

JaJakarta

Kampung Densification Program

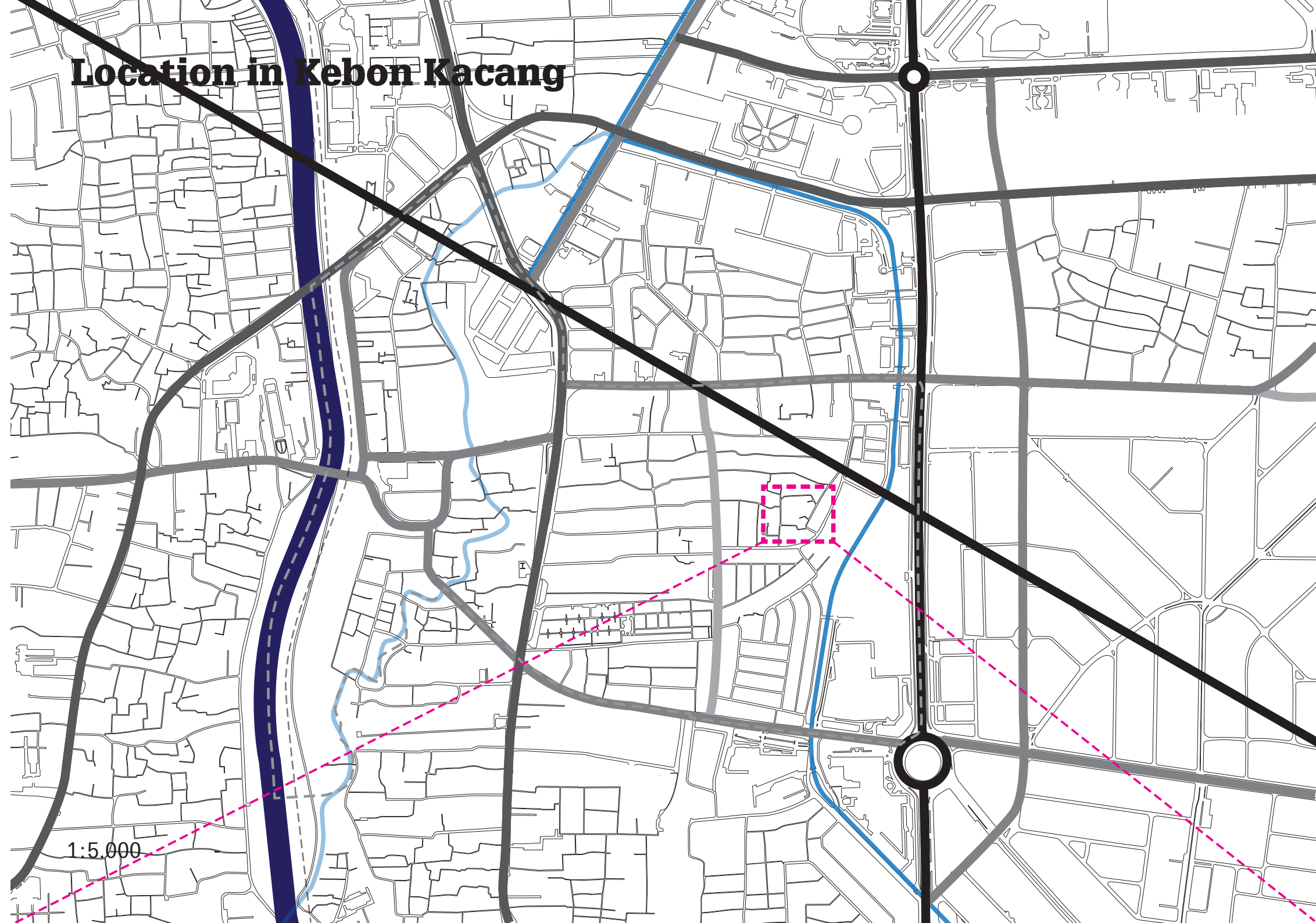
Tools and strategies to increase the density of Jakarta's inner-city kampungs

