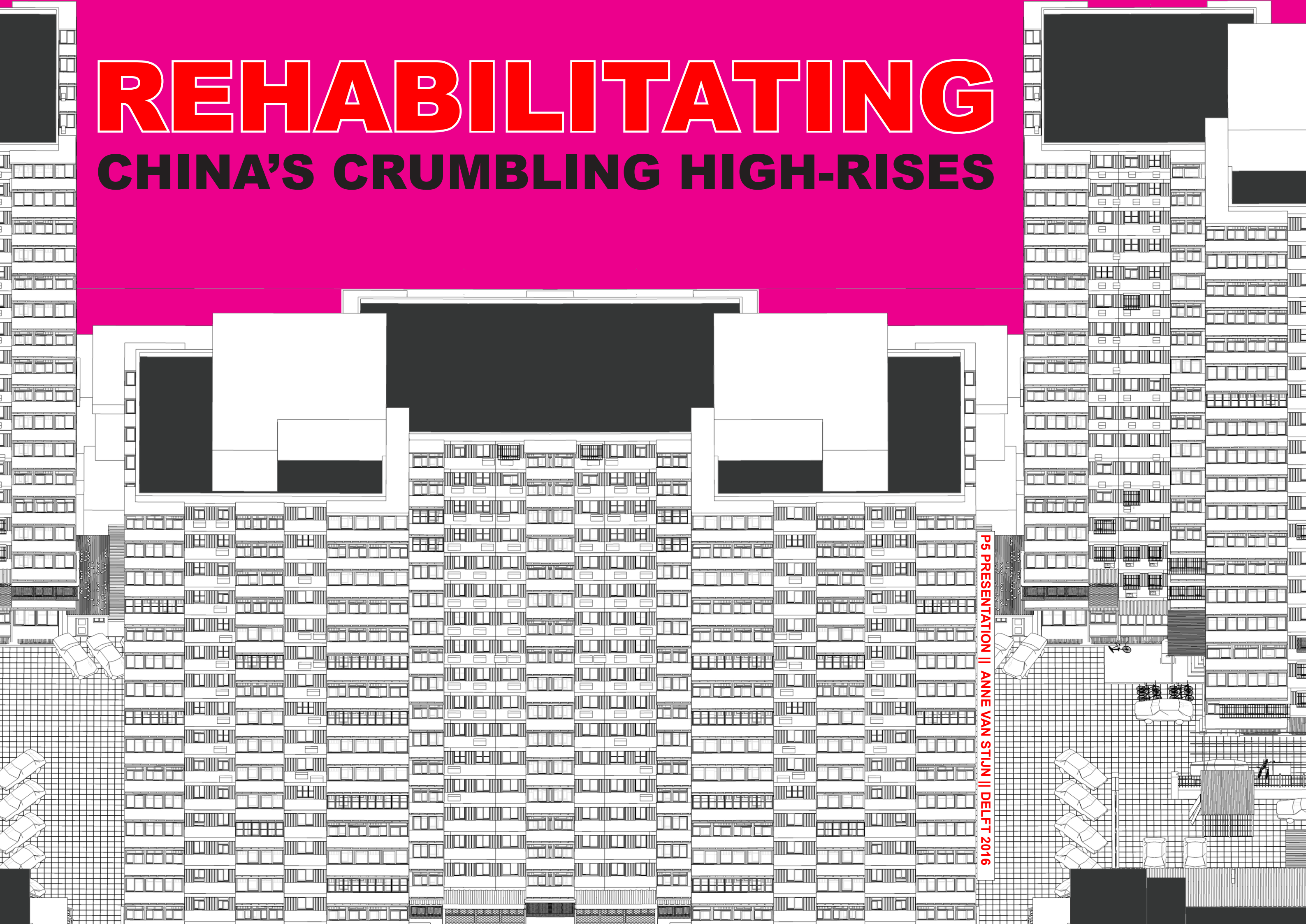


# REHABILITATING

## CHINA'S CRUMBLING HIGH-RISES



P5 PRESENTATION || ANNE VAN STIJN || DELFT 2016













警月凶挂  
来朋想伏  
110

宽带网  
BROAD NETCOM  
兆千“速”  
同不此从活往在能出  
热线商务  
84816208/27162203

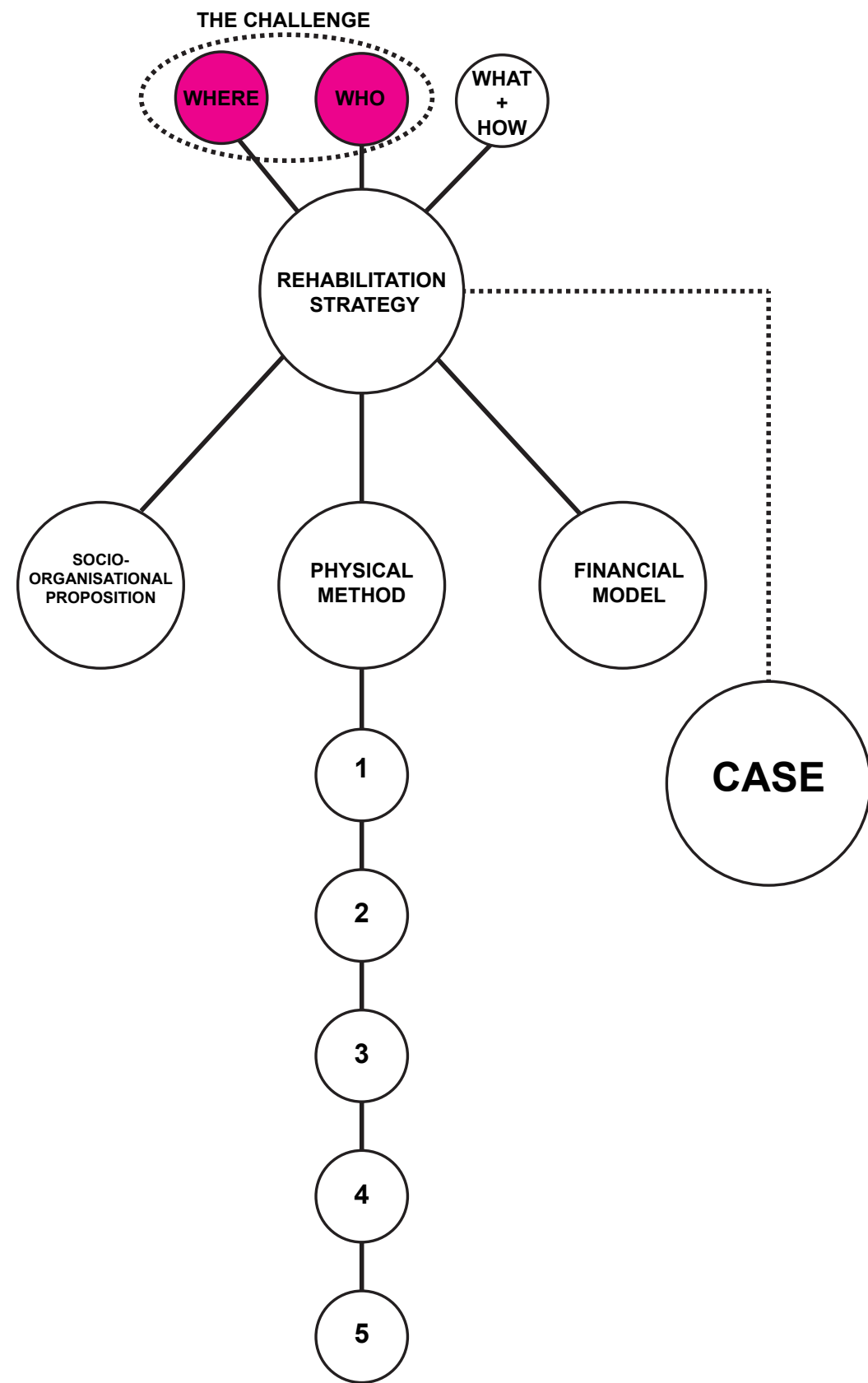
吉品食里西回回  
对货 品食 器做

02154 HE









# CONTENT

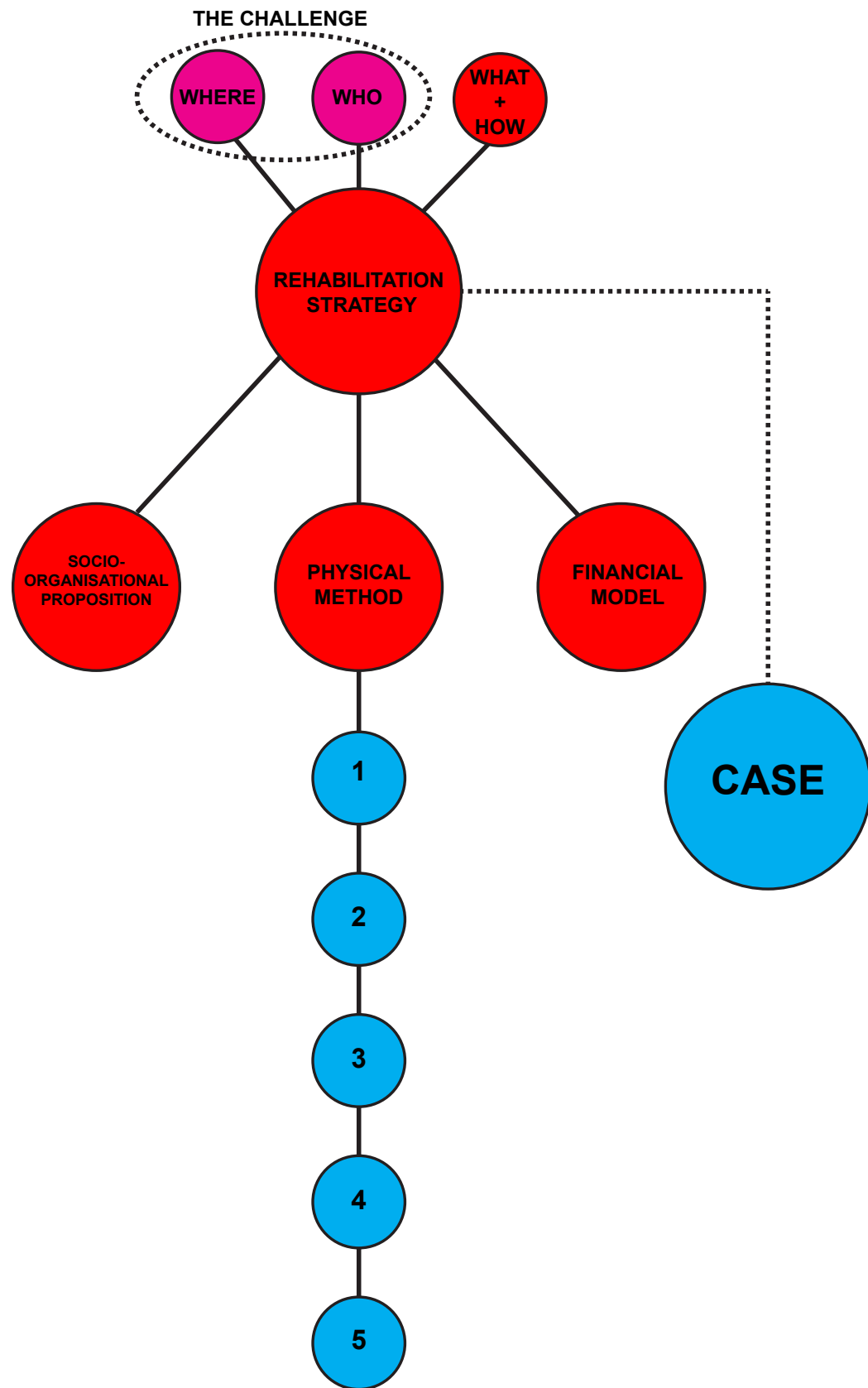
## PART I

### THE CHALLENGE OF CHINA'S CRUMBLING HIGH-RISES

The negative spiral

Demolition vs rehabilitation?



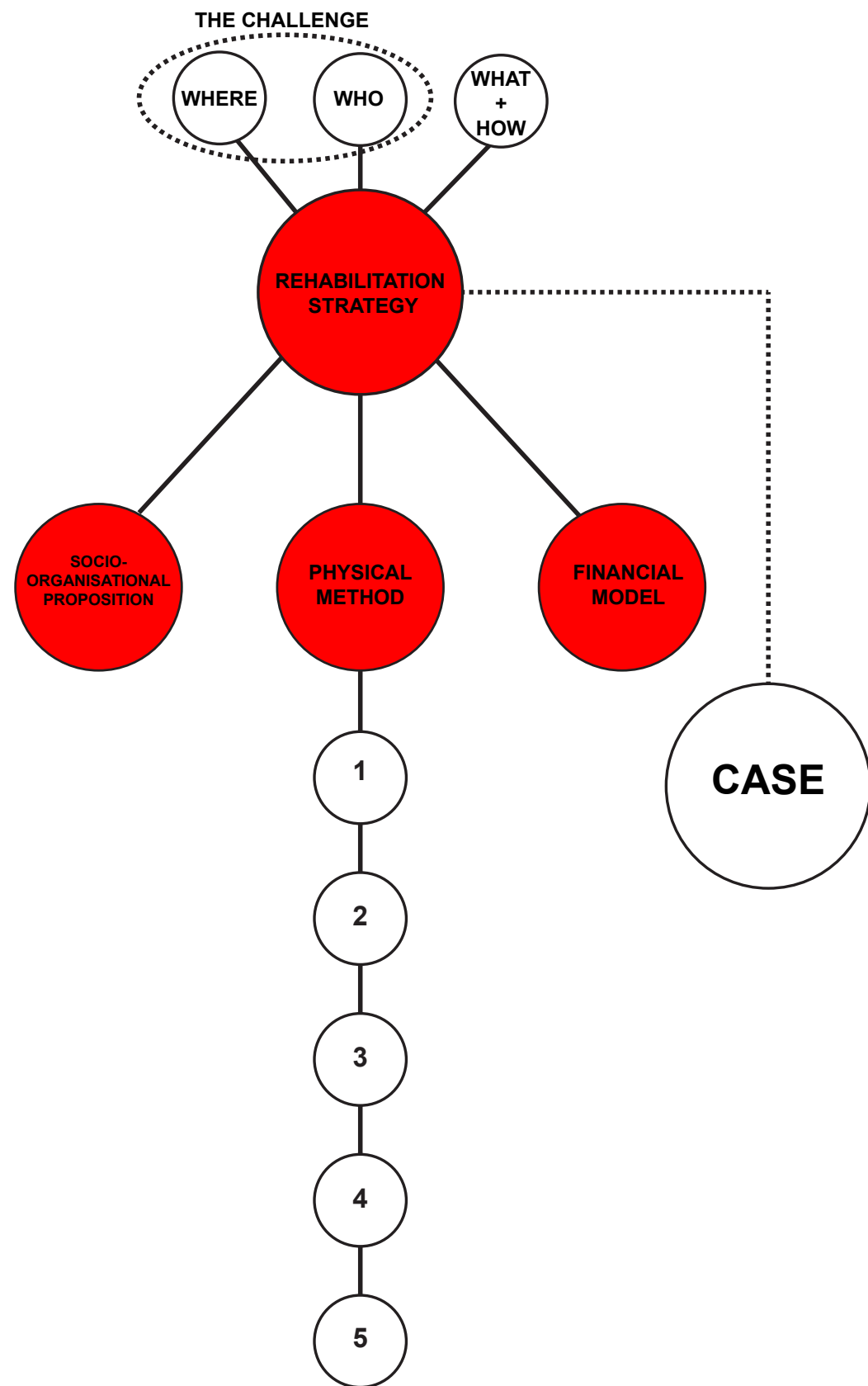


# CONTENT

**PART I**      **THE CHALLENGE OF CHINA'S CRUMBLING HIGH-RISES**  
 The negative spiral  
 Demolition vs rehabilitation?

**PART II**      **RESEARCH + DESIGN METHODOLOGY**  
 Main question  
 Methodology

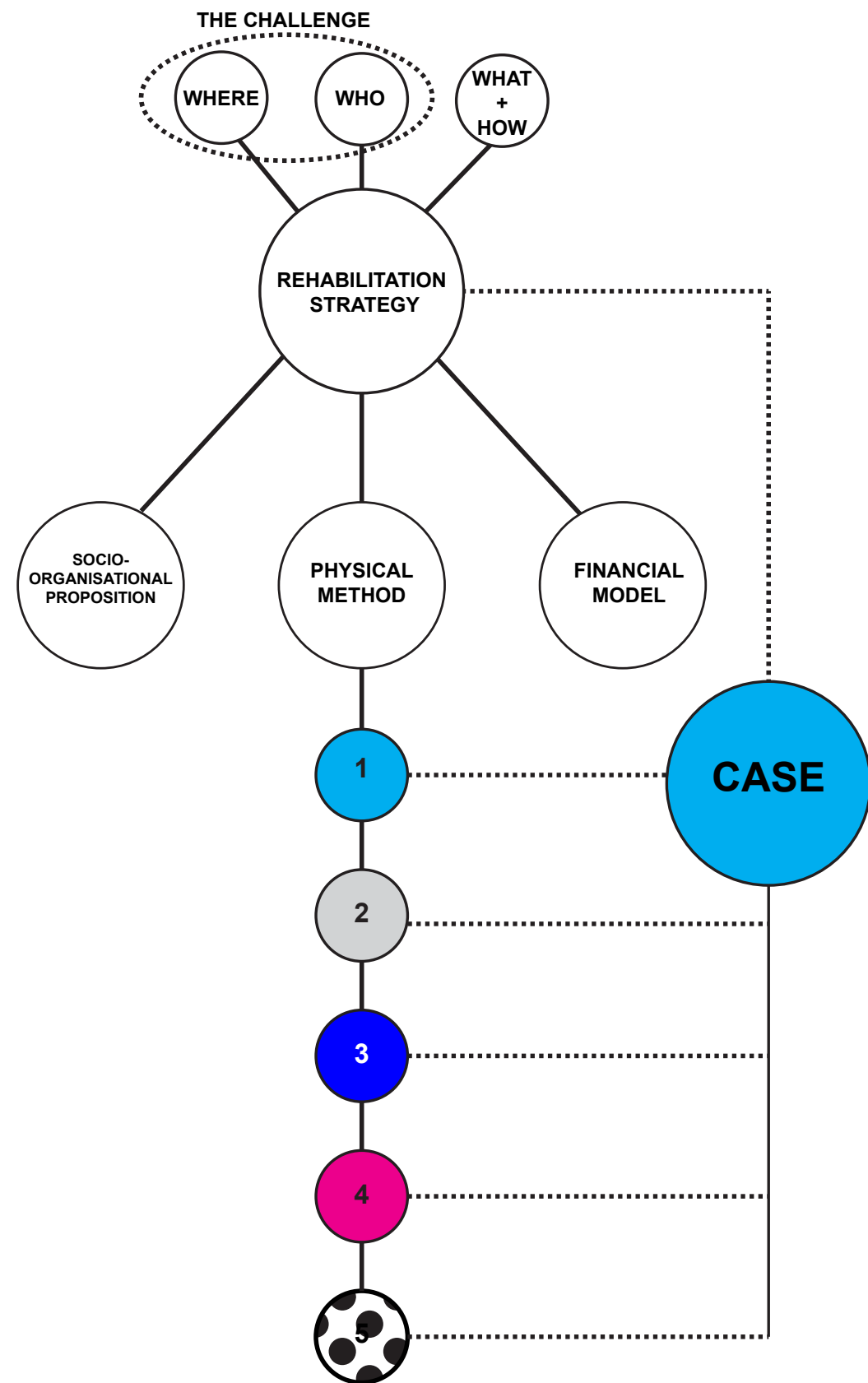




# CONTENT

- PART I**     **THE CHALLENGE OF CHINA'S CRUMBLING HIGH-RISES**  
The negative spiral  
Demolition vs rehabilitation?
- PART II**    **RESEARCH + DESIGN METHODOLOGY**  
Main question  
Methodology
- PART III**   **THE REHABILITATION STRATEGY**  
The socio-organisational proposition  
The physical method  
The financial model



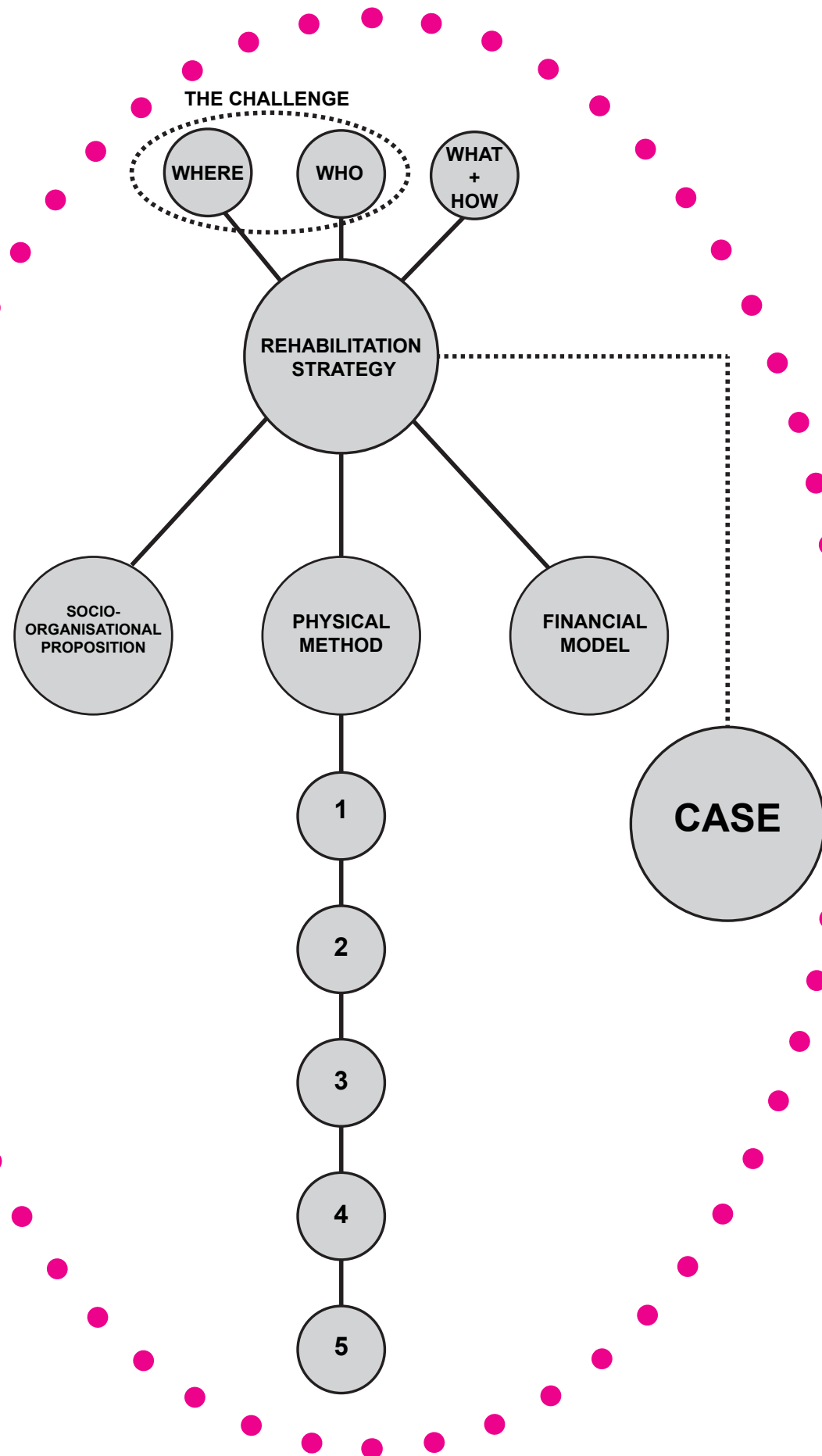


# CONTENT

- PART I**      **THE CHALLENGE OF CHINA'S CRUMBLING HIGH-RISES**  
The negative spiral  
Demolition vs rehabilitation?
  
- PART II**      **RESEARCH + DESIGN METHODOLOGY**  
Main question  
Methodology
  
- PART III**      **THE REHABILITATION STRATEGY**  
The socio-organisational proposition  
The physical method  
The financial model
  
- PART IV**      **DISCOVERING THE STEP BY STEP REHABILITATION METHOD WITH THE DONGSISHITIAO JIA CASE**  
The case of Dongsishitiao jia  
Step 1: Placement in the urban context  
Step 2: Let's rehabilitate the communal grounds and building together!  
Step 3: You can improve your dwelling!  
Step 4: From tools to plan  
Step 5: Lets construct... Ask it to the RE:NEW TBD-er!



# CONTENT



- PART I**     **THE CHALLENGE OF CHINA'S CRUMBLING HIGH-RISES**  
The negative spiral  
Demolition vs rehabilitation?
- PART II**     **RESEARCH + DESIGN METHODOLOGY**  
Main question  
Methodology
- PART III**     **THE REHABILITATION STRATEGY**  
The socio-organisational proposition  
The physical method  
The financial model
- PART IV**     **DISCOVERING THE STEP BY STEP REHABILITATION METHOD WITH THE DONGSISHITIAO JIA CASE**  
The case of Dongsishitiao jia  
Step 1: Preserve, Renew or Explore...  
Step 2: Let's rehabilitate the communal grounds and building together!  
Step 3: You can improve your dwelling!  
Step 4: From tools to plan  
Step 5: Lets construct... Ask it to the RE:NEW TBD-er!
- PART V**     **REFLECTIONS ON THE FUTURE OF CHINA'S CRUMBLING HIGH-RISES**





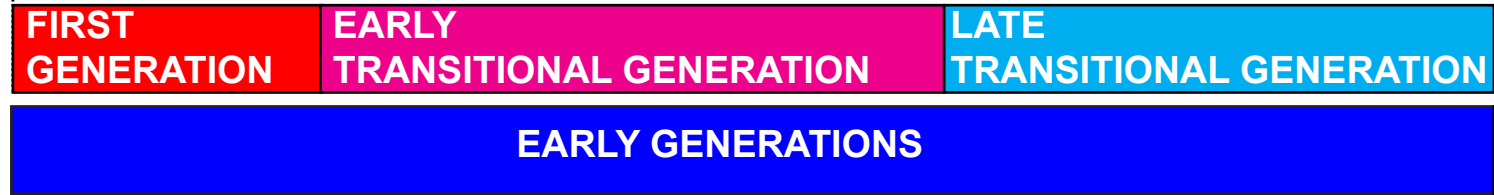
THE CHALLENGE OF CHINA'S  
CRUMBLING HIGH-RISES

# PART I



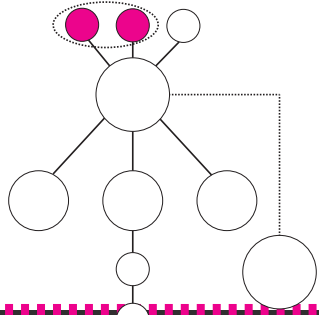


**CRUMBLING HIGH-RISES:**  
“EARLY HIGH-RISE HOUSING SHOWING  
SIGNS OF SEVERE DECAY”



1978  
OPENING  
UP

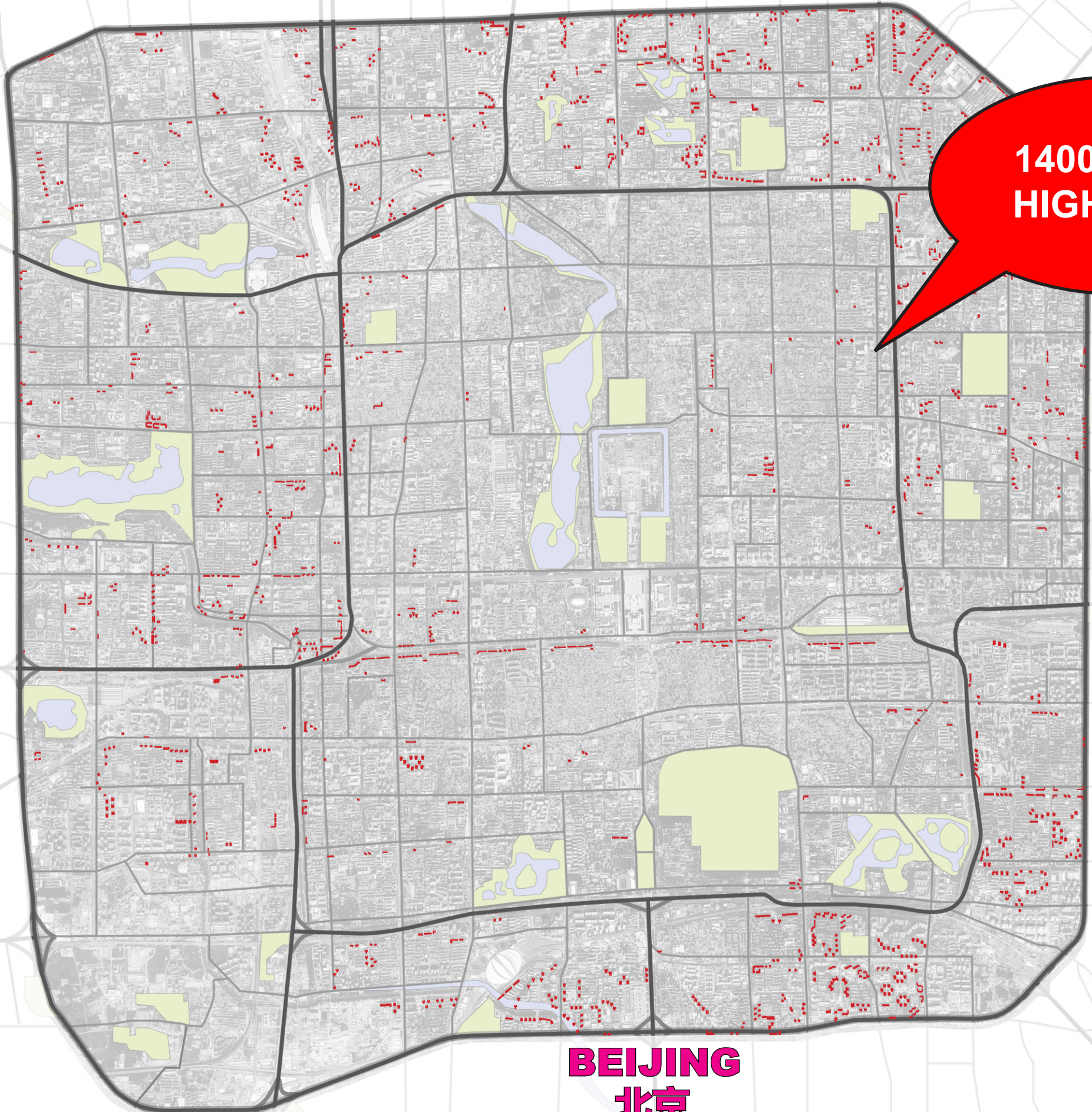
1998  
HOUSING  
REFORM



**1.0 THE NEGATIVE SPIRAL**

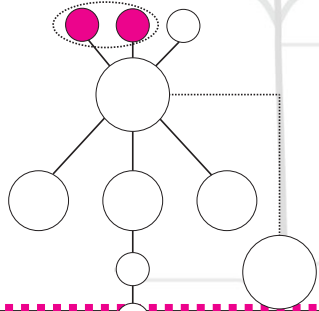
DEFINING THE EARLY HIGH-RISE HOUSING OF BEIJING





**1400 EARLY  
HIGH-RISES**

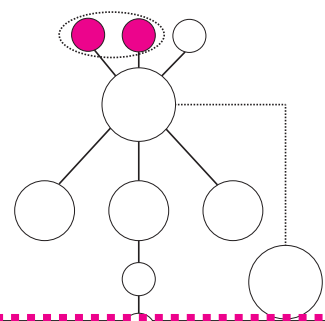
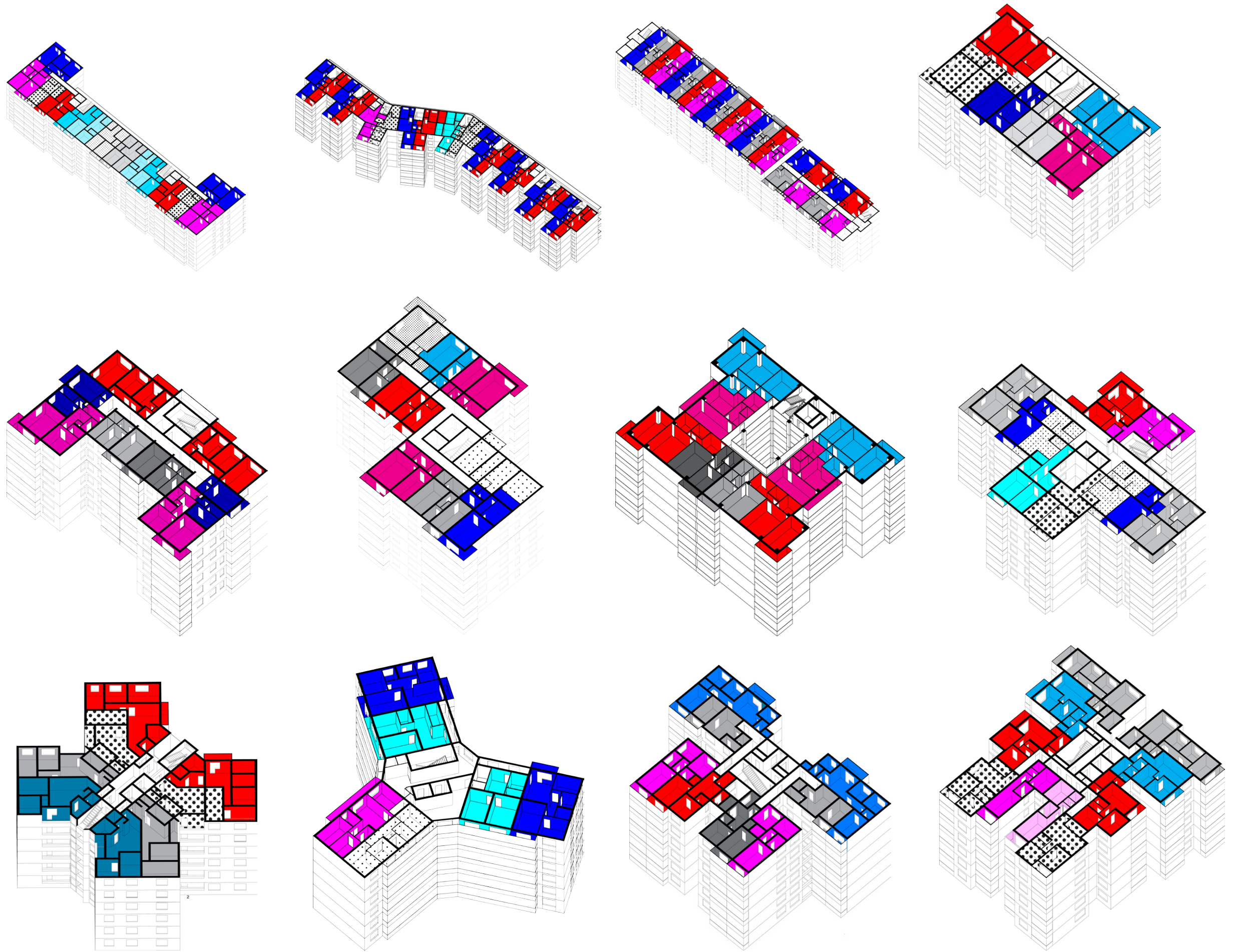
**BEIJING**  
**北京**



**1.0 THE NEGATIVE SPIRAL**

THE VAST AMOUNT OF EARLY HIGH-RISES OF BEIJING





# 1.0 THE NEGATIVE SPIRAL

STANDARD DESIGNS OF THE EARLY HIGH-RISES OF BEIJING



**NO GREEN OR COMMUNITY SPACE!**



**ILLEGAL SUB-STANDARD STRUCTURES**



**BAD INFRASTRUCTURE**



**TOO LITTLE MAINTENANCE**

**OVERCROWDED + ILLEGAL PARKING**



**BASEMENT SLUMS**



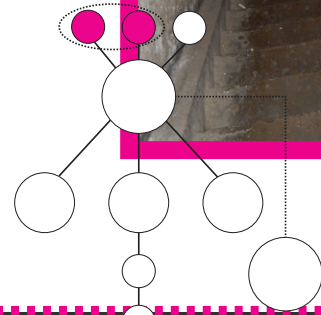
**POOR CONSTRUCTION QUALITY**



**OUTDATED LAYOUTS**



**SMALL SERVICES**

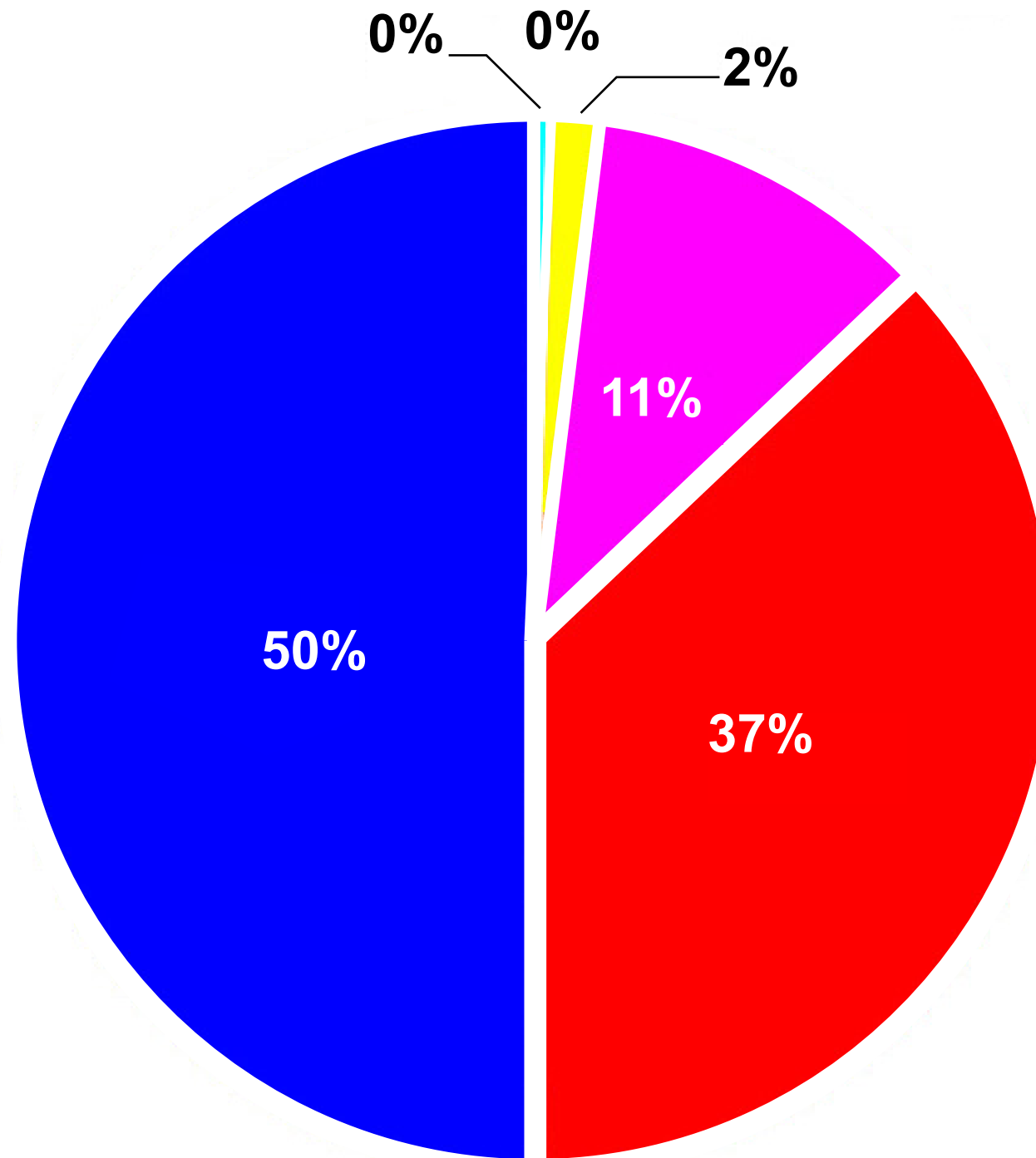


# 1.0 THE NEGATIVE SPIRAL

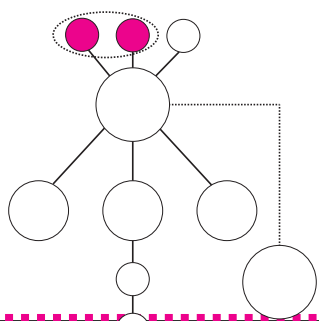
PHYSICAL DECAY



# GRADE OF DECAY (593 early high-rises)



Van Stijn, A. 2016

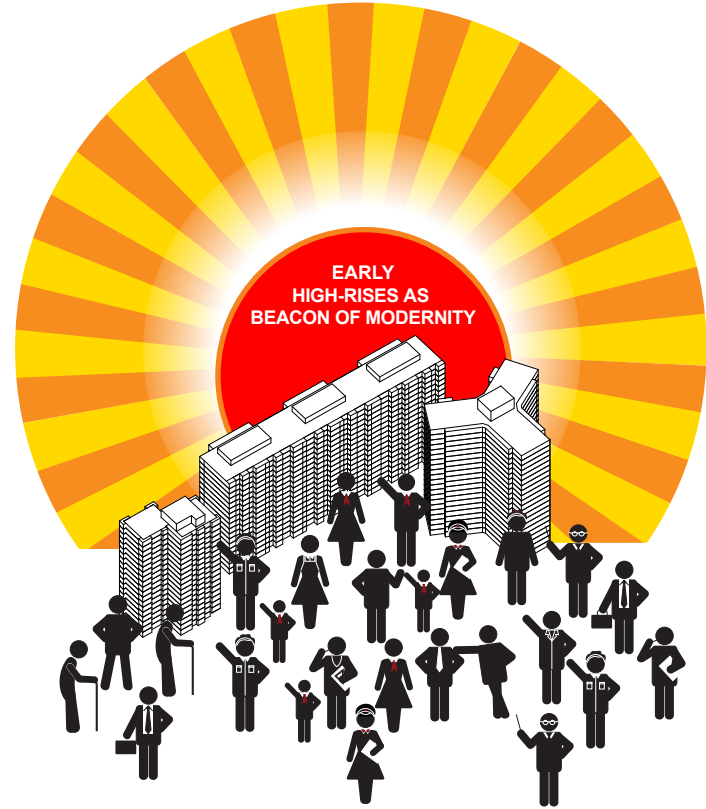


## 1.0 THE NEGATIVE SPIRAL

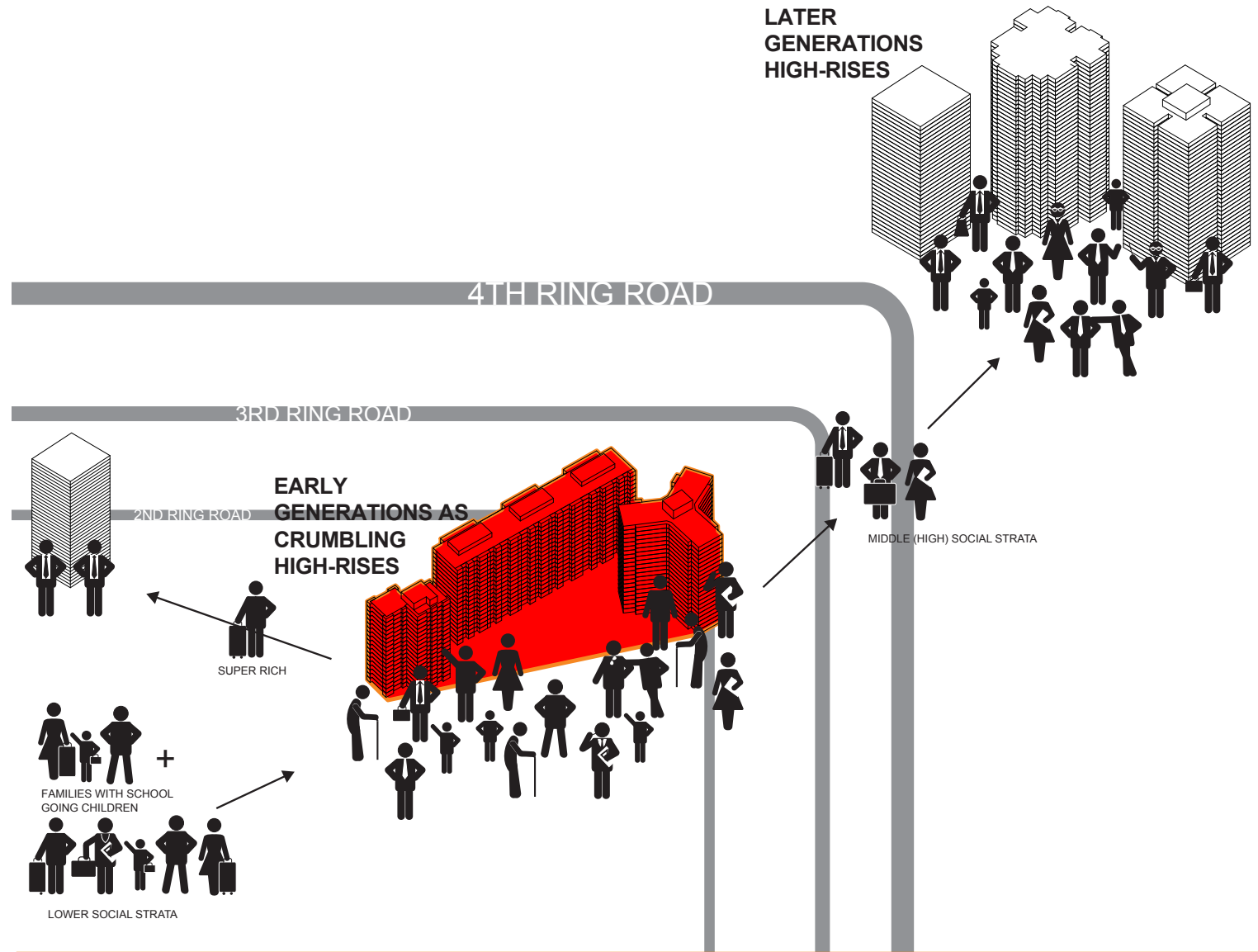
PHYSICAL DECAY

PAGE 12-107

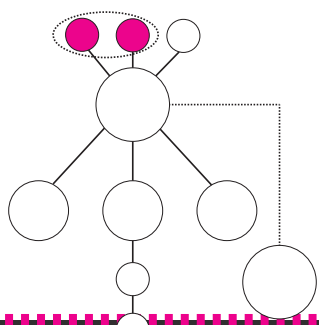




1970



2015

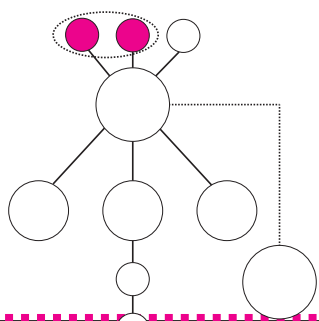
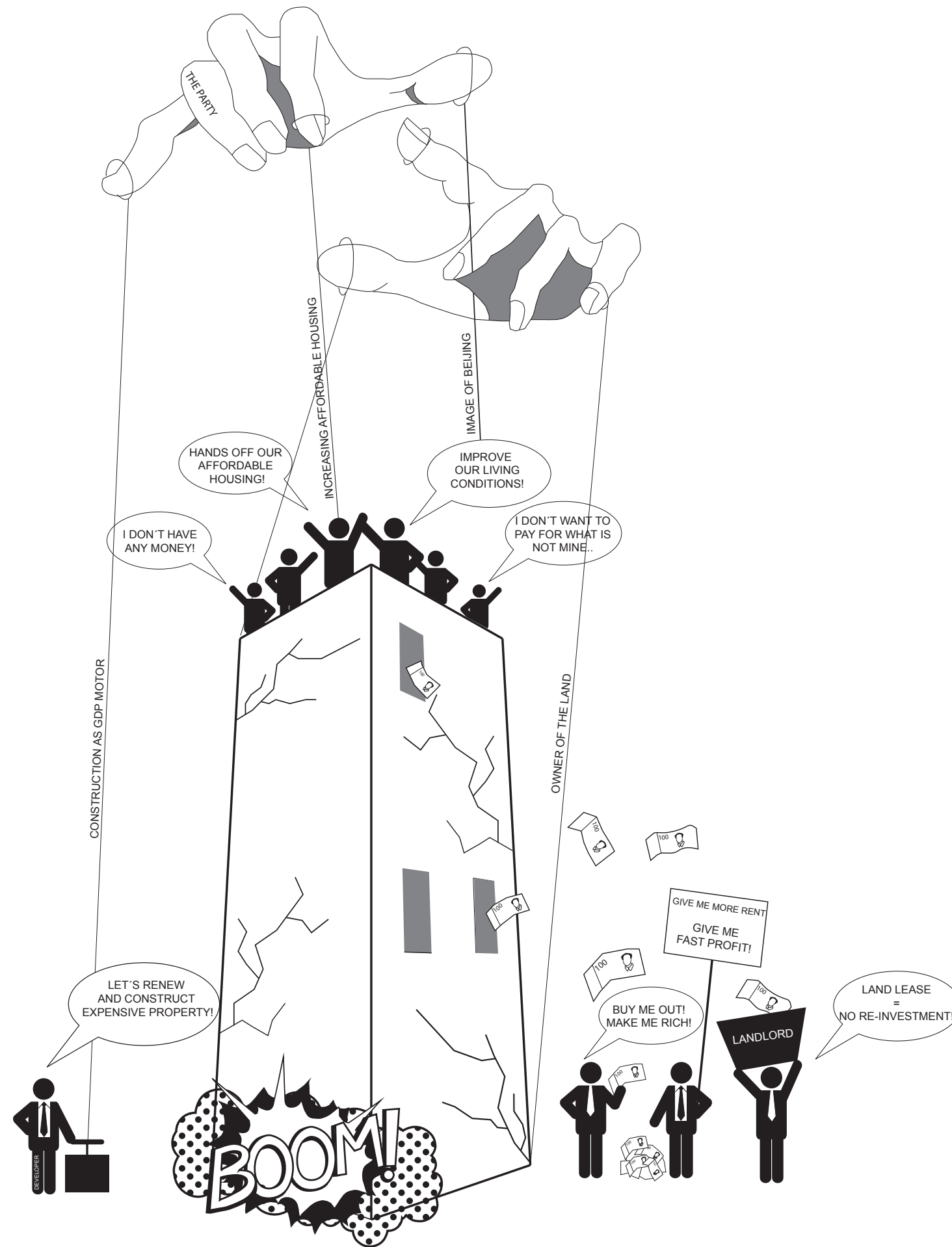


# 1.0 THE NEGATIVE SPIRAL

SOCIAL DEPRIVATION

PAGE 13-107





# 1.0 THE NEGATIVE SPIRAL

FINANCIAL IMPASSE

PAGE 14-107

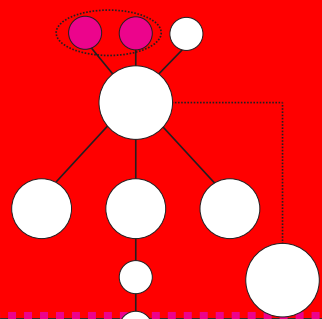


**FINANCIAL IMPASSE**

**PHYSICAL  
DELAPIDATION**

**NEGATIVE SPIRAL**

**SOCIAL DEPRIVATION**



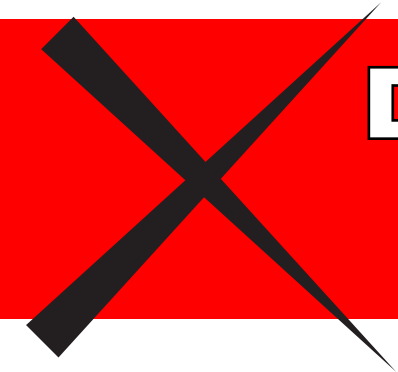
**1.0 THE NEGATIVE SPIRAL**

**NEGATIVE SPIRAL**

PAGE 15-107

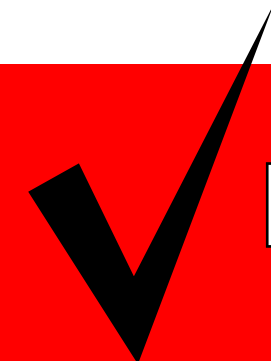


*“Urban rehabilitation physically indicates the **area-based, gentle and step-by-step urban renewal (without wholesale demolition)** to improve the quality of living”  
(Hui, 2012, p.56)*



## **DEMOLITION + REBUILDING**

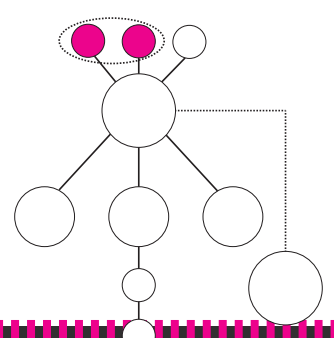
vs.



## **REHABILITATION**

- 1. CHEAPER ON SHORT TERM?
- 2. RENEWAL USED TO BE GDP MOTOR OF CHINA
- 3. LAND-LEASE SYSTEM STIMULATES DEMOLITION

- 1. MONUMENTAL VALUE
- 2. MORE SUSTAINABLE
- 3. EASIER TO AGREE ON WITH ALL STAKEHOLDERS
- 4. RETAINS AFFORDABLE HOUSING
- 5. FEASIBLE IN CURRENT MARKET



### **1.1 DEMOLITION VS. REHABILITATION**

DEMOLITION VS. REHABILITATION IN PRO'S AND CON'S

PAGE 16-107



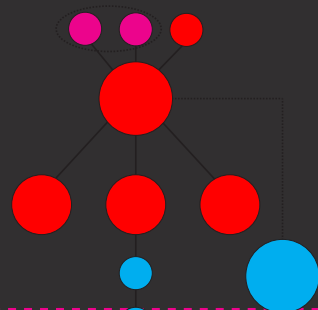


RESEARCH + DESIGN  
METHODOLOGY

# PARTE II



**CAN A REHABILITATION STRATEGY BE  
DEVELOPED TO DEAL WITH THE CHALLENGES OF THE  
EARLY HIGH-RISE HOUSING IN BEIJING?**



---

**2.0 RESEARCH + DESIGN METHODOLOGY**

MAIN QUESTION

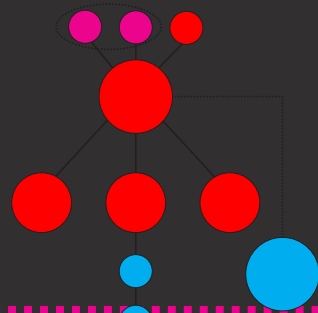
PAGE 18-107





**INTEGRAL  
SOLUTION FOR THE  
CHALLENGE**

**CAN A REHABILITATION STRATEGY BE  
DEVELOPED TO DEAL WITH THE CHALLENGES OF THE  
EARLY HIGH-RISE HOUSING IN BEIJING?**



---

**2.0 RESEARCH + DESIGN METHODOLOGY**

MAIN QUESTION

PAGE 18-107



**INTEGRAL  
SOLUTION FOR THE  
CHALLENGE**

**CAN A REHABILITATION STRATEGY BE  
DEVELOPED TO DEAL WITH THE CHALLENGES OF THE  
EARLY HIGH-RISE HOUSING IN BEIJING?**

**REALISTIC =  
NON-ABSTRACT +  
POSSIBLE +  
ATTRACTIVE**



**INTEGRAL  
SOLUTION FOR THE  
CHALLENGE**

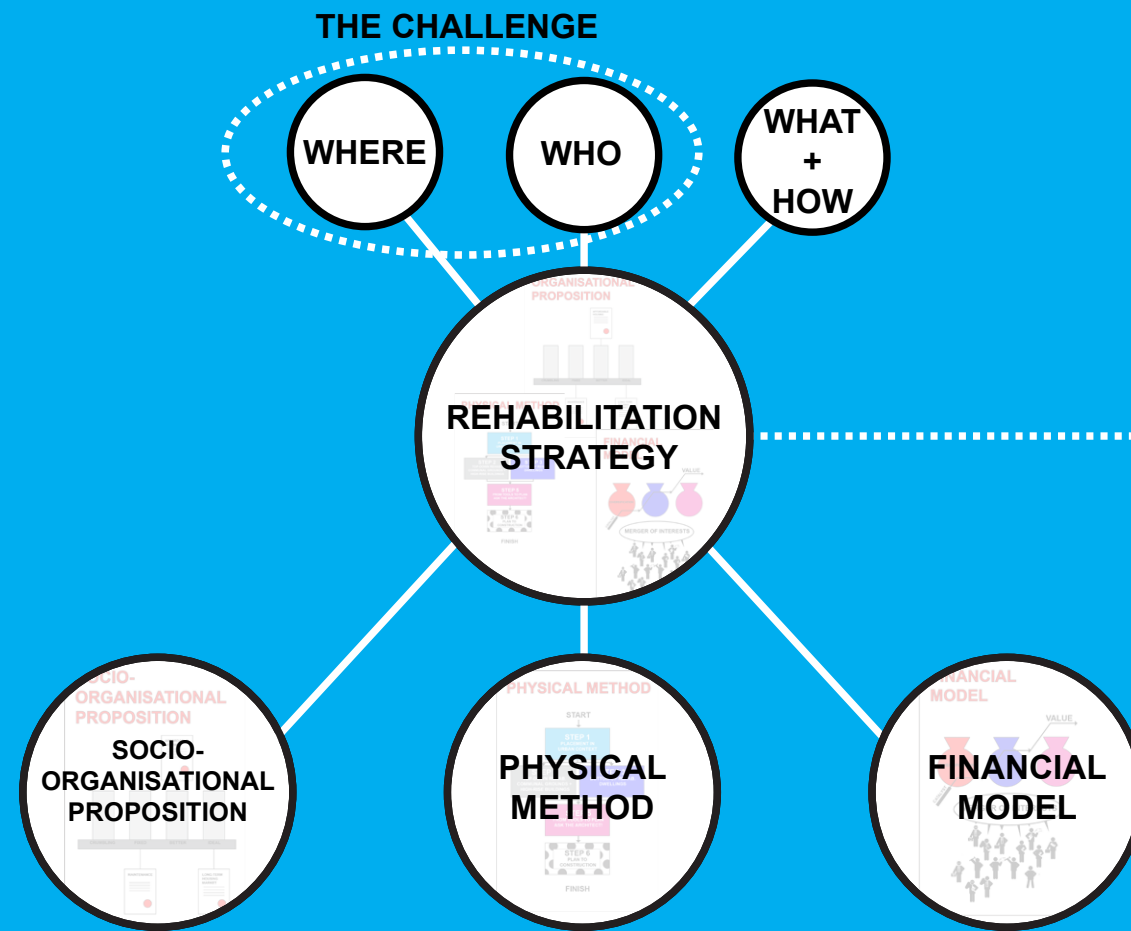
**A HANDS-ON  
STRATEGY**

**CAN A REHABILITATION STRATEGY BE  
DEVELOPED TO DEAL WITH THE CHALLENGES OF THE  
EARLY HIGH-RISE HOUSING IN BEIJING?**

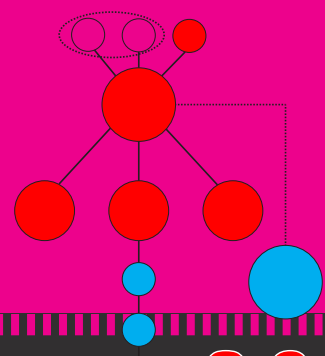
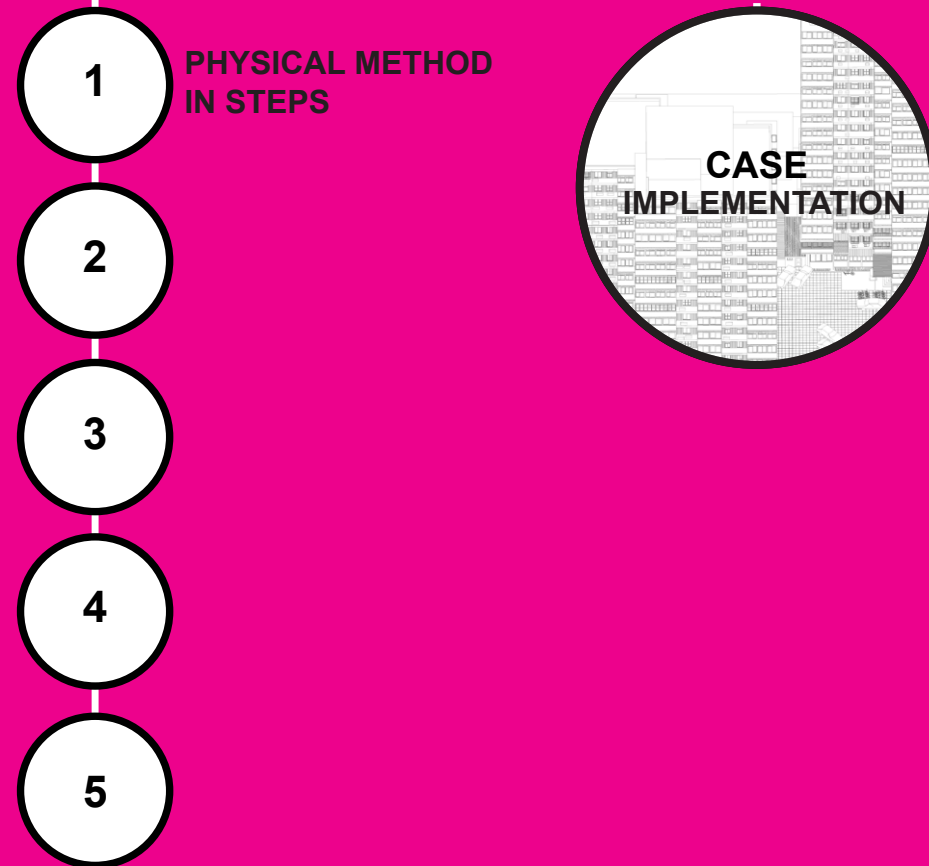
**REALISTIC =  
NON-ABSTRACT +  
POSSIBLE +  
ATTRACTIVE**



# RESEARCH



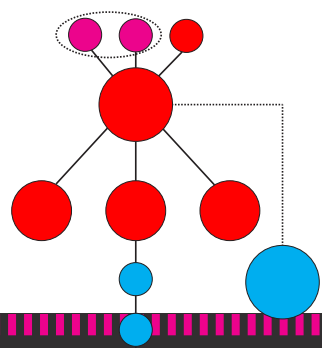
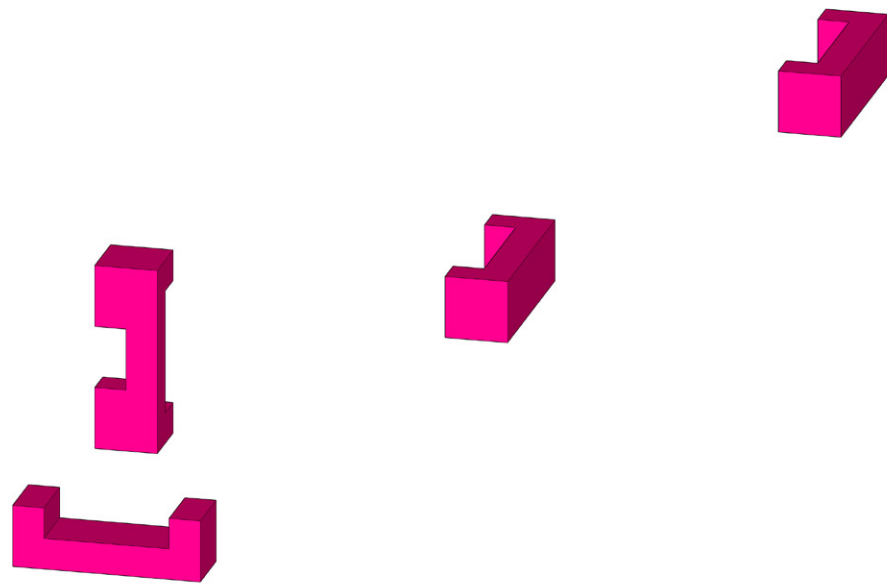
# DESIGN



