

JaJakarta

## **Kampung Densification Program**

Tools and strategies to increase the density of Jakarta's inner-city kampungs

Mark van den Ouden

2014/12/18 P5



**Location in Kebon Kacang**

1:5,000



# M Current situation

## Data



# Current situation

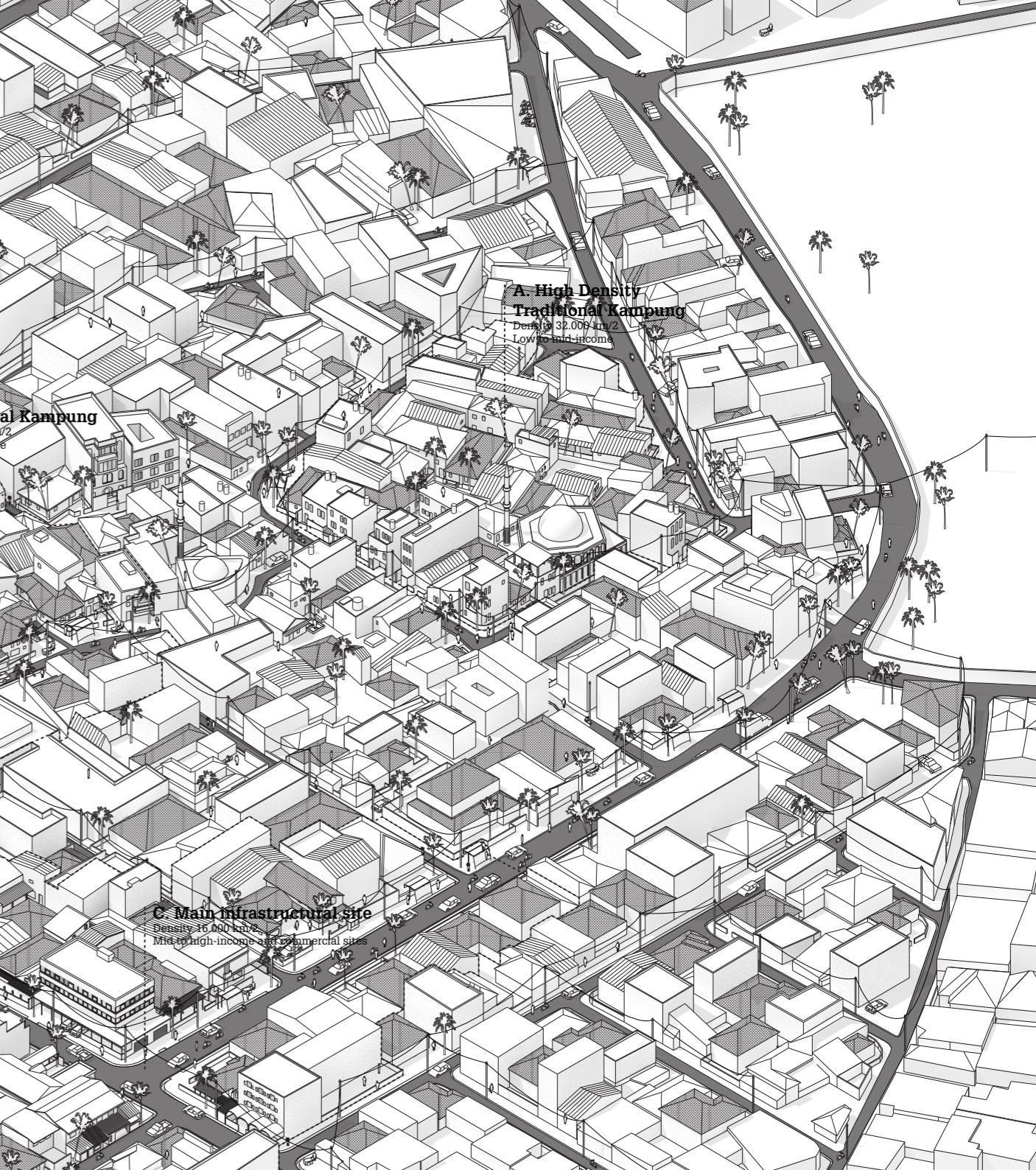
## M scale axonometric

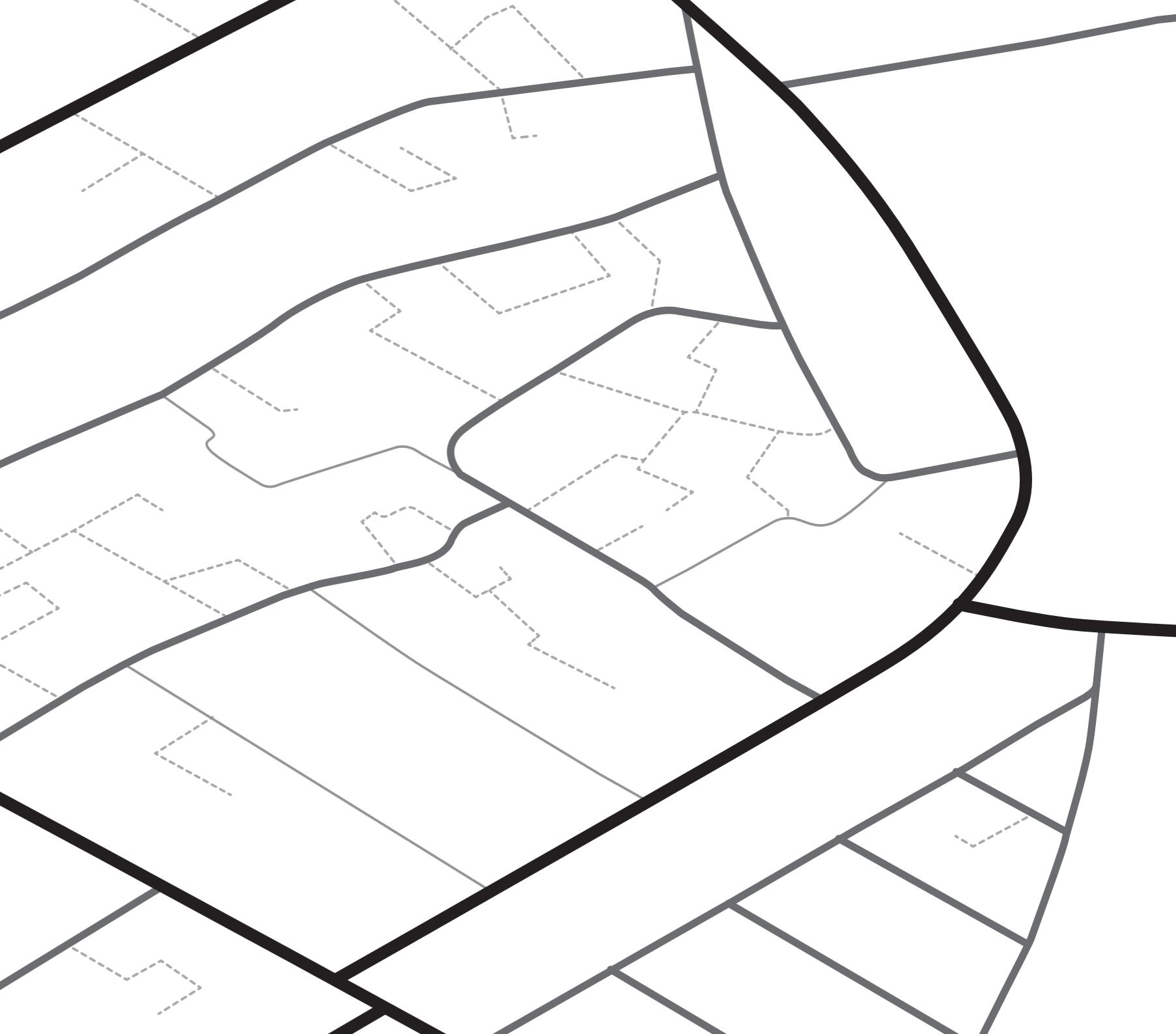
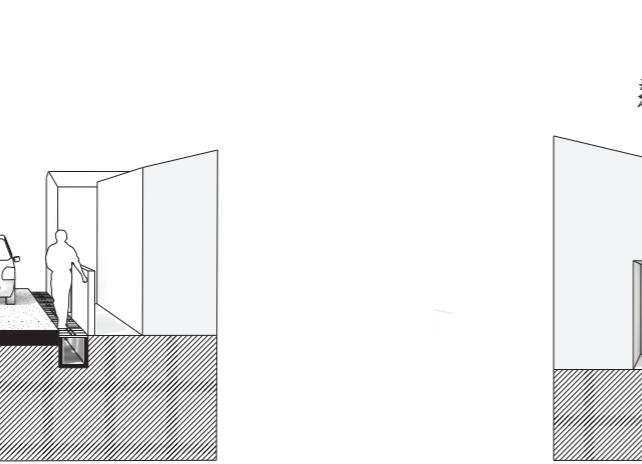
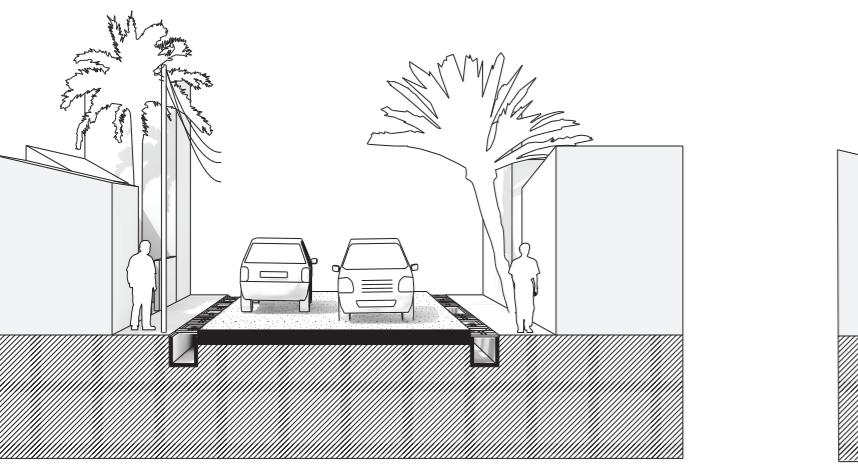
**A. High Density Traditional Kampung**  
Density: 31.000/km<sup>2</sup>  
Low to mid-income

**B. Communal Kampung**  
Density: 24.000/km<sup>2</sup>  
Low to mid-income

**C. Main infrastructural site**  
Density: 16.000/km<sup>2</sup>  
Mid to high-income and commercial sites

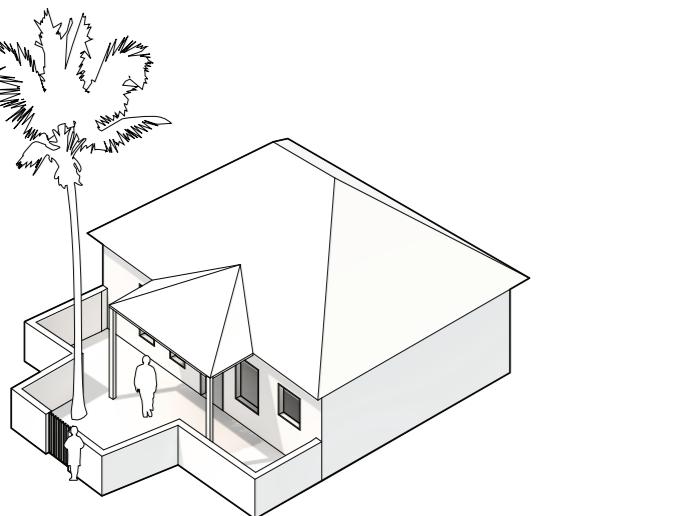
1:1.000





## M Current situation

### Street view



#### 1 Layer - Betawi house

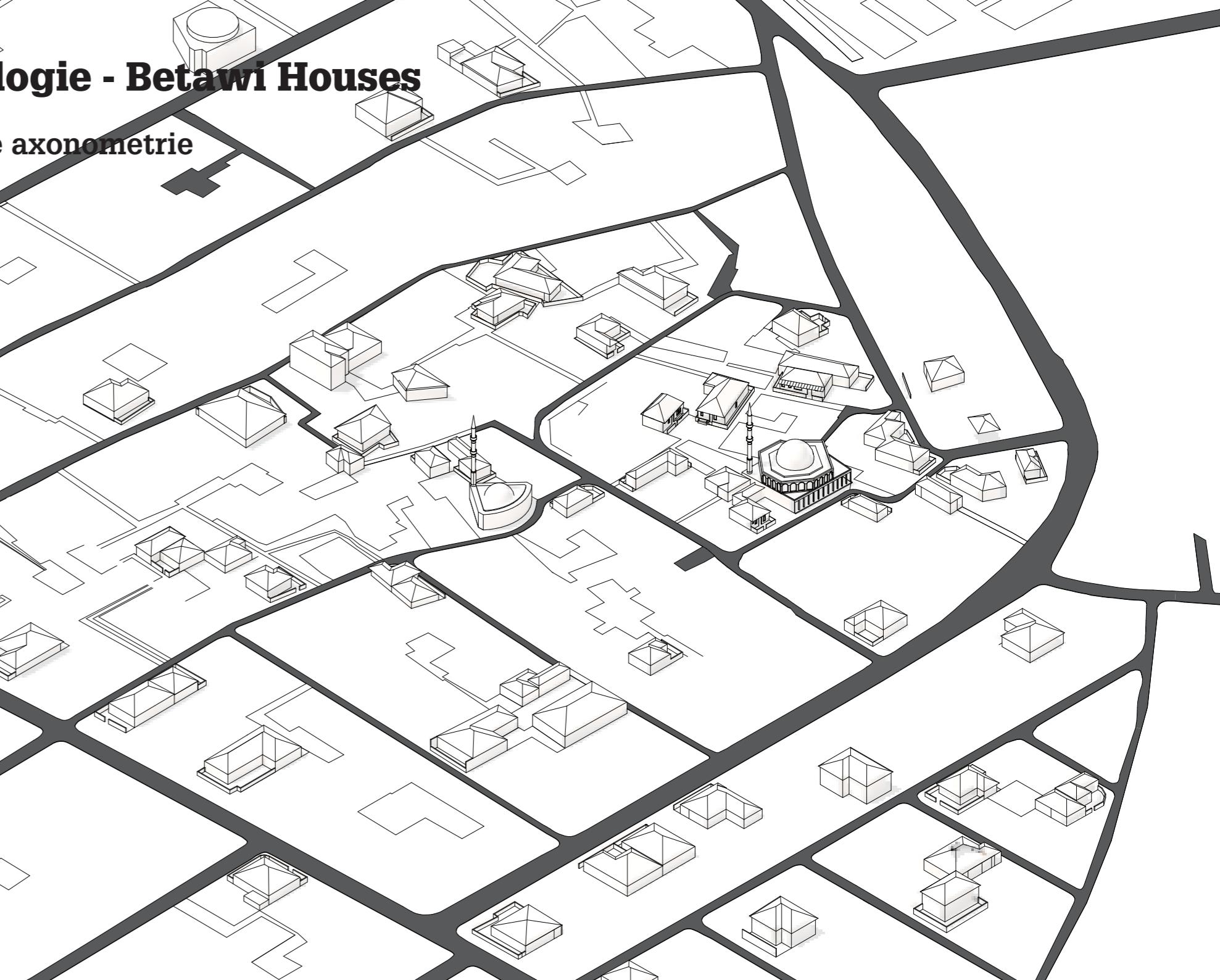
Traditional Single layer house build from wood and cheap bricks. Usually with a garden. From 2 to 12 inhabitants.

Source:



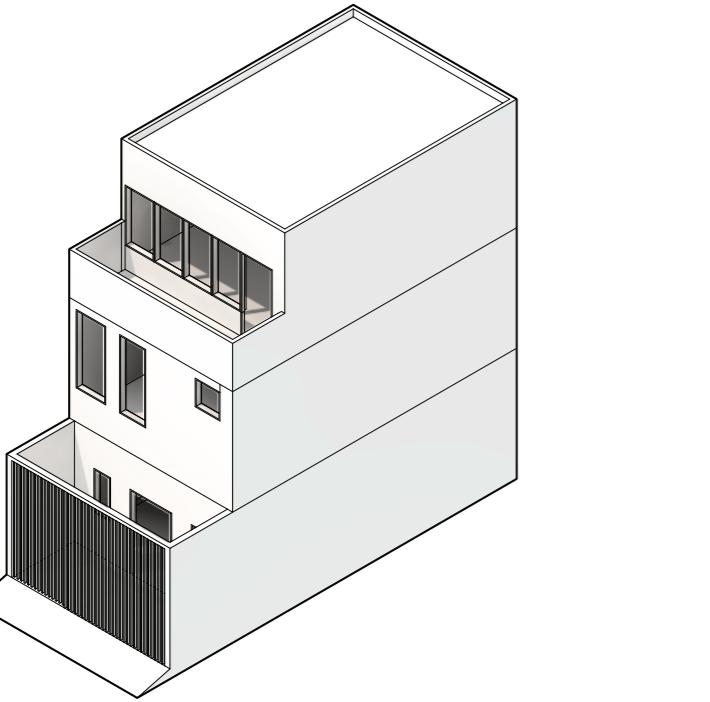
## Typologie - Betawi Houses

### M scale axonometrie



## M Current situation

### Street view



#### 3 Layers - Mid income house

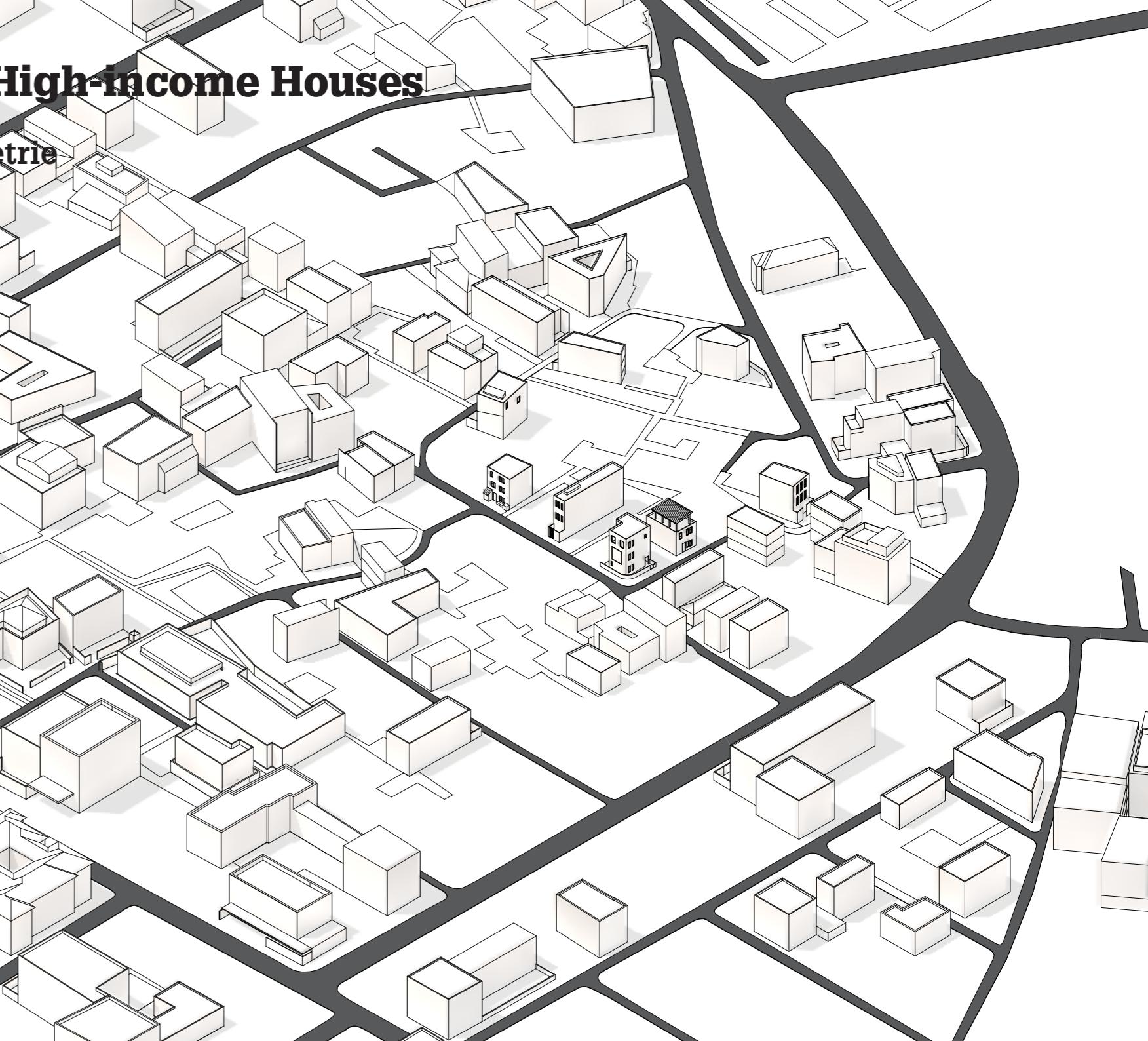
Expansive mid to higher mid income house as found in the inner city kampungs. Built from concrete or a combination of a concrete structure with brick walls. Side walls are always closed due to neighbor that attaches his house onto this wall

Source:



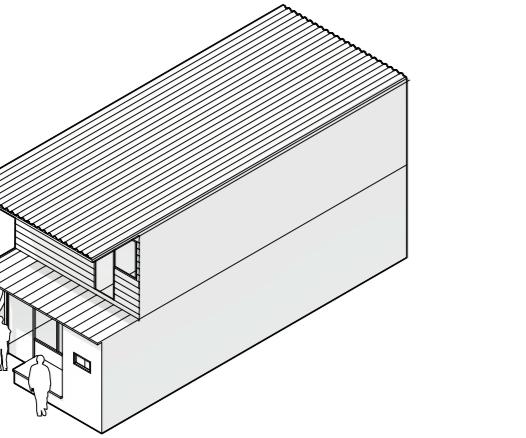
## Typologie - High-income Houses

### M scale axonometrie



## M Current situation

### Street view



#### 2 Layers - New kampung house

Build from cheap bricks and steel-plating. Houses one or two families.

Source:



## Typologie - New Kampung House

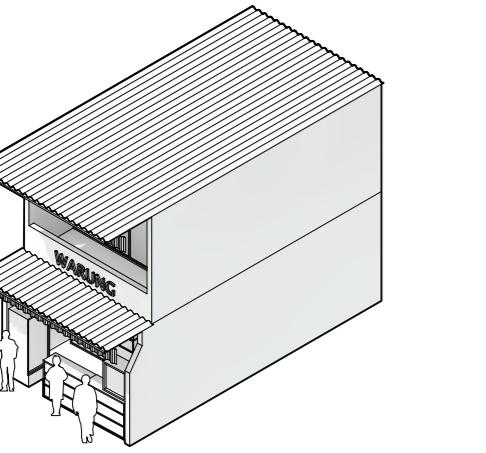
### M scale axonometrie

UPDATE

1:1.000

## M Current situation

### Street view



#### 2 layer - Kampung shophouse

Low Mid income family with a shop (warung) at the ground floor. Build from bricks and steel-plating..



Source:

