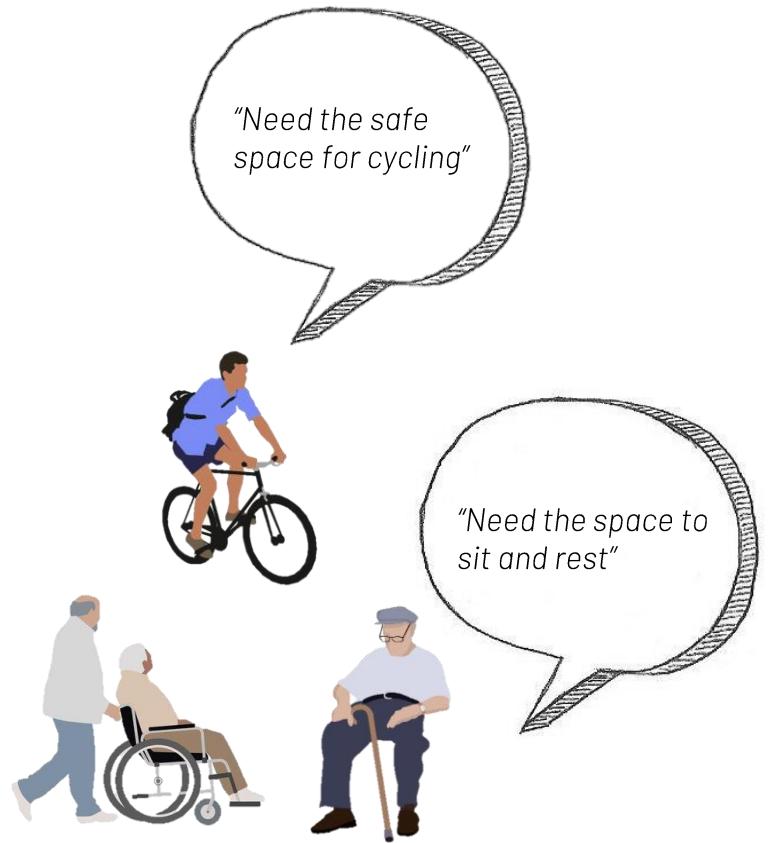
5.4 Community Block for New Relationship