Mark van den Ouden

2014/12/18 P5

Location in Kebon Kacang

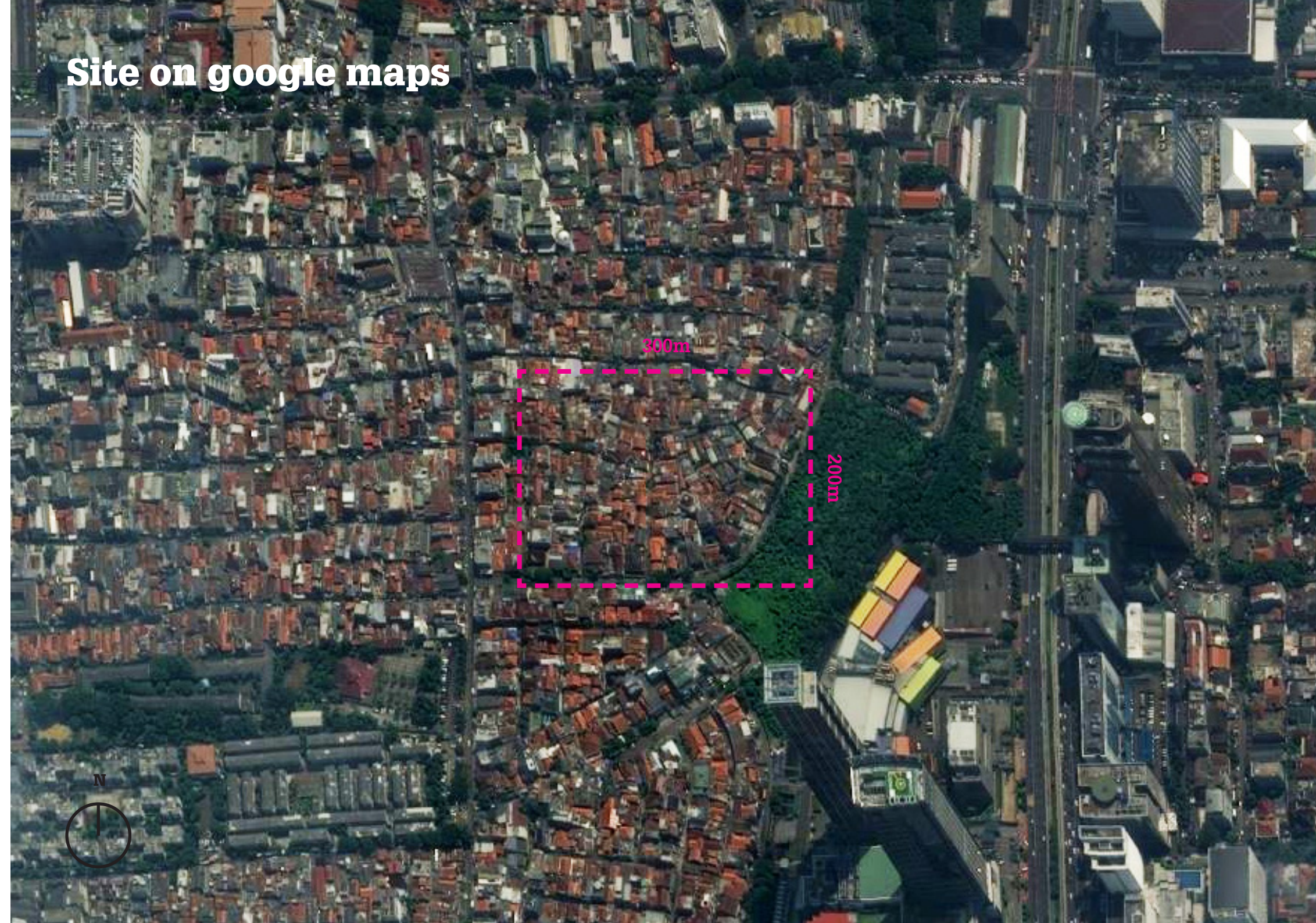
1:5,000





Source: Sitovisit Jakarta Mar 2014

Site on google maps



M Current situation