## Typologie - Commercial

### M scale axonometrie

**UPDATE**

1:1.000

# Site C Current situation

Section



3 sites - C

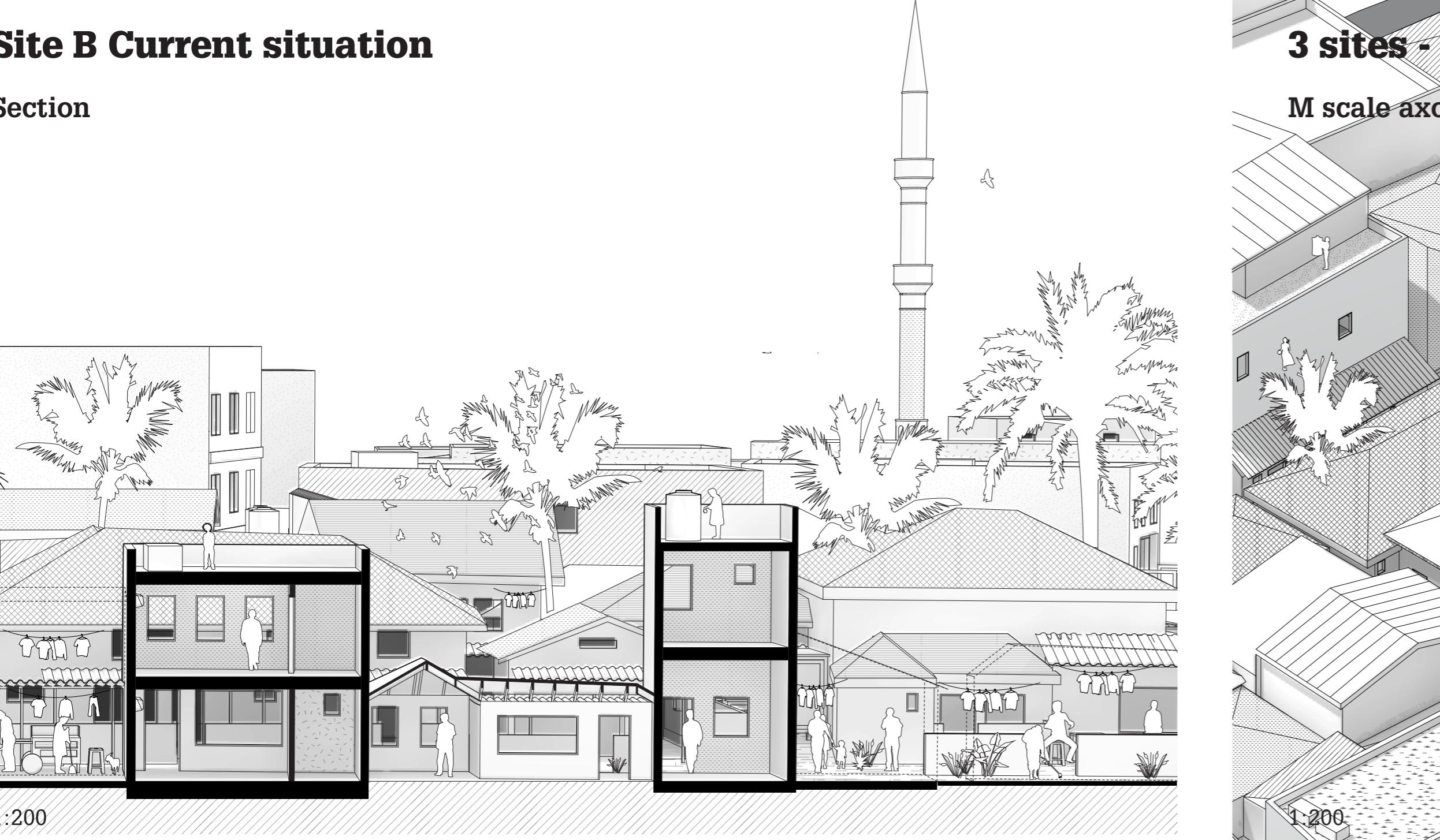
M scale axonometrie

1:200



## Site B Current situation

### Section



## 3 sites - B

### M scale axonometrie



# Site A Current situation

## Section



# 3 sites - A

## M scale axonometric



## **M Current situation**

Image



## **Site A -**

**M scale axonometrie**

1:100



## M Current situation

### Image



Brick ground floor, sheet metal first floor



Rumah Material (Material shop) with window frames

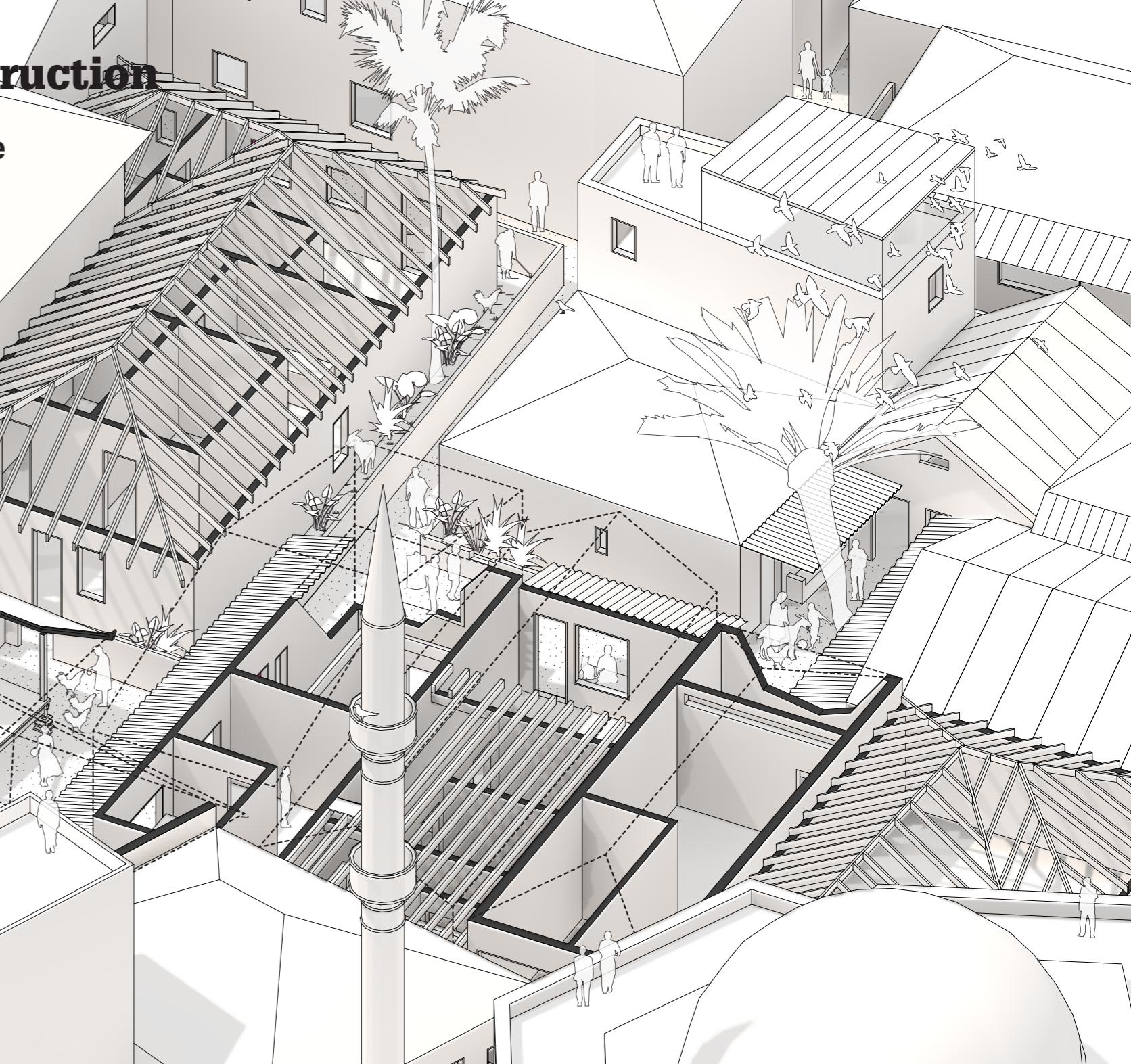


Rumah Material (Material shop) with stone and sand

Source: Sitevisit Jakarta May 2014

## Site A -- Construction

### M scale axonometrie



## M Current situation

### Image



Washing and cooking



Storage

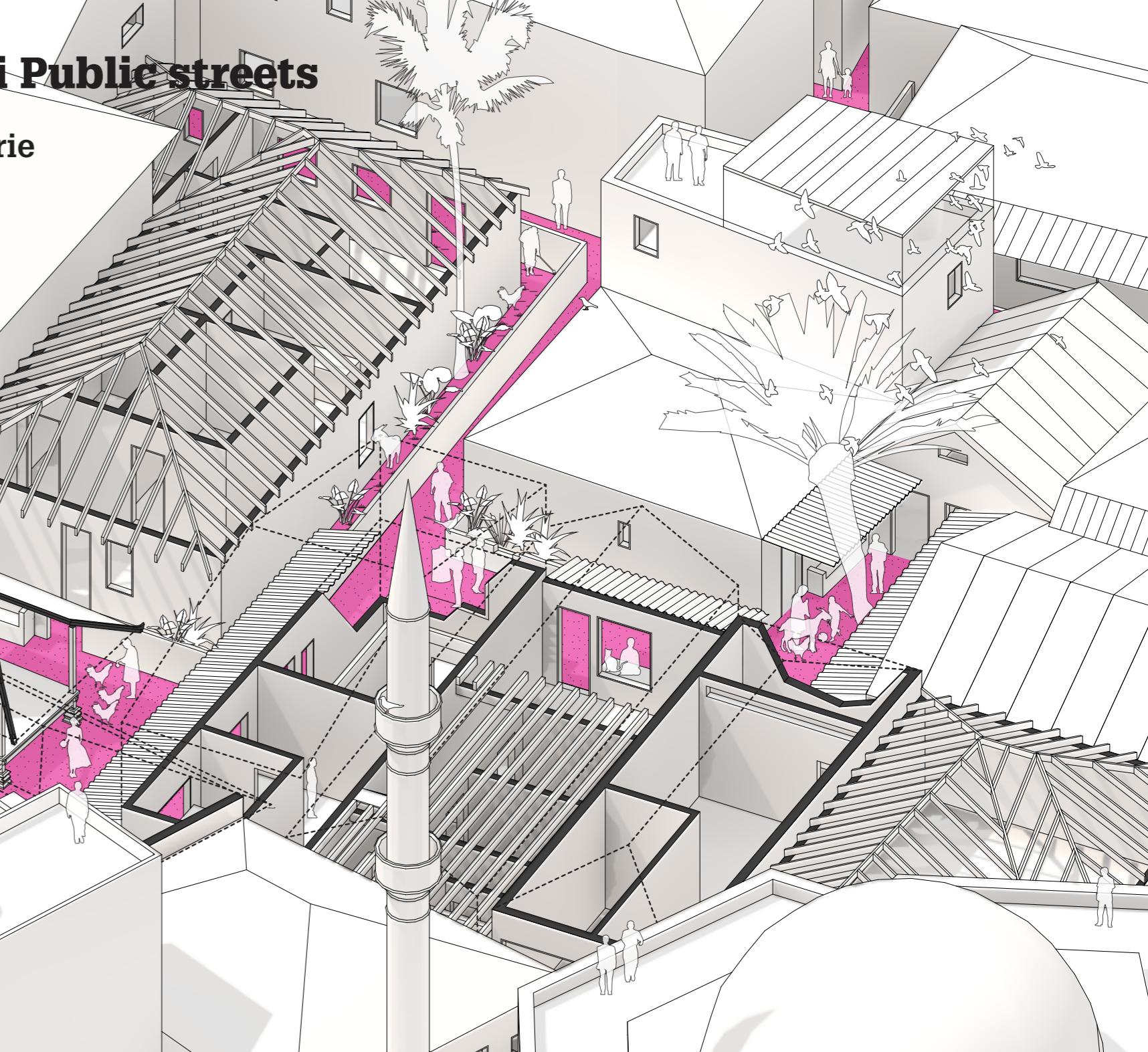


Livestock

Source: KIP, Sitevisit Jakarta May 2014

## Site A -- Semi Public streets

### M scale axonometrie



## M Current situation

### Image



Low-income, completely open



Mid-low income, small border

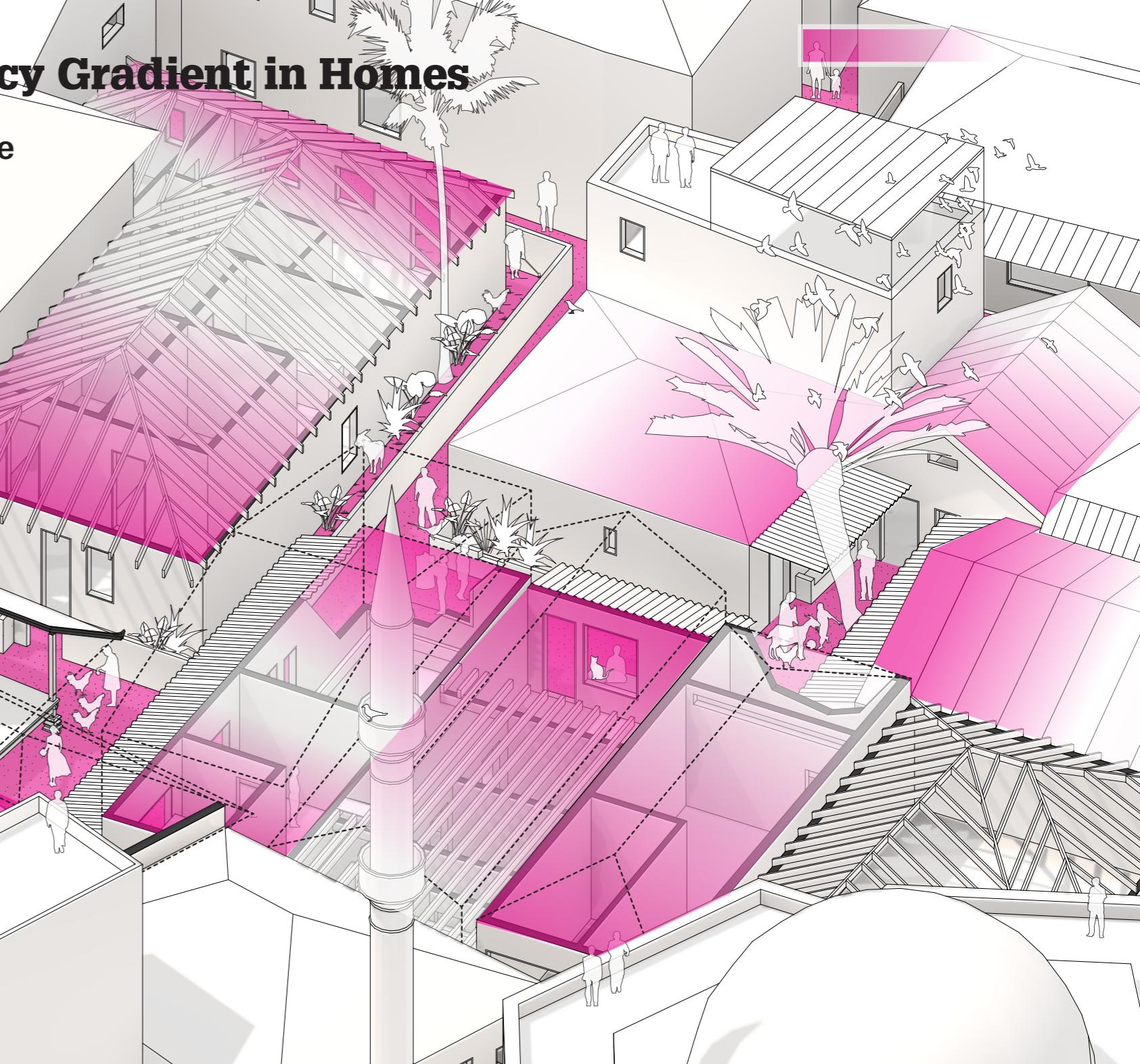


High-income. completely closed off

Source: Sitevisit Jakarta May 2014

## Site A -- Privacy Gradient in Homes

### M scale axonometrie



## M Current situation

### Image



Benches underneath cannopee



Terras to meet neighbours

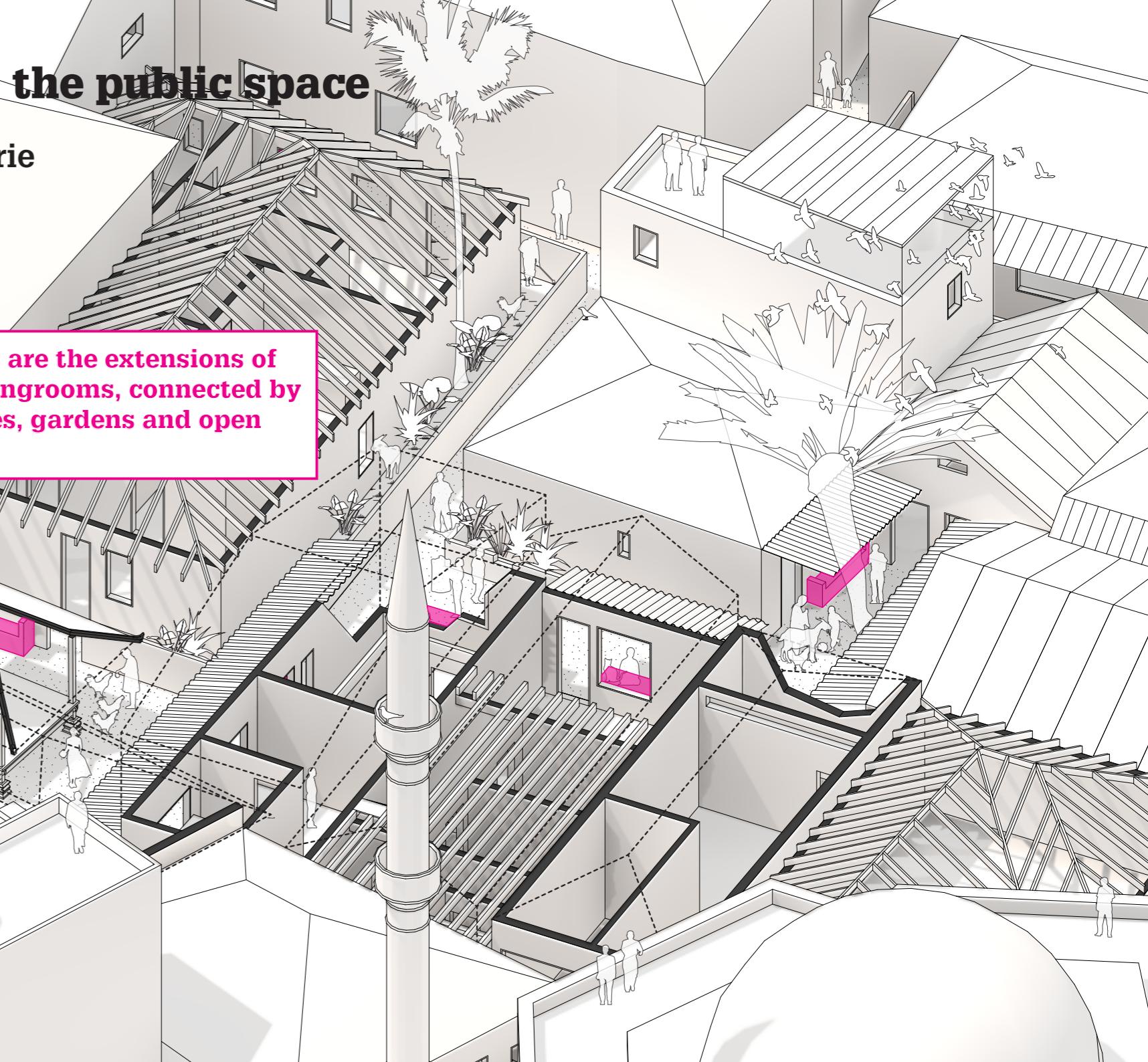


Communal livingroom in the middle of the street

Source: Sitevisit Jakarta May 2014

## Site A - Using the public space

### M scale axonometrie



## M Current situation

### Image



Sales



Production



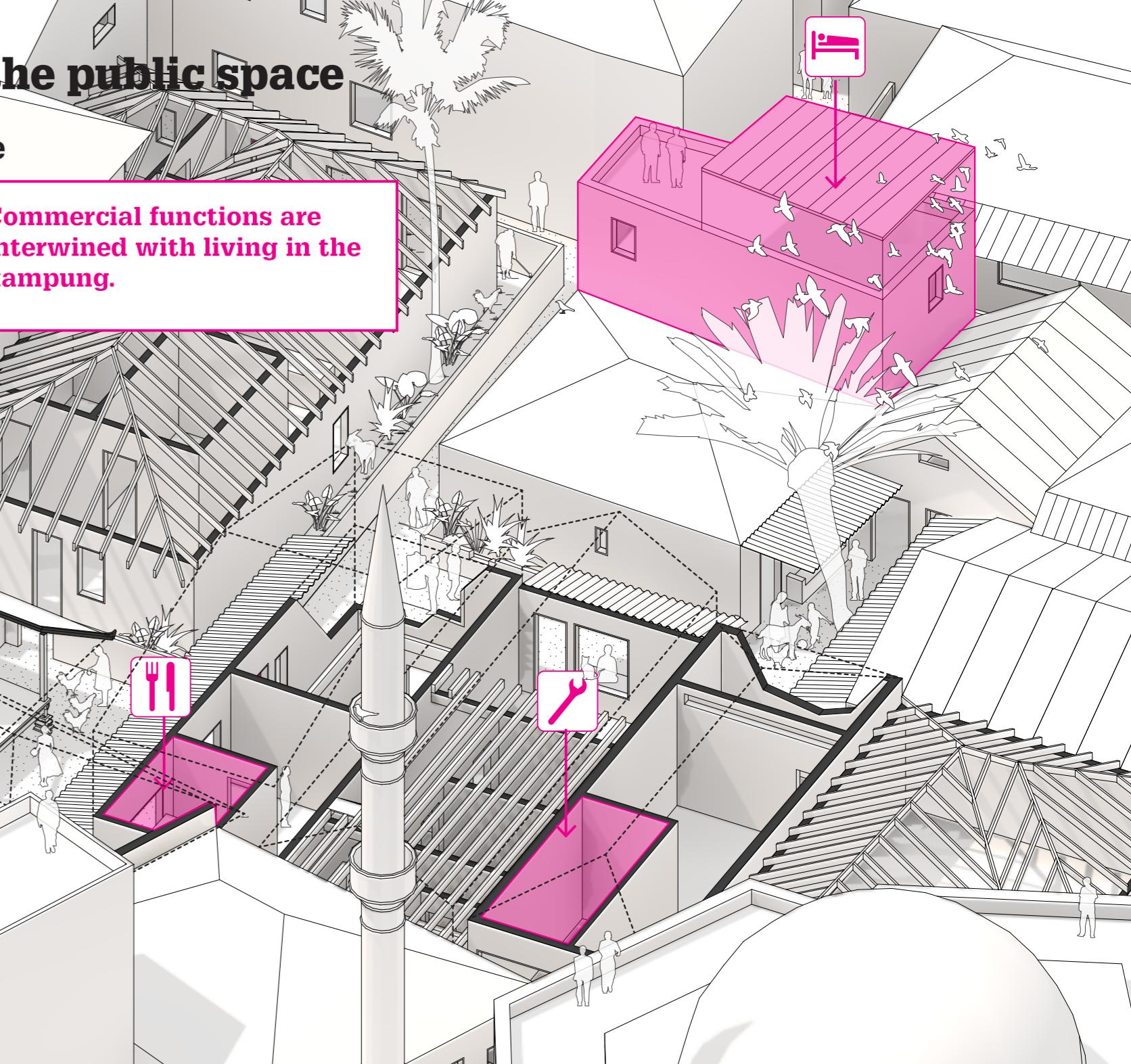
Streetfood preperation

Source: Sitevisit Jakarta May 2014, ETH Zurich Tropic Town

## Site A - Using the public space

### M scale axonometrie

Commercial functions are intertwined with living in the kampung.



## M Current situation

### Street view



Hiding for the sun underneath commercial signs



Various fabrics used to block sunlight on streets

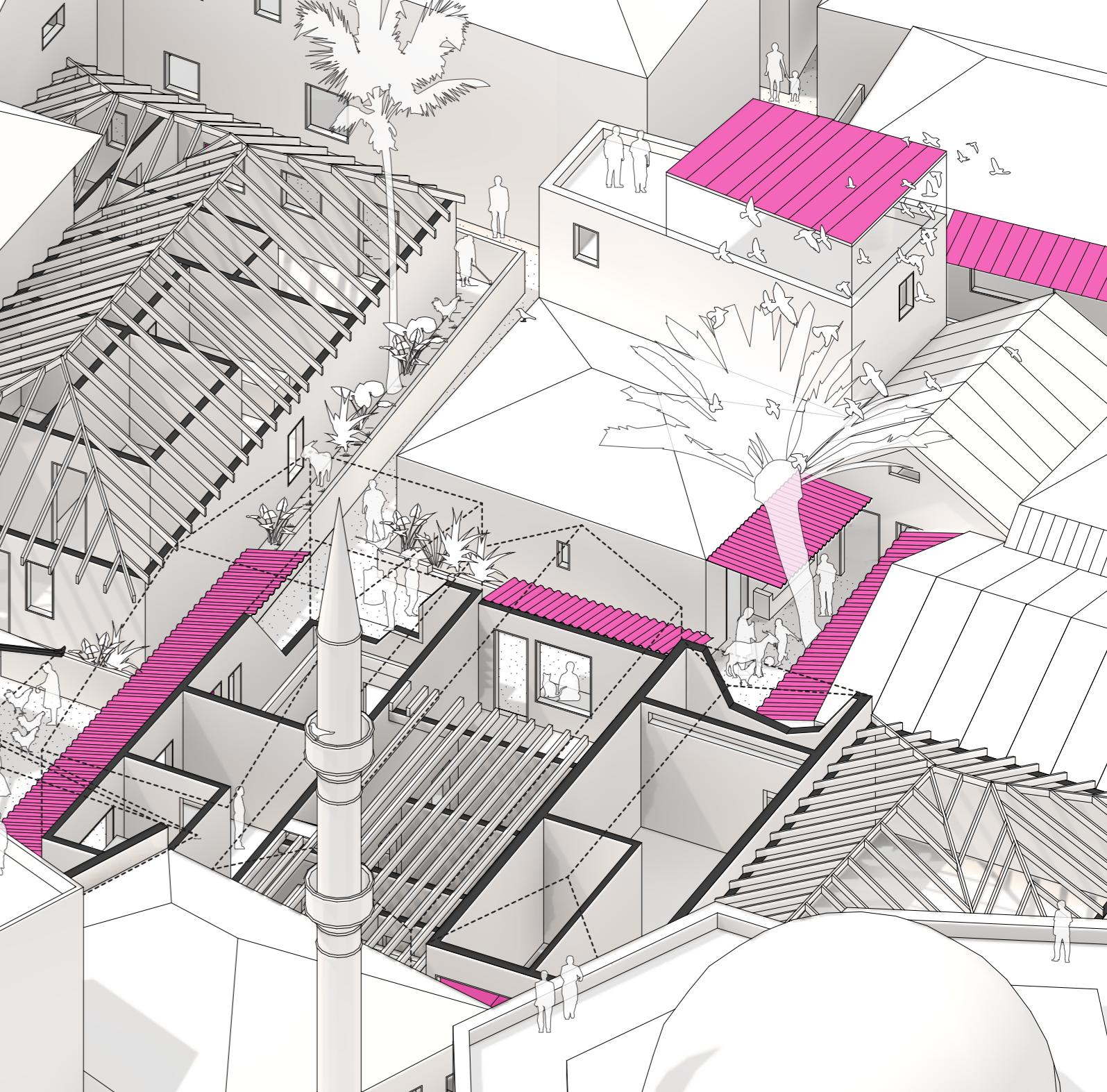


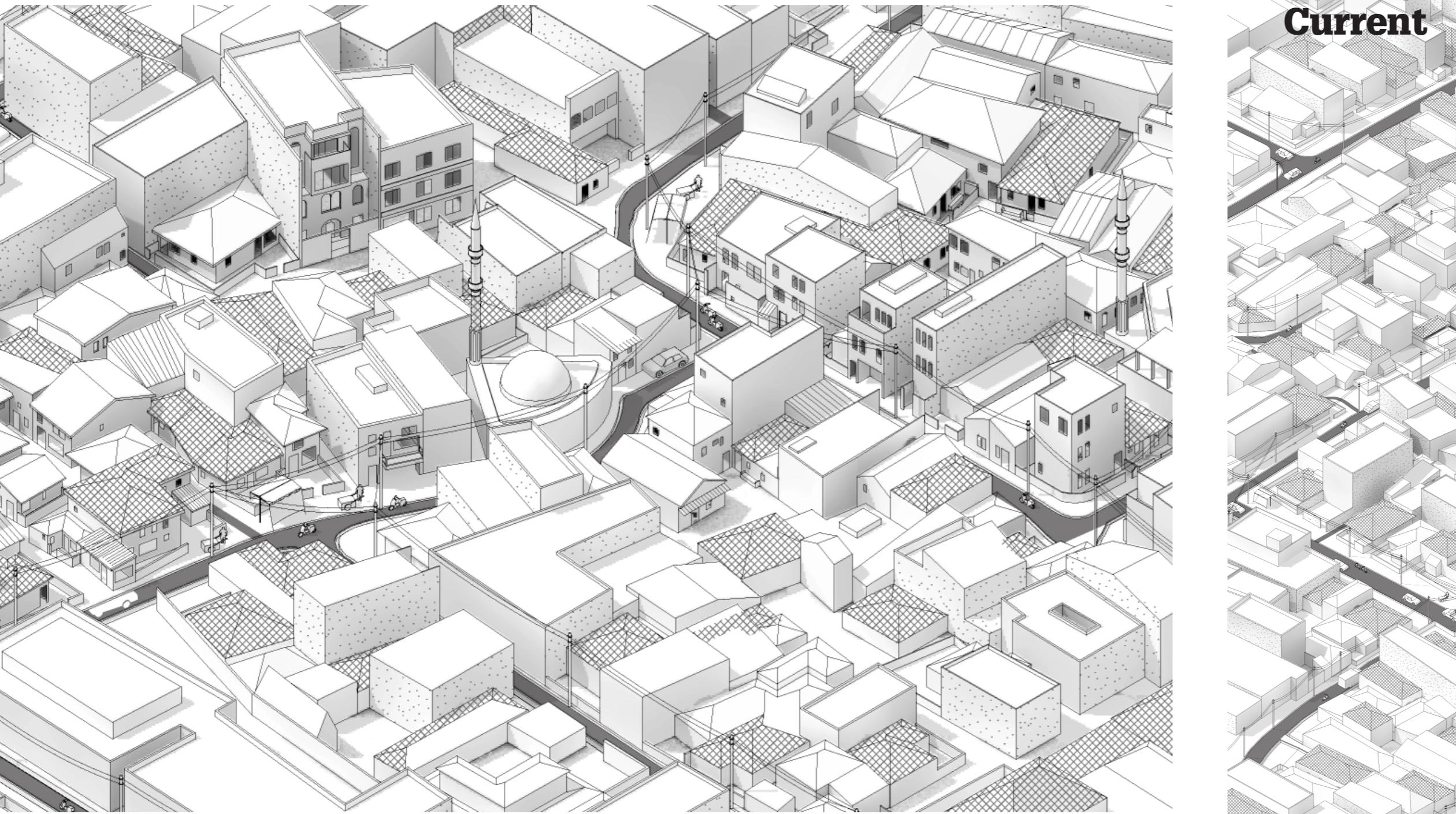
Bamboo window blinds

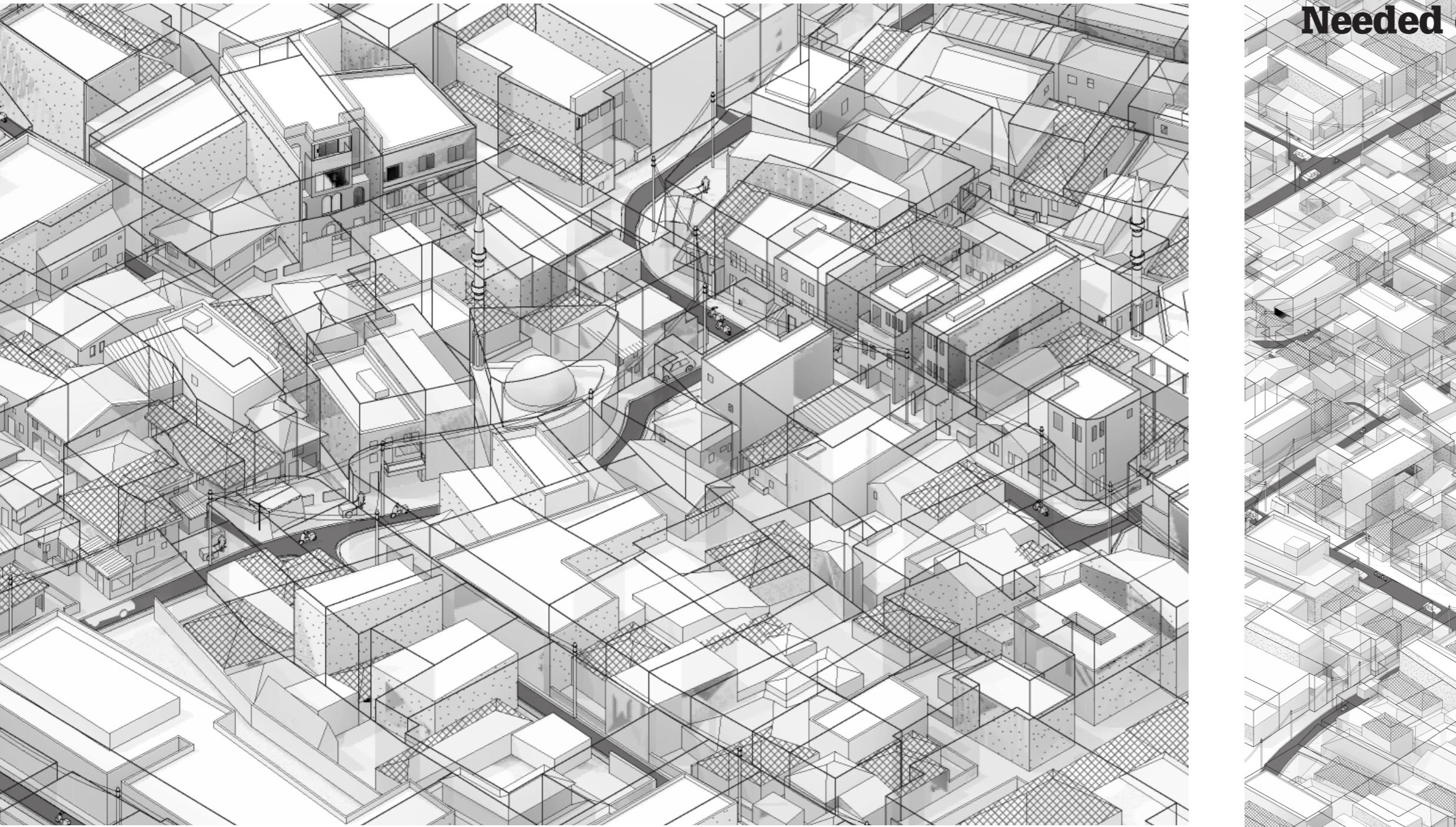
Source:

## Site A - Shading

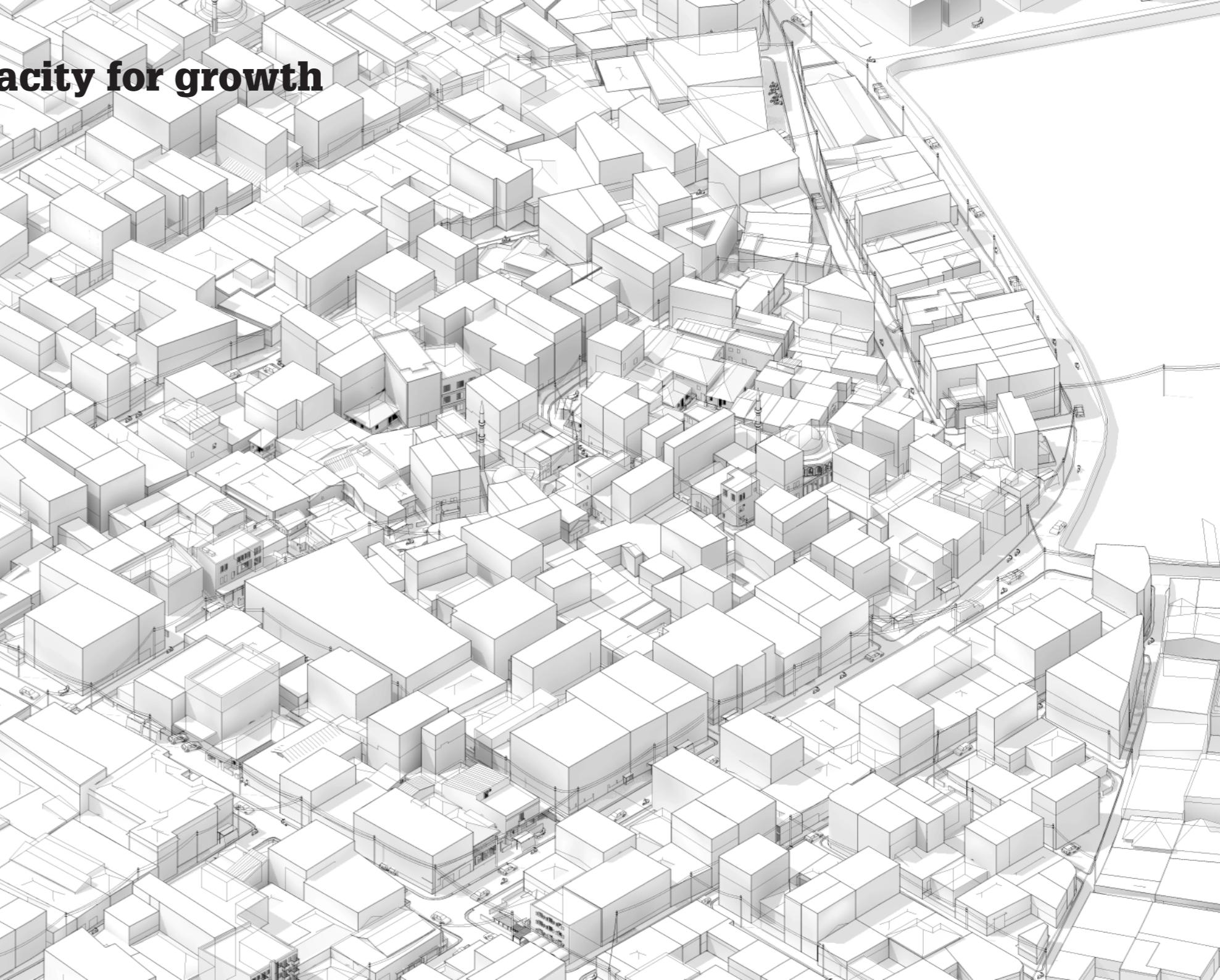
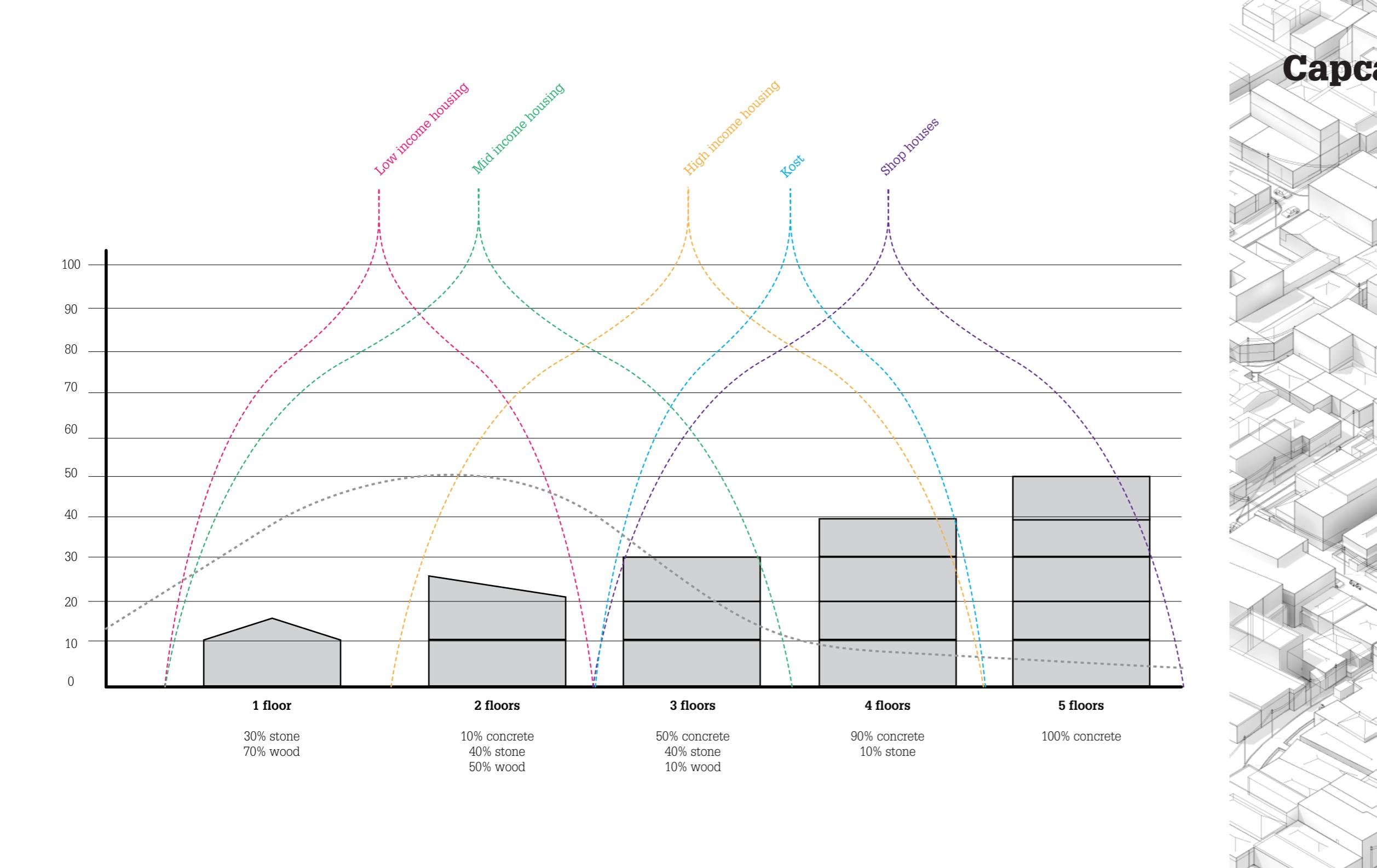
### M scale axonometrie