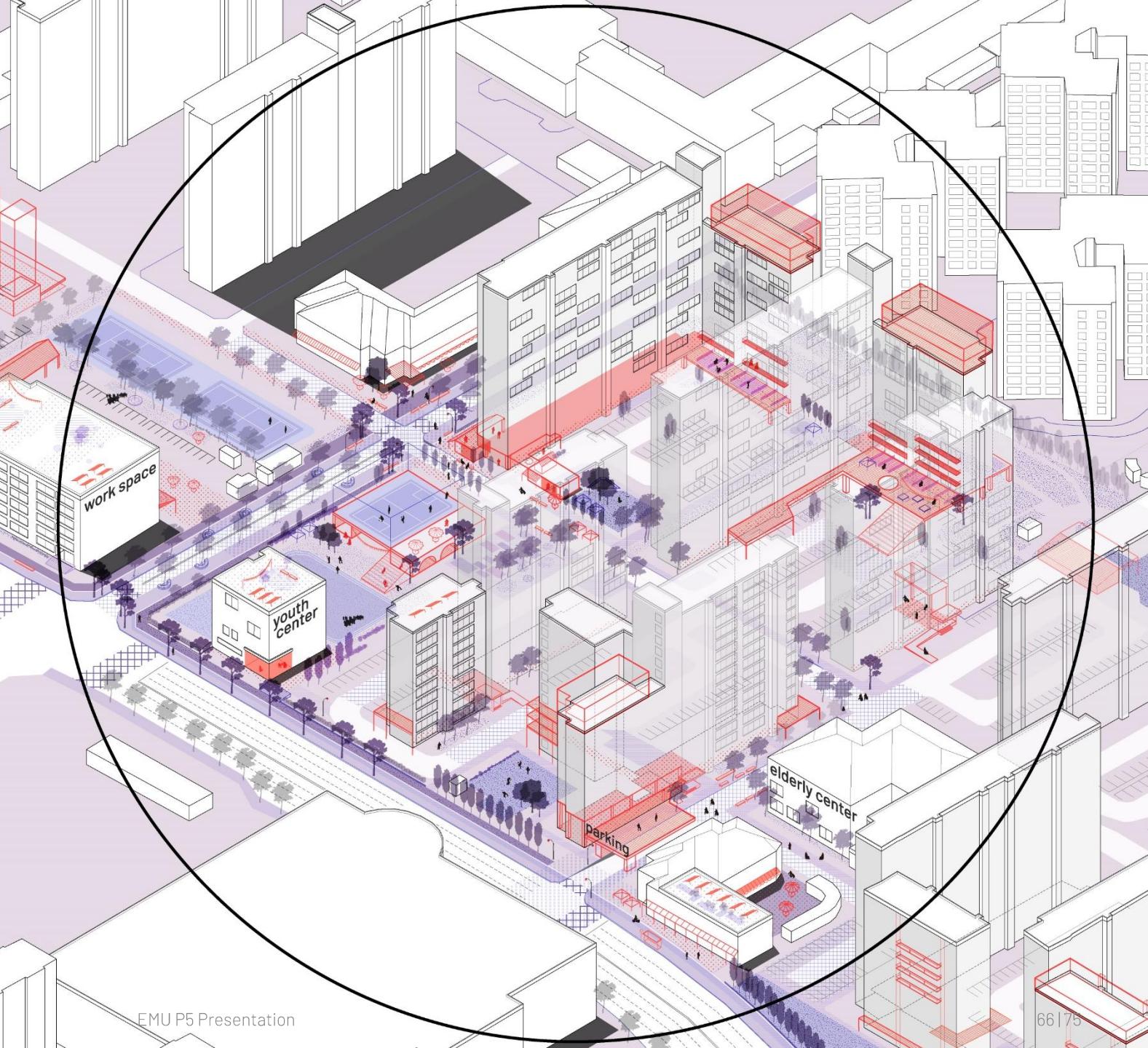## 5.4.1 Neighborhood hub interface

- Phase 1: emphasize from the important public nodes and network. Insert the functions of living support (kitchen, laundry, warehouse) and income generating activity (local store, farming, delivery, etc.)

"I live in next block, but visit here to rent the new soccer field"

"The underground parking system gives room for small park"

"The street is activated with the shops. I also help for running it"