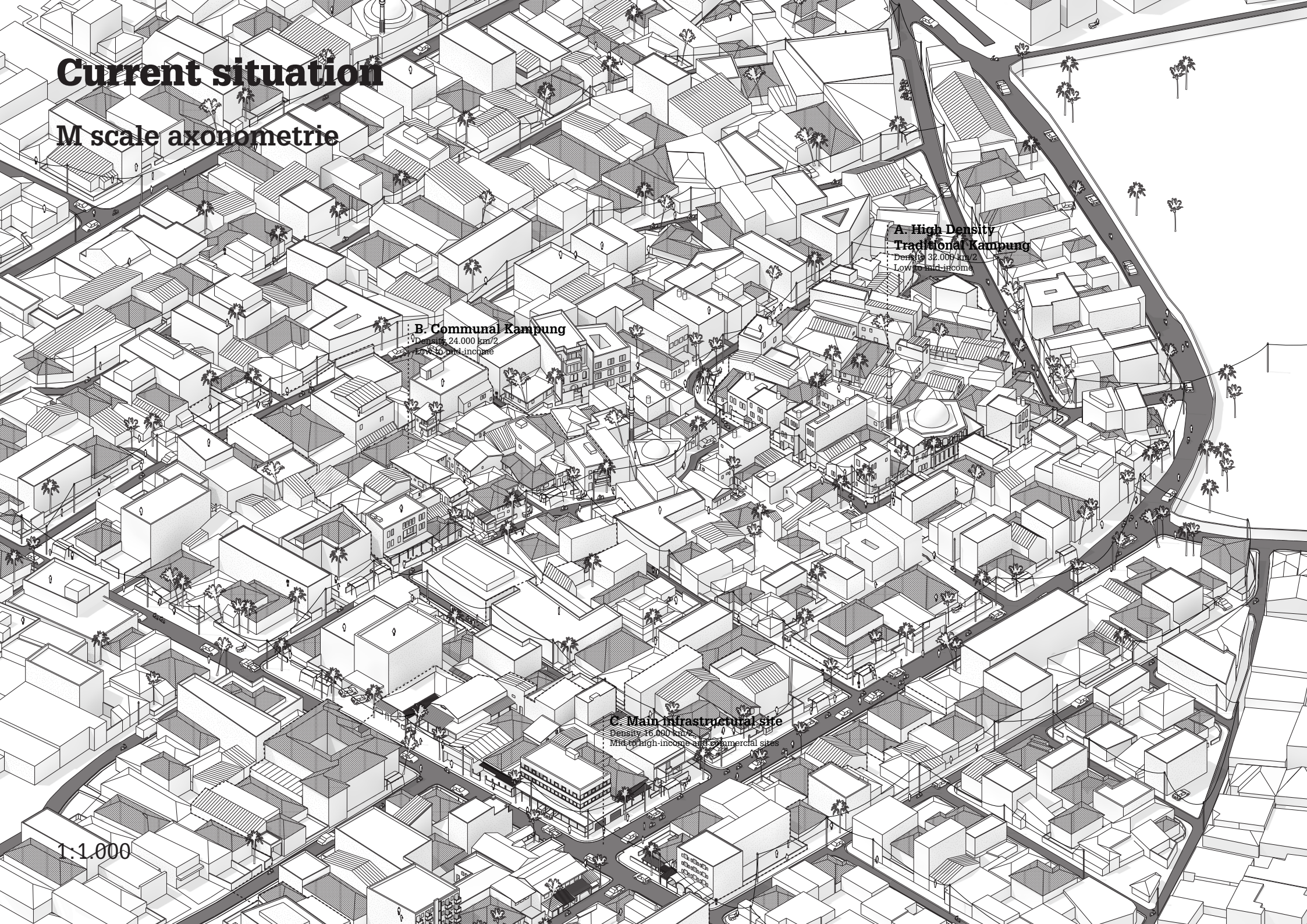
Data

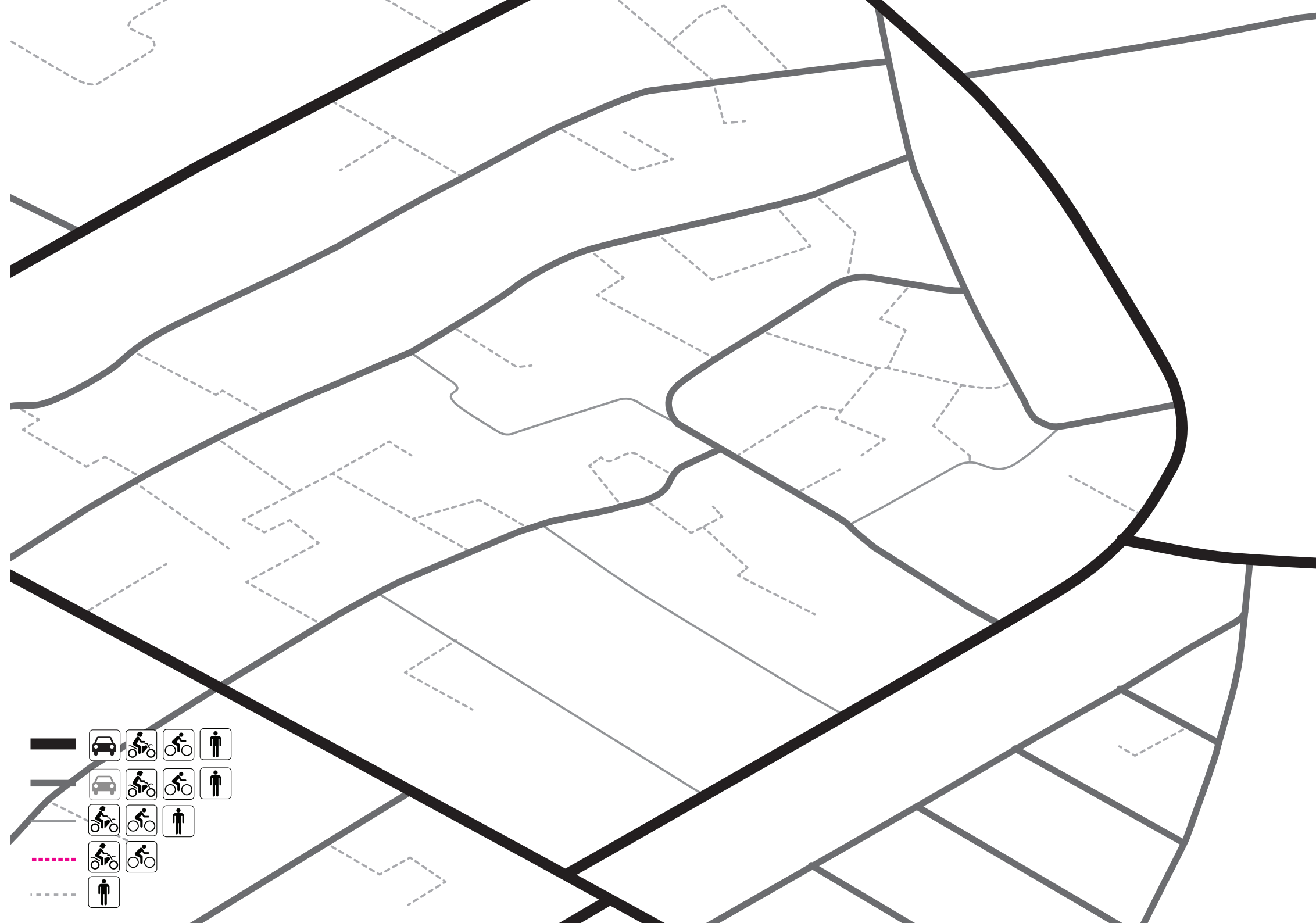
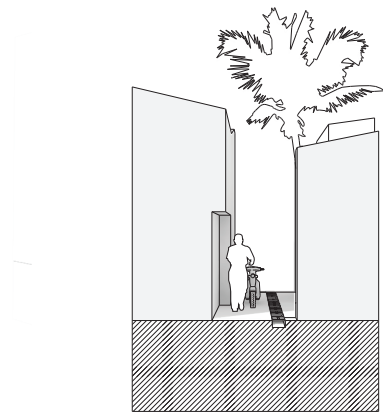
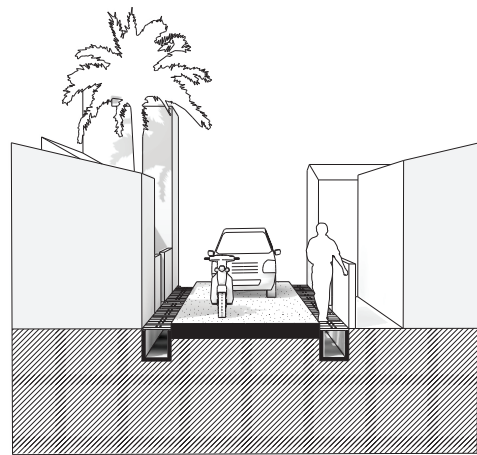
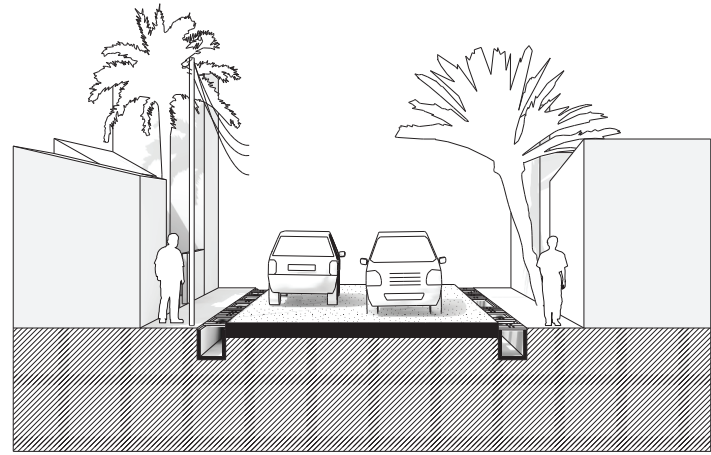