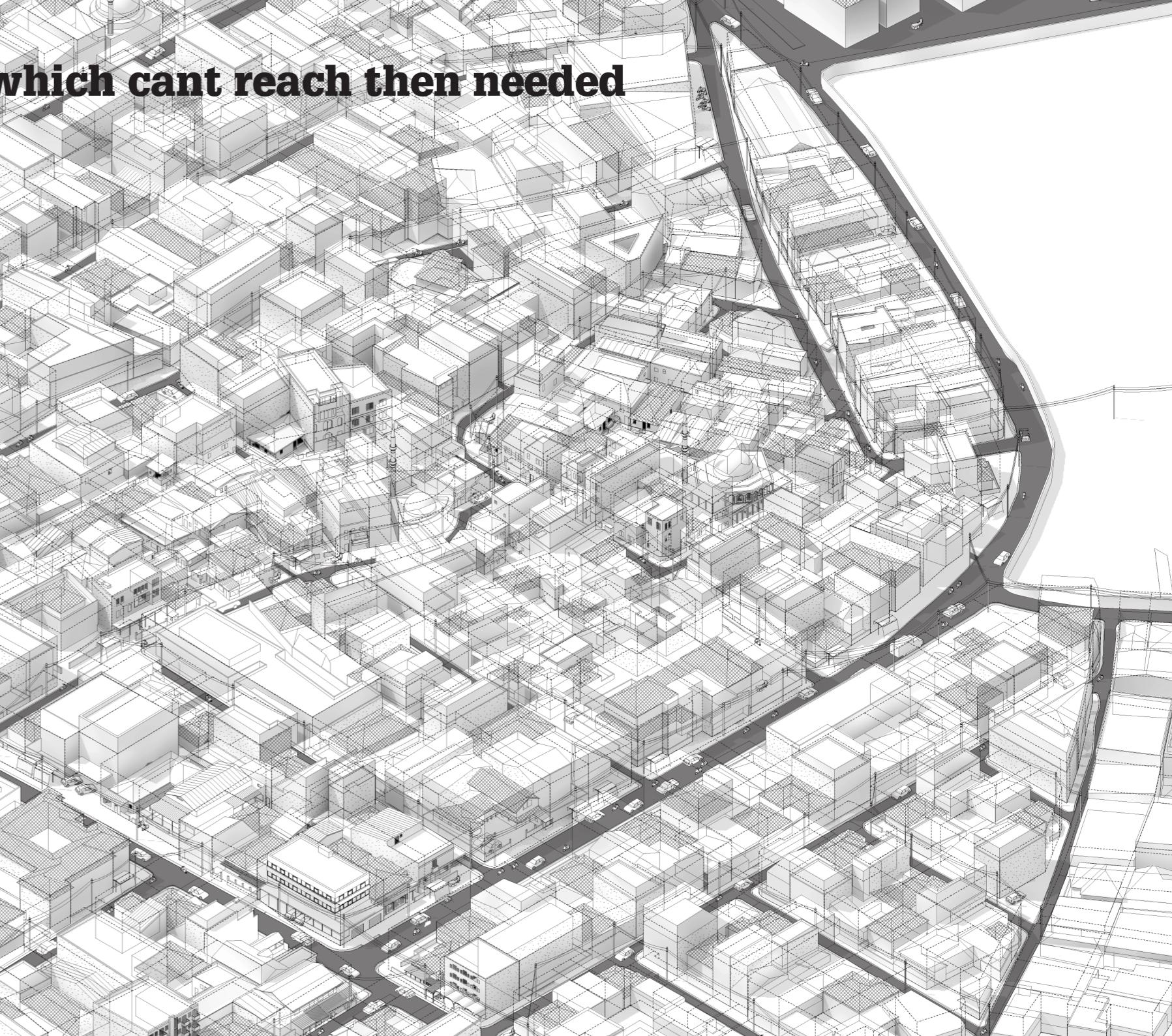
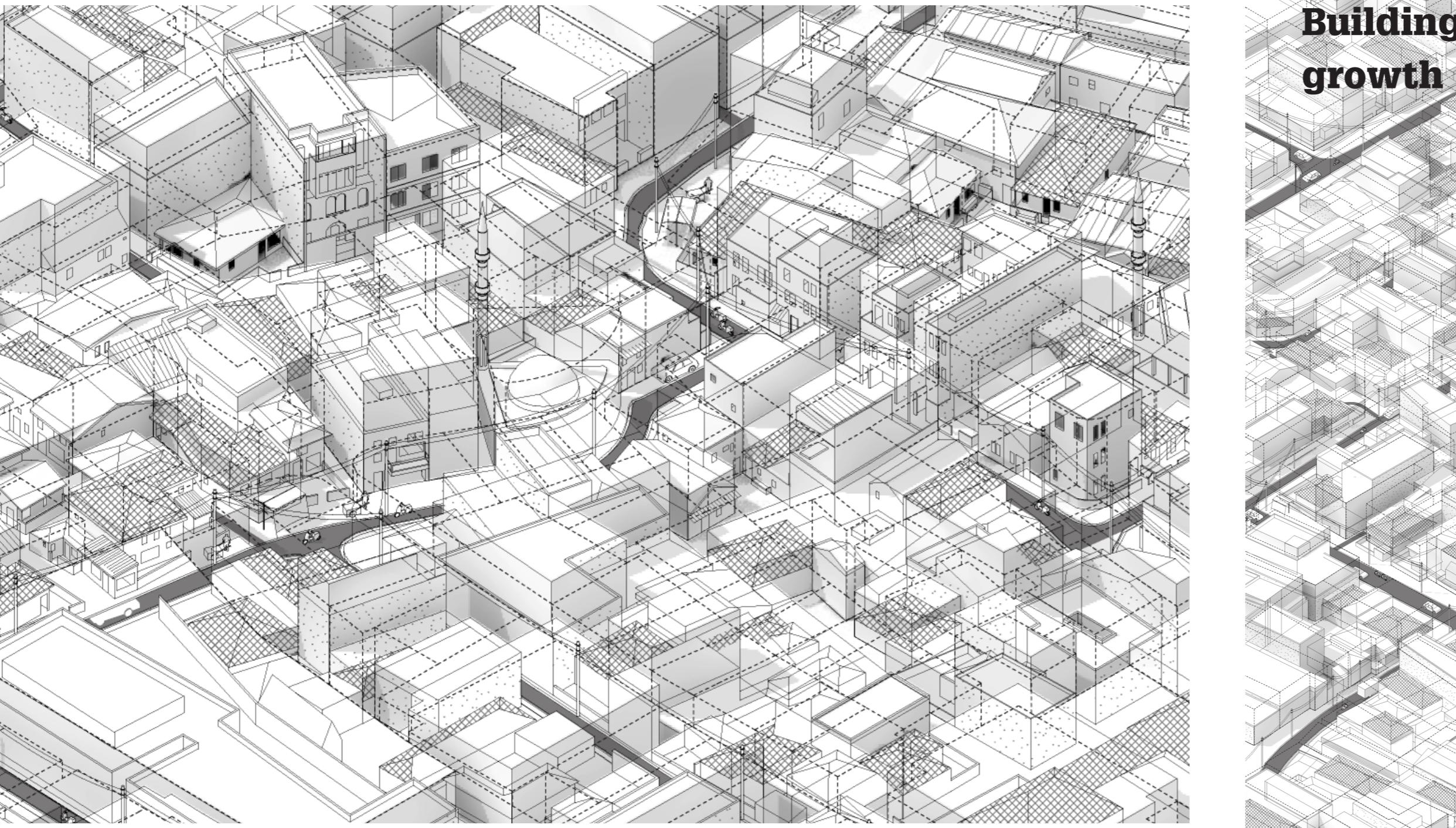


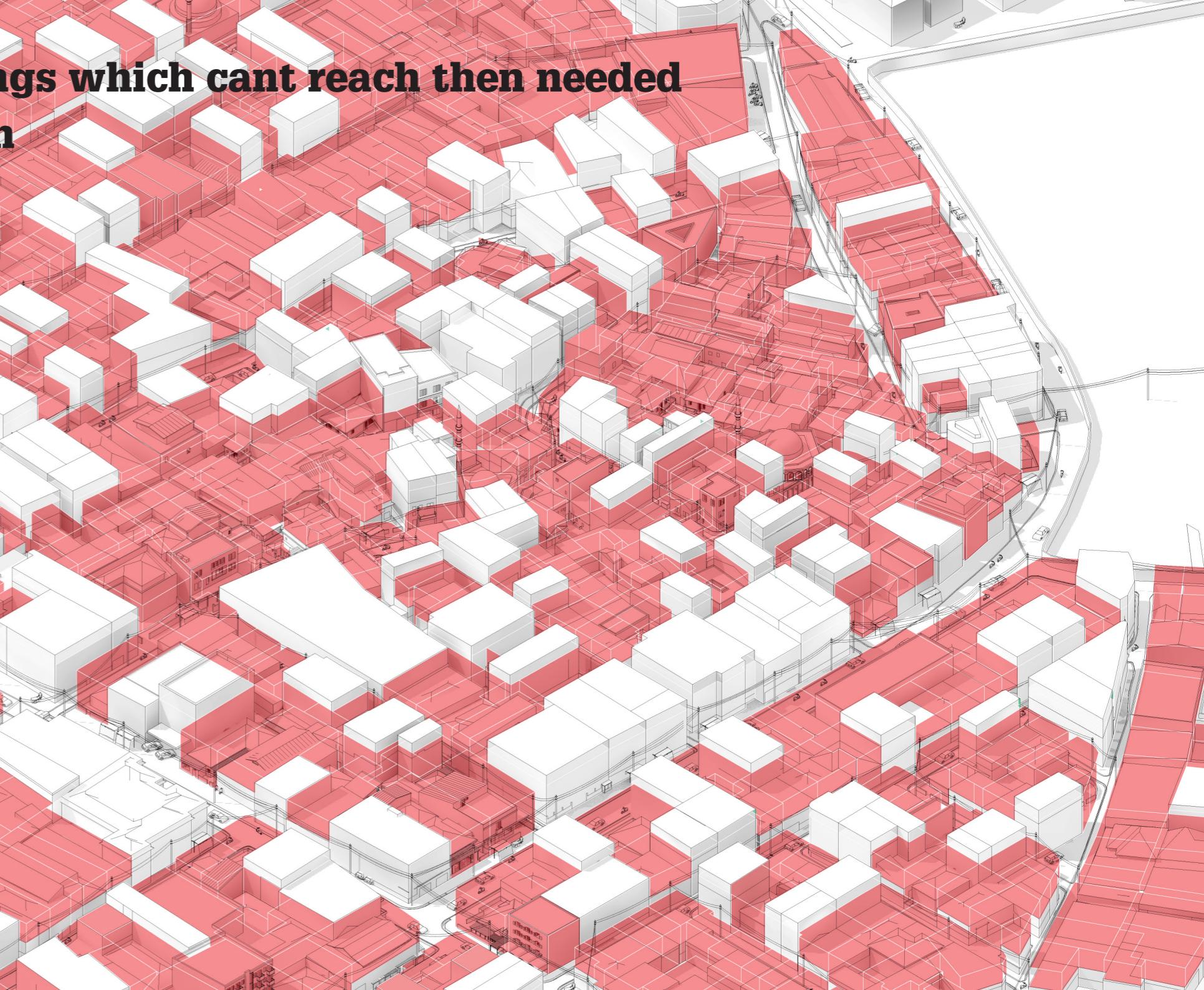
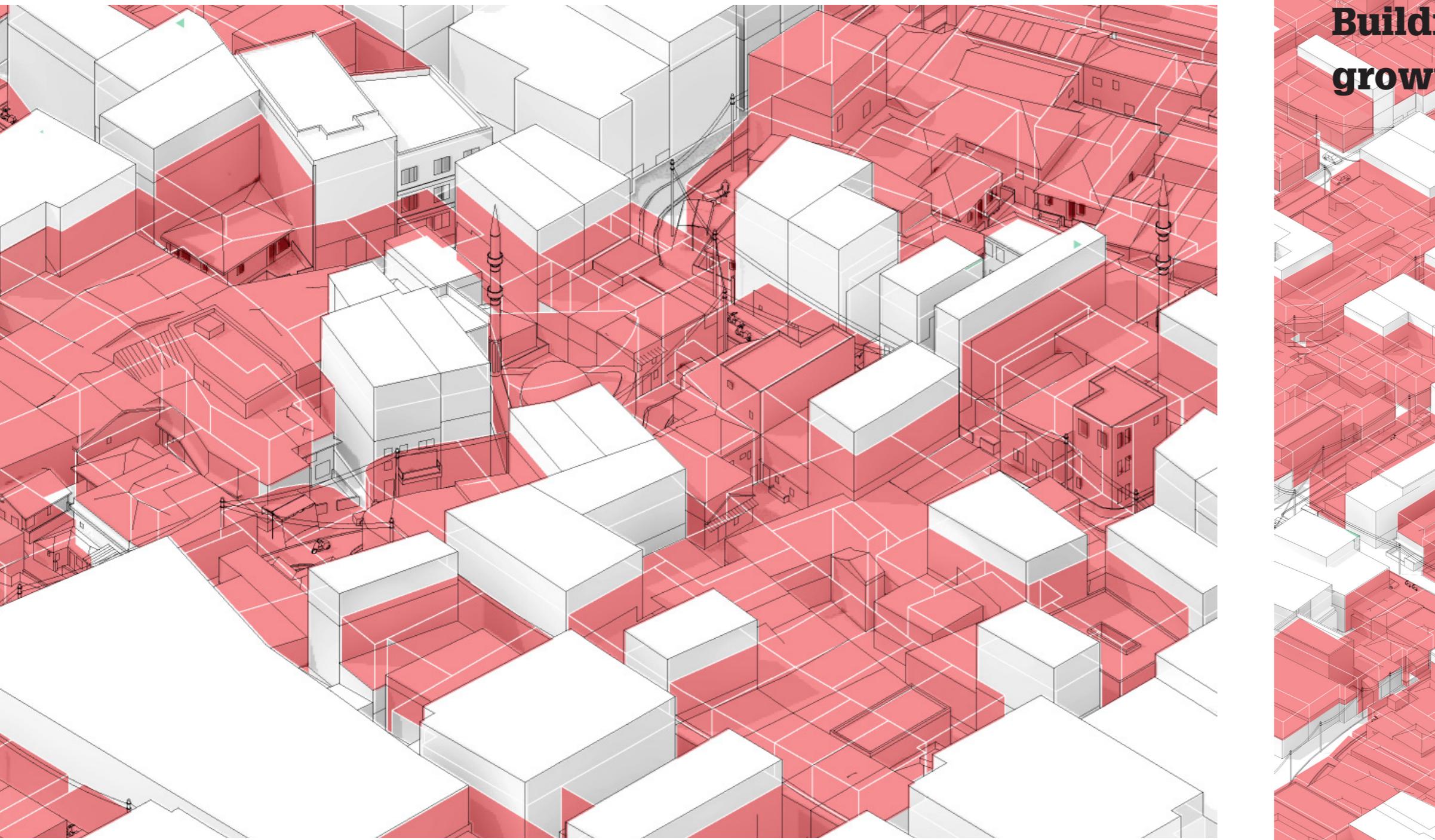




**Needed growth**



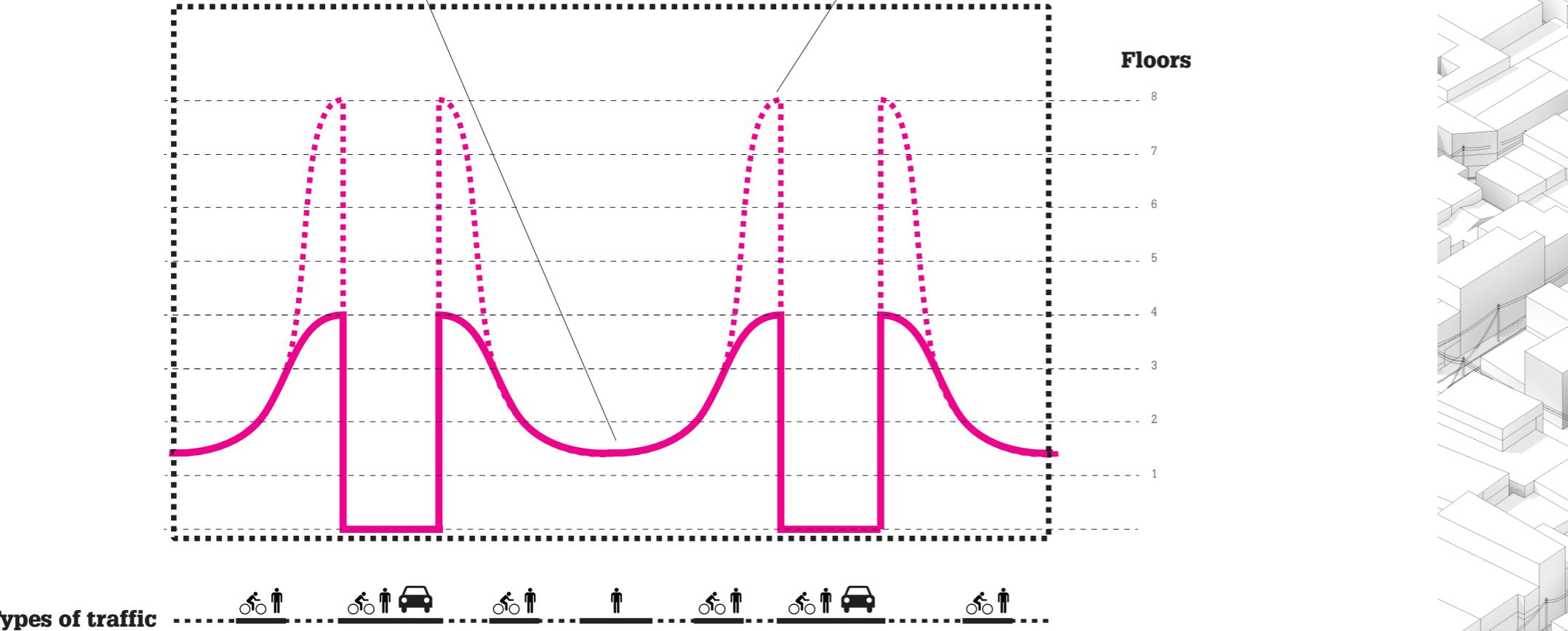




## Preserve!

By lower the current pressure on the Betawi kampung structures we can preserve them and let them grow "naturally".

## Section of location



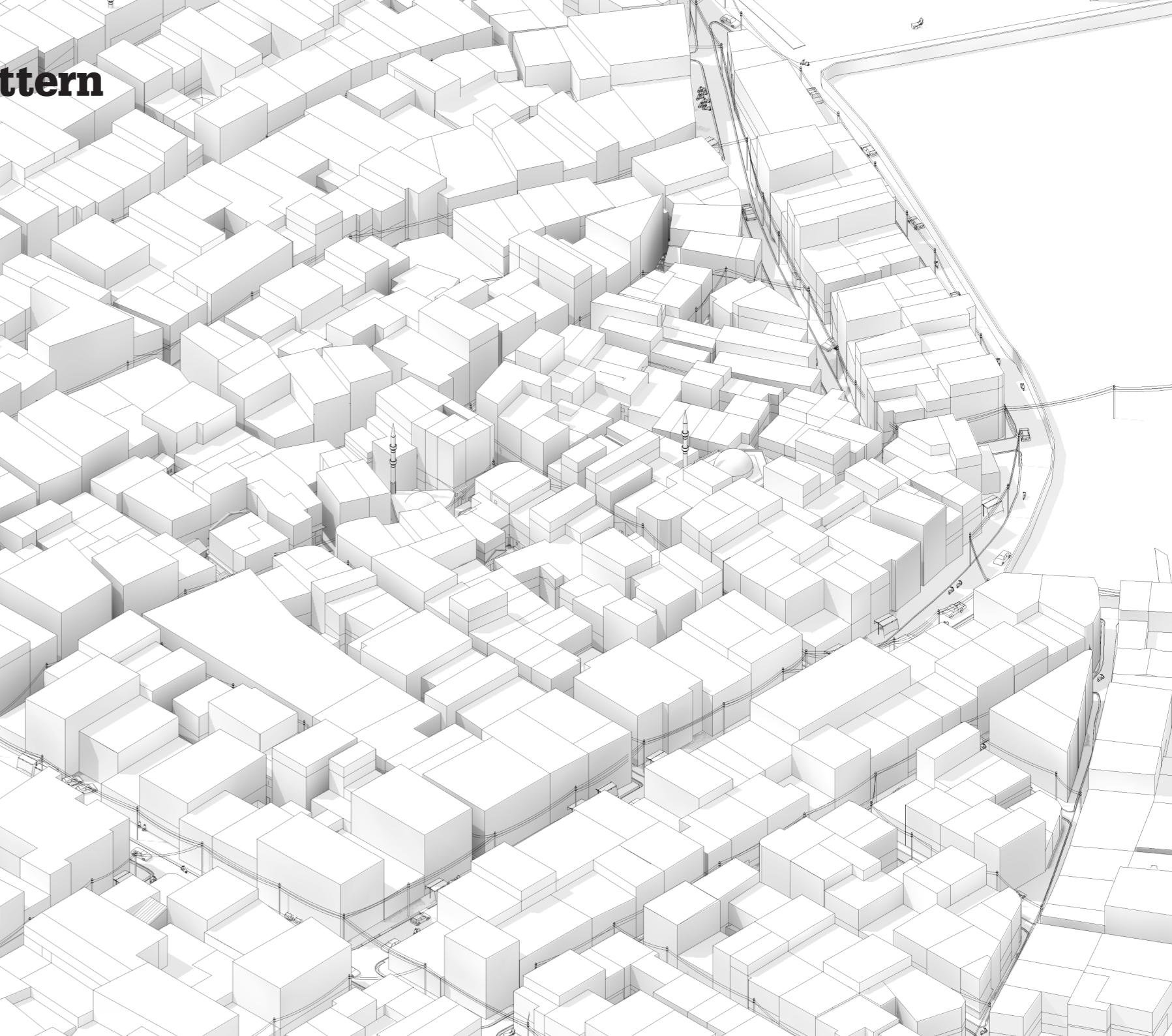
## No more cars

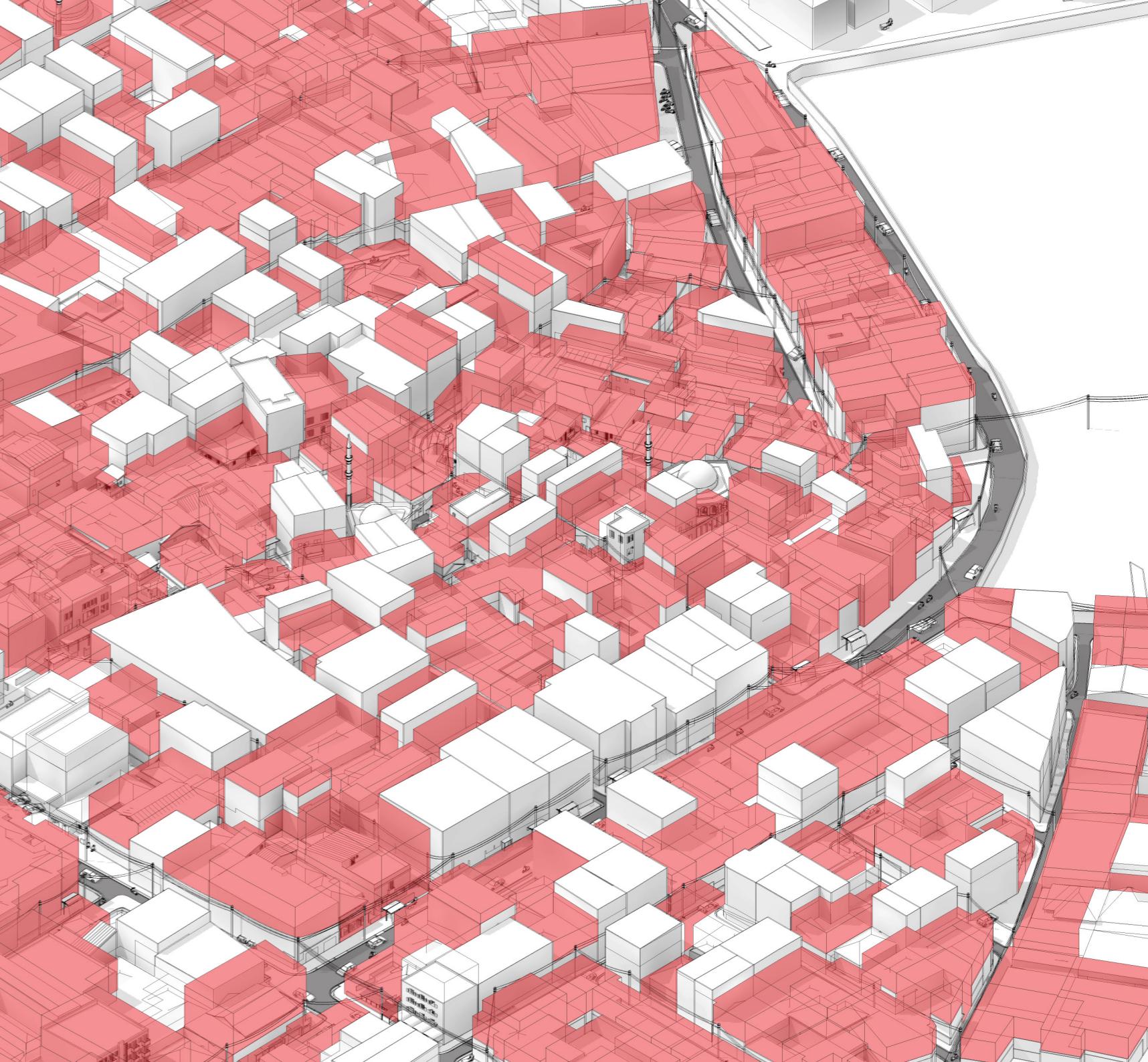
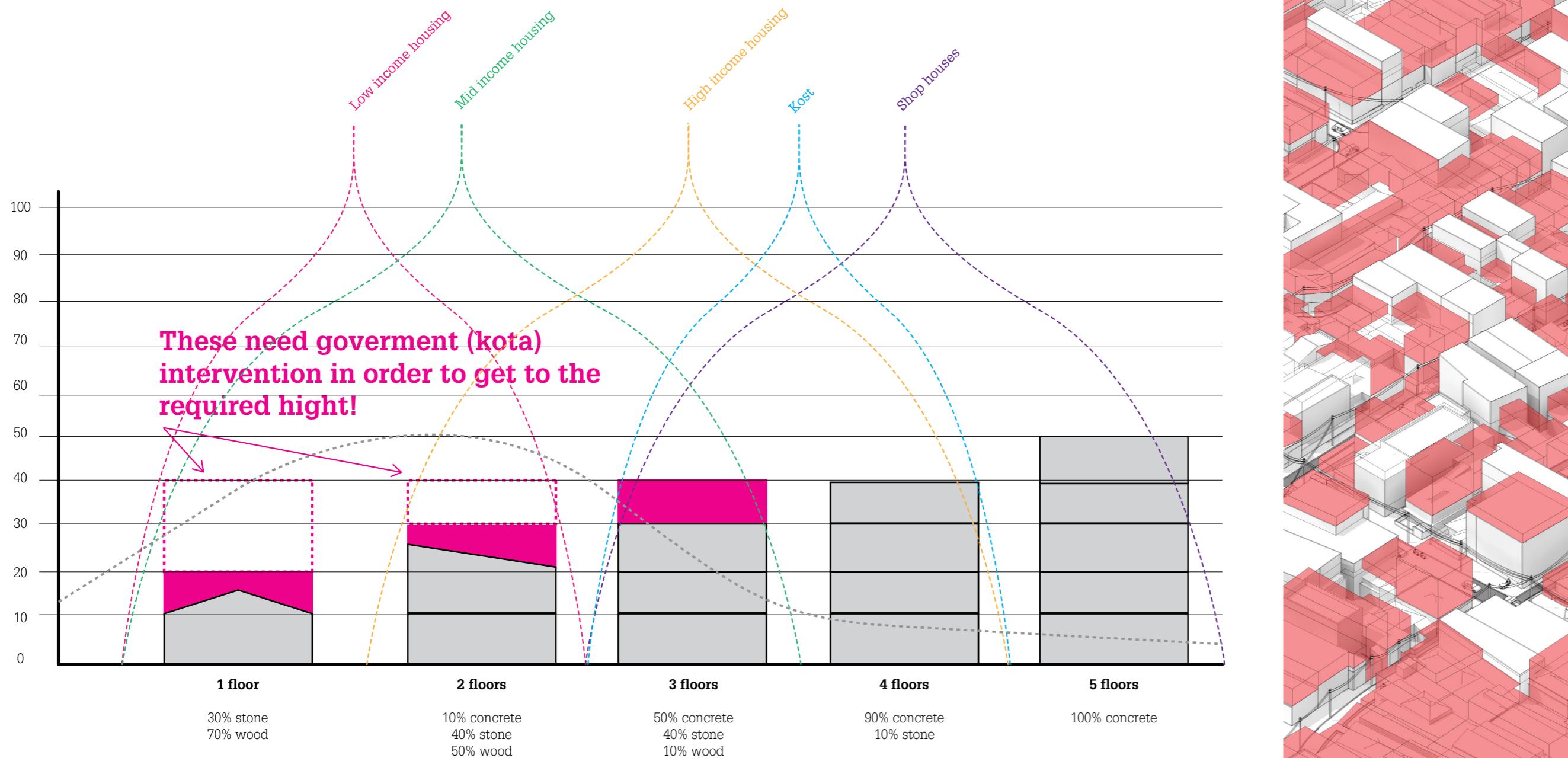
Cars will not be allowed in the center of the kampungs, they will destroy there spirit. Ojeks are only allowed into the first circle.

## Vertical expansion!

When the max is reached we should go vertical. Introducing vertical kampungs at intersections, trade hubs, borders of inner kampungs and rumah susun locations.

## Density Pattern





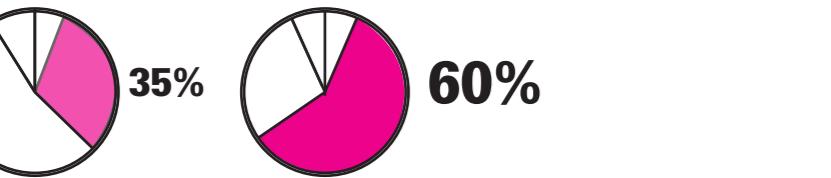
### **Hypothesis:**

**The bottum-up designed kampung has a limit to its size of roughly 1.3x its current size. Theirfor top-down Kota should provide assistance to allow a doubling of density to happen, as a new form of the kampung improvement program (KIP). This KIP 2.0 should consist of various rules, infrastructural tools and architectural elements, a toolbox for densification.**

## Goals

### Street view mid-high income class

> a higher floorplace a person which leads to a higher far!



### A lot more local functions

Pasar, schools, health services and shops should all be closer to home to reduce travel times



### More porosity to "breath"

The kampung needs wind corridors, more communal spaces and



### Decrease of family size

From 4,3 to 3,5.



### Reduce cars (parking) in the kampung

Increase of income leads to more cars, and cars a notorious kampung destroyers

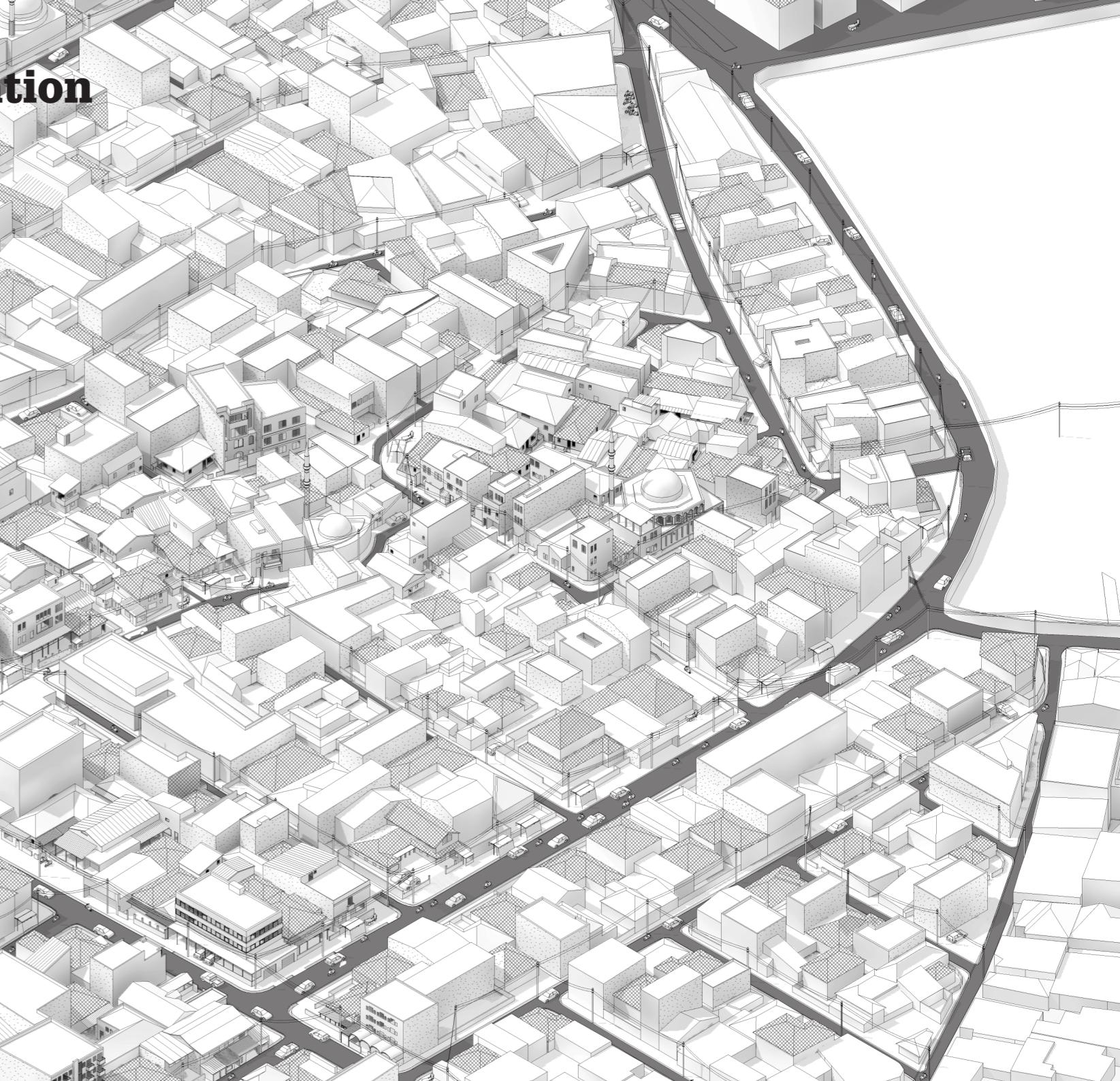


**From 24.000 to 50.000  / km<sup>2</sup>, smaller families and larger houses means an increase of the FAR from 1,3 to 2,9.**

Changing society leads to more than a doubling of the FAR.