5.4   Community Block for New Relationship
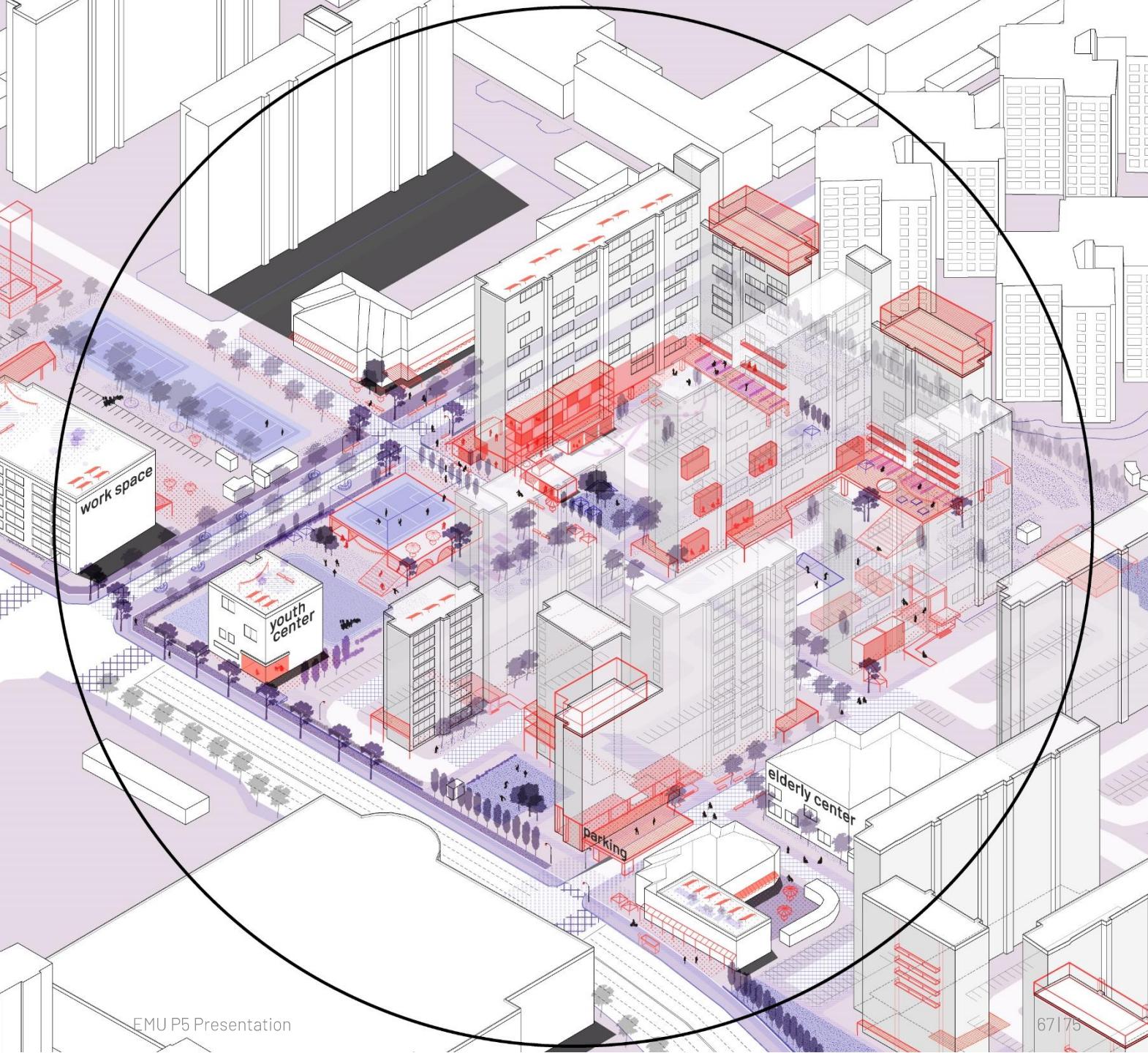
5.4.1   Neighborhood hub interface

- Phase 2: densify the inner parts of the block to accommodate new comers. At the same time, reprogram the ground floor with sharing functions.

"We move for couple of years because of our new jobs"

"Now we secure the competitiveness for sustainable management"