Source: Sitovisit Jakarta Map 2014

Current situation

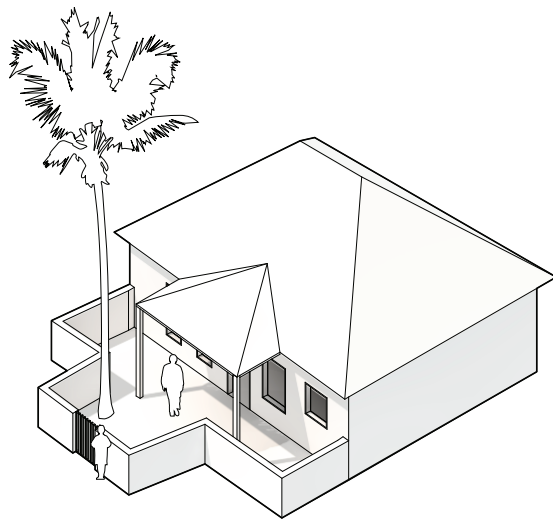
M scale axonometrie





M Current situation

Street view



1 Layer - Batawi house

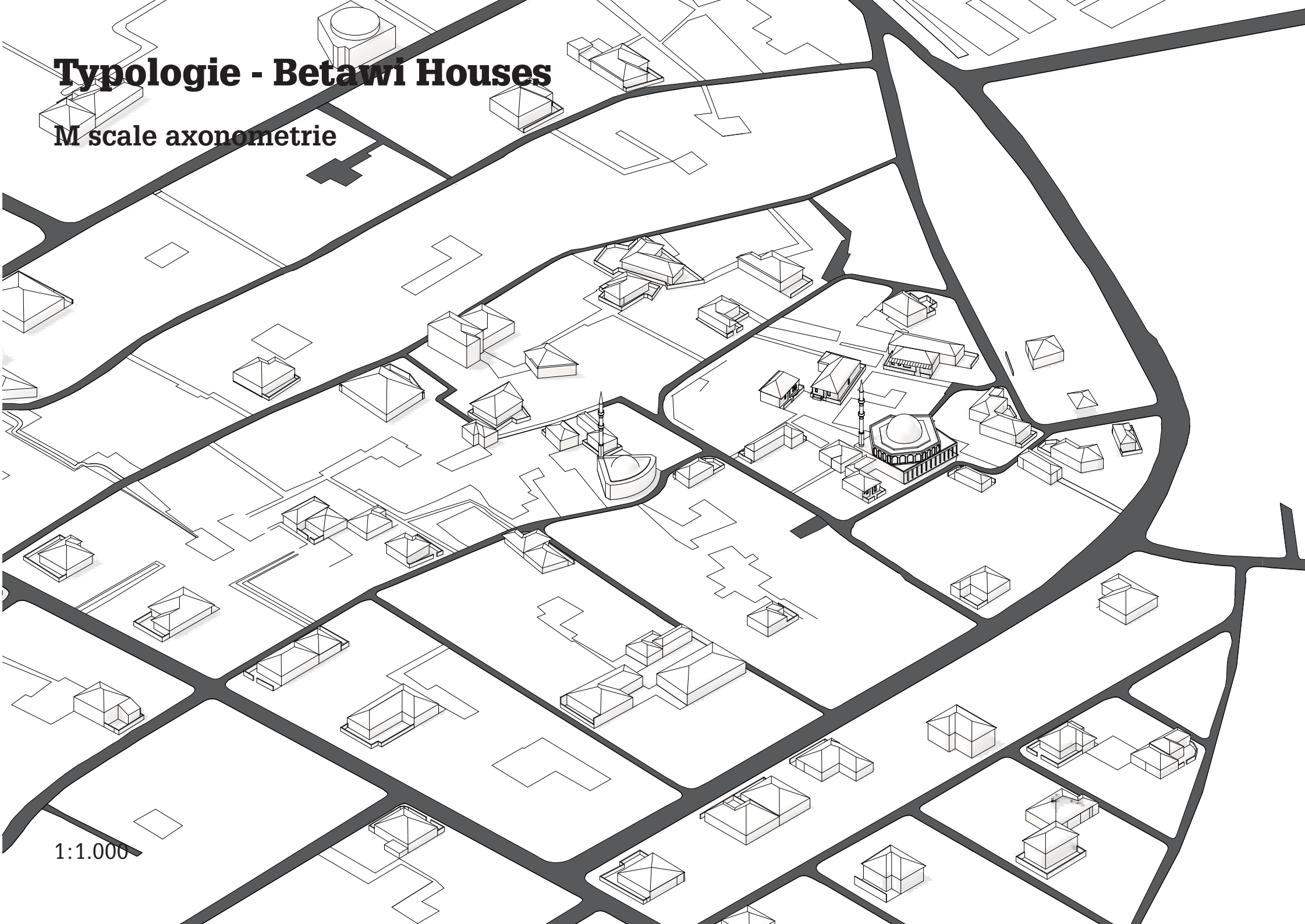
Traditional Single layer house build from wood and cheap bricks. Usually with a garden.
From 2 to 12 inhabitants.