## 2.0 RESEARCH + DESIGN METHODOLOGY

RESEARCH + DESIGN METHODOLOGY IN SCHEME



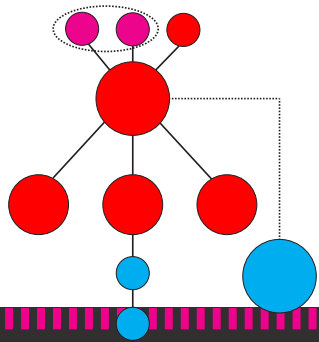
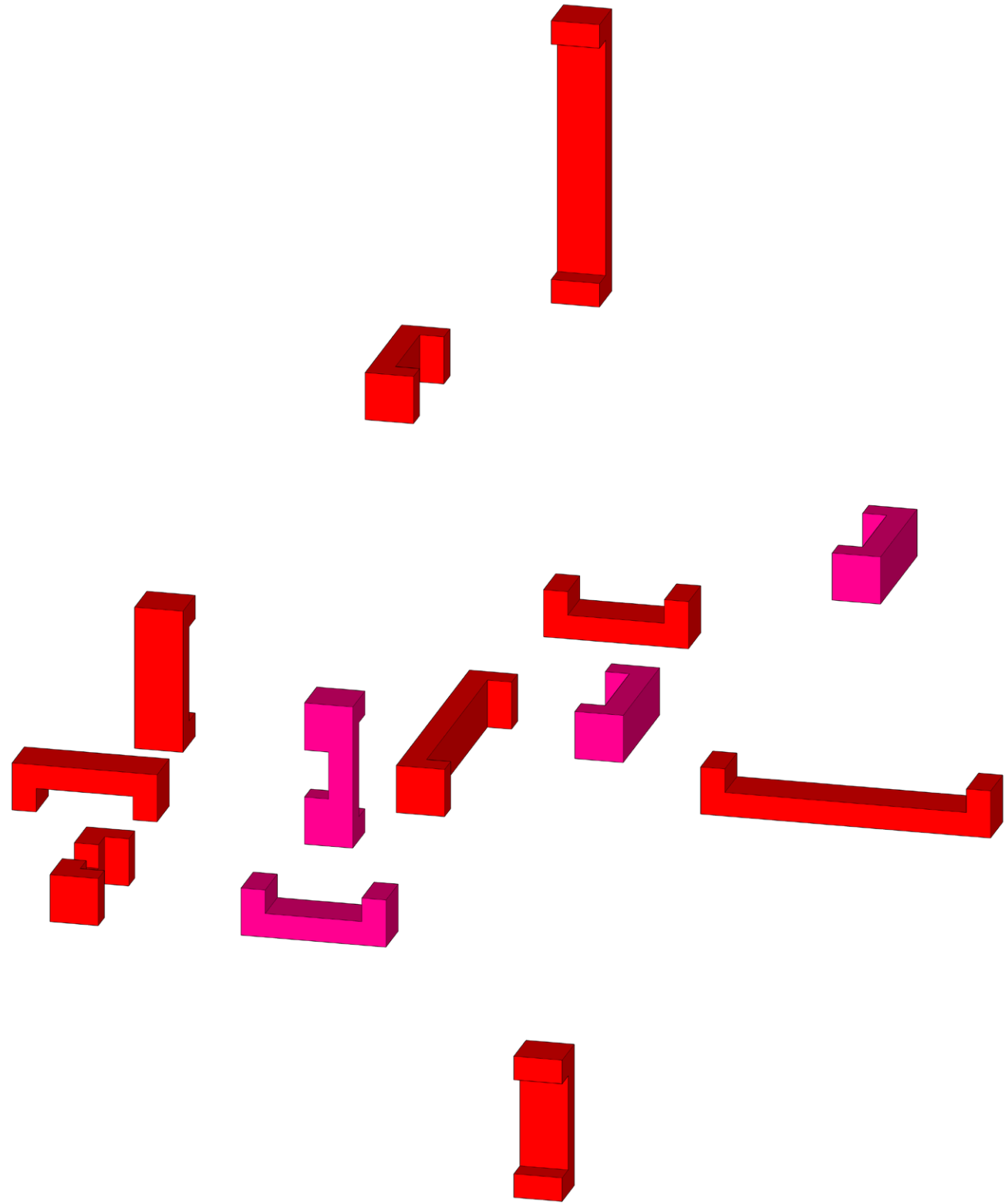


## 2.0 RESEARCH + DESIGN METHODOLOGY

UNDERSTANDING THE RESEARCH + DESIGN METHODOLOGY

PAGE 20-107



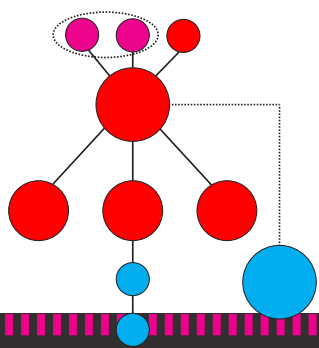
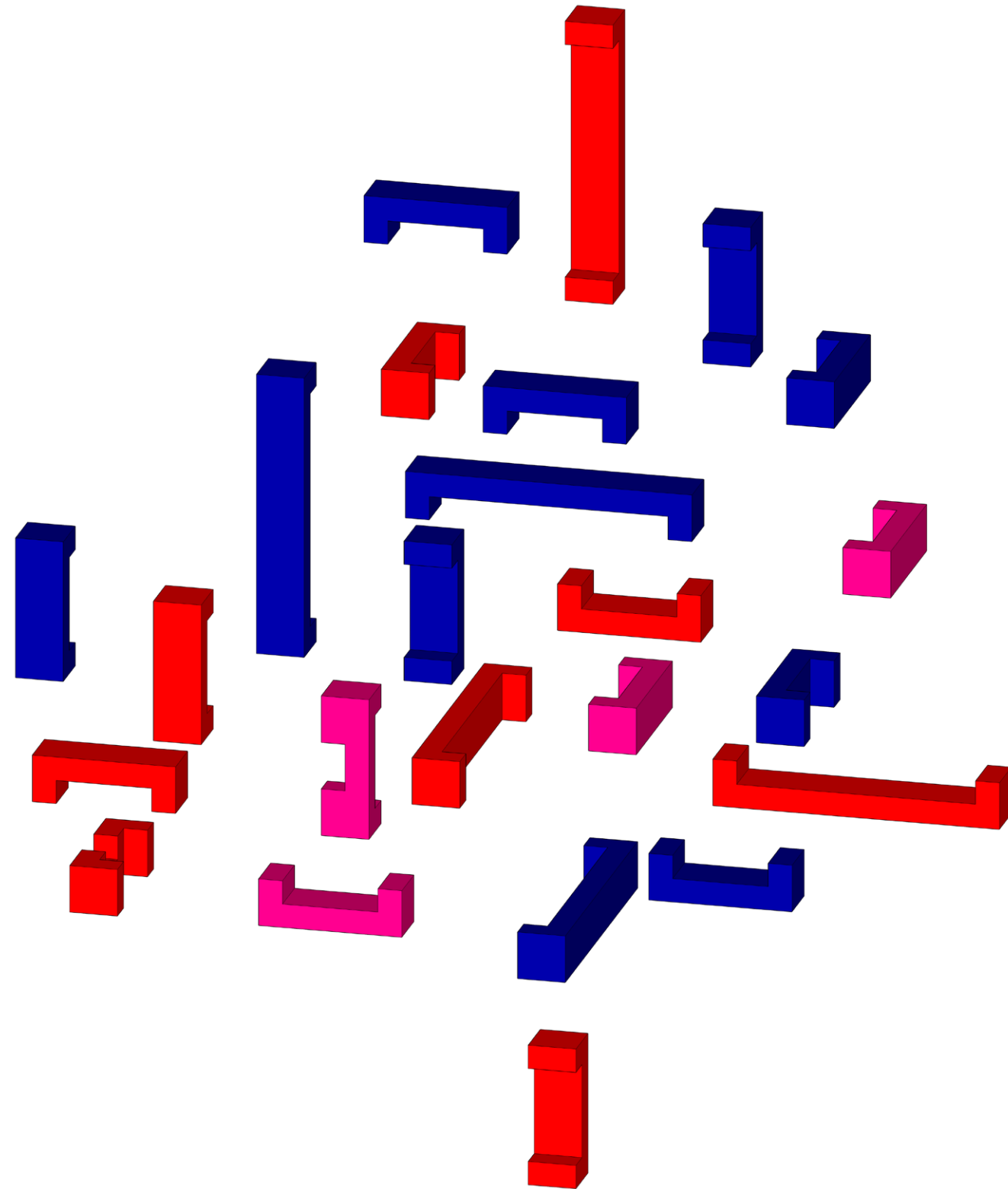


## 2.0 RESEARCH + DESIGN METHODOLOGY

UNDERSTANDING THE RESEARCH + DESIGN METHODOLOGY

PAGE 20-107

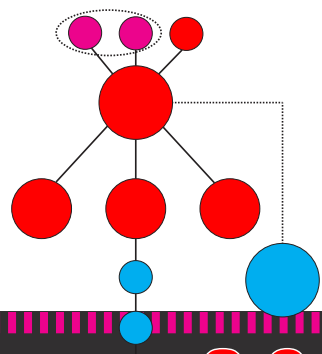
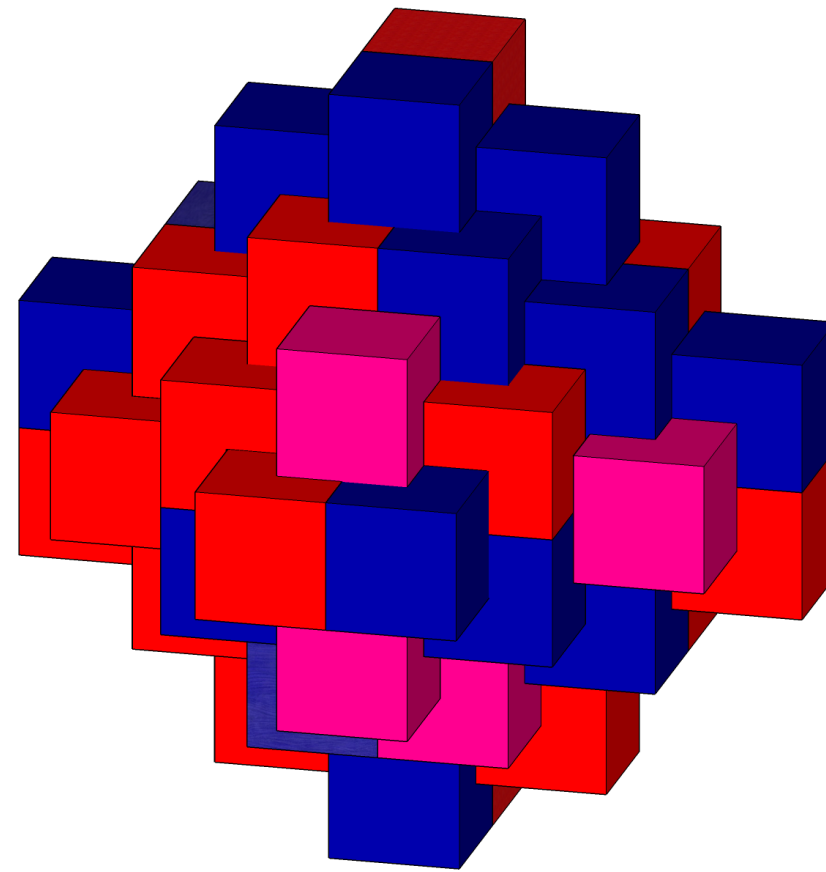




## 2.0 RESEARCH + DESIGN METHODOLOGY

UNDERSTANDING THE RESEARCH + DESIGN METHODOLOGY





## 2.0 RESEARCH + DESIGN METHODOLOGY

UNDERSTANDING THE RESEARCH + DESIGN METHODOLOGY

PAGE 20-107





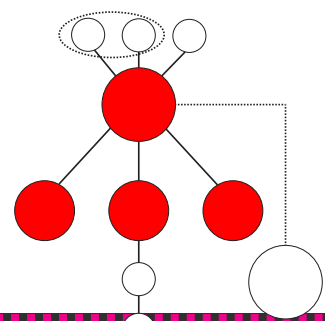
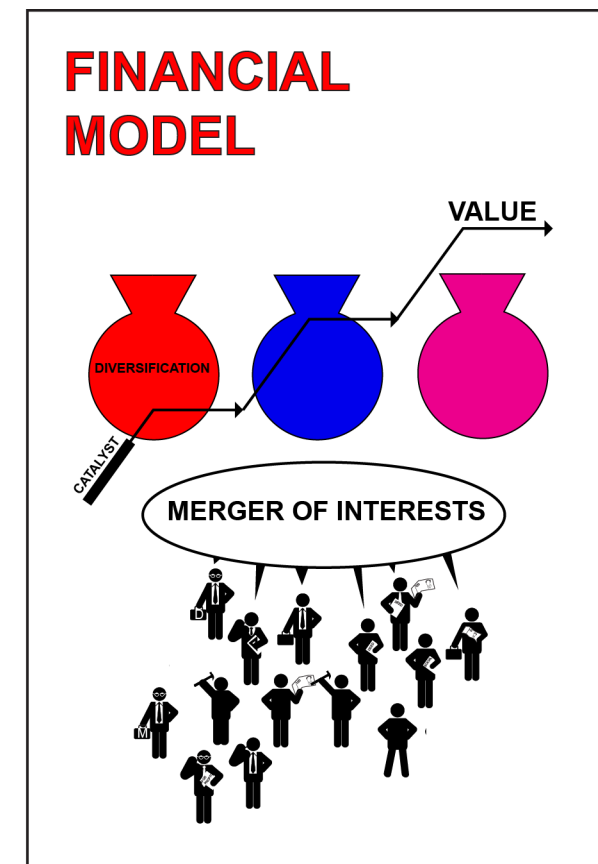
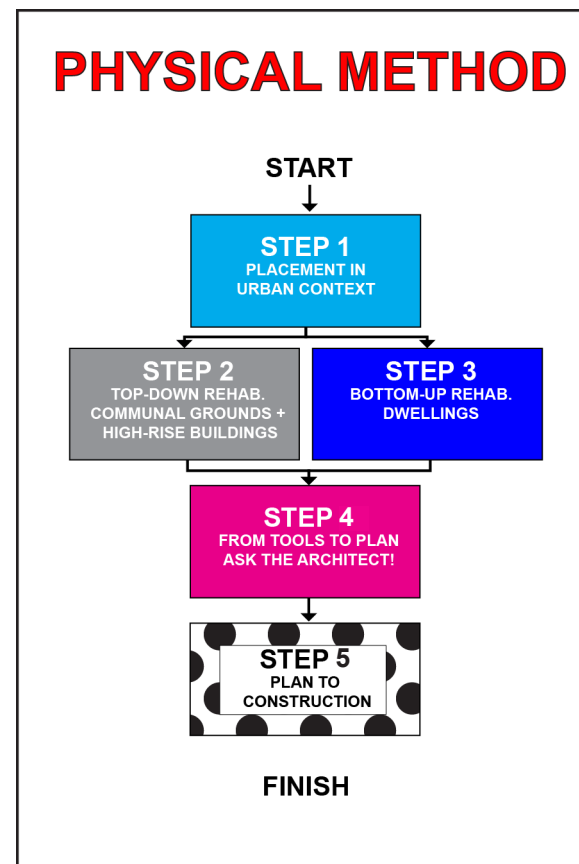
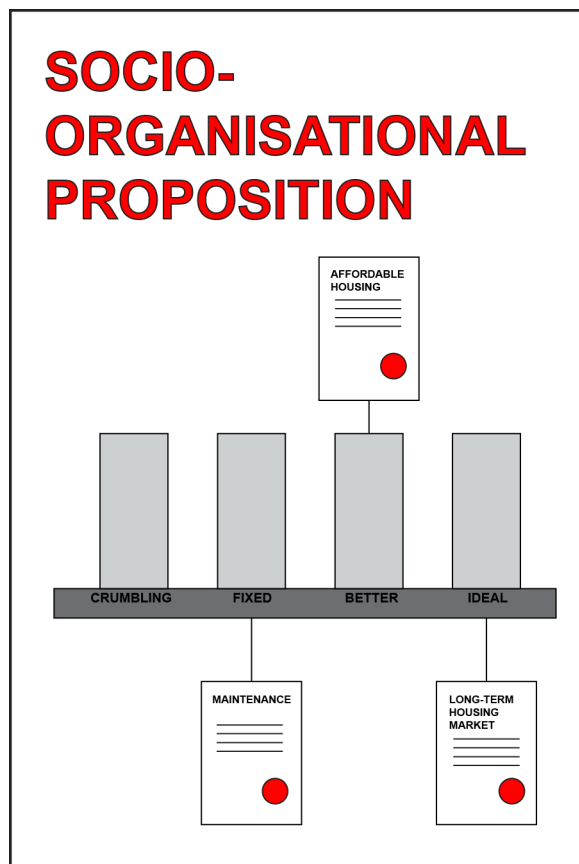
THE REHABILITATION STRATEGY

PART II



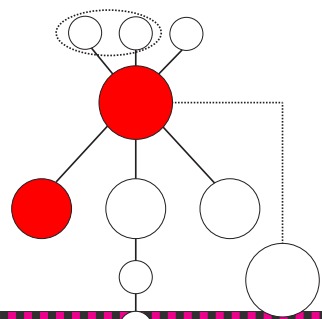
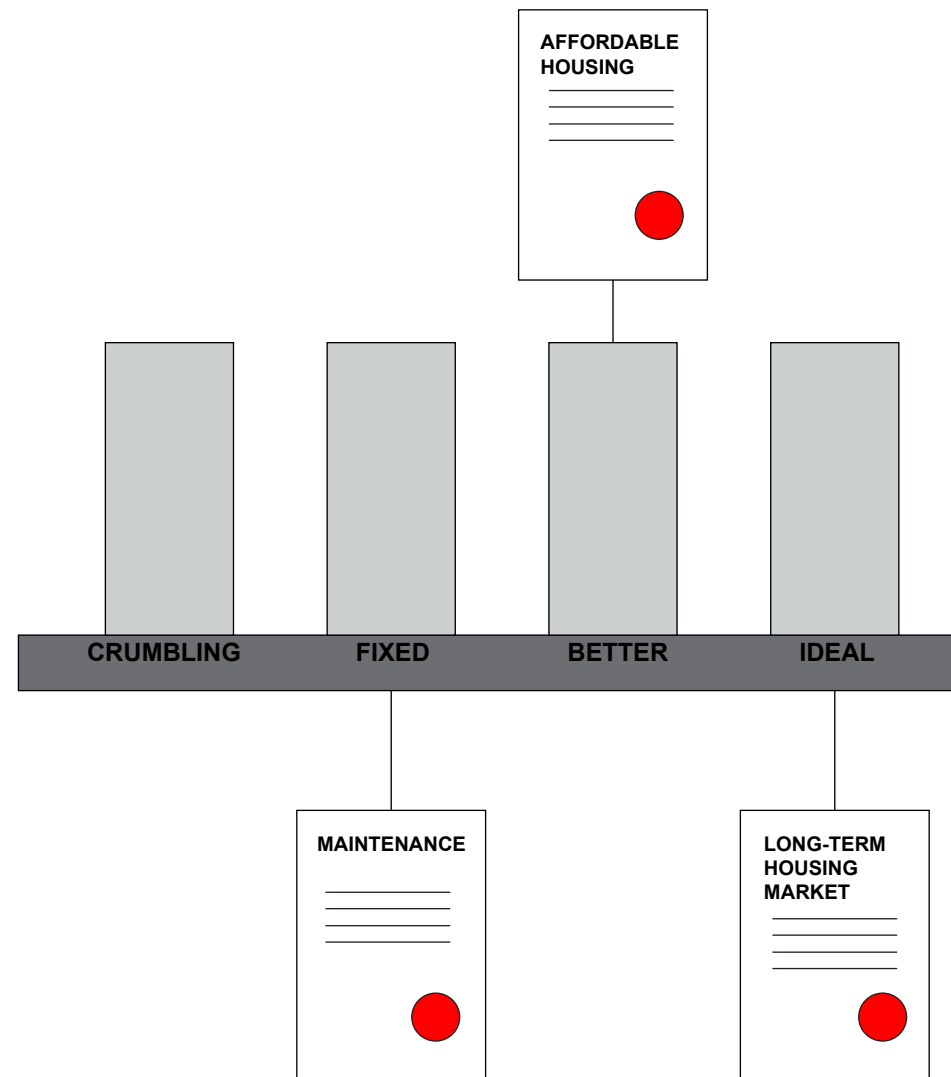
# THE REHABILITATION STRATEGY

## 3 COMPONENTS





# SOCIO-ORGANISATIONAL PROPOSITION

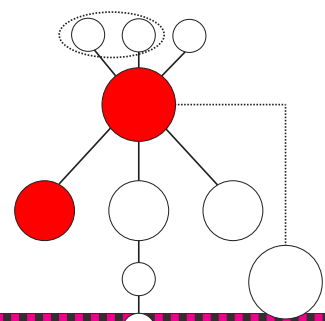
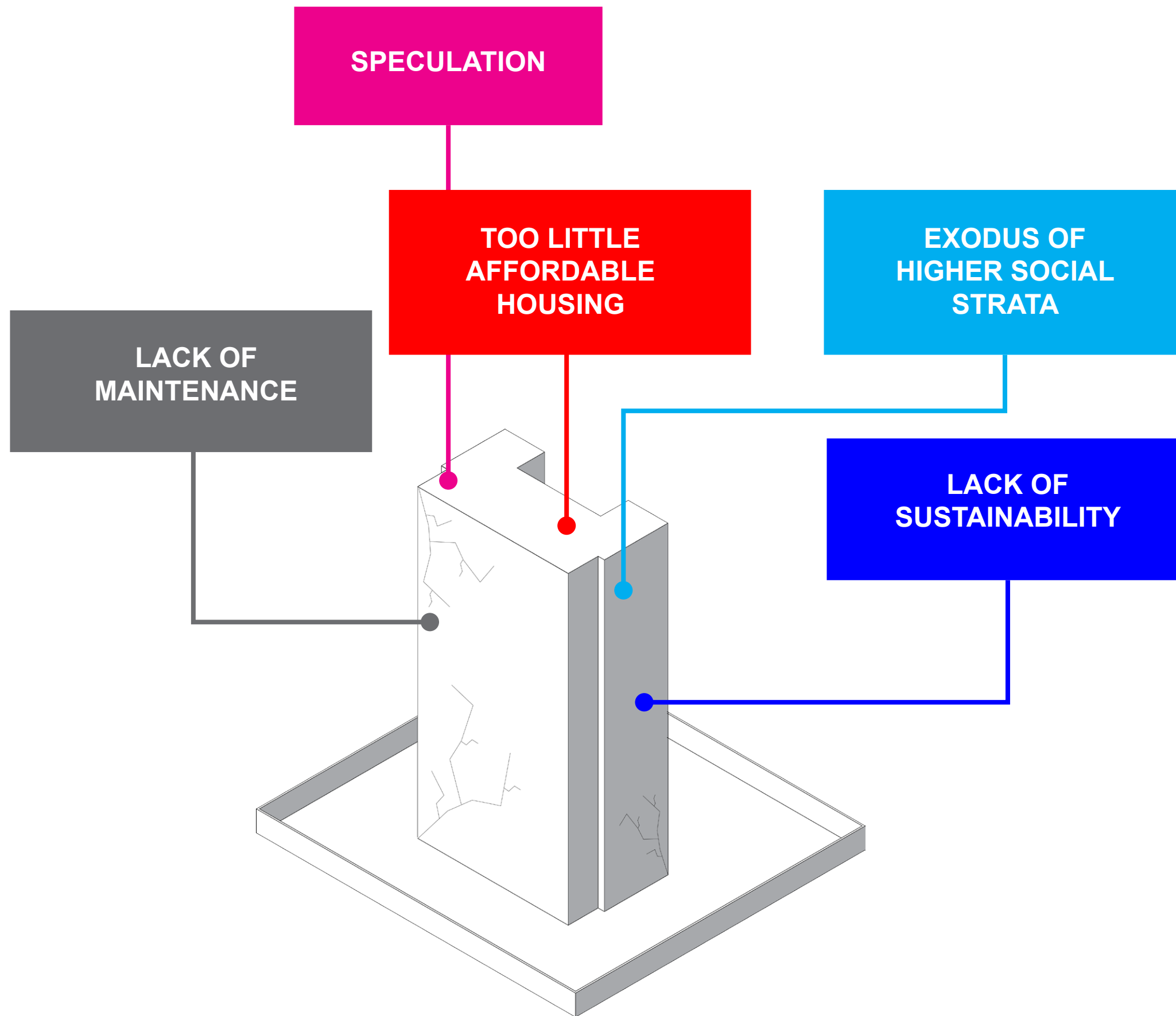


## 3.1 THE SOCIO-ORGANISATIONAL PROPOSITION

ONE OF THREE STRATEGY COMPONENTS

PAGE 23-107

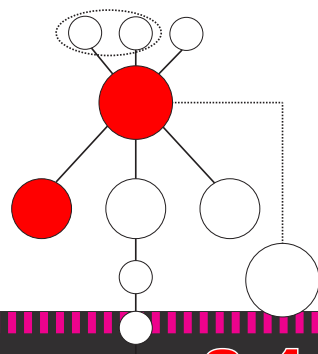
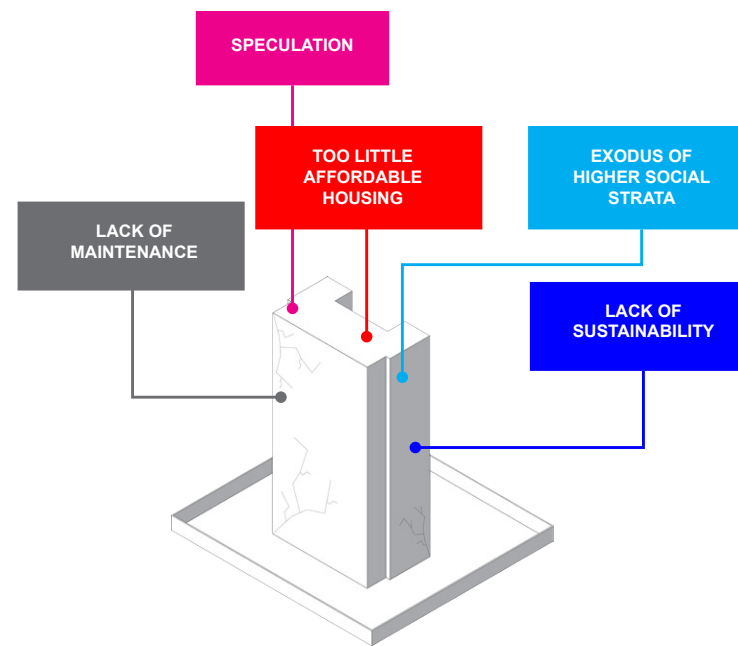
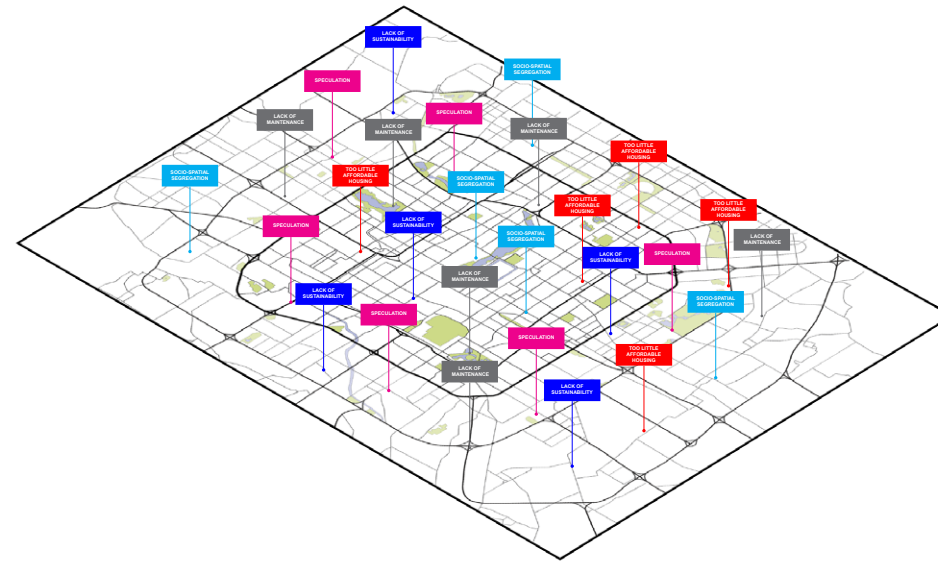
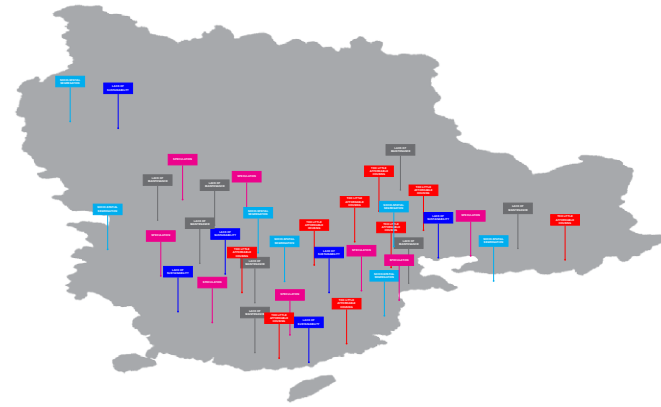




### 3.1 THE SOCIO-ORGANISATIONAL PROPOSITION

PROBLEMS WHICH TRANCEND THE EARLY HIGH-RISES



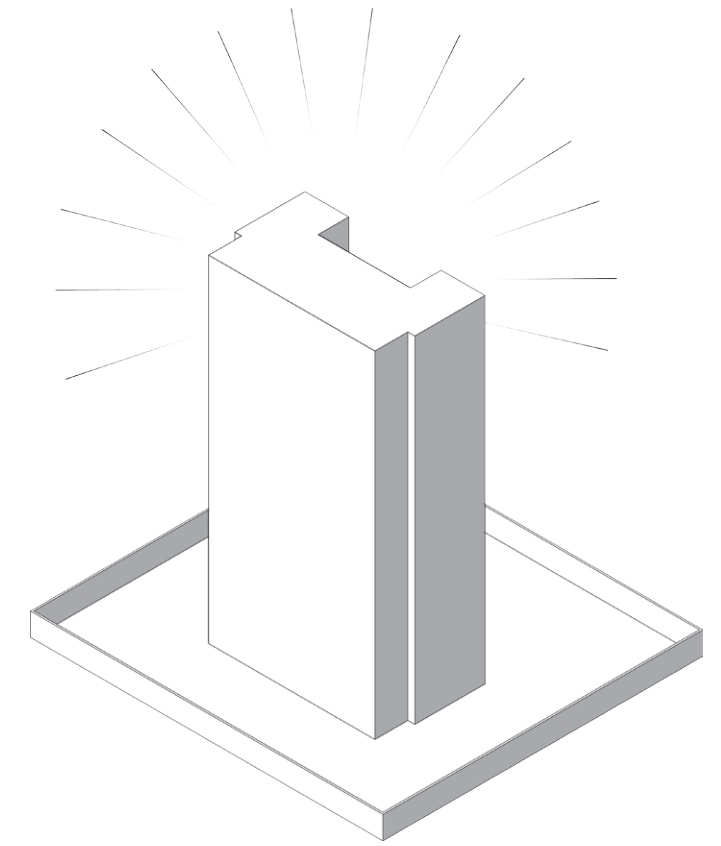
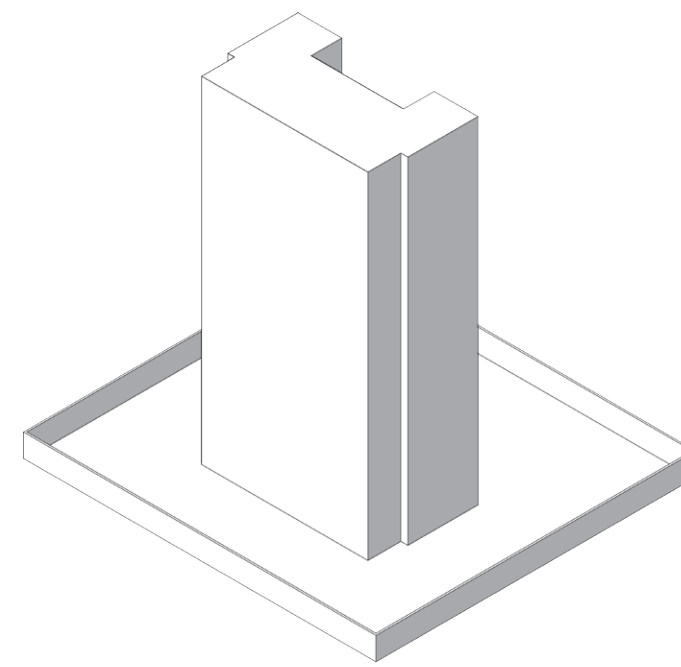
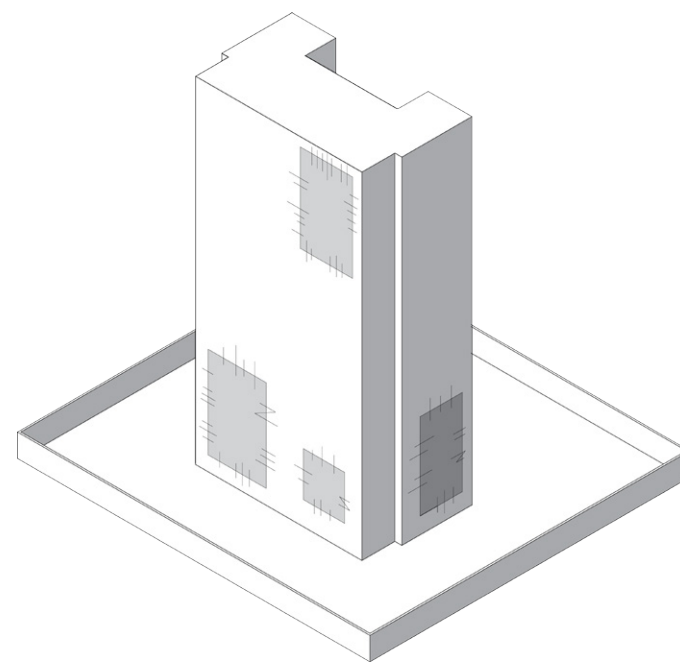
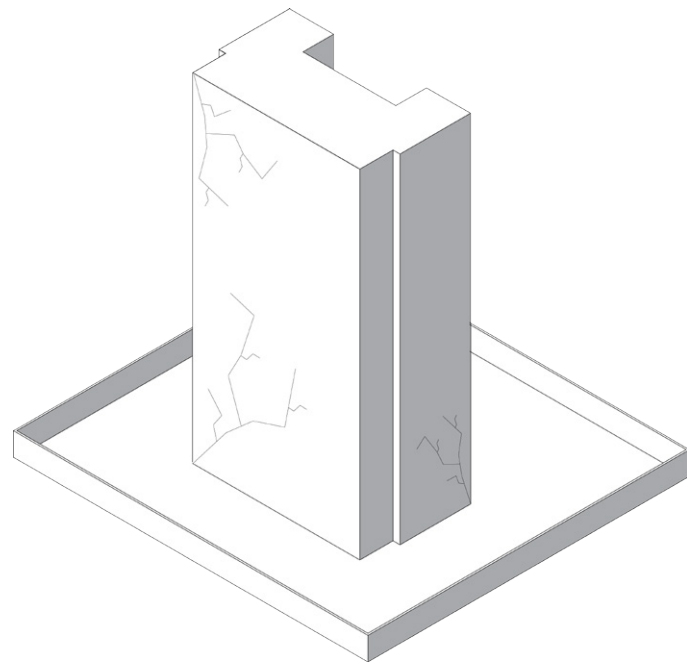


# 3.1 THE SOCIO-ORGANISATIONAL PROPOSITION

PROBLEMS WHICH TRANCEND THE EARLY HIGH-RISES



# PHASES



**CRUMBLING**  
NOW

**FIXED**  
5-10 YEARS

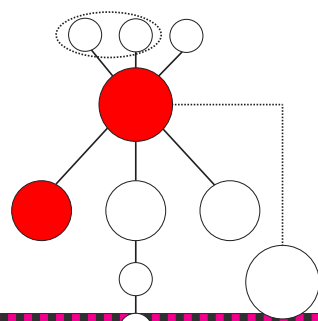
**BETTER**  
10-25 YEARS

**IDEAL**  
25-50 YEARS

ALLEVIATING ON SITE  
QUICK FIXES  
UNIDEAL REALITY

BETTER SOLUTIONS  
ALLEVIATING +  
SOLVING ON SITE

IDEAL SOLUTIONS  
SOLVING ON  
CORRESPONDING SCALE  
IDEAL REALITY



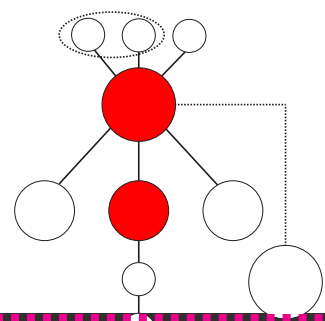
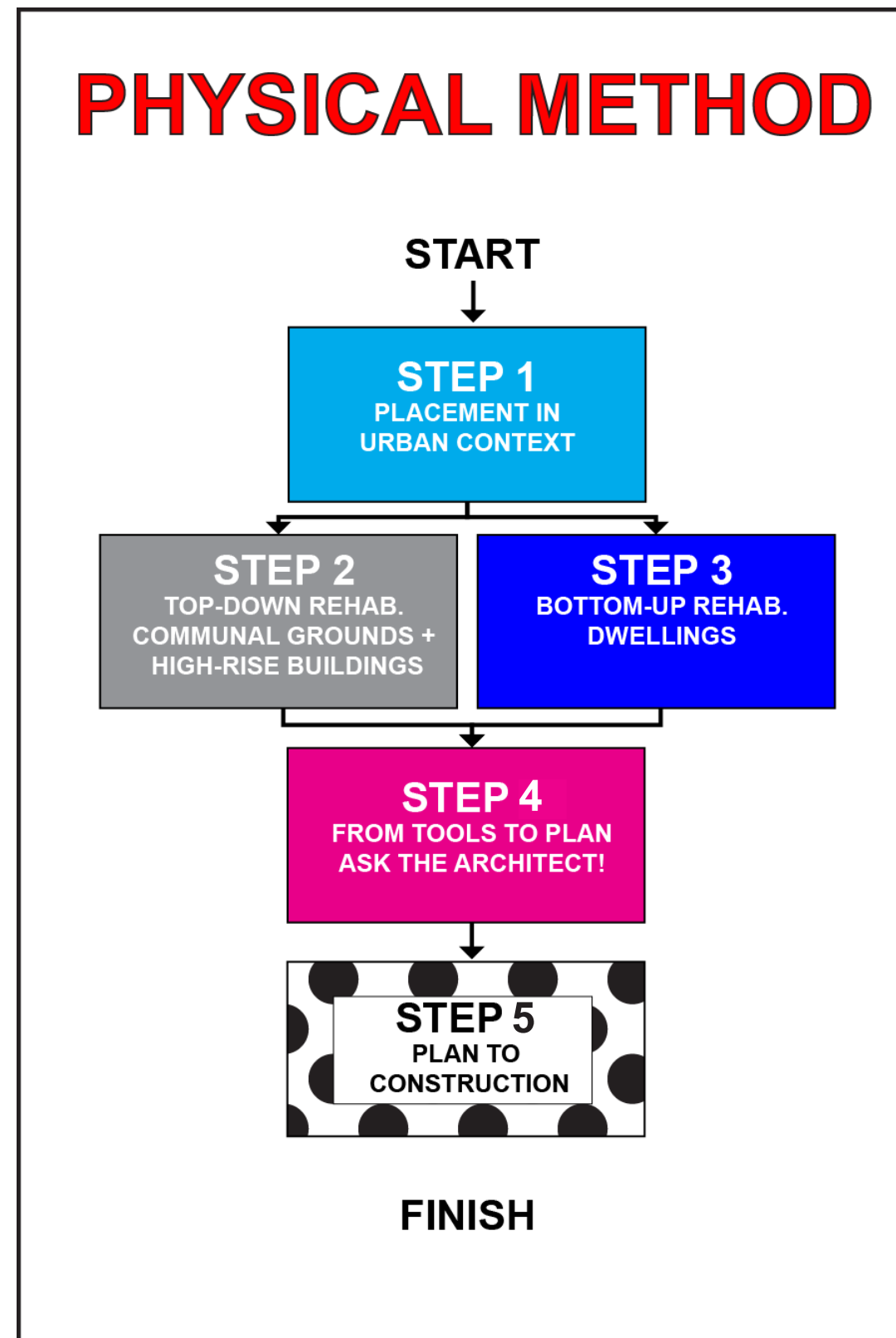
## 3.1 THE SOCIO-ORGANISATIONAL PROPOSITION

INTRODUCING PHASES

PAGE 26-107



# PHYSICAL METHOD

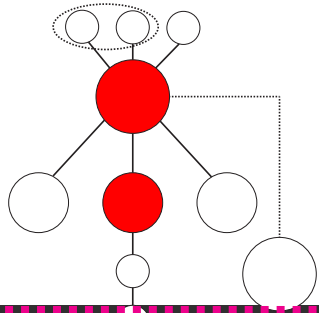
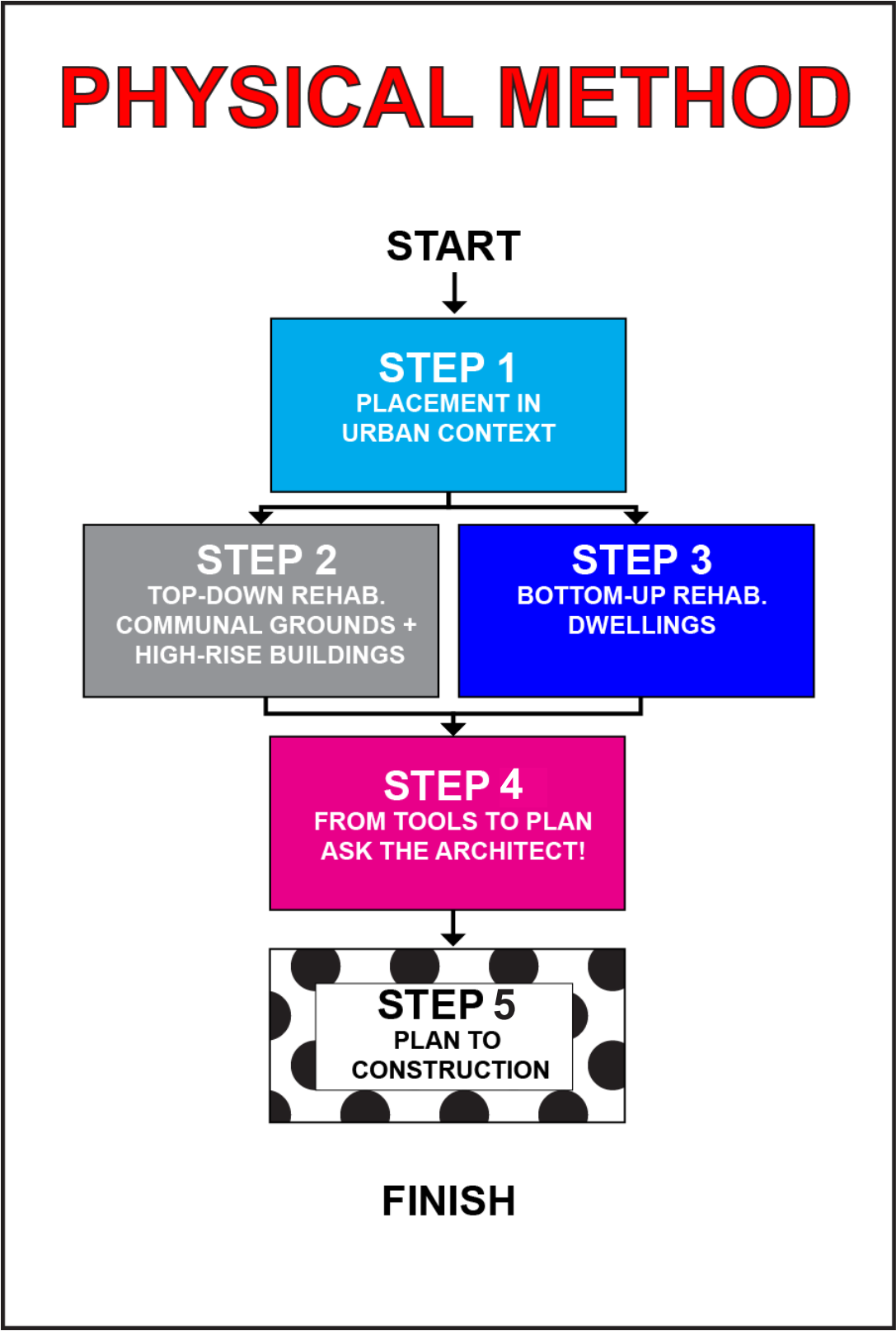


## 3.2 THE PHYSICAL METHOD

ONE OF THREE STRATEGY COMPONENTS



RESPECT OWNERHIP  
STATUS QUO

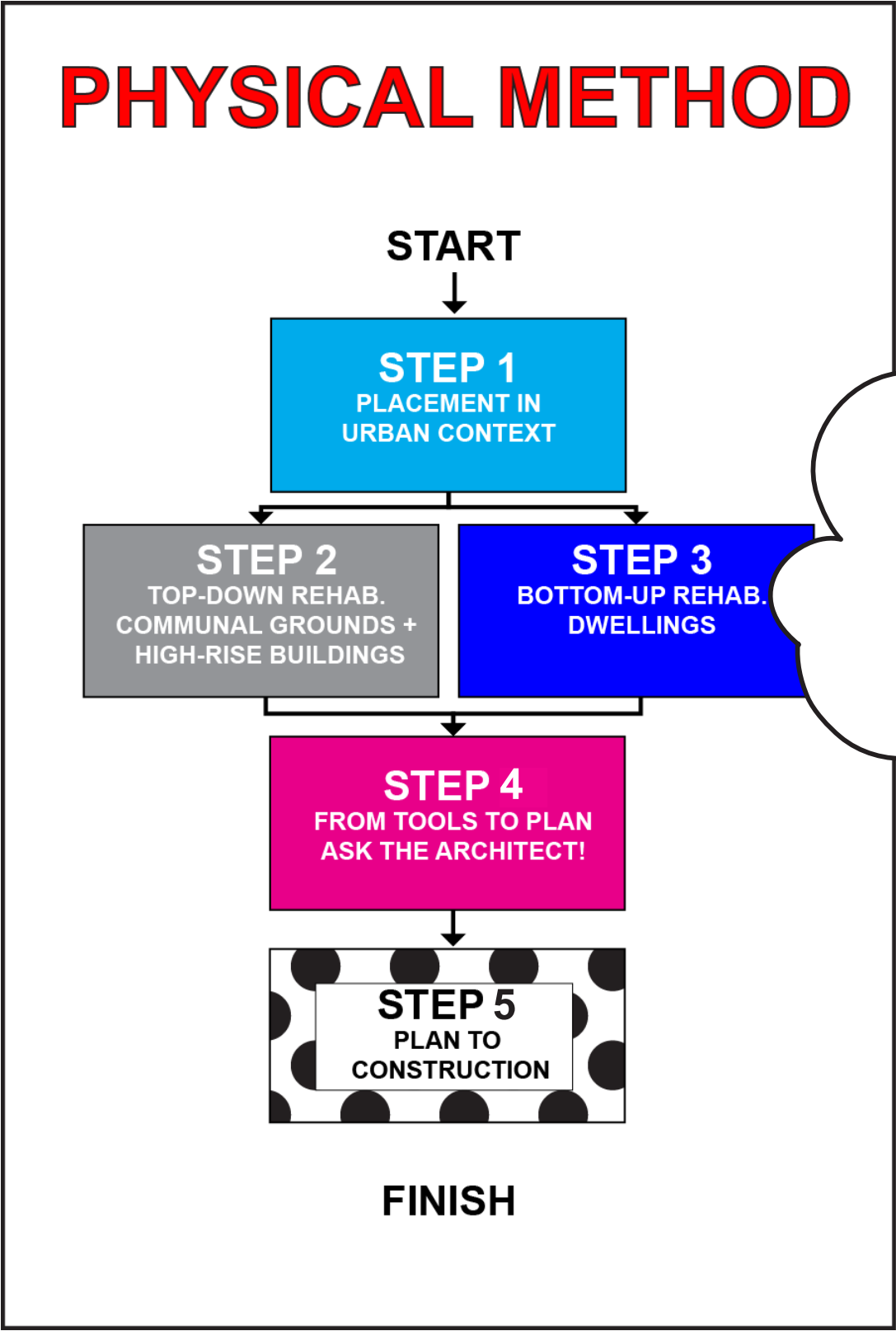


## 3.2 THE PHYSICAL METHOD

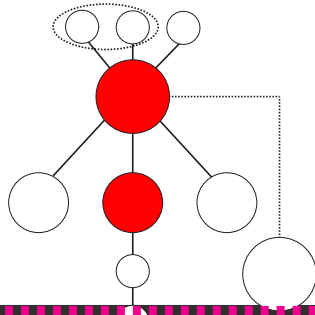
THE PHYSICAL METHOD GOALS



RESPECT OWNERHIP  
STATUS QUO



REALISTIC + EASY =  
BREAK IMPASSE



## 3.2 THE PHYSICAL METHOD

THE PHYSICAL METHOD GOALS

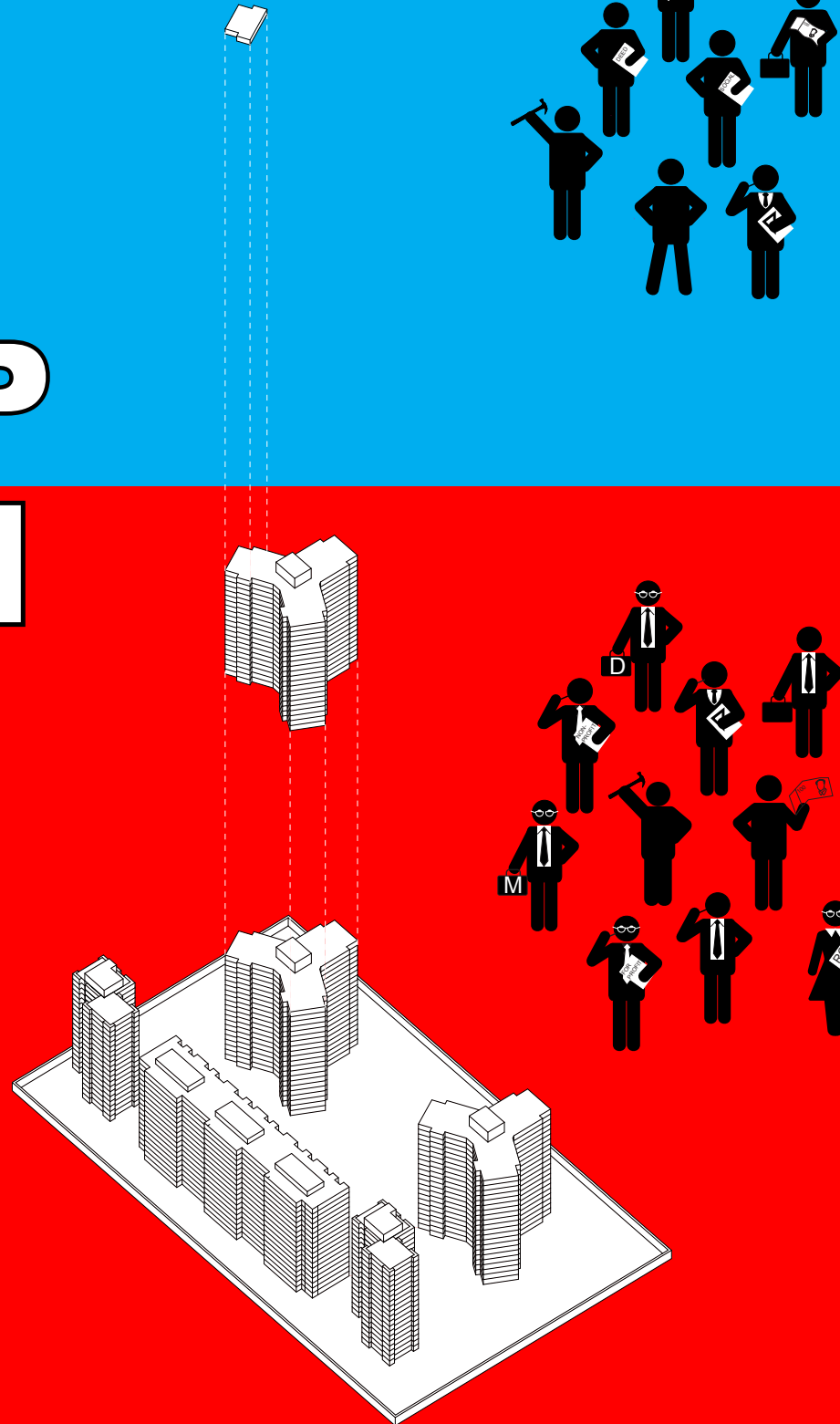


# BOTTOM-UP TOP-DOWN



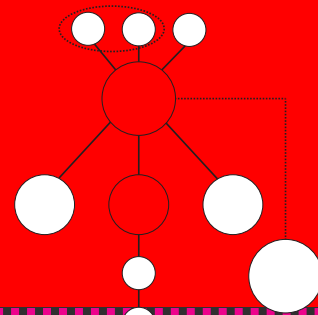
## STAKEHOLDERS

LANDLORDS  
OWNER OCCUPIERS  
TENANTS OF PUBLIC HOUSING  
PRIVATE TENANTS HOUSING  
SUB-TENANTS PUBLIC HOUSING  
RAT POPULATION



## STAKEHOLDERS

RE:NEW COACH  
GOVERNMENT  
NON-PROFIT DEVELOPERS  
RESIDENTS REPRESENTATIVES  
FOR PROFIT DEVELOPERS  
MARKET PARTIES



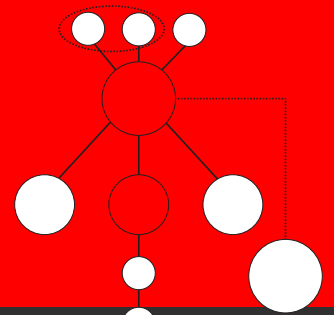
## 3.2 THE PHYSICAL METHOD

DUAL APPROACH

PAGE 28-107



**TOP-DOWN**  
**TOOLBOX**

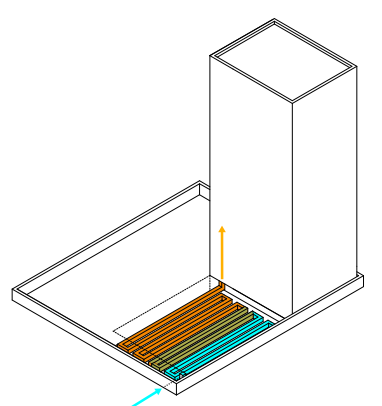


**3.2 THE PHYSICAL METHOD**

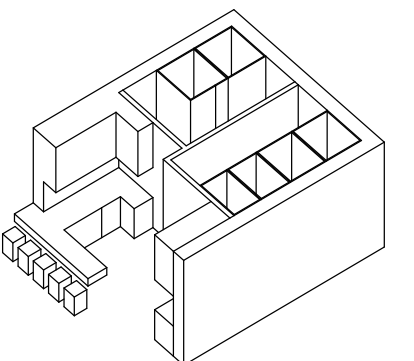
TOOLS FOR TOP-DOWN REHABILITATION

PAGE 29-107

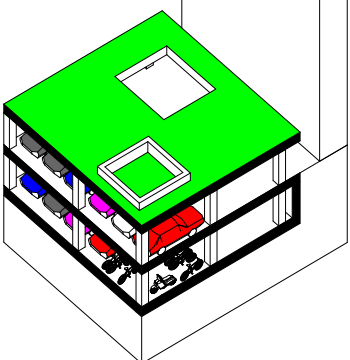




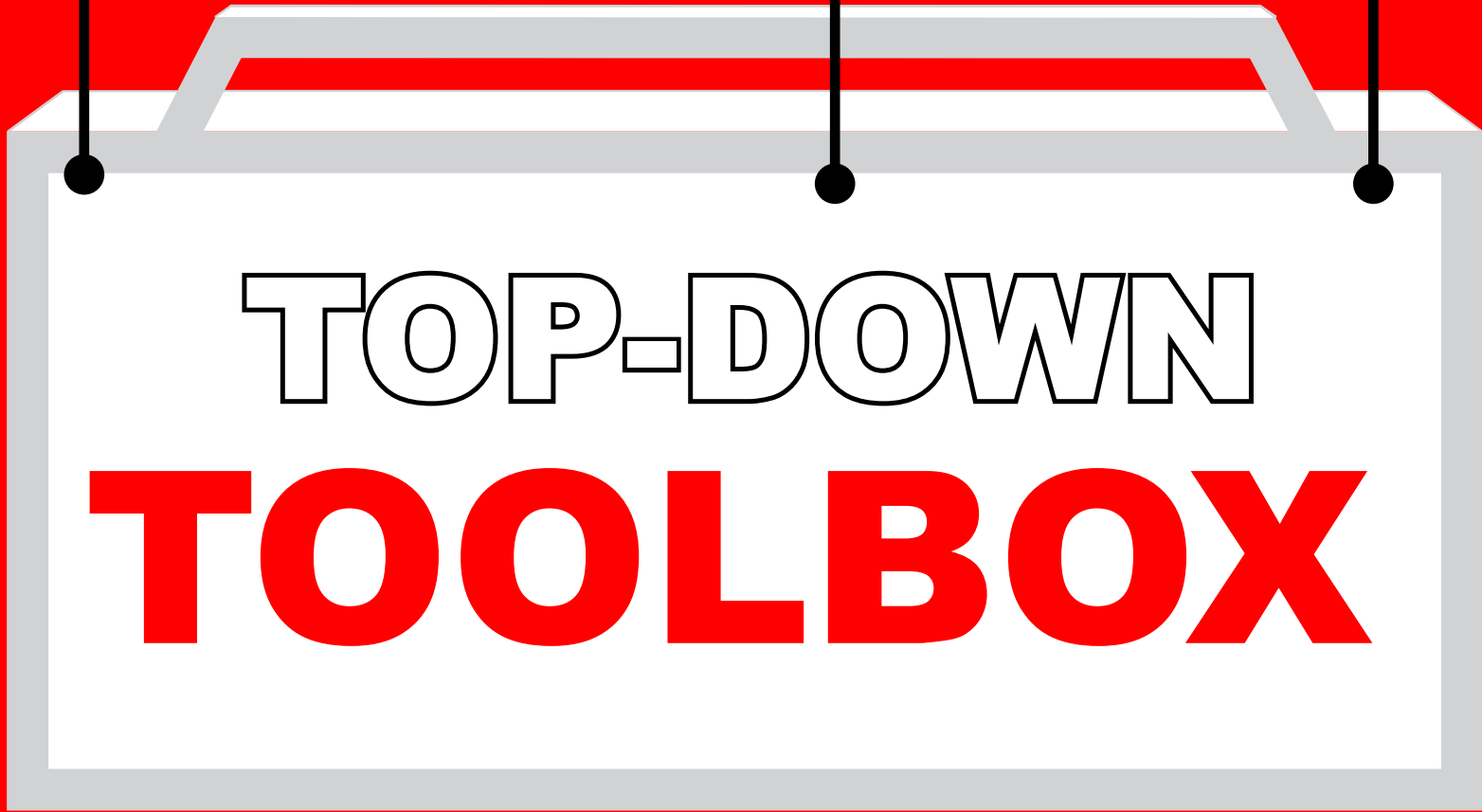
**TOOL**  
Pre-heating and cooling ventilation air



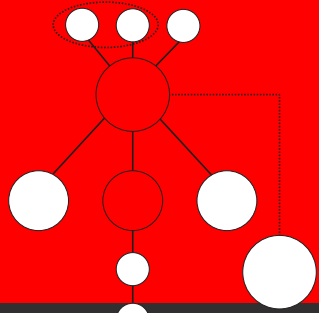
**TOOL**  
Public toilets, kitchens, laundrettes blocks



**TOOL**  
Adding and covering (underground) car parking + bike parking



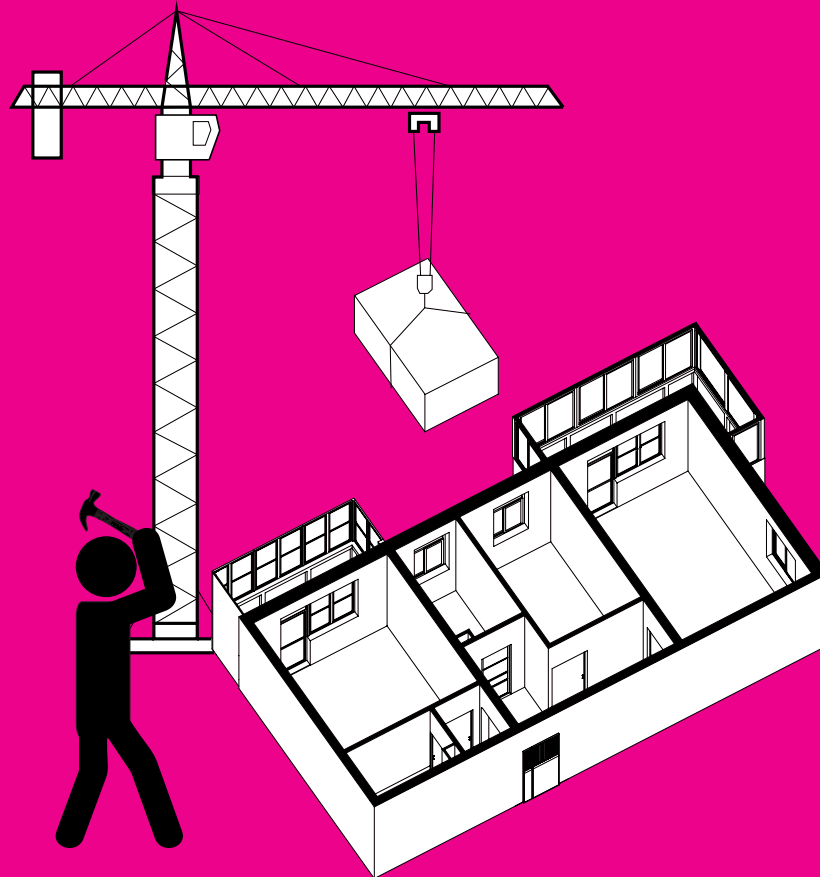
**TOP-DOWN  
TOOLBOX**



**3.2 THE PHYSICAL METHOD**

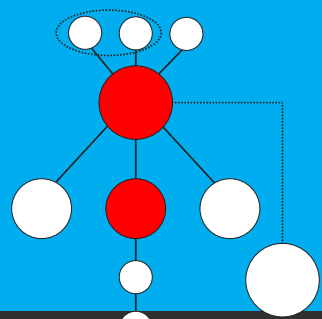
TOOLS FOR TOP-DOWN REHABILITATION

# BOTTOM-UP INFILL SOLUTIONS



RE:VIVE THE FUTURE OF  
YOUR HOUSE...