## M Current situation

### M scale axonometrie



## Current situation

### Street view



## M Current situation

### M scale axonometrie



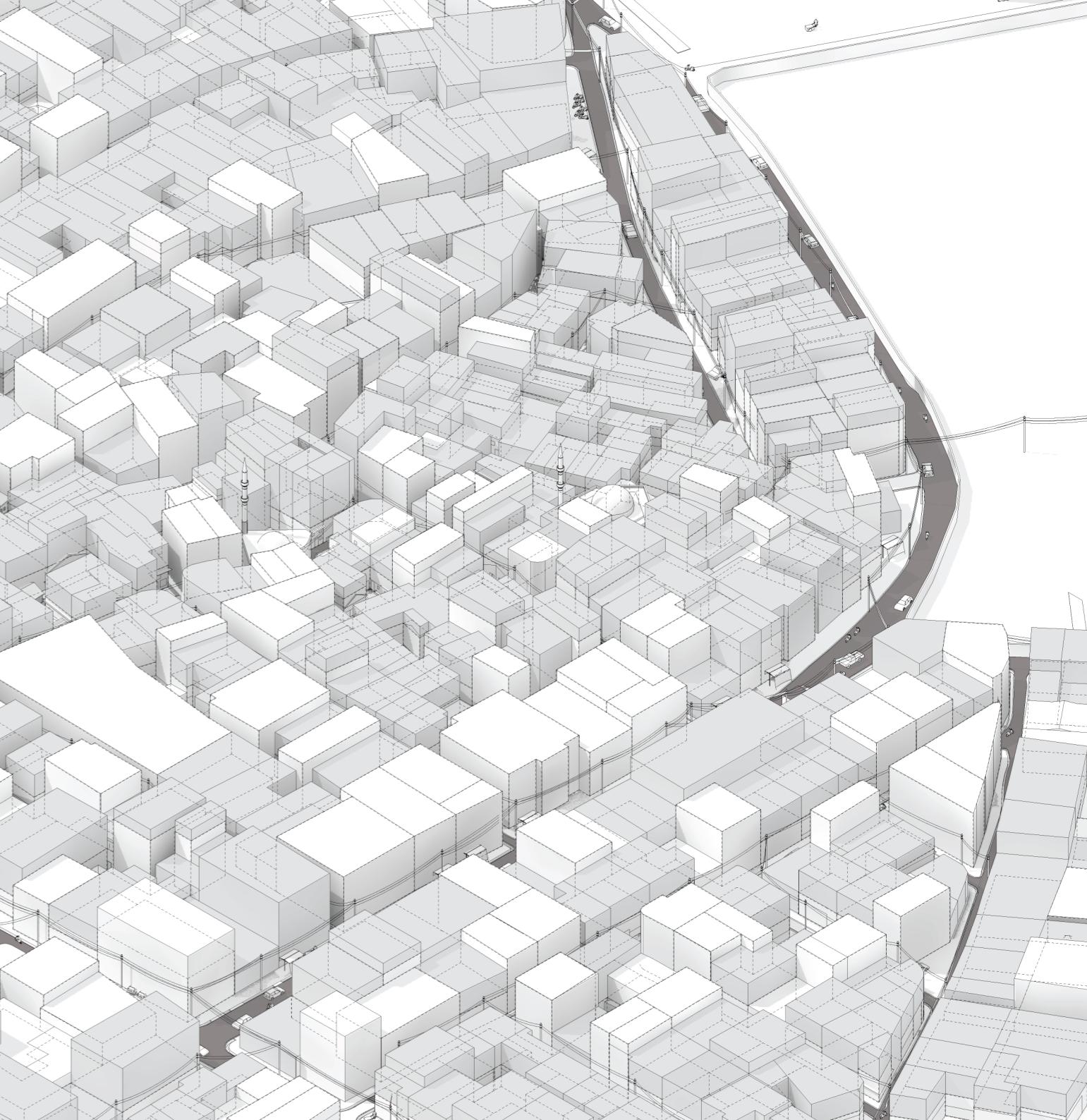
## Needed volume

### Street view



## M Needed volume

### M scale axonometrie



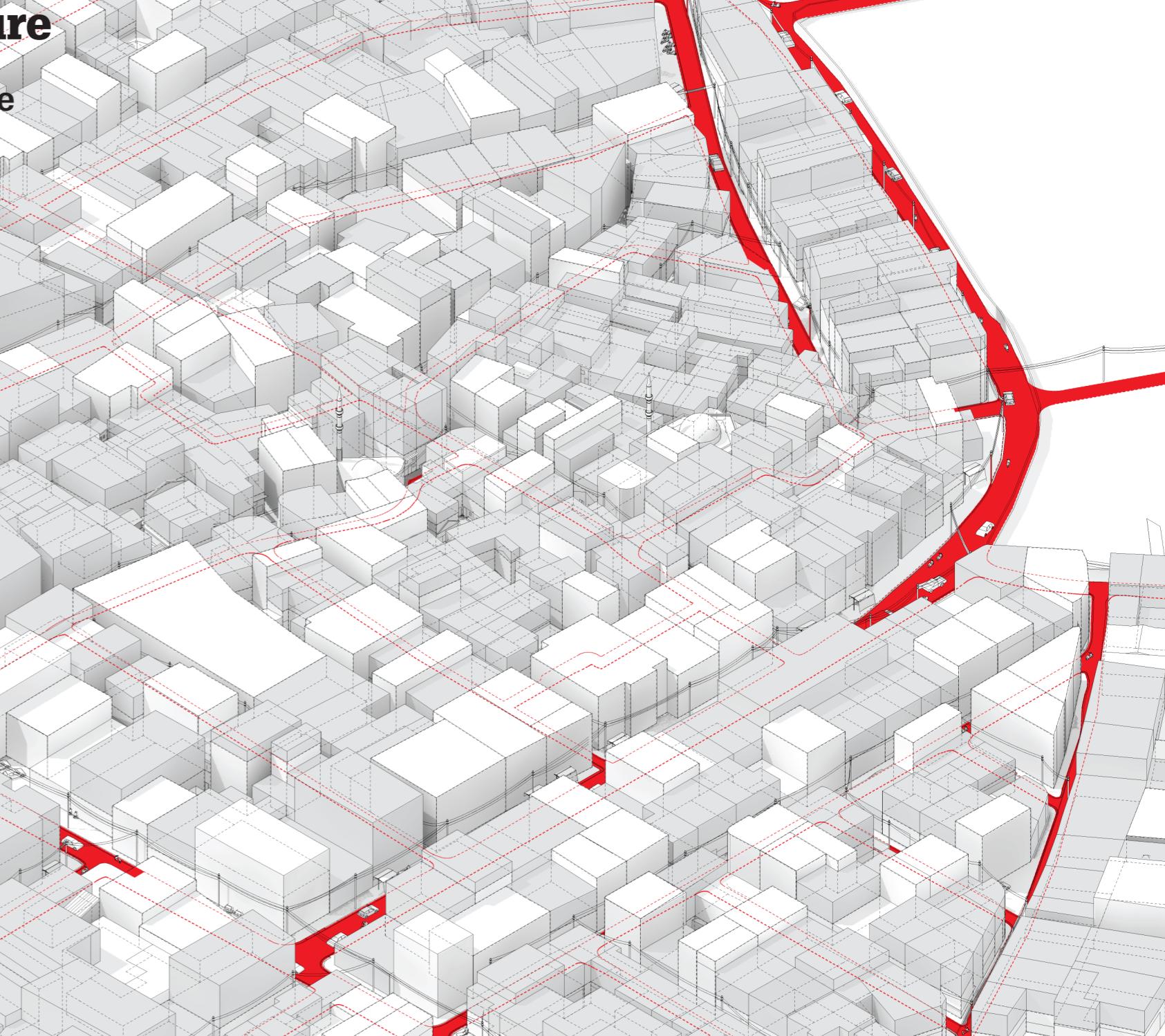
# Infrastructure

## Street view



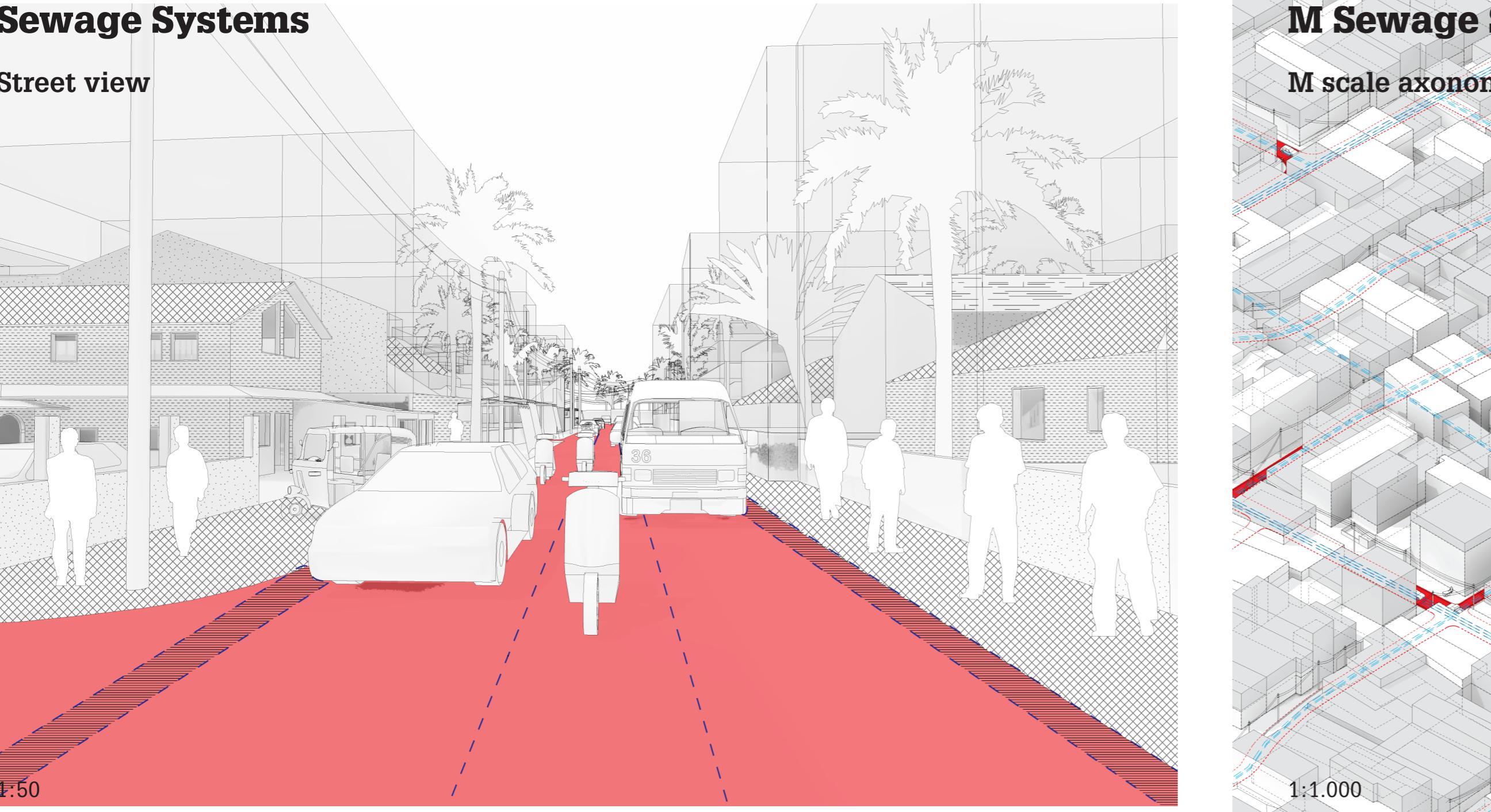
# M Infrastructure

## M scale axonometrie



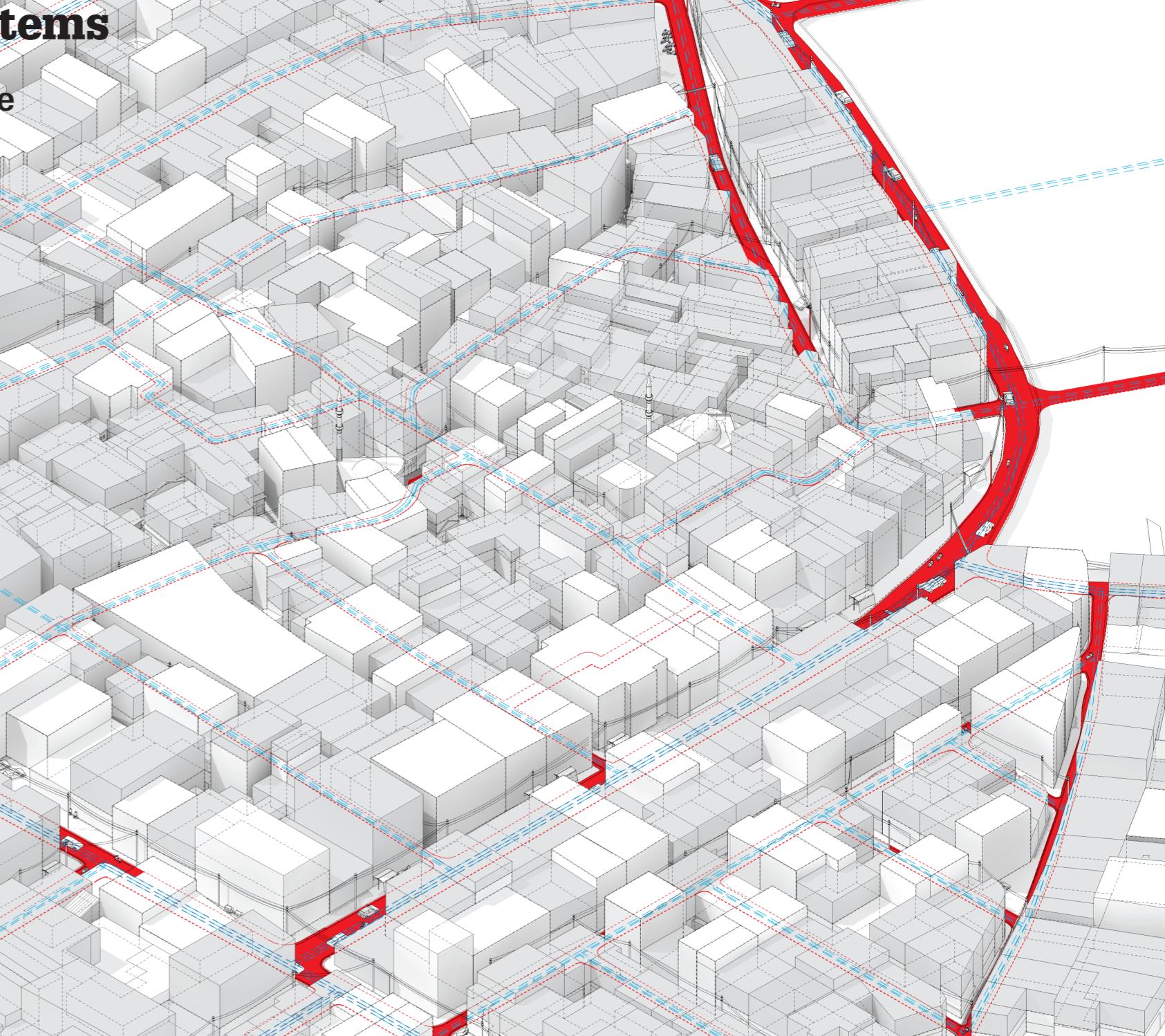
# Sewage Systems

## Street view



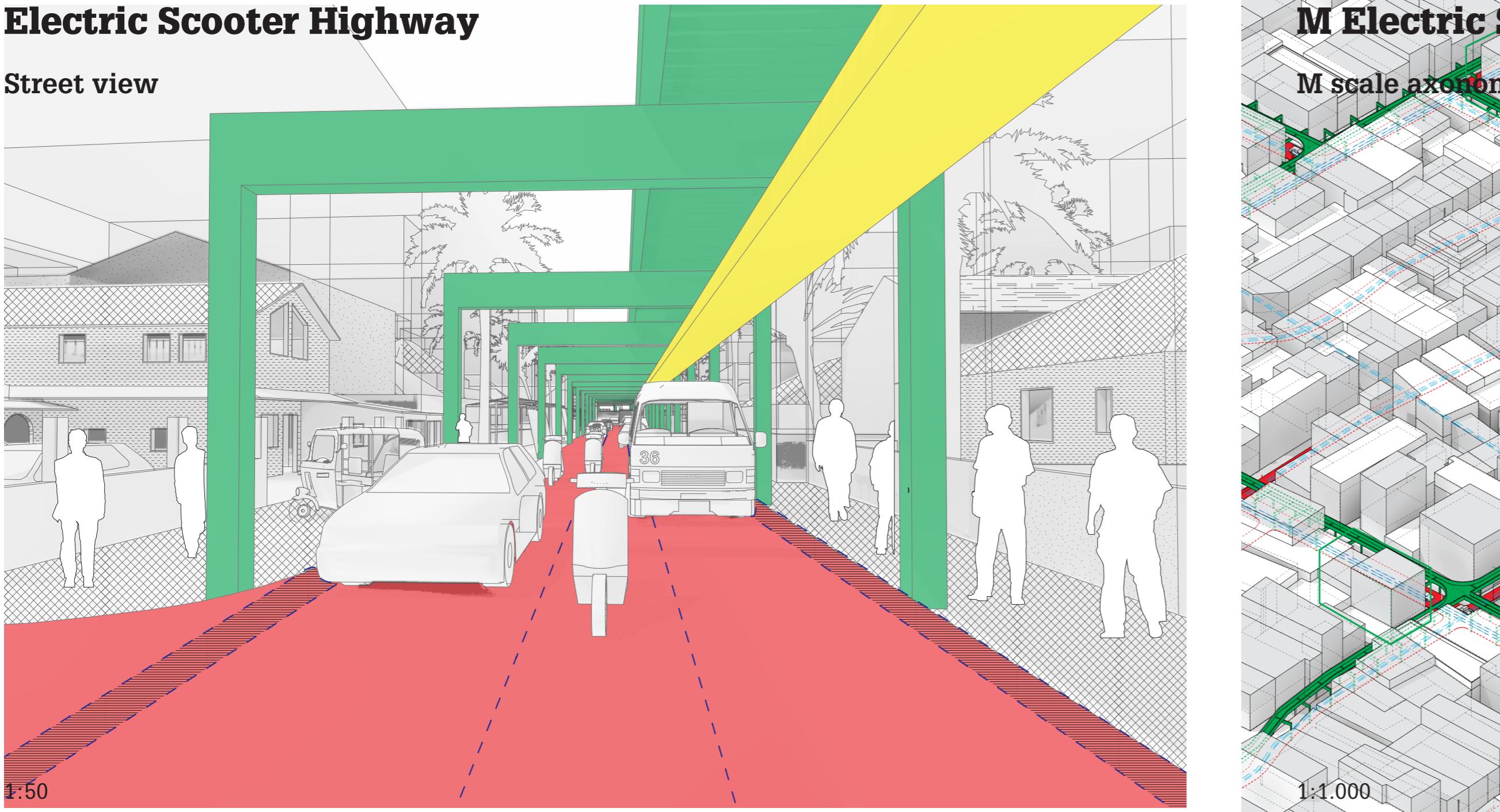
# M Sewage Systems

## M scale axonometrie



# Electric Scooter Highway

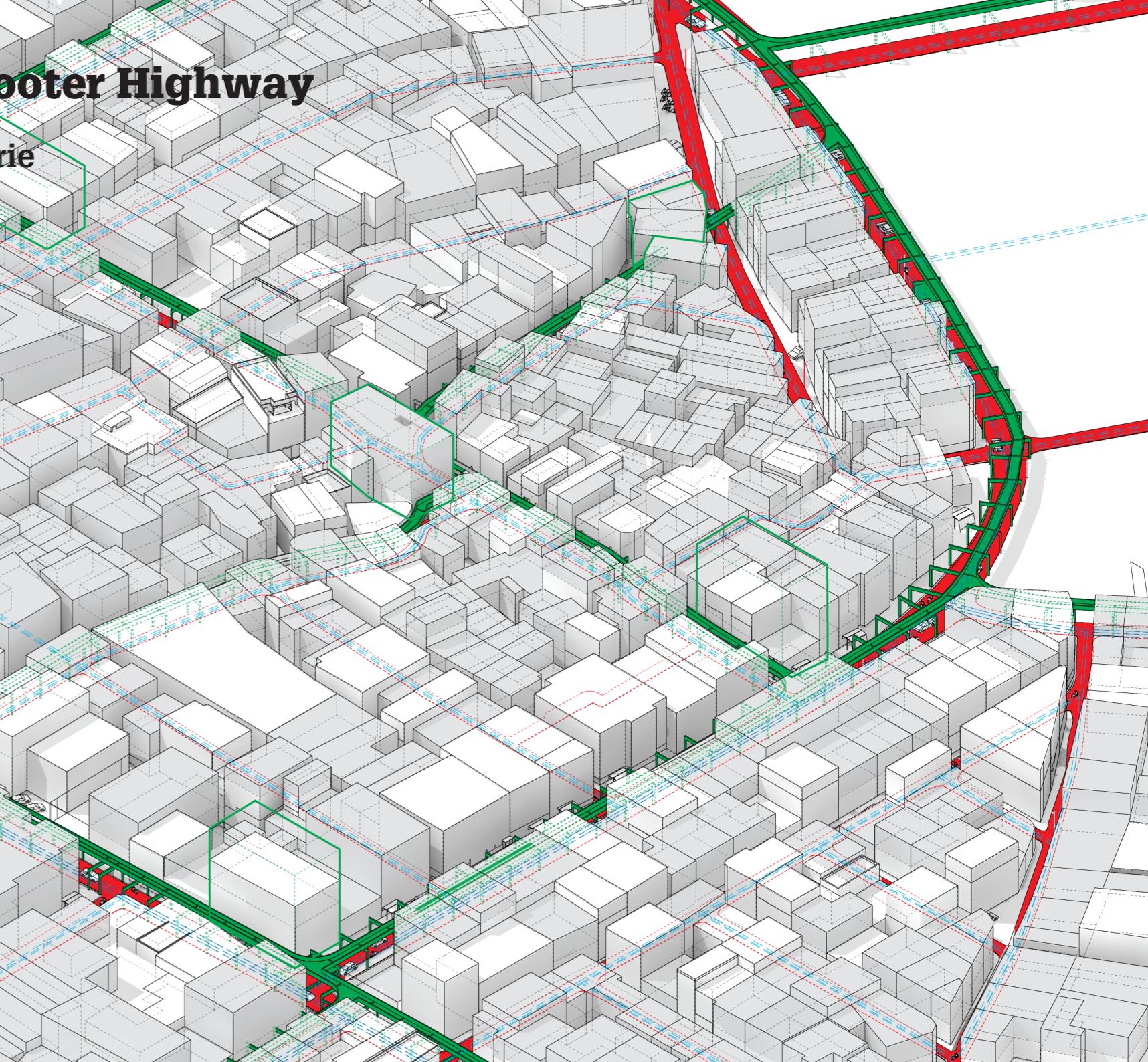
Street view



# M Electric Scooter Highway

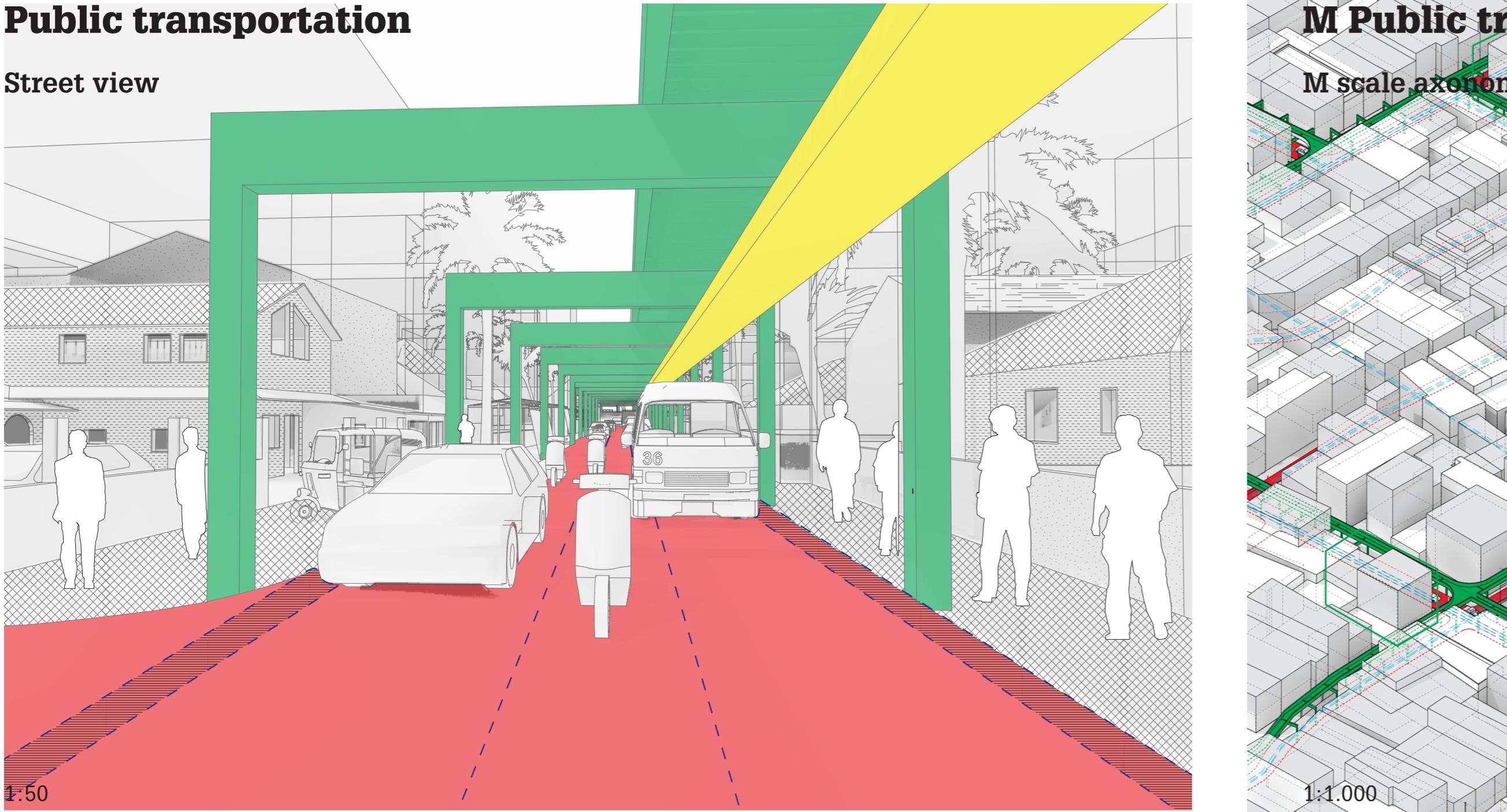
M scale axonometric

1:1.000



# Public transportation

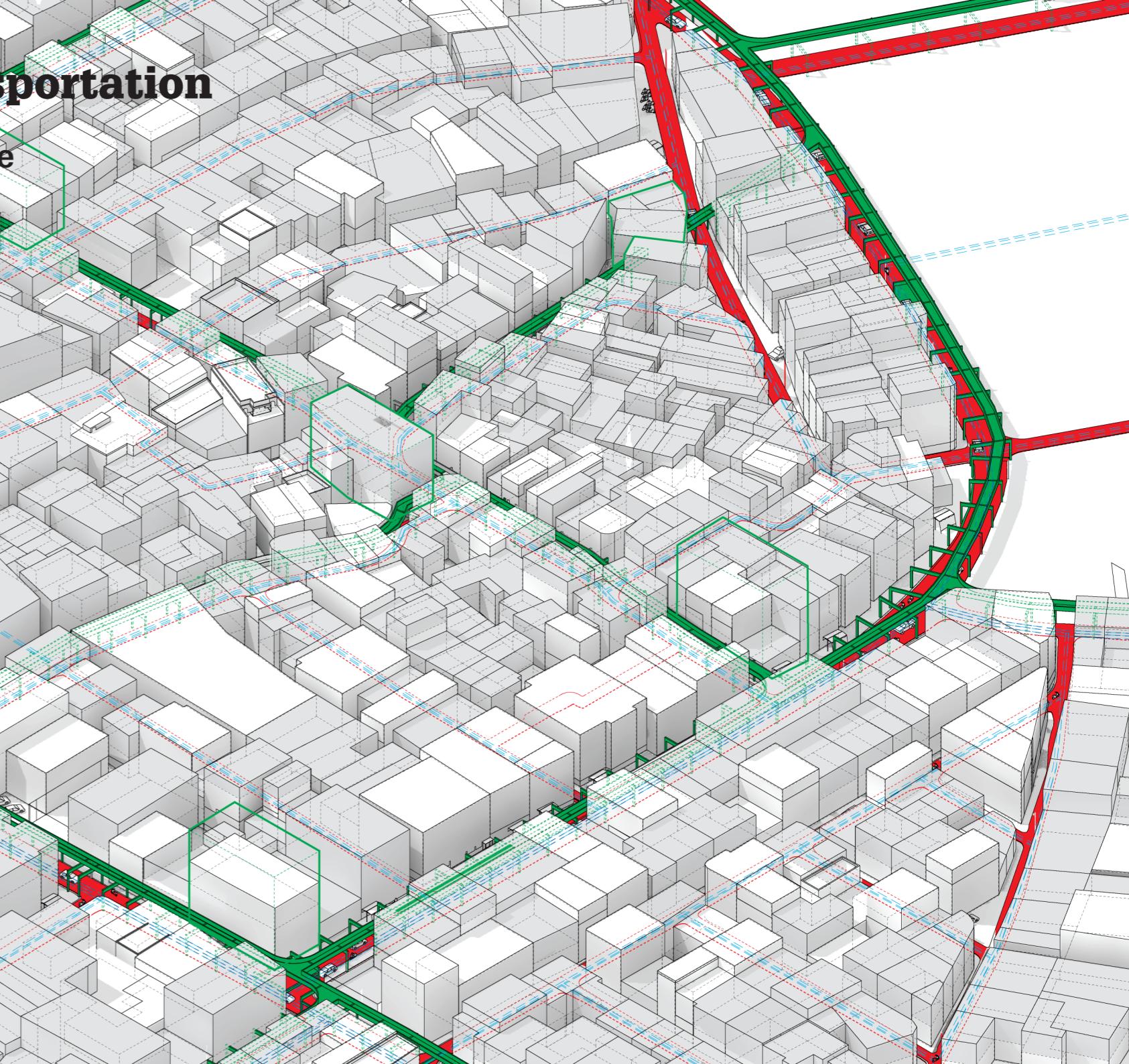