5.4 Community Block for New Relationship
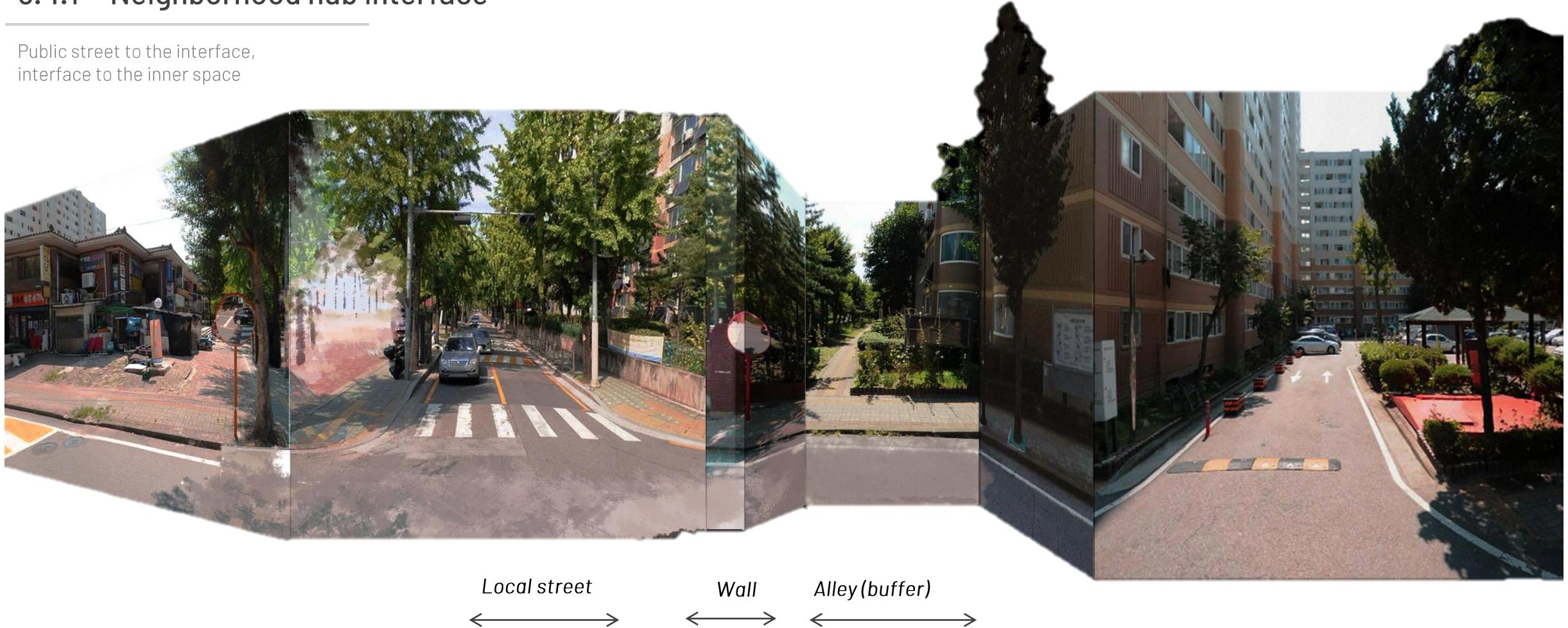
5.4.1 Neighborhood hub interface

- Local street of 2 lanes
- Major junction of community functions
- Control the car movement

5.4   Community Block for
         New Relationship

5.4.1   Neighborhood hub interface

Public street to the interface,
interface to the inner space

Local street

Wall   *Alley (buffer)*

5.4 Community Block for New Relationship

5.4.1 Neighborhood hub interface

Public street to the interface,
interface to the inner space

Part 5

Discussion and Conclusion

Infrastructural boundary: [edge] where things end

[enclosure]→[open]
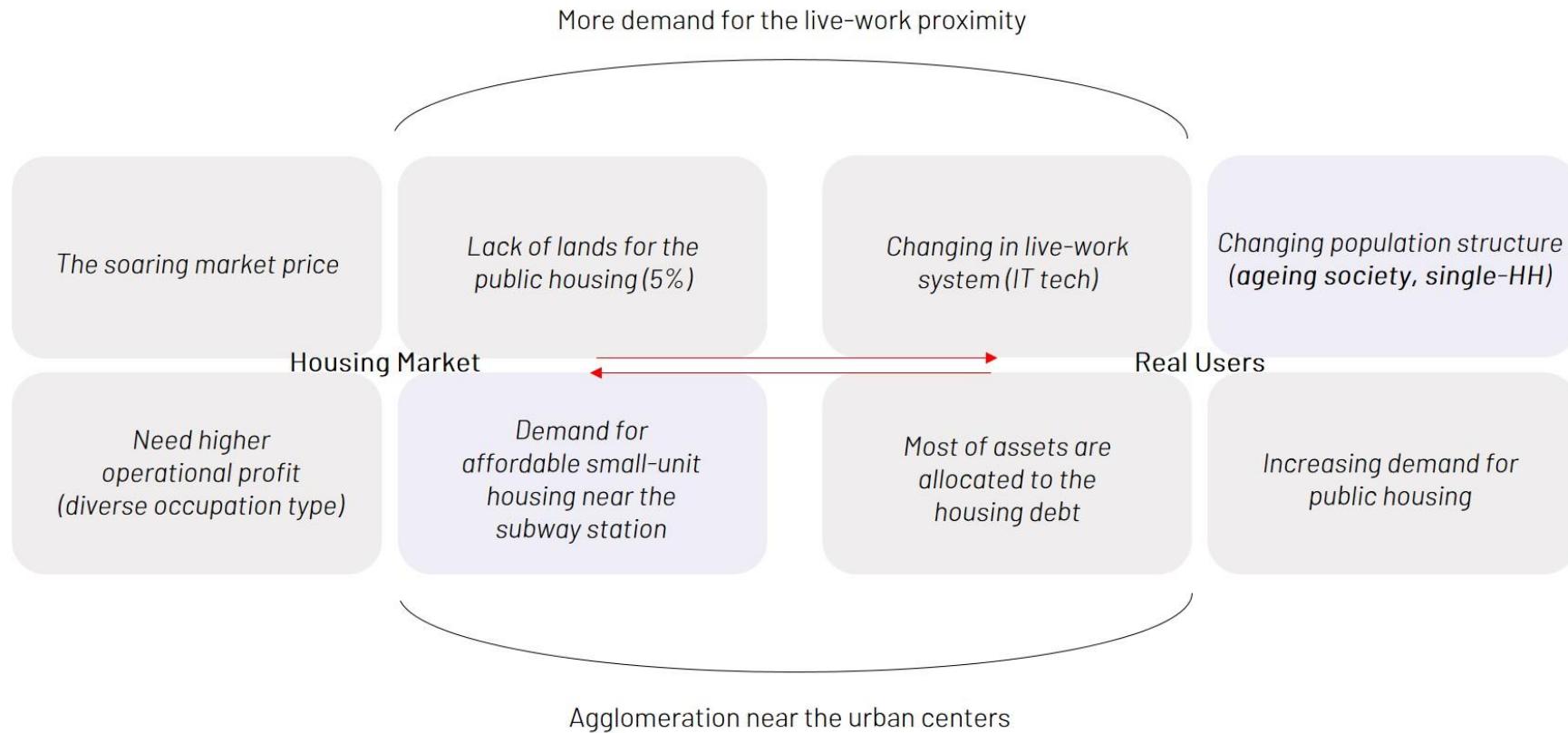
[stack]→[layer]