Source:



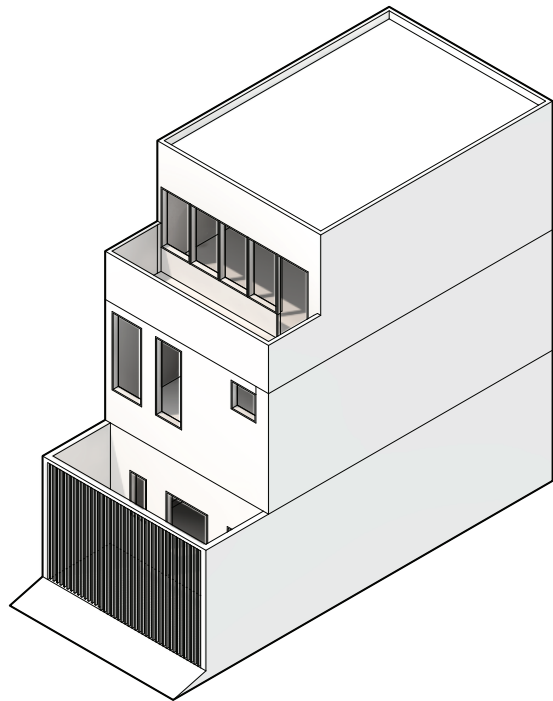
Typologie - Betawi Houses

M scale axonometrie



M Current situation

Street view



3 Layers - Mid income house

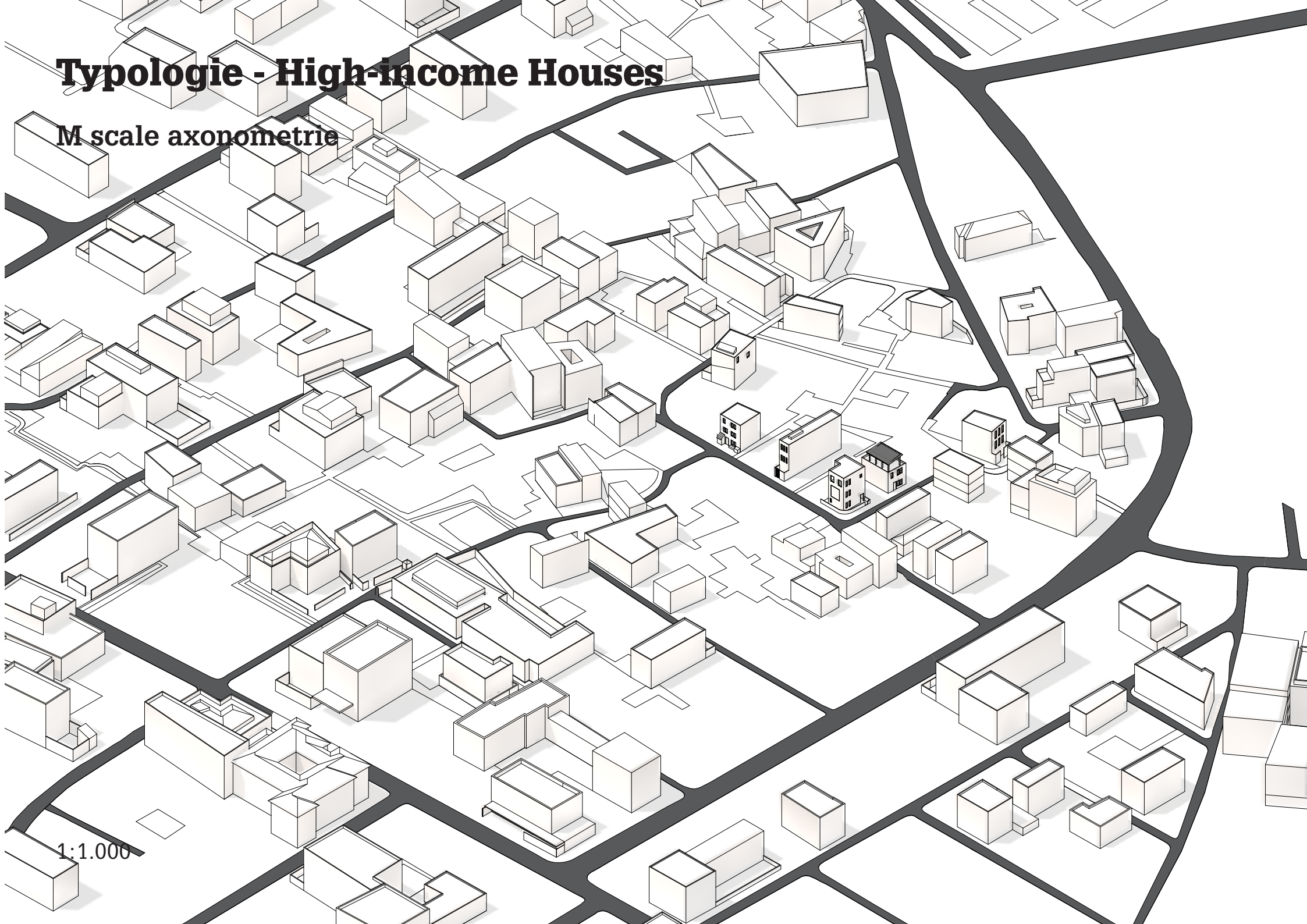
Expansive mid to higher mid income house as found in the inner city kampungs. Build from concrete or a combination of a concrete structure with brick walls. Side walls are always closed due to neighbor that attaches his house onto this wall