## Street view



# M Public transportation

## M scale axonometric

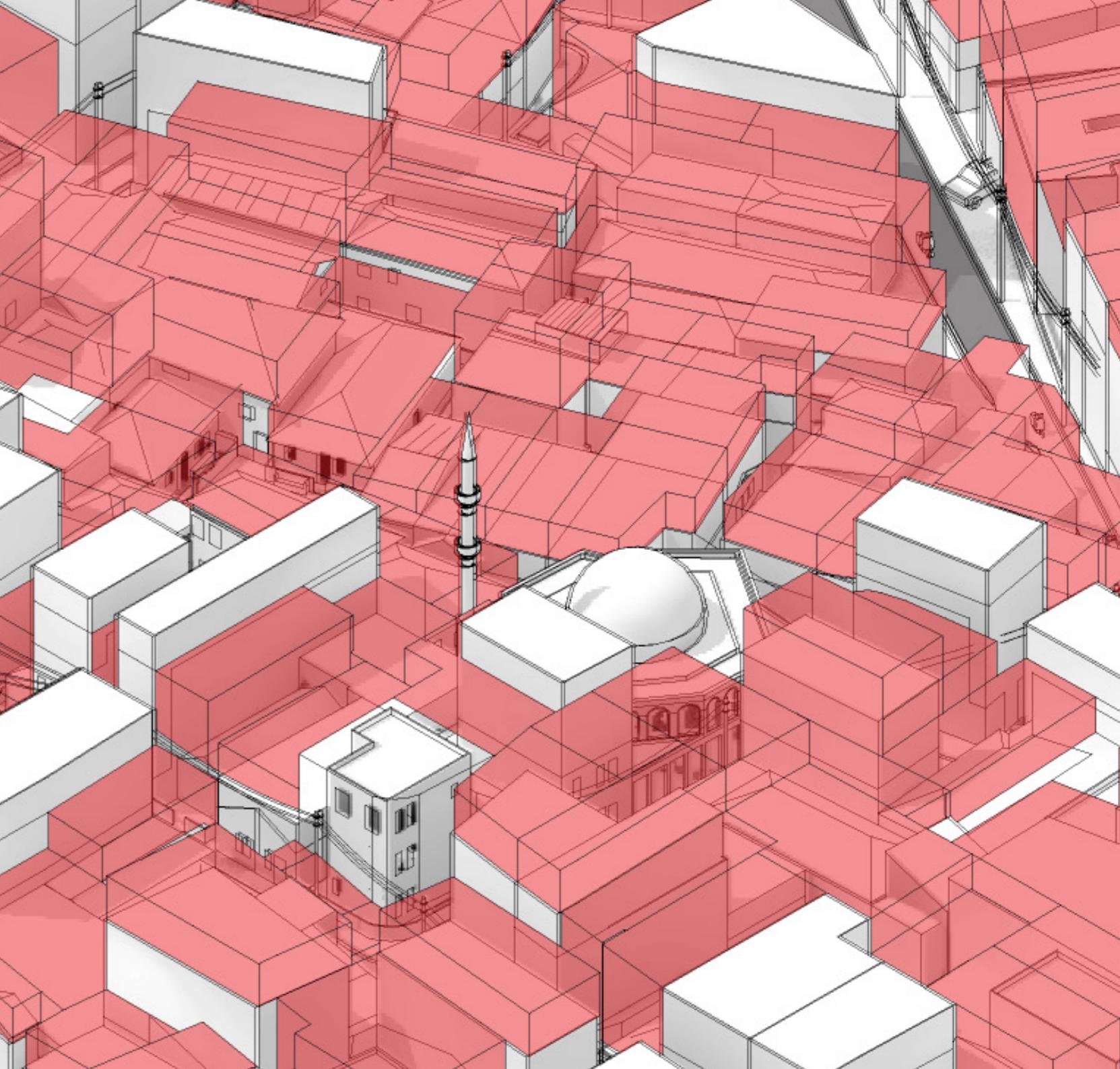
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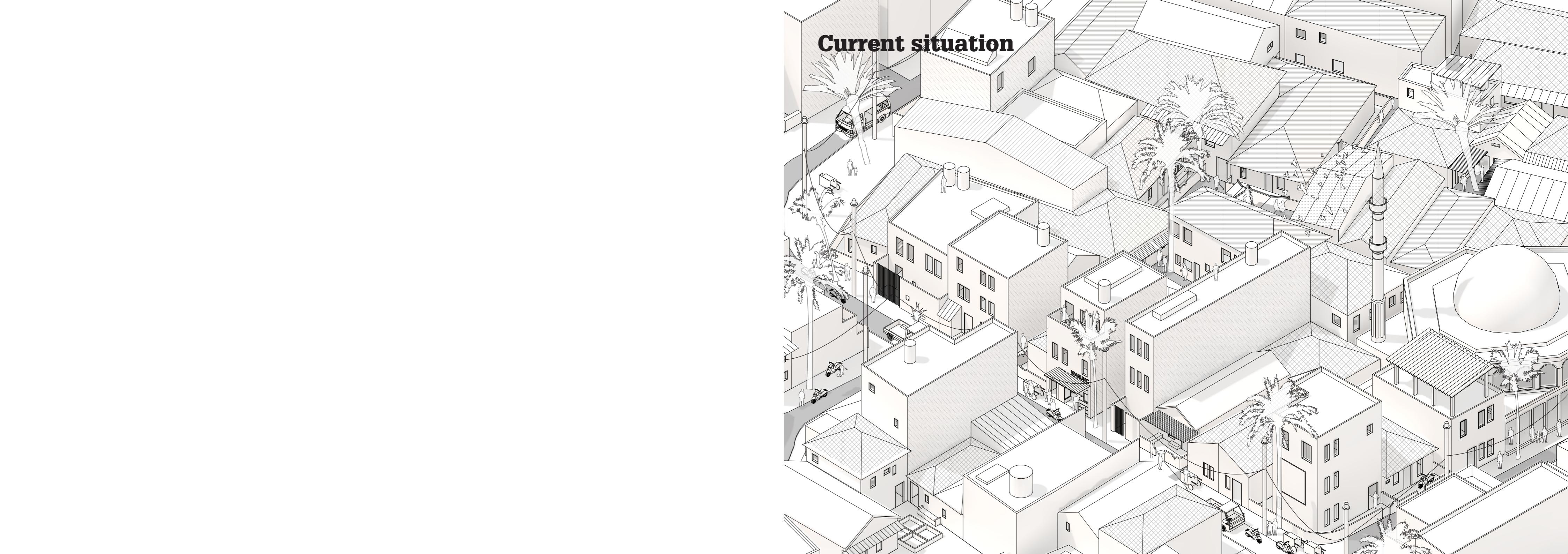


# Public transportation

## Street view







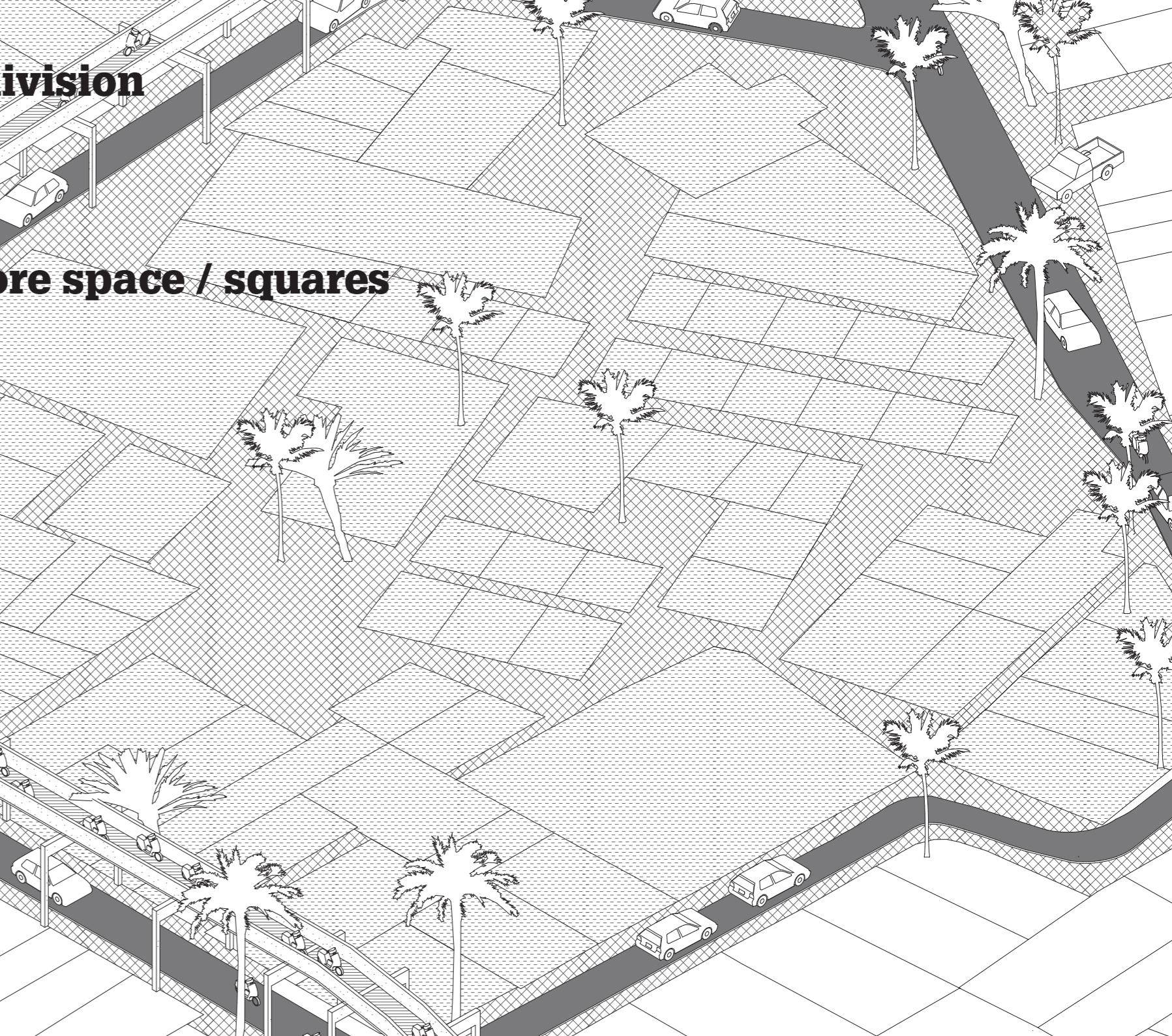
## Current situation

## Current Plots

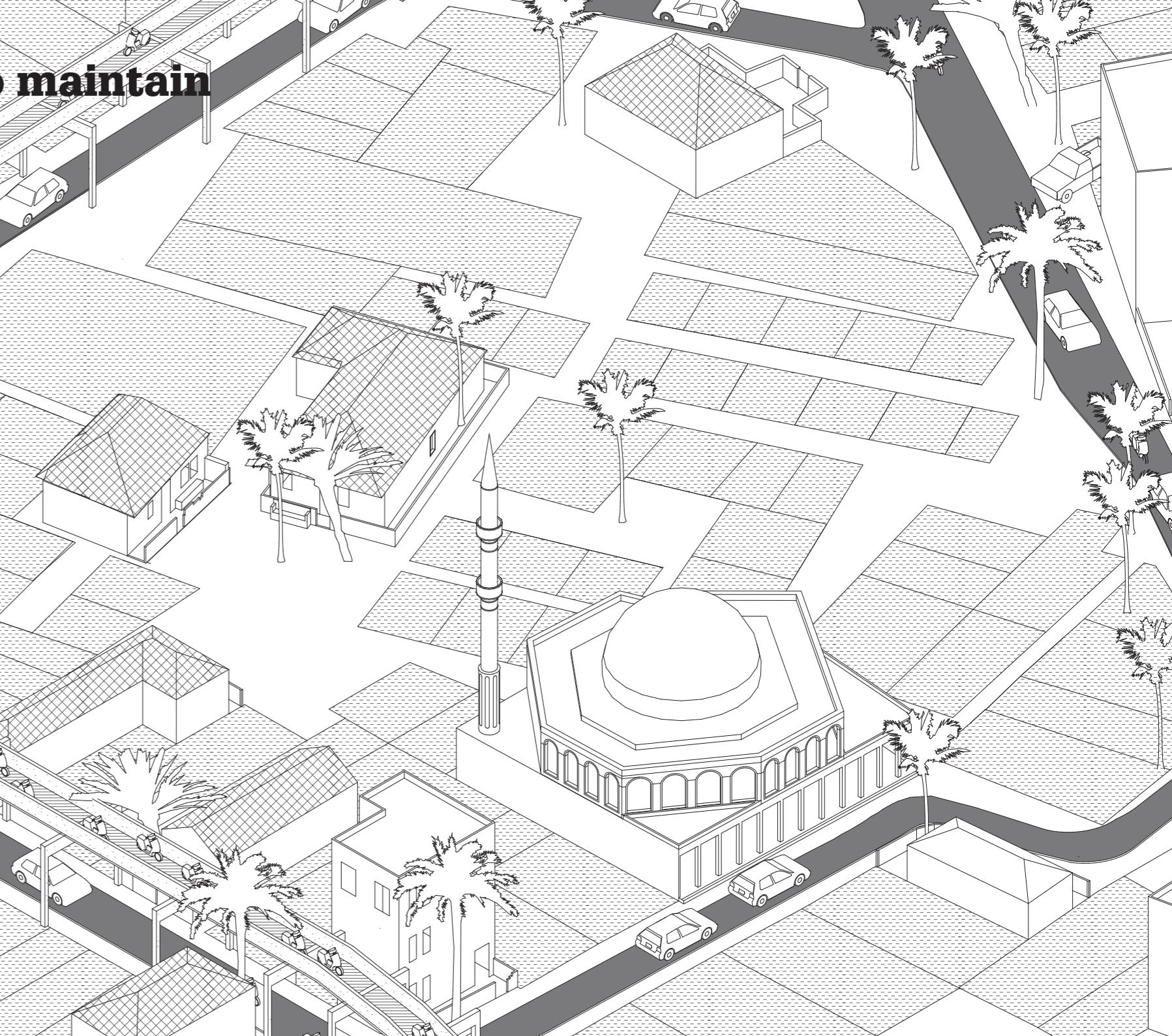


**New Plot division**

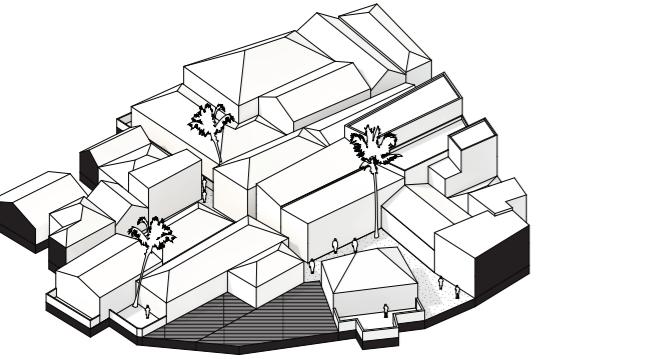
**Need of more space / squares**



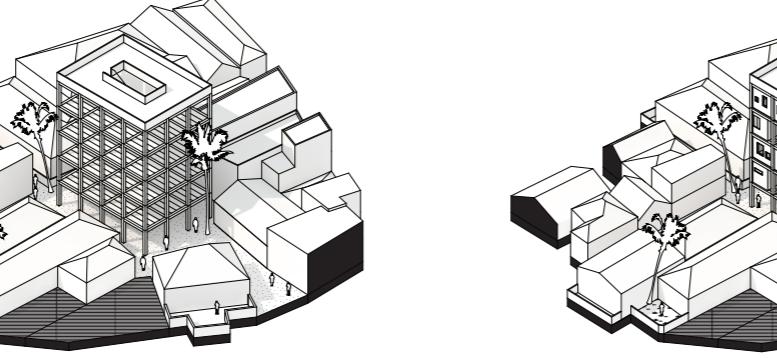
**Building to maintain**



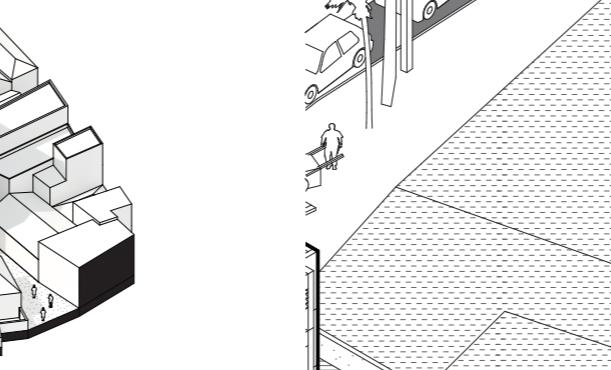
# Public Service buildings



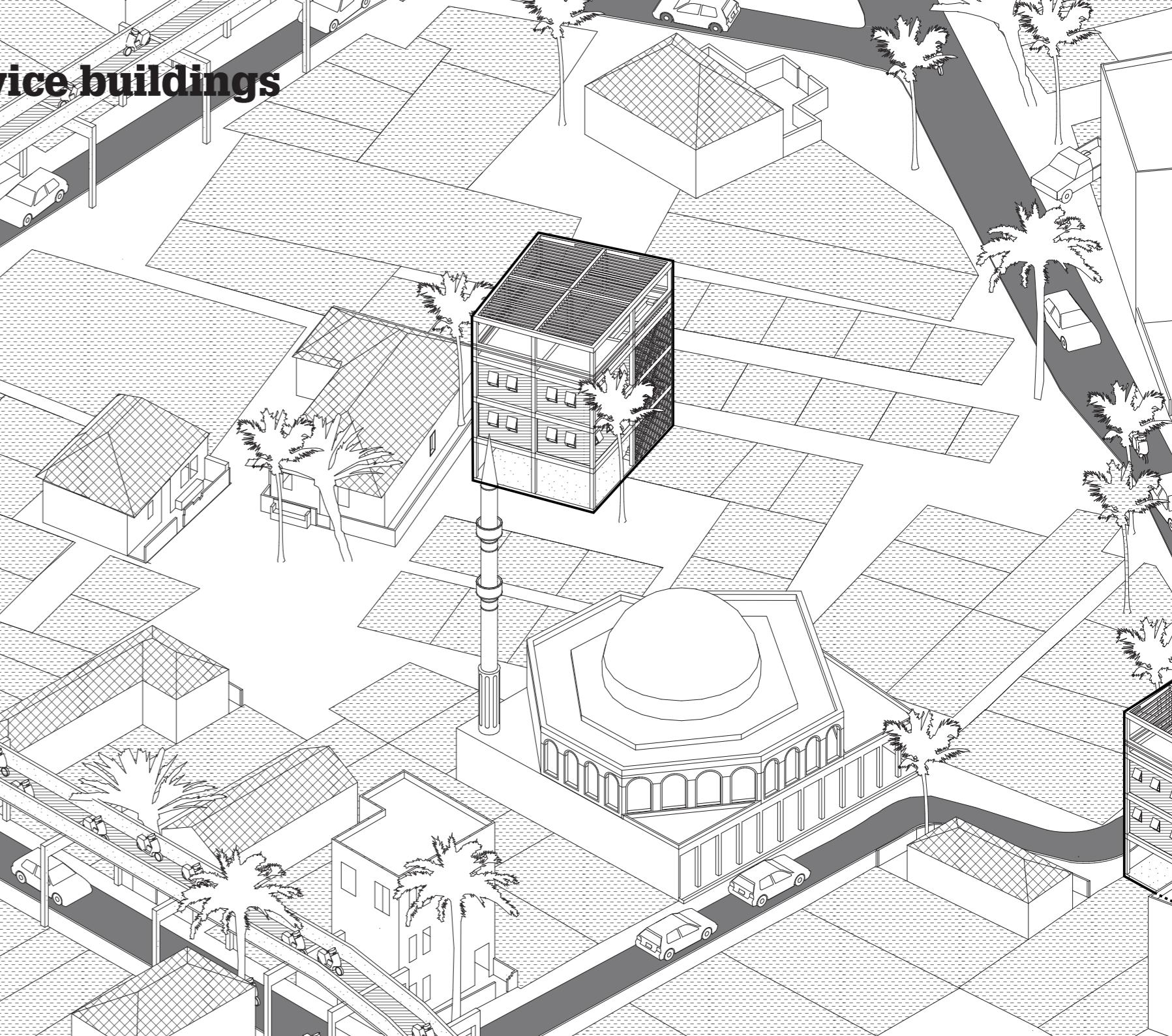
Current Situation (kampung)



Kota influence

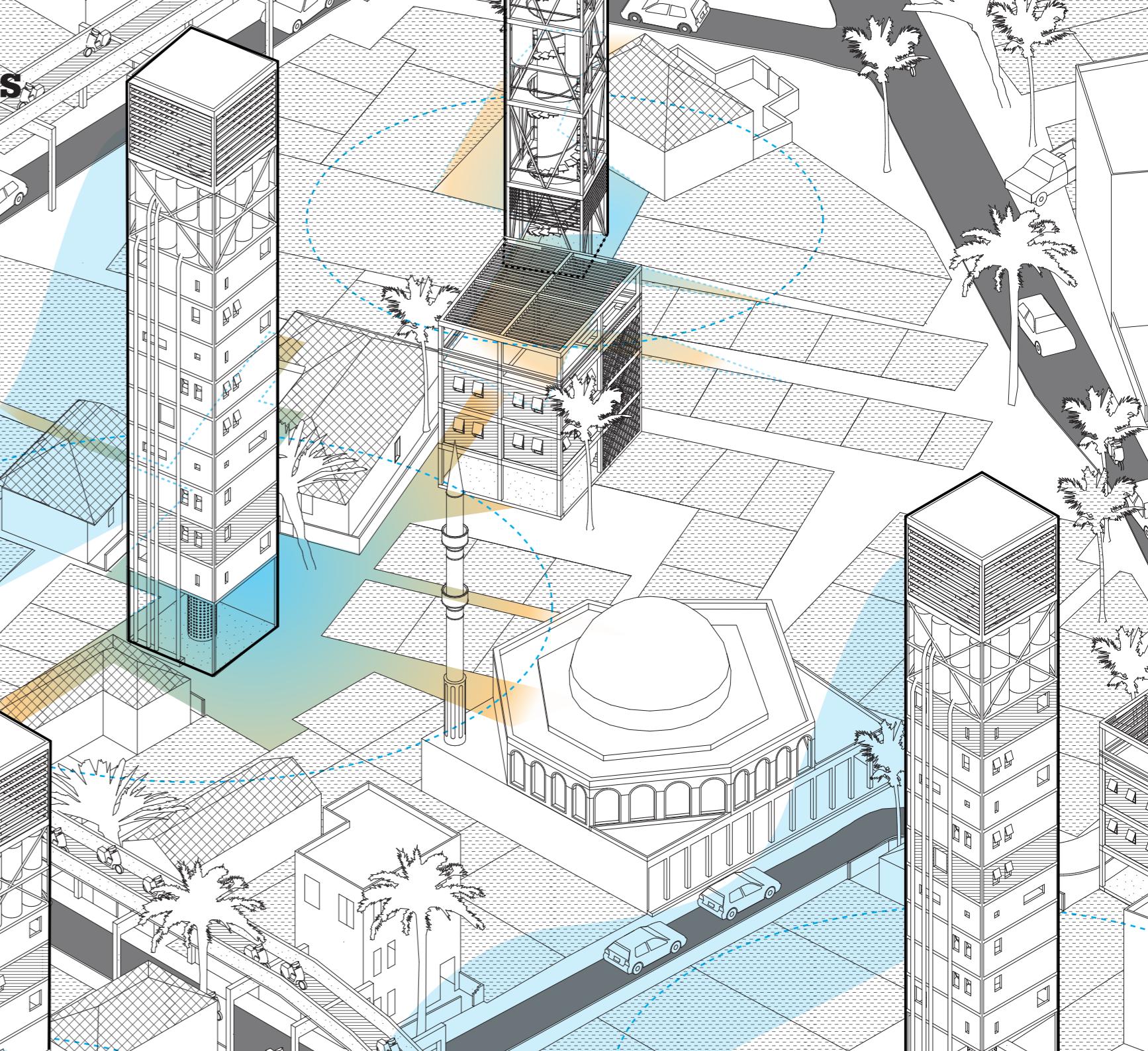


Final Situation (kampung kota)

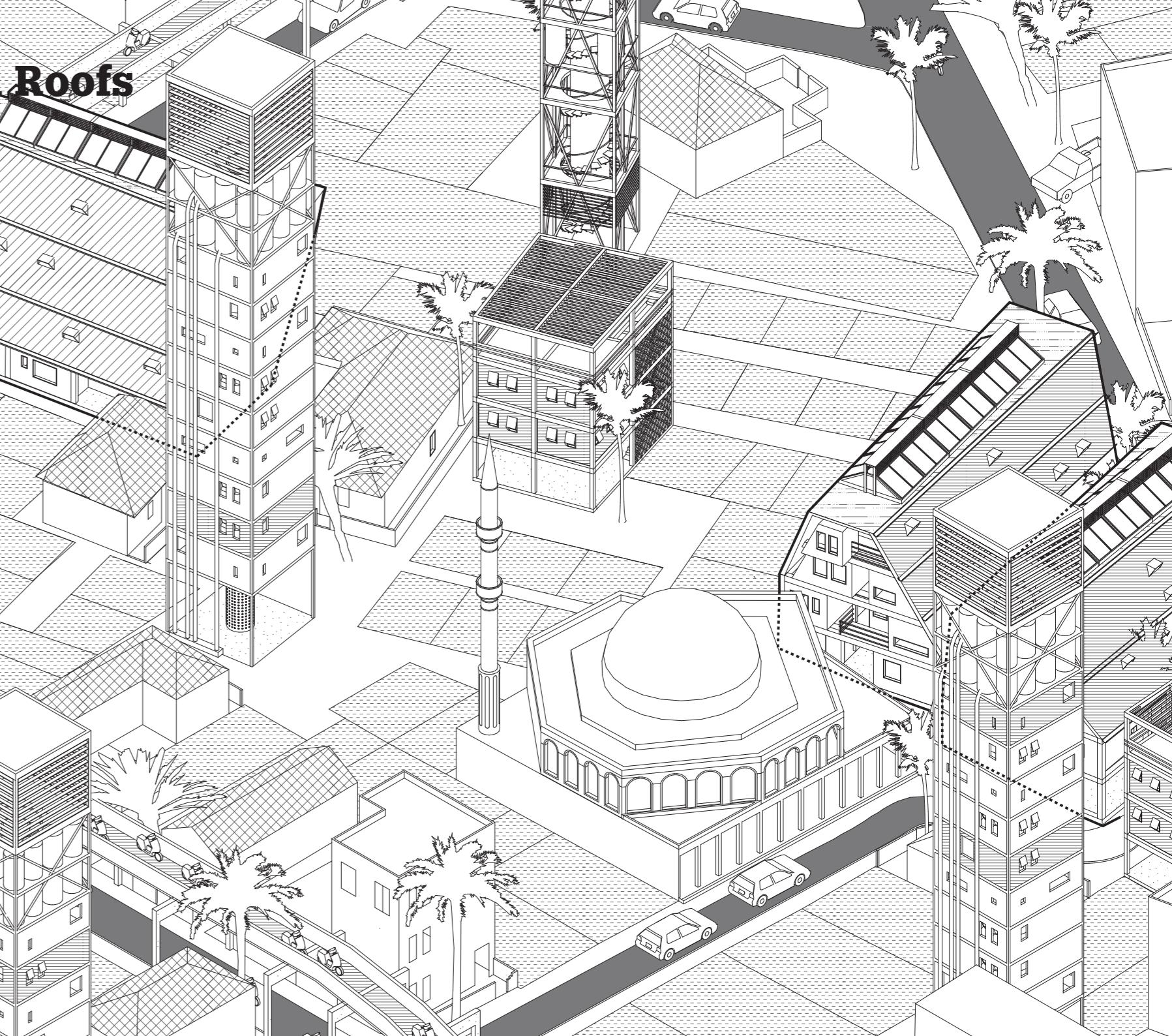
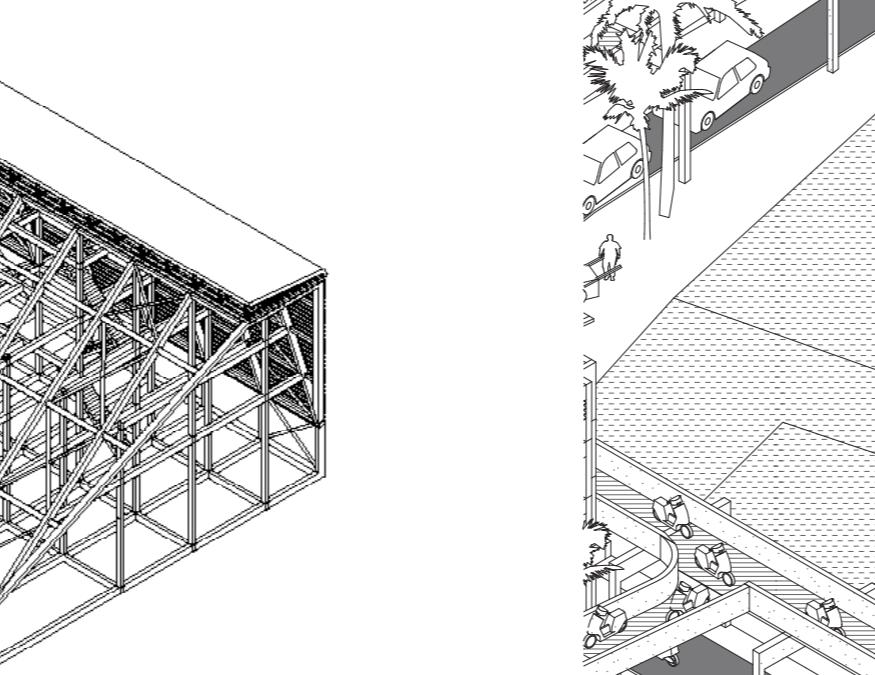
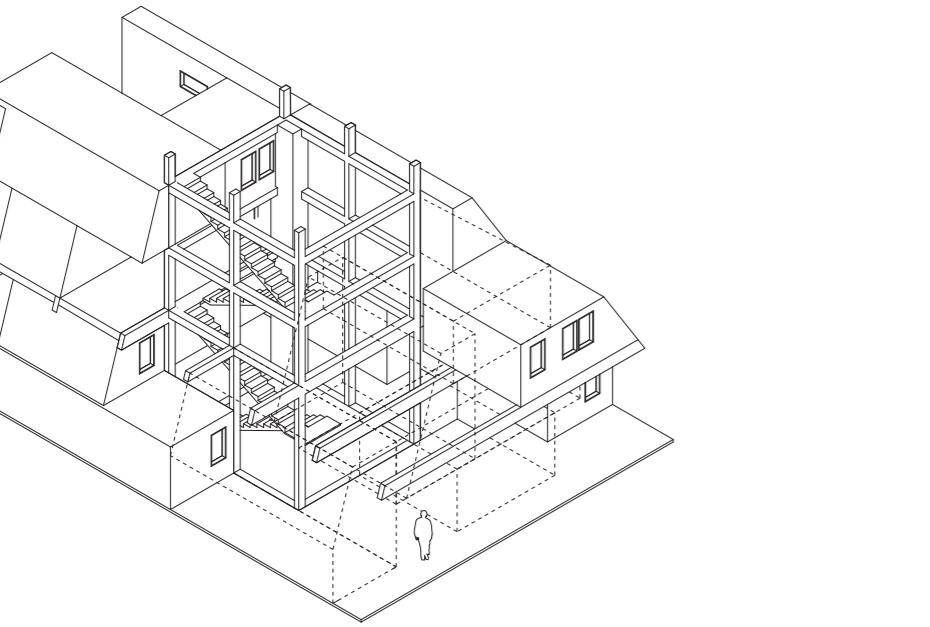