RE:NEW



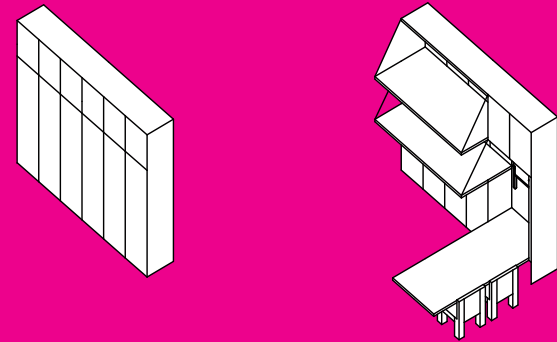
## 3.2 THE PHYSICAL METHOD

INFILL SOLUTIONS FOR BOTTOM-UP REHABILITATION

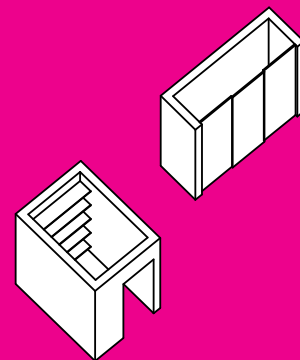
PAGE 30-107



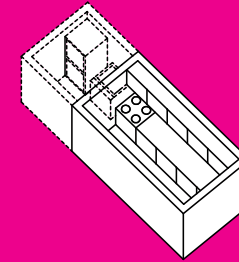
# BOTTOM-UP INFILL SOLUTIONS



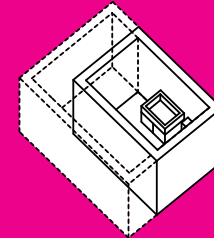
**1** Room in a closet



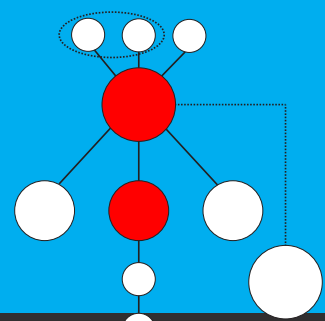
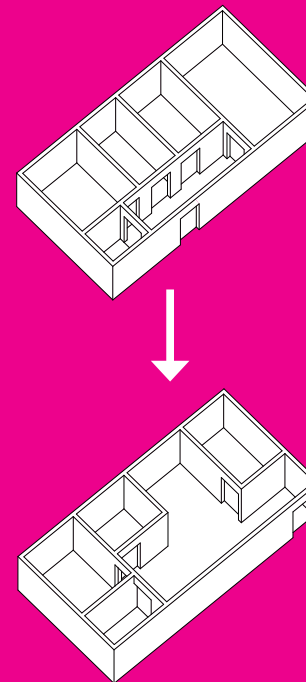
**2** Storage rooms



**3** Service spaces enlargement

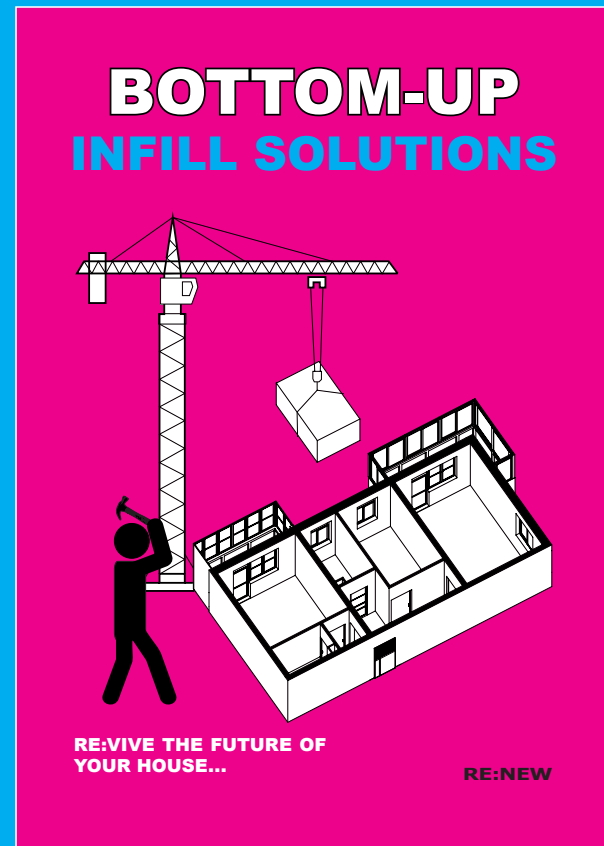


**4** Big living room lay-out

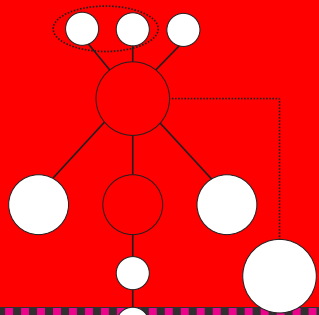


## 3.2 THE PHYSICAL METHOD

INFILL SOLUTIONS FOR BOTTOM-UP REHABILITATION



# TOP-DOWN **TOOLBOX**



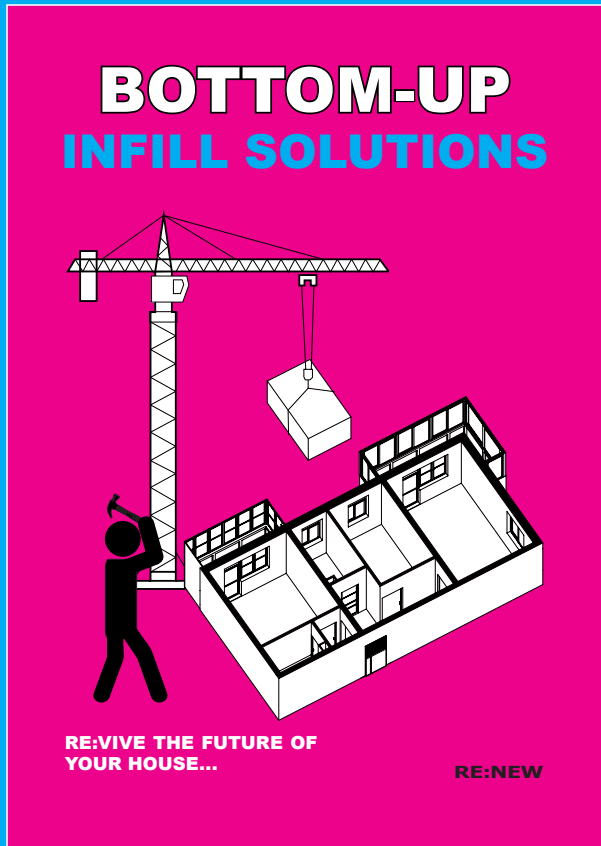
## **3.2 THE PHYSICAL METHOD**

MASS PRODUCED CUSTOMISABLE PRODUCTS

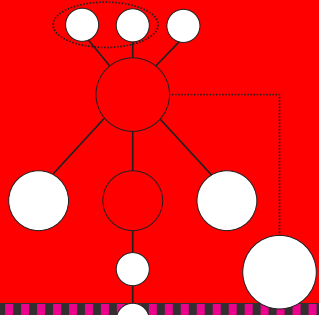
PAGE 32-107



**ATTRACTIVE +  
AFFORDABLE +  
EASY TO USE**



# TOP-DOWN **TOOLBOX**

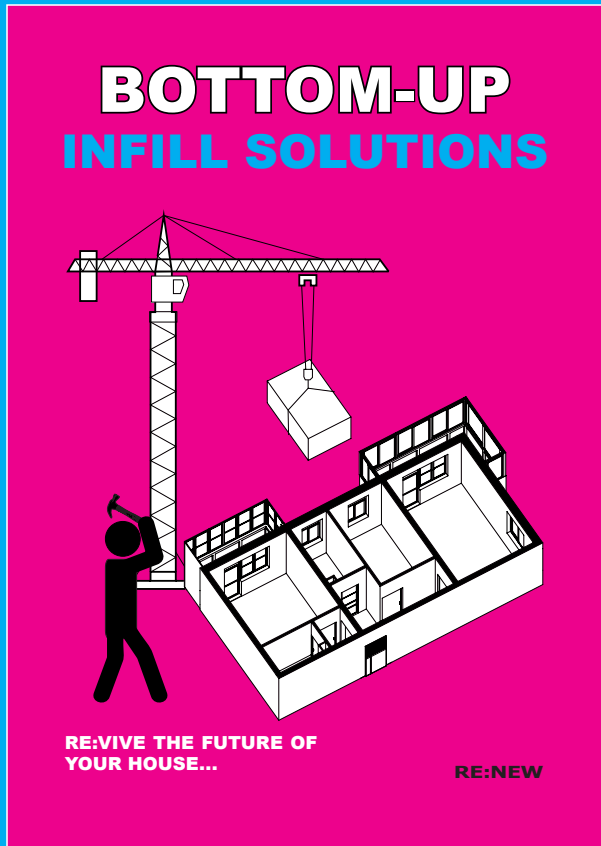


## **3.2 THE PHYSICAL METHOD**

MASS PRODUCED CUSTOMISABLE PRODUCTS

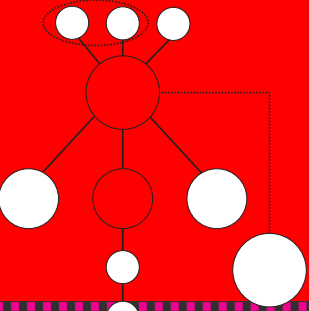
PAGE 32-107

**ATTRACTIVE +  
AFFORDABLE +  
EASY TO USE**



**MASS PRODUCED  
CUSTOMISABLE  
PRODUCTS**

**TOP-DOWN  
TOOLBOX**

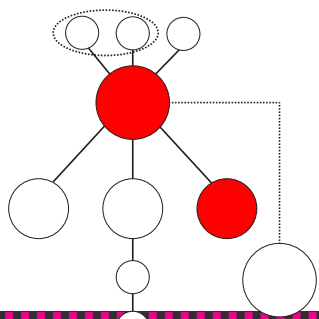
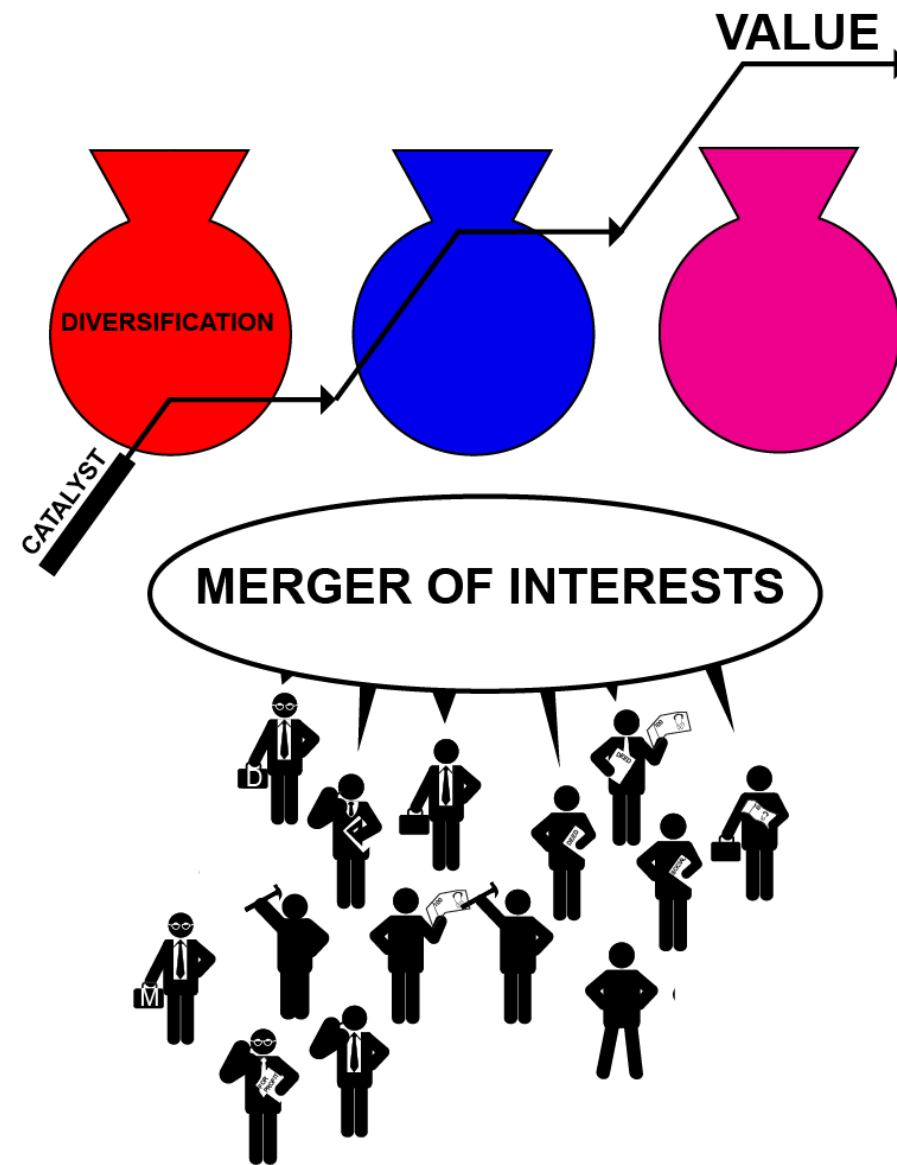


**3.2 THE PHYSICAL METHOD**

MASS PRODUCED CUSTOMISABLE PRODUCTS



# FINANCIAL MODEL

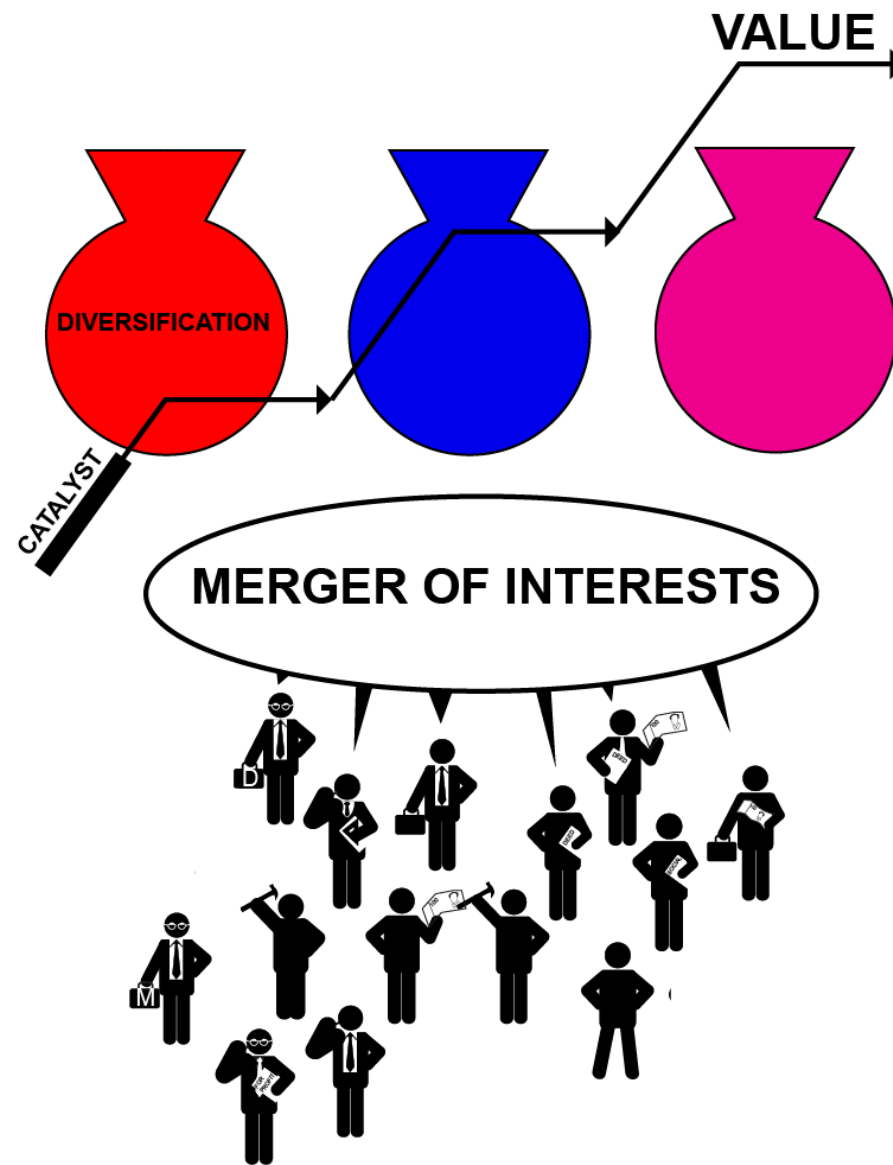


## 3.3 THE FINANCIAL MODEL

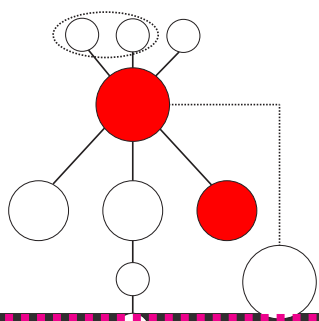
ONE OF THREE STRATEGY COMPONENTS

PAGE 33-107

# FINANCIAL MODEL



ENTHUSE + EMPOWER  
STAKEHOLDERS TO  
REHABILITATE



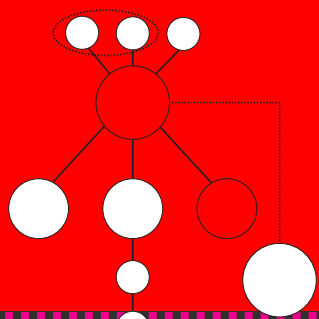
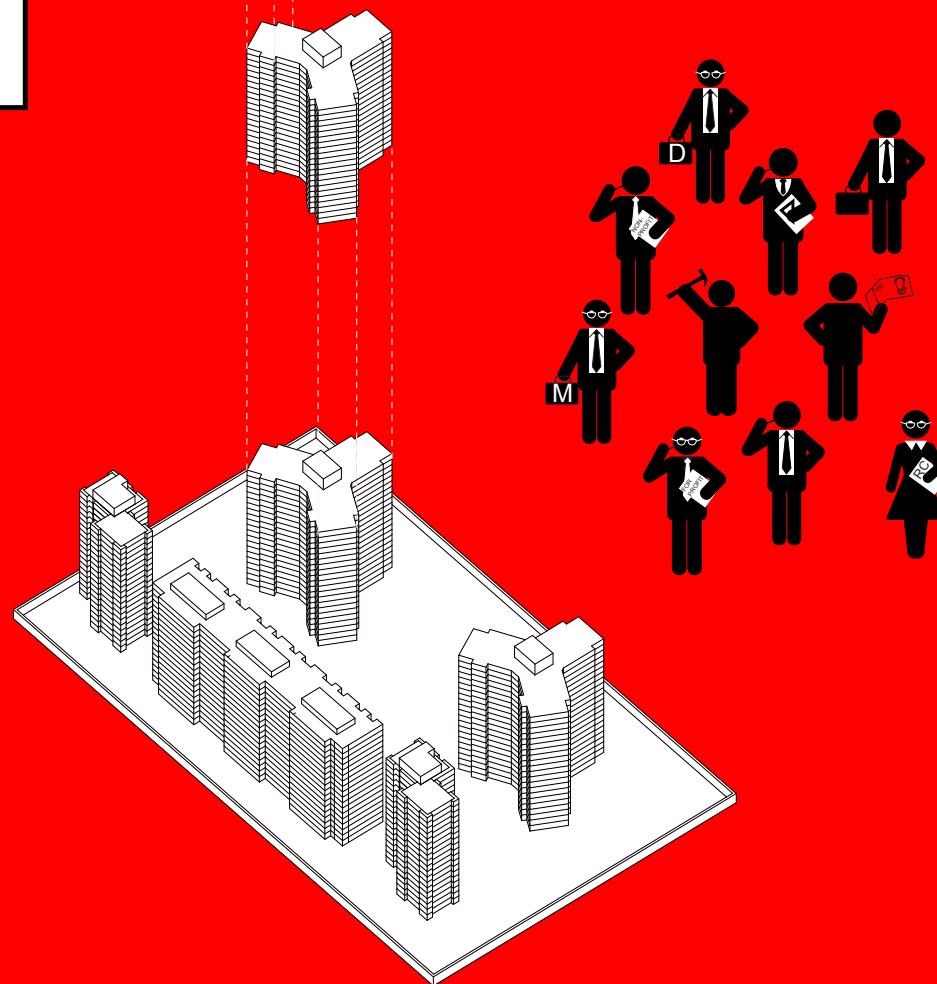
## 3.3 THE FINANCIAL MODEL

FINANCIAL MODEL GOALS

PAGE 33-107



# BOTTOM-UP TOP-DOWN

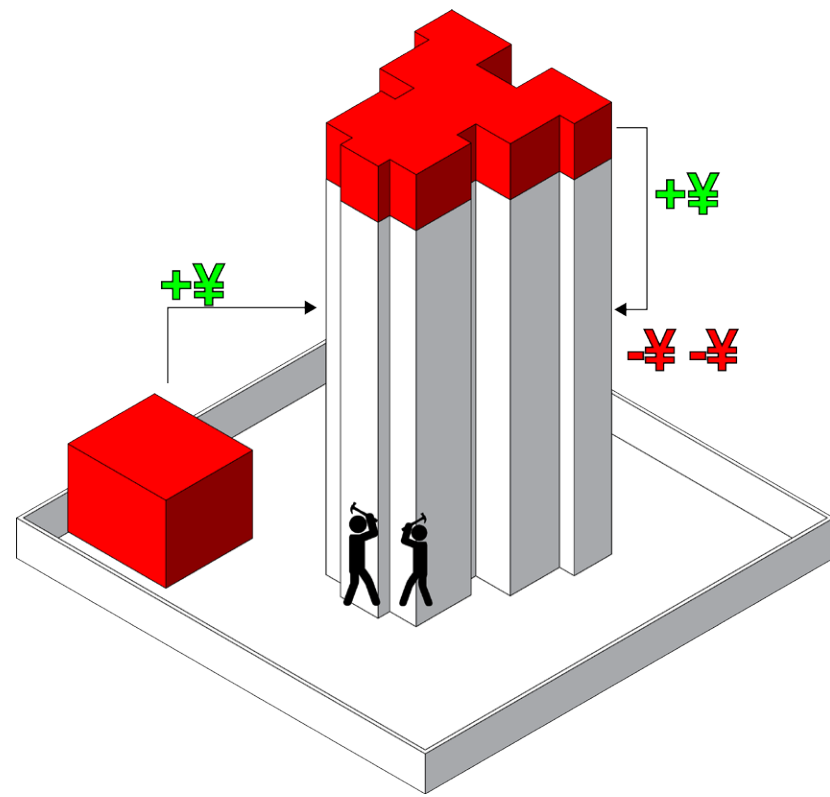


## 3.3 THE FINANCIAL METHOD

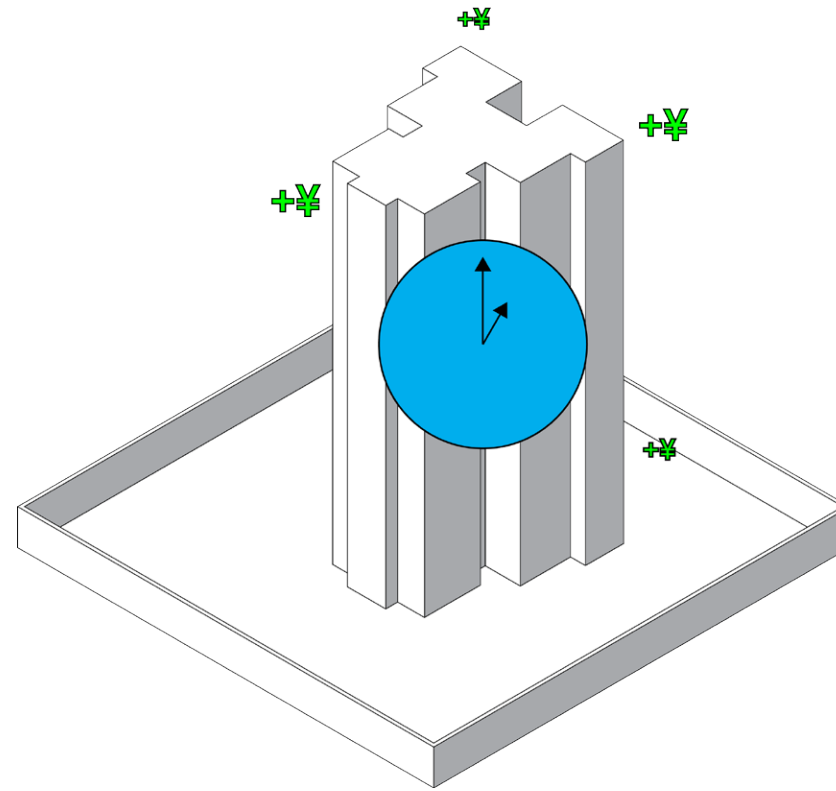
EMPOWERING STAKEHOLDERS TO PARTICIPATE

PAGE 34-107

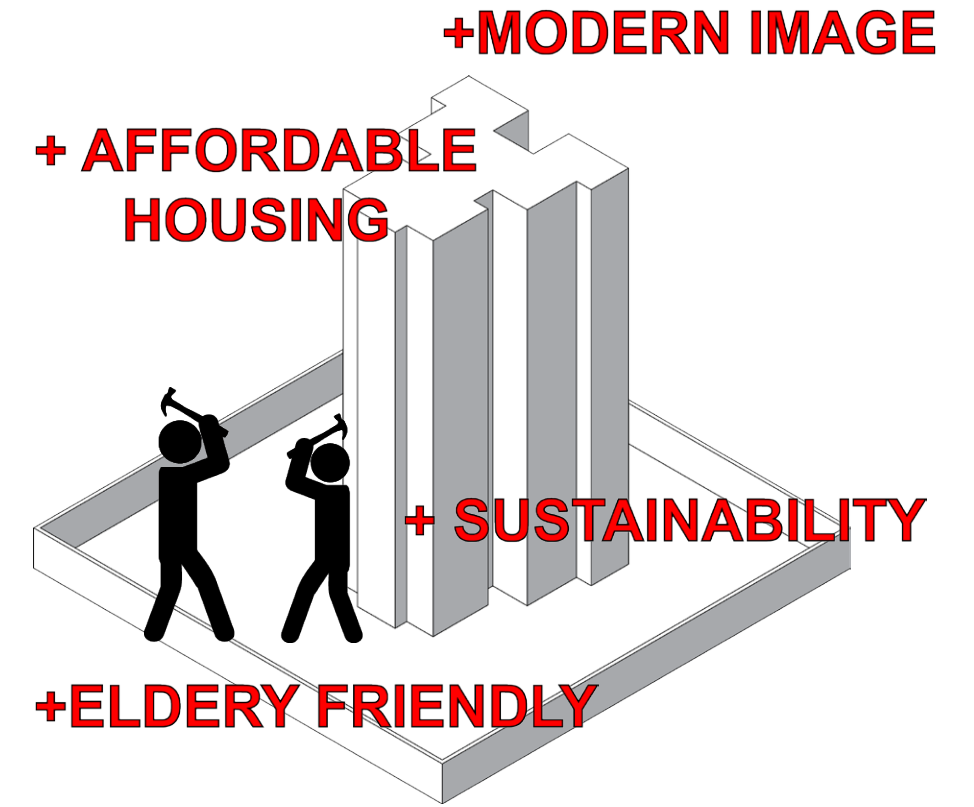
# ENTHICEMENT



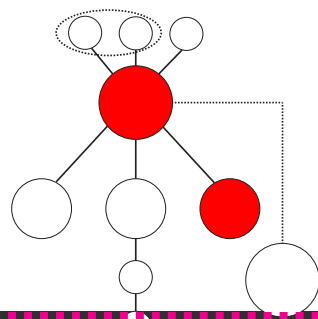
1. PROFITABLE  
BUSINESSCASES



2. SELF-FINANCING  
CONSTRUCTION



3. TWO BIRDS-ONE  
STONE APPROACH

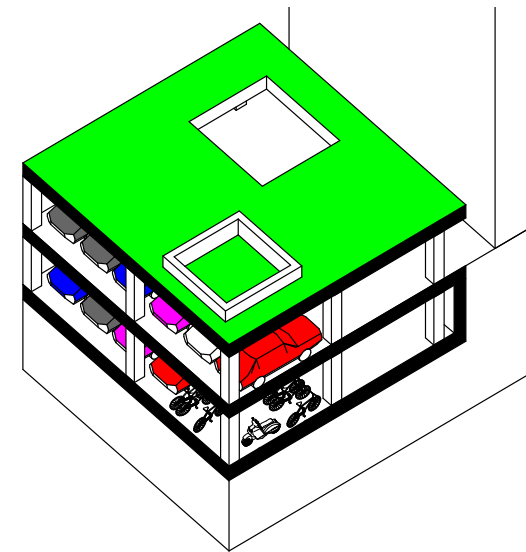


## 3.3 THE FINANCIAL MODEL

ENTHICING STAKEHOLDERS IN THREE WAYS

PAGE 35-107





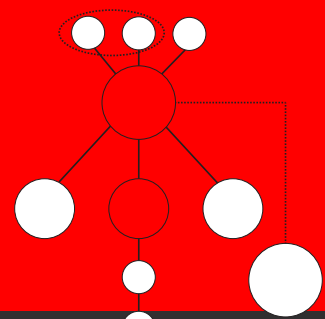
## **TOOL**

Adding and covering (underground)  
car parking + bike parking

Image: ++

Green: +

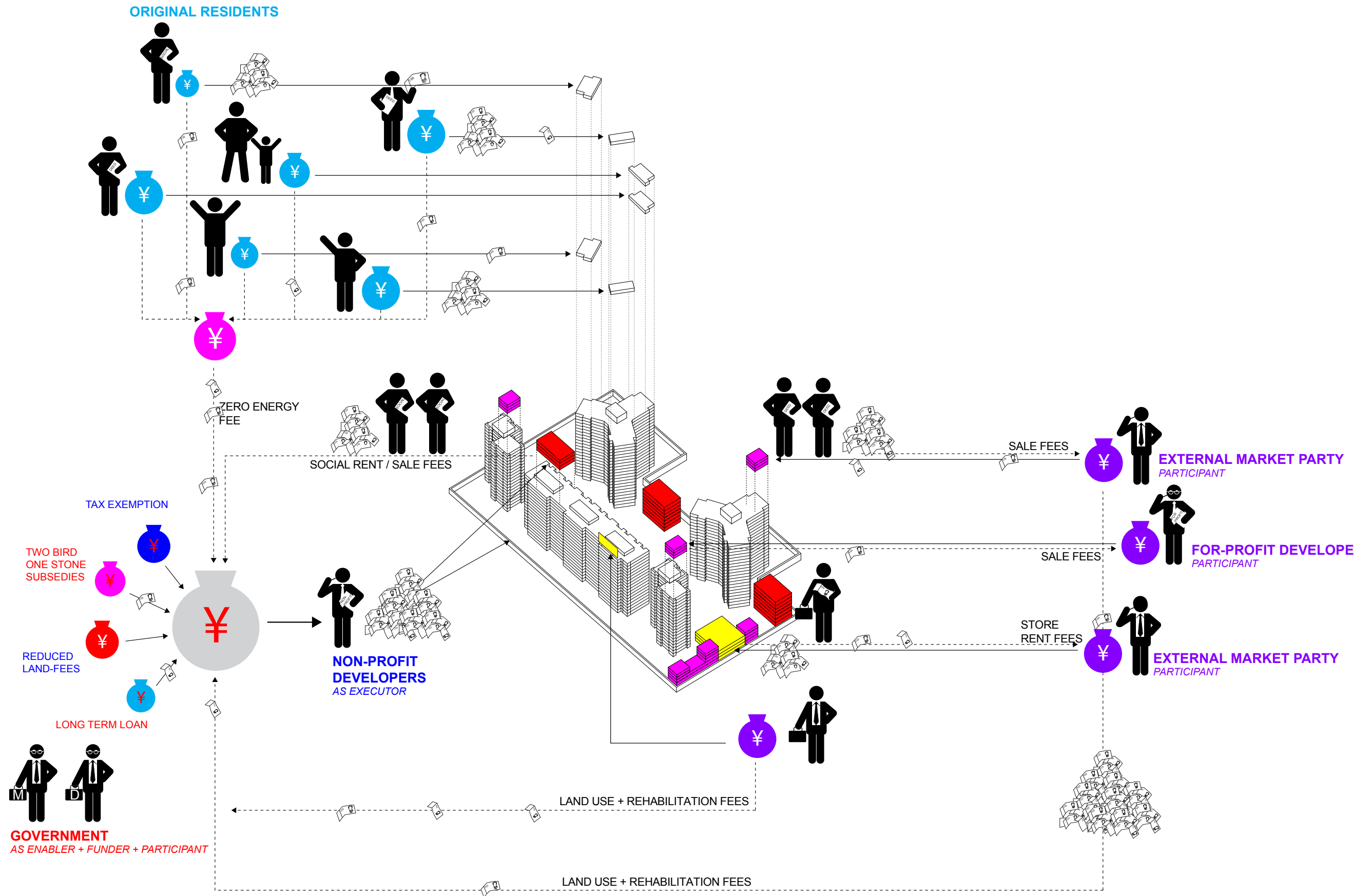
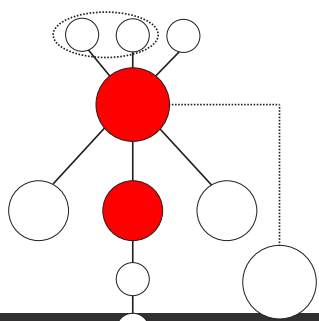
REHAB: ++



### **3.3 THE FINANCIAL MODEL**

TWO BIRDS-ONE-STONE TOP-DOWN TOOLBOX

PAGE 36-107



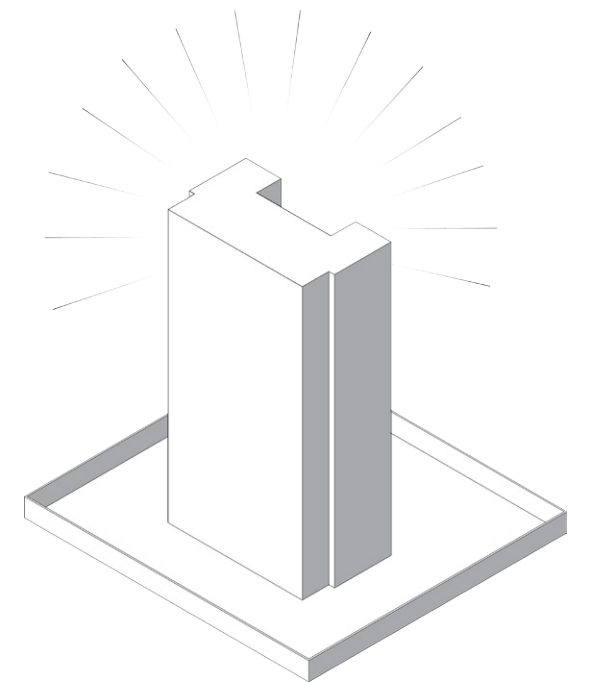
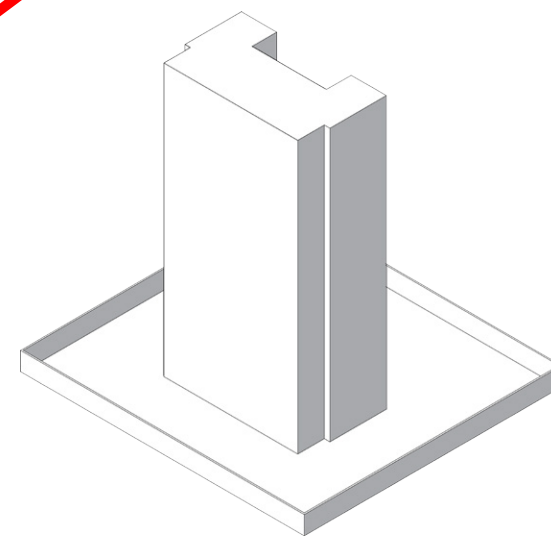
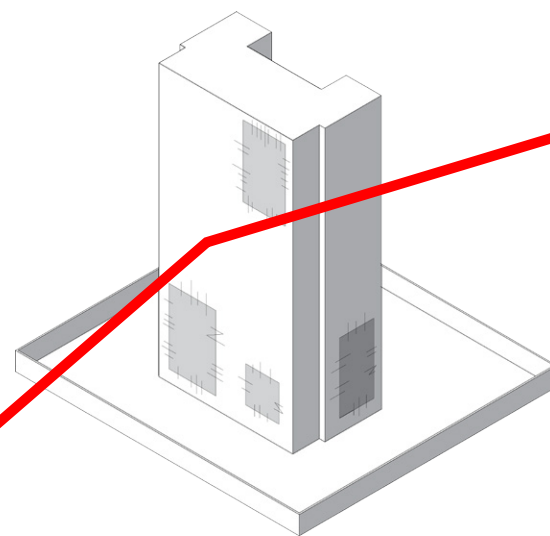
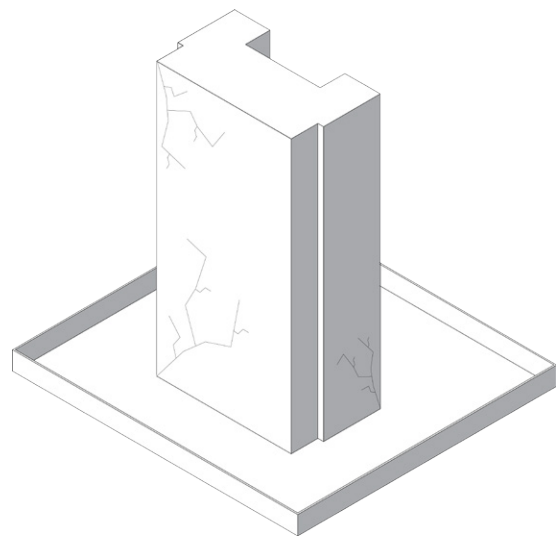
### 3.3 THE FINANCIAL MODEL

A DIVERSIFIED FINANCIAL MODEL



**FINANCIAL RISK  
REDUCTION THROUGH  
VALUE  
CREATION**

**VALUE CREATION** →



**CRUMBLING  
NOW**

**FIXED  
5-10 YEARS**

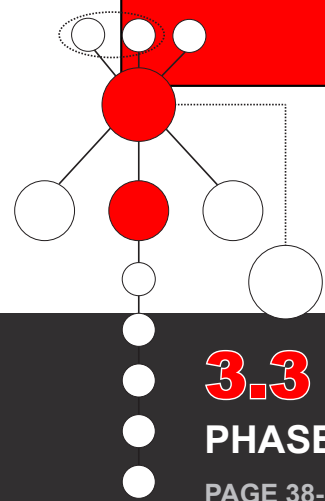
**BETTER  
10-25 YEARS**

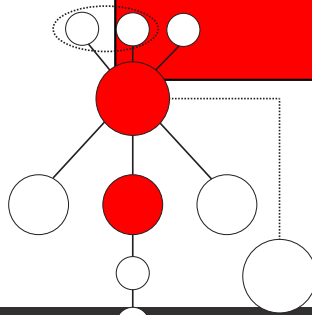
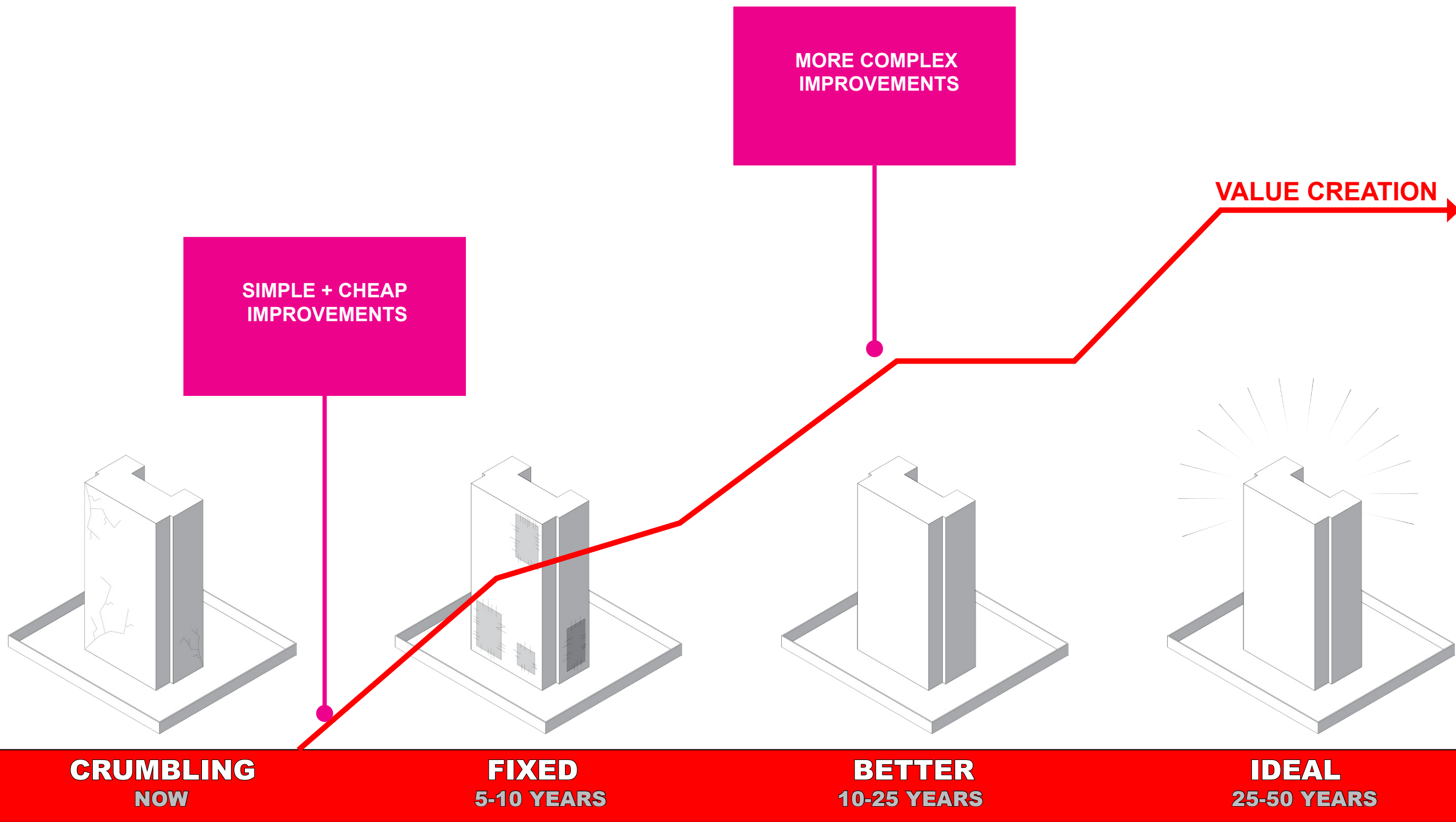
**IDEAL  
25-50 YEARS**

**3.3 THE FINANCIAL MODEL**

PHASED VALUE CREATION

PAGE 38-107



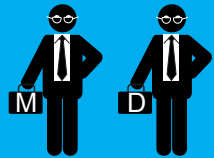


### 3.3 THE FINANCIAL MODEL

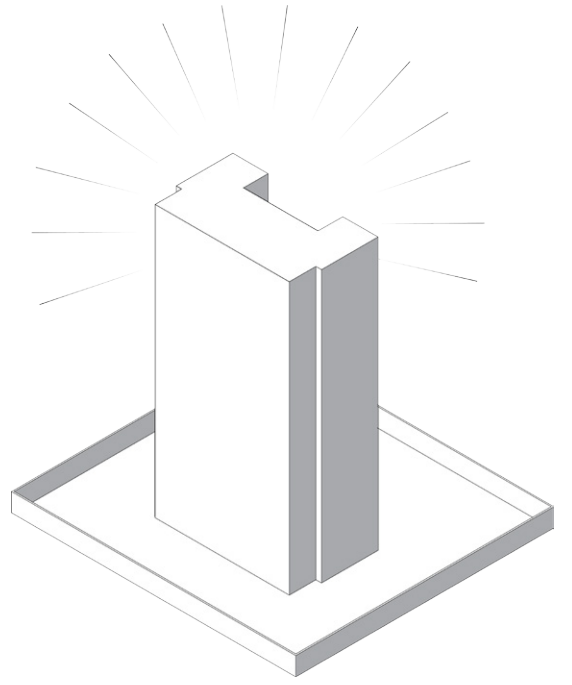
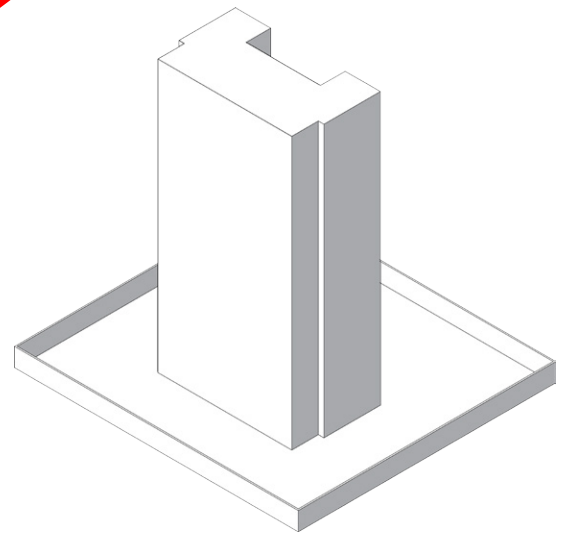
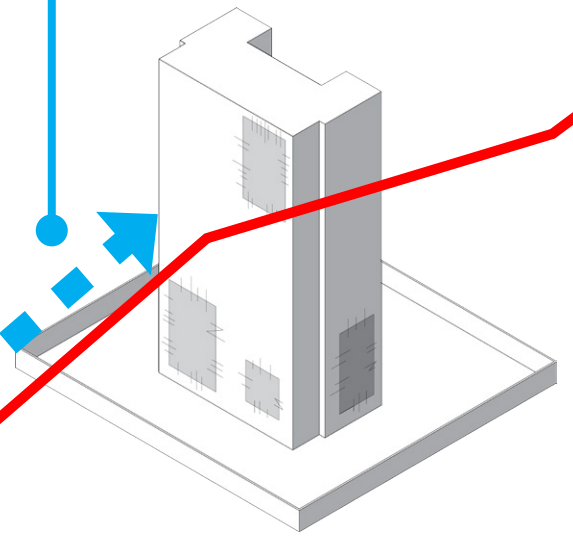
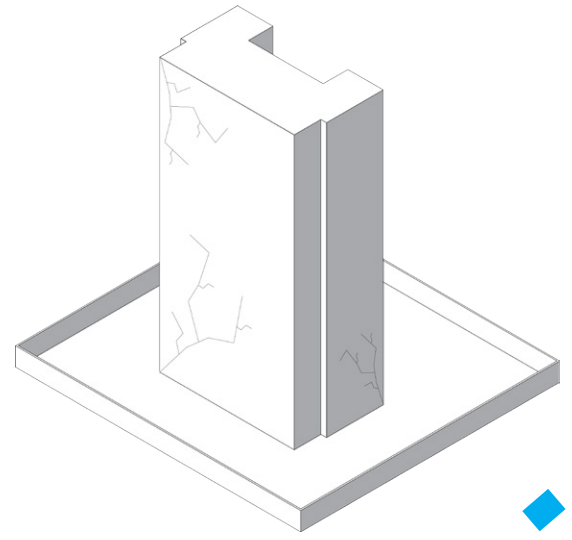
#### PHASED VALUE CREATION



**CATALYST**  
INVESTMENT  
BY GOVERNMENT



**VALUE CREATION** →

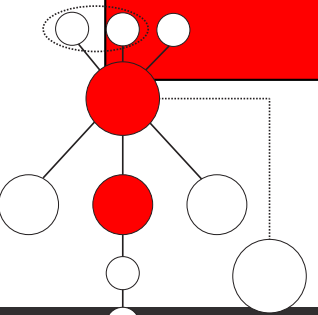


**CRUMBLING**  
NOW

**FIXED**  
5-10 YEARS

**BETTER**  
10-25 YEARS

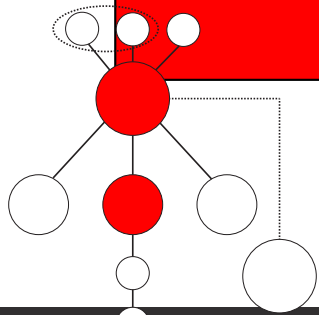
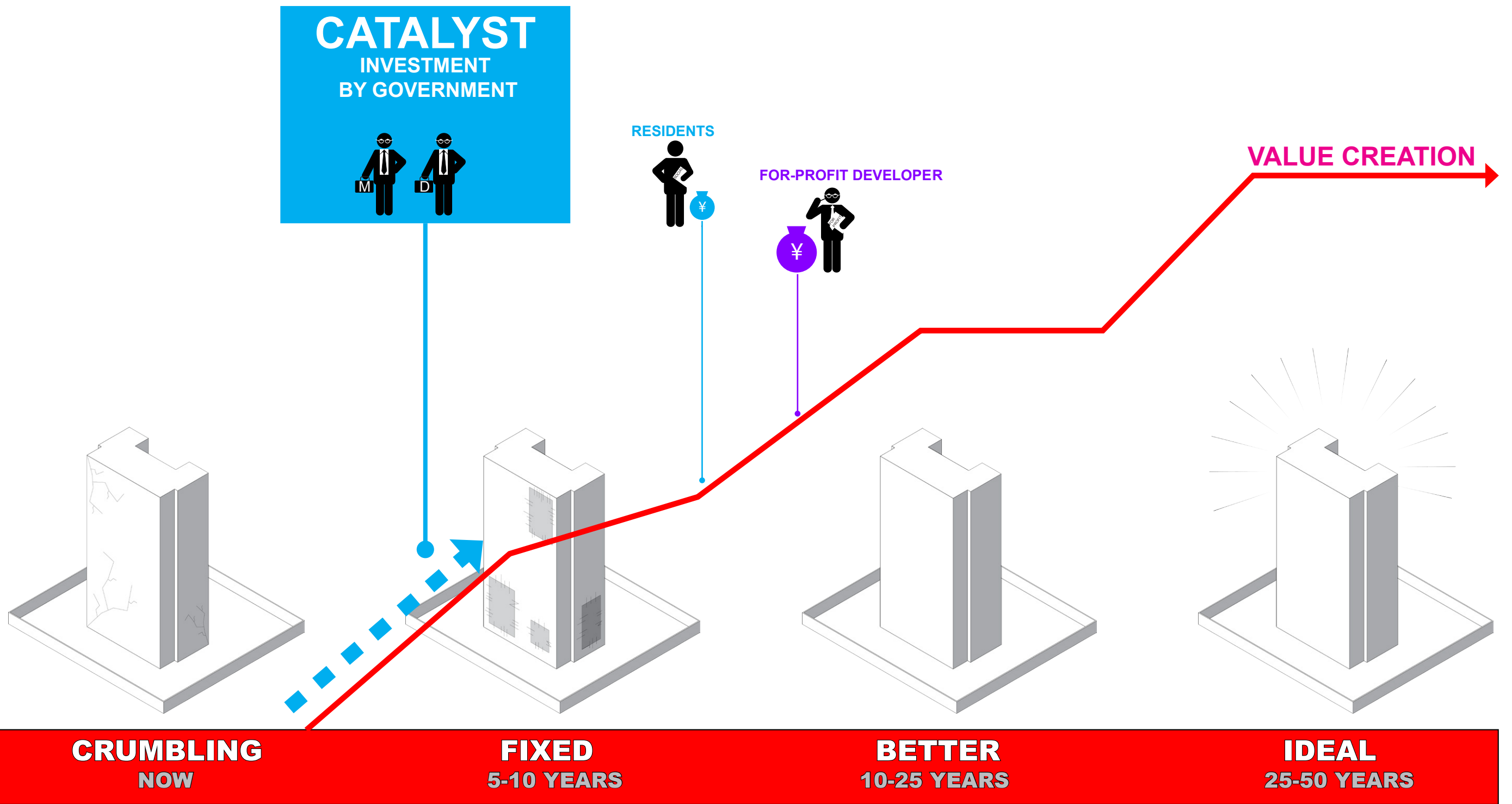
**IDEAL**  
25-50 YEARS



**3.3 THE FINANCIAL MODEL**

CATALYST

PAGE 39-107

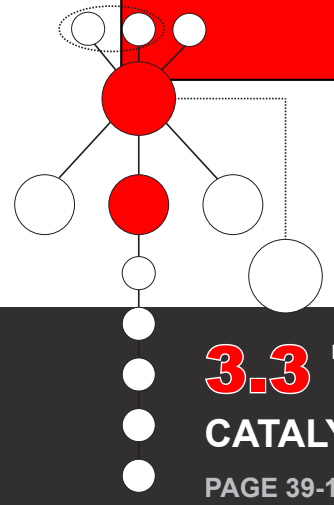
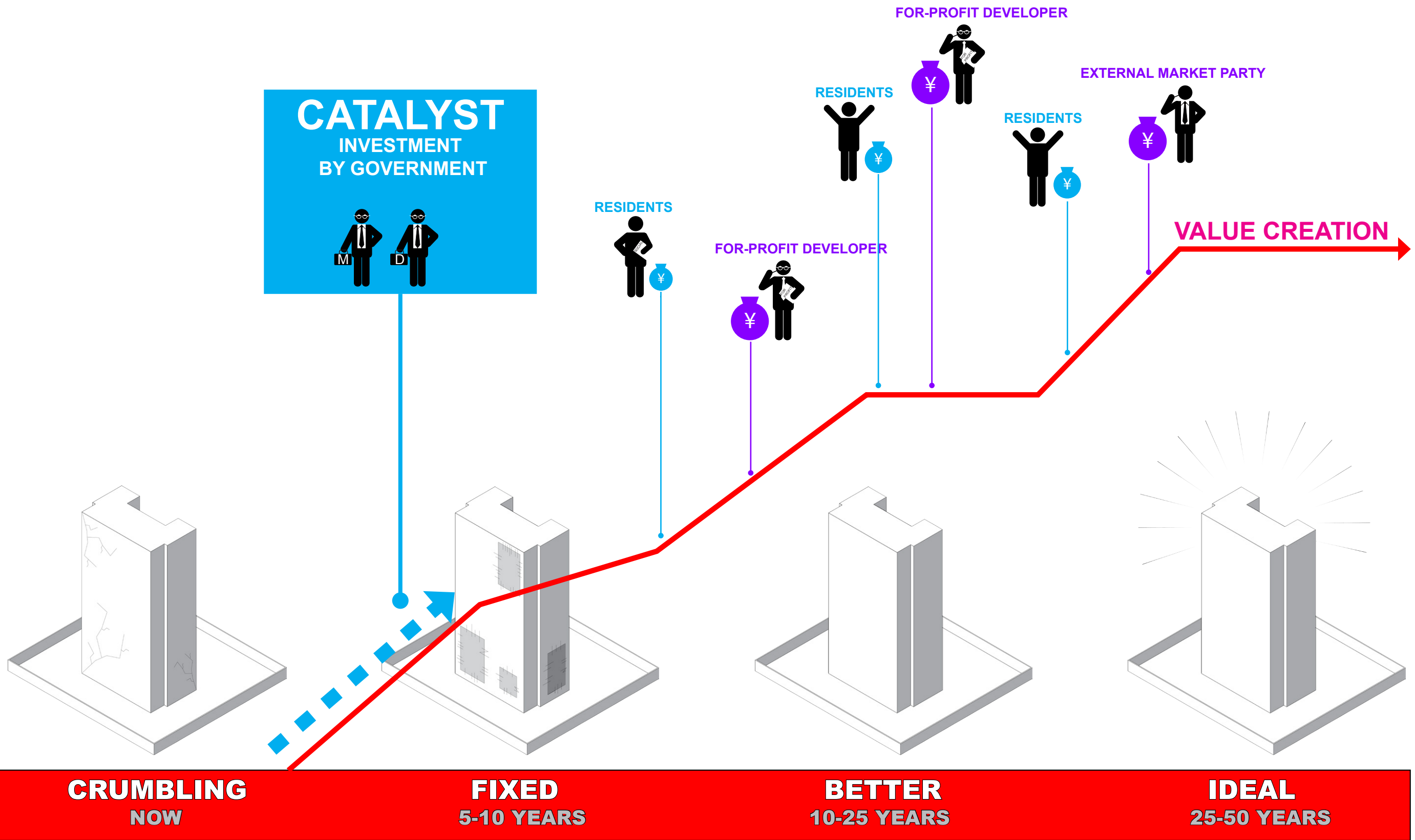


### 3.3 THE FINANCIAL MODEL

CATALYST

PAGE 39-107





### 3.3 THE FINANCIAL MODEL

CATALYST

PAGE 39-107



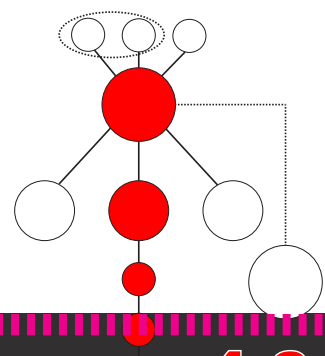
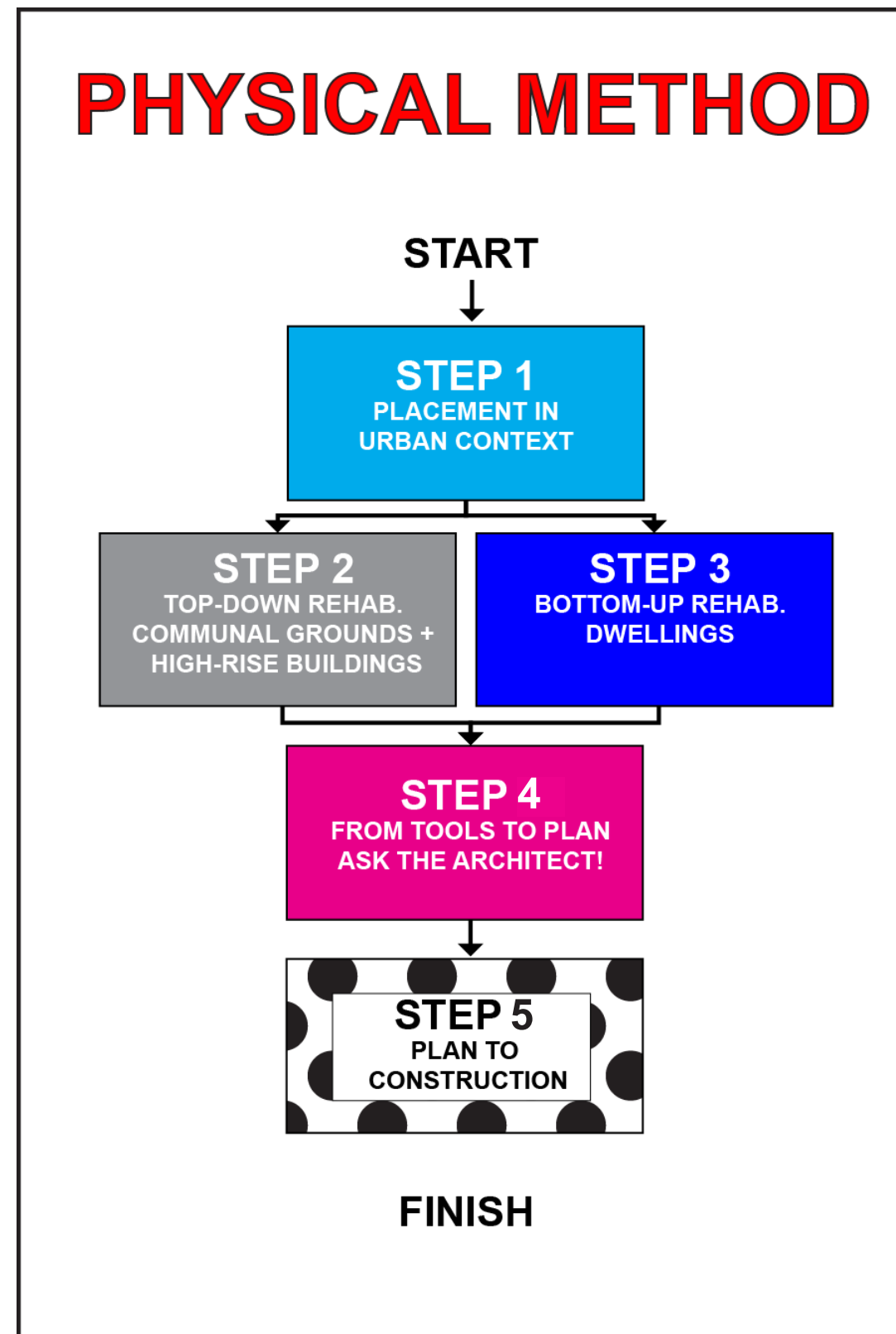


DISCOVERING THE PHYSICAL  
REHABILITATION METHOD WITH  
THE DONGSHITIAO JIA CASE

**PART IV**

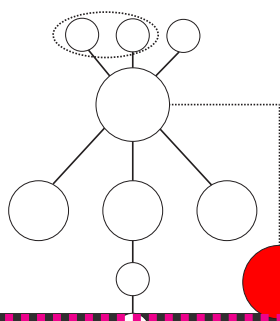
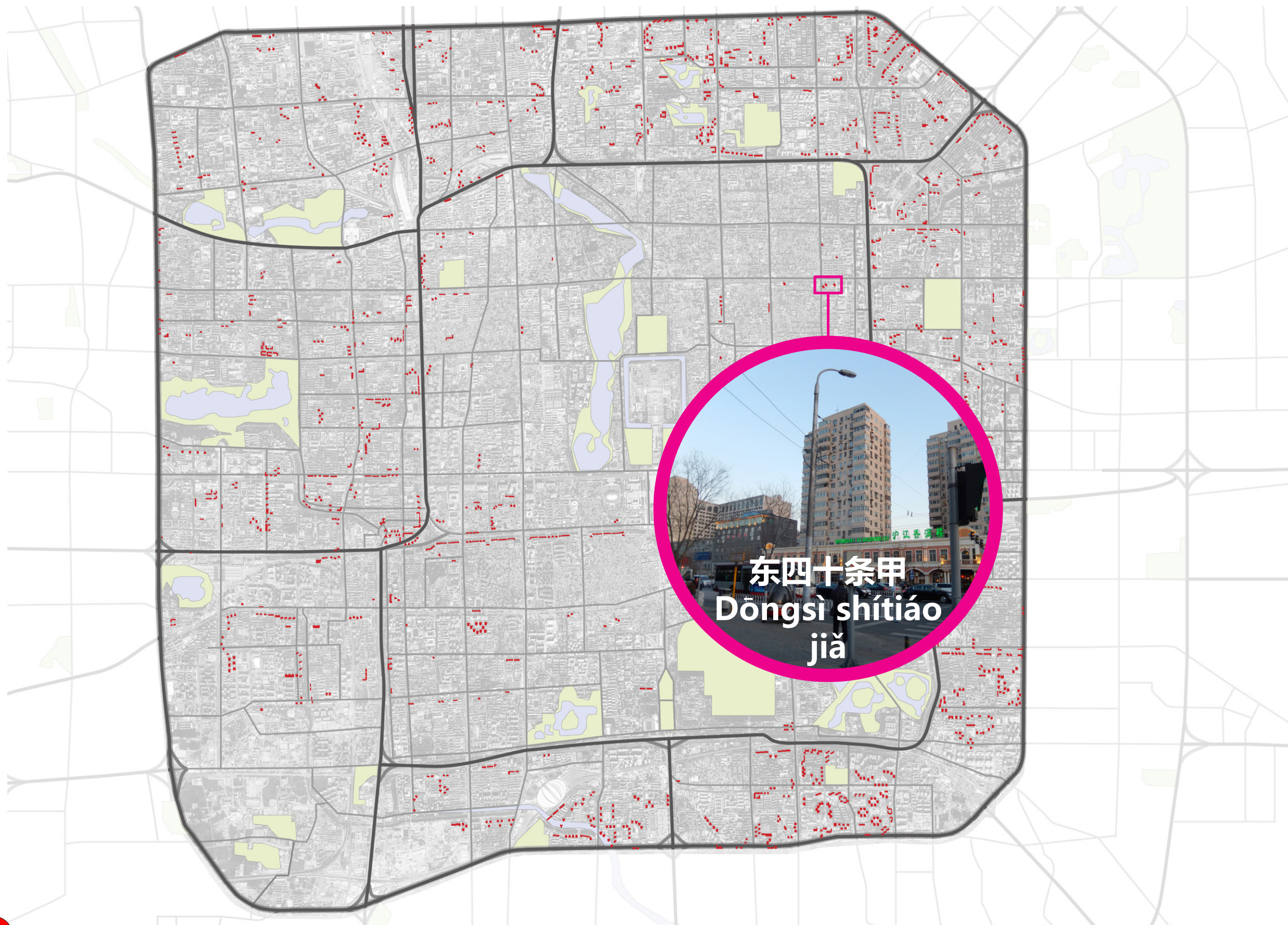


# PHYSICAL METHOD



## 4.0 THE PHYSICAL METHOD

A HANDS-ON, FIVE STEP REHABILITATION METHOD

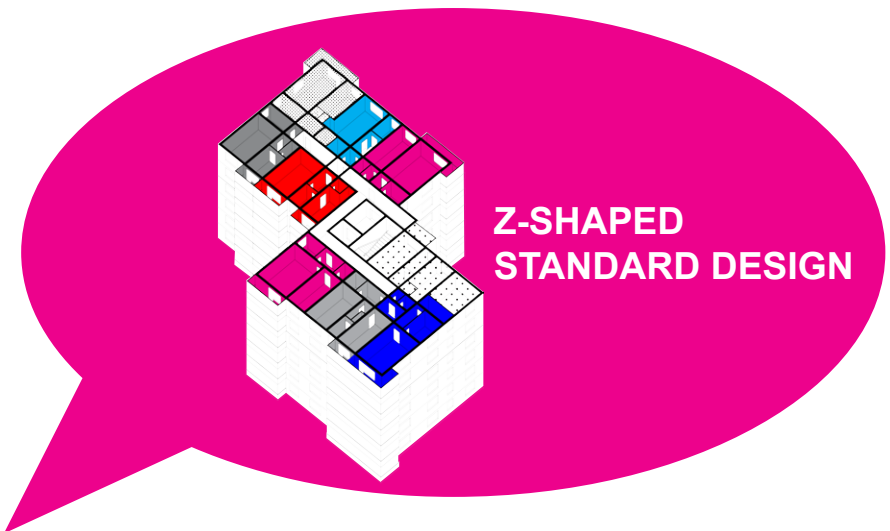
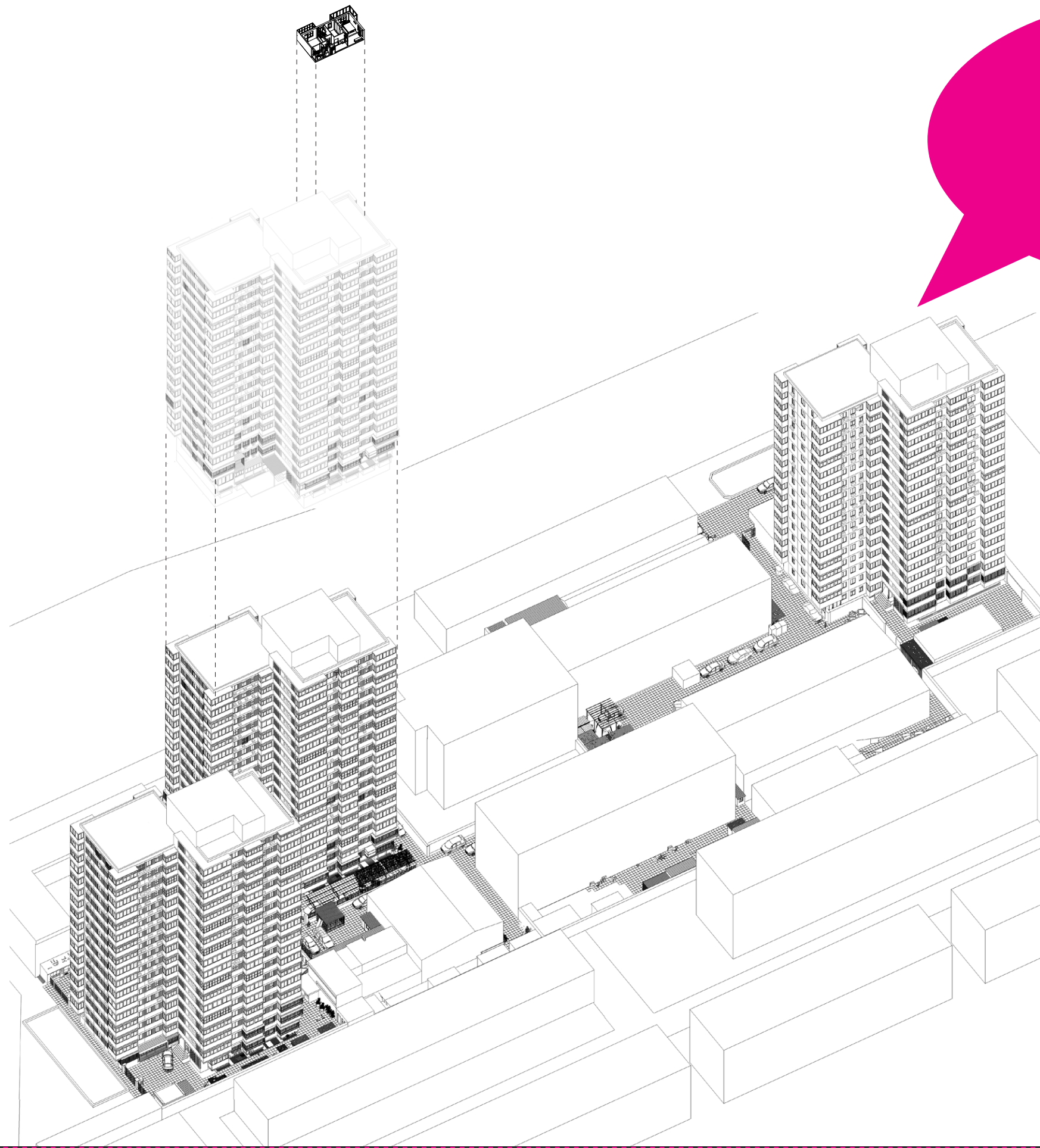
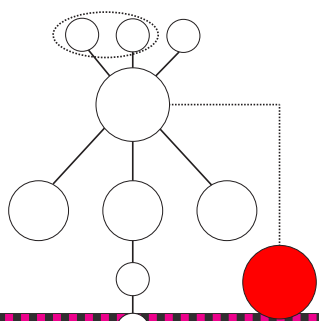