Source:



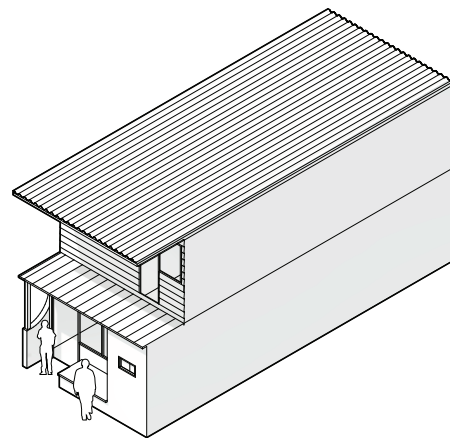
Typologie - High-income Houses

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

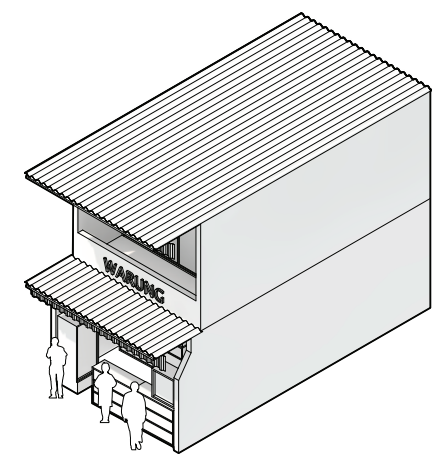
M scale axonometrie