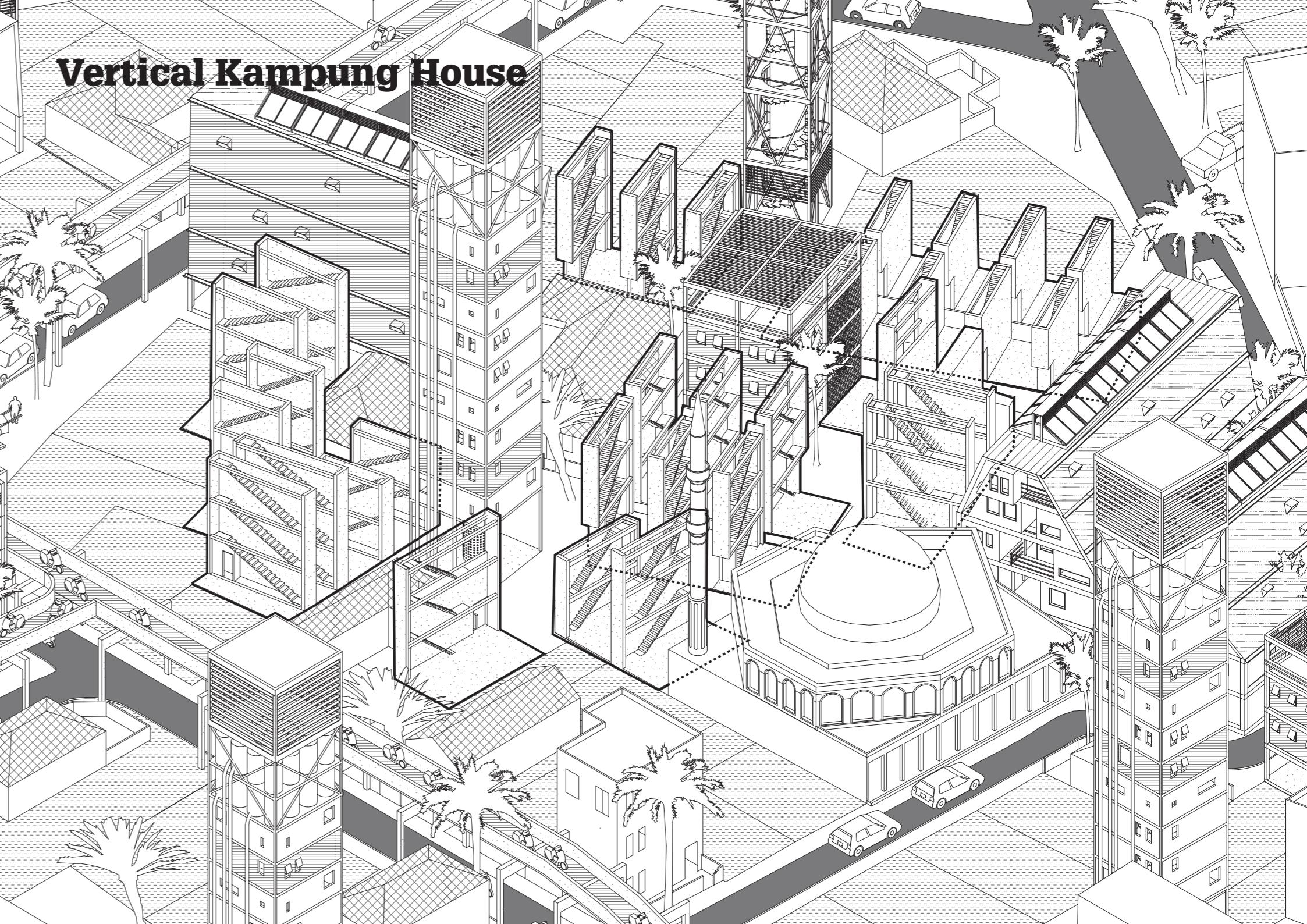
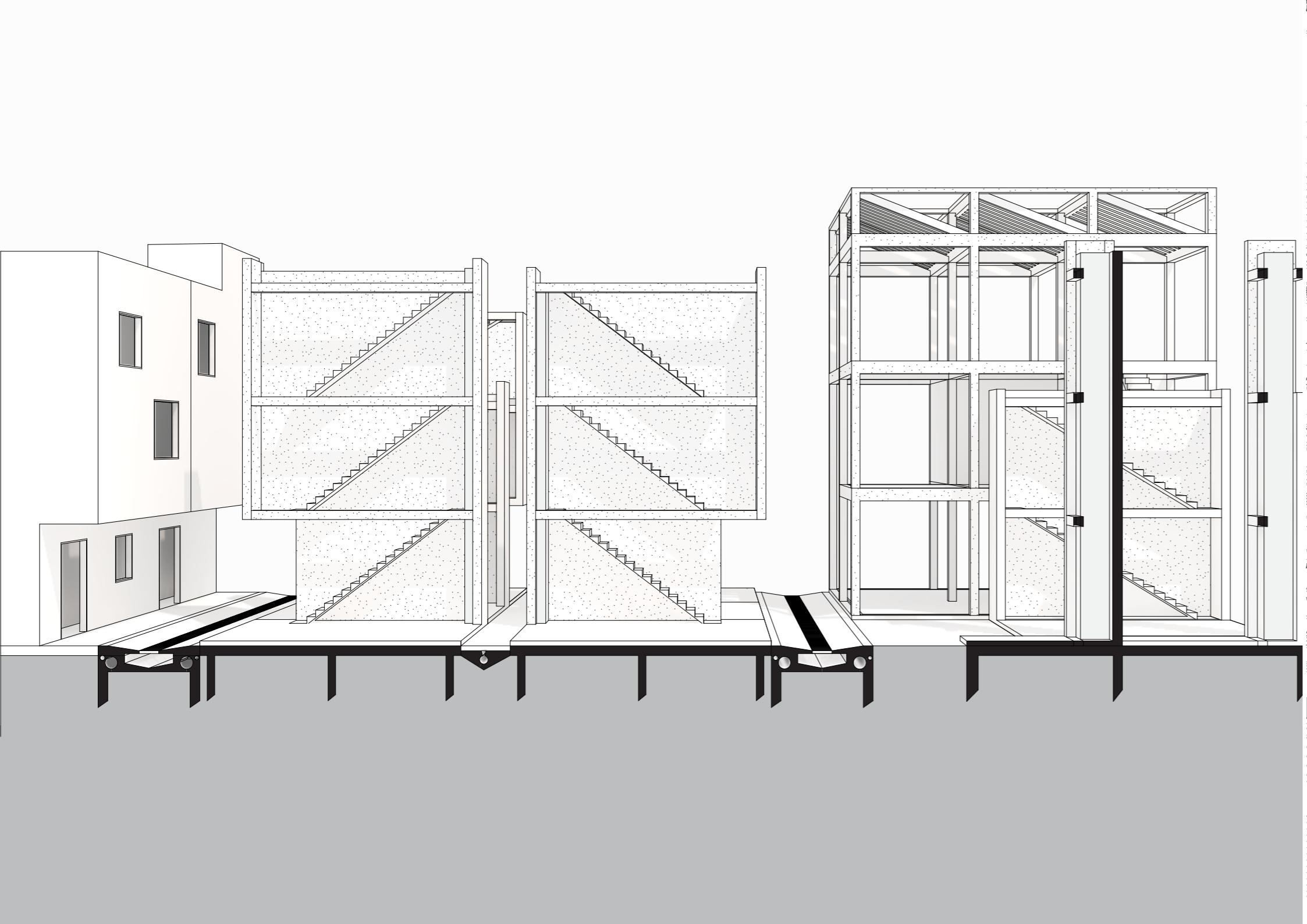
# Public Service buildings

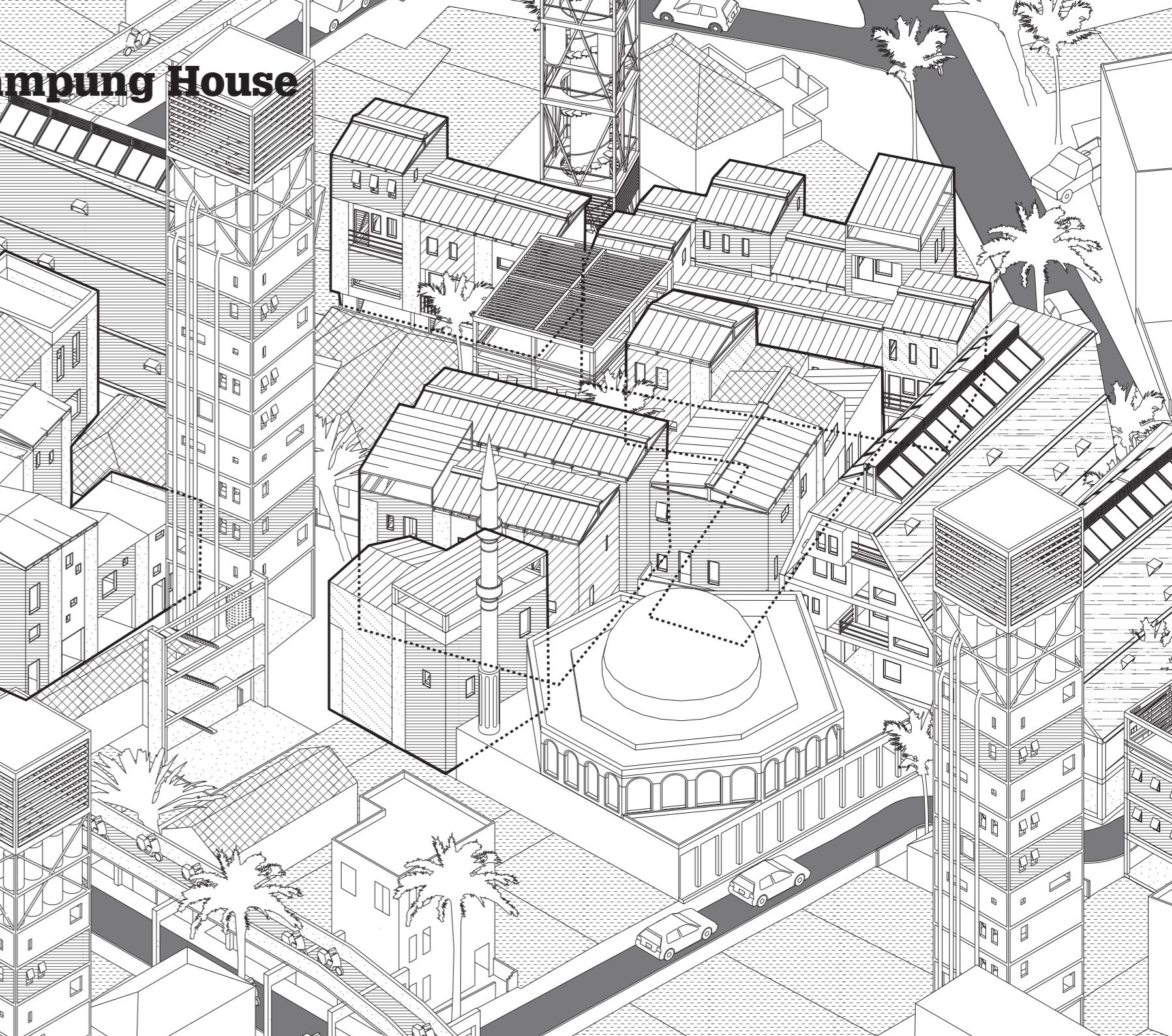
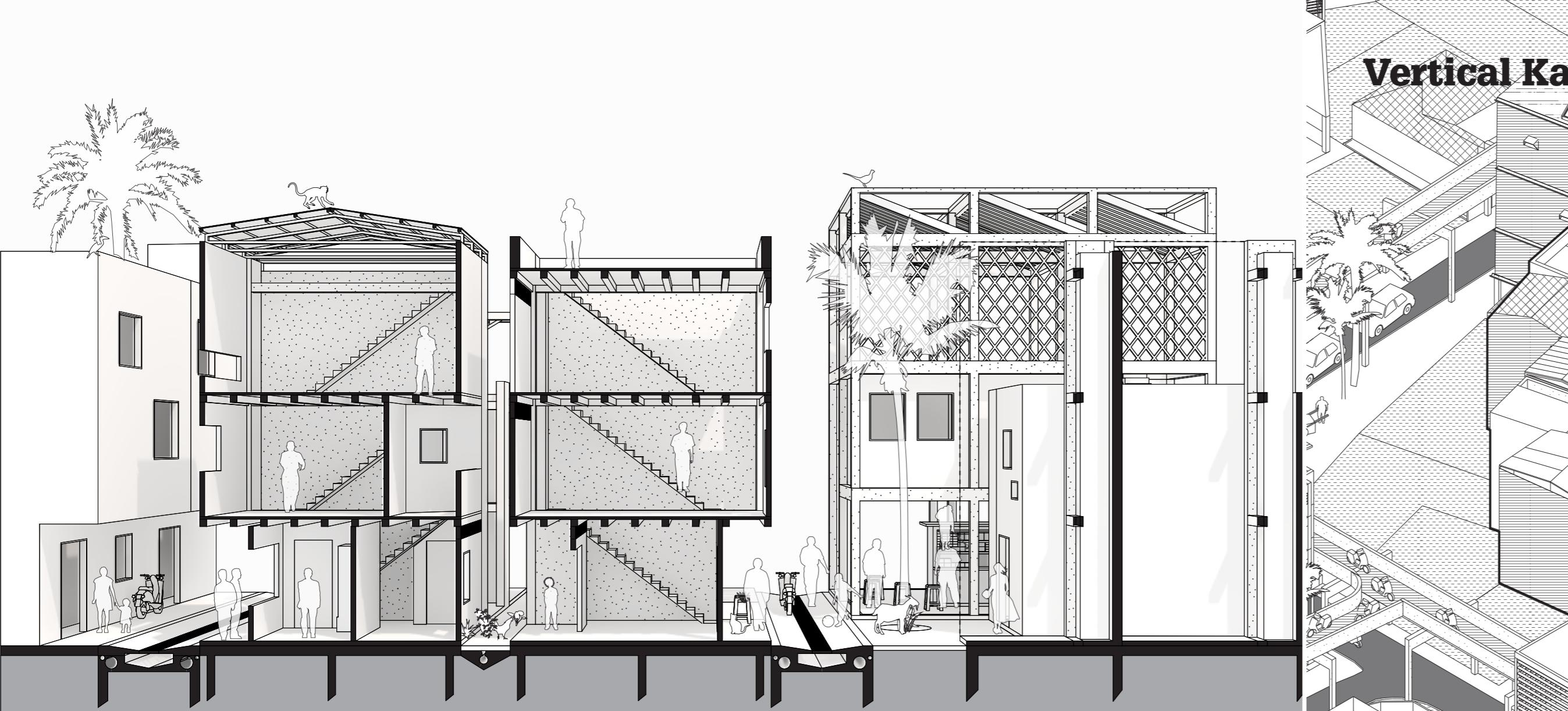
# Windcatchers



# Communal Roofs

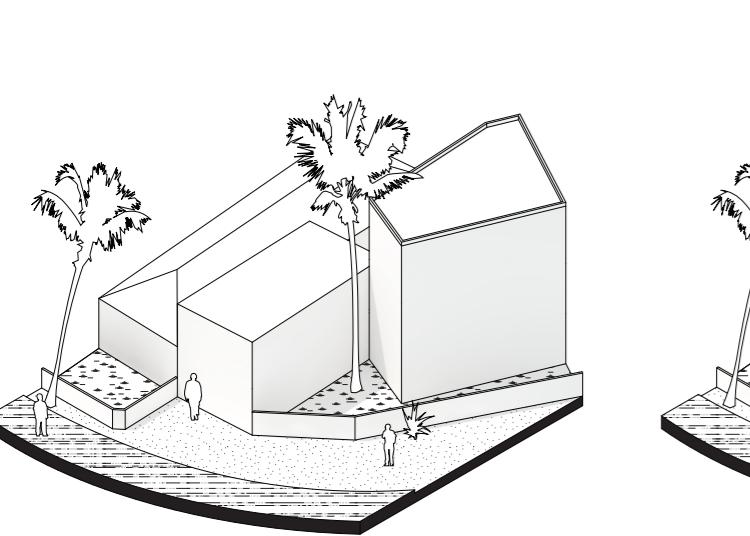




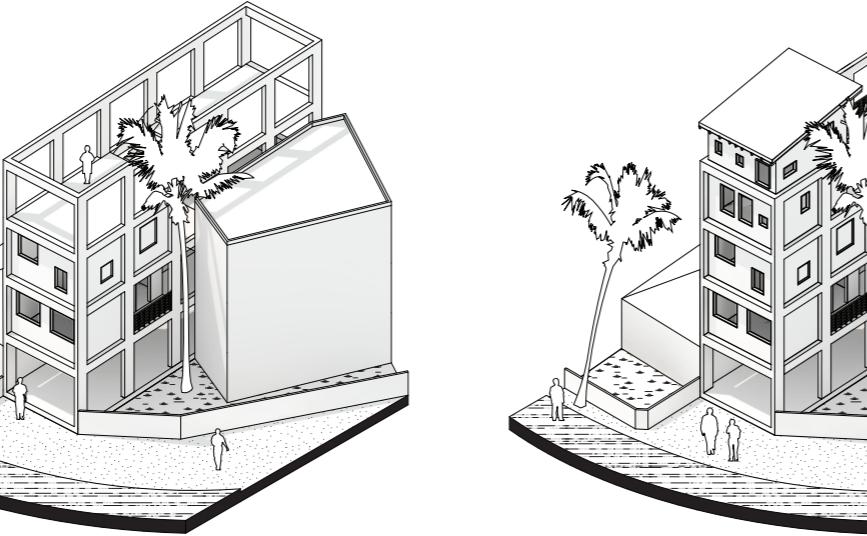


## S - The Collective House

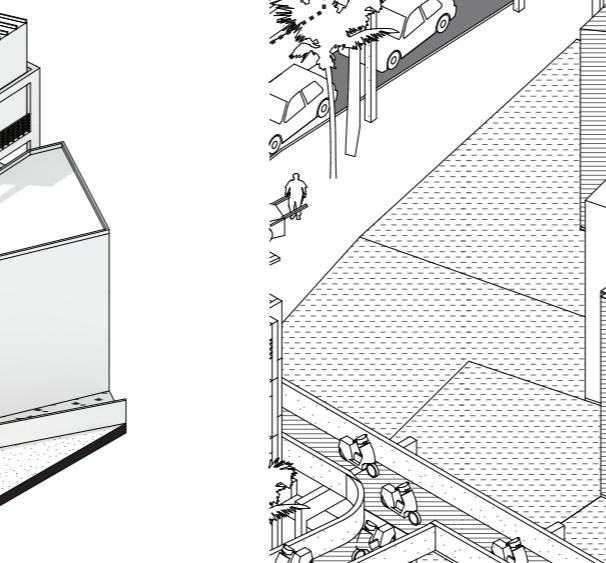
Do you want to live with your entire family in the same street, but are all the plots in your street sold already? No problem, you can now build your own street with multiple houses on the same plot! The government provides a basic concrete structure of max 4 floors with ramps or stairs that could house a total of 8 homes for you and your family!



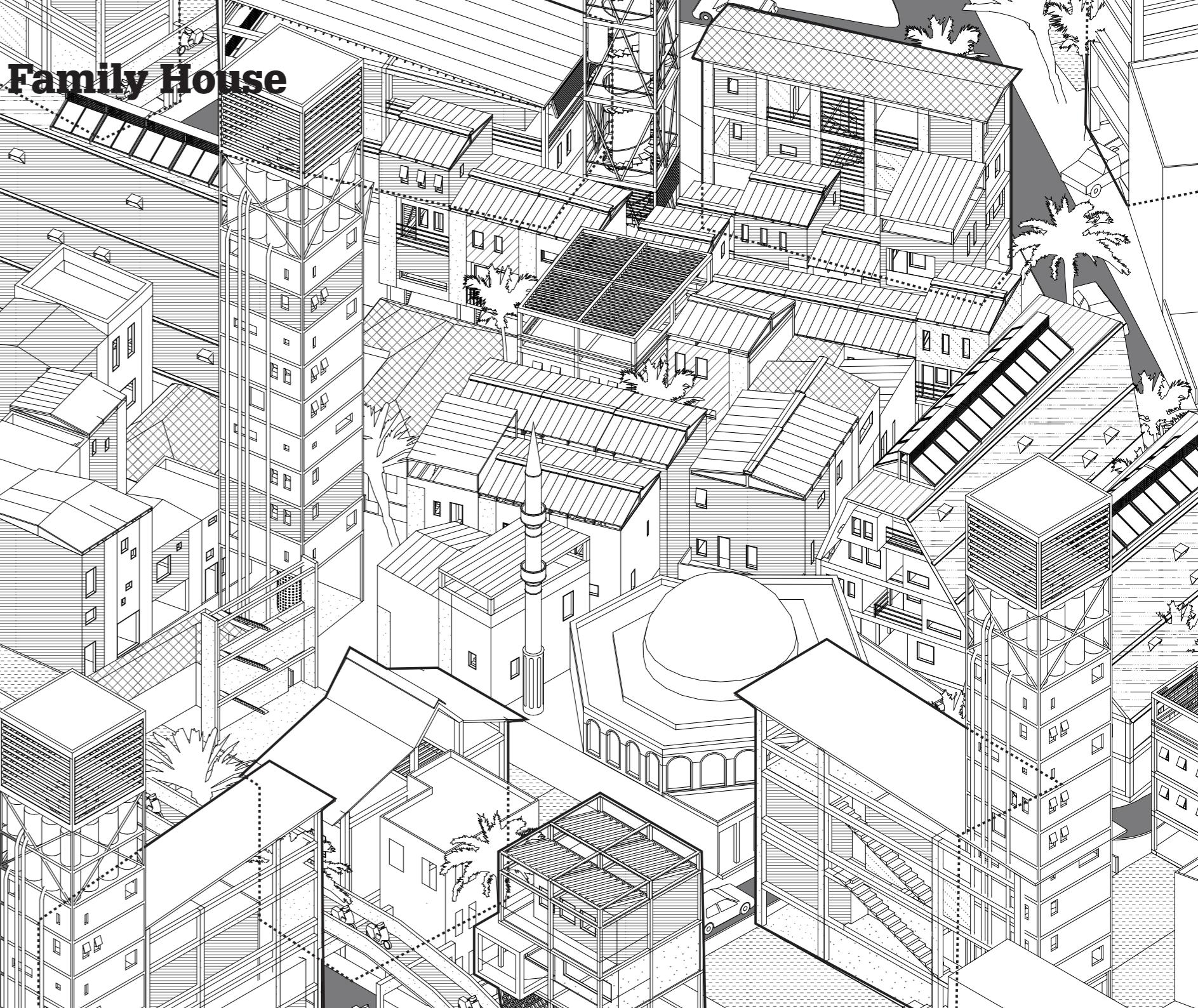
Current Situation (kampung)



Kota influence



Final Situation (kampung kota)

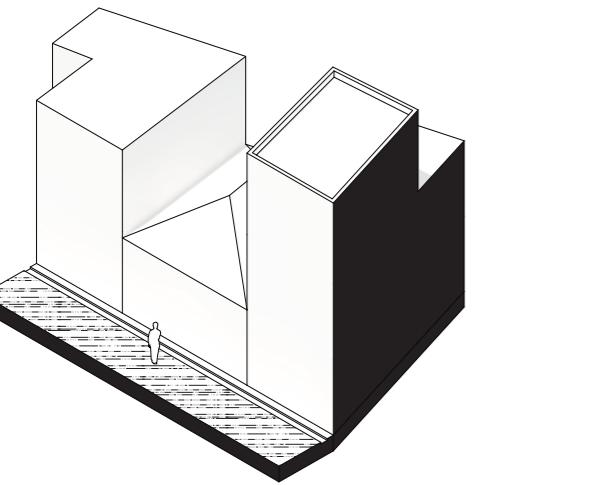
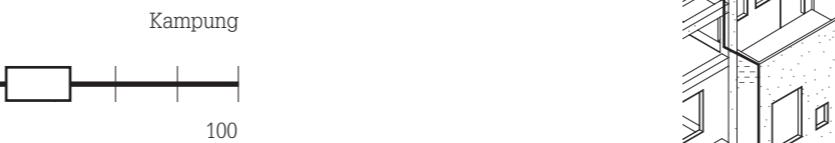


# Rooftop Aditions

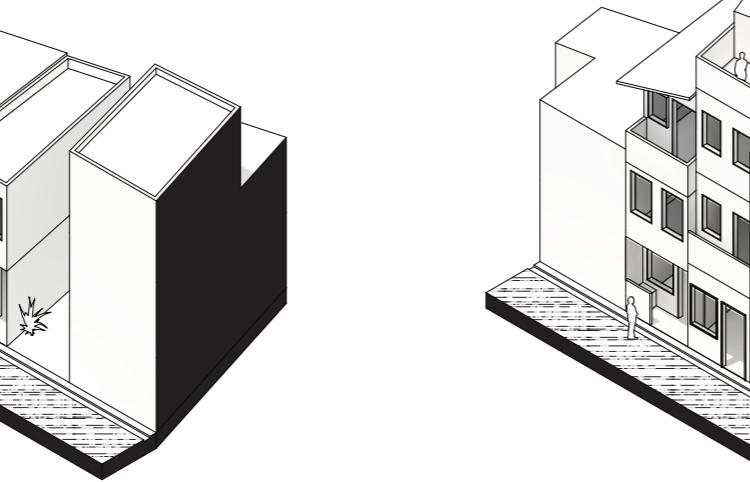


# Split Houses

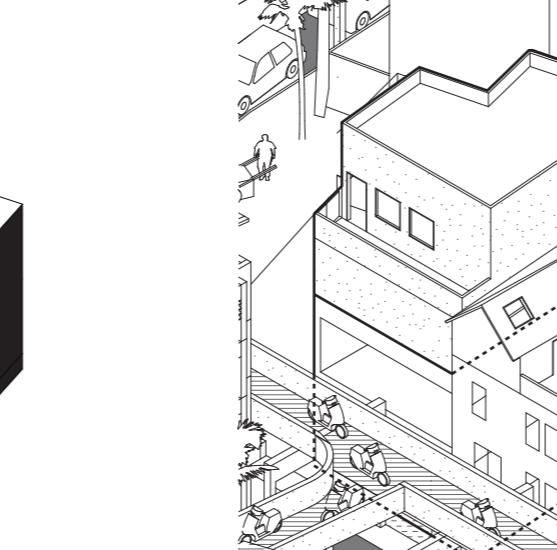
The split house is based on a policy to help double the amount of registrable and legal land. If you sell half of your plot you'll get formal right for the other half and a budget to build a new house (from concrete and bricks!). Because of this you're able to build a much higher house. The land next door can be sold (split the profit between the old owner and the government) and used to build another house on to it. Directly doubling the density!



Current Situation (kampung)



Kota influence

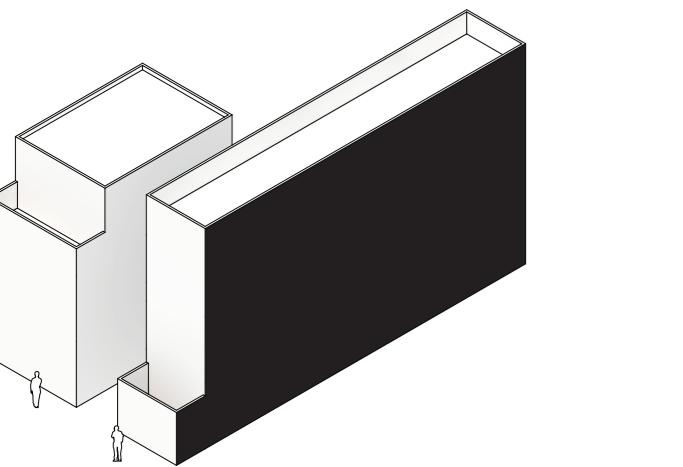


Final Situation (kampung kota)

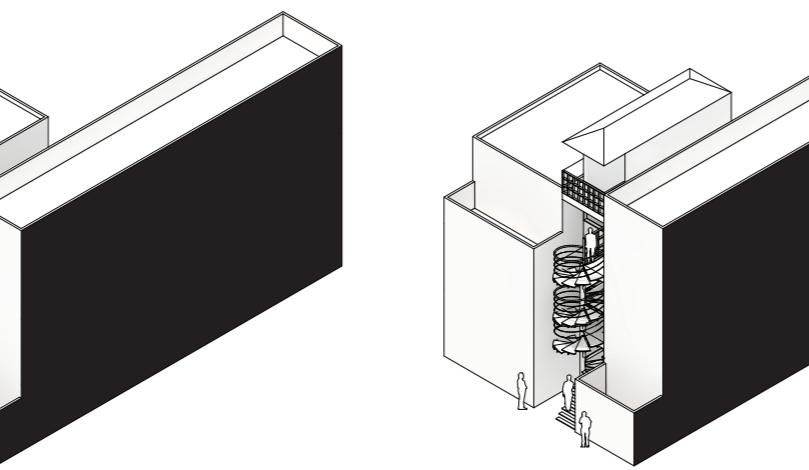


## XS - The Parasite

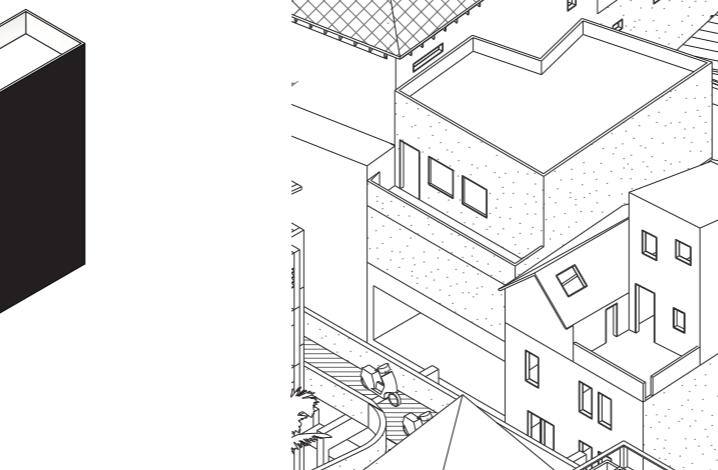
The parasite takes advantage of the concrete walls of the higher mid-income inhabitants of the inner-city Kampung by placing floors between the 2 adjacent walls. The houses might be small if they take full advantage of the depth of their neighboring houses. A spiral staircase is attached as the main accespoint



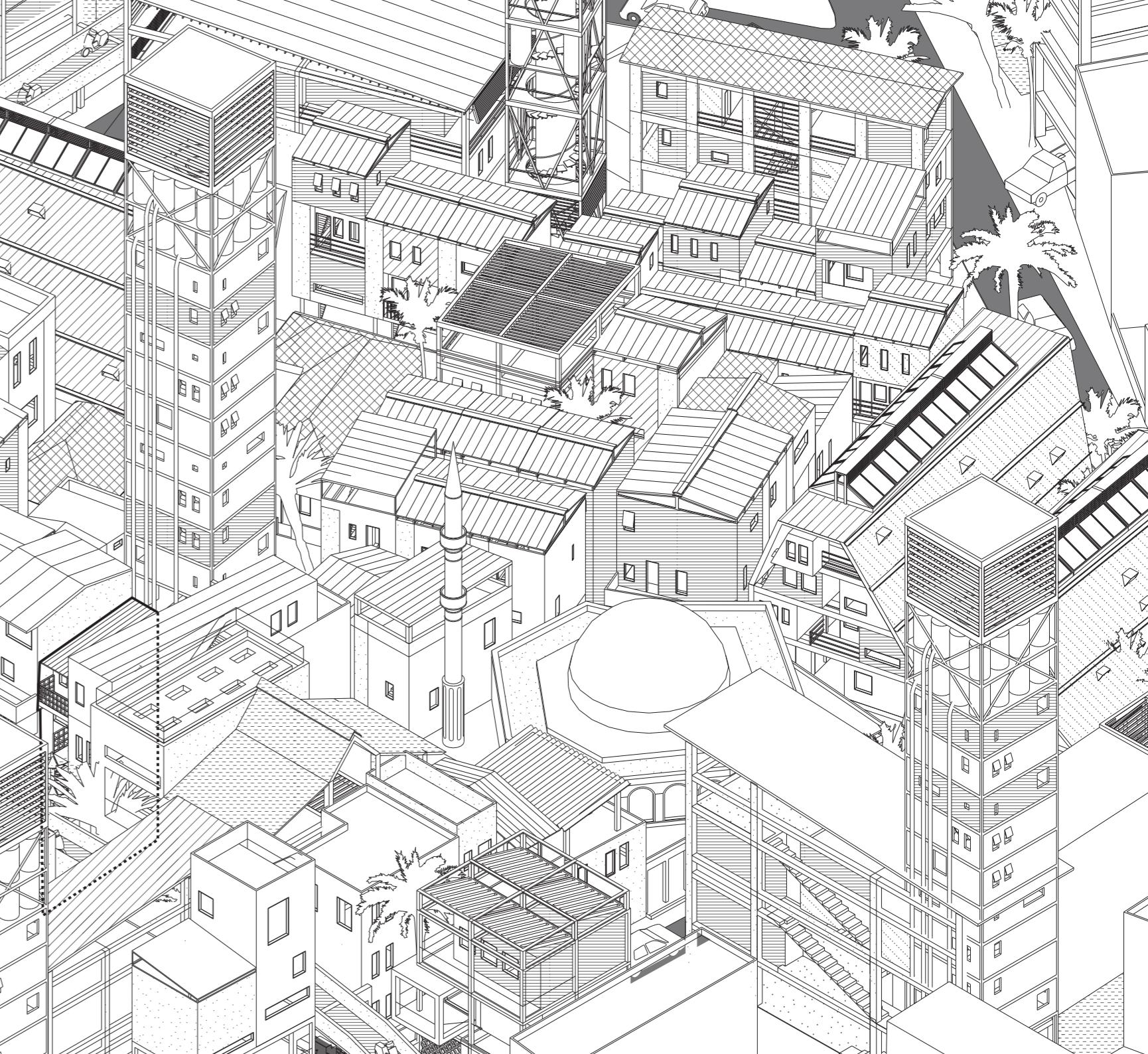
Current Situation (kampung)