## 4.1 THE CASE OF DONGSISHITIAO JIA

LOCATION

PAGE 42-107





# 4.1 THE CASE OF DONGSISHITIAO JIA

SITE IN 3D

PAGE 43-107





**TOO LITTLE MAINTENANCE**

**BAD INFRASTRUCTURE**

**ILLEGAL SUB-STANDARD STRUCTURES**

**OVERCROWDED + ILLEGAL PARKING**

**NO GREEN OR COMMUNITY SPACE!**

# 4.1 THE CASE OF DONGSISHITIAO JIA

PHYSICAL DECAY IN THE COMMUNAL GROUNDS



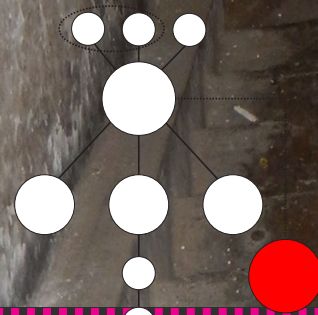


TOO LITTLE  
MAINTENANCE



BASEMENT  
SLUMS

APPROPRIATION OF  
AND GARBAGE IN  
CORRIDORS



# 4.1 THE CASE OF DONGSISHITIAO JIA

PHYSICAL DECAY IN THE COMMUNAL AREAS OF THE HIGH-RISES





TOO SMALL KITCHEN AND BATHROOM



OUTDATED LAYOUTS



POOR CONSTRUCTION QUALITY



POOR INDOOR CLIMATE + INFRASTRUCTURE

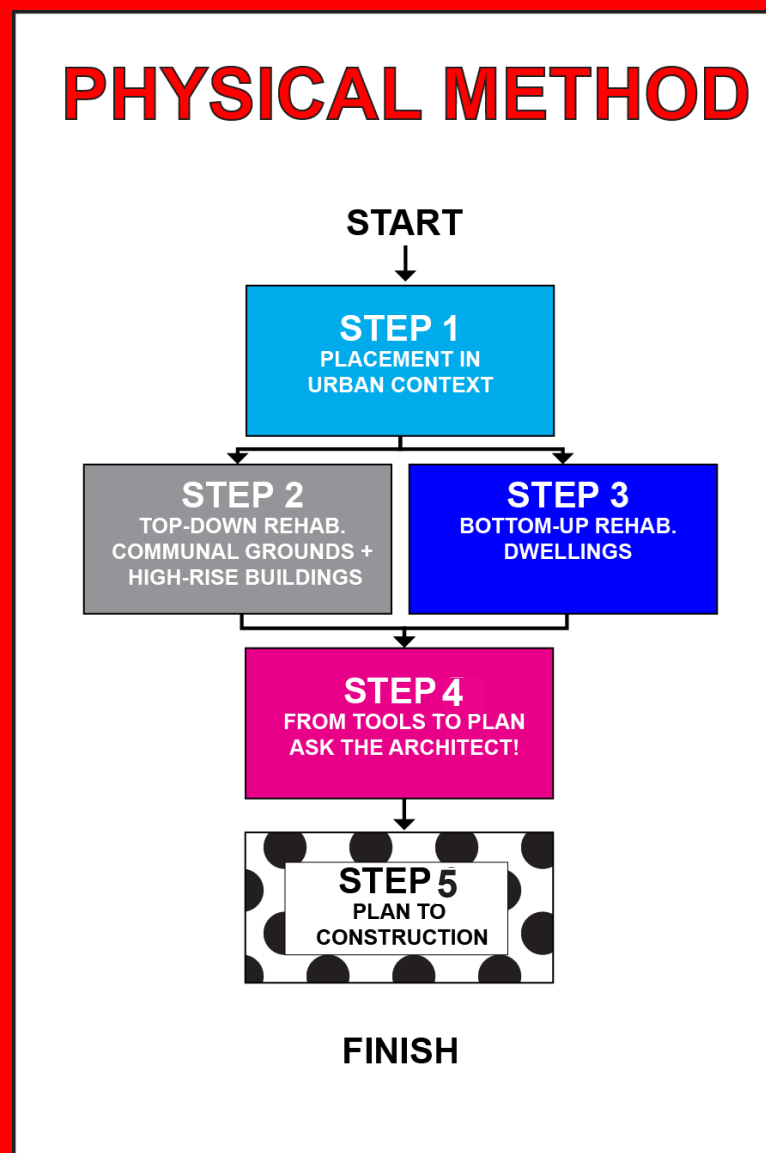


## 4.1 THE CASE OF DONGSISHITIAO JIA

PHYSICAL DECAY IN THE DWELLING



# LET'S REHABILITATE... DONGSISHITIAO JIA!

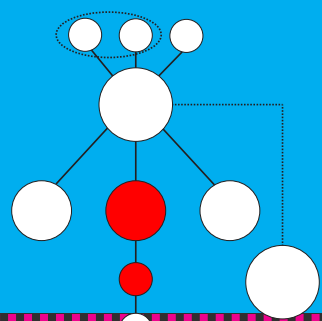


## 4.1 THE CASE OF DONGSISHITIAO JIA

REHABILITATION OF A CASE ACCORDING TO THE STRATEGY USING THE 5 STEP METHOD

# STEP 1

## PLACEMENT IN THE URBAN CONTEXT

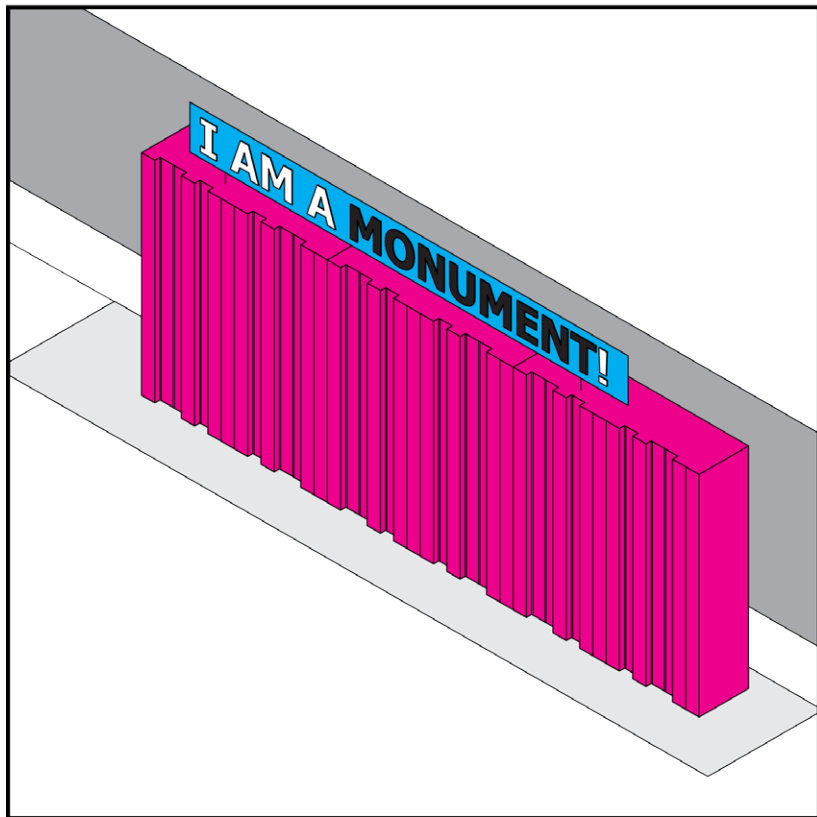


**STEP 1: PLACEMENT IN THE URBAN CONTEXT**

STEP 1

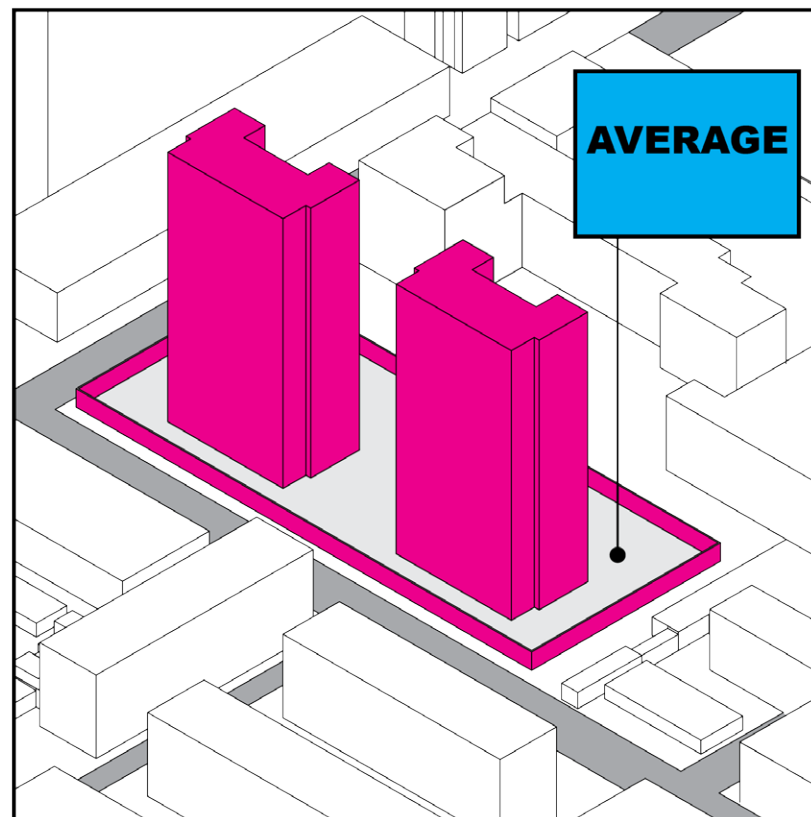
PAGE 48-107





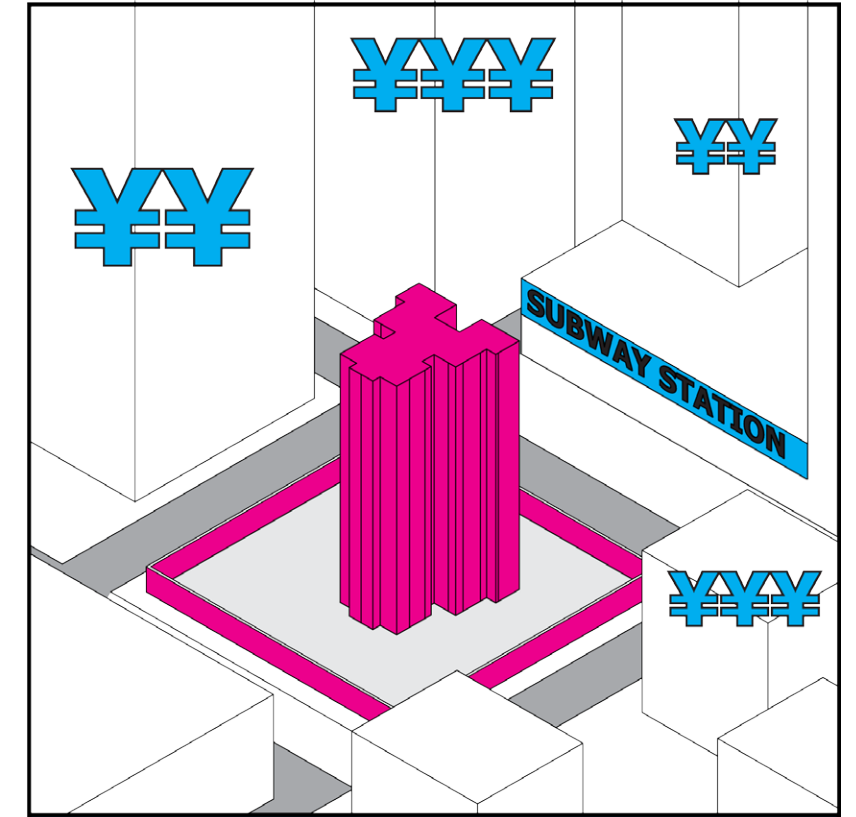
# PRESERVE

1. Preservation is main objective
2. Conservative + non-invasive tools + infill solutions



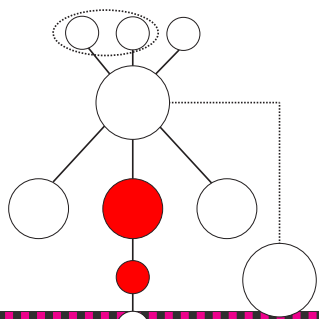
# RENEW

1. Average
2. Liberal tools + infill solutions
3. Over-rehabilitation needs to be prevented.



# EXPLORE

1. Prime locations
2. Explore all opportunities
3. Pilot projects to catalyse renew + preserve projects.



## STEP 1: PLACEMENT IN THE URBAN CONTEXT

INTRODUCING: PRESERVE, RENEW + EXPLORE

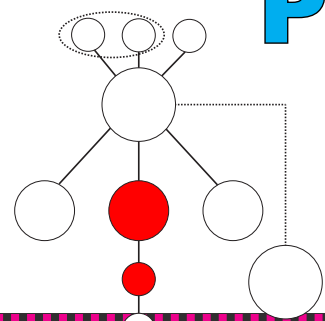




**PRESERVE**

**RENEW**

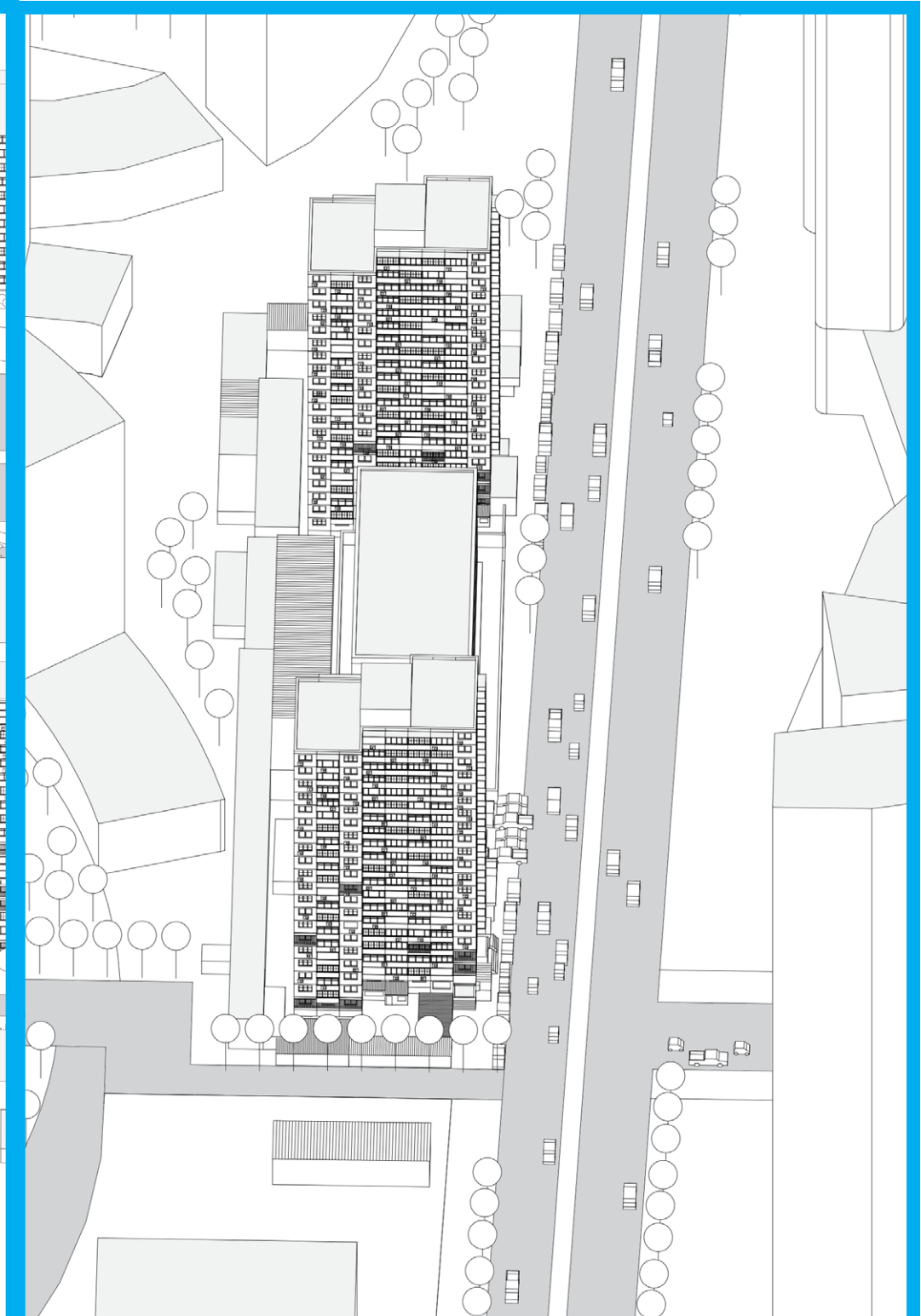
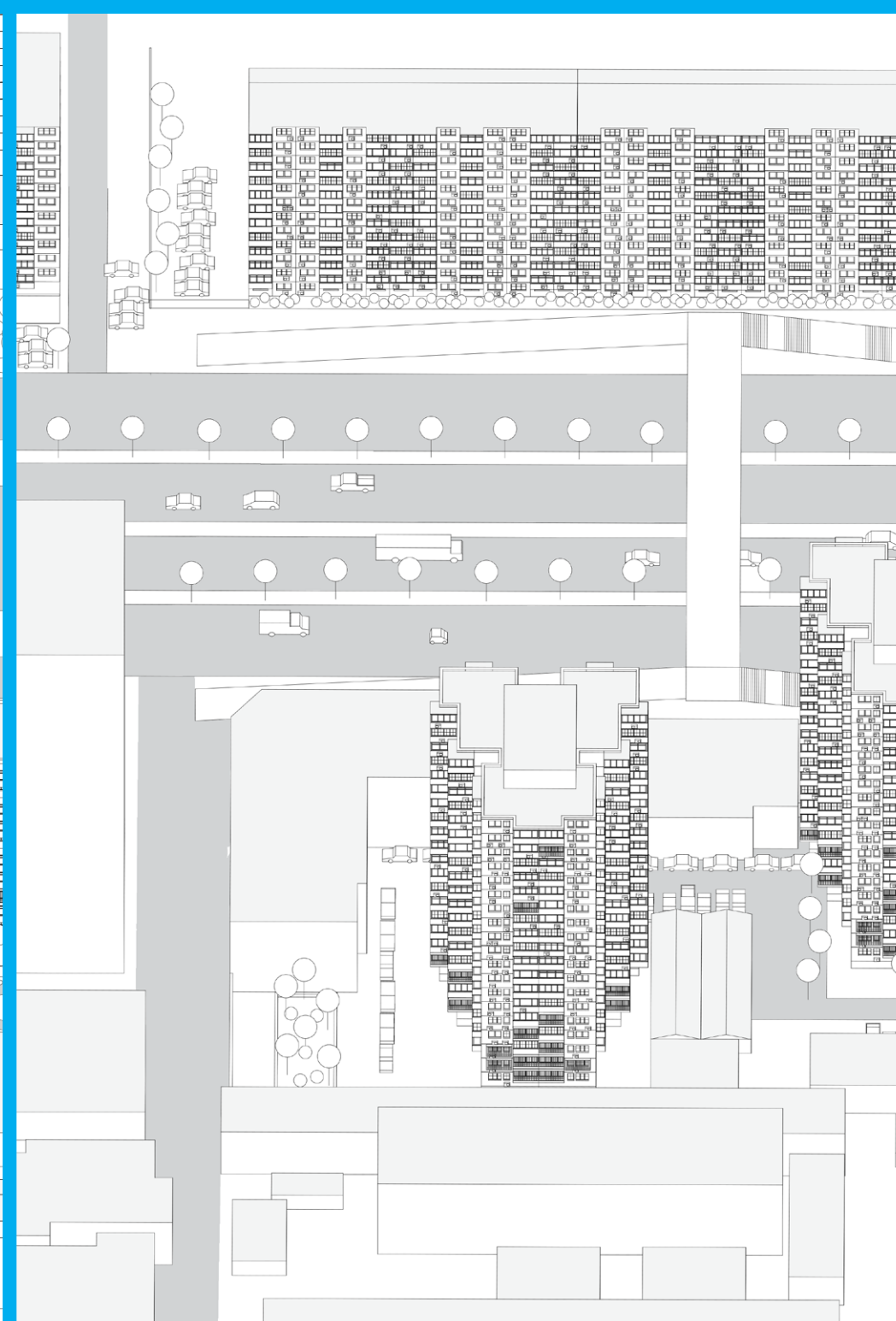
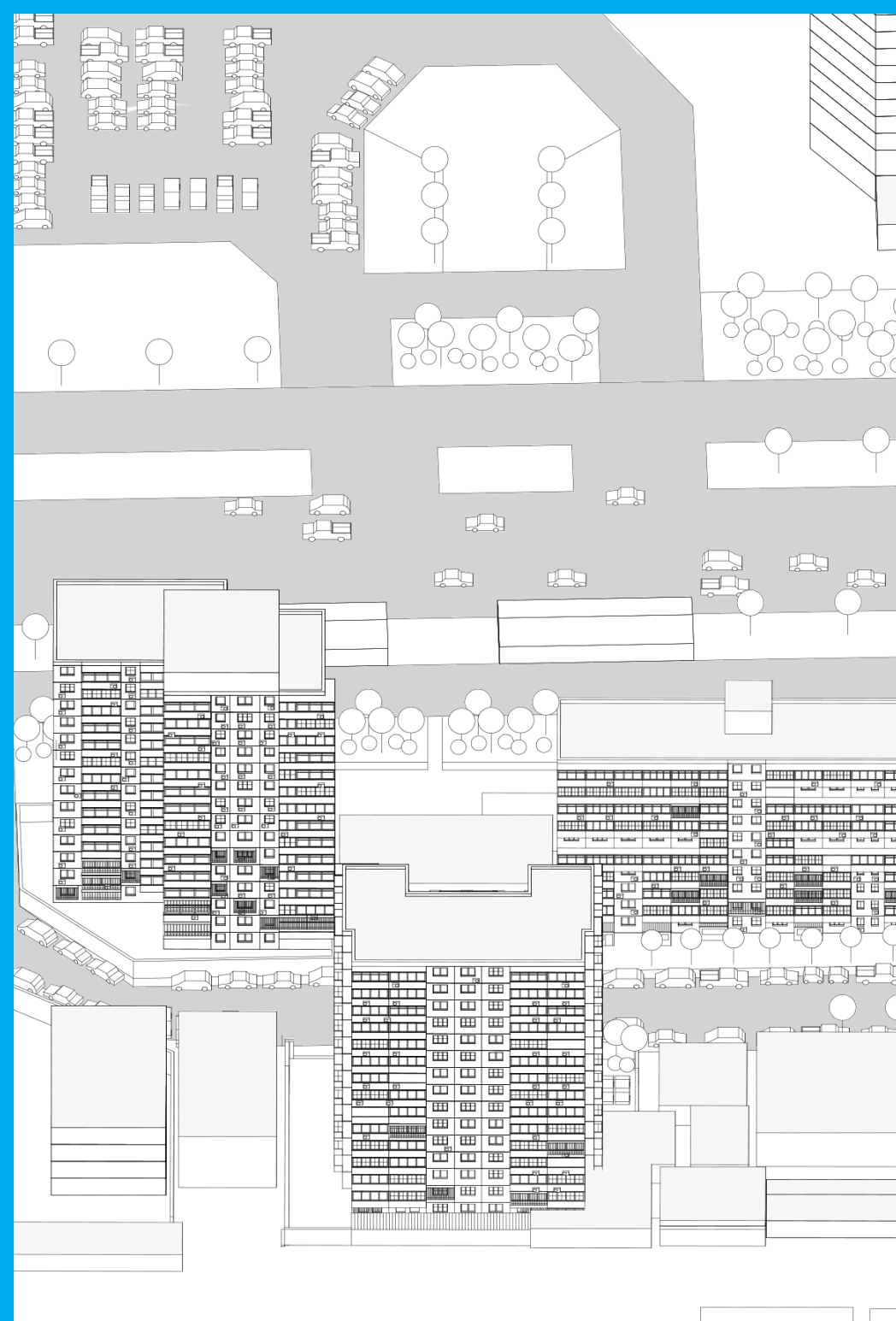
**EXPLORE**



**STEP 1: PLACEMENT IN THE URBAN CONTEXT**

**PRESERVE + RENEW + EXPLORE: THREE EXAMPLES**

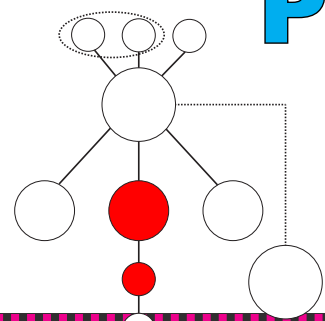




**PRESERVE**

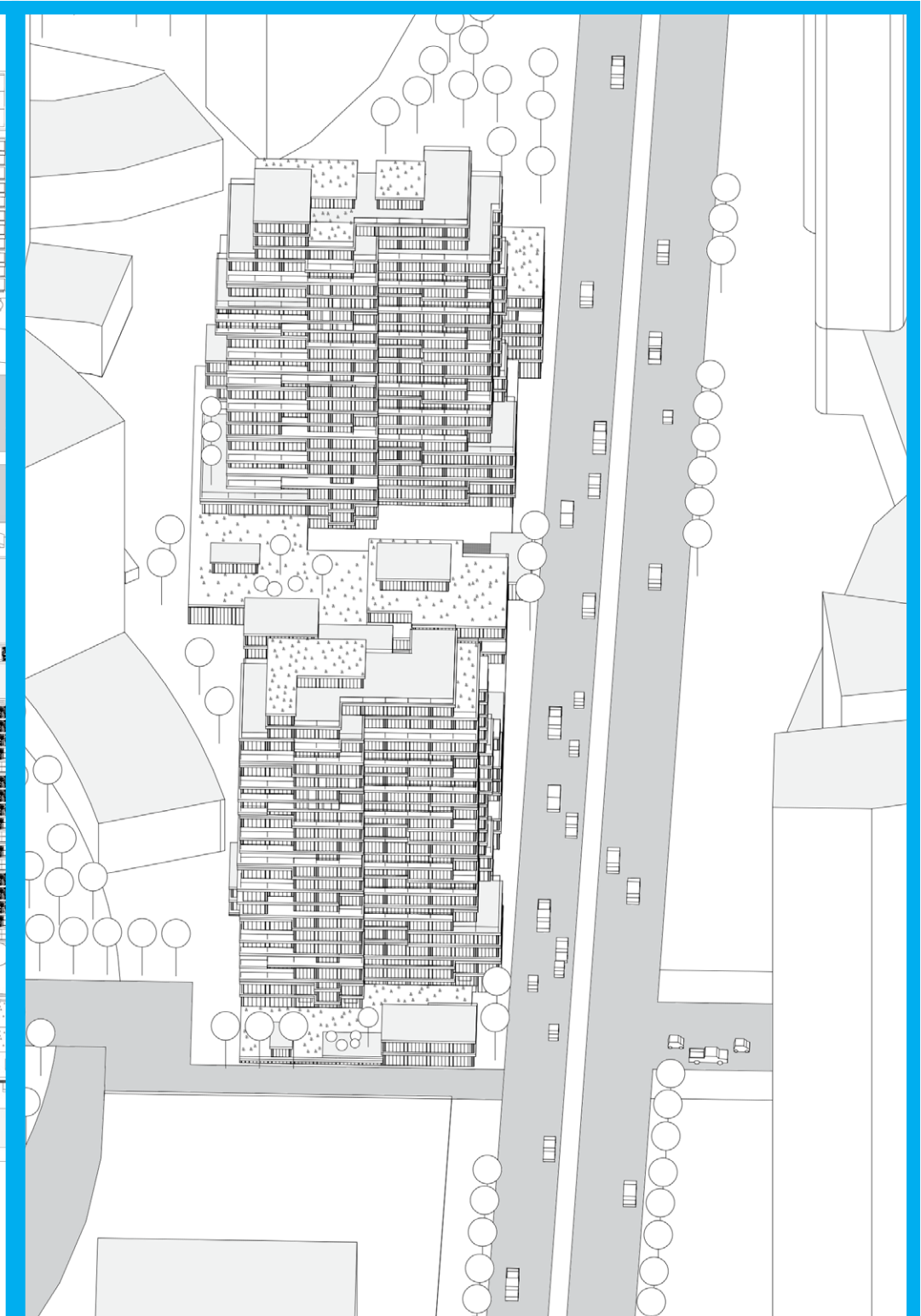
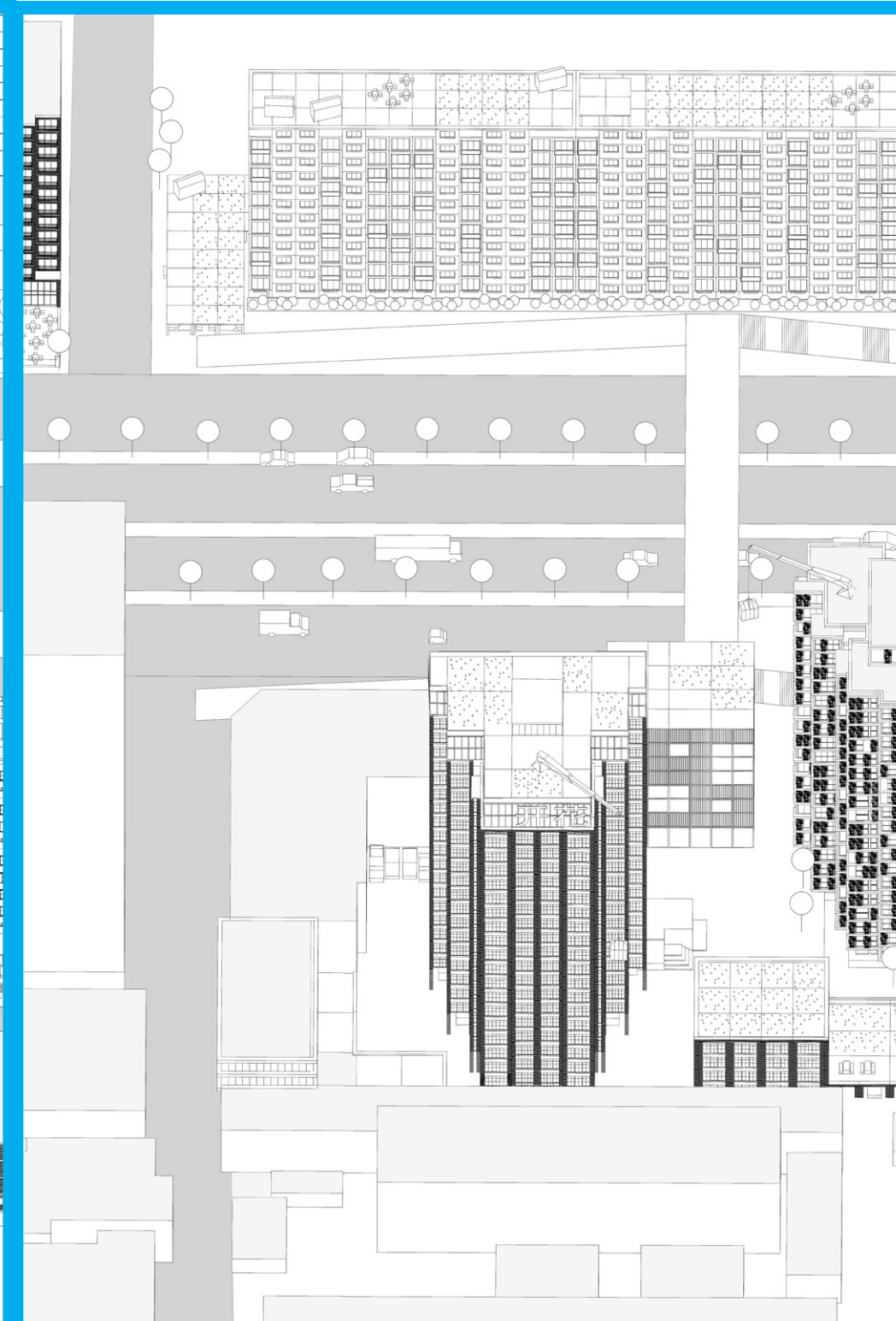
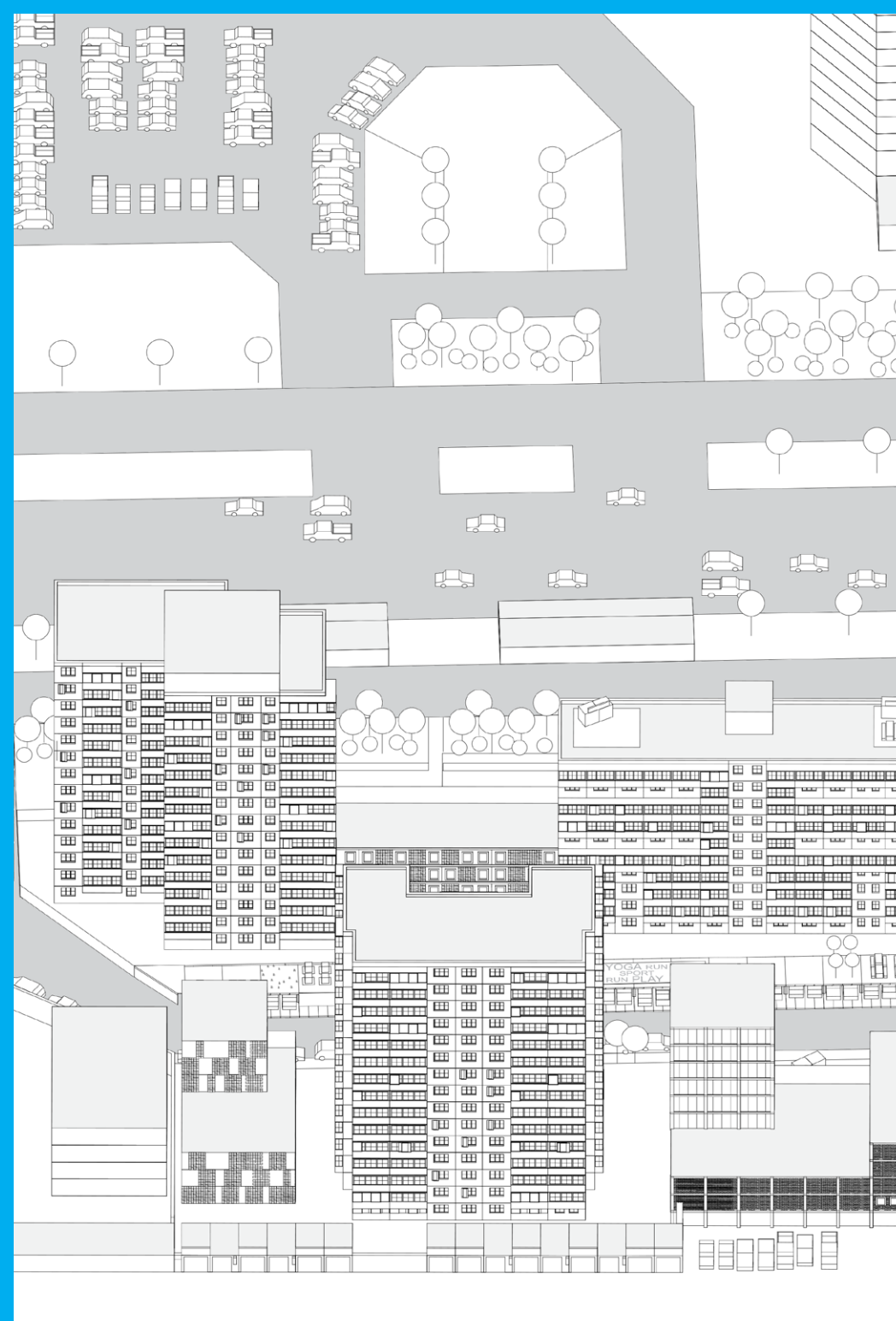
**RENEW**

**EXPLORE**



**STEP 1: PLACEMENT IN THE URBAN CONTEXT**

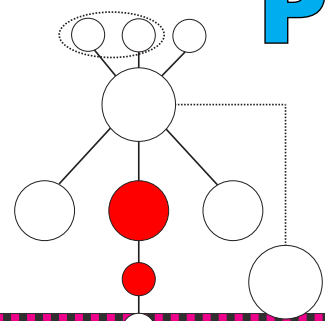
PRESERVE + RENEW + EXPLORE: THREE EXAMPLES IN THEIR CRUMBLING STATE



# PRESERVE

# RENEW

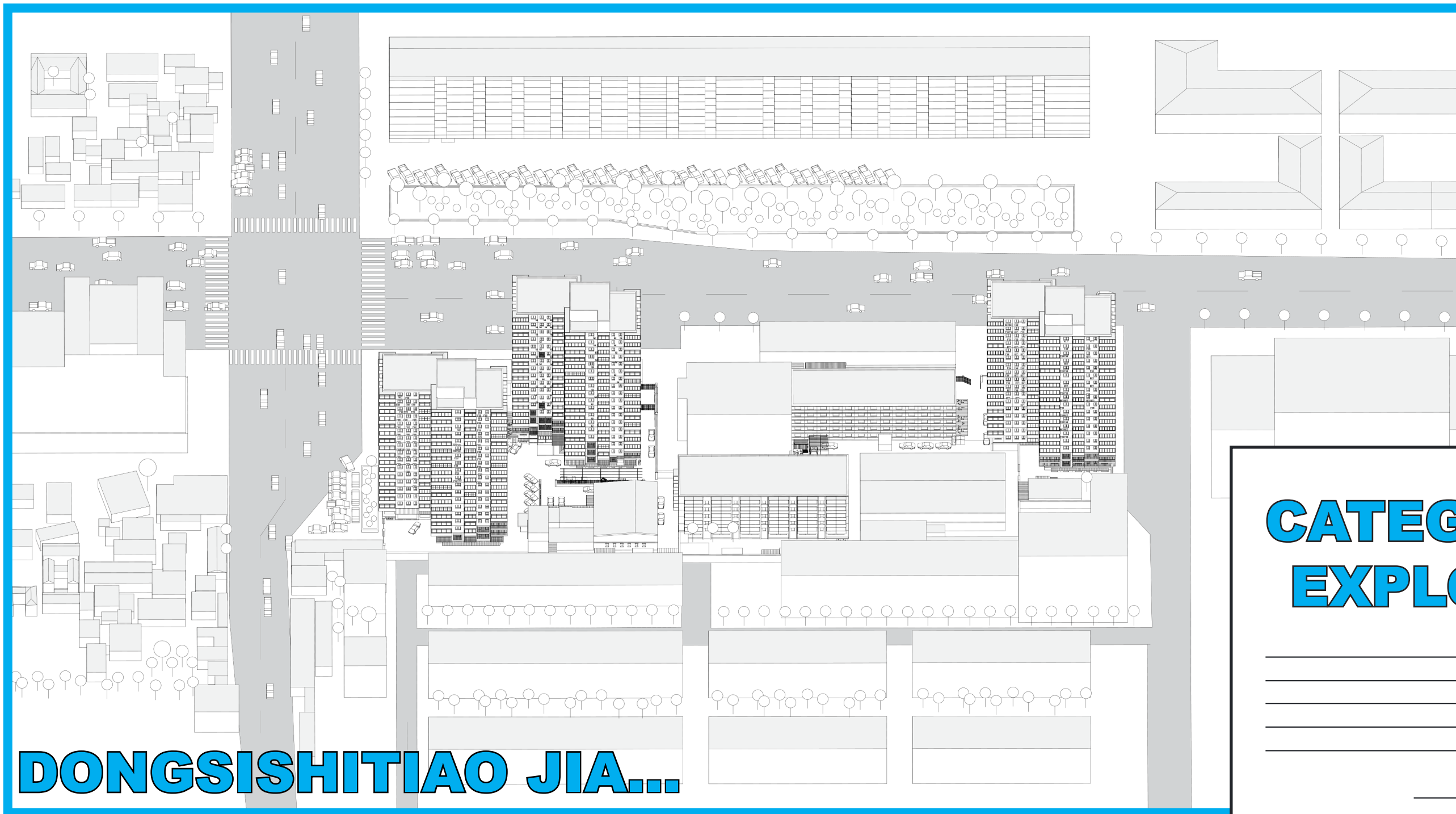
# EXPLORE



## STEP 1: PLACEMENT IN THE URBAN CONTEXT

PRESERVE + RENEW + EXPLORE: THREE EXAMPLES DURING DIFFERENT PHASES OF REHABILITATION





**DONGSISHITIAO JIA...**

# CATEGORY EXPLORE

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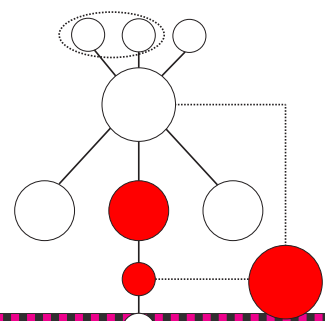
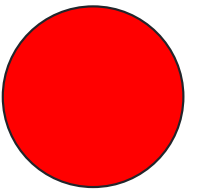
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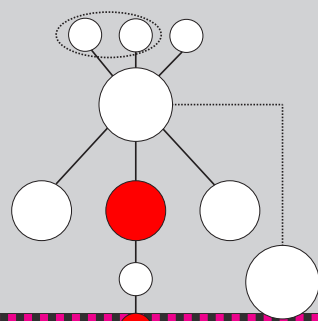


## **STEP 1: PLACEMENT IN THE URBAN CONTEXT**

CATEGORY OF THE DONGSISHITIAO JIA CASE

# STEP 2

**COMMENCING TOP-DOWN  
REHABILITATION OF THE COMMUNAL GROUNDS  
AND HIGH-RISE BUILDING**



**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

STEP 2

PAGE 54-107





# DONGSI SHITIAO JIA

## TO DO LIST

### Dwellings:

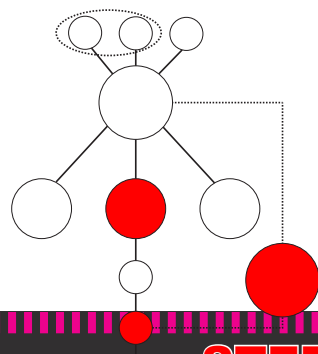
- Increase density
- Offer possibilities to diversify dwellings (functionally + aesthetically)
- Offer possibilities to enlarge dwellings

### Building

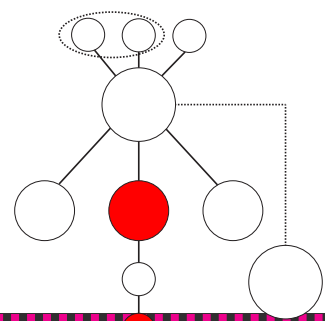
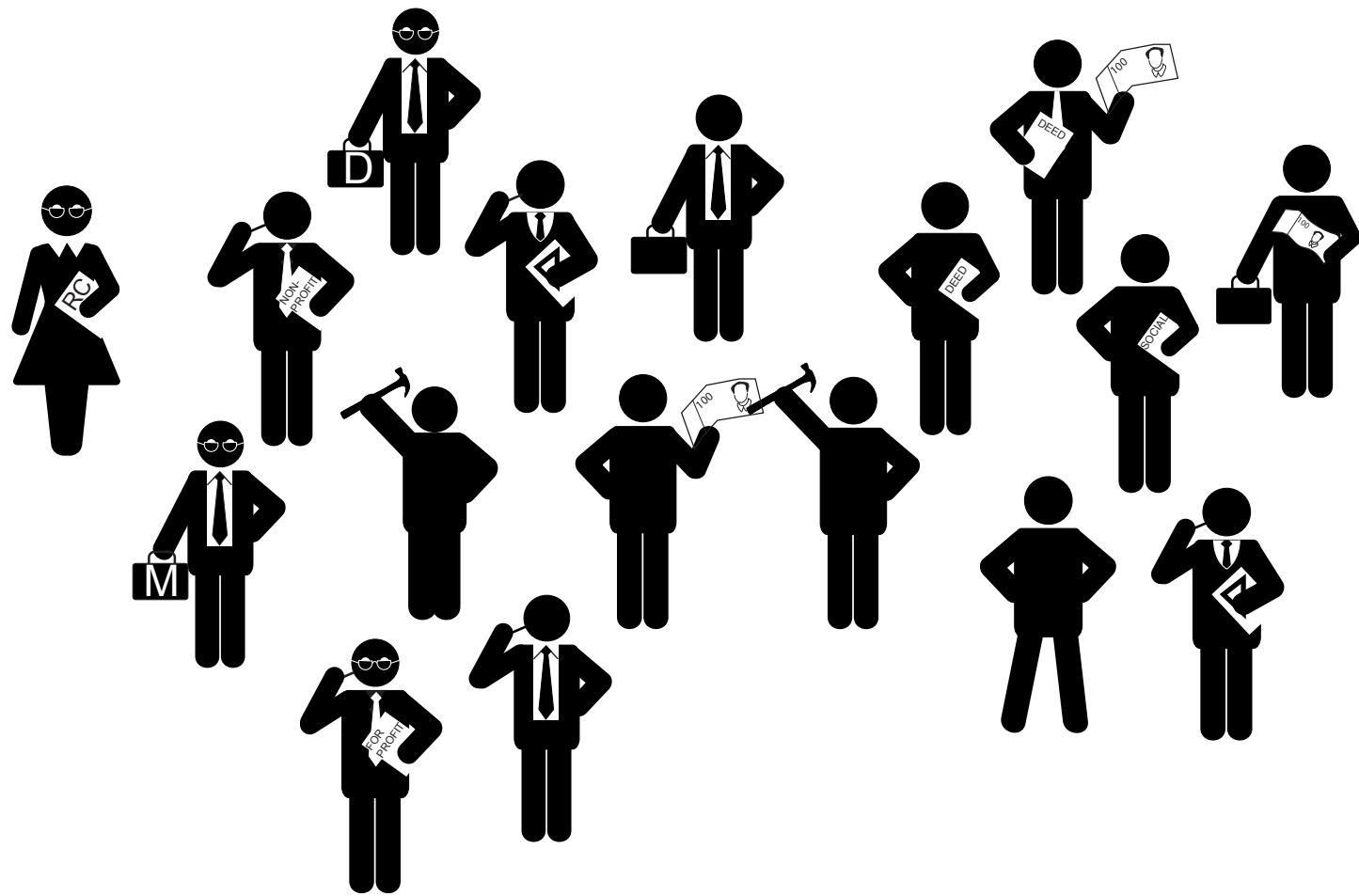
- Update shell (technically and aesthetically)
- Renew building infrastructure (wiring, piping)
- Make more energy efficient
- Improve aesthetic design entrance area (more impressive)
- Improve the communal hallways (aesthetically and functionally)
- Increase the amount of communal space/facilities
- Improve living conditions of basement dwellers.

### Da-yuan

- Increase parking spaces.
- Increase amount of quality outside space.
- Increase the amount of affordable housing to relocate at least all basement dwellers to an affordable dwelling (through transformation of existing, densification, and new built)
- As compensation and to stimulate social spatial integration high-end dwellings and commercial space can be constructed.
- Increase community facilities (sport, kitergarden, playground, community centre)

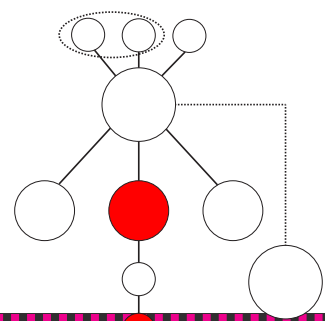
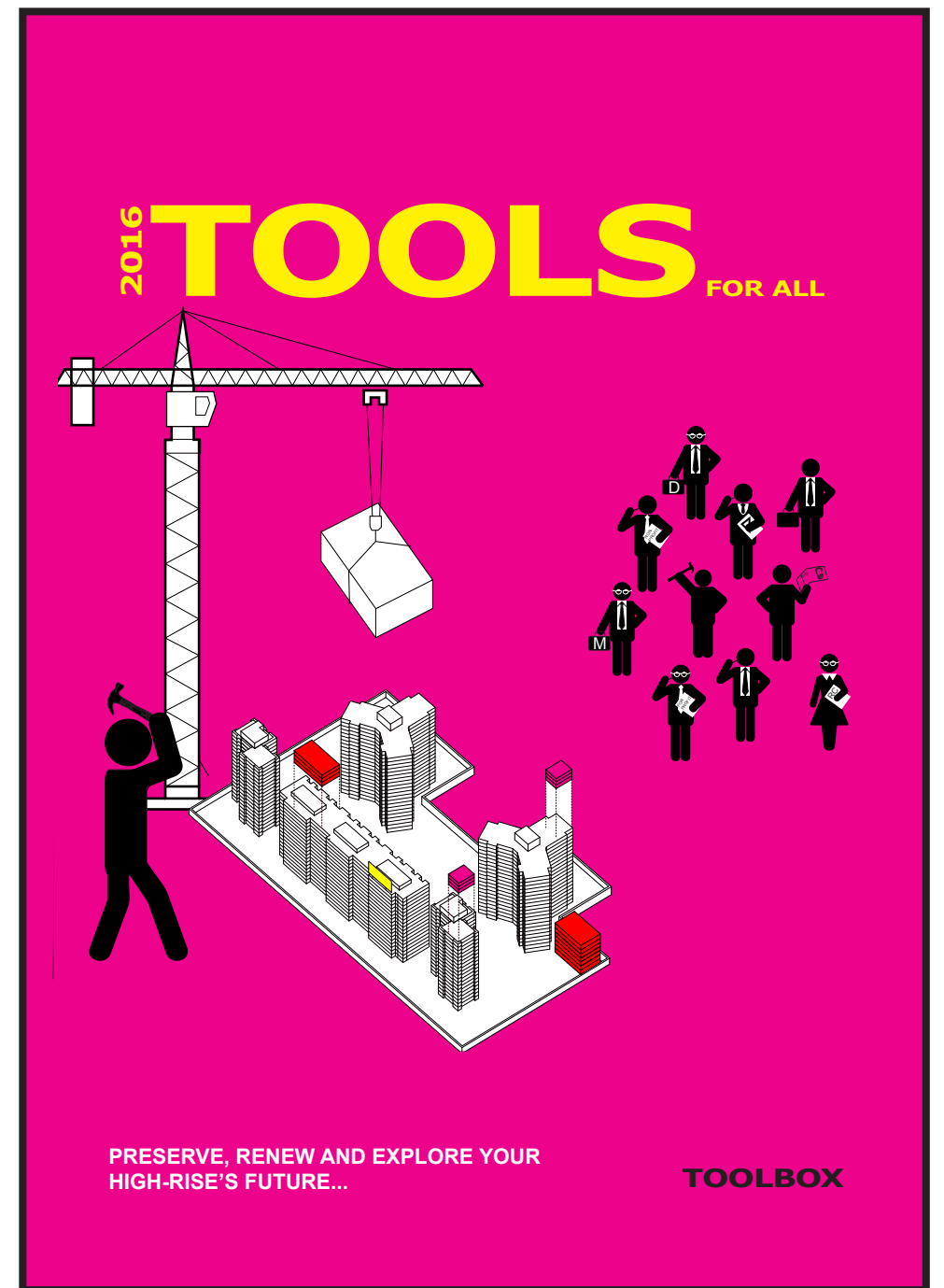
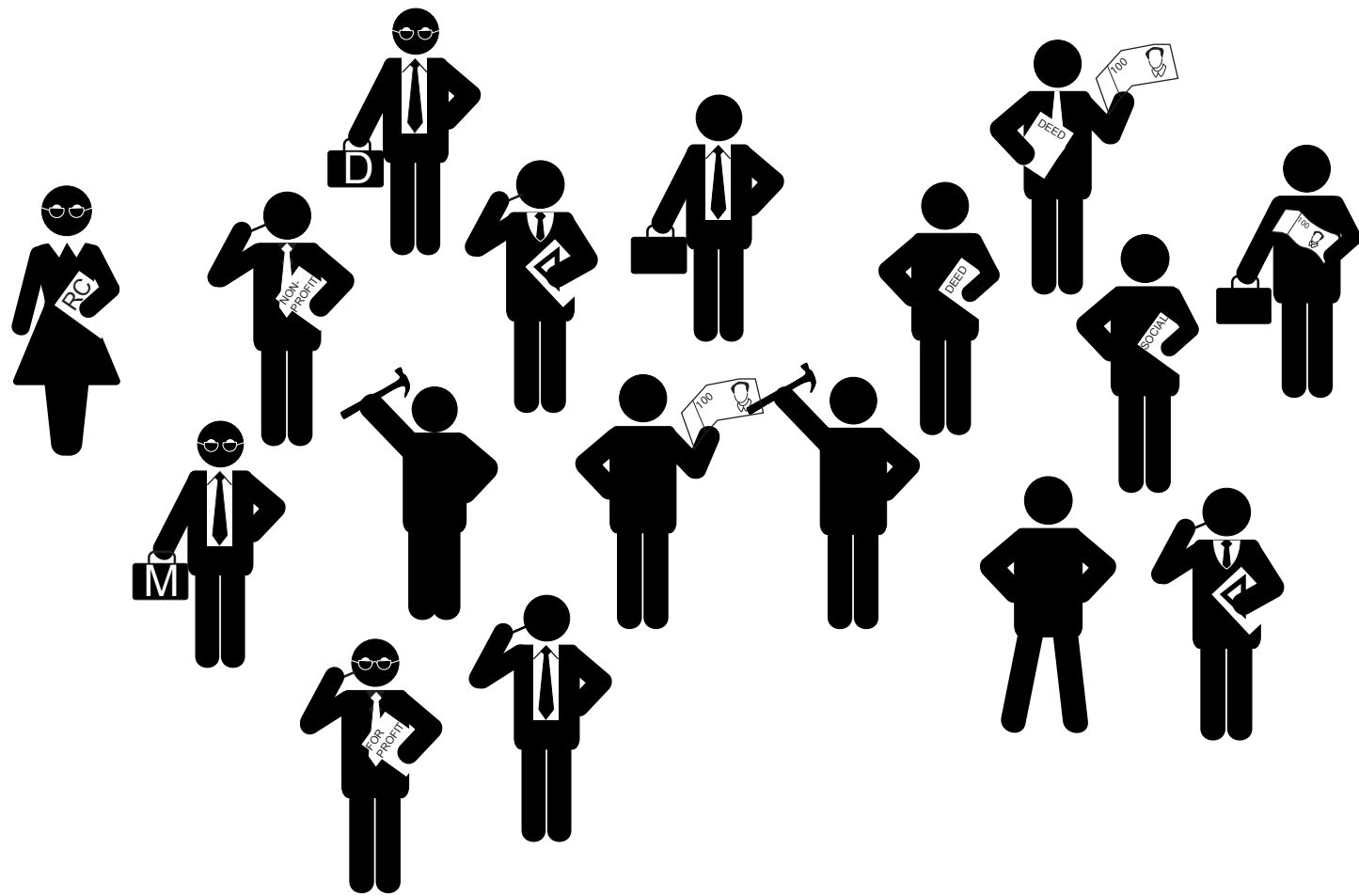






**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

MATCHING TO DO LIST WITH TOOLS TO REHABILITATE AND FULLFILL SECONDARY INTERESTS



**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

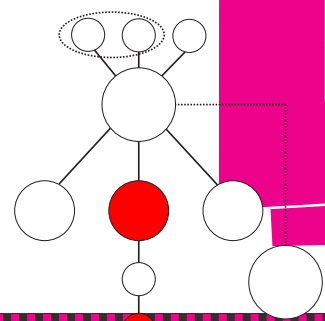
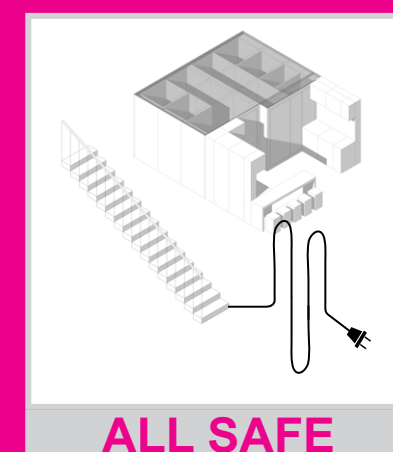
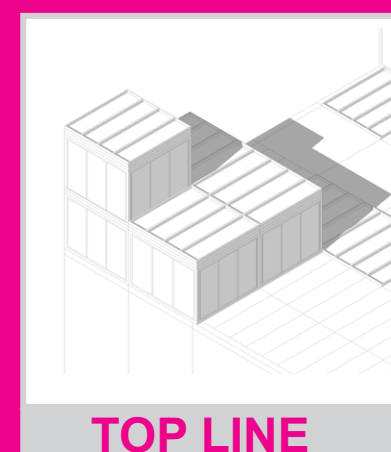
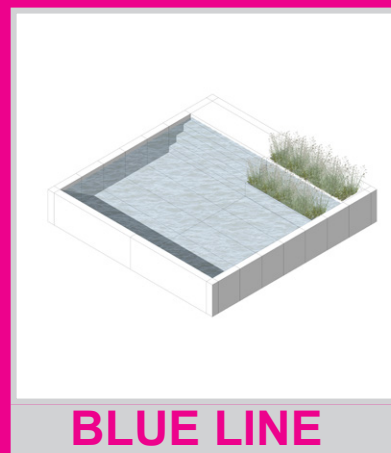
TOOLS AS STANDARDISED CUSTOMISABLE PRODUCTS IN THE TOOLS GUIDE

PAGE 58-107



# TOOLS

## PRODUCT LINES



**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

TOOLS AS STANDARDISED CUSTOMISABLE PRODUCTS IN THE TOOLS GUIDE

PAGE 59-107

**PROVIDE NEW  
INFRASTRUCTURE**

**IMPROVE THERMAL  
PERFORMANCE**

**IMPROVE “LOOKS”  
OF THE HIGH-RISES**

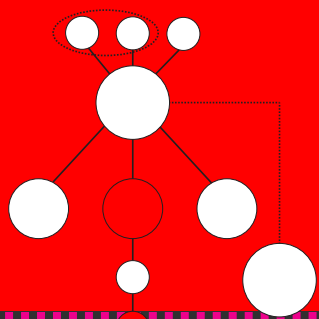


**ALL FACADE**

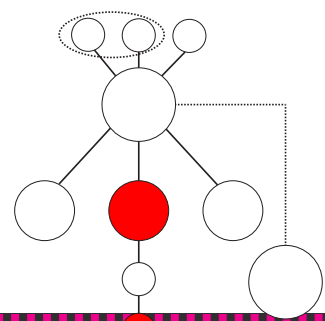
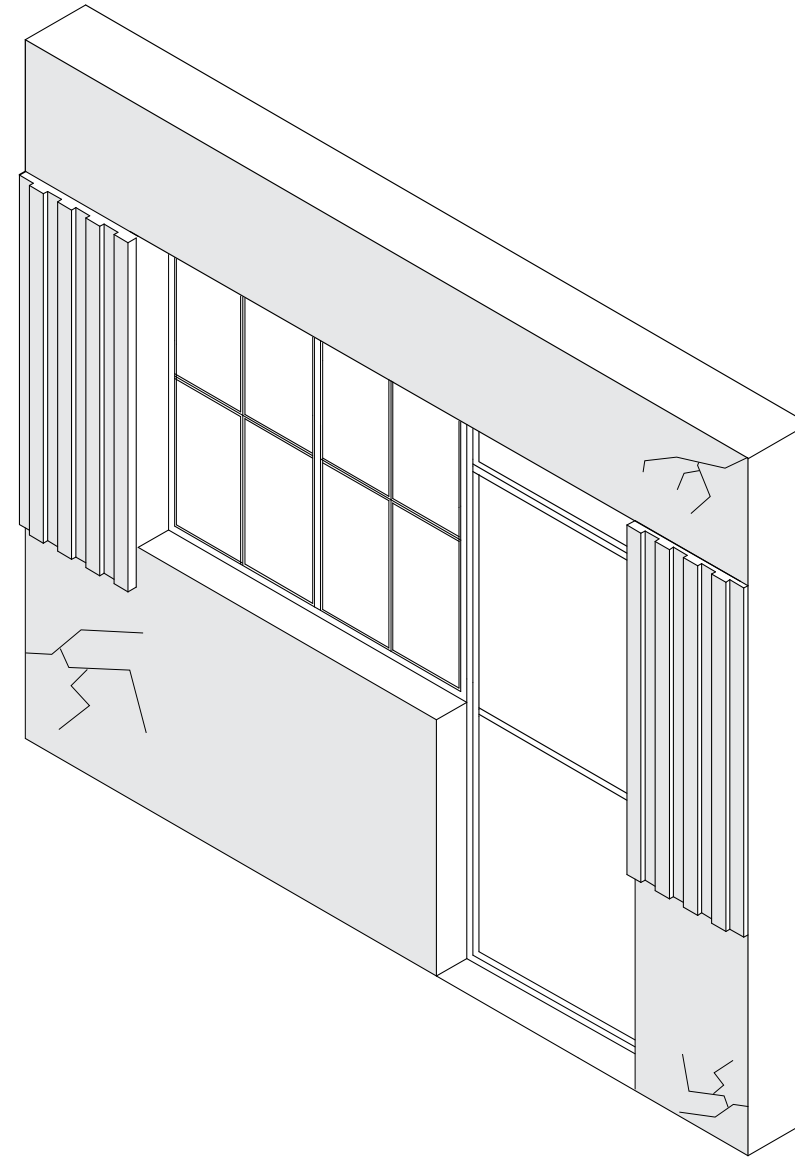
**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

**ALL FACADE PRODUCT LINE IN DETAIL**

PAGE 60-107



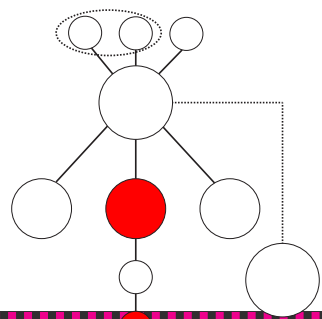
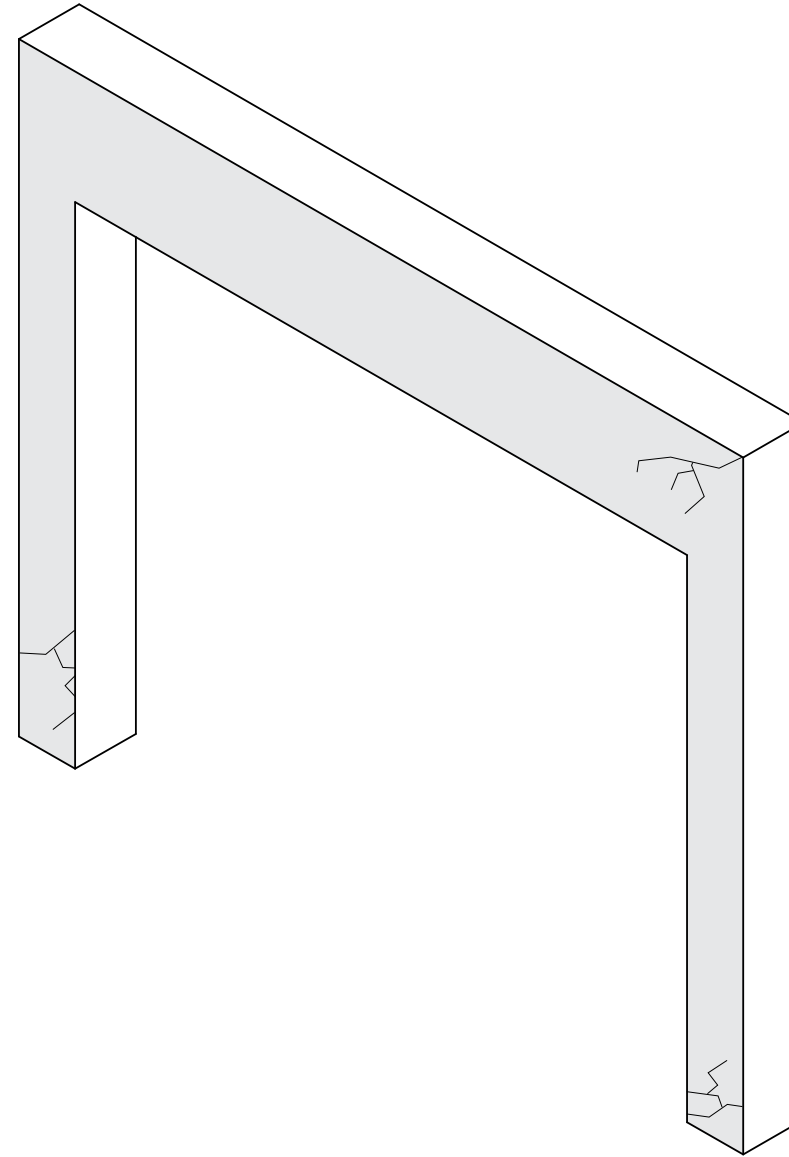