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

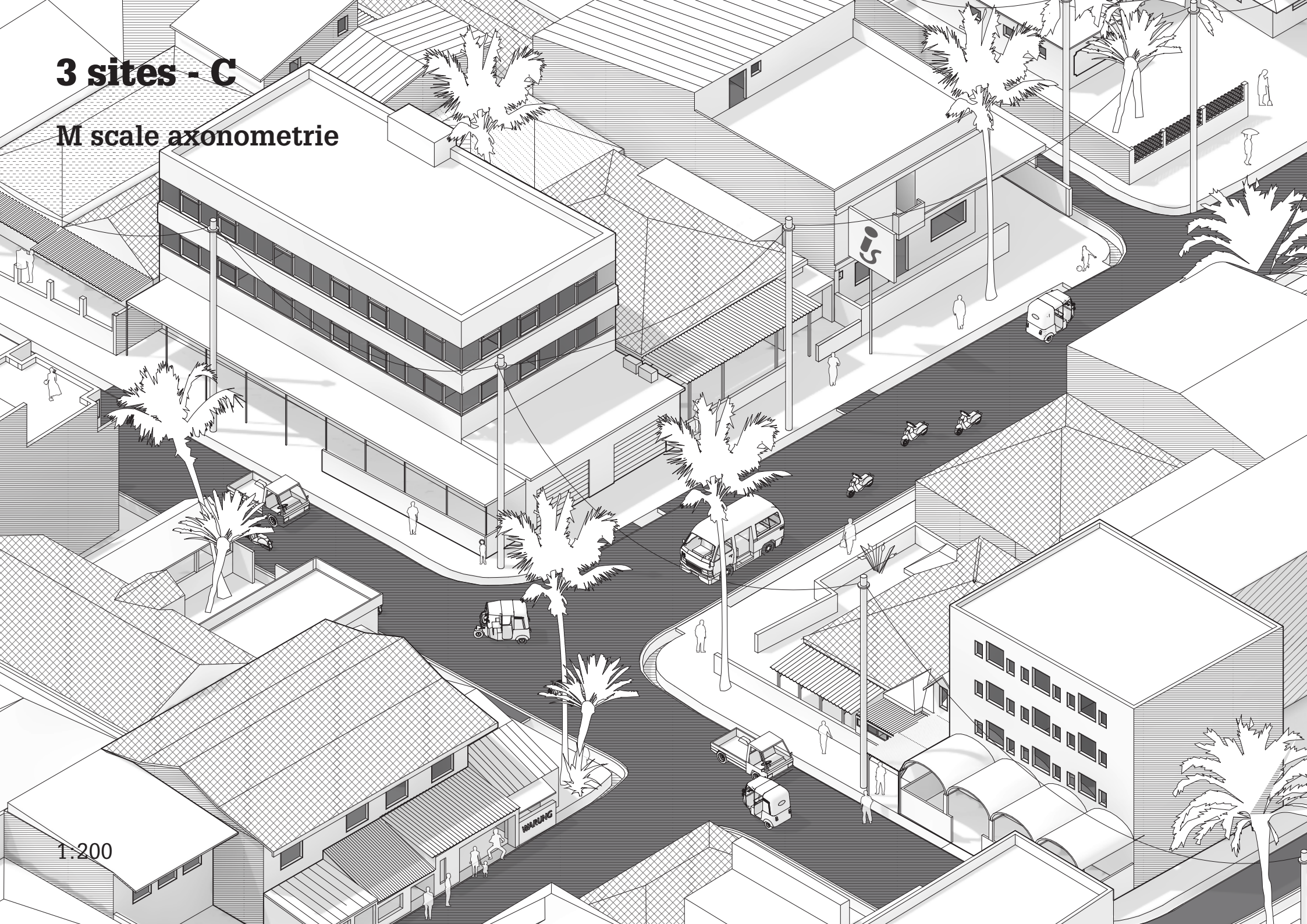
Section



1:200

3 sites - C

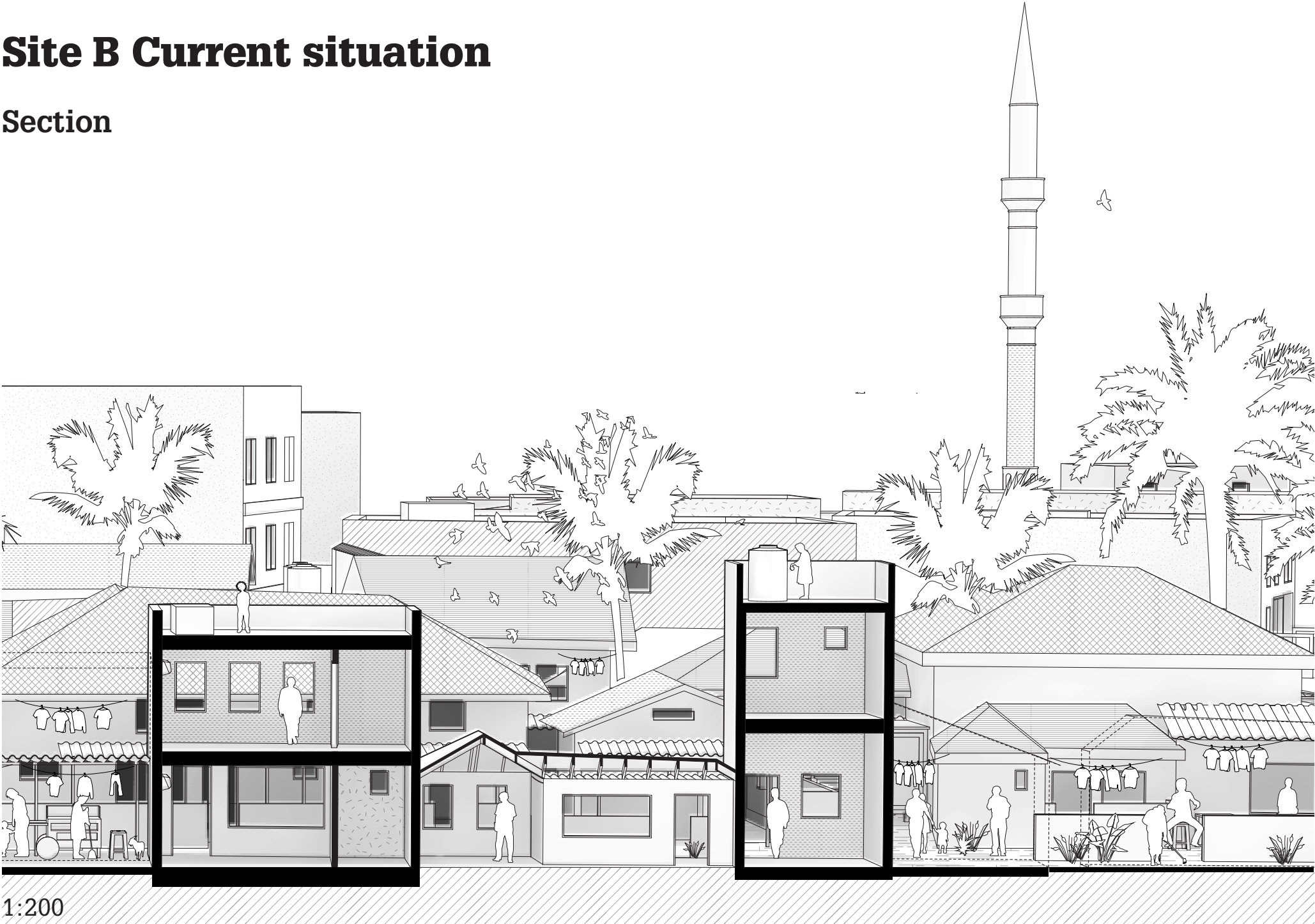
M scale axonometrie



1:200

Site B Current situation