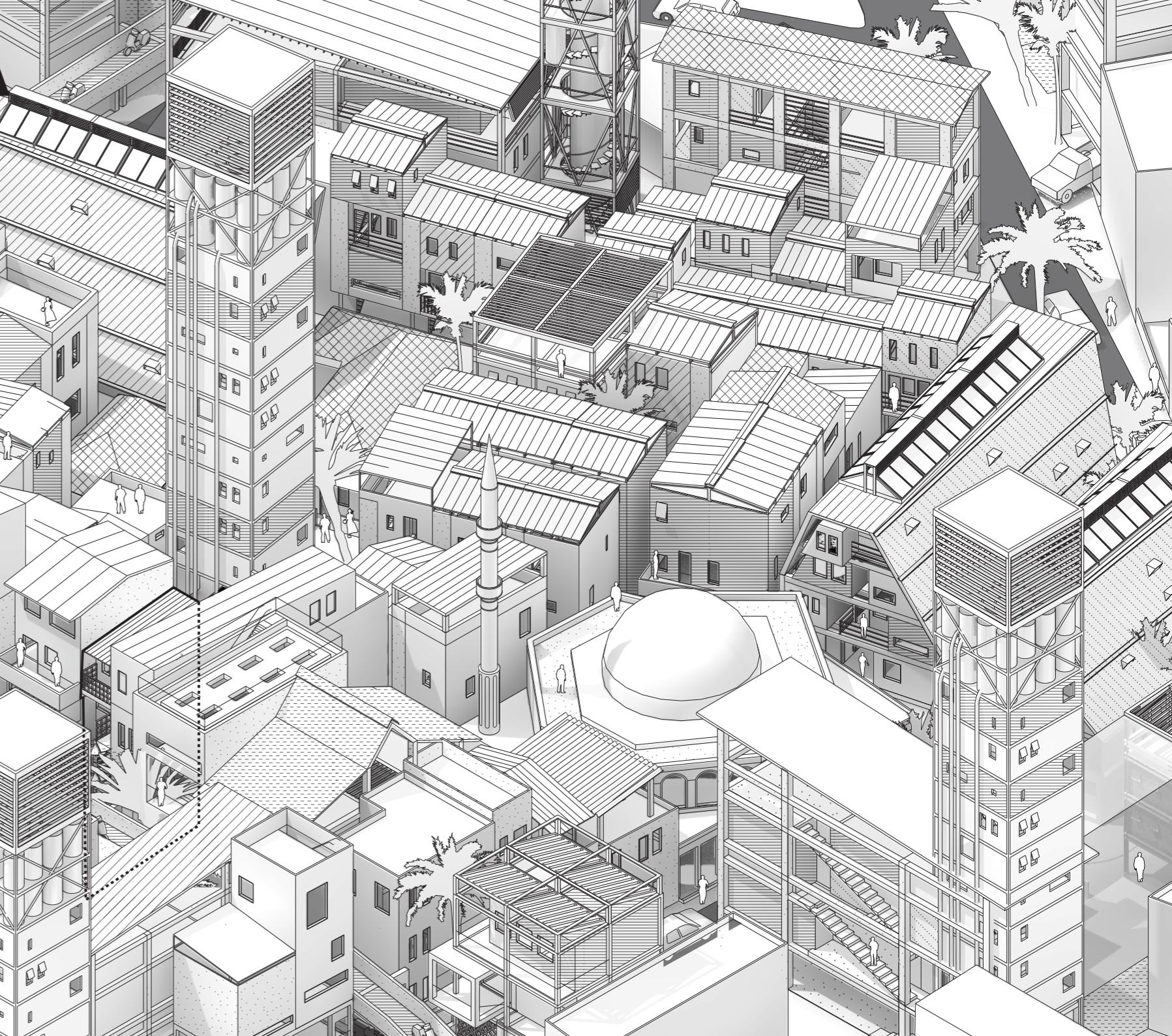
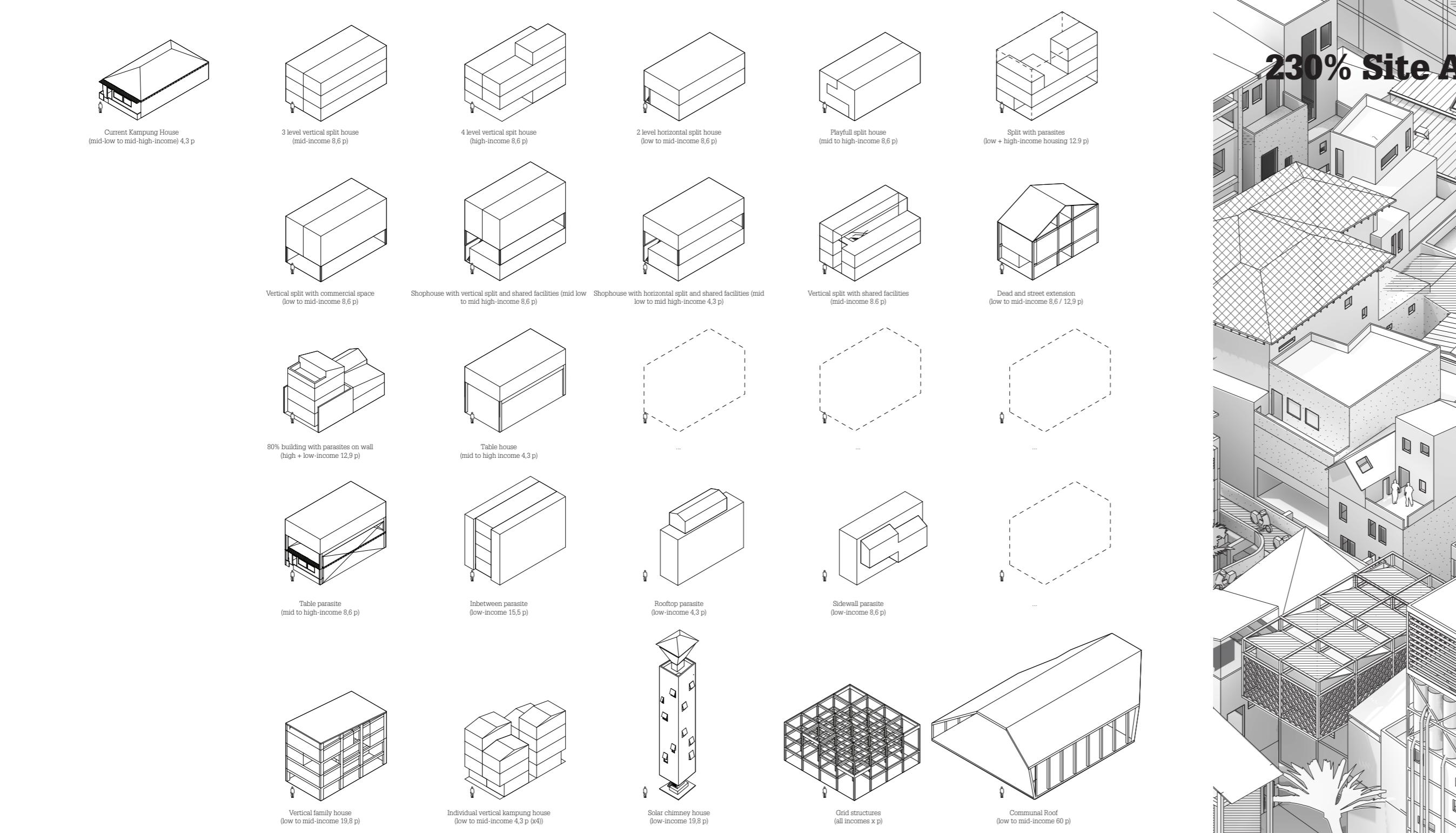


Kota influence



Final Situation (kampung kota)

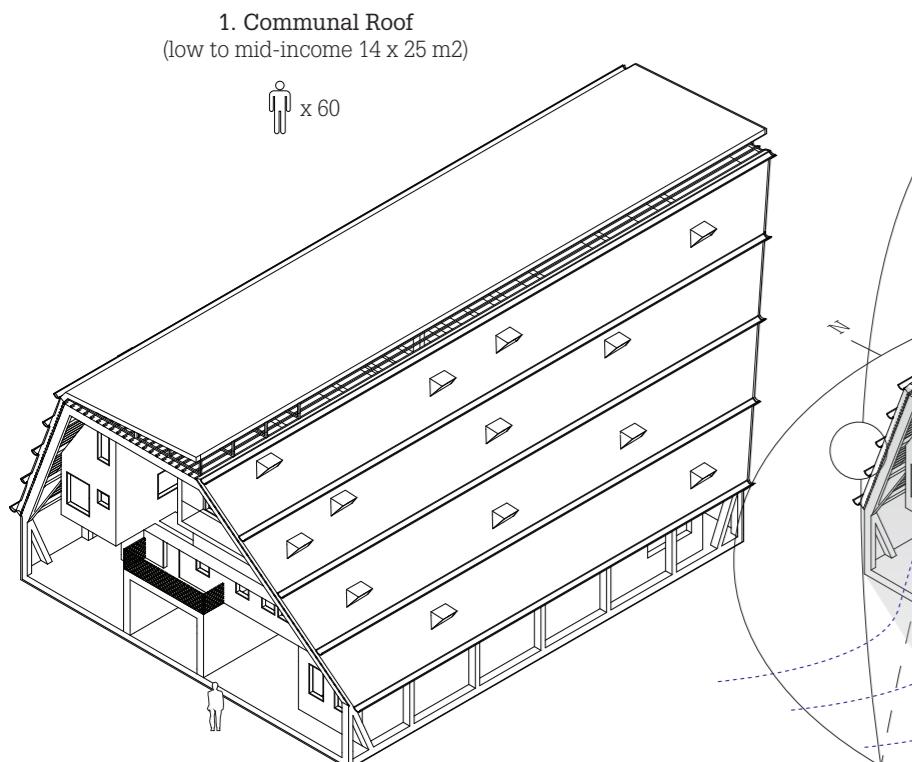




# Communal Roof

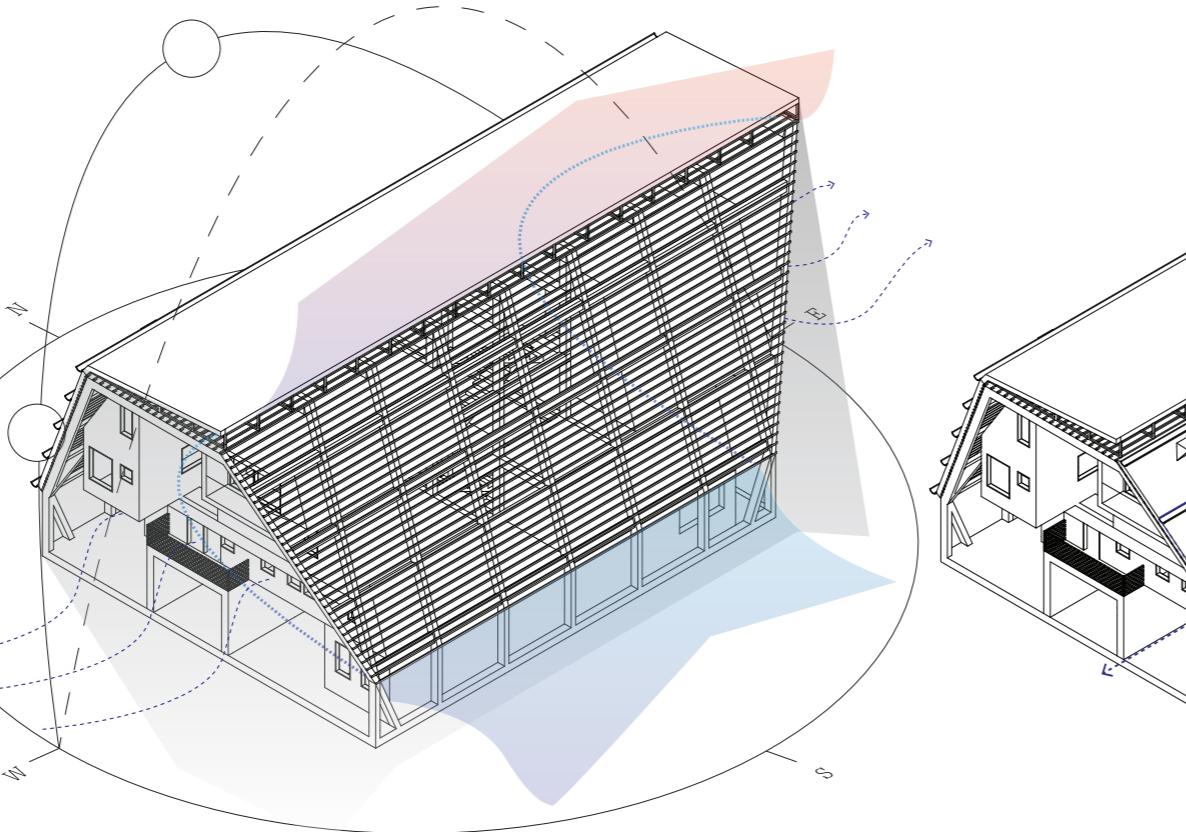
Total

+



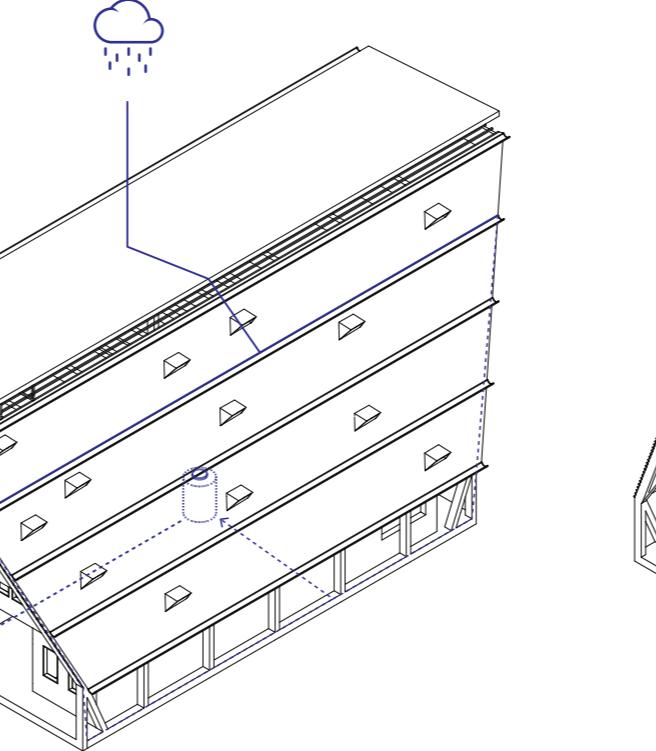
Sun & Ventilation

+



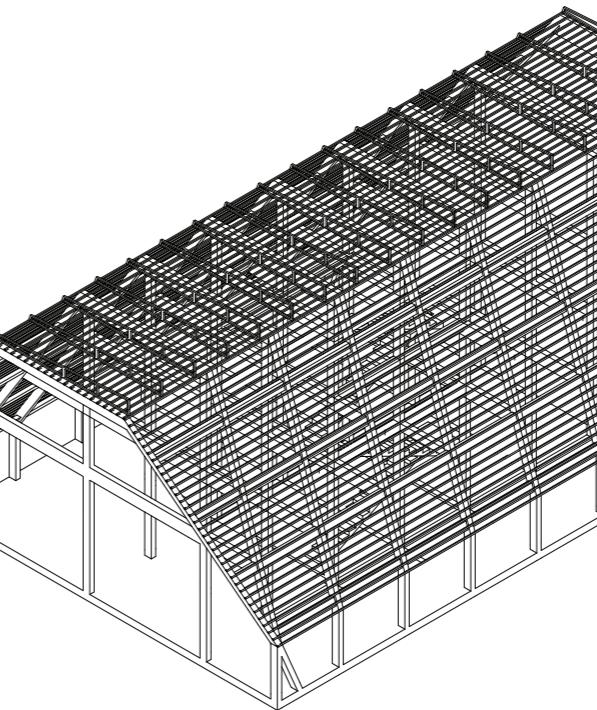
Water

+



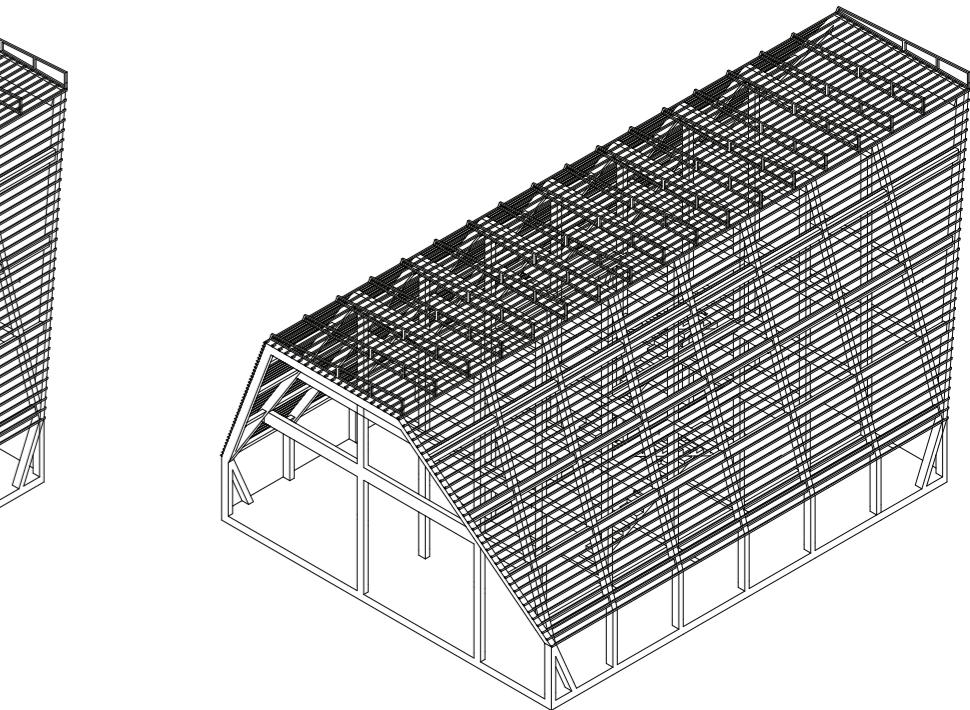
Kota Structure

+

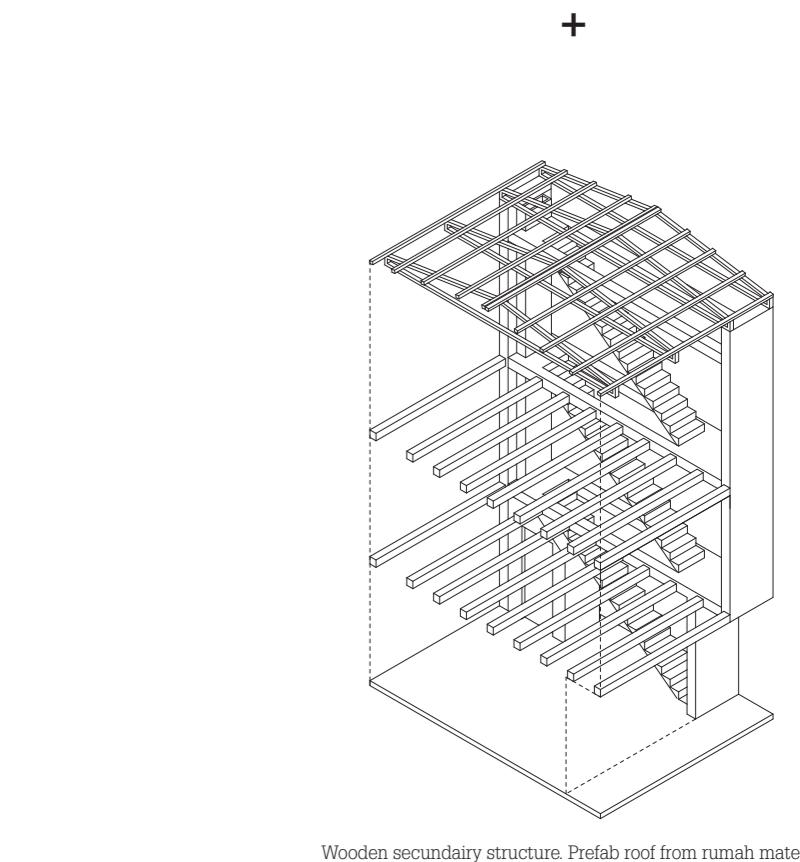
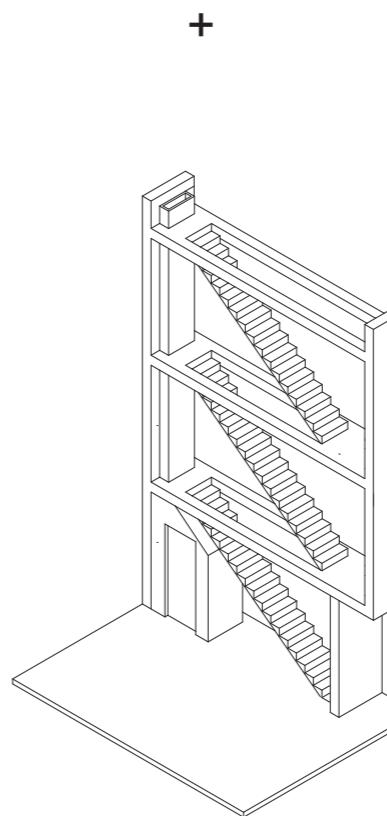
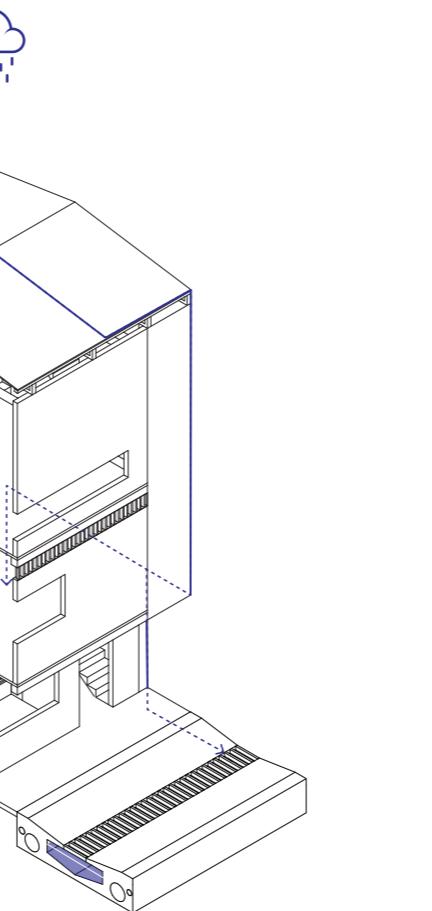
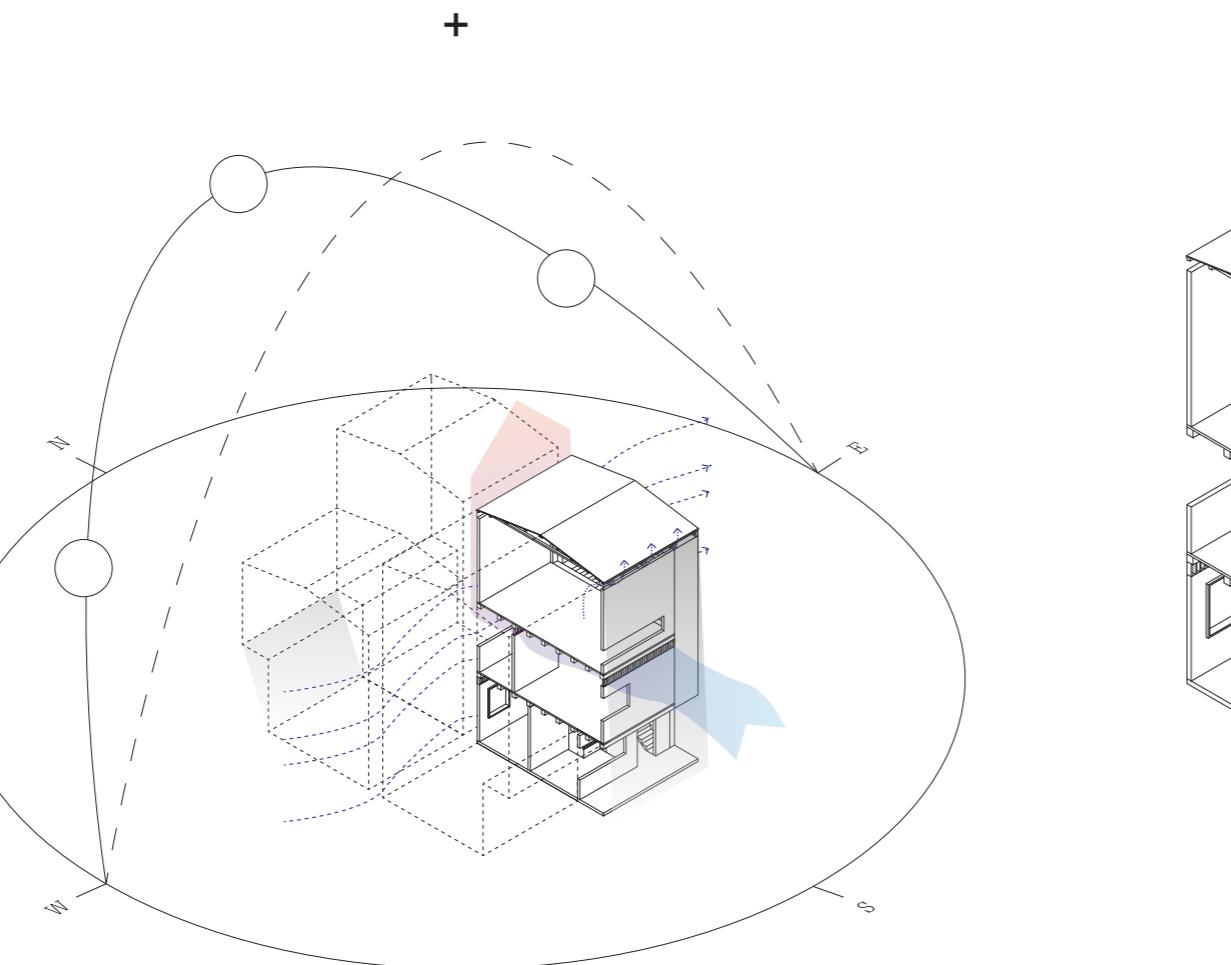
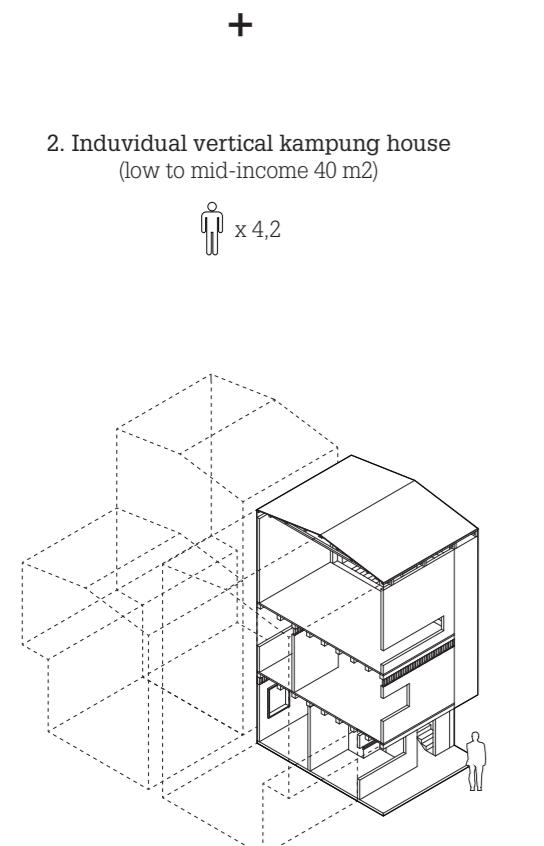


KotaKampung Structure

+



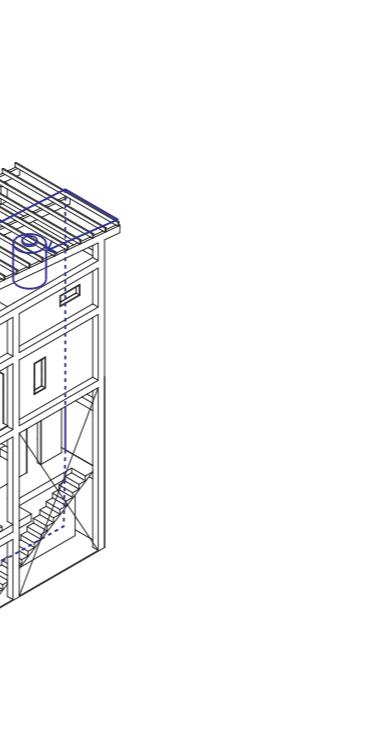
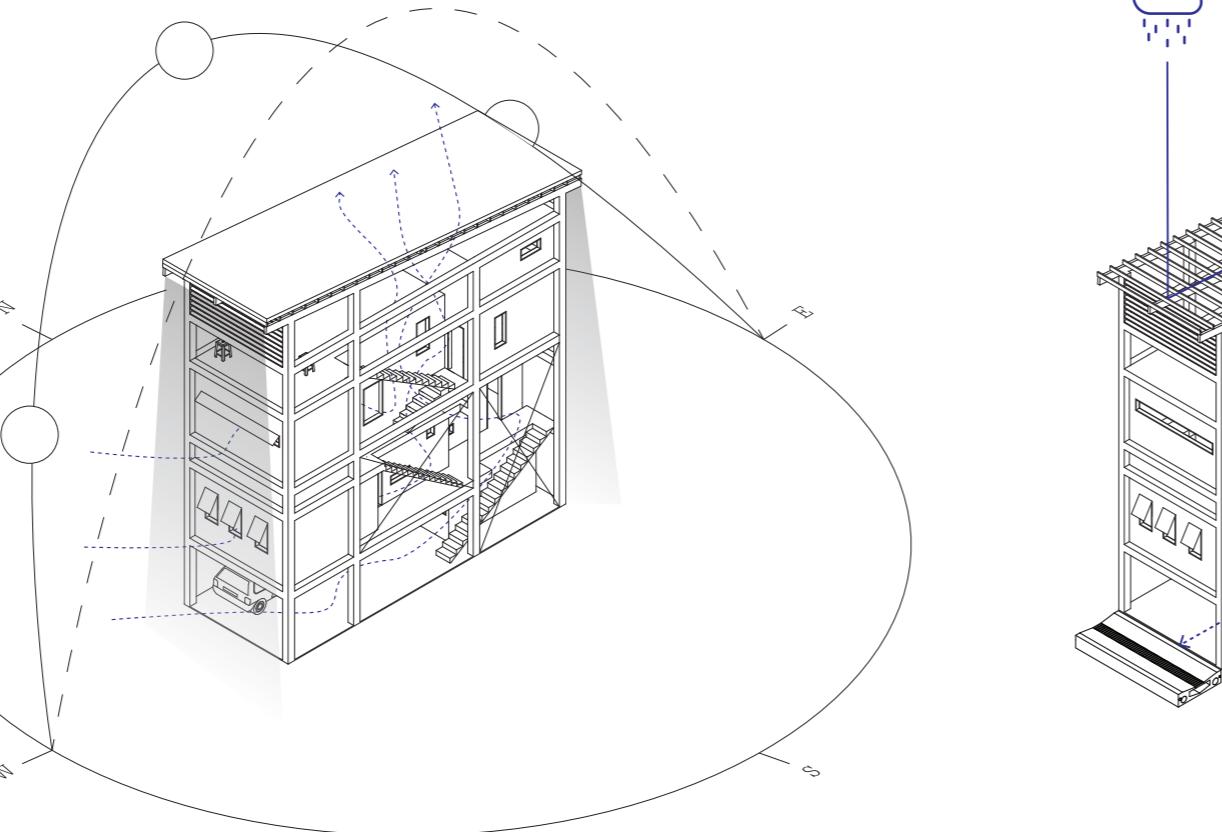
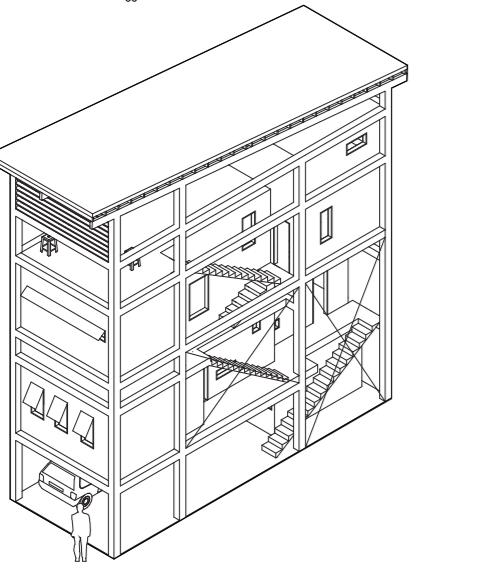
# Vertical kampung house



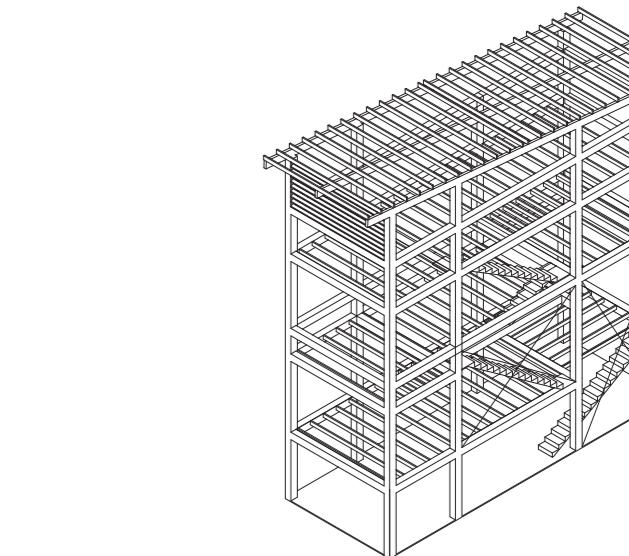
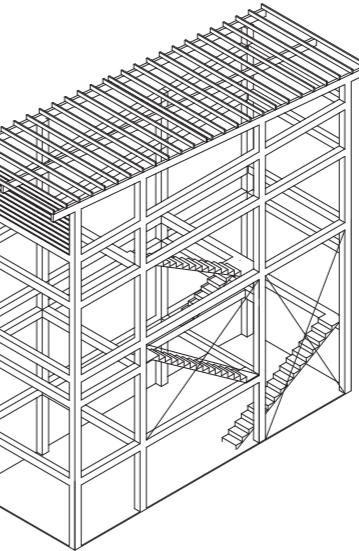
# Vertical family house

3. Family vertical kampung house  
(low mid-income 5 x 25 m<sup>2</sup>)

∅ x 21



Concrete base, cast in site concrete columns and pillars  
Prefab stairs. Build-in toilet and shaft. Wooden roof