**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

THE ALL FACADE RENEW + EXPLORE BASE PRODUCT

PAGE 61-107

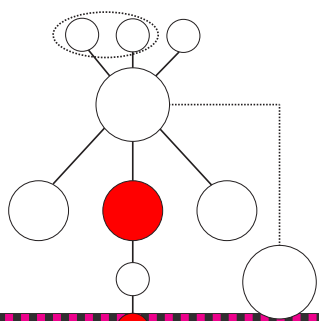
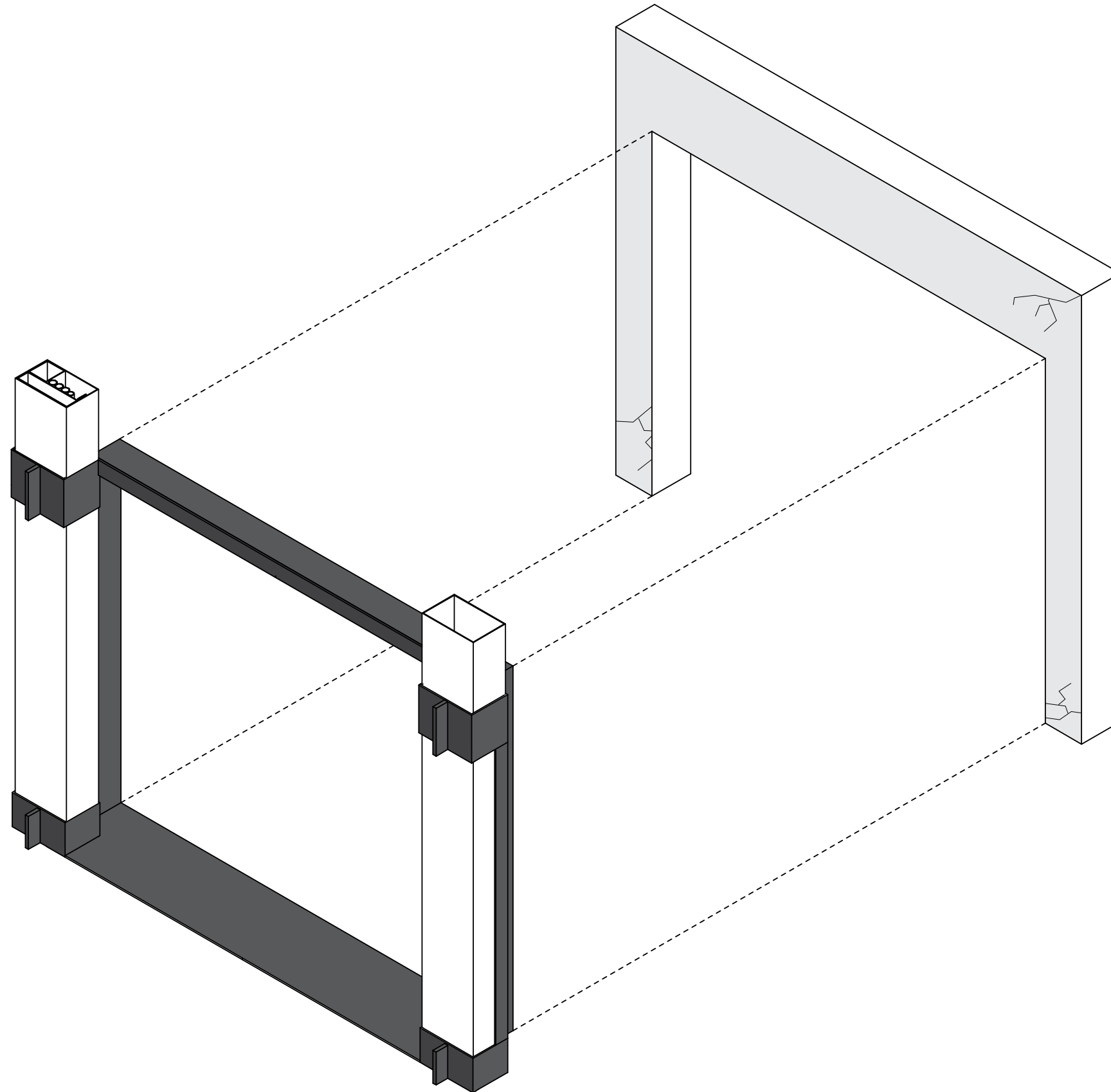


**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

THE ALL FACADE RENEW + EXPLORE BASE PRODUCT

PAGE 61-107

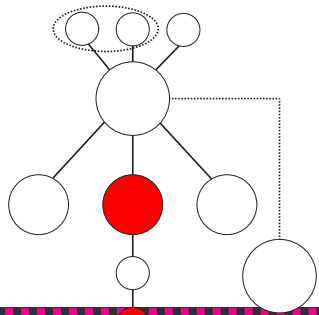
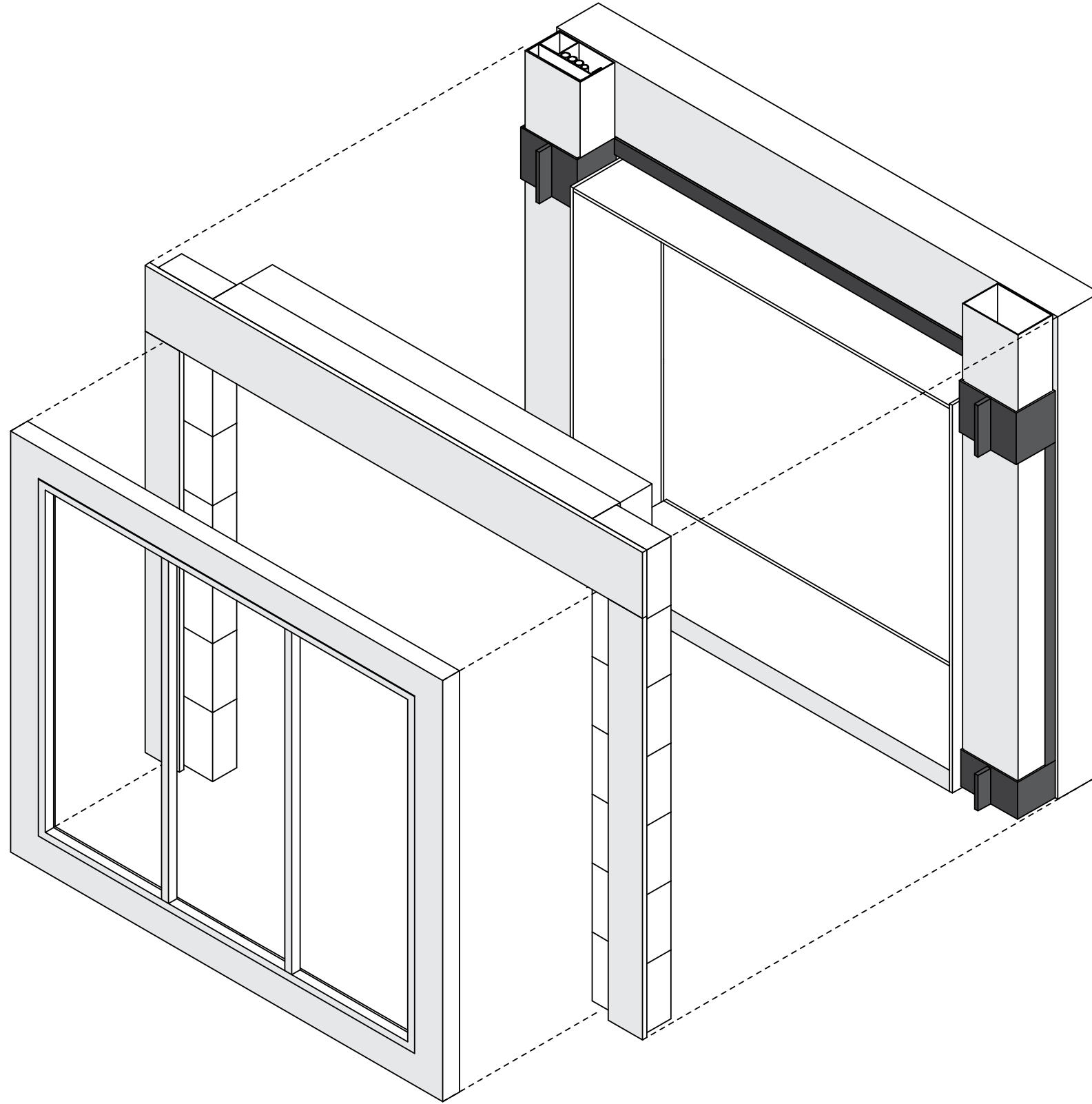




**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

THE ALL FACADE RENEW + EXPLORE BASE PRODUCT

PAGE 61-107

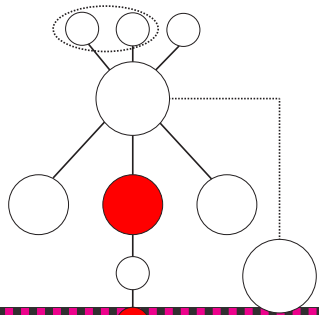
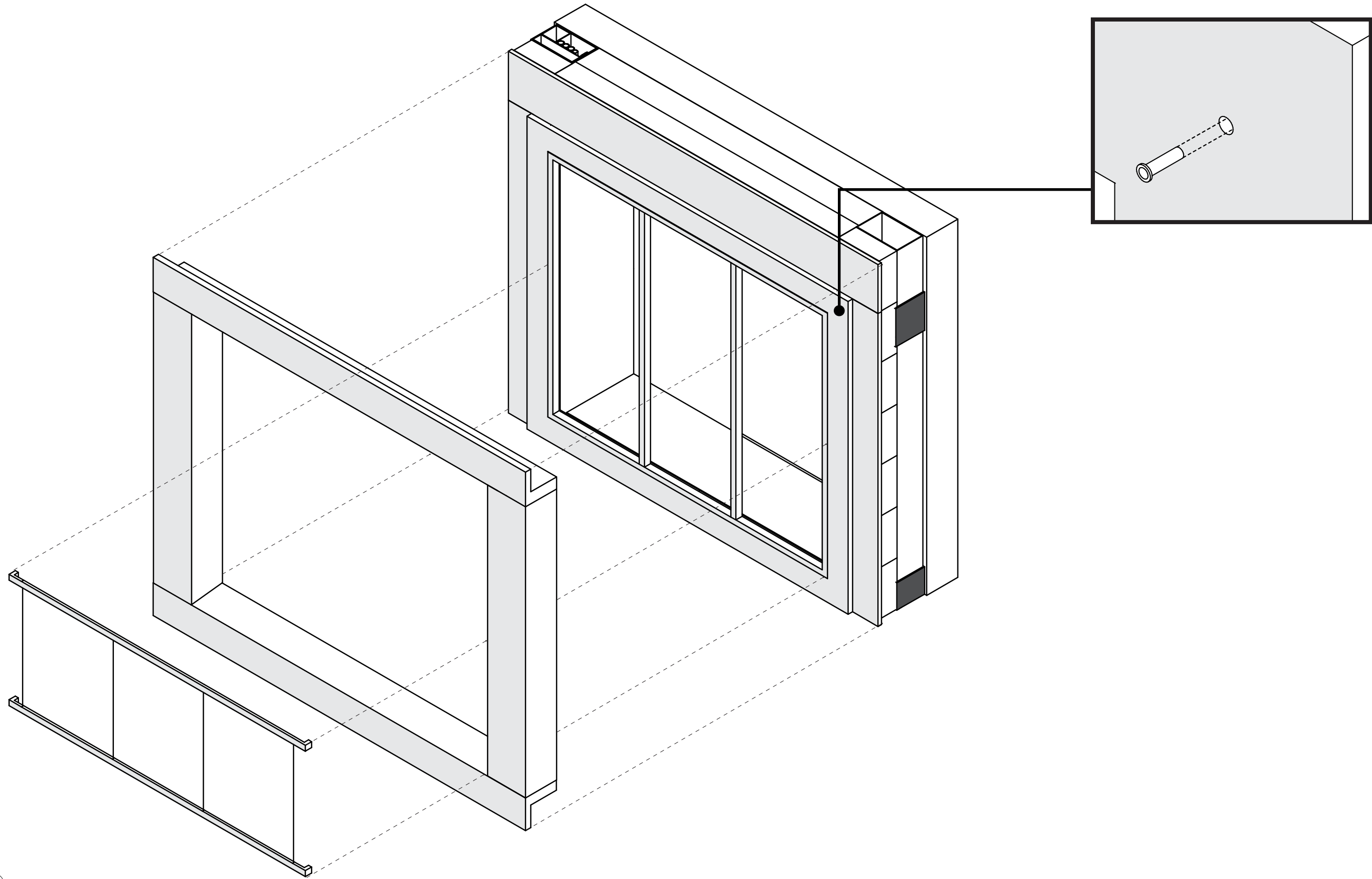


**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

THE ALL FACADE RENEW + EXPLORE BASE PRODUCT

PAGE 61-107

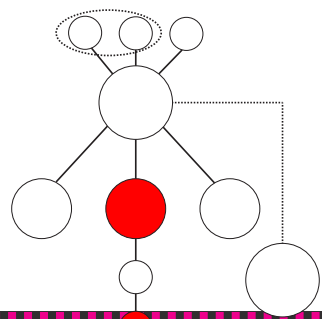
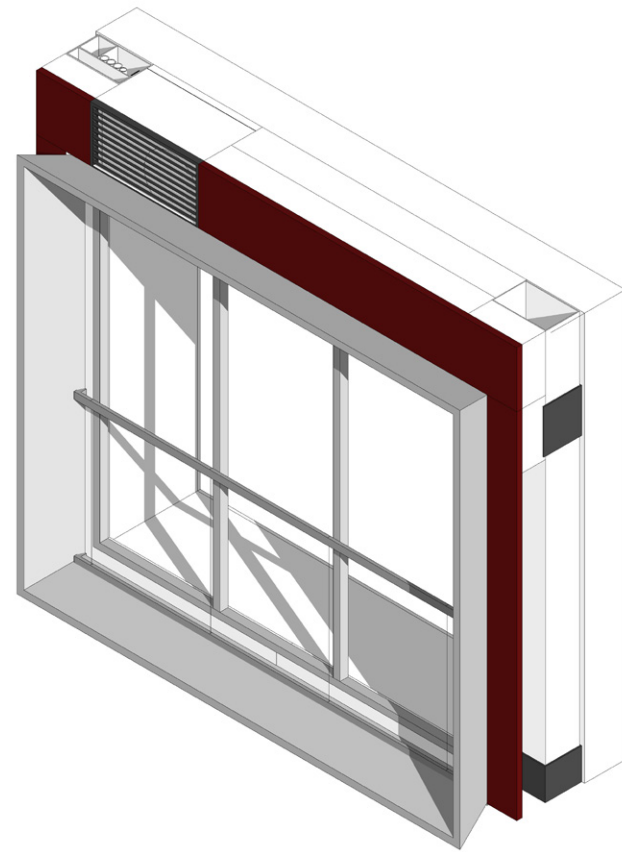
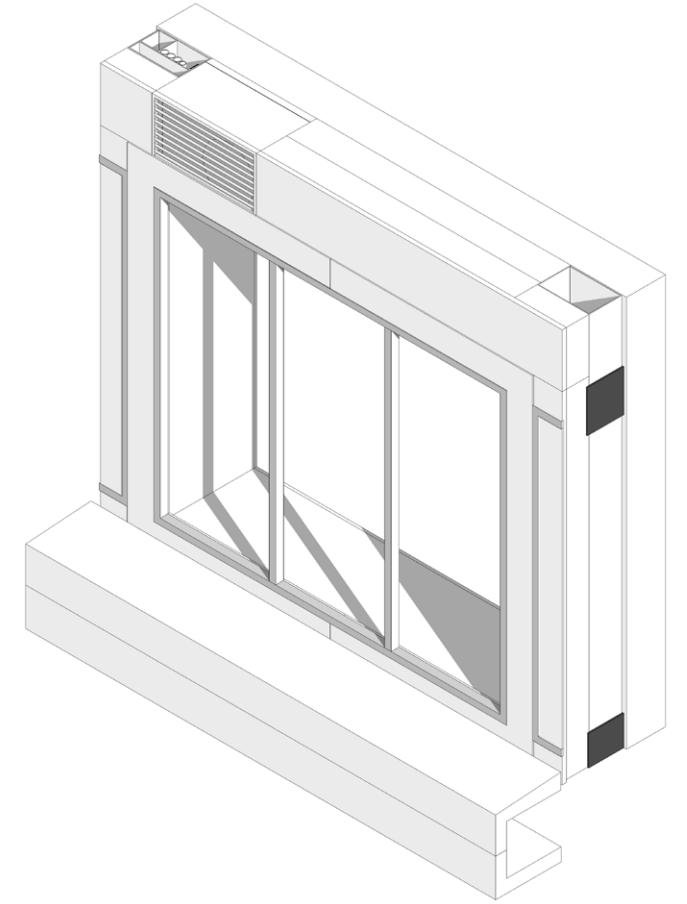
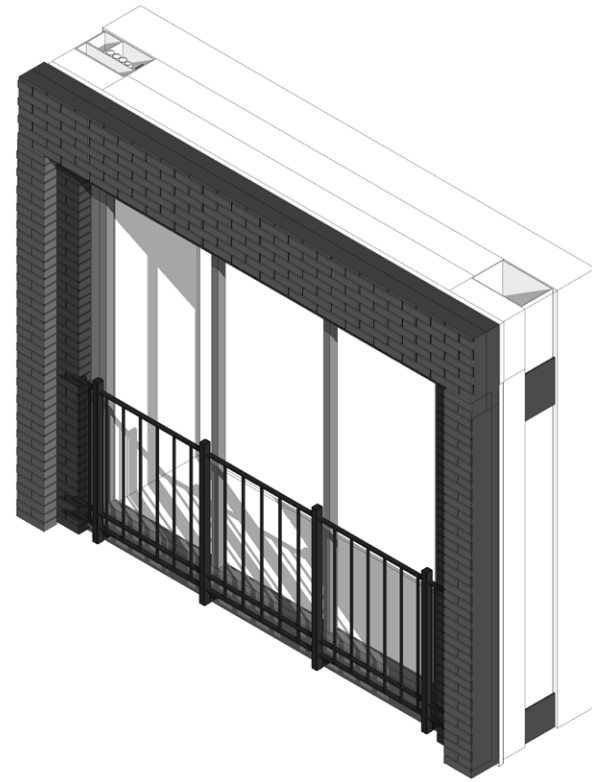
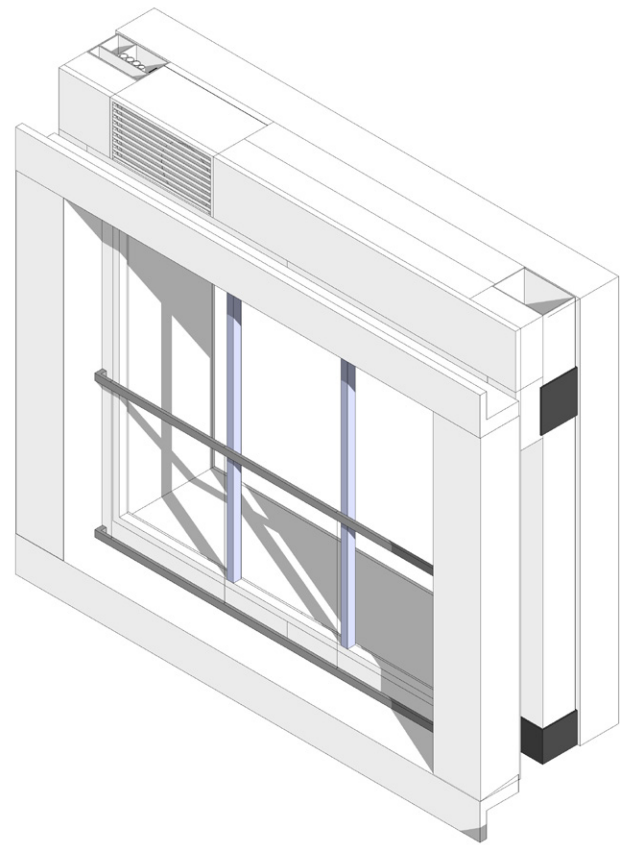




**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

**CUSTOMISATION OF THE ALL FACADE PRODUCT**

PAGE 62-107



**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

DIFFERENTIATION THROUGH CUSTOMISATION



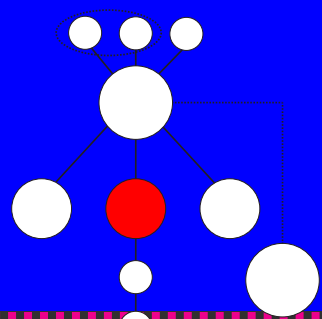


**STEP 2: COMMENCING TOP-DOWN REHABILITATION OF THE COMMUNAL GROUNDS AND HIGH-RISE BUILDING**

**ONE ALL FACADE FOR ALL OF THE HIGH-RISE OR... ALL FOR ONE!**

# STEP 3

## FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING

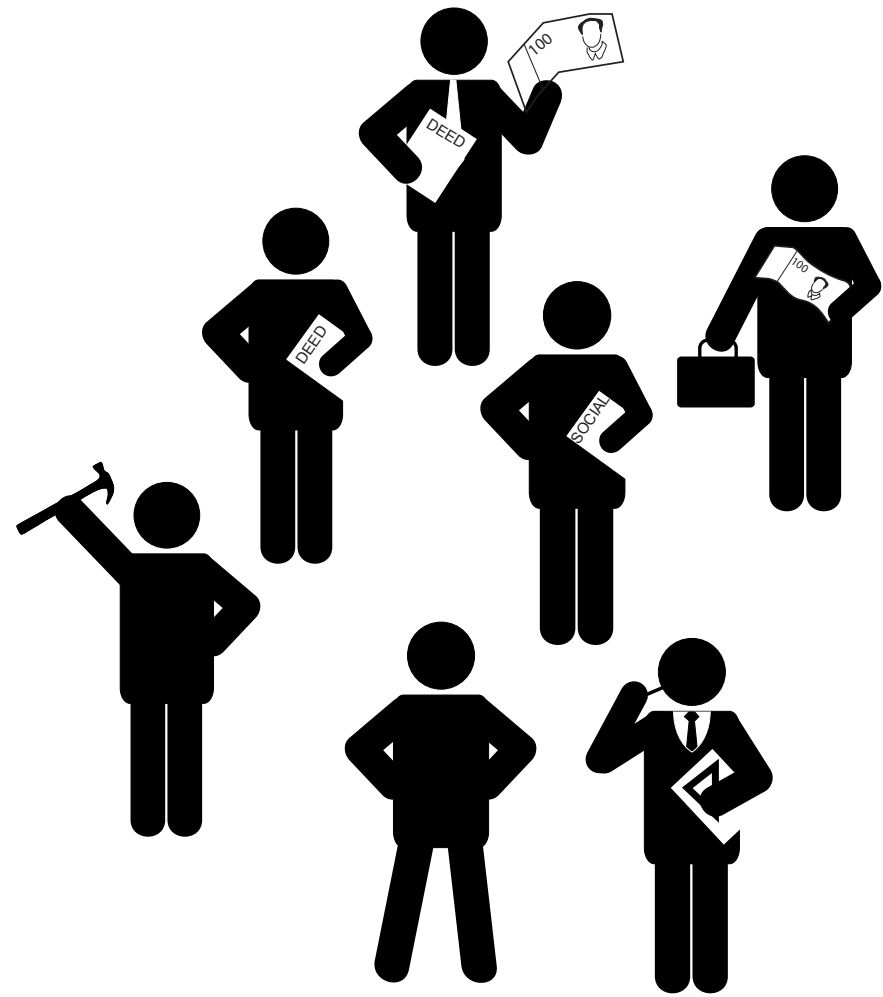


● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

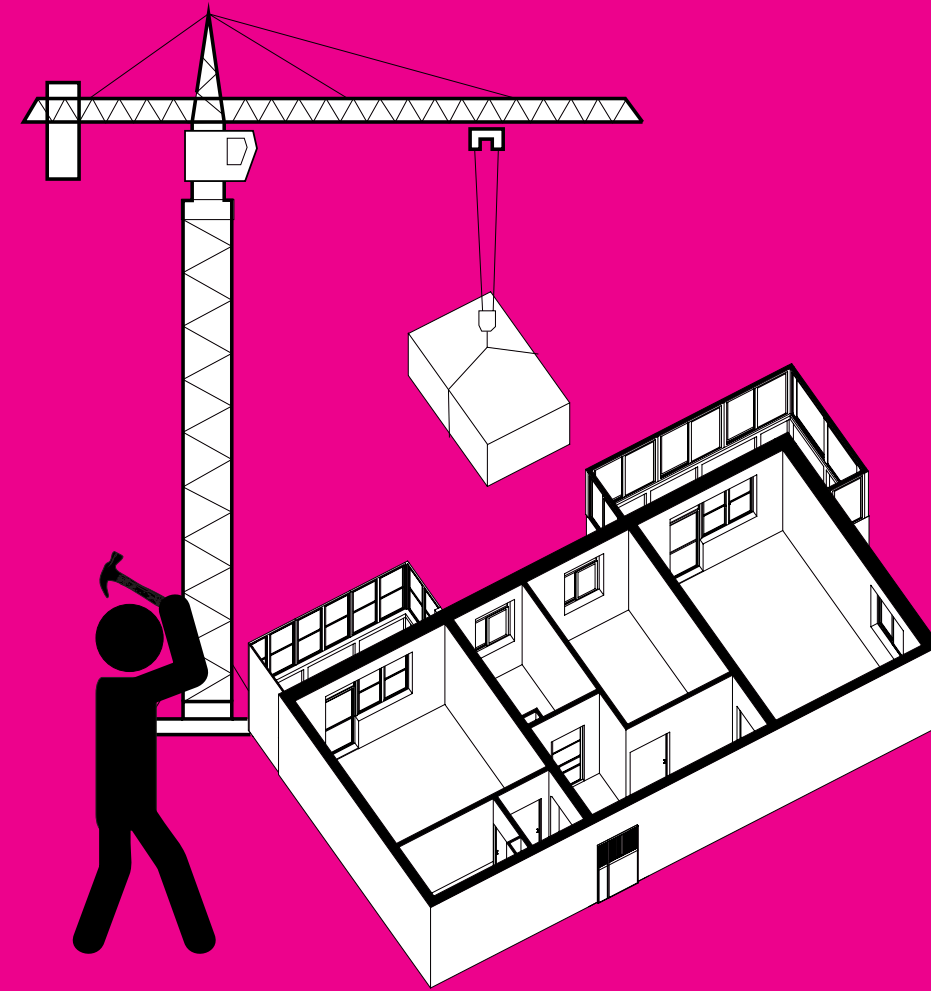
● STEP 3

● PAGE 65-107



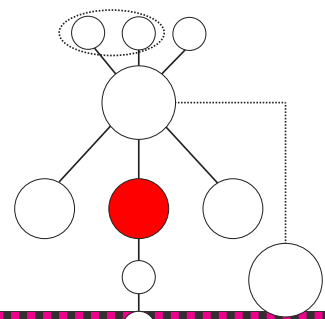


# 2016 RE:NEW



RE:VIVE THE FUTURE OF  
YOUR HOUSE...

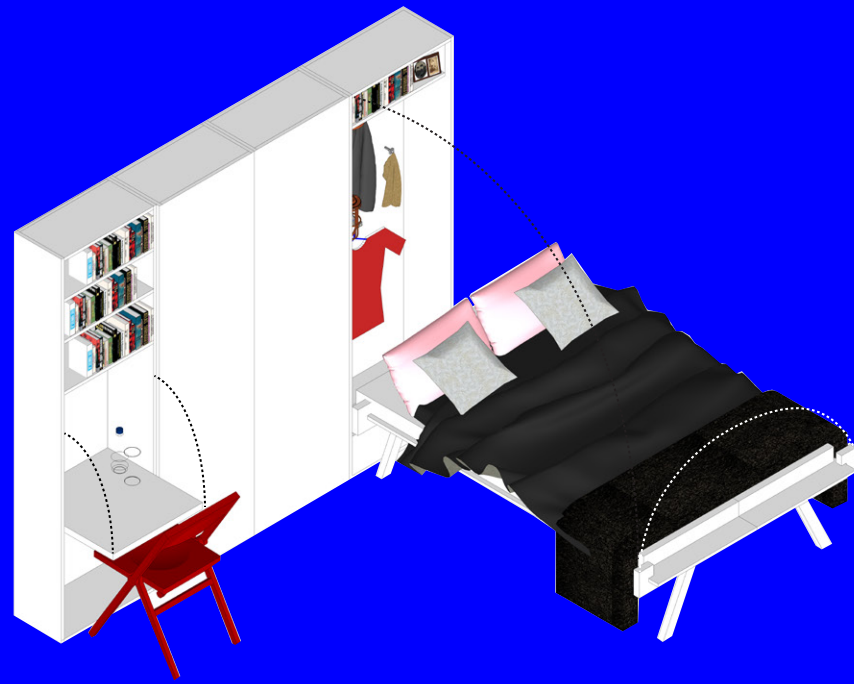
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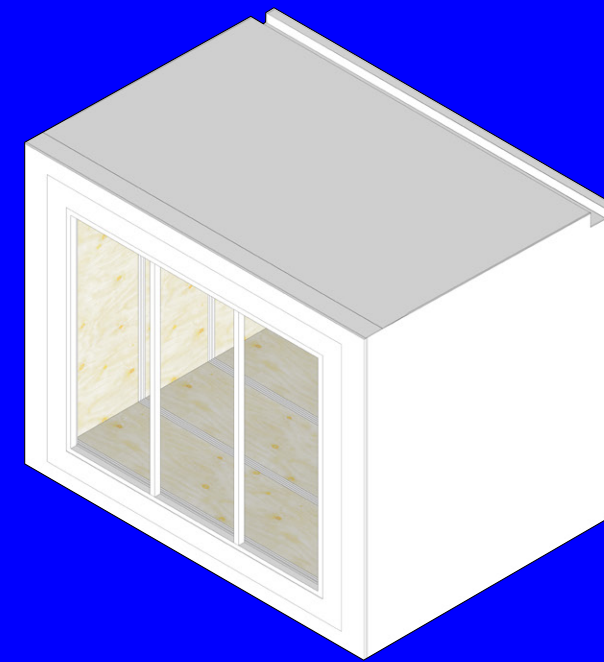
## ● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● STANDARDISED CUSTOMISABLE PRODUCTS AS INFILL SOLUTIONS IN THE RE:NEW GUIDE

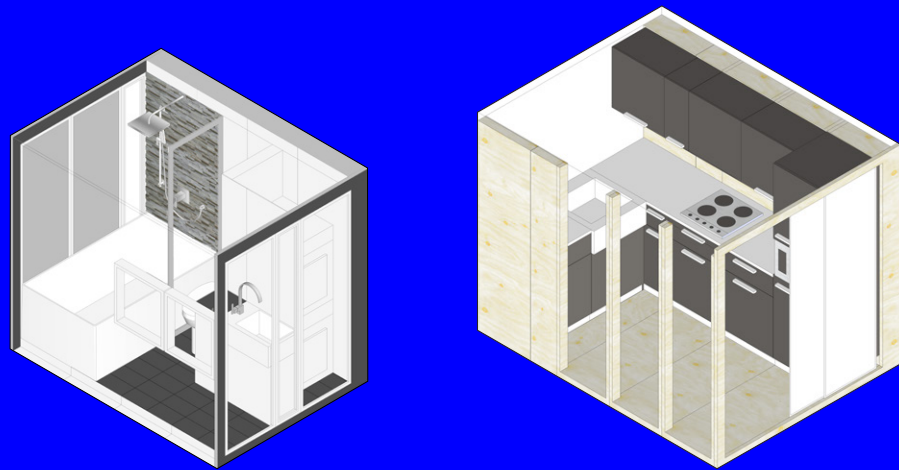
● PAGE 66-107



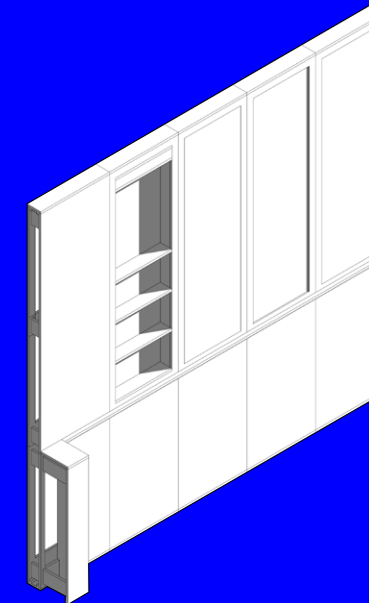
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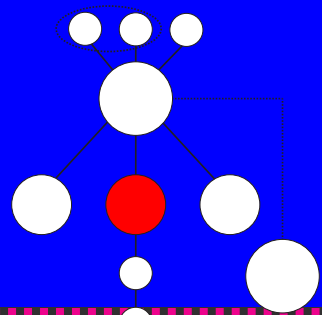
**EXTEND**



**SERVICE**



**ASSIST**



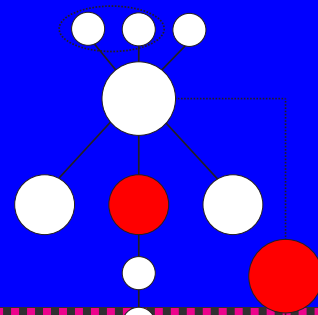
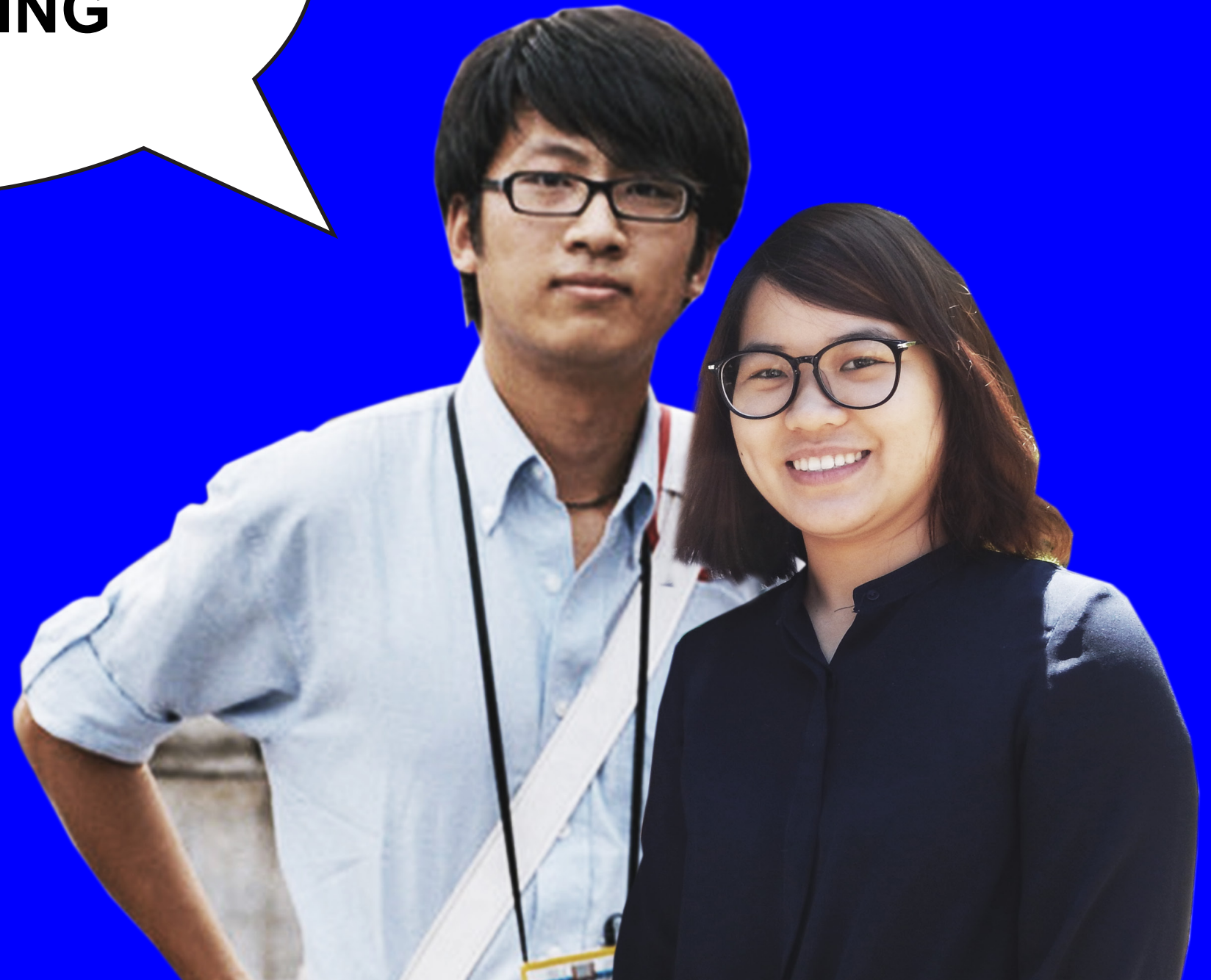
**STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

4 RE:NEW PRODUCT LINES

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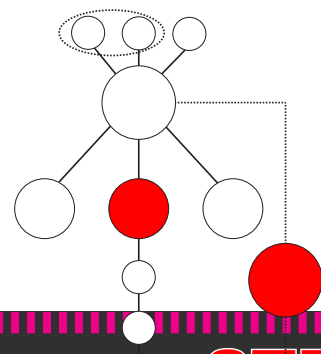
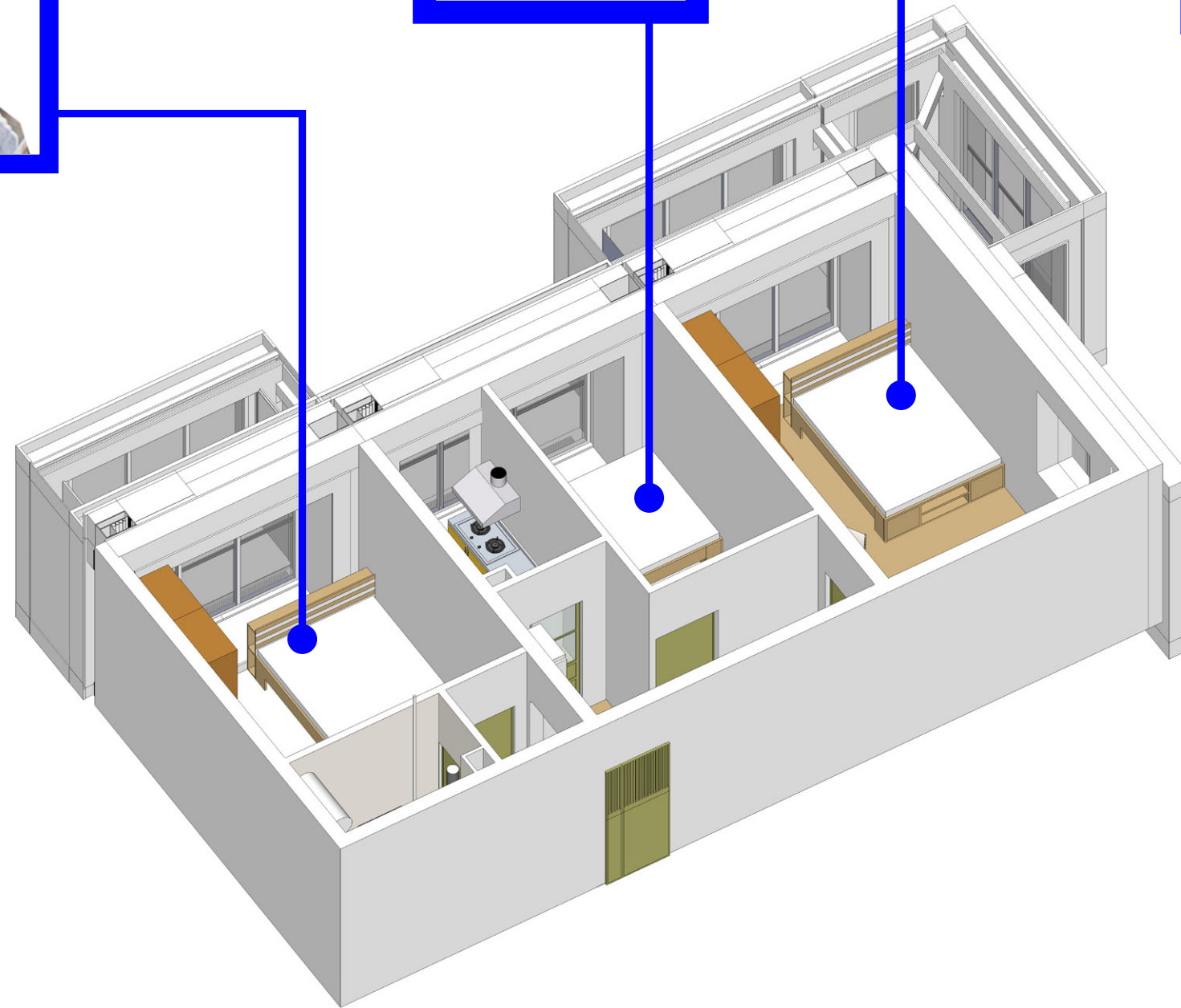
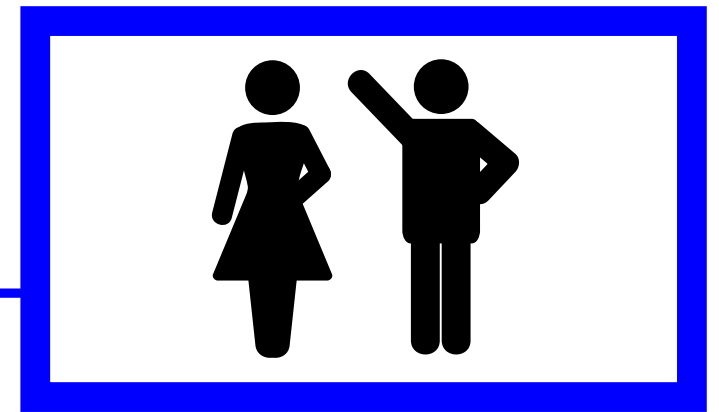
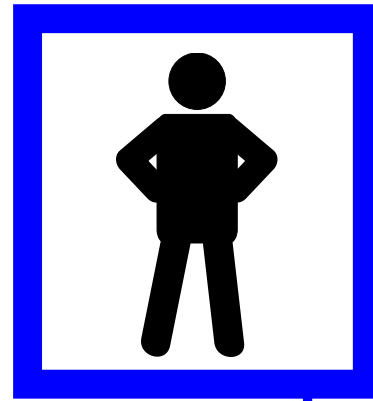


**HI!  
WE'RE XIAO LIANG  
AND WEN TING**



**STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

HOW DO YOU REHABILITATE YOUR DWELLING? THE EXAMPLE OF XIAO LIANG AND WEN TING



### ● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● HOW DO YOU REHABILITATE YOUR DWELLING? THE EXAMPLE OF XIAO LIANG AND WEN TING



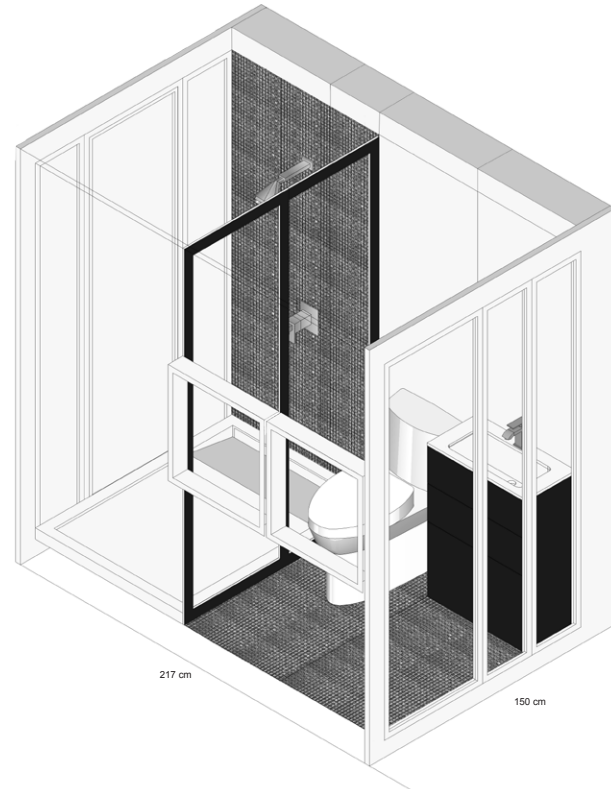
## SERVICE BATHROOM

# Choose one of our favourites...

03 | SERVICE | BET-  
TER IDEAL SERIES |  
Bathroom XS

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**2400.-/p** DIY

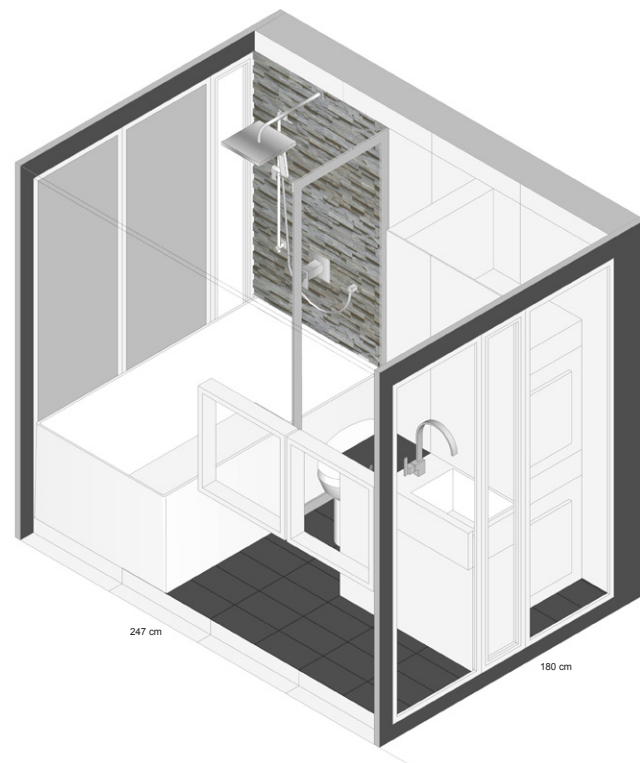
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03 | SERVICE | BET-  
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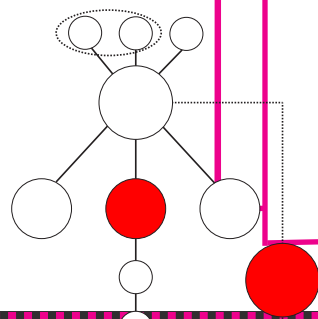
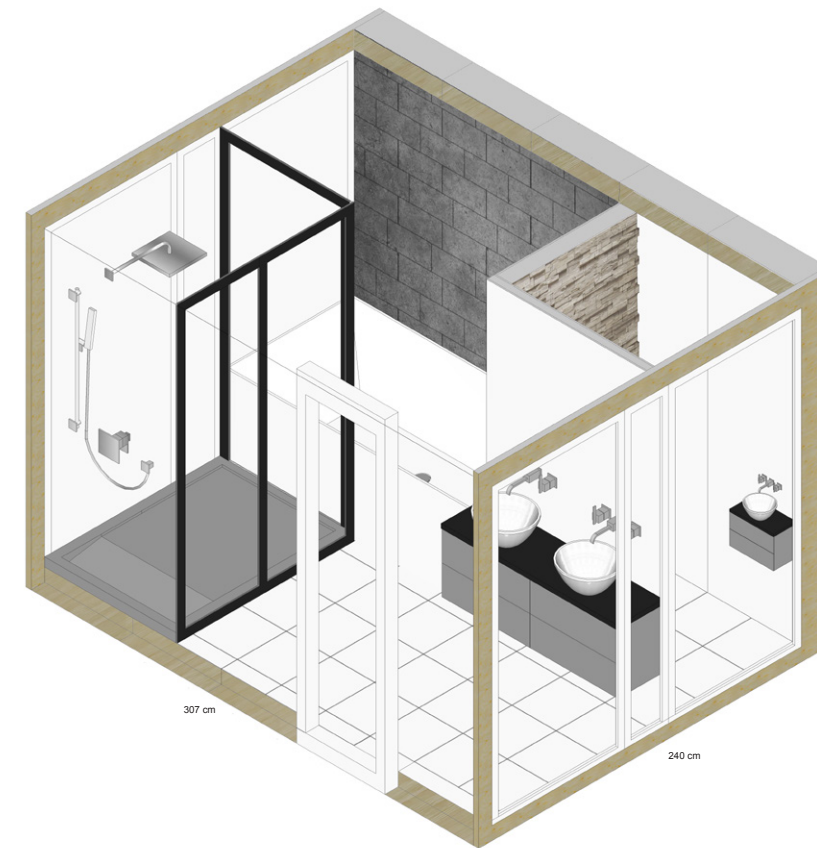
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03 | SERVICE | BET-  
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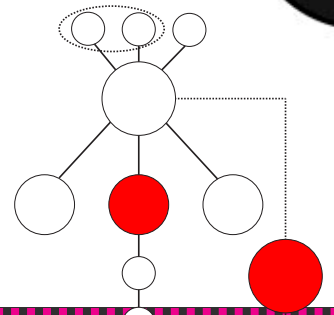
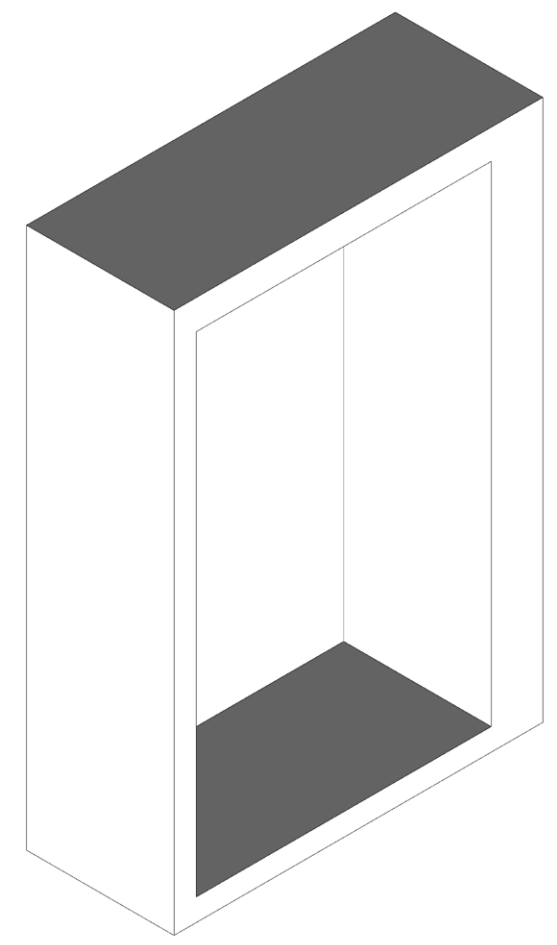
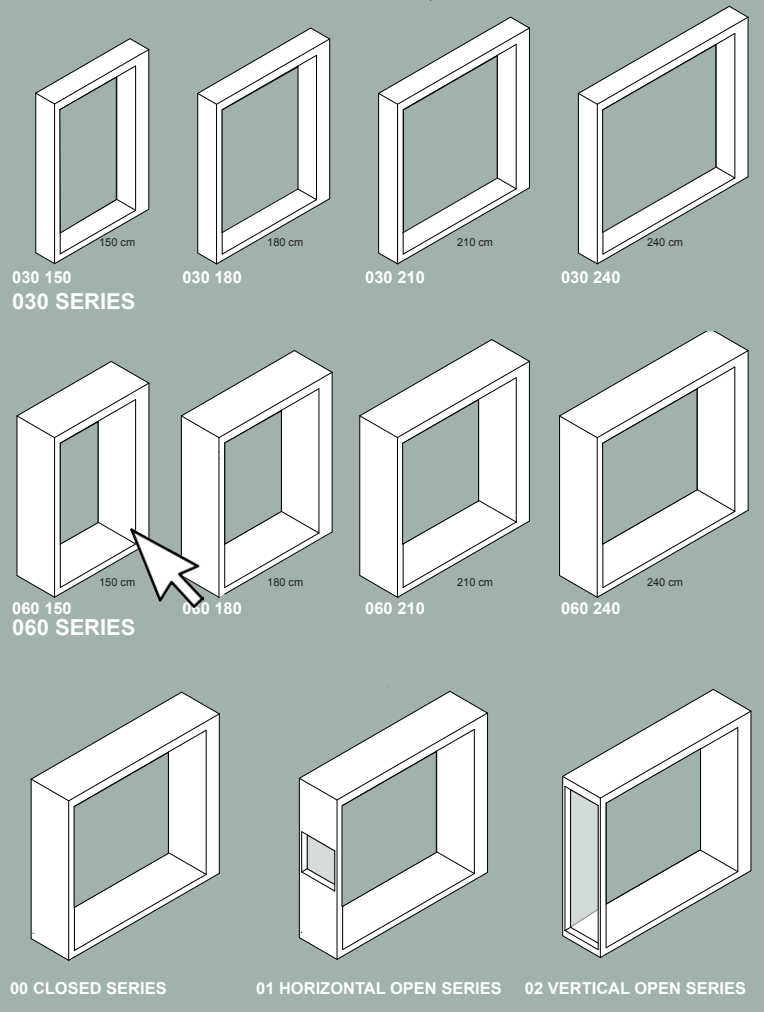


## STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING

CHOOSING A "FAVOURITE" DESIGN...

PAGE 70-107

**RE:NEW**  
**SERVICE BATHROOM MAKER**  
**CHOOSE YOUR BASE:**

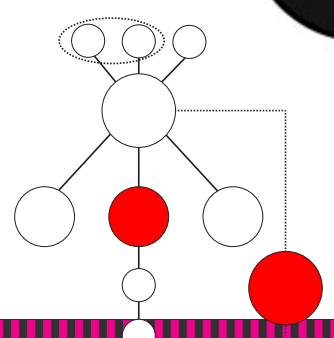
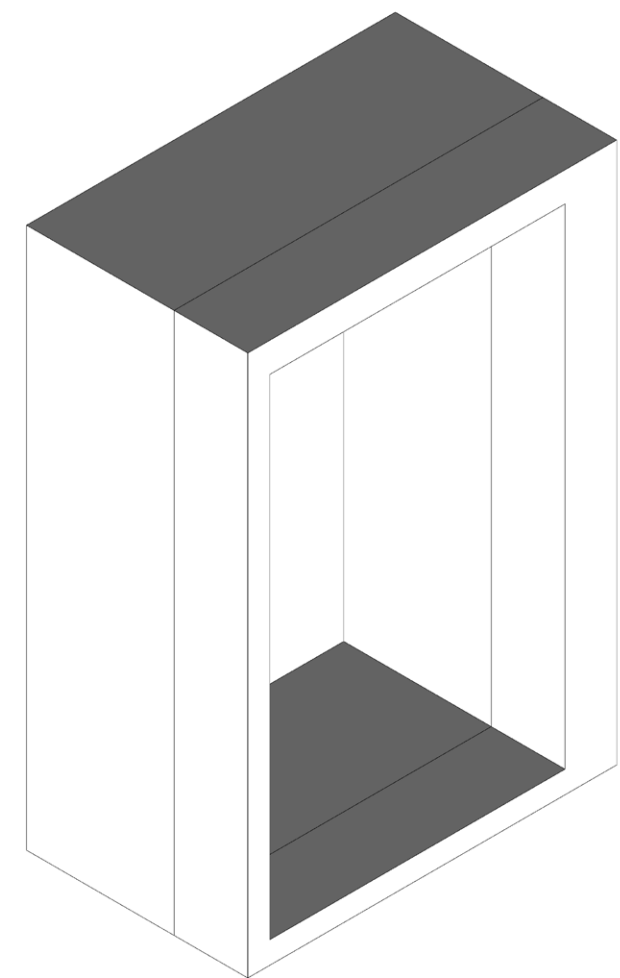
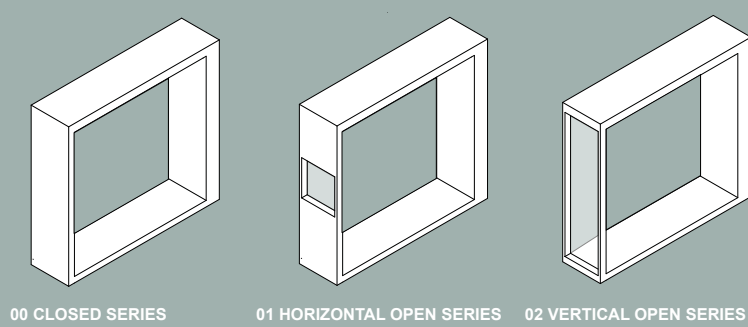
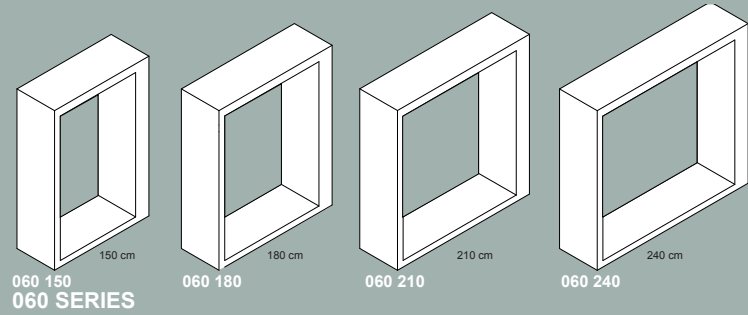
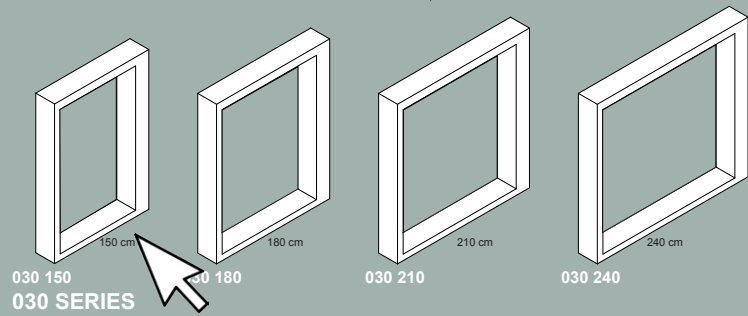


**STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

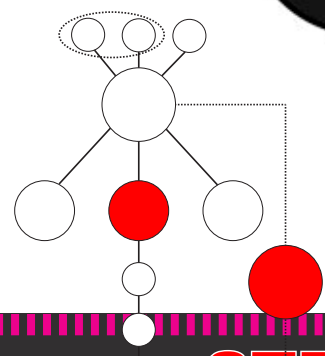
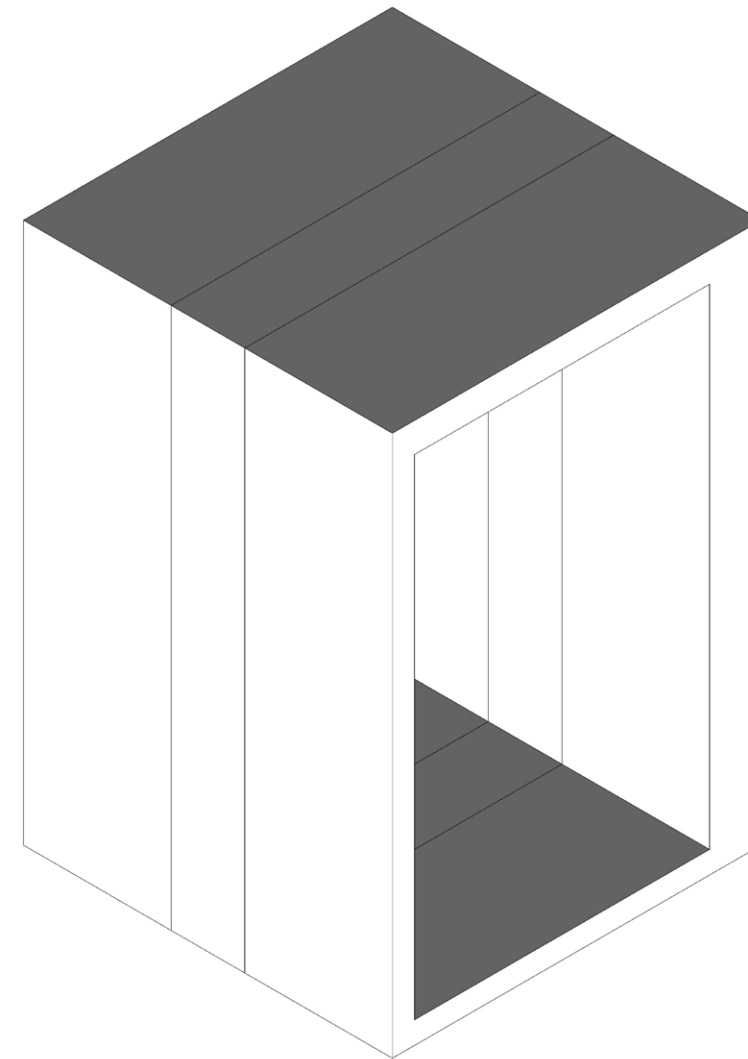
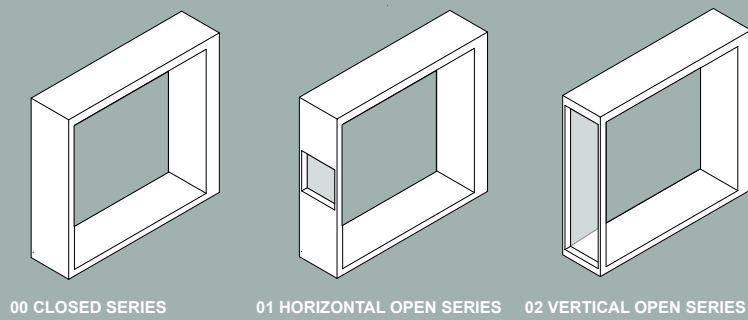
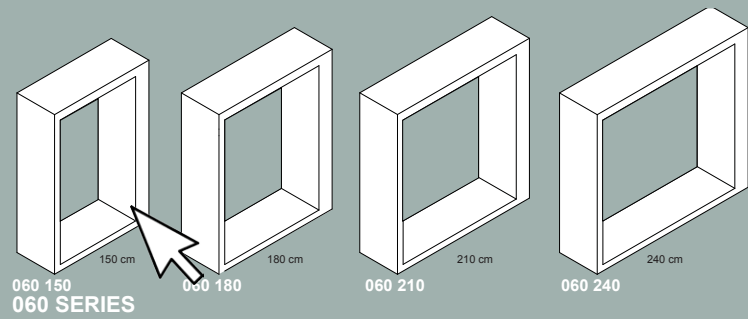
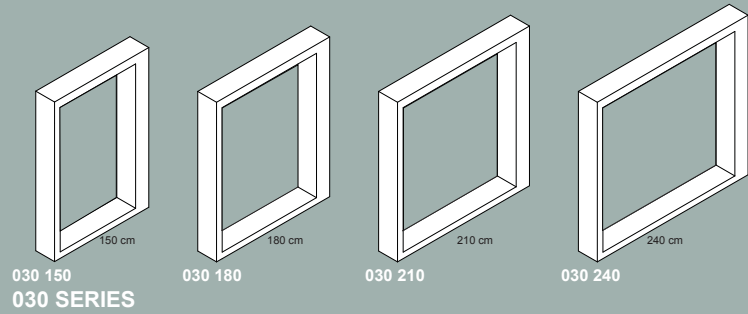
... OR CUSTOMISING YOUR OWN MODULE



**RE:NEW**  
**SERVICE BATHROOM MAKER**  
**CHOOSE YOUR BASE:**



**RE:NEW**  
**SERVICE BATHROOM MAKER**  
**CHOOSE YOUR BASE:**



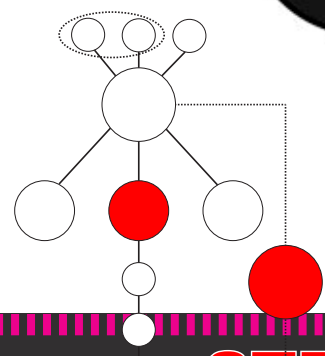
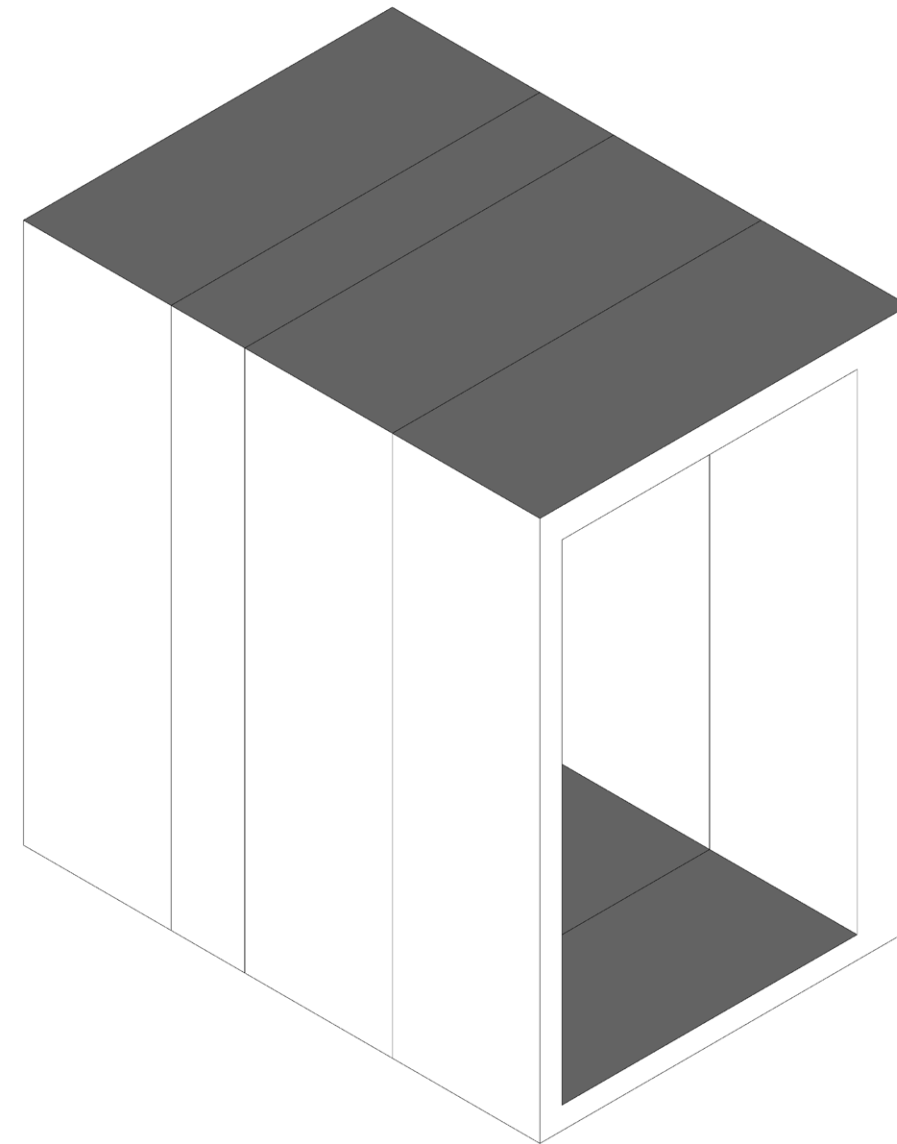
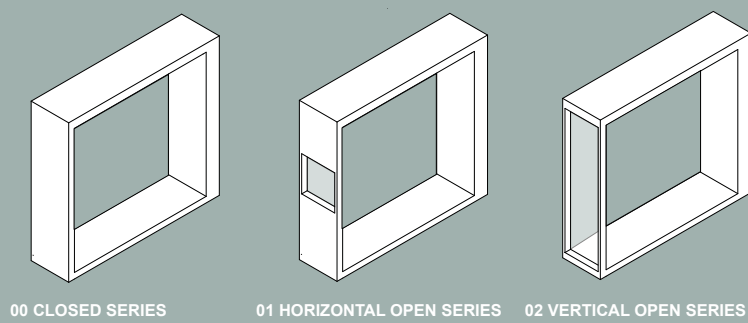
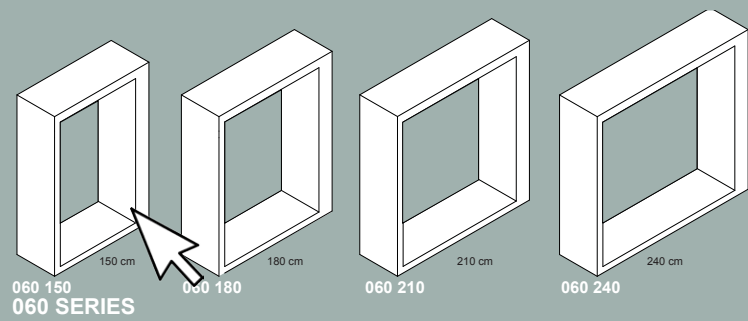
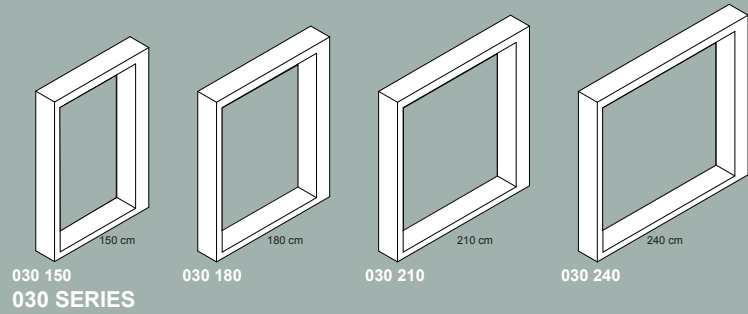
**STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● CONFIGURING A BASE FOR THE SERVICE MODULE