[alone]→ [cluster]

[mono]→[multiple]

[spread]→[intensity]

Programmatic border [interface] where different groups interact

Shifting trends and the apartment complexes

More demand for the live-work proximity

| The soaring market price | Lack of lands for the public housing (5%) | Changing in live-work system (IT tech) | Changing population structure (ageing society, single-HH) |

Housing Market ←→ Real Users

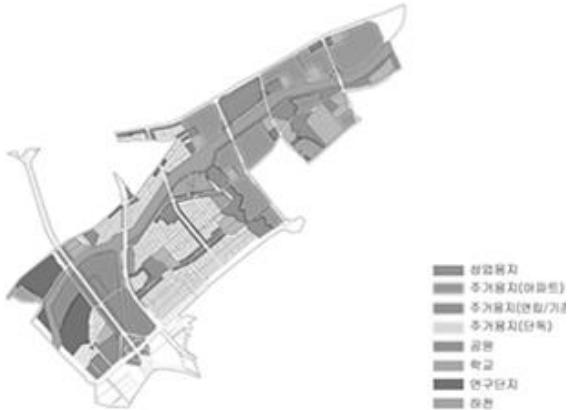| Need higher operational profit (diverse occupation type) | Demand for affordable small-unit housing near the subway station | Most of assets are allocated to the housing debt | Increasing demand for public housing |

Agglomeration near the urban centers

(source: Jung, Kim & Lee, 2012, p.55; adapted by author)
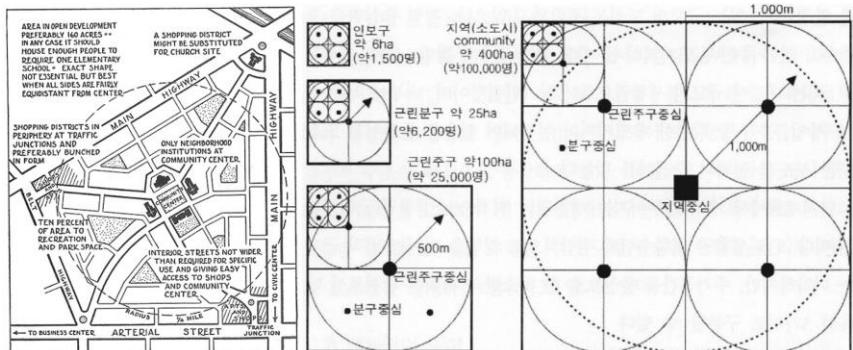
6.1.1   Discussion

Application of the patterns?

[Area-based zoning system]

"patterns" as language
Relation-oriented system

[neighborhood unit planning]

(source: https://chingusai.net/xe/newsletter/606291; https://seoulsolution.kr/en/node/6381)

6.2   Reference

6.2.1   Sources

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Q & A

Thanks for listening