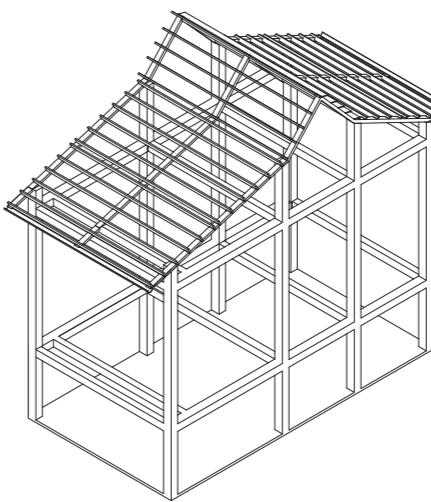
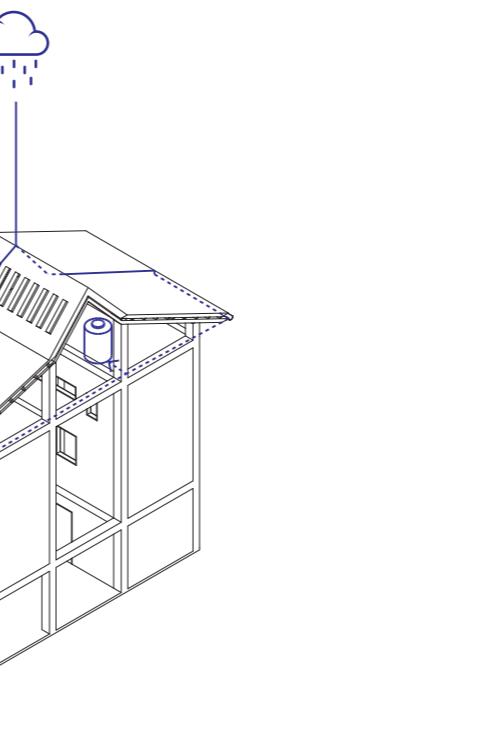
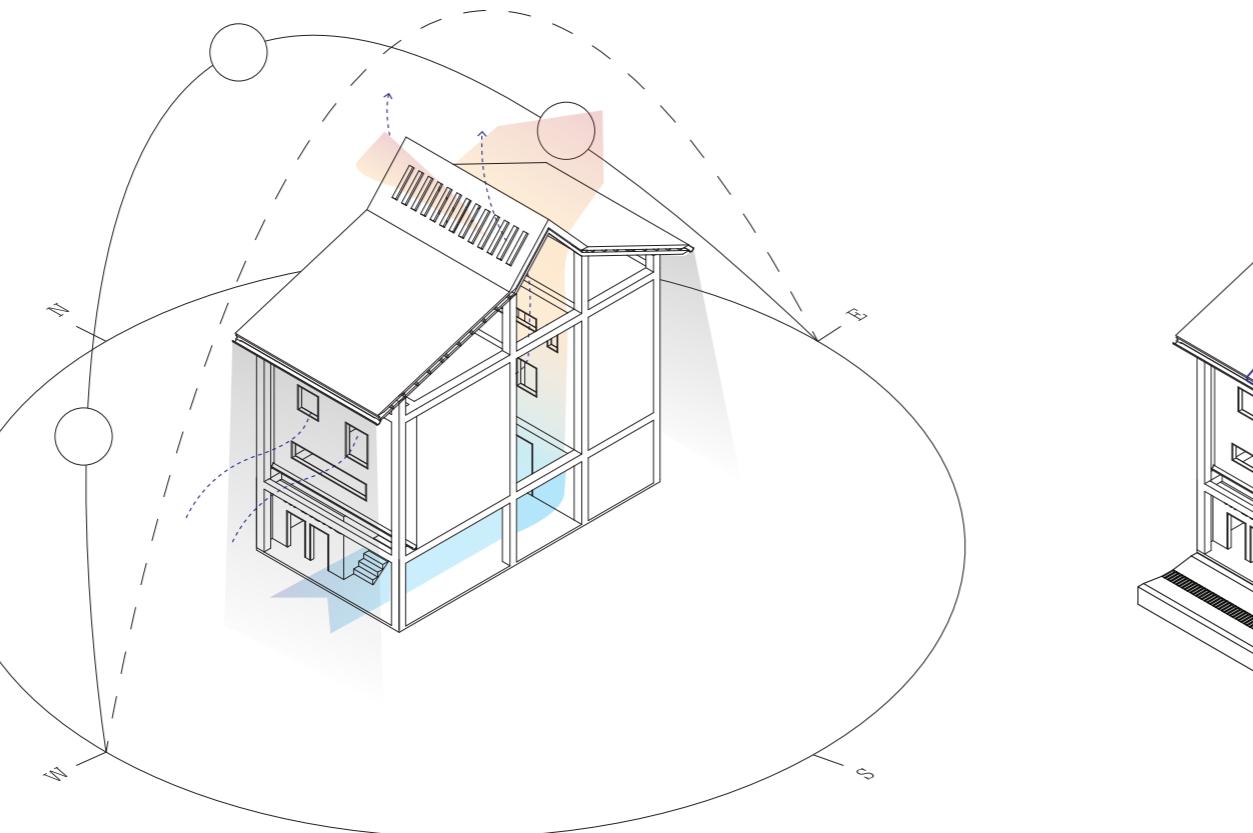
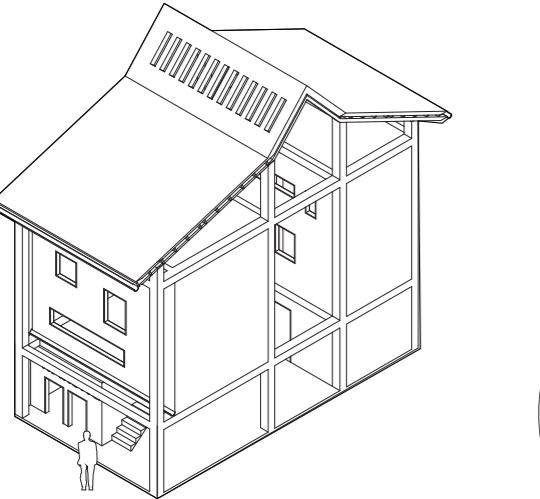


Wooden secondary structure

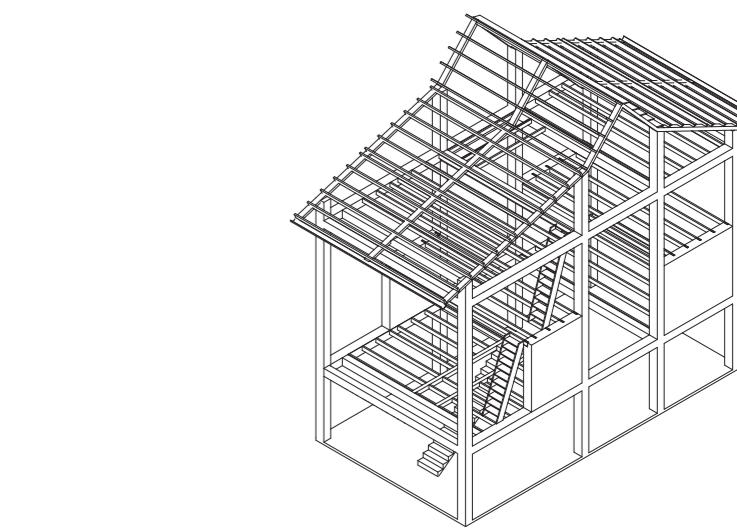
# Street extension house

4. Street extensihon house  
(mid-income 2 x 40 m2)

1 x 8,4

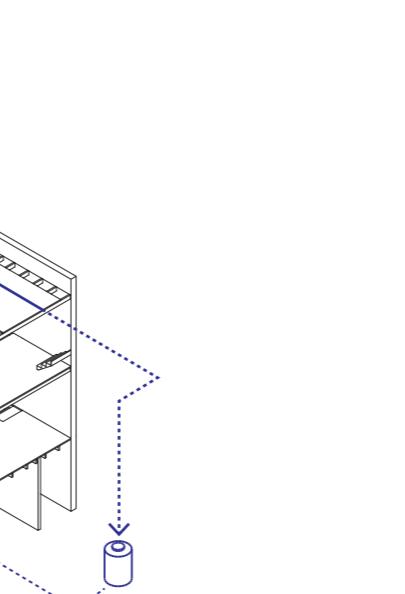
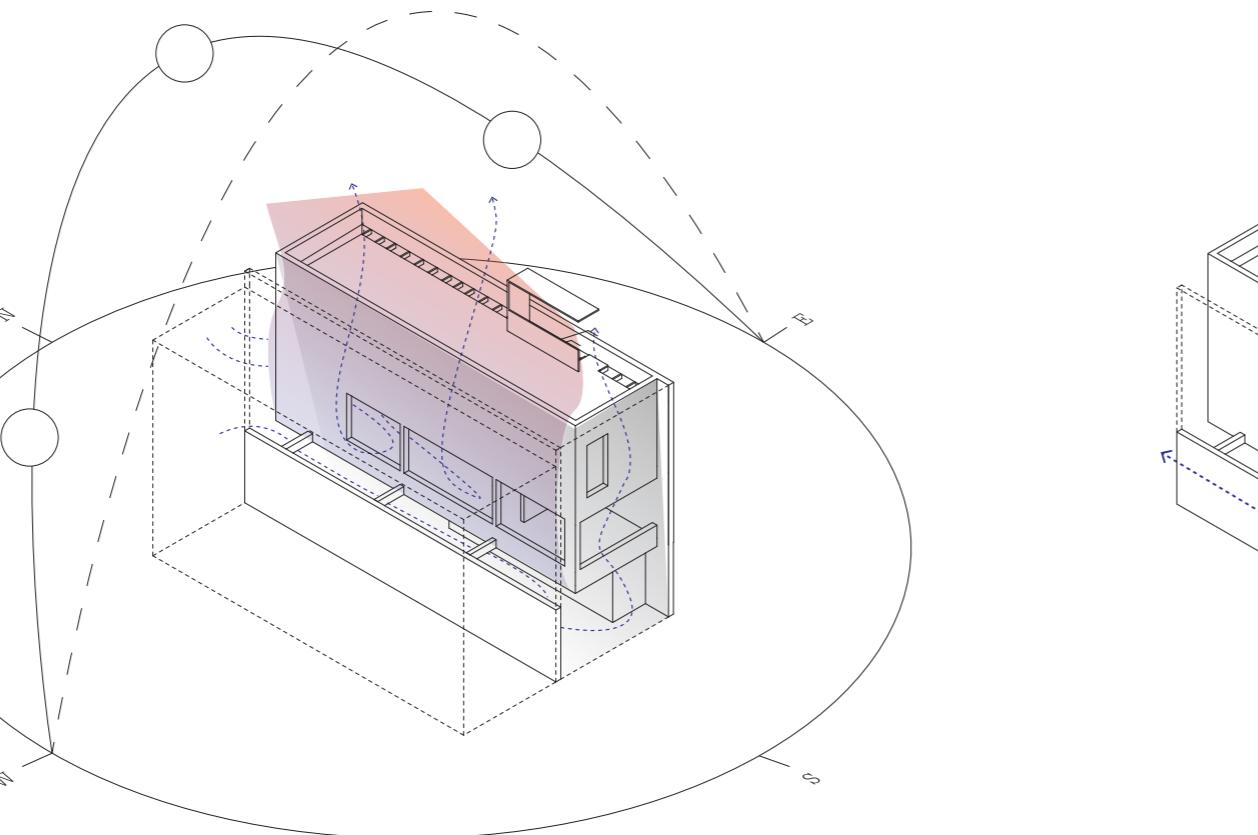
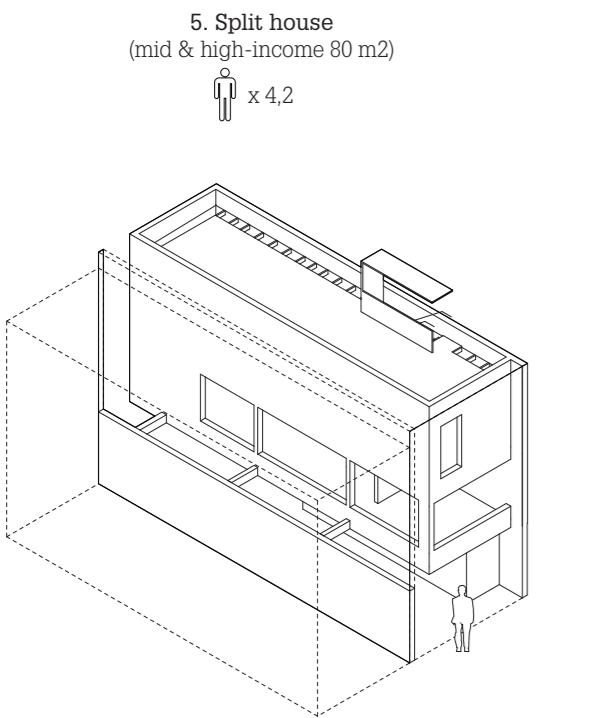


Concrete base, cast in site concrete columns and pillars  
Wooden roof

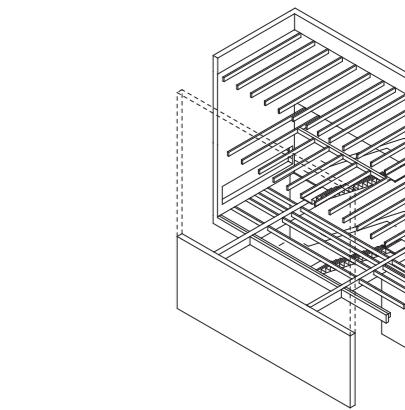
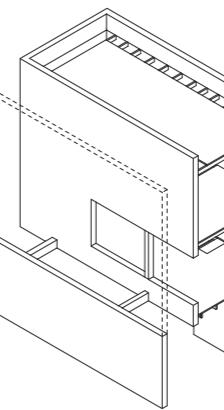


Wooden secondary structure. Stairs from main area

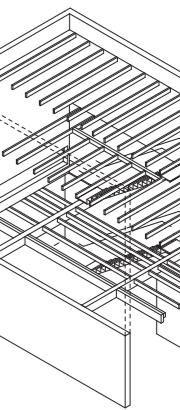
# High income house



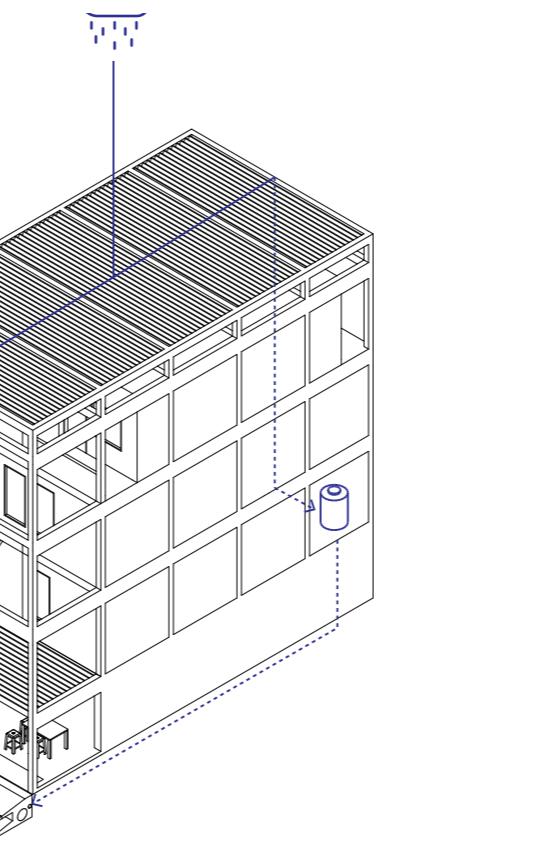
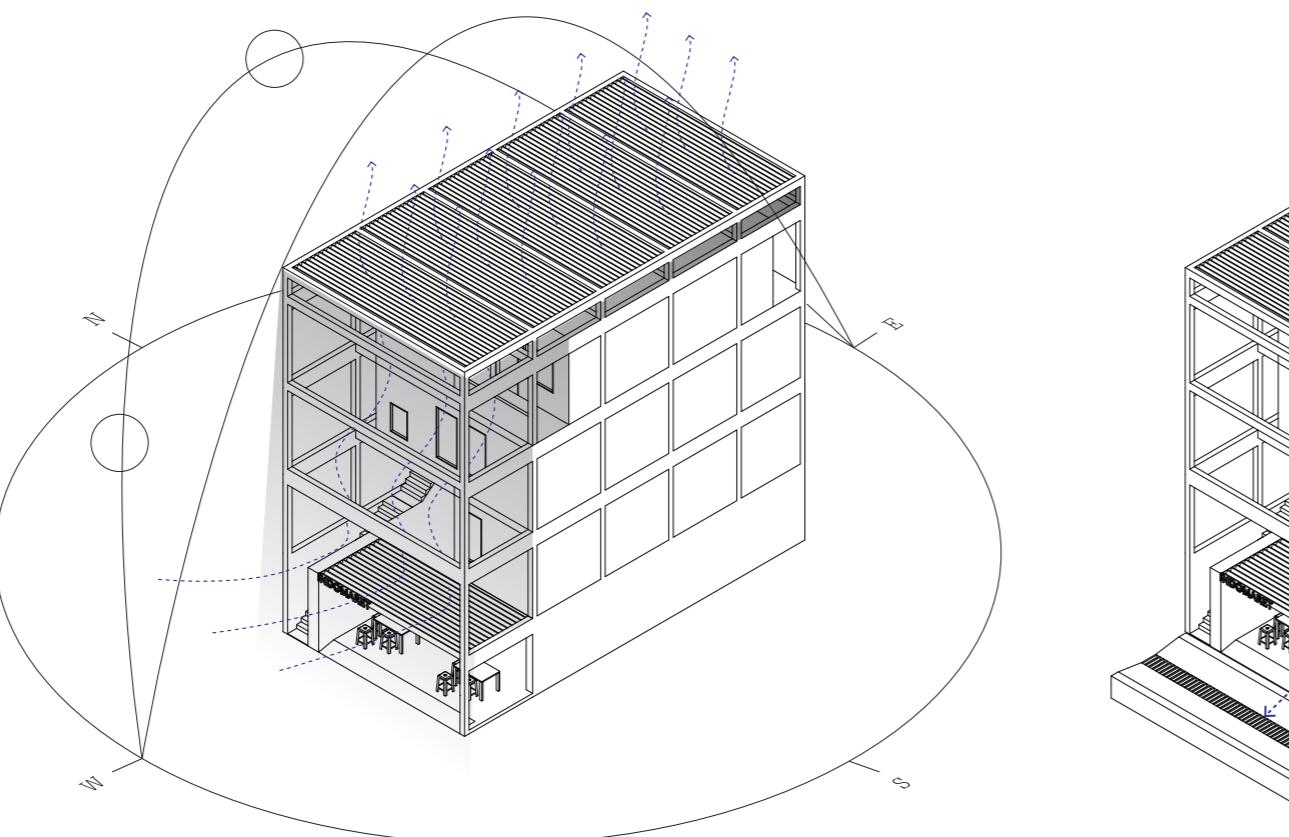
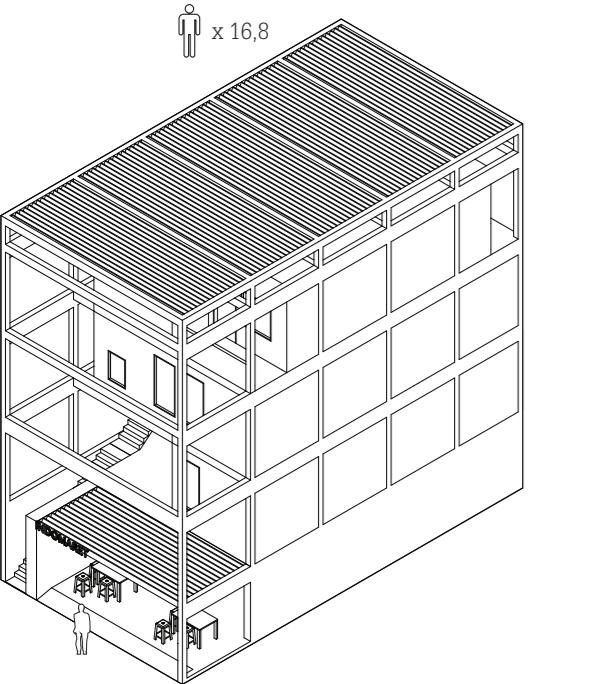
Concrete base, cast in site concrete walls. Main beams concrete, secondary beams wood.



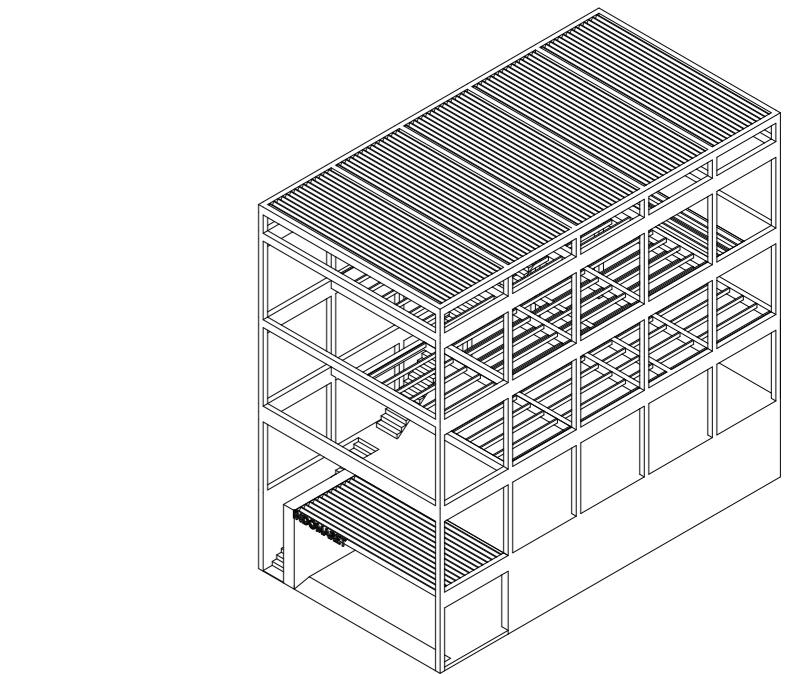
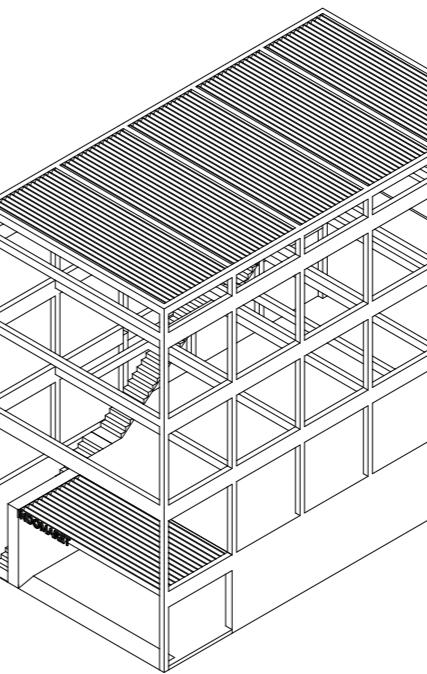
Wooden or concrete secondary structure



**6. Shop house**  
(Low and mid-income 3 x 30m<sup>2</sup> / 1 x 60 m<sup>2</sup>)



Concrete base, cast in site concrete columns and pillars  
Wooden roof



Wood or concrete secondary structure

# Section A current



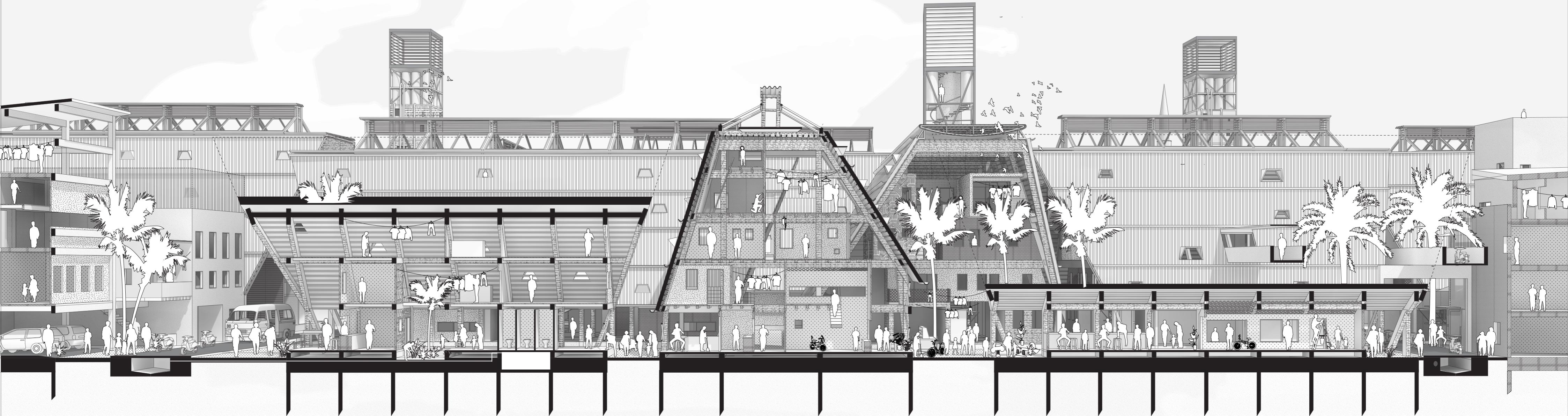
# Section A Future



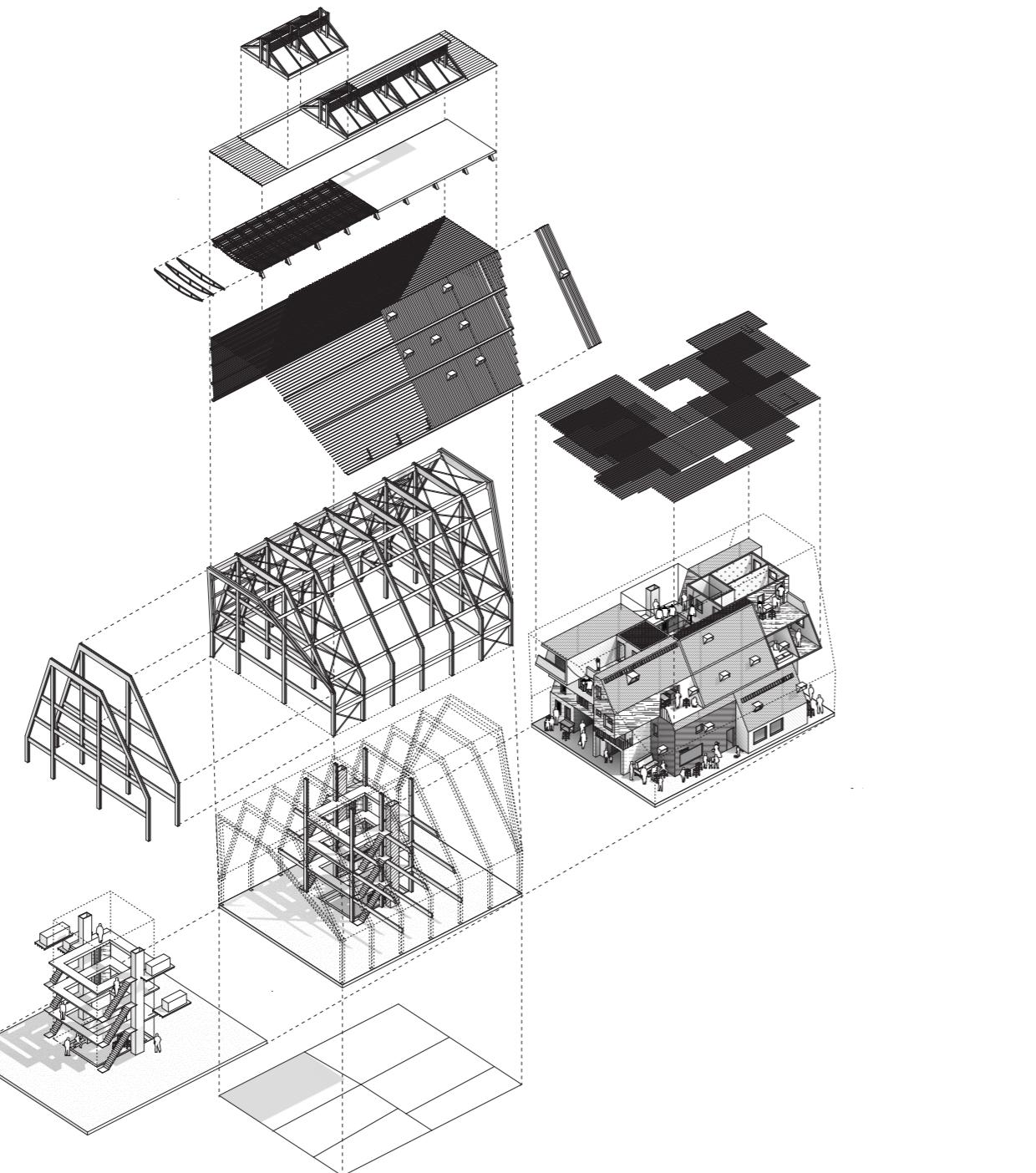
## Section B Current



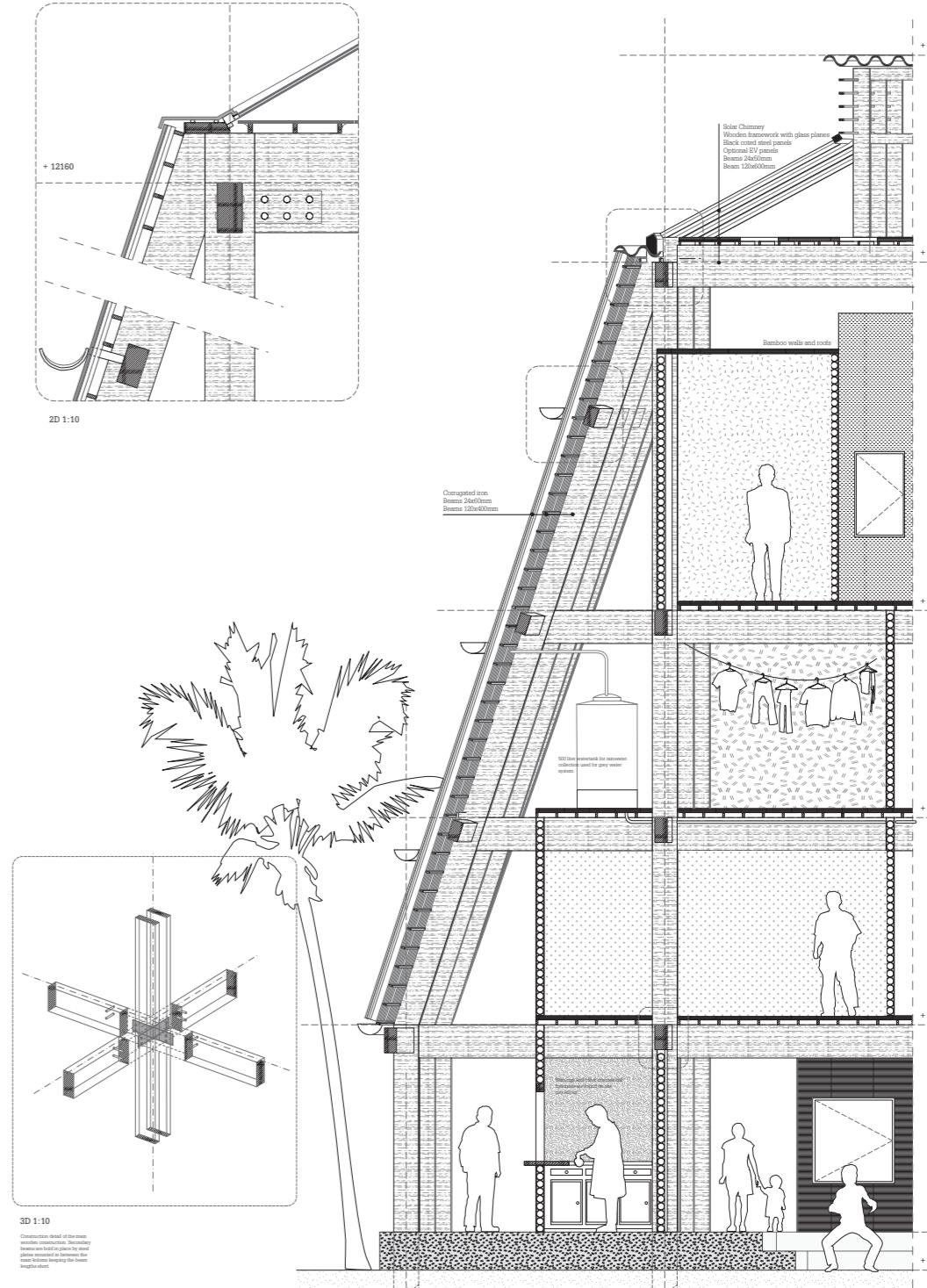
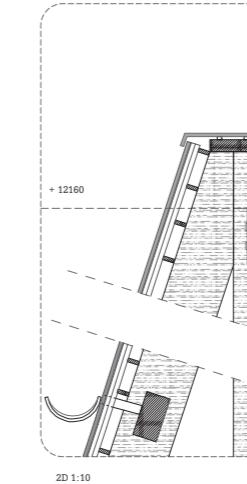
## Section B Future



# Exploded Axo Communal Roof



1:20 section



# Section C current



## Section C Future