● PAGE 71-107



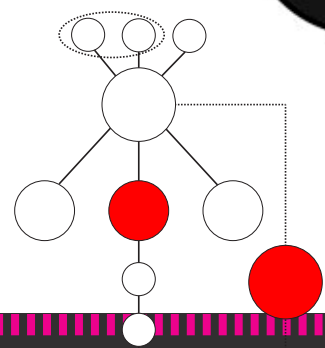
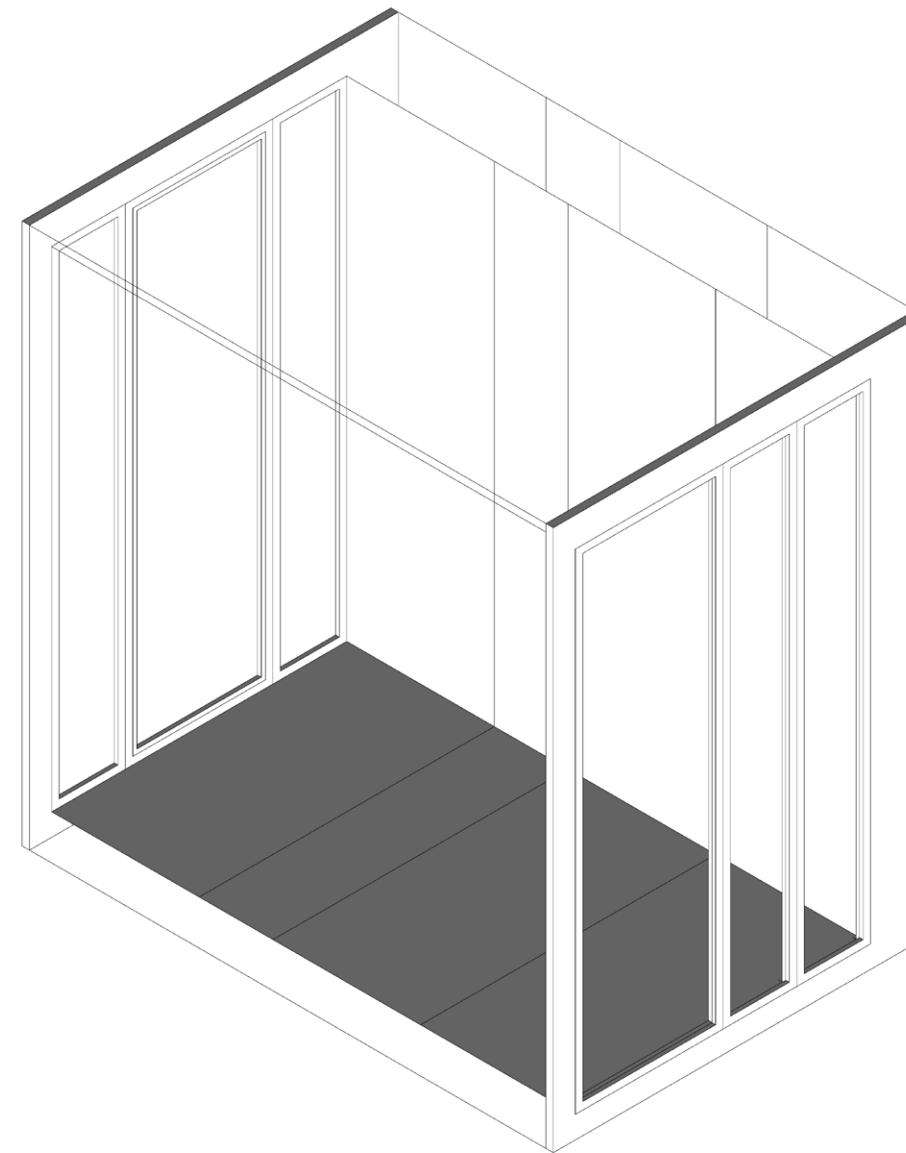
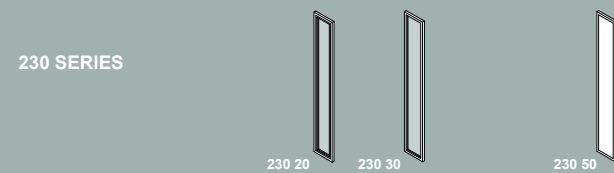
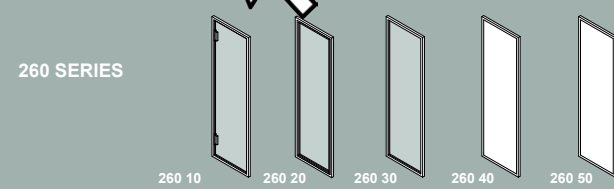
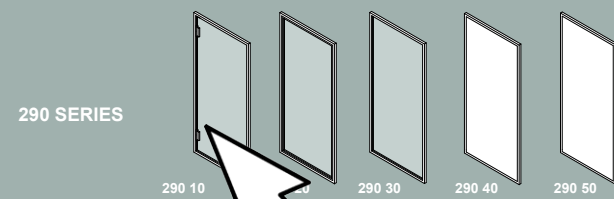
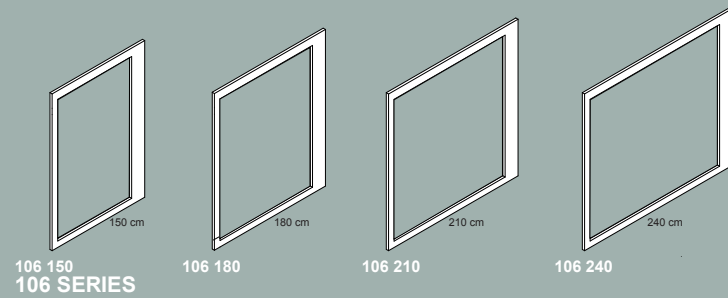
**RE:NEW**  
**SERVICE BATHROOM MAKER**  
**CHOOSE YOUR BASE:**



**STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

CONFIGURING A BASE FOR THE SERVICE MODULE

## RE:NEW SERVICE BATHROOM MAKER FRONT AND BACK?



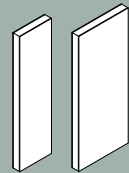
### ● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● **CONFIGURING A BASE FOR THE SERVICE MODULE**

● **PAGE 71-107**



# RE:NEW SERVICE BATHROOM MAKER MAKE YOUR LAY-OUT:



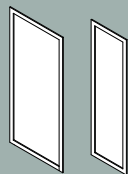
03 | SERVICE | BETTER IDEAL SERIES | Kitchen and bathroom interior panels +

From 25.-/p DIY  
From 70.-/p PREFAB



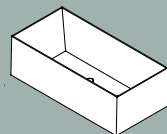
03 | SERVICE | BETTER IDEAL SERIES | Kitchen and bathroom interior panels

From 20.-/p DIY  
From 60.-/p PREFAB



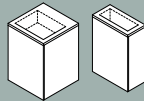
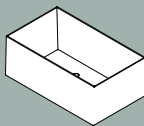
03 | SERVICE | BETTER IDEAL SERIES | Glass sliding panels

From 100.-/p DIY  
From 200.-/p PREFAB



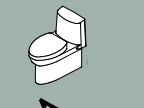
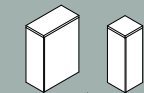
03 | SERVICE | BETTER IDEAL SERIES | Baths

From 300.-/p DIY  
From 600.-/p PREFAB



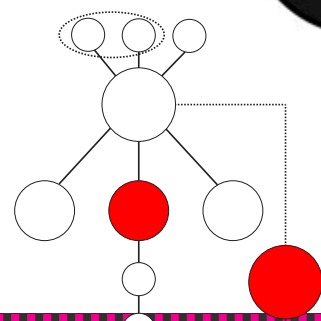
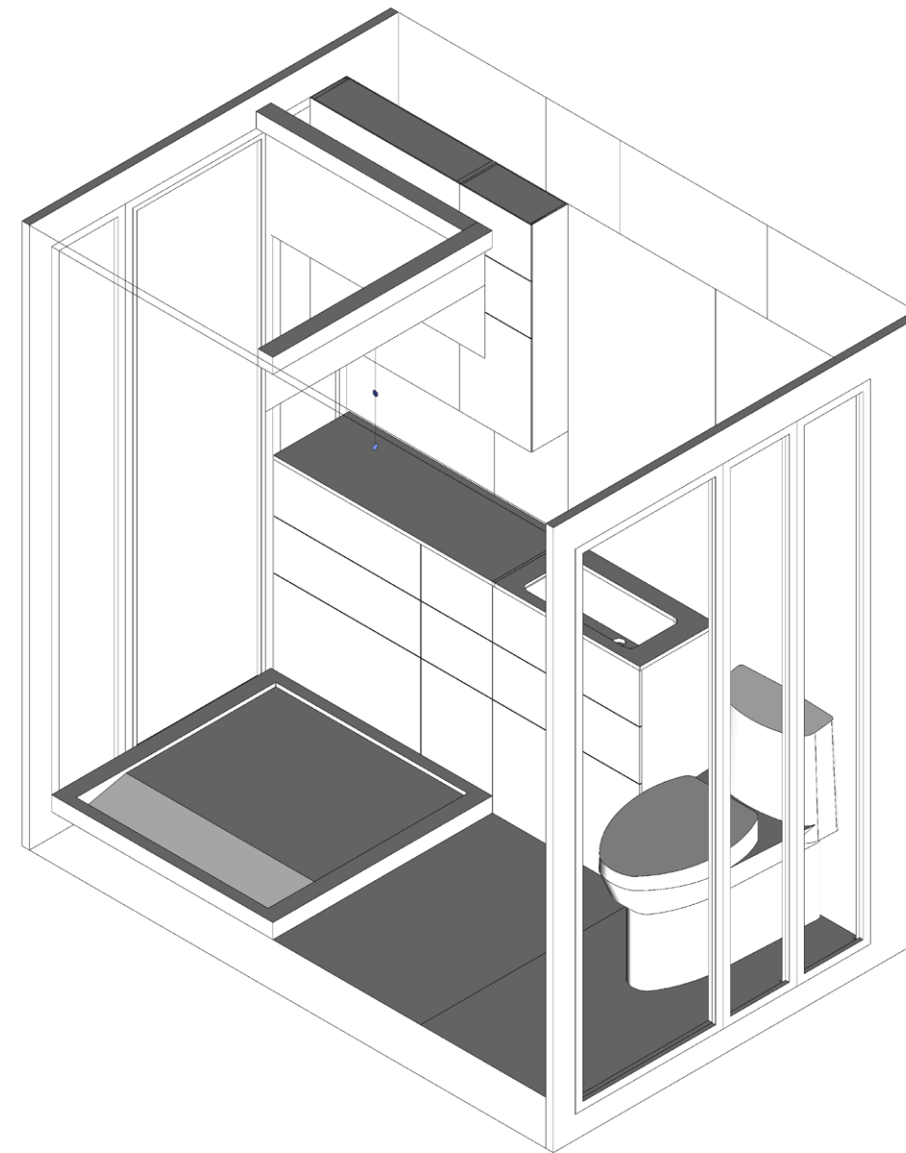
03 | SERVICE | BETTER IDEAL SERIES | vanity

From 50.-/p DIY  
From 100.-/p PREFAB



03 | SERVICE | BETTER IDEAL SERIES | lavatory

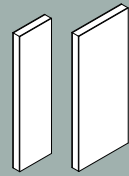
From 300.-/p DIY  
From 600.-/p PREFAB



## ● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING

● CHOOSING YOUR OWN LAY-OUT USING THE SERVICE LAYOUT COMPONENTS

# RE:NEW SERVICE BATHROOM MAKER MAKE YOUR LAY-OUT:



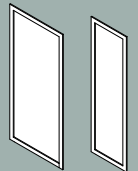
03 | SERVICE |  
BETTER IDEAL  
SERIES | Kitch-  
en and bath-  
room interior  
panels +

From  
25.-/p DIY  
From  
70.-/p PREFAB



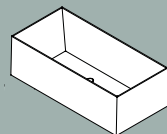
03 | SERVICE |  
BETTER IDEAL  
SERIES | Kitch-  
en and bath-  
room interior  
panels

From  
20.-/p DIY  
From  
60.-/p PREFAB



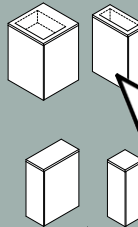
03 | SERVICE |  
BETTER IDEAL  
SERIES | Glass  
sliding panels

From  
100.-/p DIY  
From  
200.-/p PREFAB



03 | SERVICE |  
BETTER IDEAL  
SERIES | Baths

From  
300.-/p DIY  
From  
600.-/p PREFAB



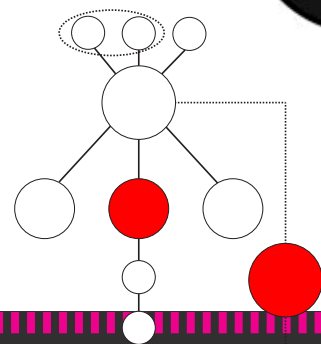
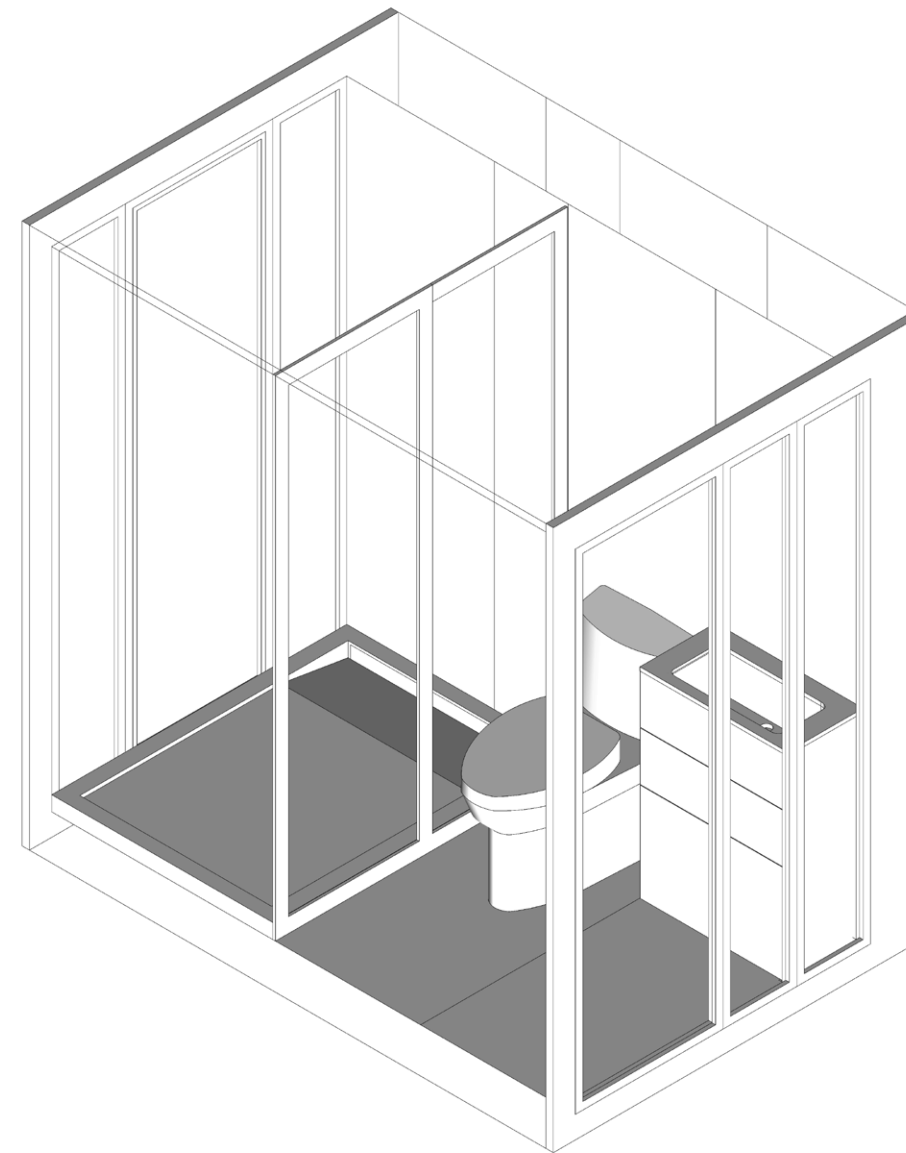
03 | SERVICE |  
BETTER IDEAL  
SERIES | vanity

From  
100.-/p DIY  
From  
150.-/p PREFAB



03 | SERVICE |  
BETTER IDEAL  
SERIES | lava-  
tory

From  
300.-/p DIY  
From  
600.-/p PREFAB



## ● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING

● CHOOSING YOUR OWN LAY-OUT USING THE SERVICE LAYOUT COMPONENTS



**RE:NEW**  
**SERVICE BATHROOM MAKER**  
**CHOOSE YOUR STYLE**

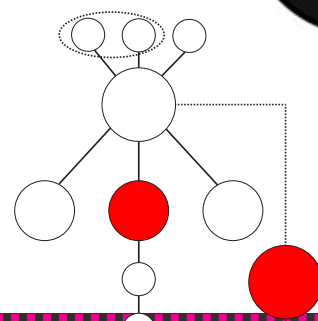
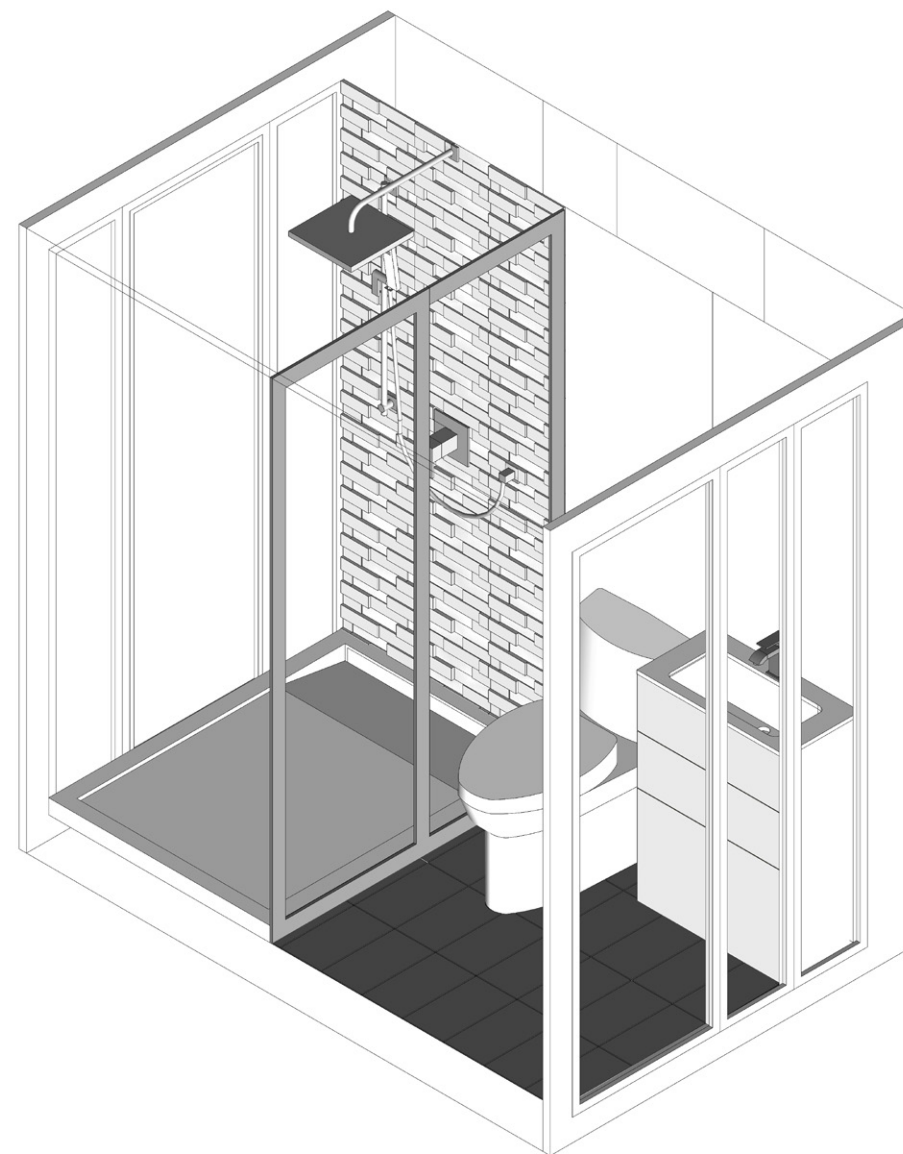
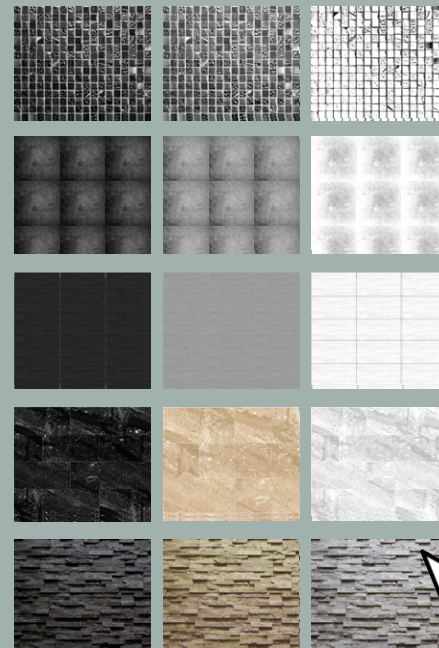
**FACILITIES**



**FIXTURES**



**FINISHES**



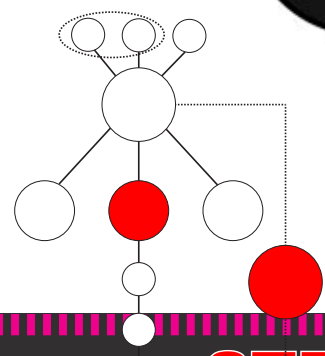
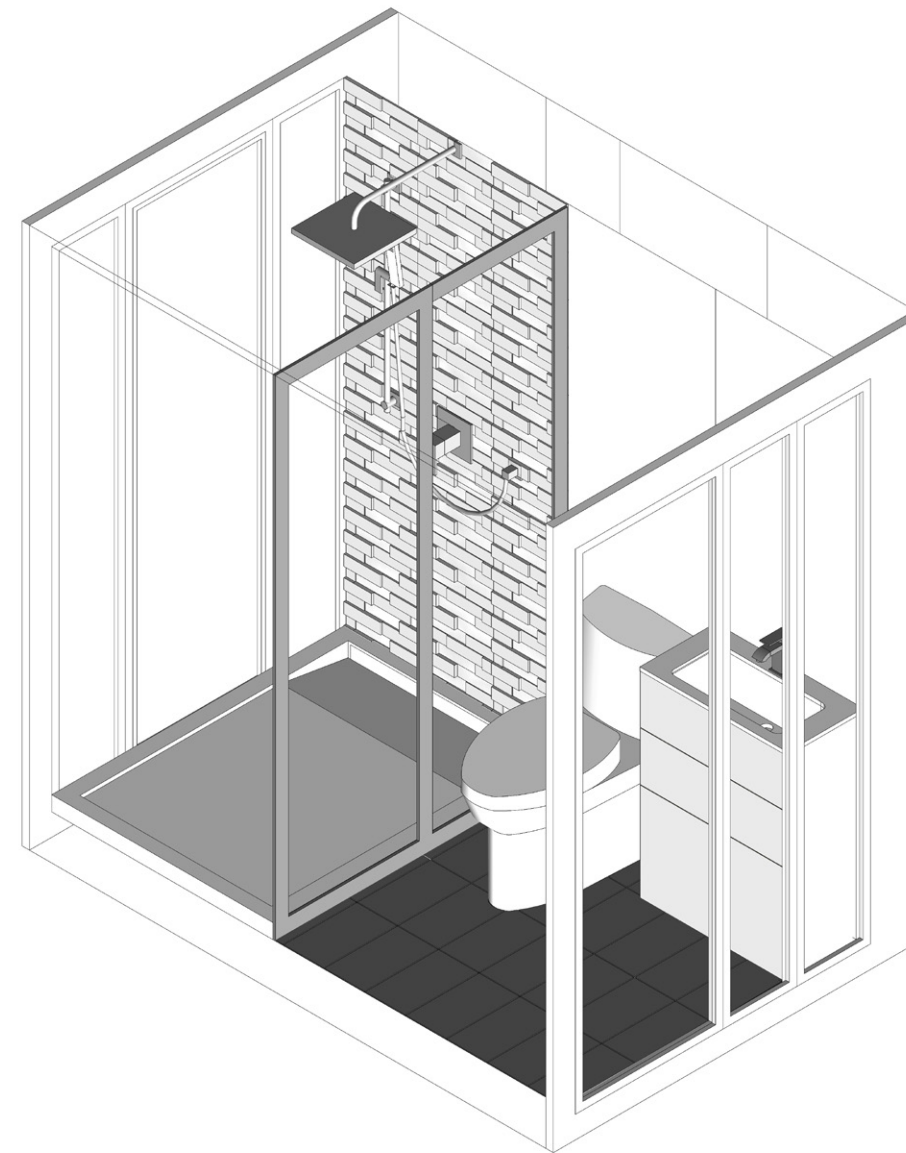
**STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

CUSTOMISING FACILITIES, FIXTURES AND FINISHES

**RE:NEW**  
**SERVICE BATHROOM MAKER**  
**ORDER FOR YOU!**

**ORDER PREFAB**

**ORDER DIY**

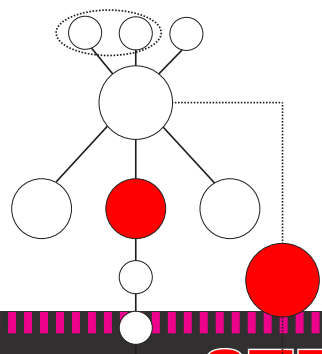


**STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

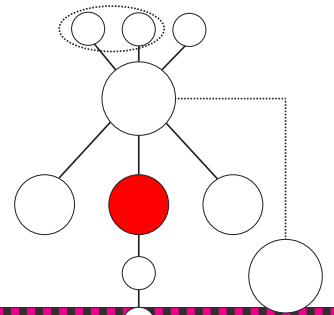
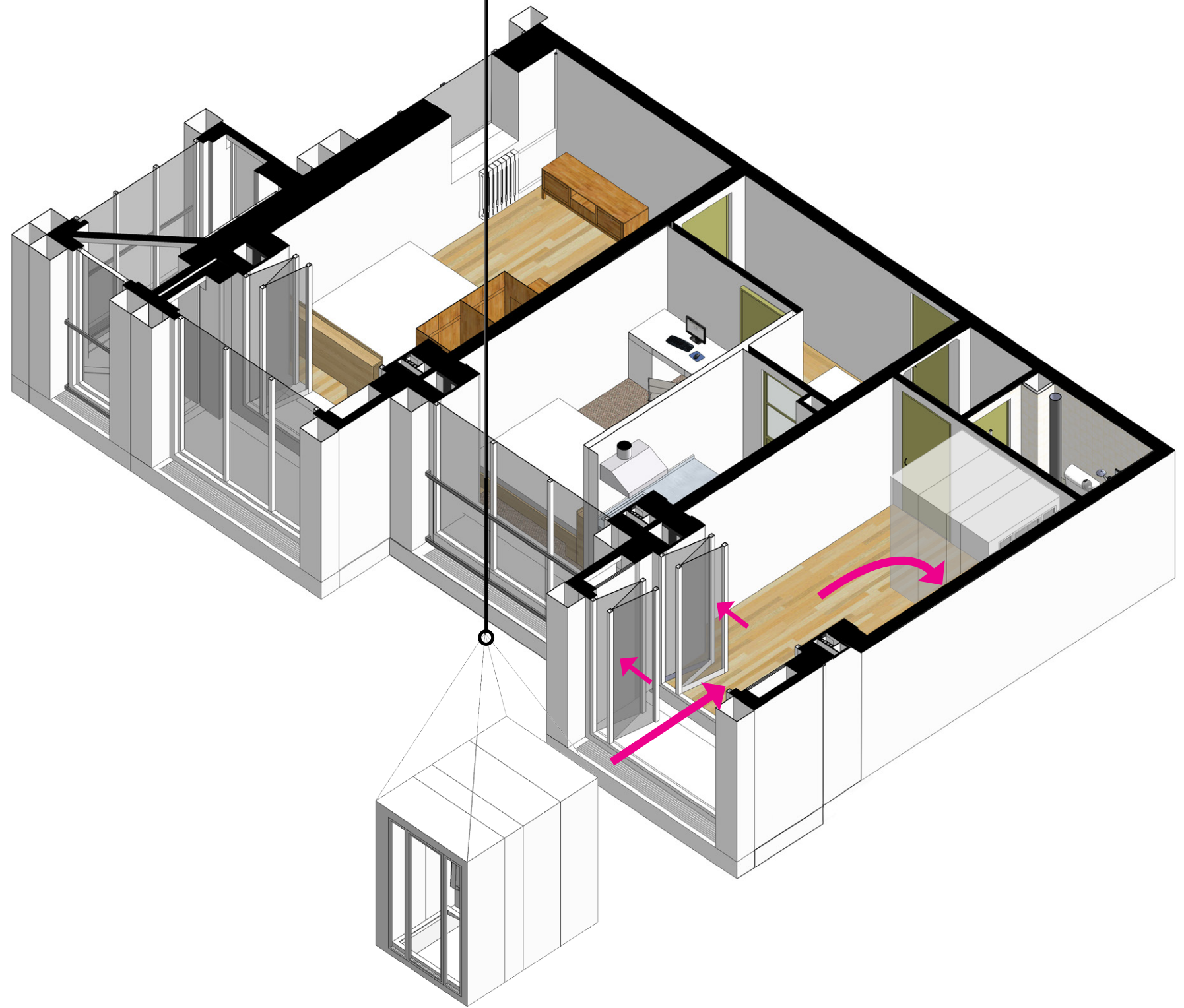
ORDERING PREFABRICATED OR DIY

PAGE 74-107





- **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**
- ASSEMBLING OF THE PRODUCT BY RE:NEW HANDYMEN IN THE ON-SITE WORKSHOP
- PAGE 75-107

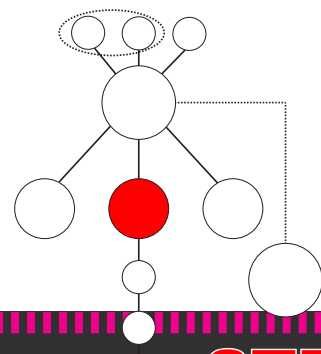
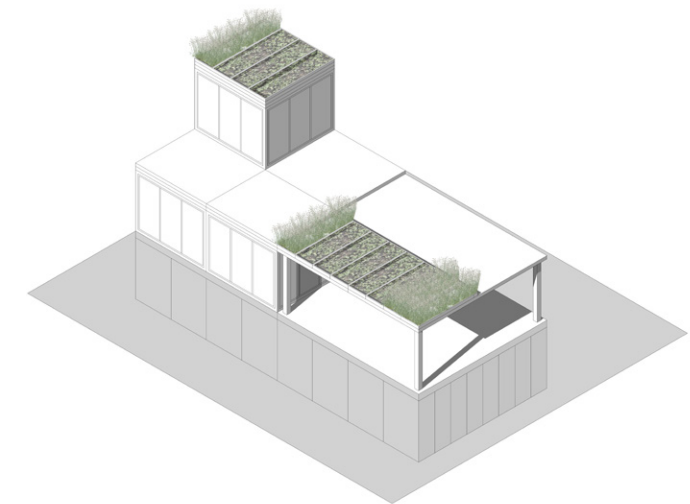
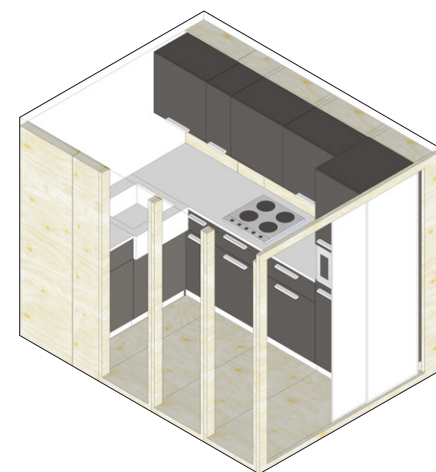
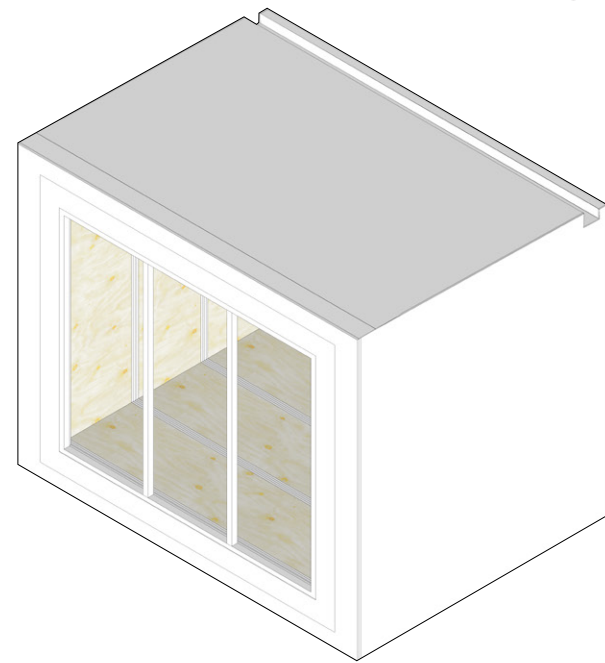


**● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● INSTALLATION OF THE PRODUCT IN THE DWELLING: PLUG AND PLAY



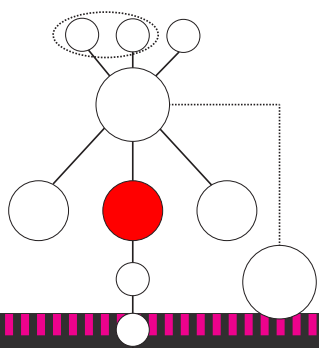
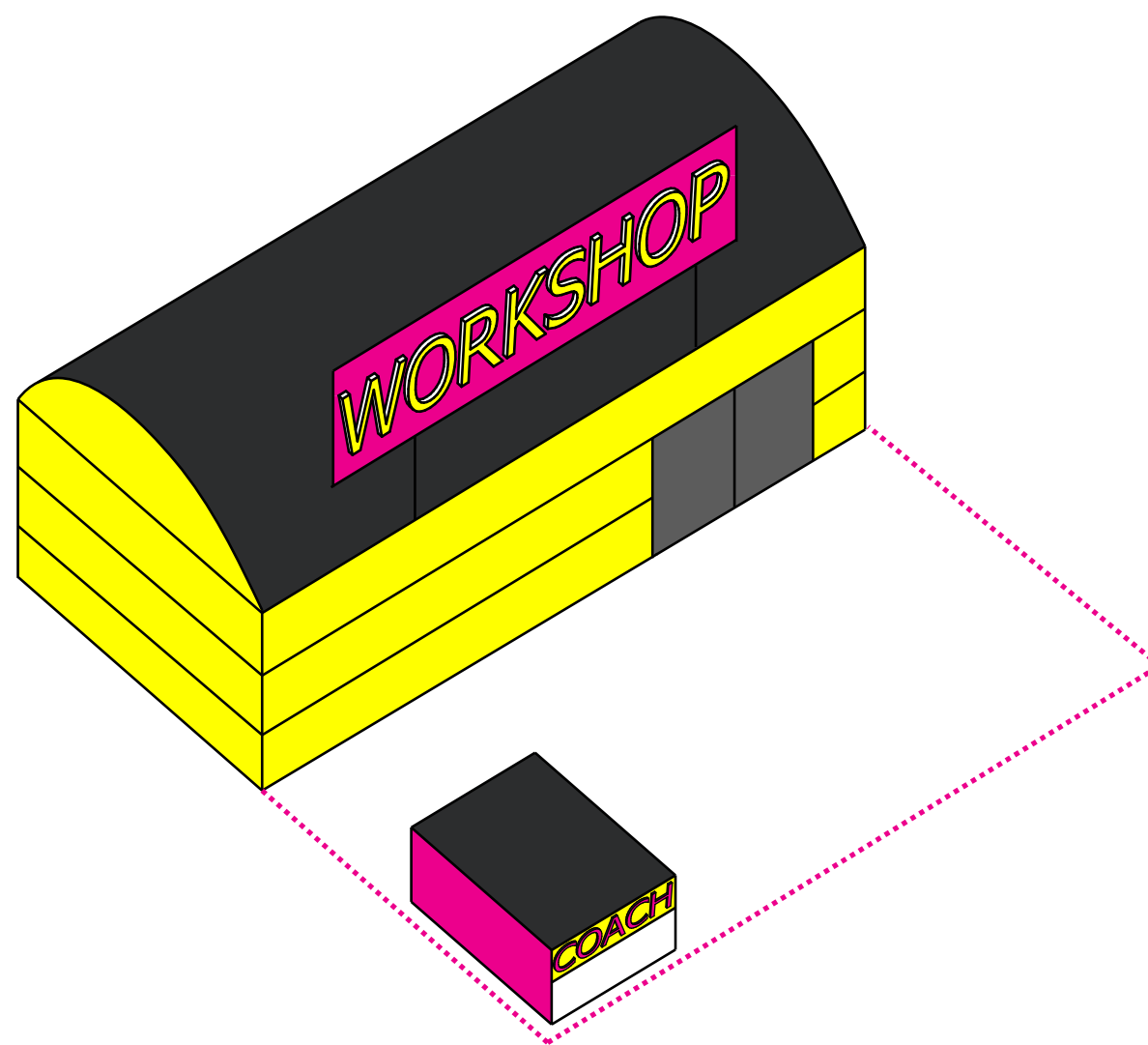
**HOW TO PRODUCE  
TOOLS + RE:NEW  
SOLUTIONS?**



**● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● WORKSHOP AS HUB FOR ON SITE PREFABRICATION OF TOOLS AND RE:NEW SOLUTIONS

● PAGE 78-107



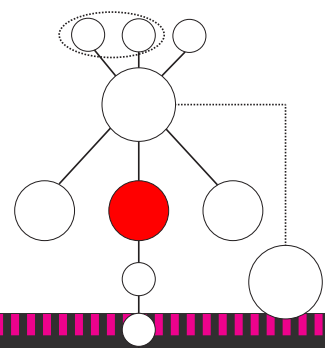
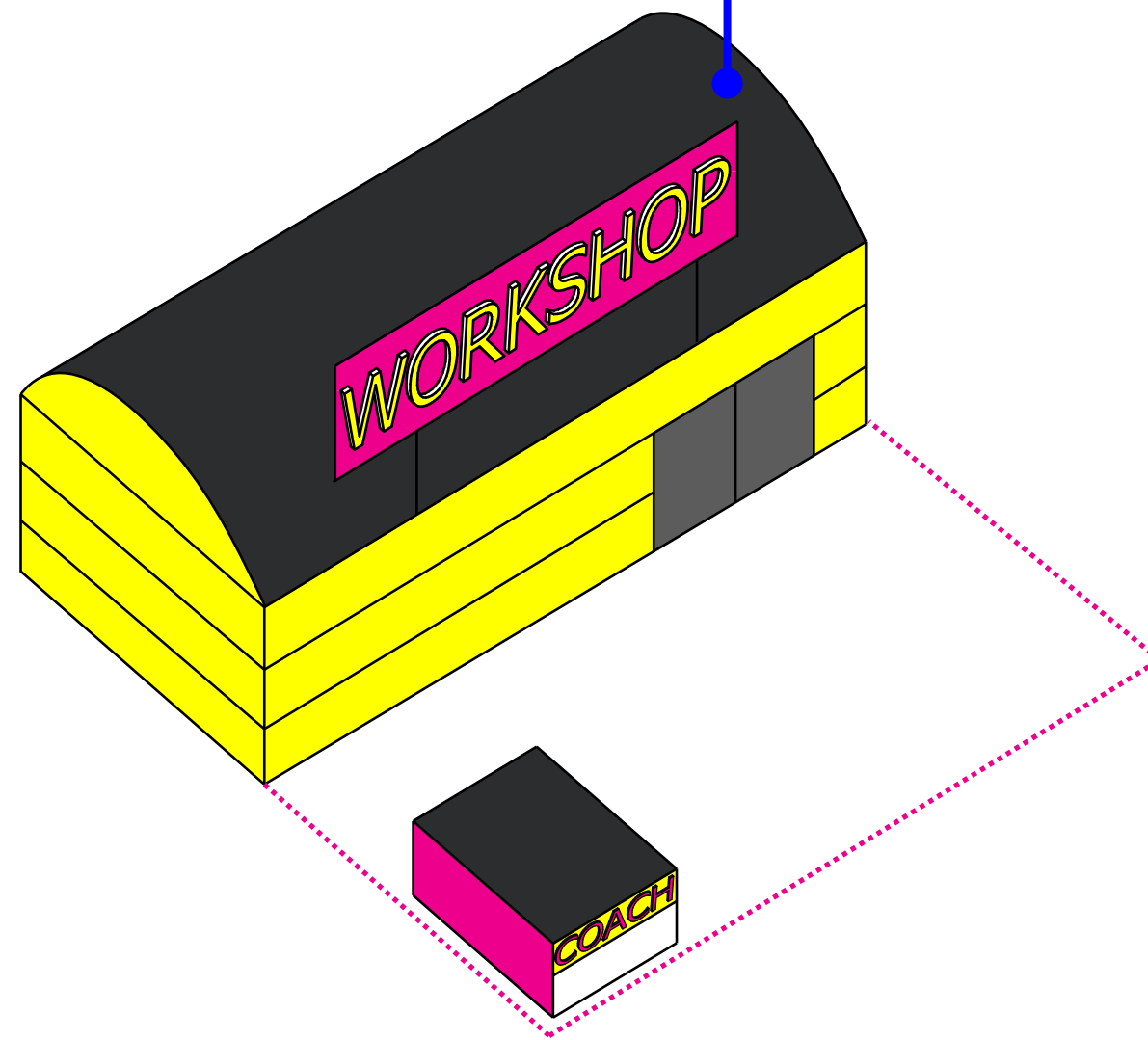
### ● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● WORKSHOP AS HUB FOR ON SITE PREFABRICATION OF TOOLS AND RE:NEW SOLUTIONS

● PAGE 79-107



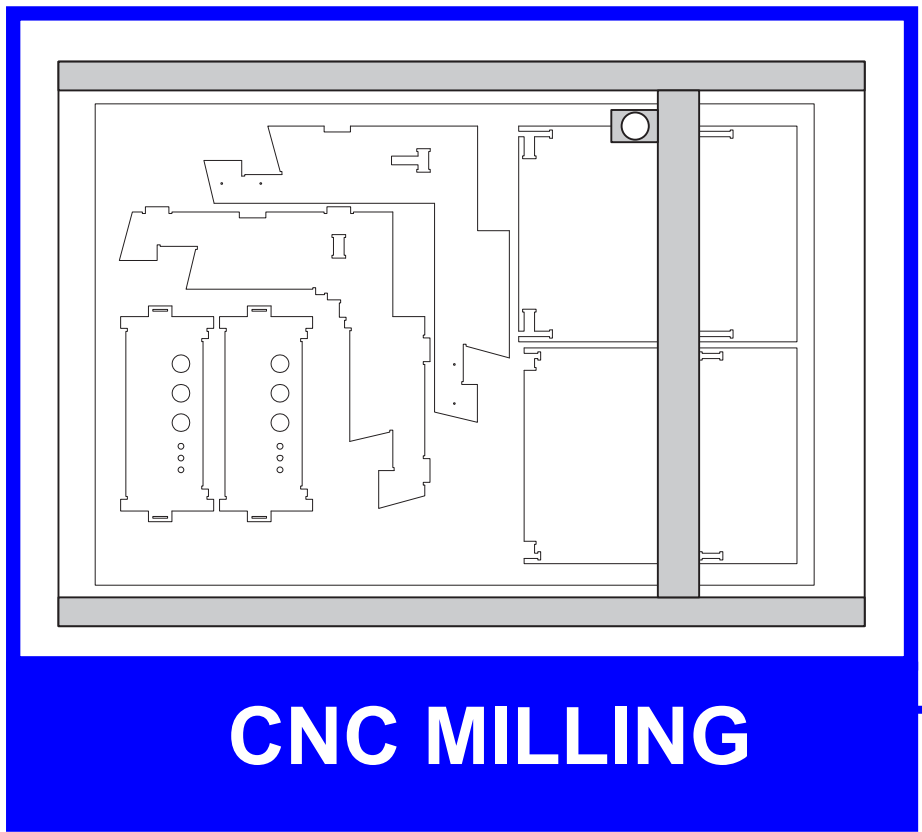
**WORKSHOP AS HUB  
FOR “ON SITE”  
PREFABRICATION**



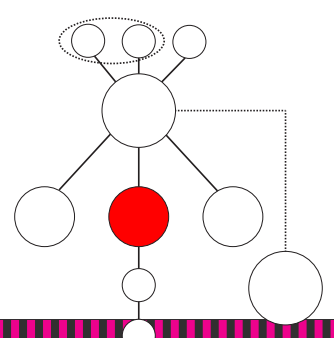
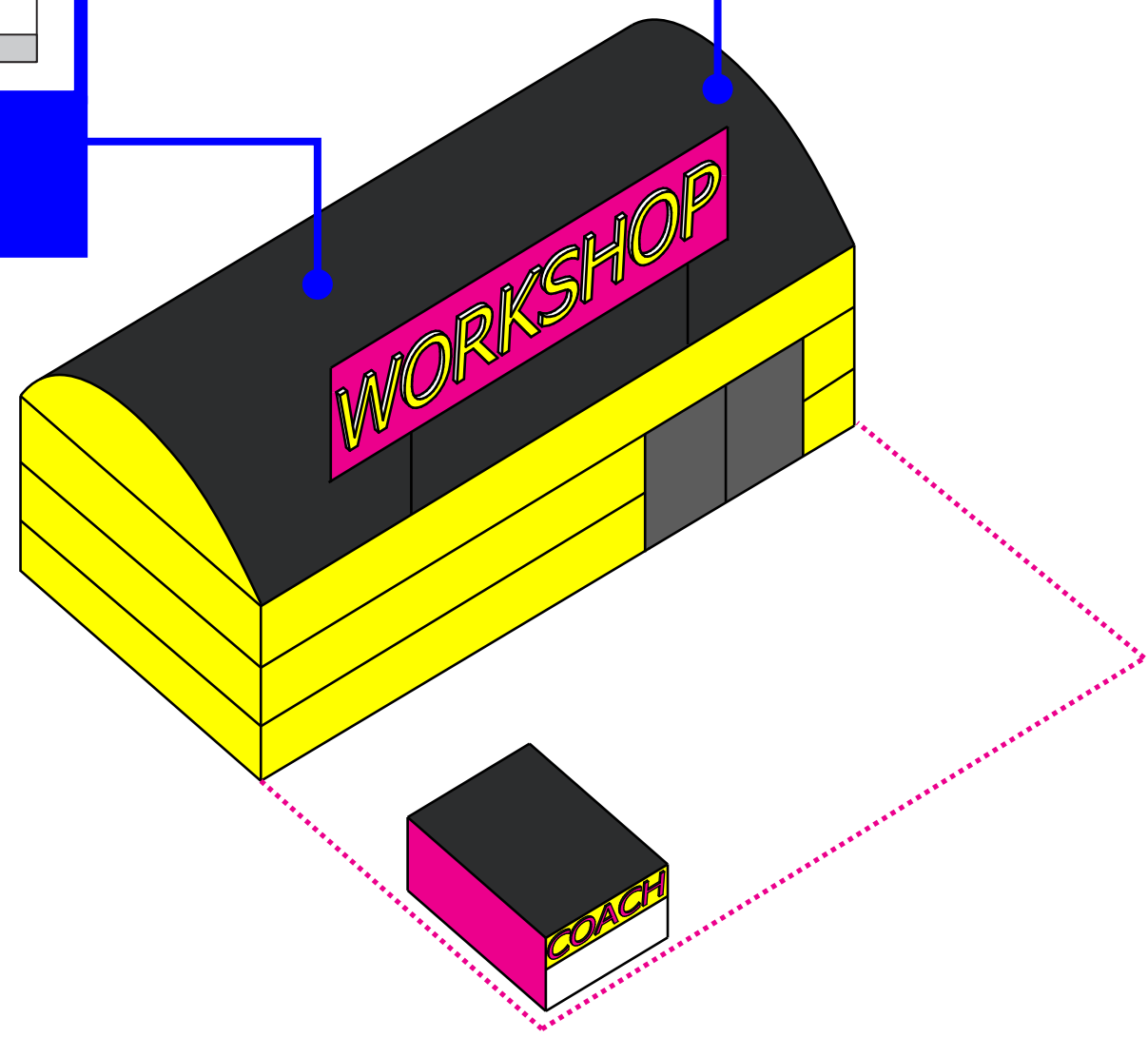
**● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● WORKSHOP AS HUB FOR ON SITE PREFABRICATION OF TOOLS AND RE:NEW SOLUTIONS

● PAGE 79-107

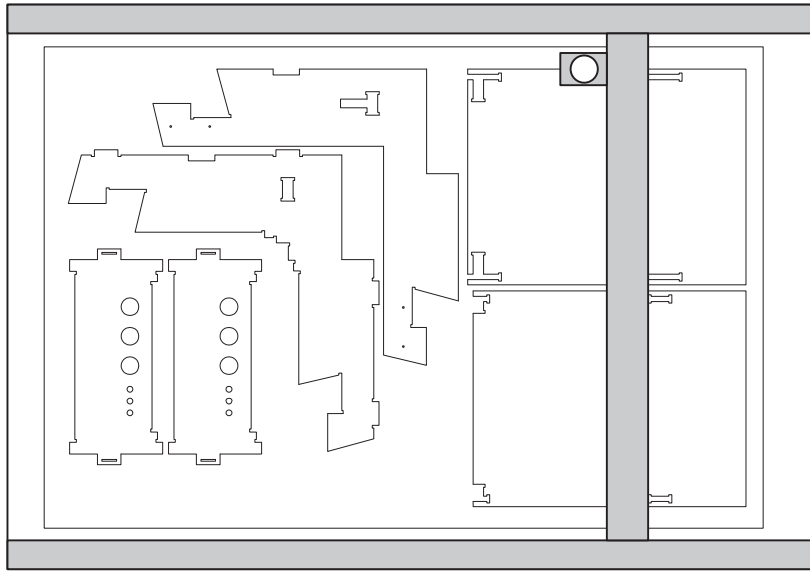


**WORKSHOP AS HUB  
FOR "ON SITE"  
PREFABRICATION**

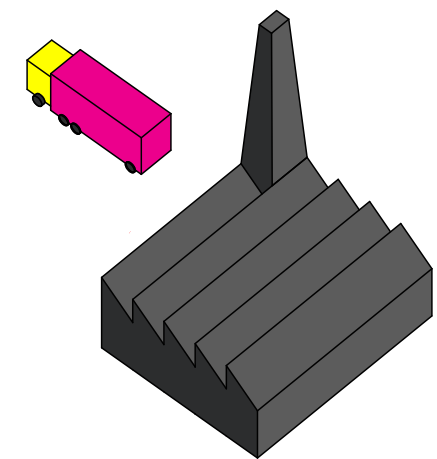
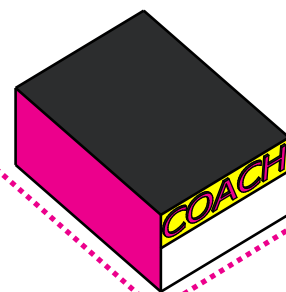
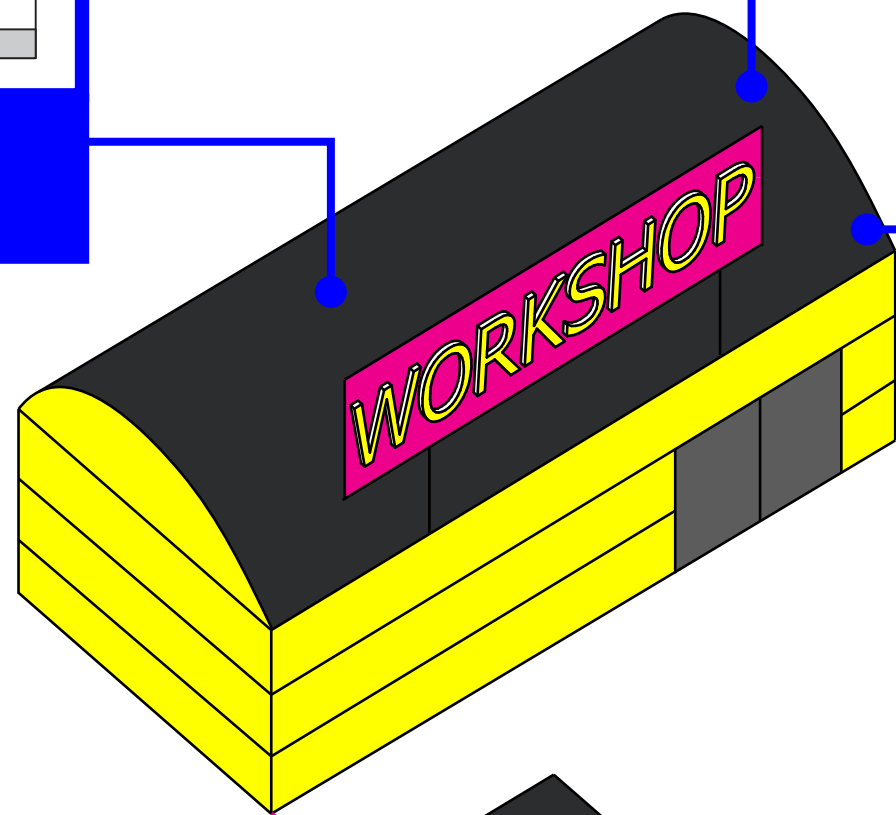




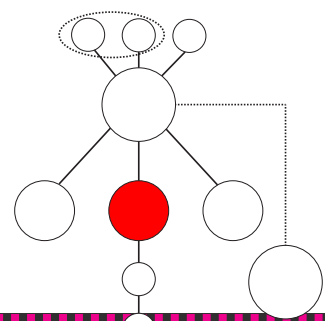
**WORKSHOP AS HUB  
FOR “ON SITE”  
PREFABRICATION**



**CNC MILLING**



**NON-CNC  
COMPONENTS**



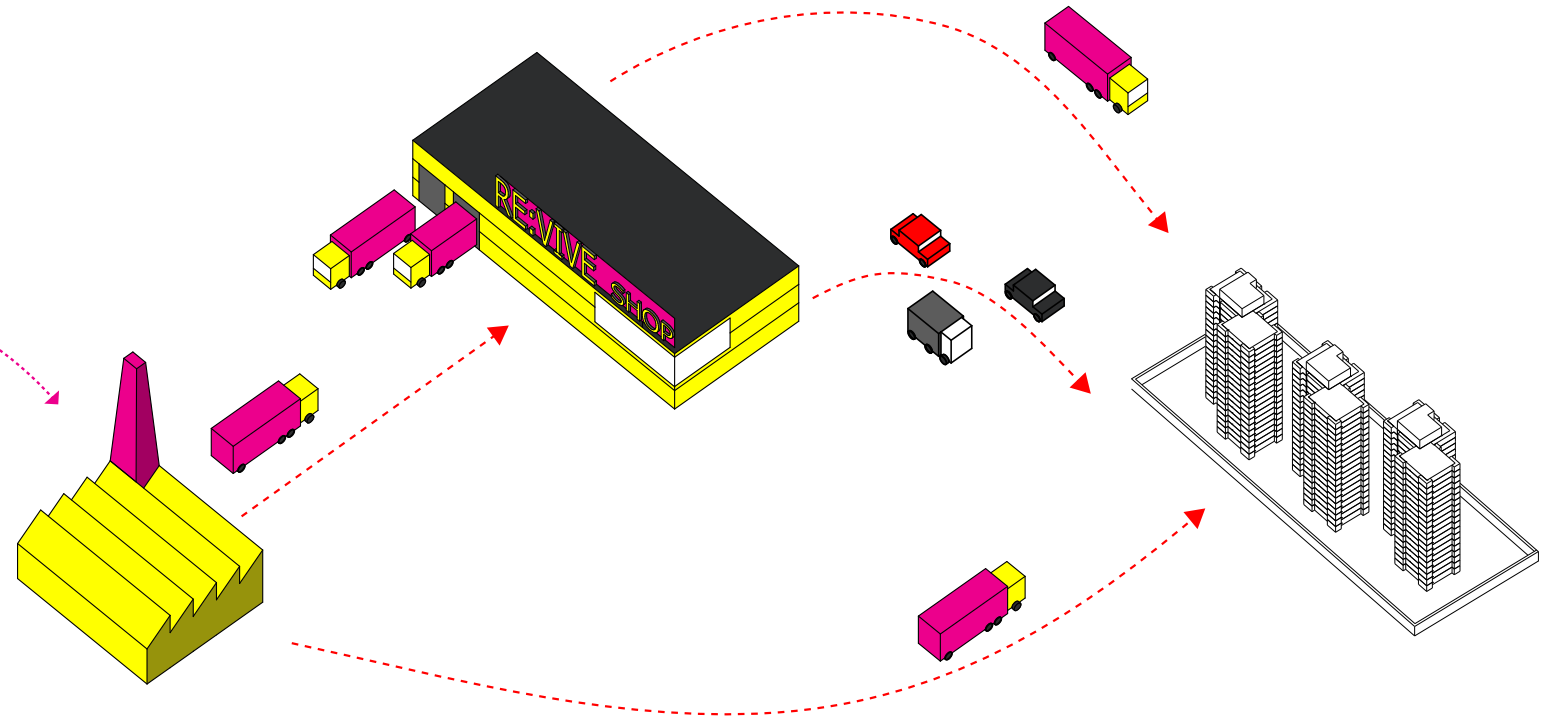
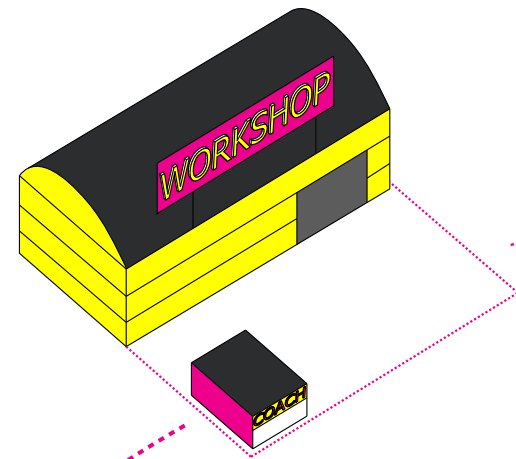
**● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● WORKSHOP AS HUB FOR ON SITE PREFABRICATION OF TOOLS AND RE:NEW SOLUTIONS

● PAGE 79-107

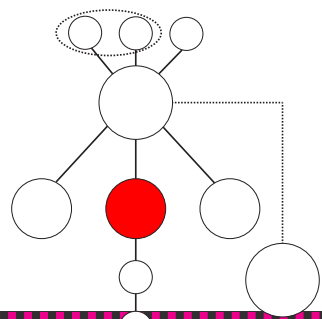
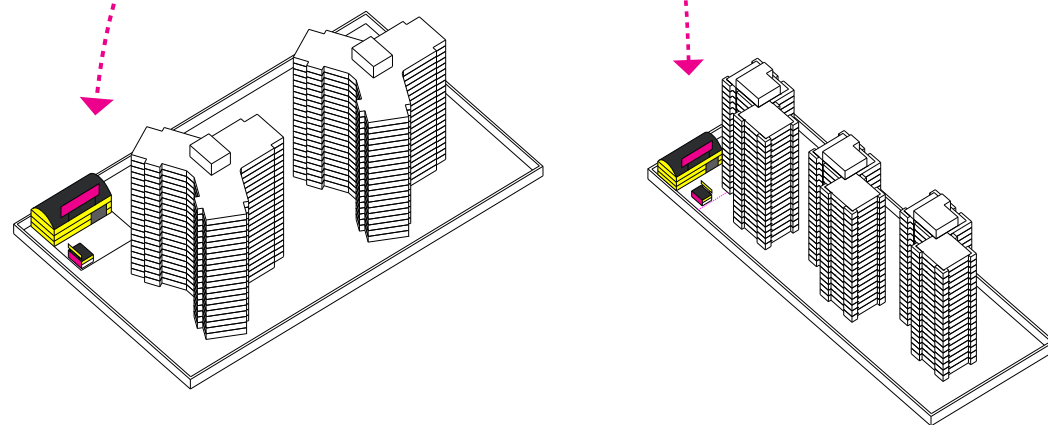
# UPSCALING THE WORKSHOP

Towards a national mass-production



# MULTIPLYING THE WORKSHOP

Towards a local mass-production



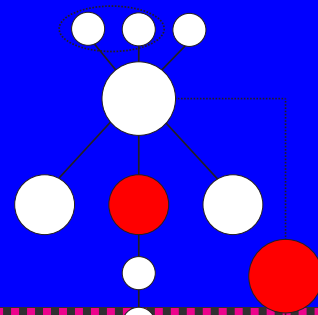
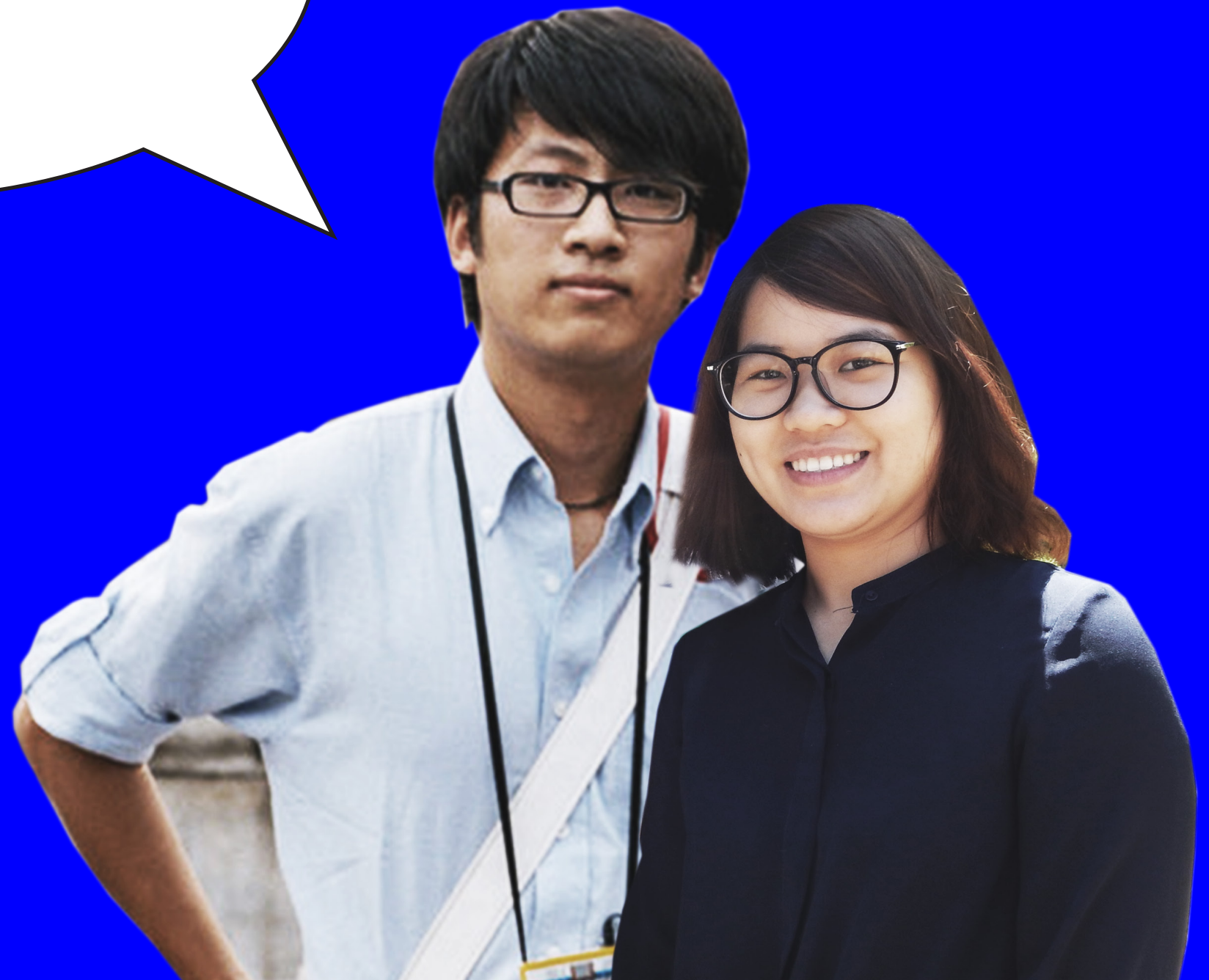
## ● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING

● FROM EXPERIMENT TO INDUSTRY IN BETTER AND IDEAL PHASES

● PAGE 80-107



**HI!  
WE WANT MORE  
SPACE!**



● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

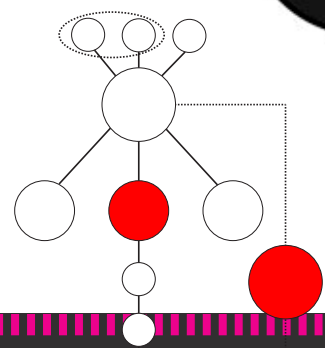
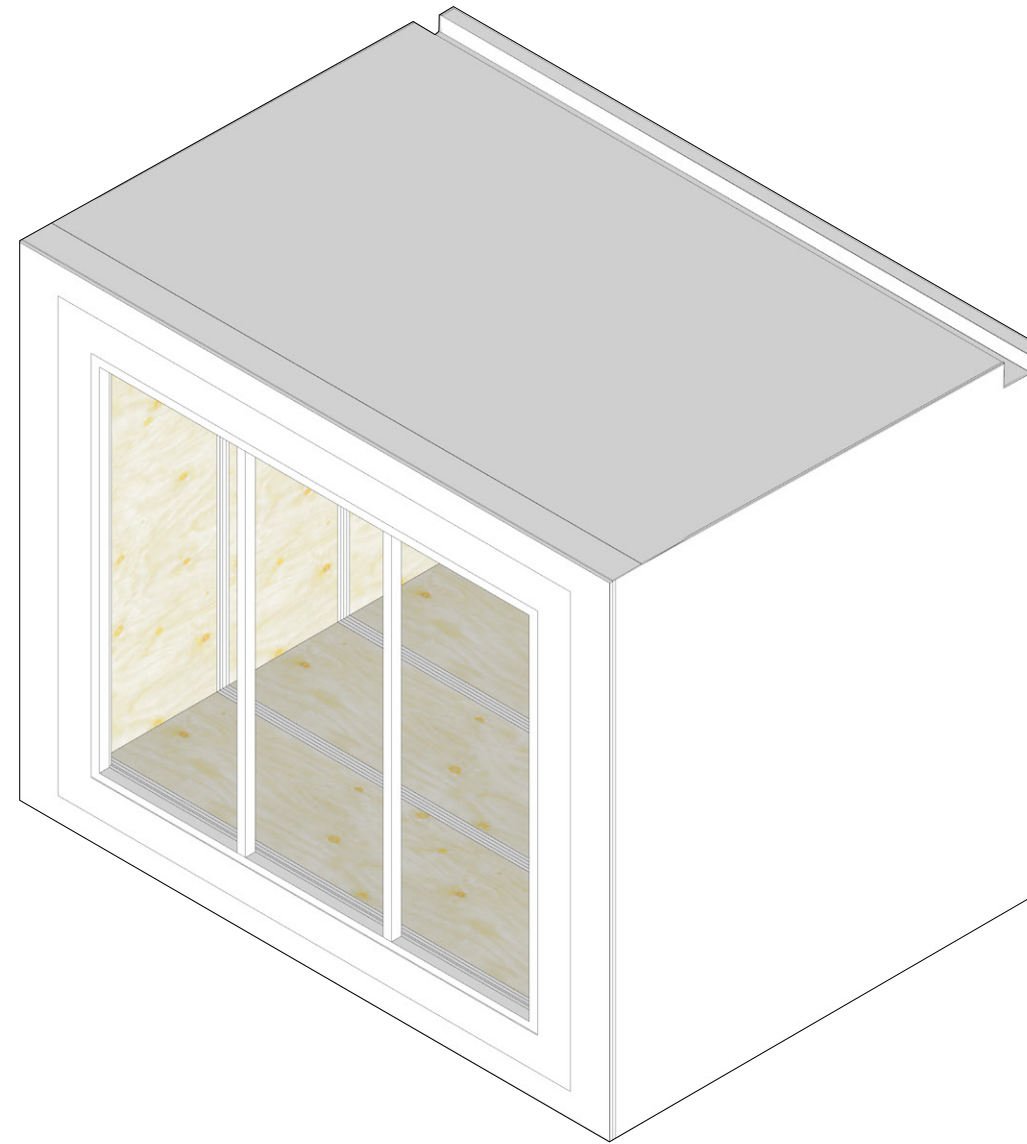
● HOW DO YOU REHABILITATE YOUR DWELLING? THE EXAMPLE OF XIAO LIANG AND WEN TING

● PAGE 81-107

**RE:NEW**  
**SERVICE BATHROOM MAKER**  
**ORDER FOR YOU!**

**ORDER PREFAB**

**ORDER DIY**



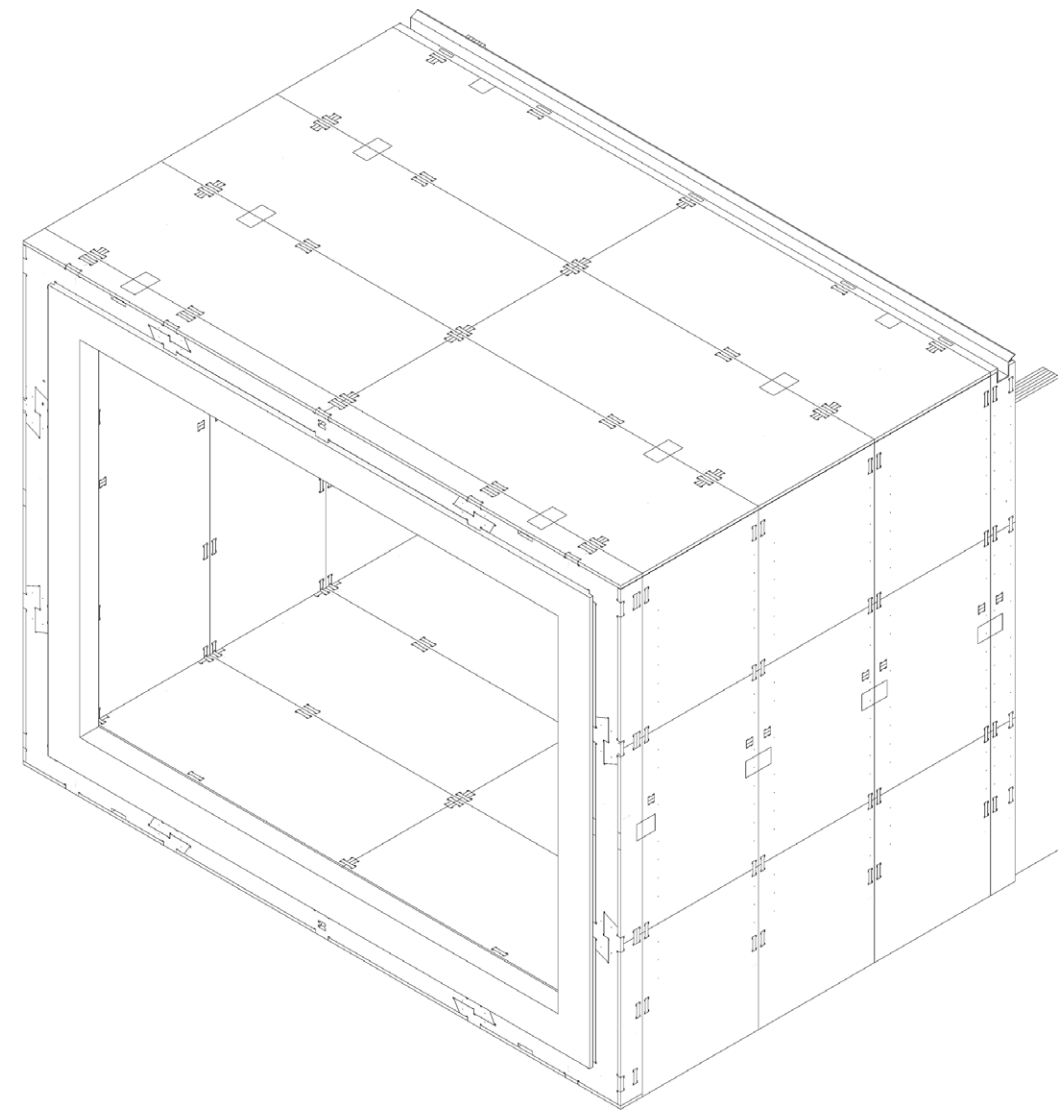
**STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

ORDERING A PRODUCT DIY

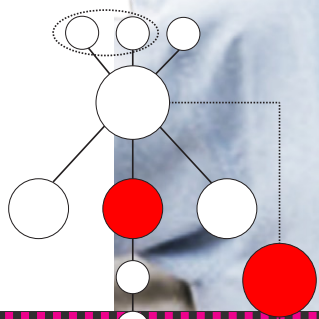
PAGE 82-107



# EXTEND 300



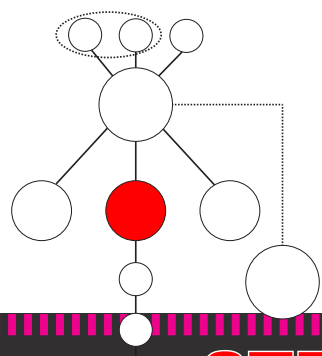
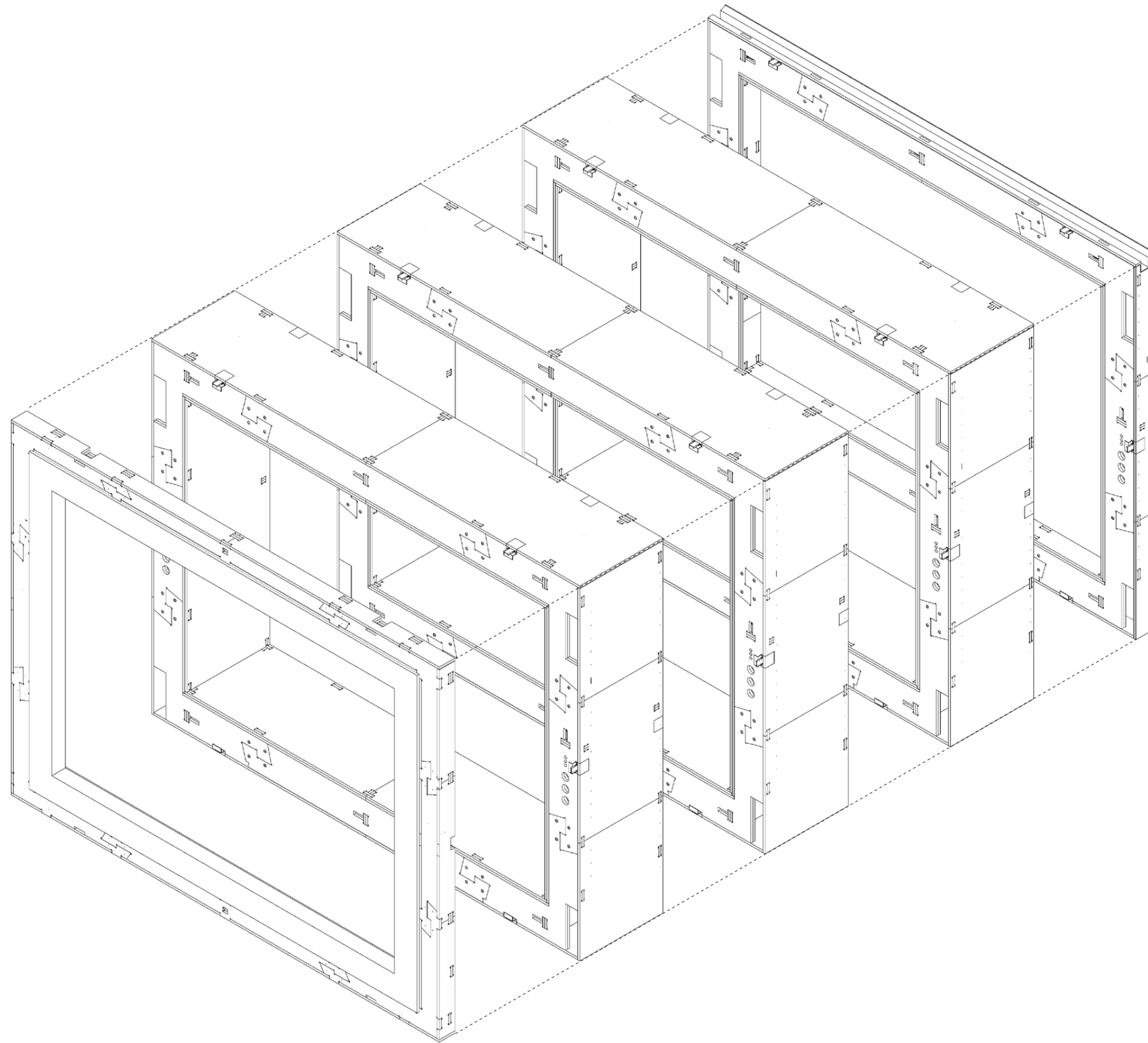
RE:NEW



## ● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING

● CONSTRUCTING A PRODUCT DIY WITH THE CONSTRUCTION MANUAL

● PAGE 83-107



● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

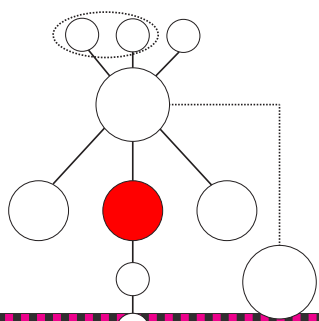
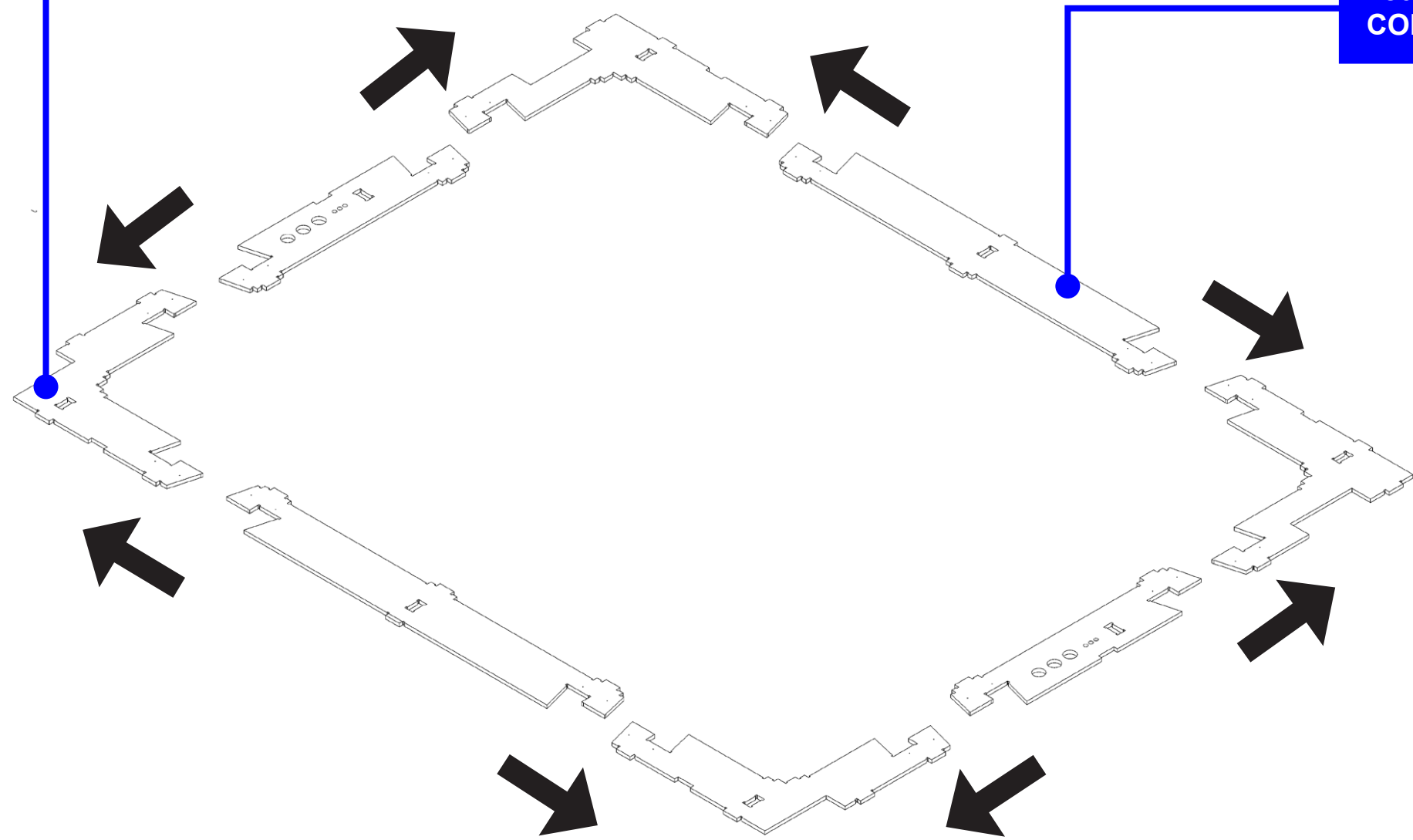
● CONSTRUCTION OF THE EXTEND 300 PRODUCT

● PAGE 84-107



MOMENT TIGHT  
CORNERS

280 mm  
CONSTRUCTION HEIGHT

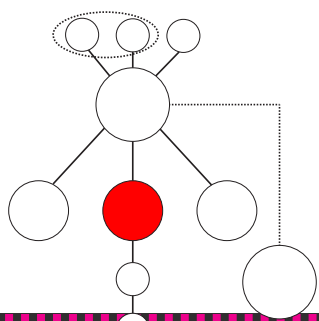
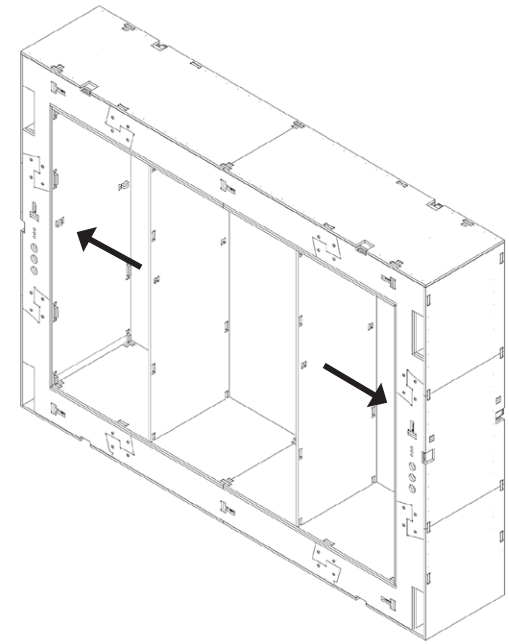
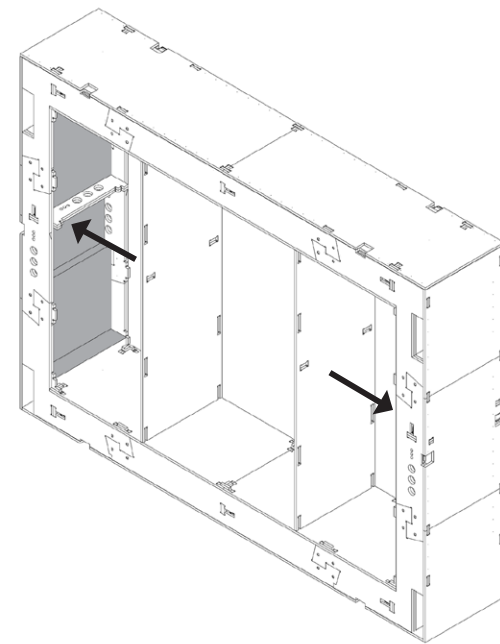
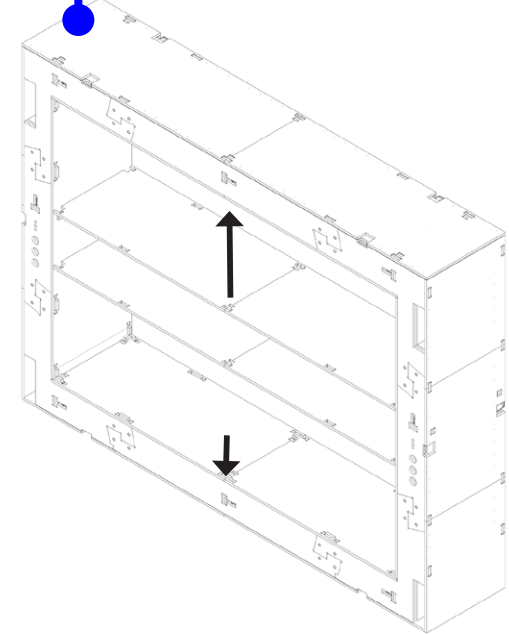
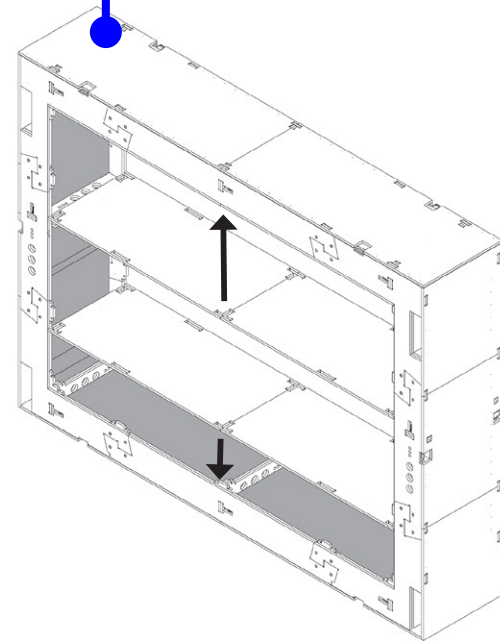
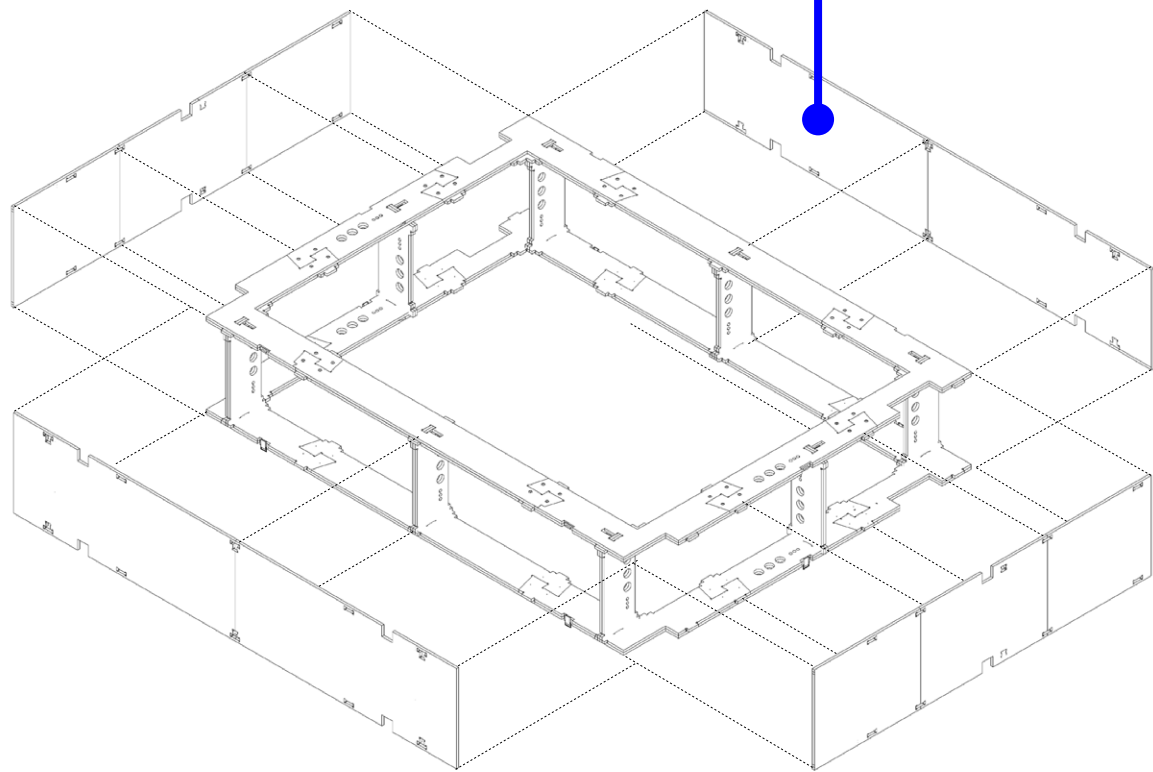


● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● CONSTRUCTION OF THE EXTEND 300 PRODUCT

● PAGE 85-107

**STABILITY WITH 3 LAYERS OF 18 mm PLYWOOD**

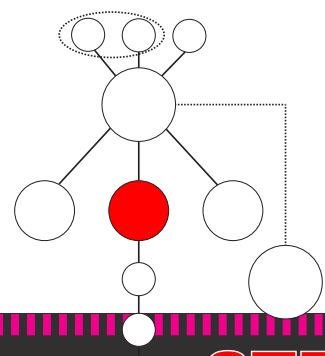
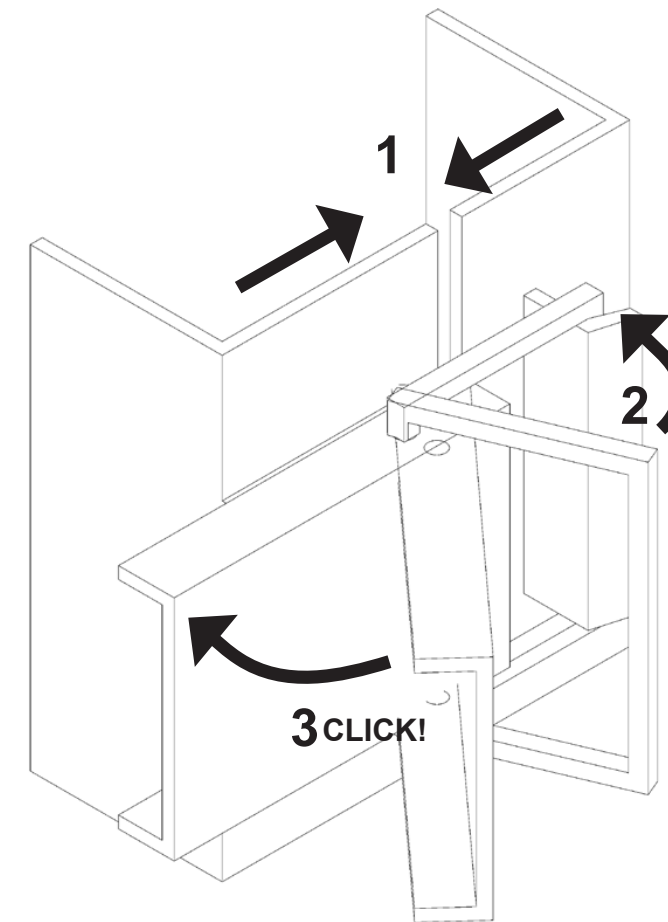
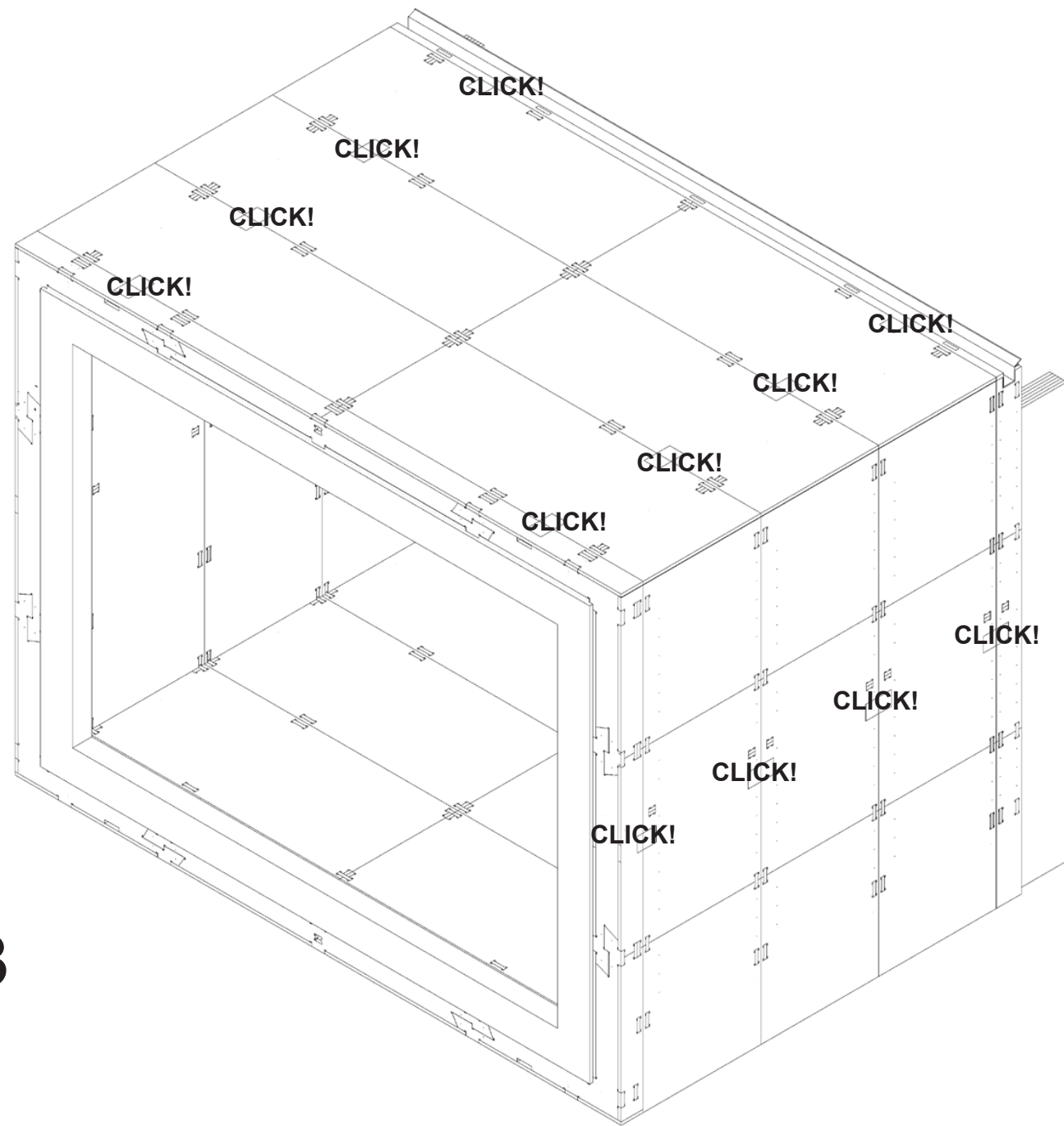


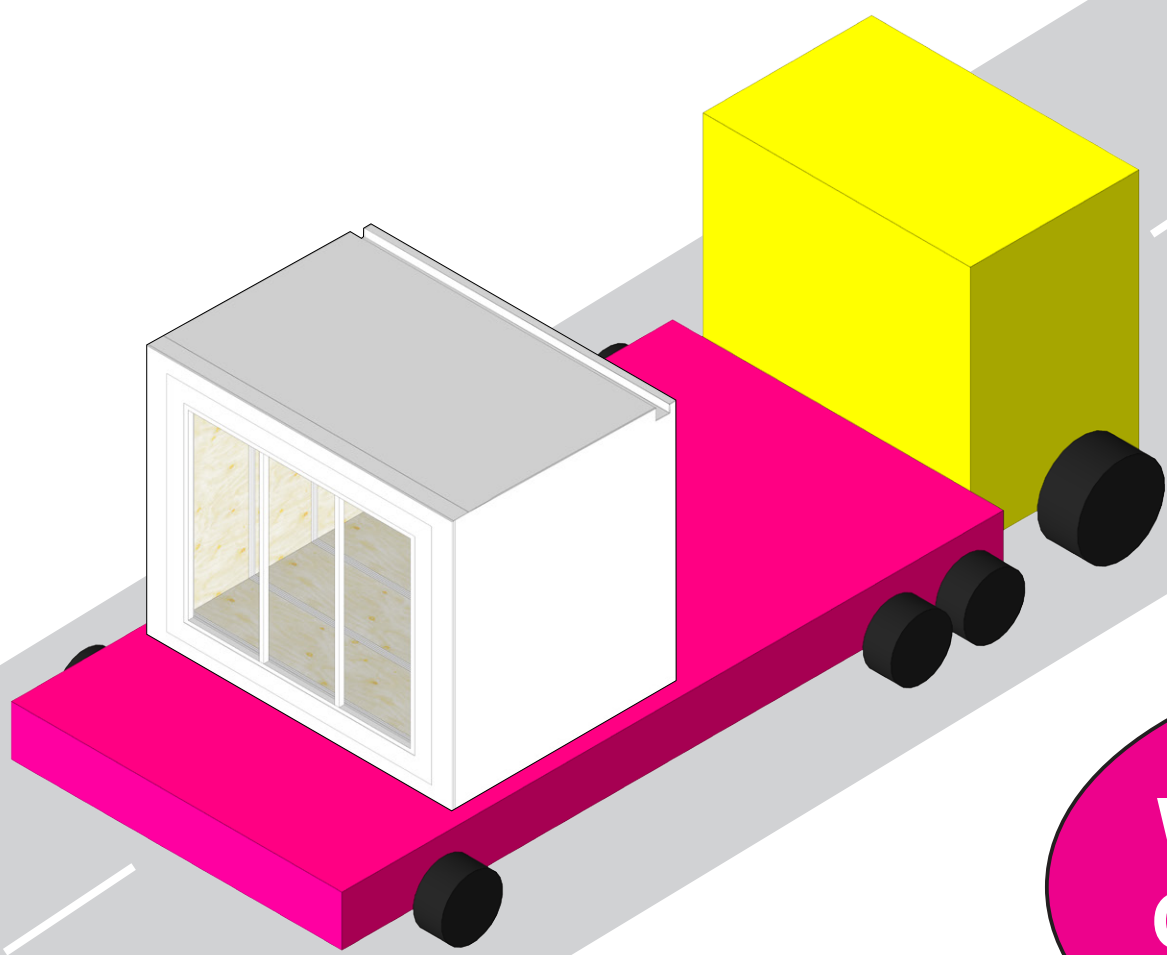
**● STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● CONSTRUCTION OF THE EXTEND 300 PRODUCT

● PAGE 86-107

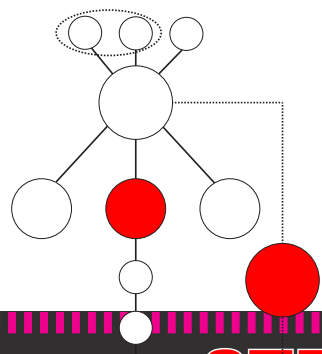






WHAT A RETURN  
OF INVESTMENT!

IT IS EVEN GOOD  
FOR US RENTERS



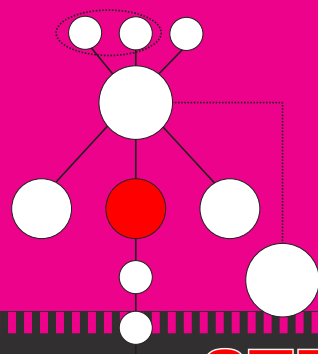
● **STEP 3: FACILITATING BOTTOM-UP REHABILITATION OF THE DWELLING**

● RE:PLUG AND PLAY! THE EXAMPLE OF XIAO LIANG AND WEN TING

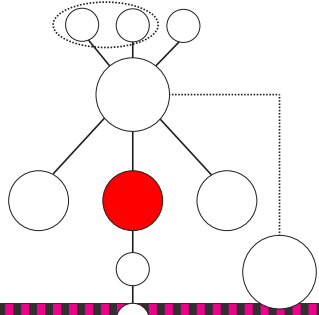
● PAGE 88-107

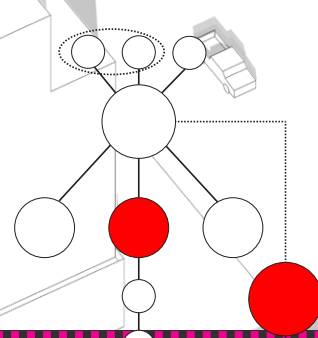
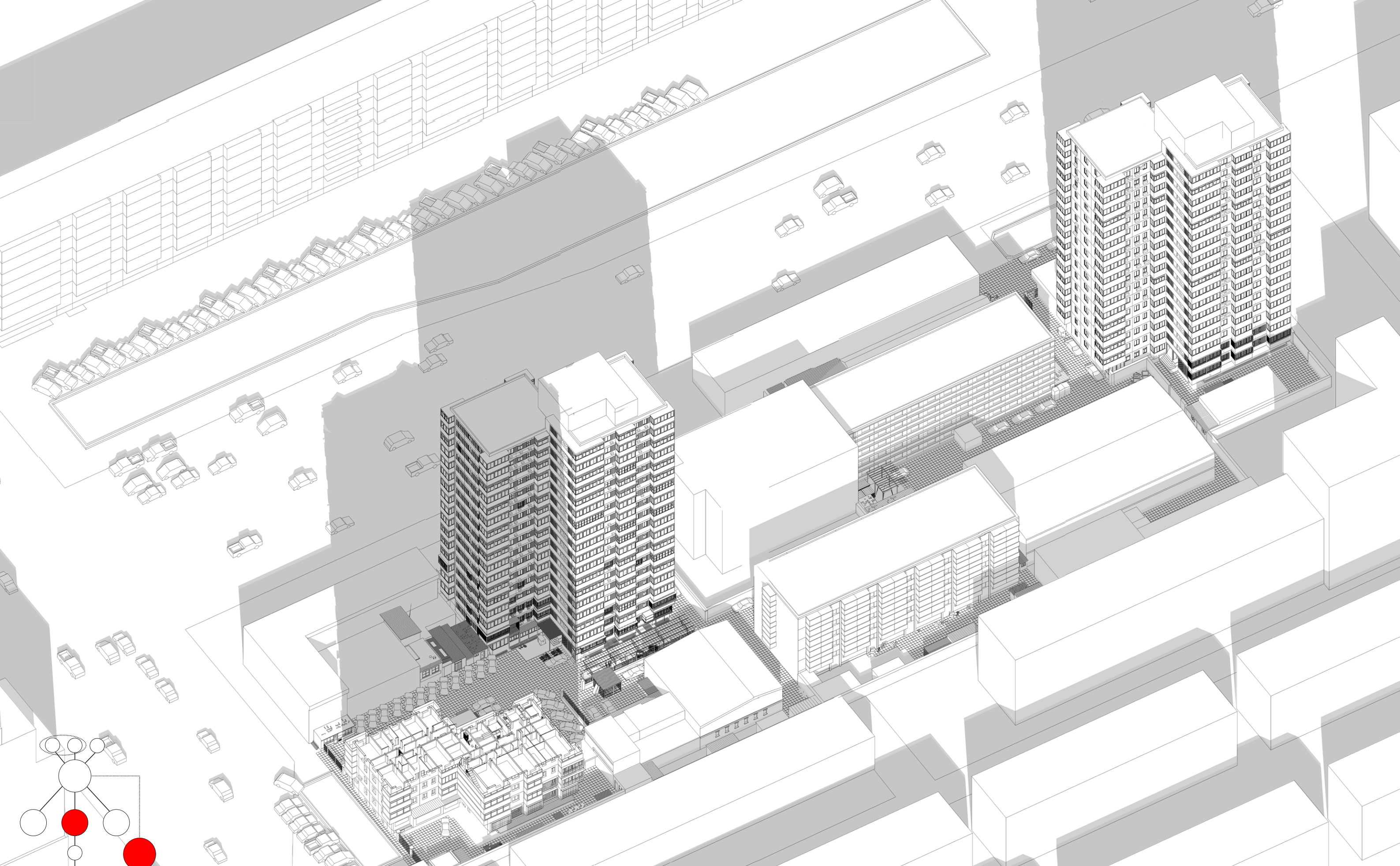
# STEP 4

FROM TOOLS TO PLAN





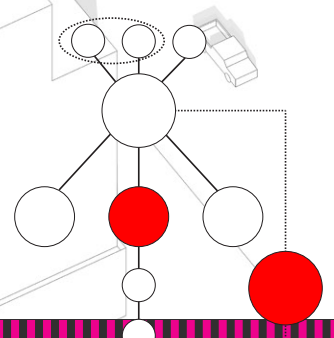
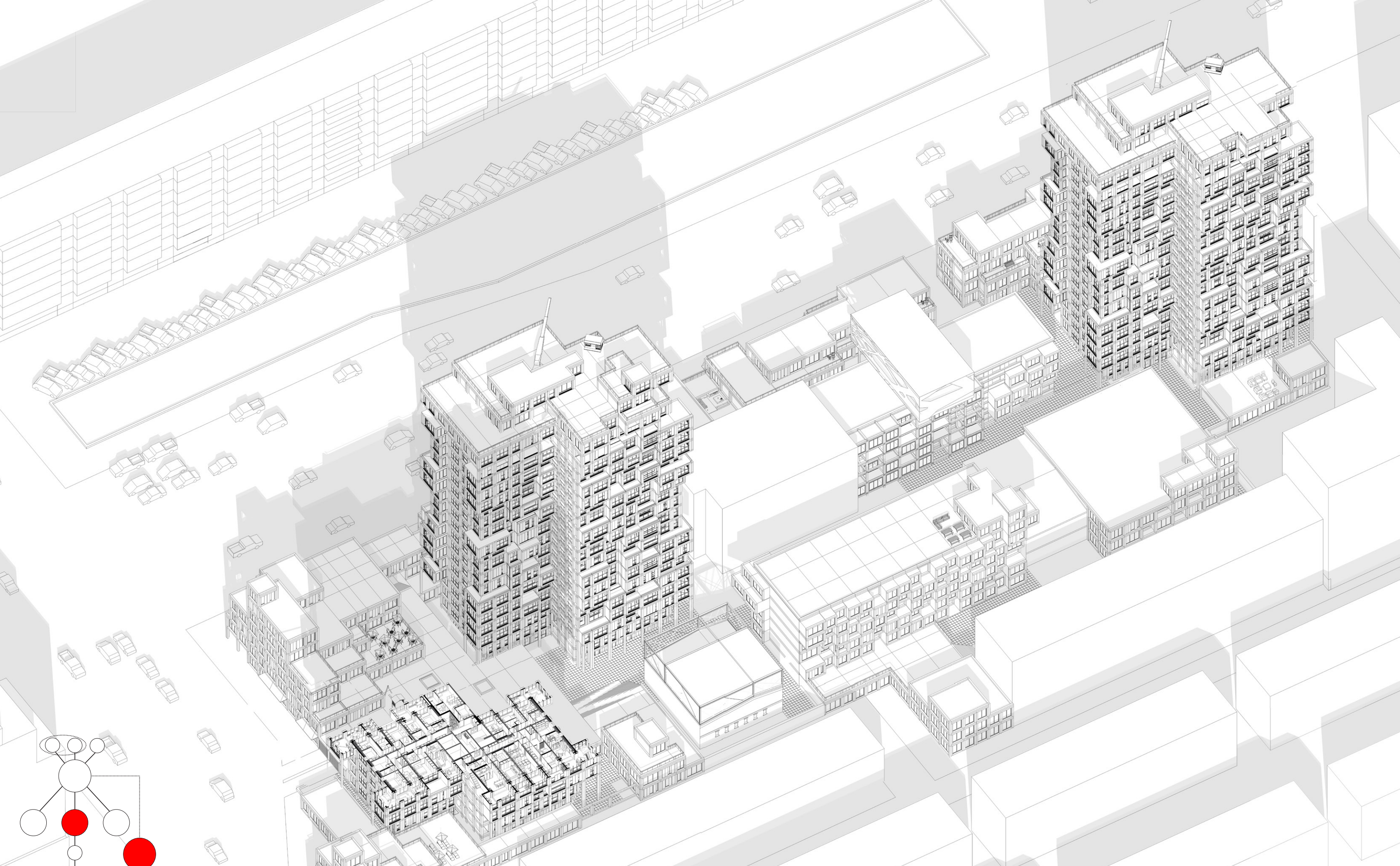




## **STEP 4: FROM TOOLS TO PLAN**

**AN IDEAL VISION FOR THE DONGSISHITIAO JIA: CRUMBLING PHASE**

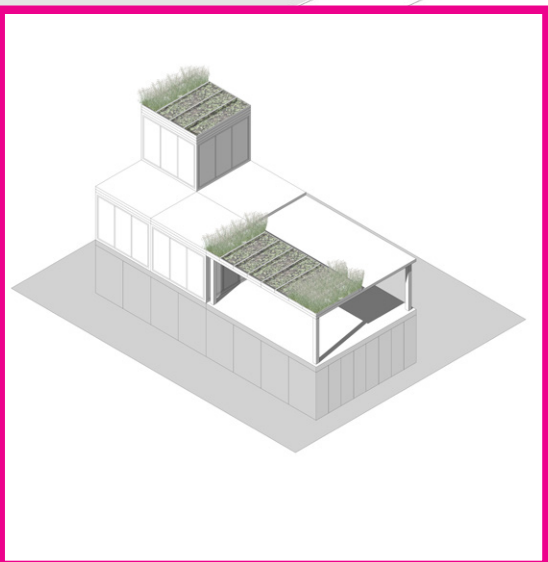




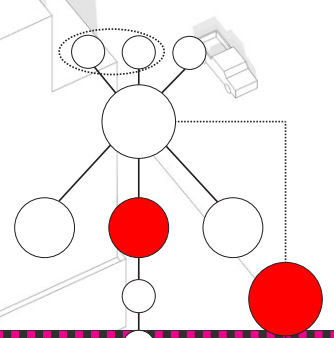
## **STEP 4: FROM TOOLS TO PLAN**

**AN IDEAL VISION FOR THE DONGSISHITIAO JIA: IDEAL PHASE**





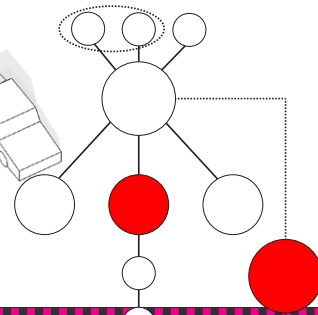
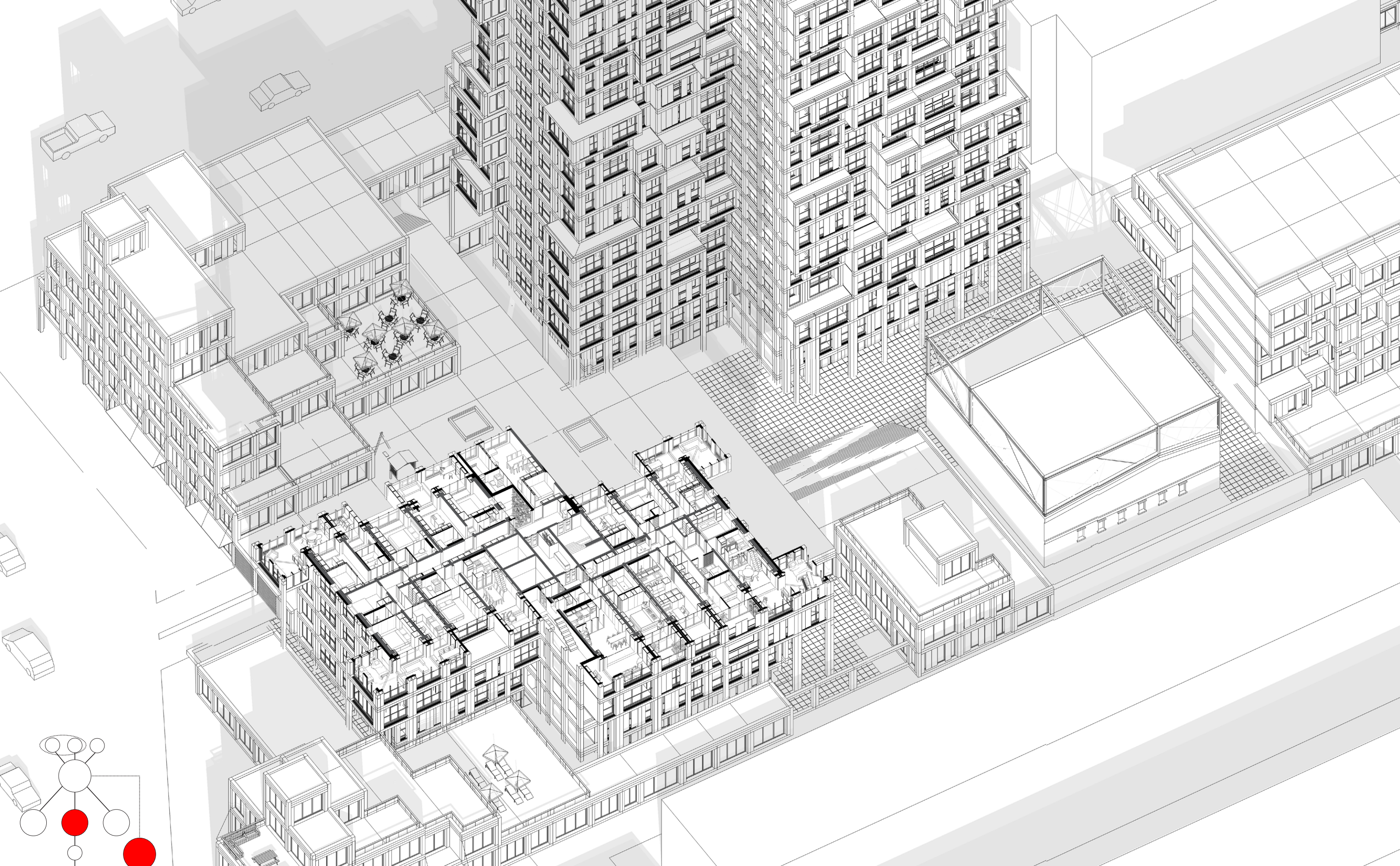
**MULTIDECK**



**STEP 4: FROM TOOLS TO PLAN**

AN IDEAL VISION FOR THE DONGSISHITIAO JIA: USE OF THE MULTIDECK TOOL

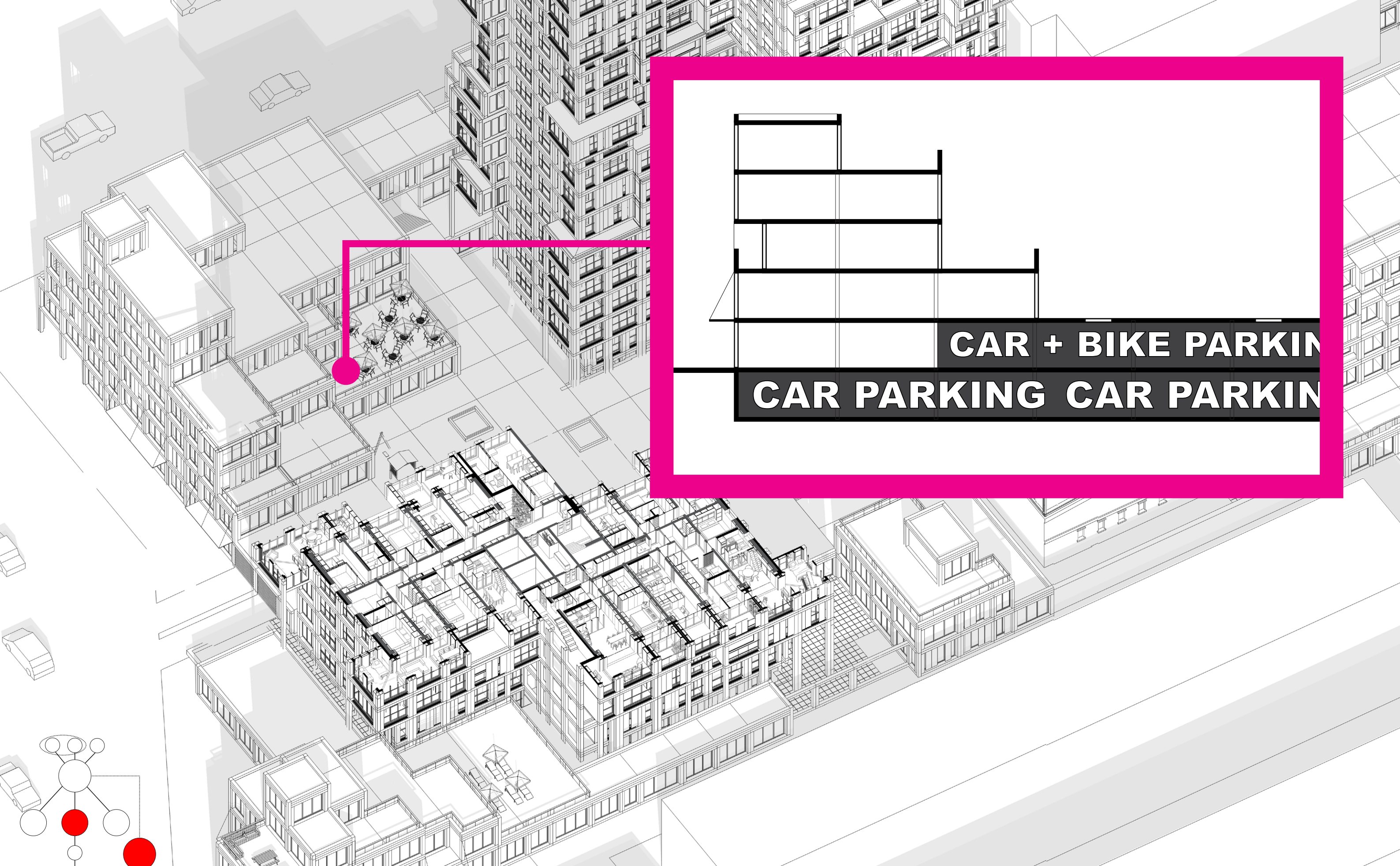




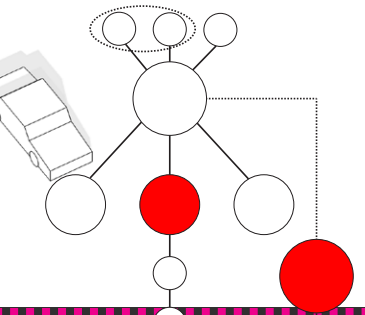
## **STEP 4: FROM TOOLS TO PLAN**

**APPLICATION OF TOOLS TO MERGE INTERESTS AND CREATE AN ATTRACTIVE LIVING ENVIRONMENT**





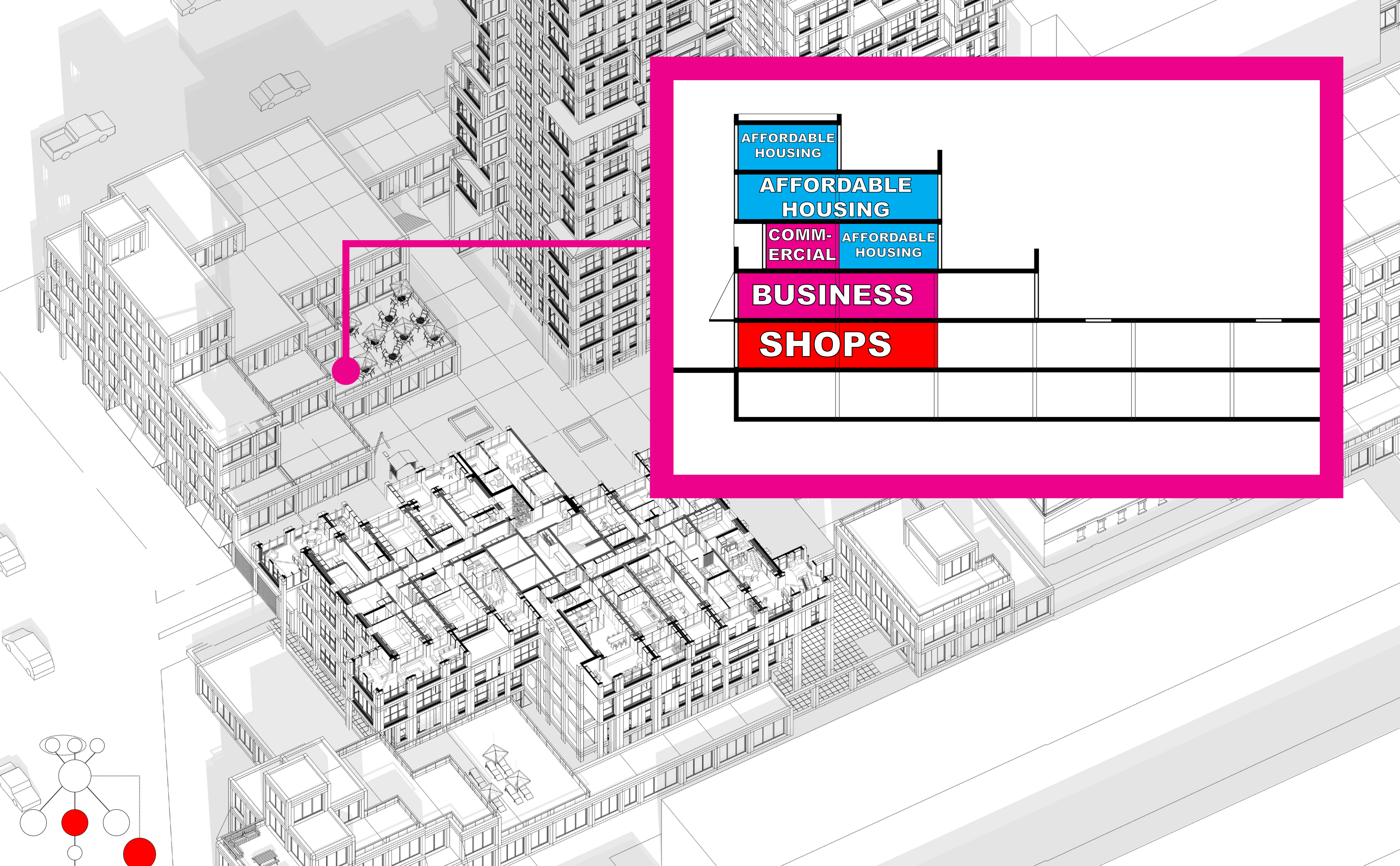
**CAR + BIKE PARKING**  
**CAR PARKING CAR PARKING**



**STEP 4: FROM TOOLS TO PLAN**

APPLICATION OF TOOLS TO MERGE INTERESTS AND CREATE AN ATTRACTIVE LIVING ENVIRONMENT





AFFORDABLE  
HOUSING

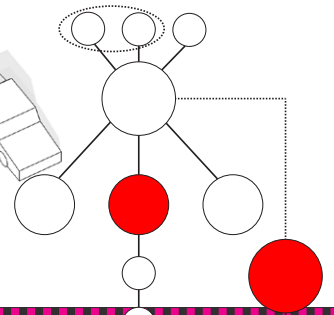
AFFORDABLE  
HOUSING

COMM-  
ERCIAL

AFFORDABLE  
HOUSING

BUSINESS

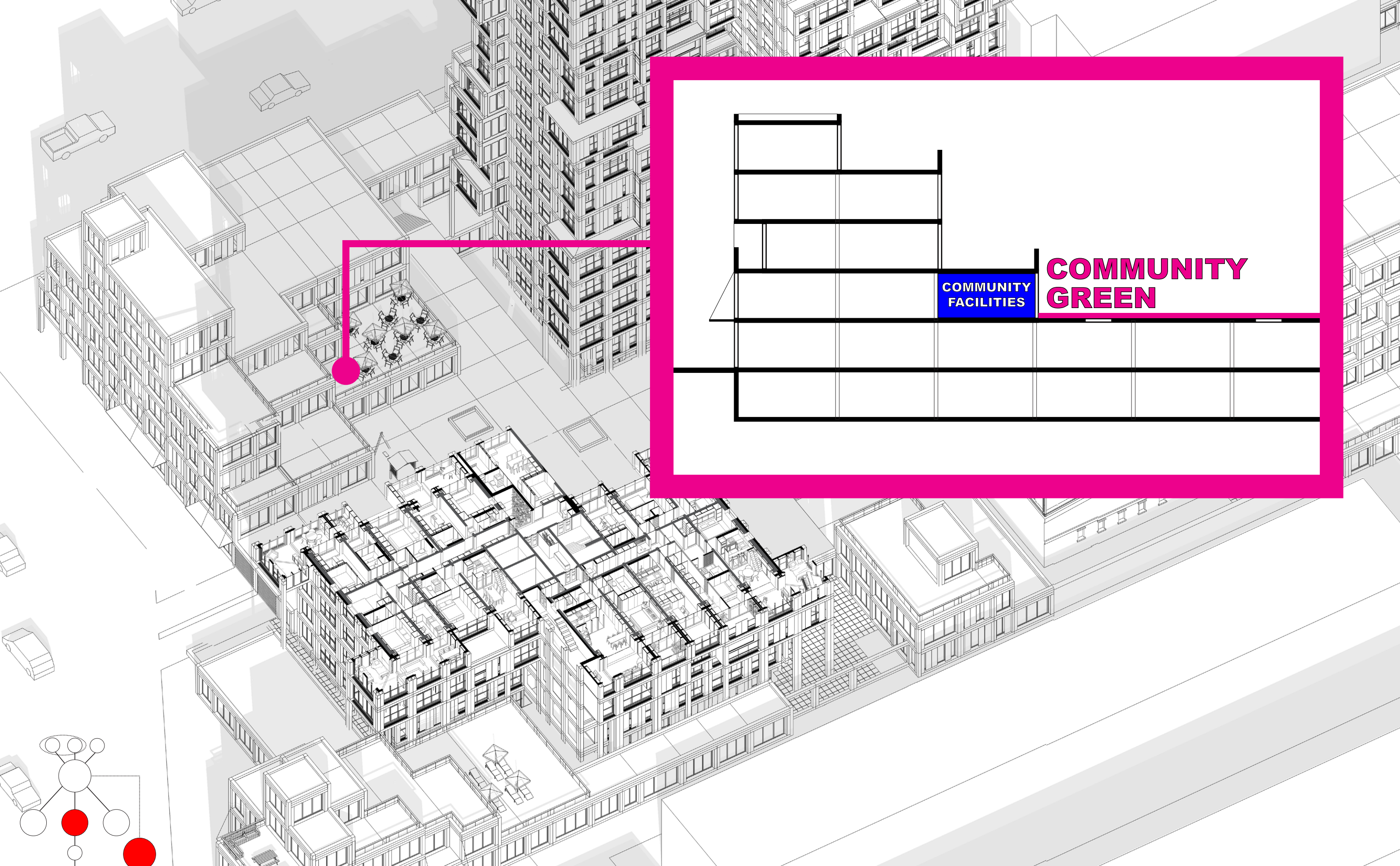
SHOPS



# STEP 4: FROM TOOLS TO PLAN

APPLICATION OF TOOLS TO MERGE INTERESTS AND CREATE AN ATTRACTIVE LIVING ENVIRONMENT





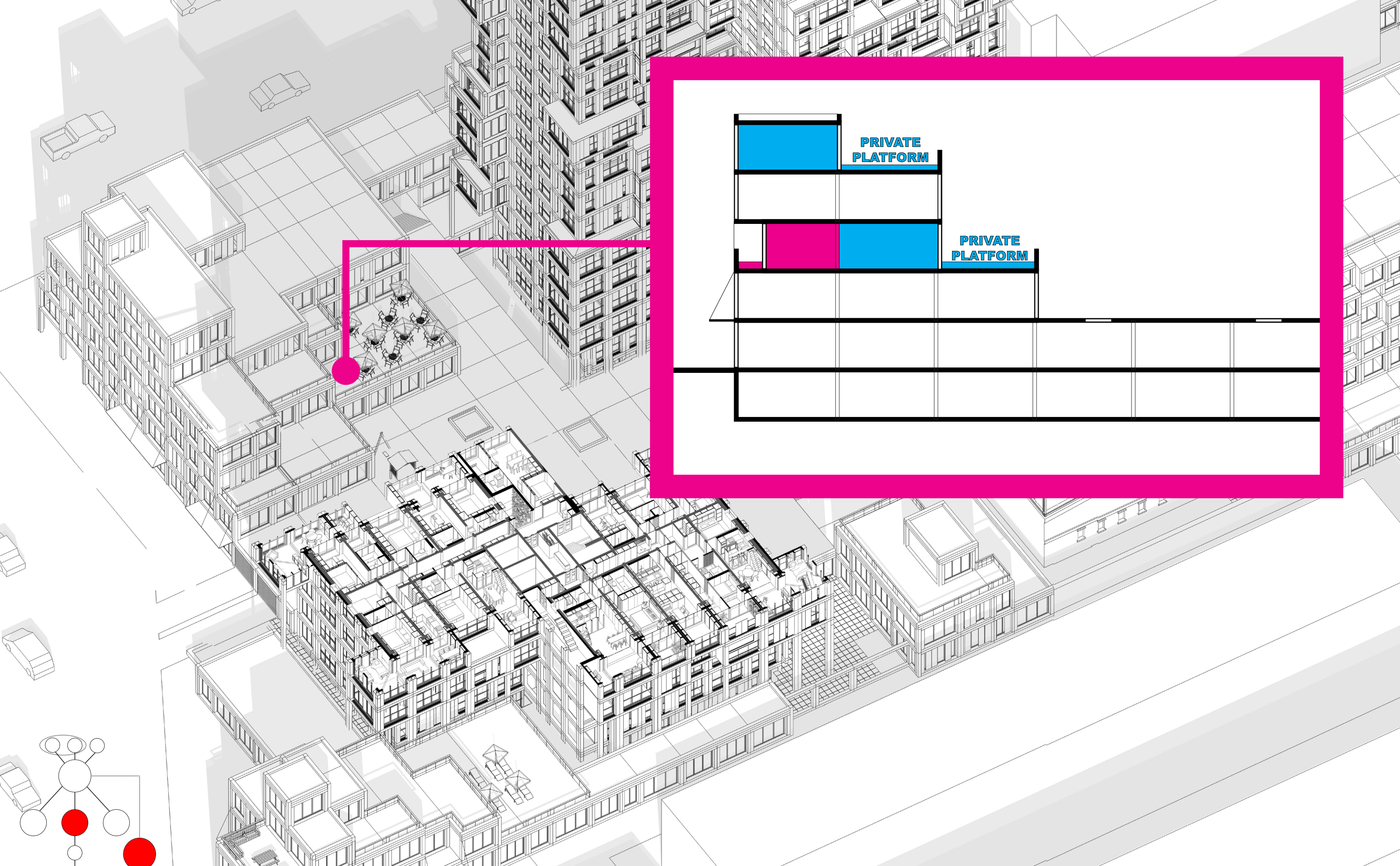
**COMMUNITY  
GREEN**

**COMMUNITY  
FACILITIES**

## **STEP 4: FROM TOOLS TO PLAN**

**APPLICATION OF TOOLS TO MERGE INTERESTS AND CREATE AN ATTRACTIVE LIVING ENVIRONMENT**





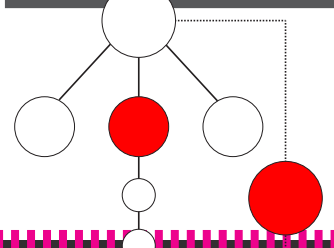
PRIVATE  
PLATFORM

PRIVATE  
PLATFORM

## STEP 4: FROM TOOLS TO PLAN

APPLICATION OF TOOLS TO MERGE INTERESTS AND CREATE AN ATTRACTIVE LIVING ENVIRONMENT



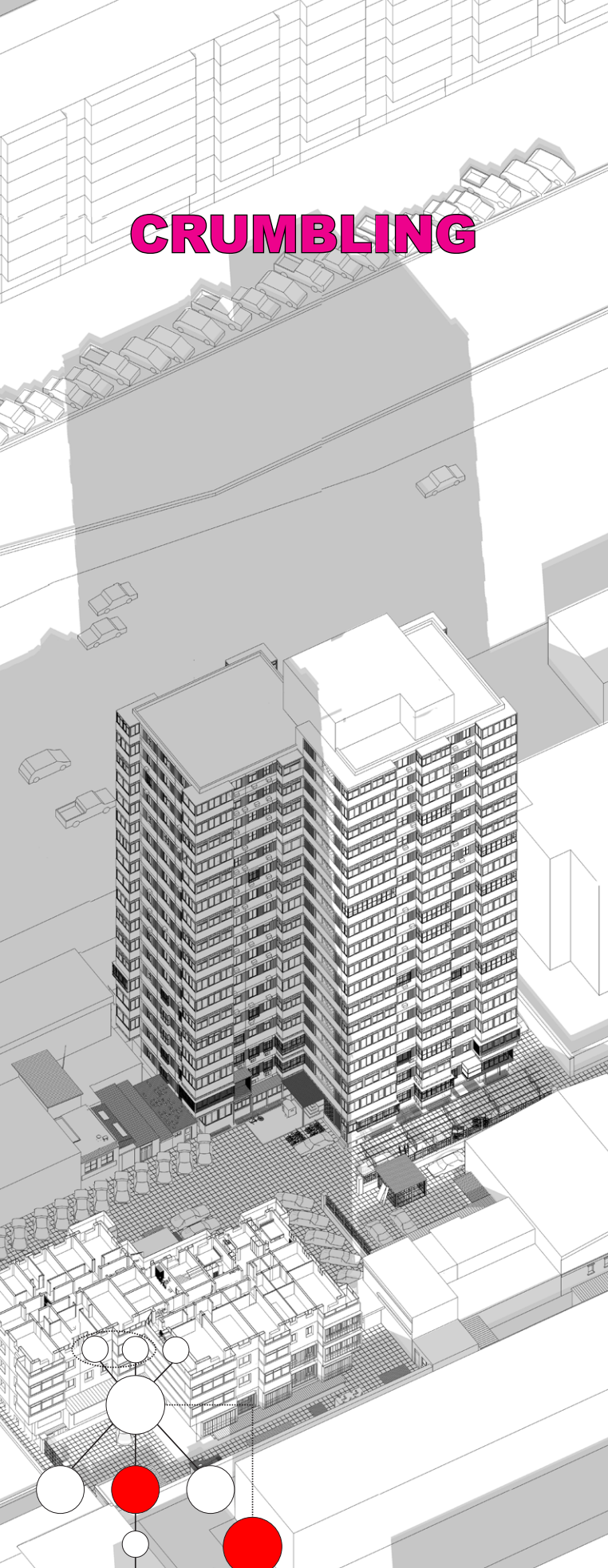


## **STEP 4: FROM TOOLS TO PLAN**

**AN IDEAL VISION FOR THE DONGSISHITIAO JIA WHICH CAN COMPETE WITH A "NEW" DESIGN**



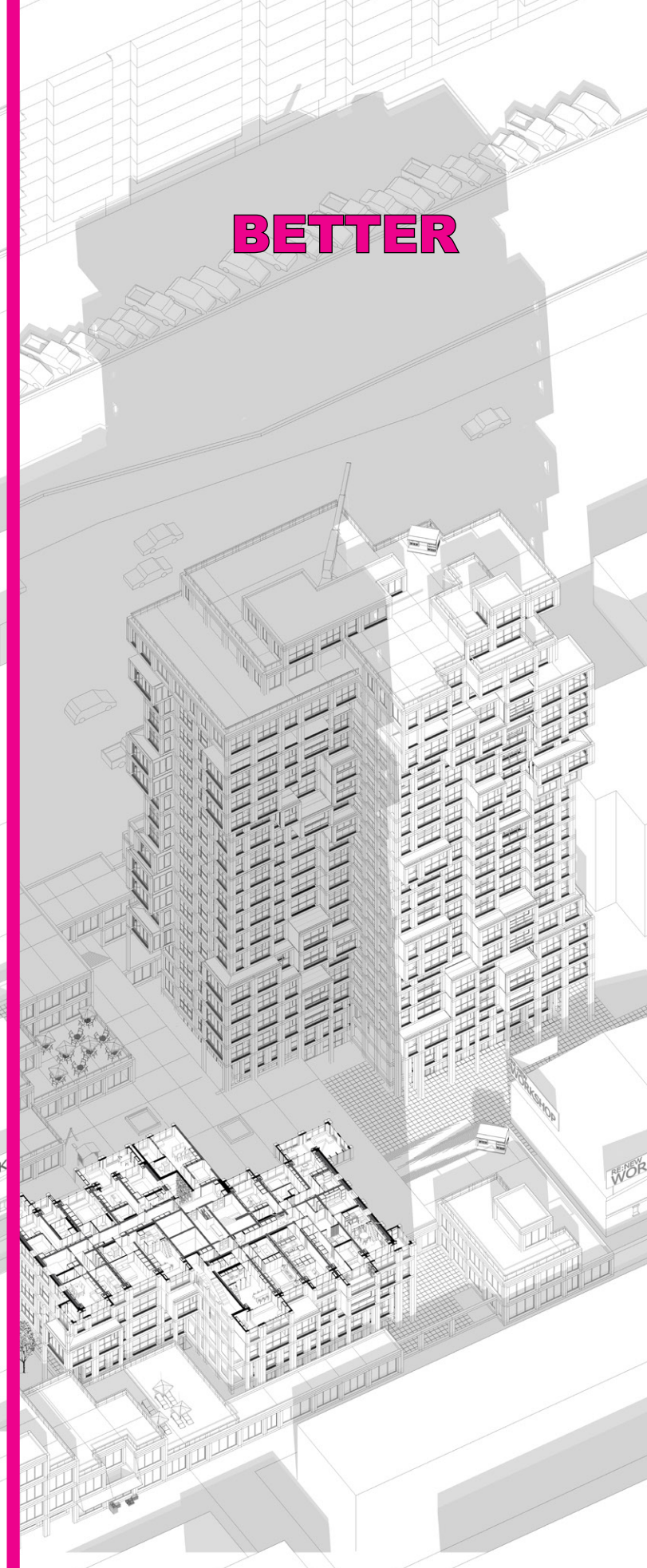
**CRUMBLING**



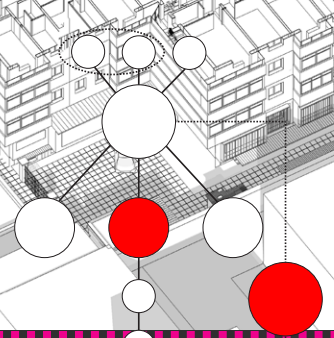
**FIXED**



**BETTER**



**IDEAL**



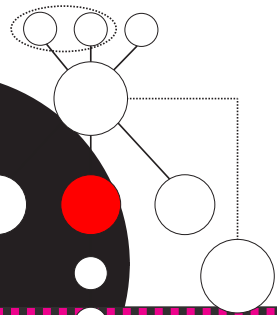
**STEP 4: FROM TOOLS TO PLAN**

HOW TO ACHIEVE THE IDEAL VISION IN PHASES



# STEP 5

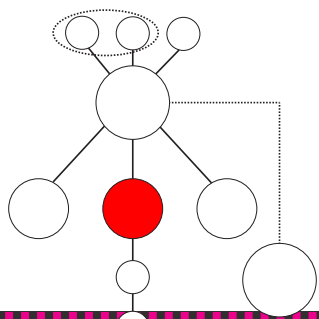
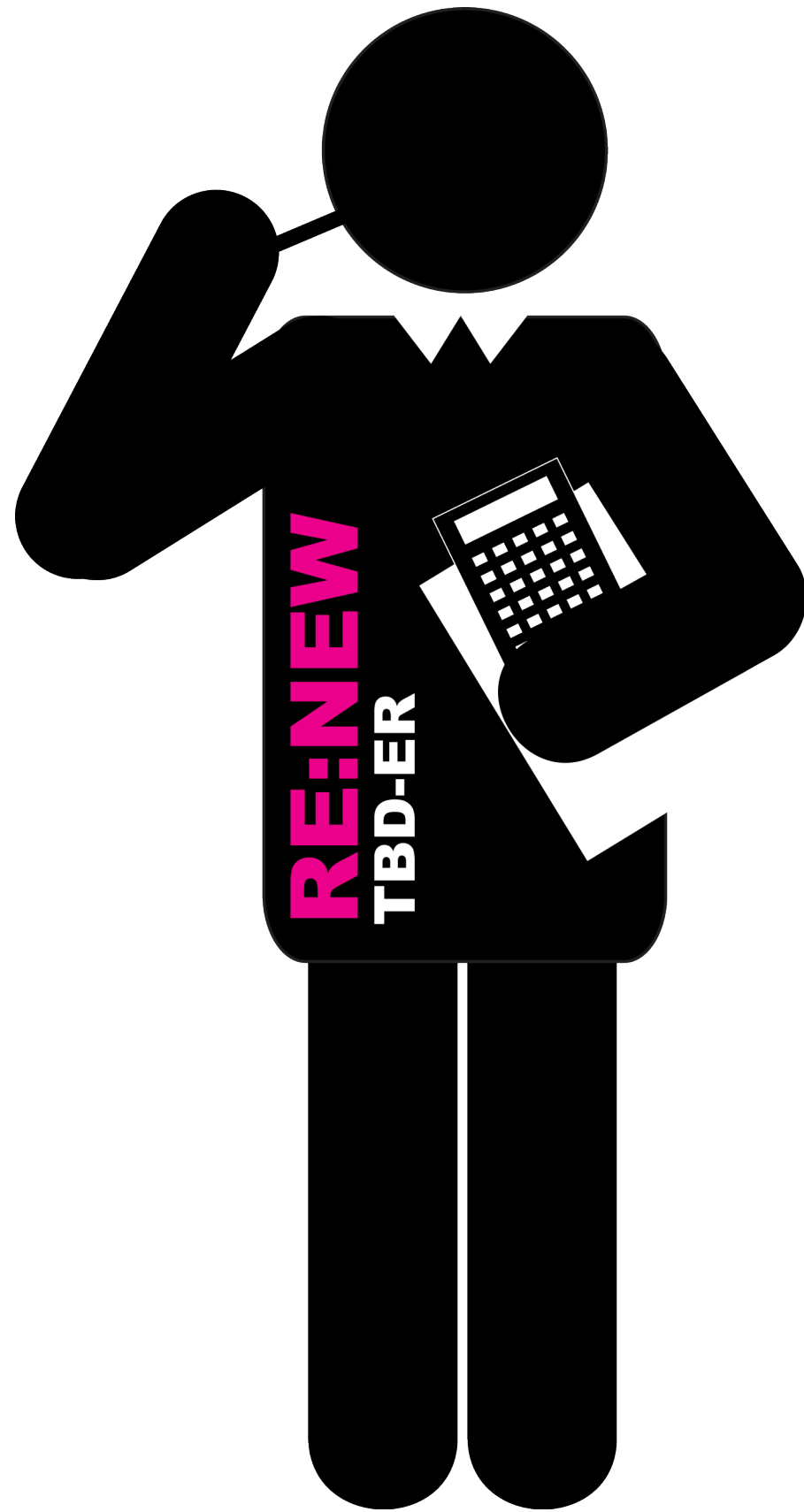
LET'S CONSTRUCT



**STEP 5: LET'S CONSTRUCT**

STEP 5

PAGE 96-107

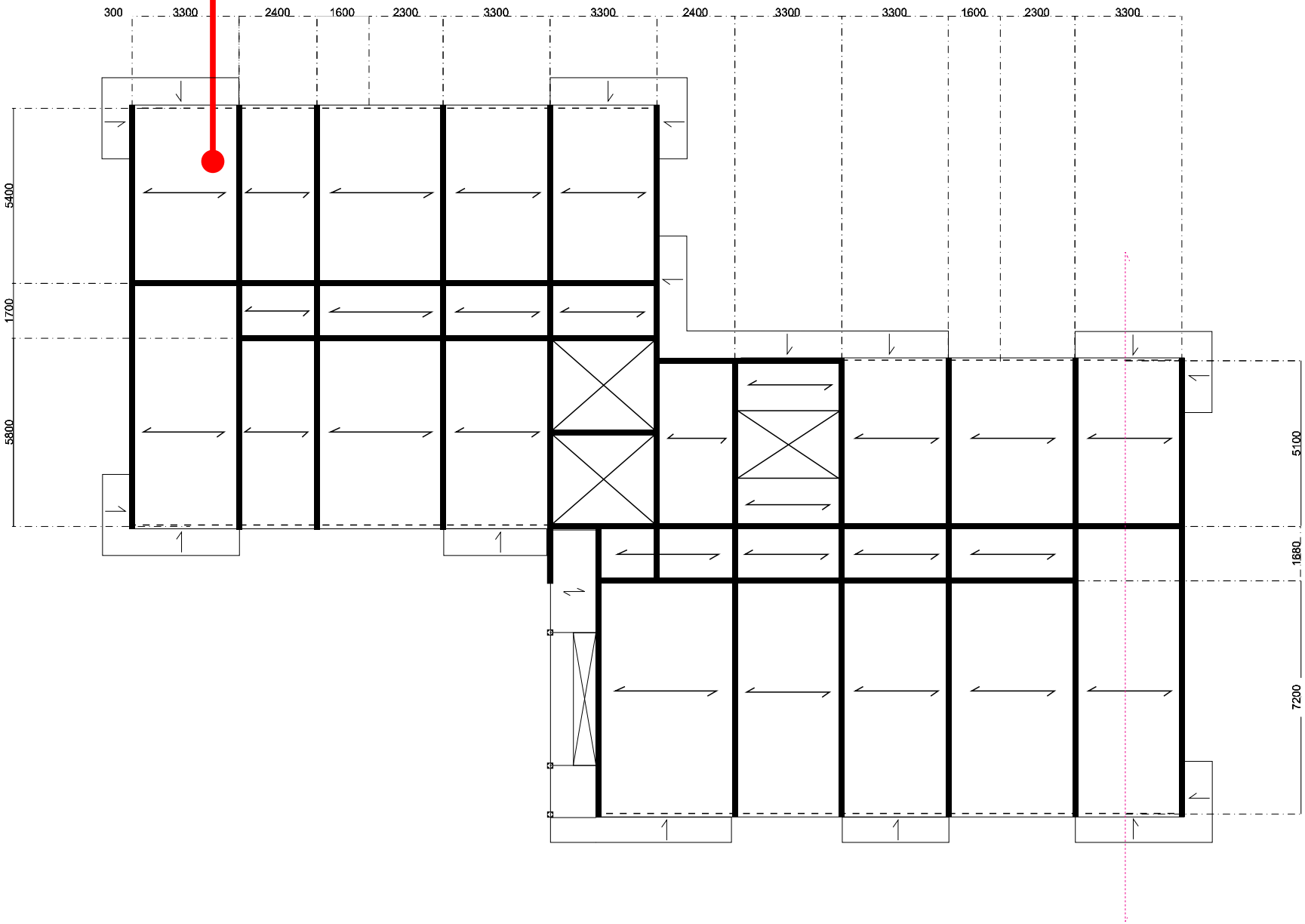
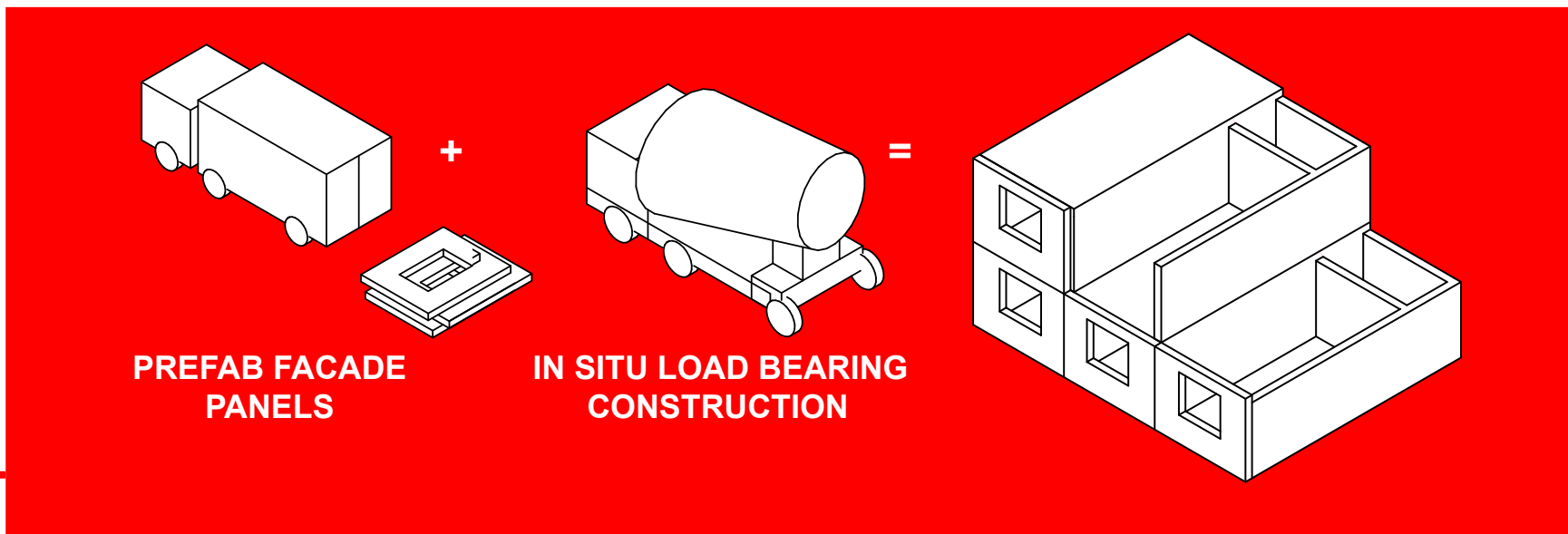
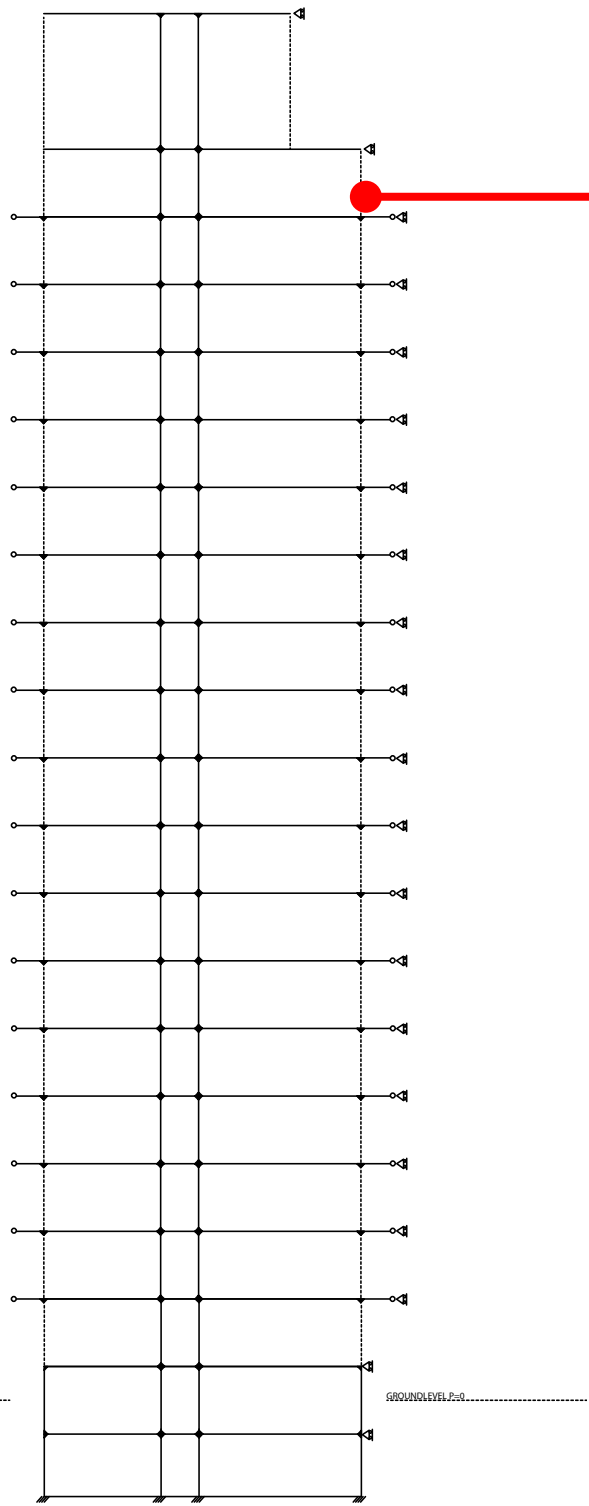
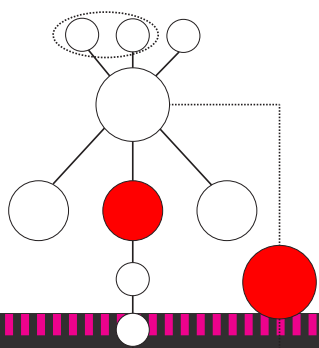


## STEP 5: LET'S CONSTRUCT

FROM PLAN TO CONSTRUCTION WITH THE RE:NEW TECHNICAL BUILDING DESIGNER

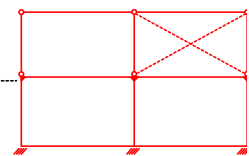
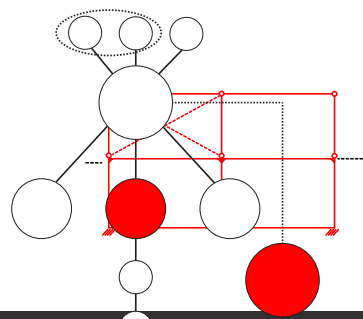
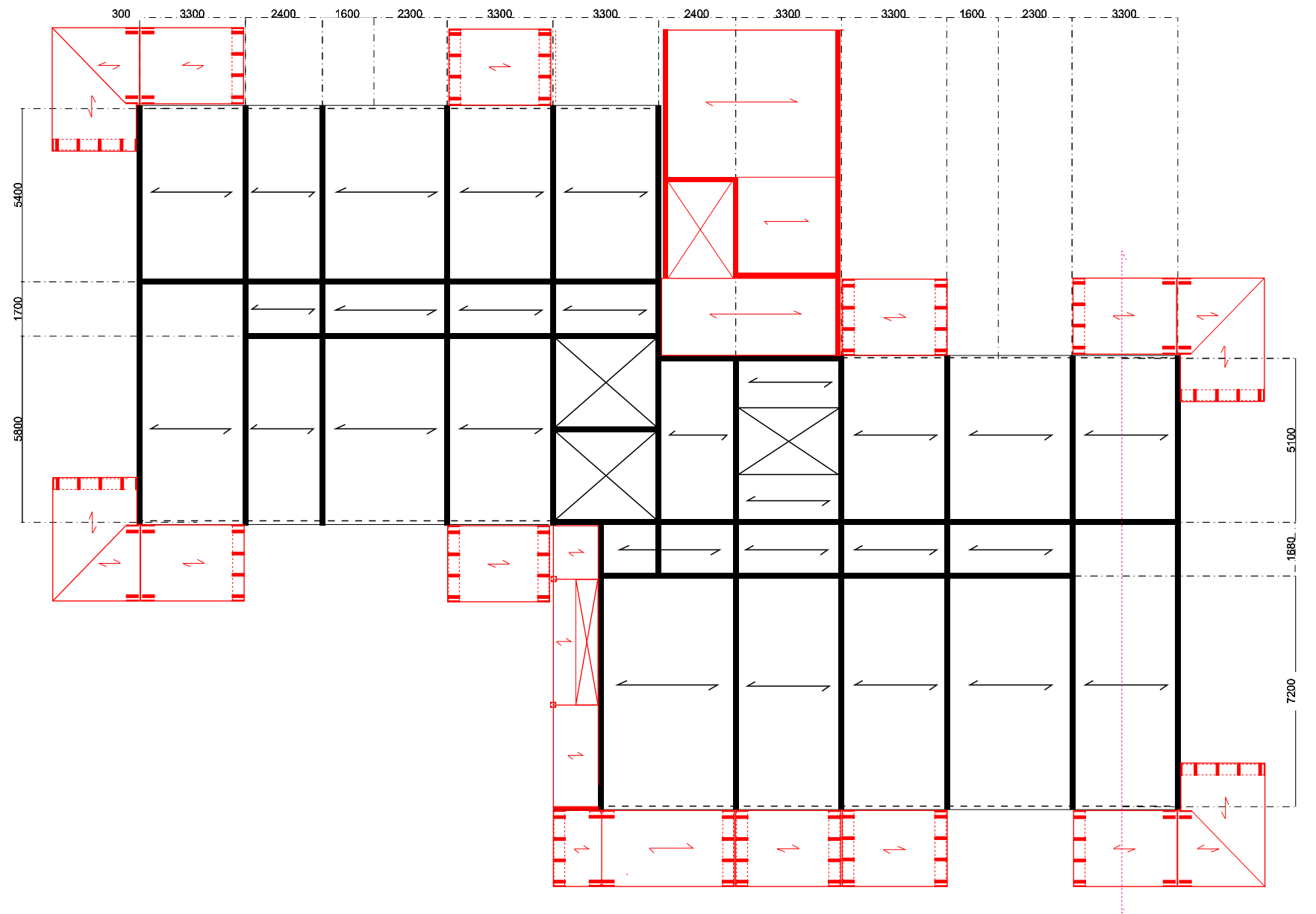
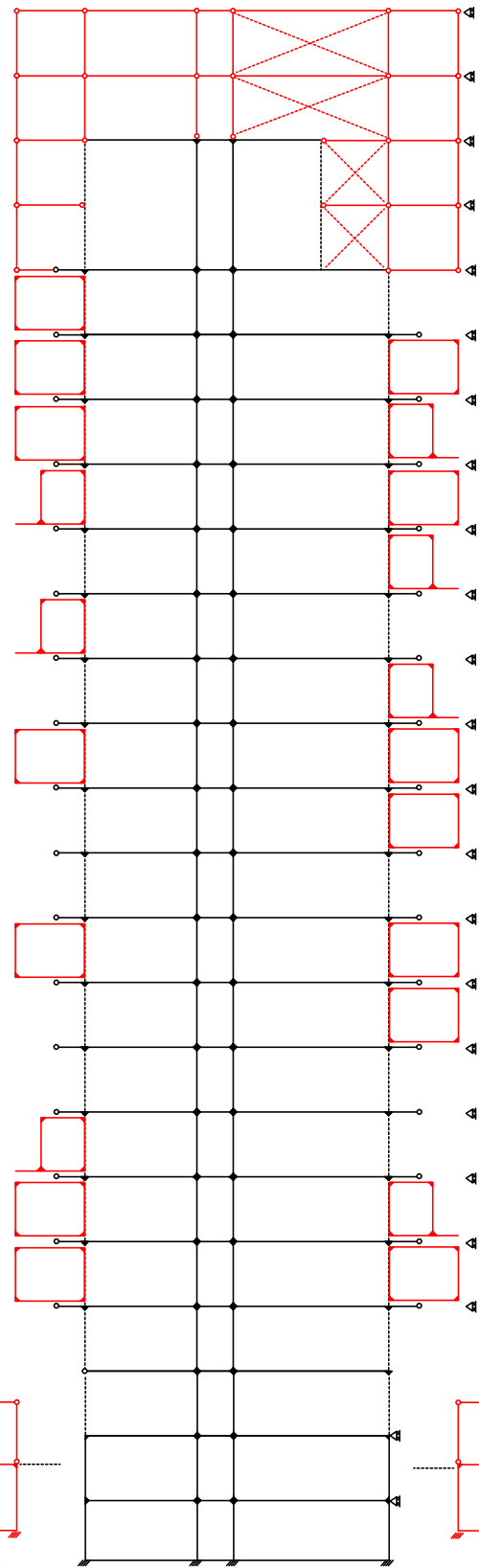
PAGE 97-107





**STEP 5: LET'S CONSTRUCT**

EXISTING LOAD BEARING CONSTRUCTION OF THE DONGSISHITIAO HIGH-RISES

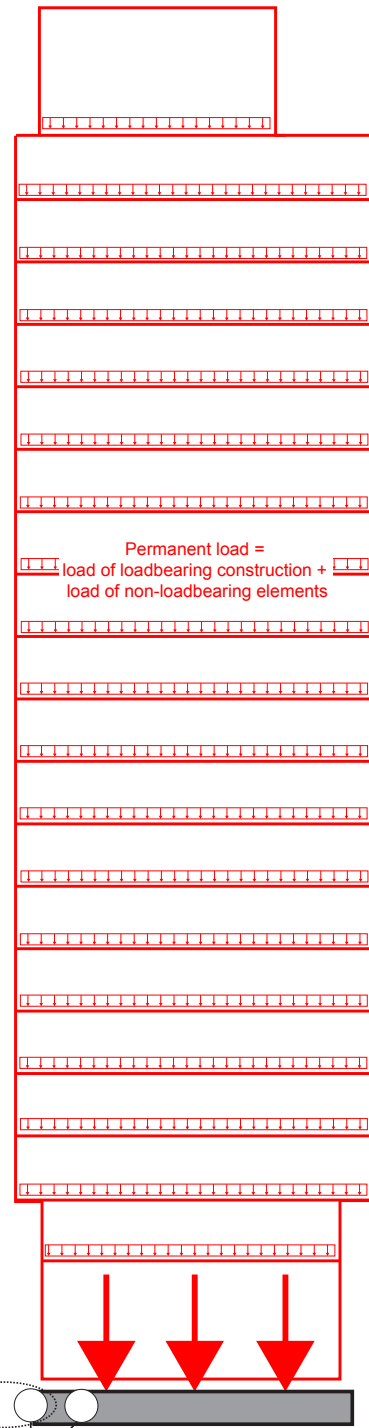


# STEP 5: LET'S CONSTRUCT

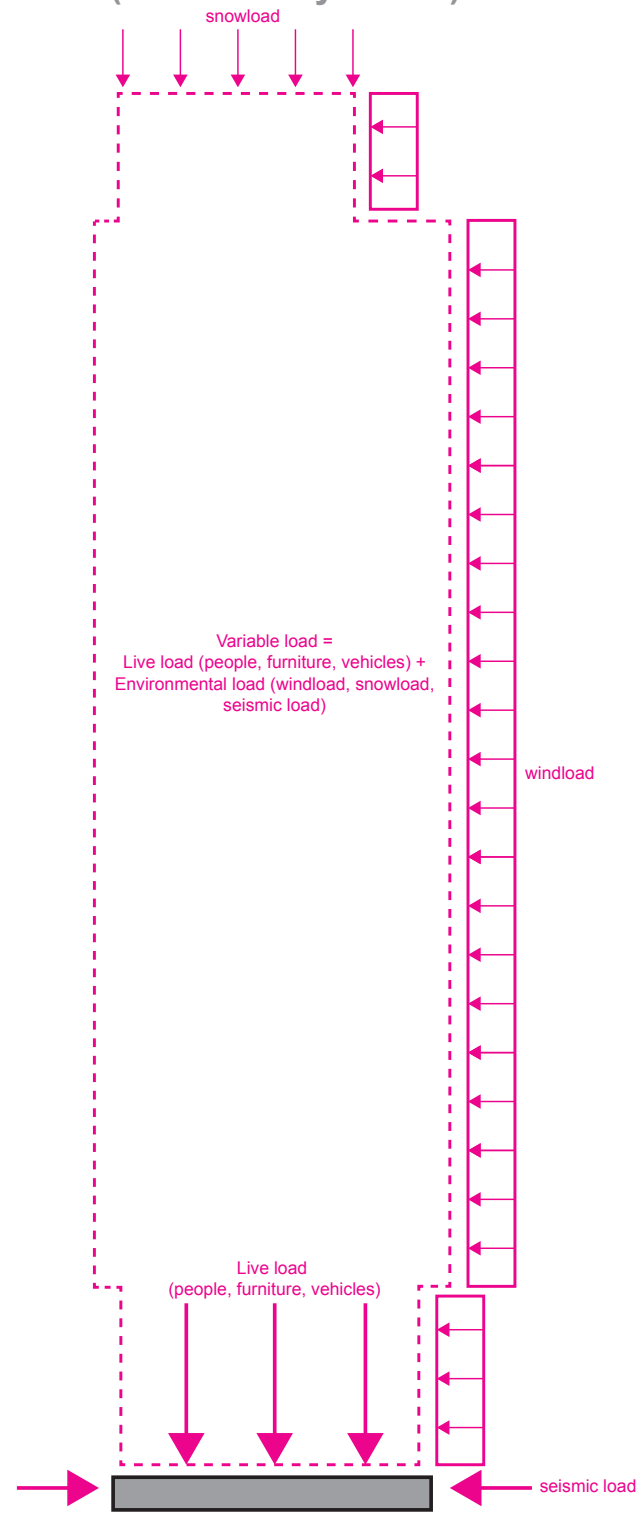
LOAD BEARING CONSTRUCTION OF THE DONGSISHITIAO HIGH-RISES POST REHABILITATION



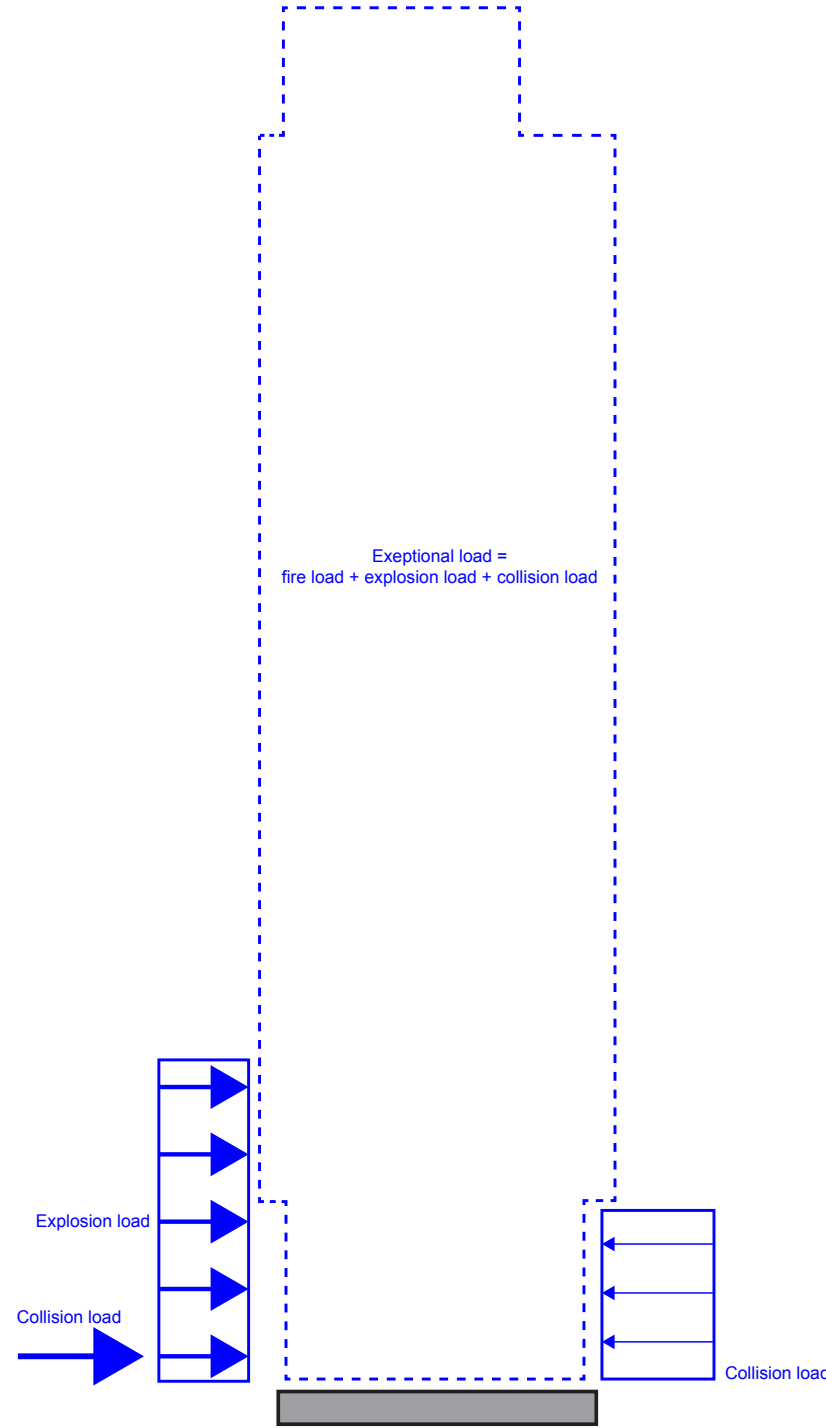
1.3 x  
(CCIII safety factor)



1.65 x  
(CCIII safety factor)



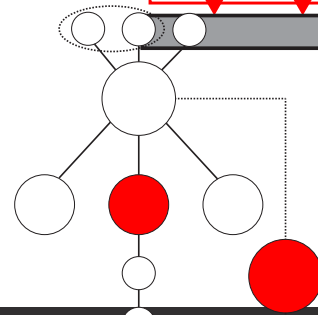
Exceptional load =  
fire load + explosion load + collision load



+

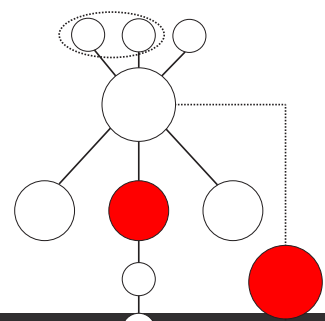
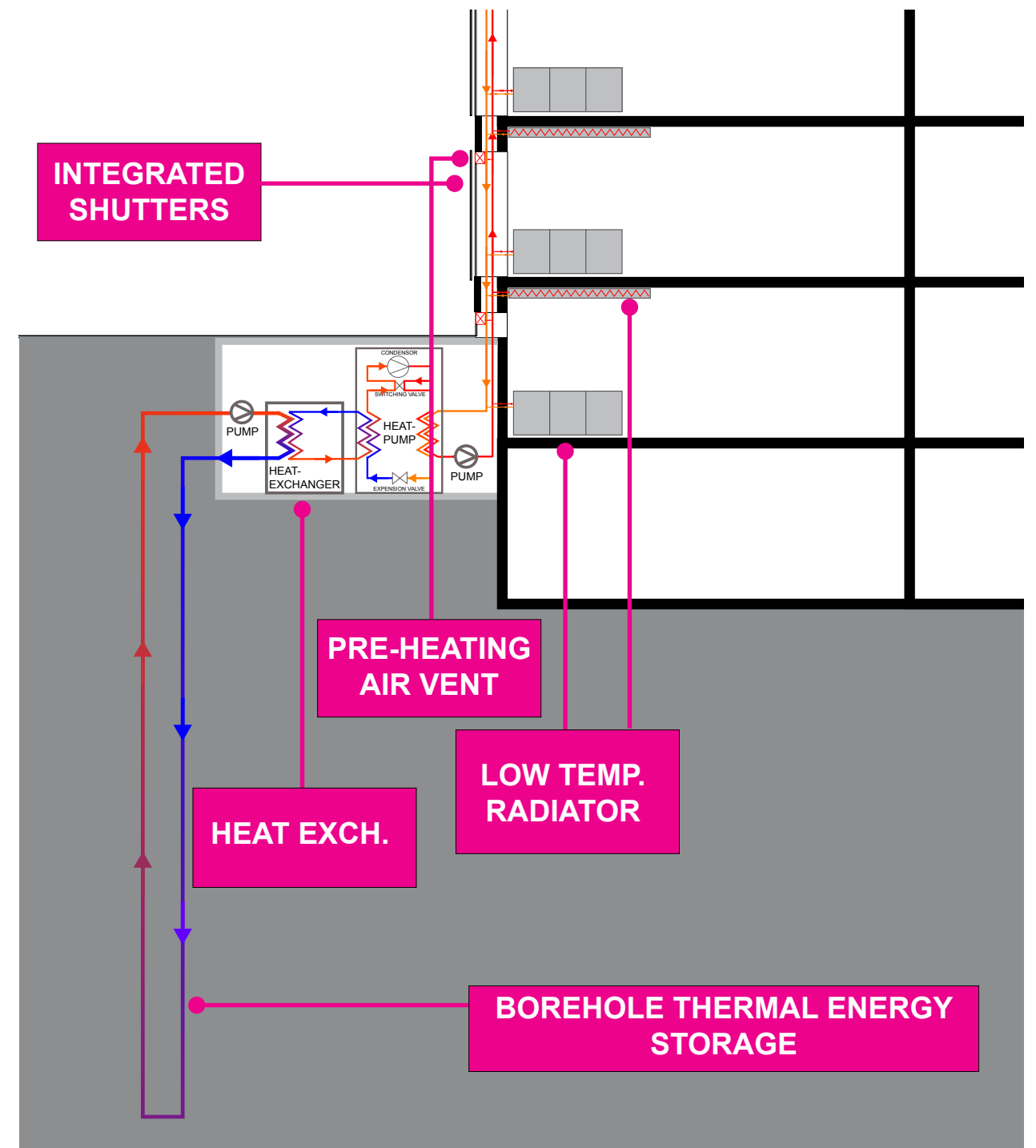
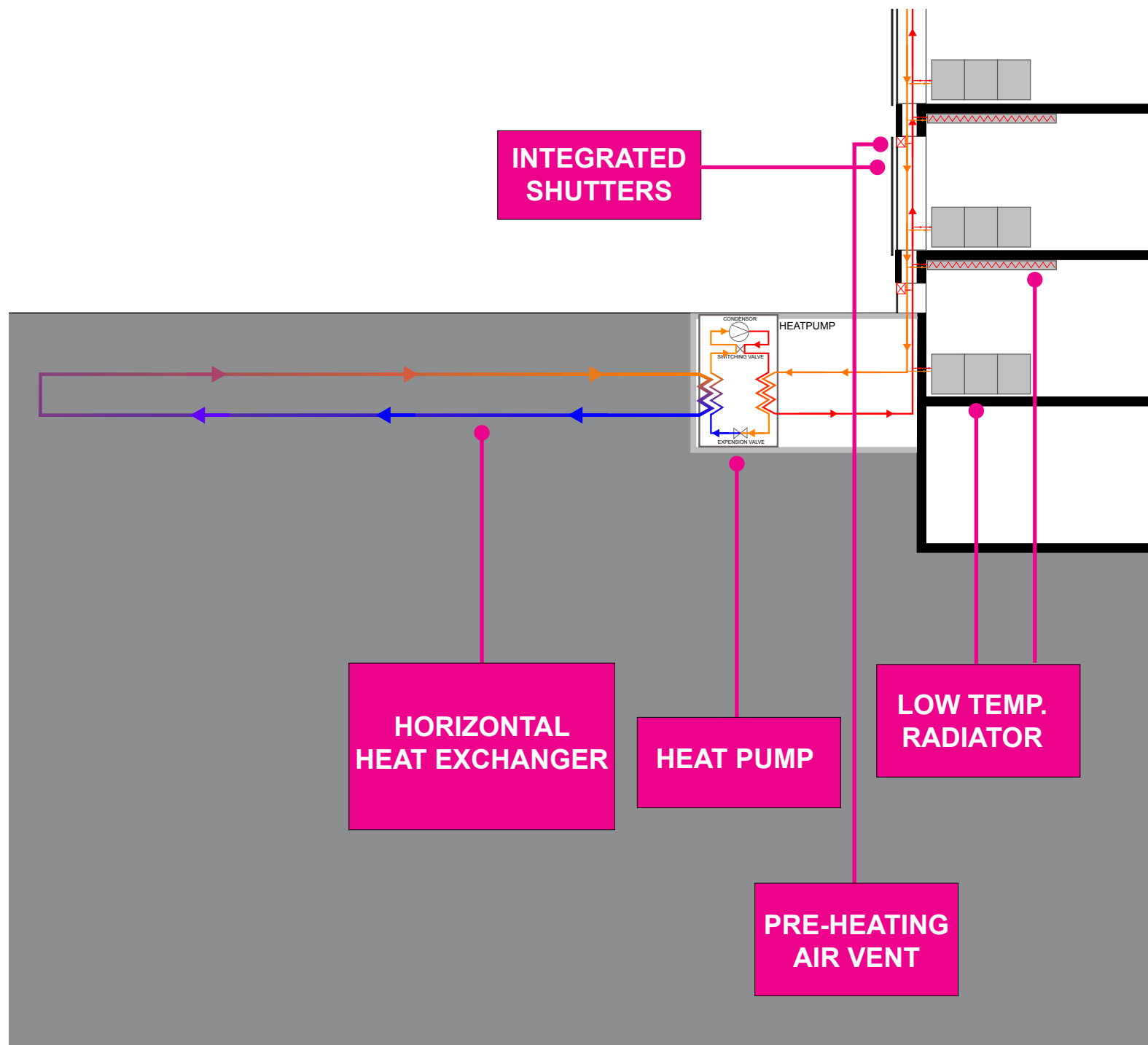
+

=



## STEP 5: LET'S CONSTRUCT

LOAD SCENES TO TEST LIMITS TO THE EXISTING FOUNDATION

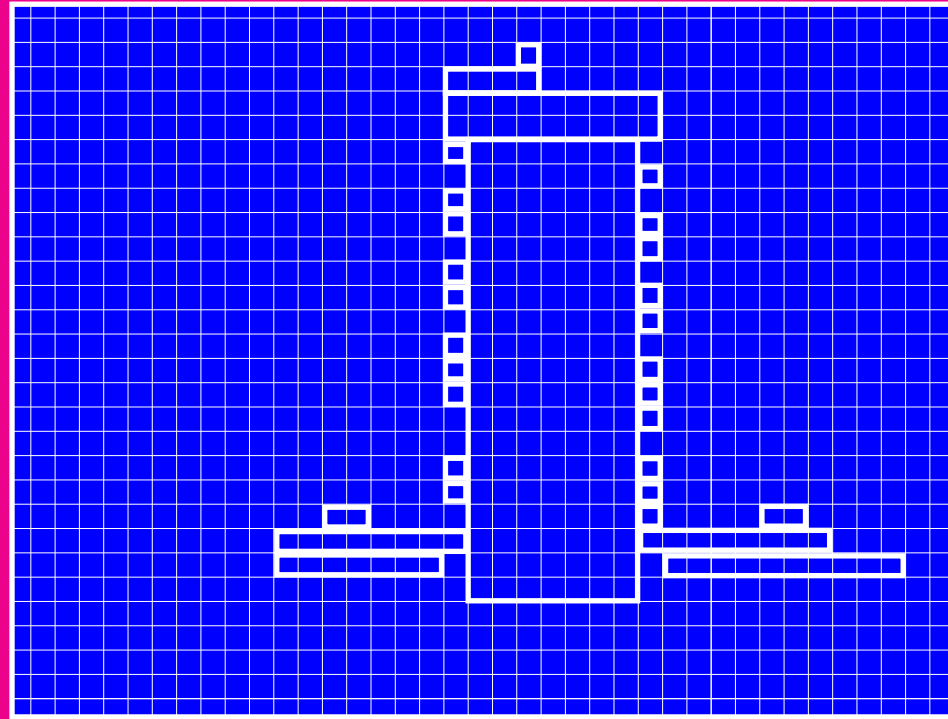


## STEP 5: LET'S CONSTRUCT

ENERGY EFFICIENT HEATING AND COOLING CLIMATE SYSTEM IN PHASE FIXED AND PHASE BETTER + IDEAL

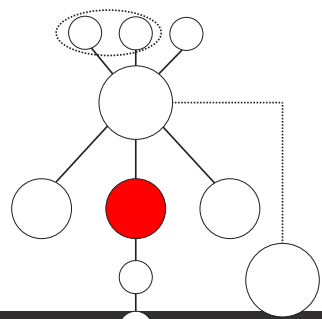


2016 **TOOLS**



**OUR STANDARD CONSTRUCTION  
DETAILS**

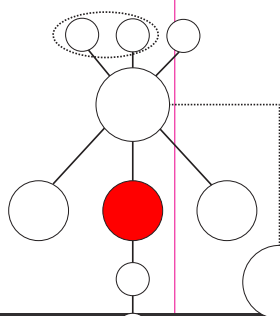
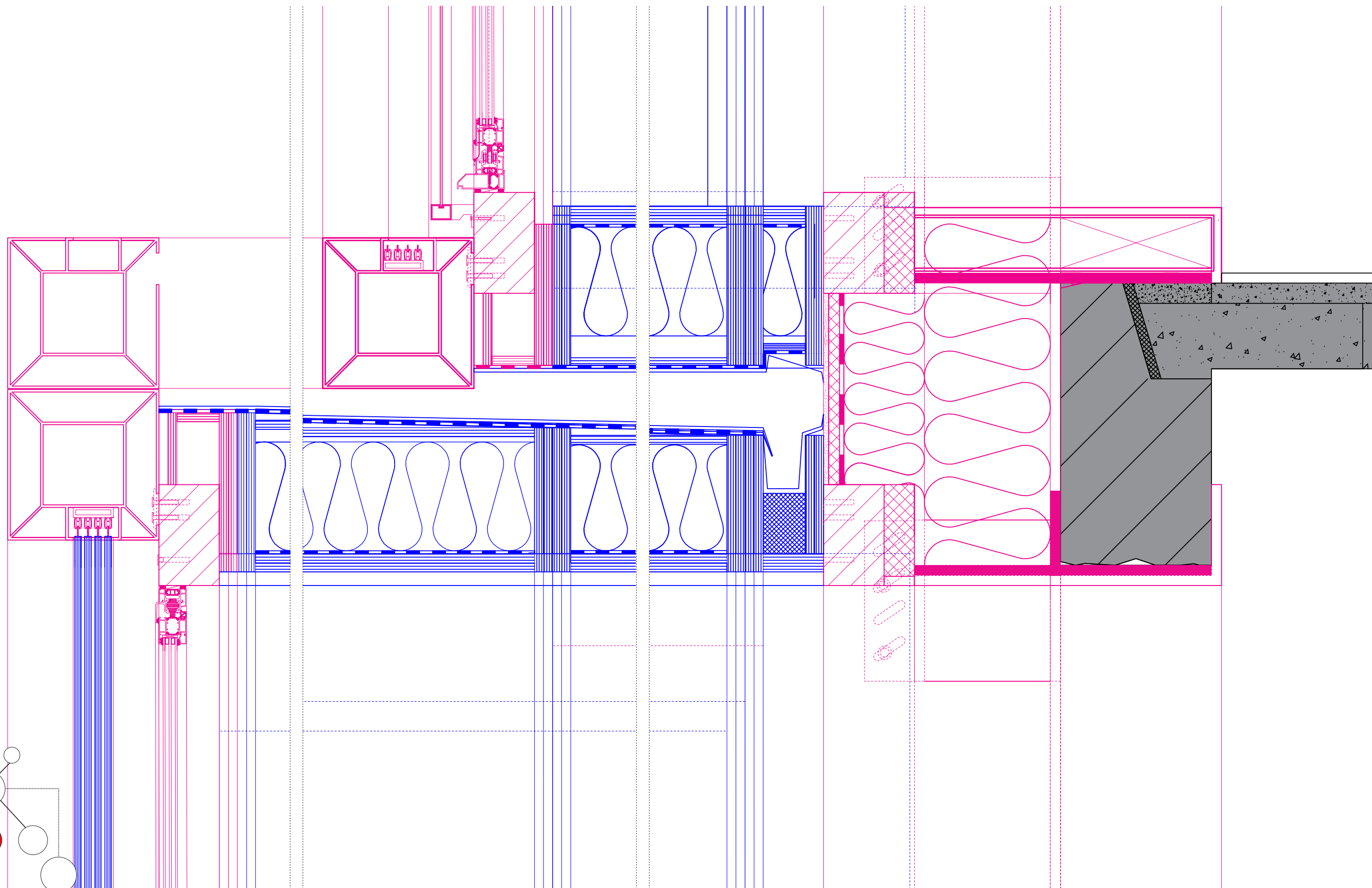
**RE:NEW**



**STEP 5: LET'S CONSTRUCT**

STANDARD DETAILS FOR TO EASY BUILDING CONSTRUCTION DRAWING

PAGE 102-107



## STEP 5: LET'S CONSTRUCT

STANDARD DETAILS EXAMPLE: ALL FACADE + ALL FACADE PLUG IN STYLE + EXTEND PRODUCTS

PAGE 103-107

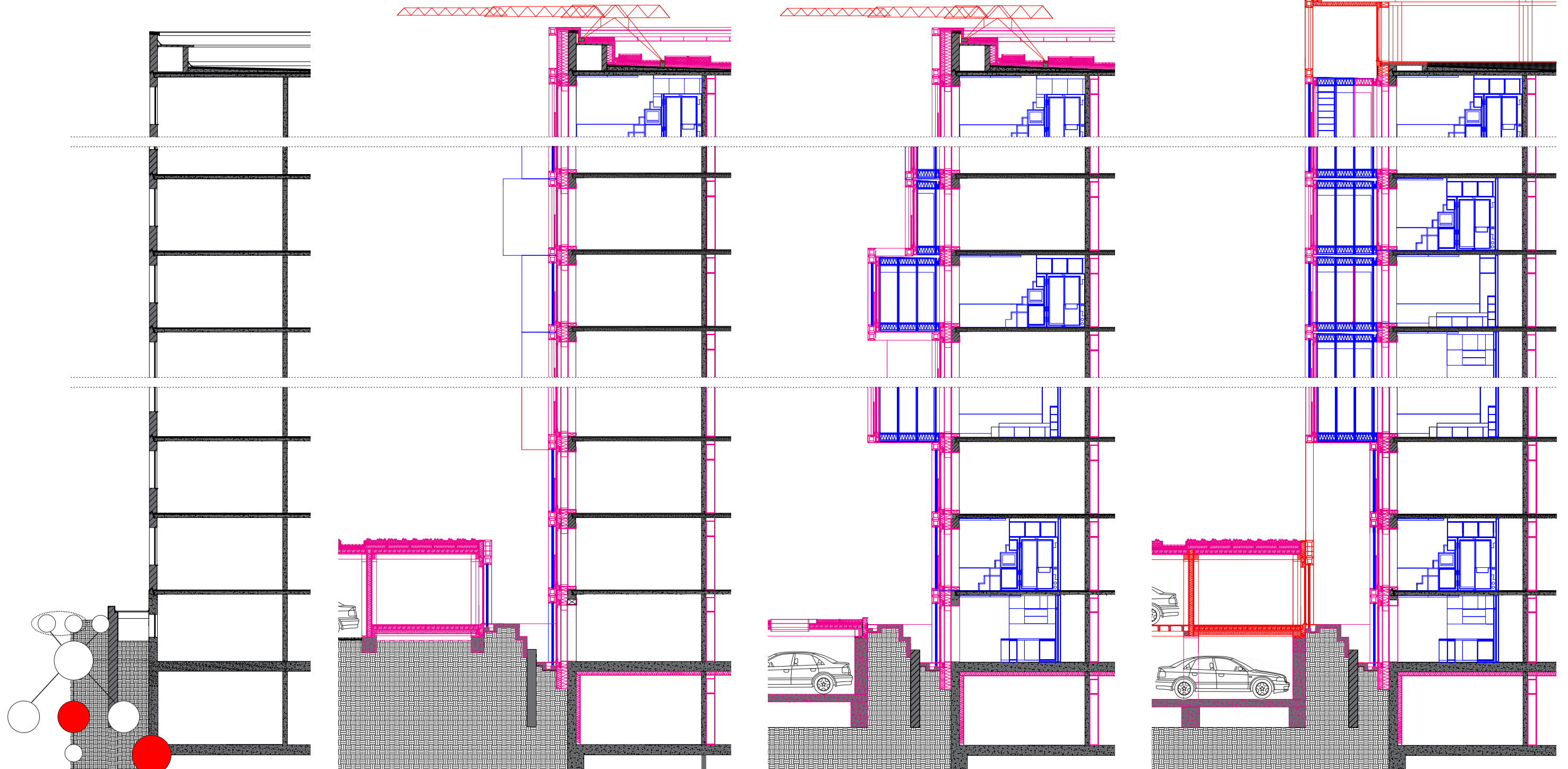


# CRUMBLING

# FIXED

# BETTER

# IDEAL



## STEP 5: LET'S CONSTRUCT

APPLICATION OF THE STANDARD DETAILS TO DEVELOP THE CONSTRUCTION DRAWINGS FOR THE DONGSISHITIAO JIA CASE

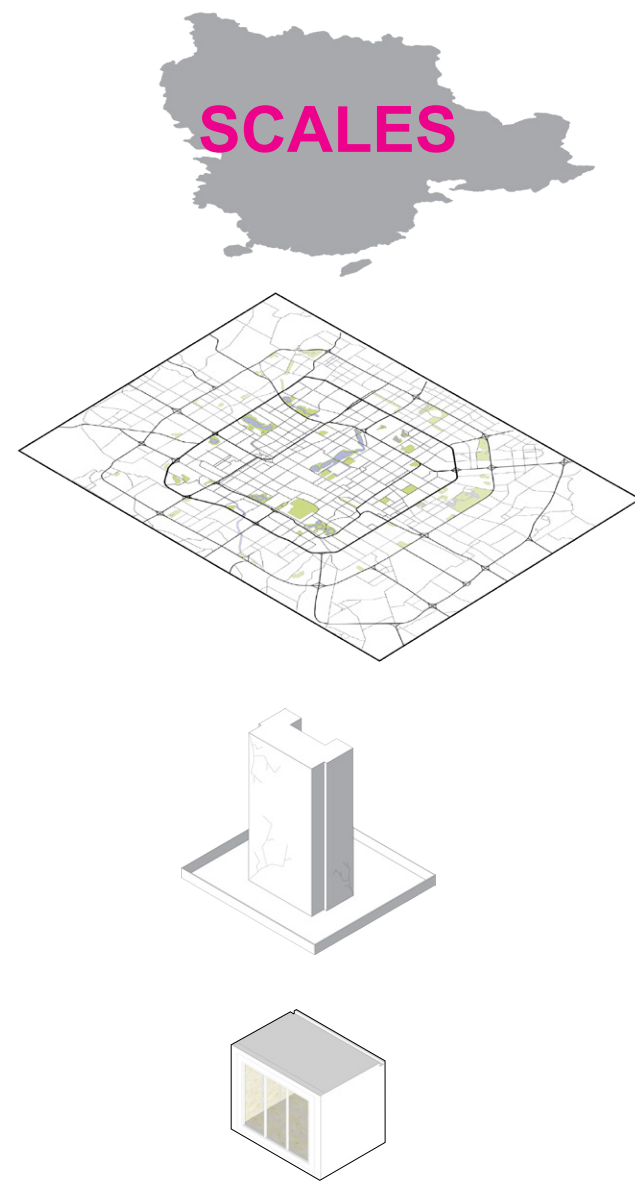


A photograph of a multi-story apartment building with a curved facade. The building has many windows, some with white frames, and numerous air conditioning units are mounted on the exterior walls. The building appears to be in an urban setting. The text is overlaid on the right side of the image.

REFLECTIONS ON THE FUTURE OF CHINA'S CRUMBLING HIGH-RISES

# PARITY

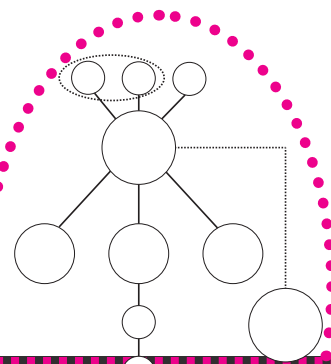
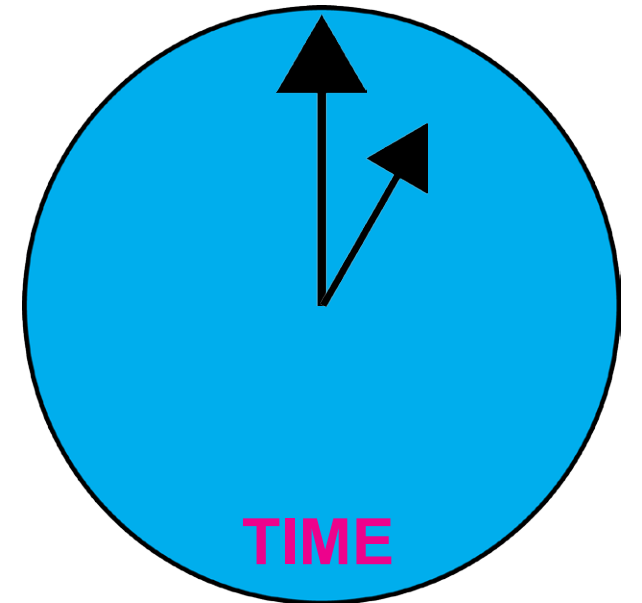




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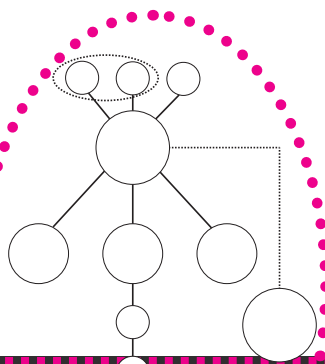
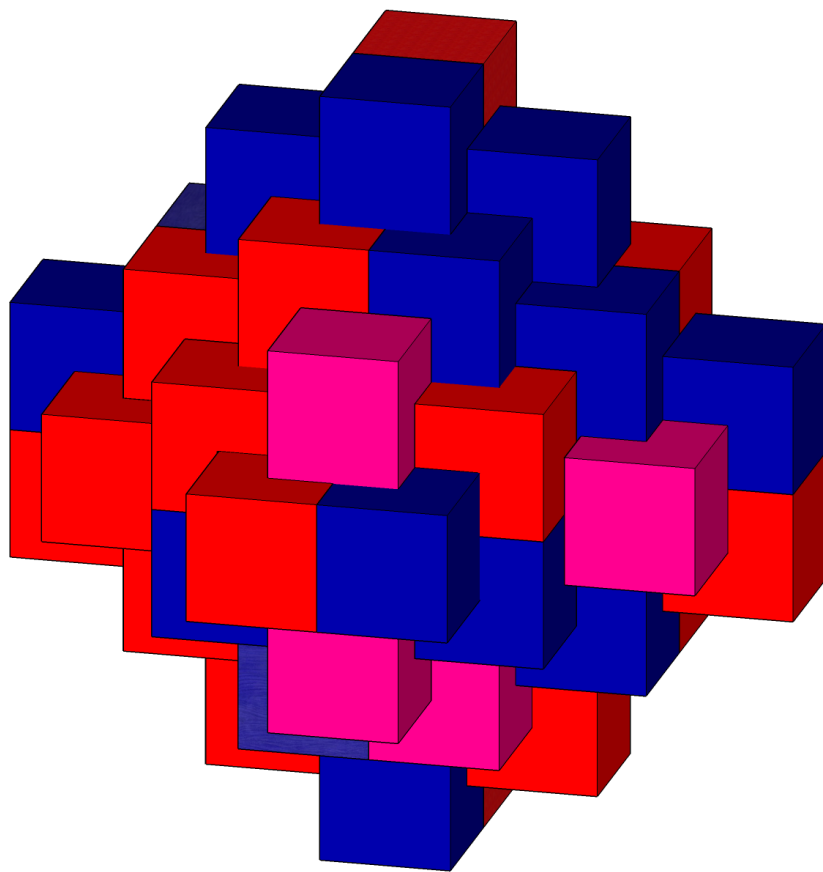
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## 5.0 REFLECTION

INTERLOCKING SCALES, DISCIPLINES, TIME TO SOLVE THE CHALLENGE

PAGE 106-107



## 5.0 REFLECTION

INTERLOCKING SCALES, DISCIPLINES, TIME TO SOLVE THE CHALLENGE

PAGE 107-107