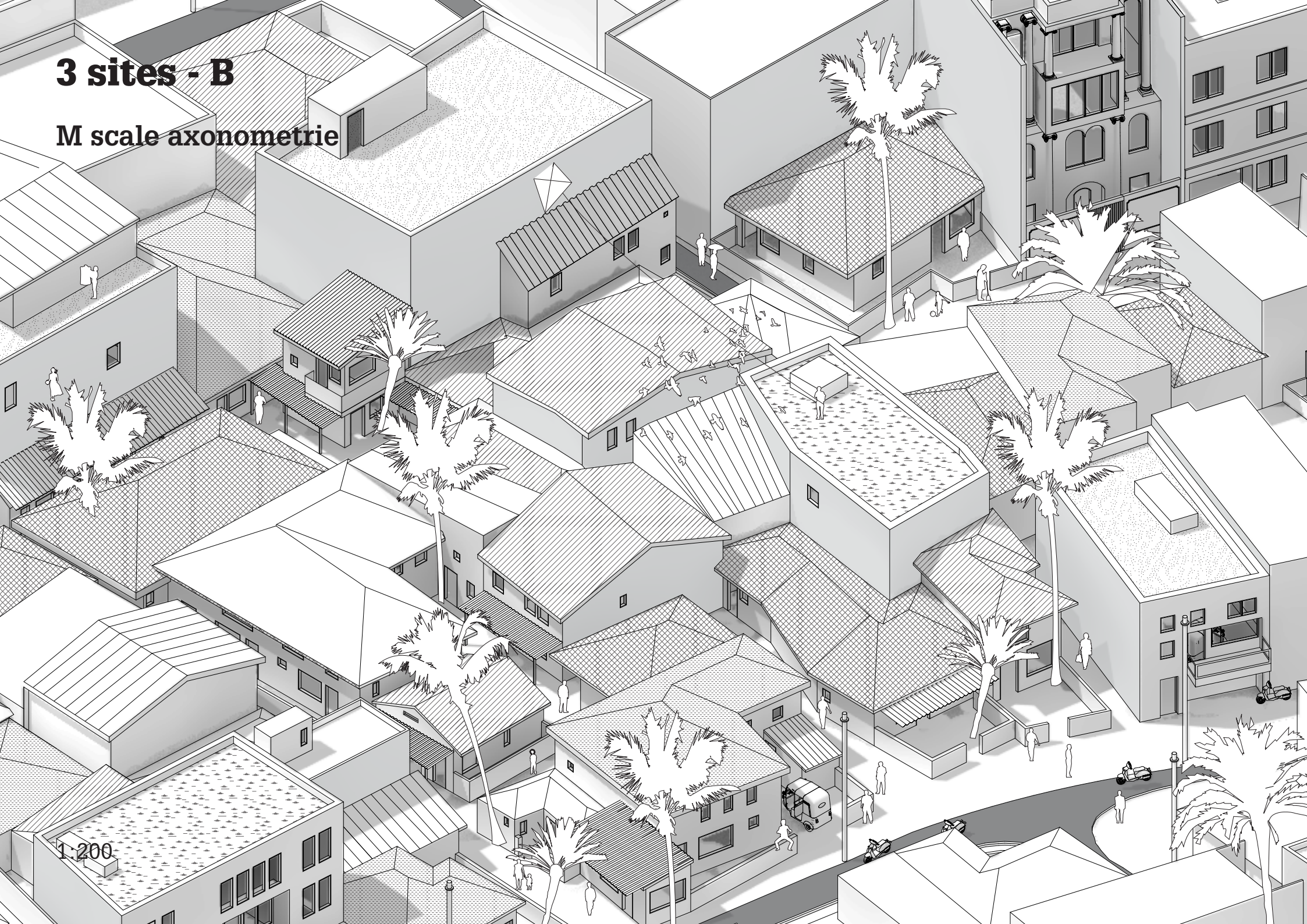
Section



1:200

3 sites - B

M scale axonometrie



1:200

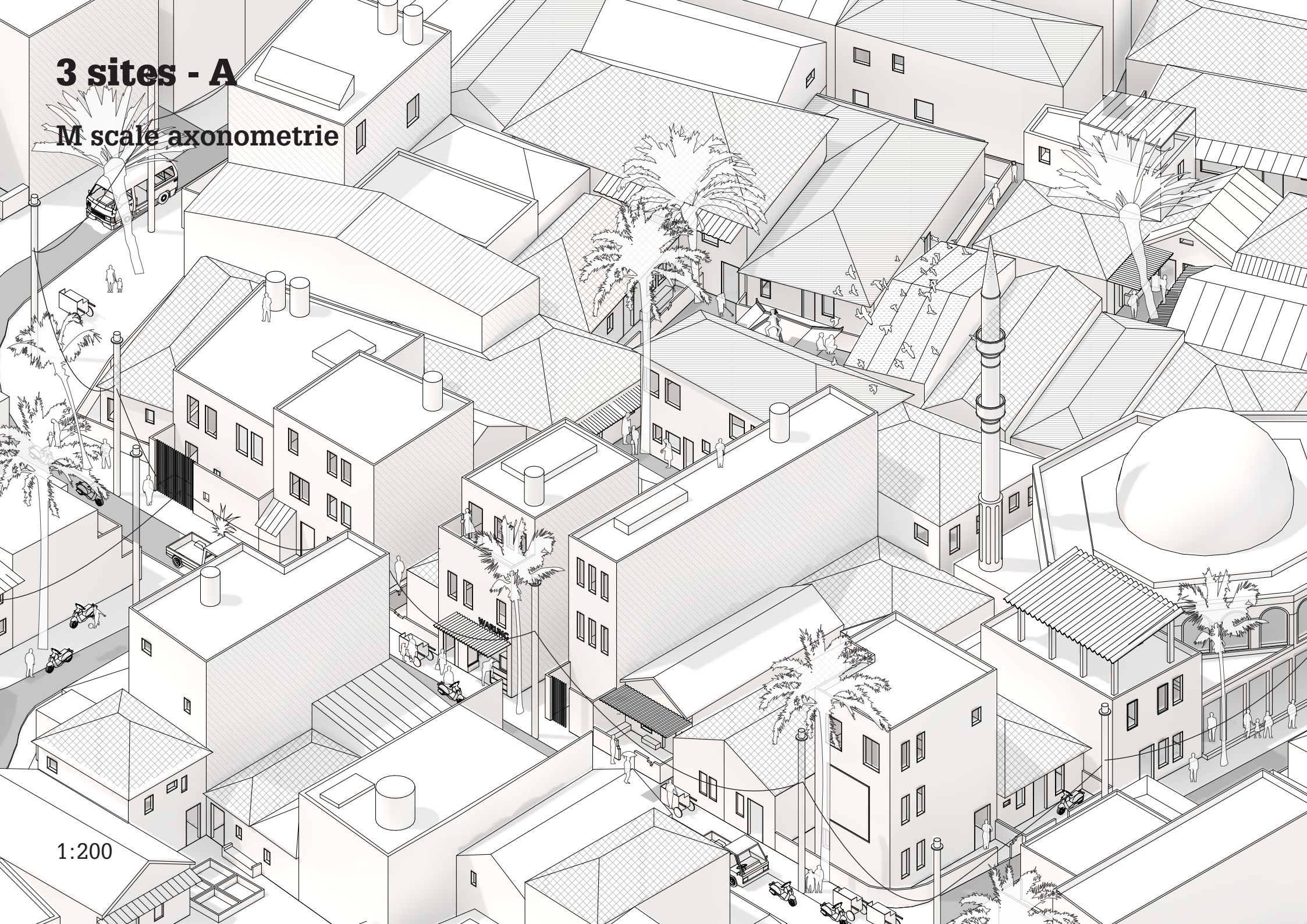
Site A Current situation

Section



3 sites - A

M scale axonometrie



M Current situation

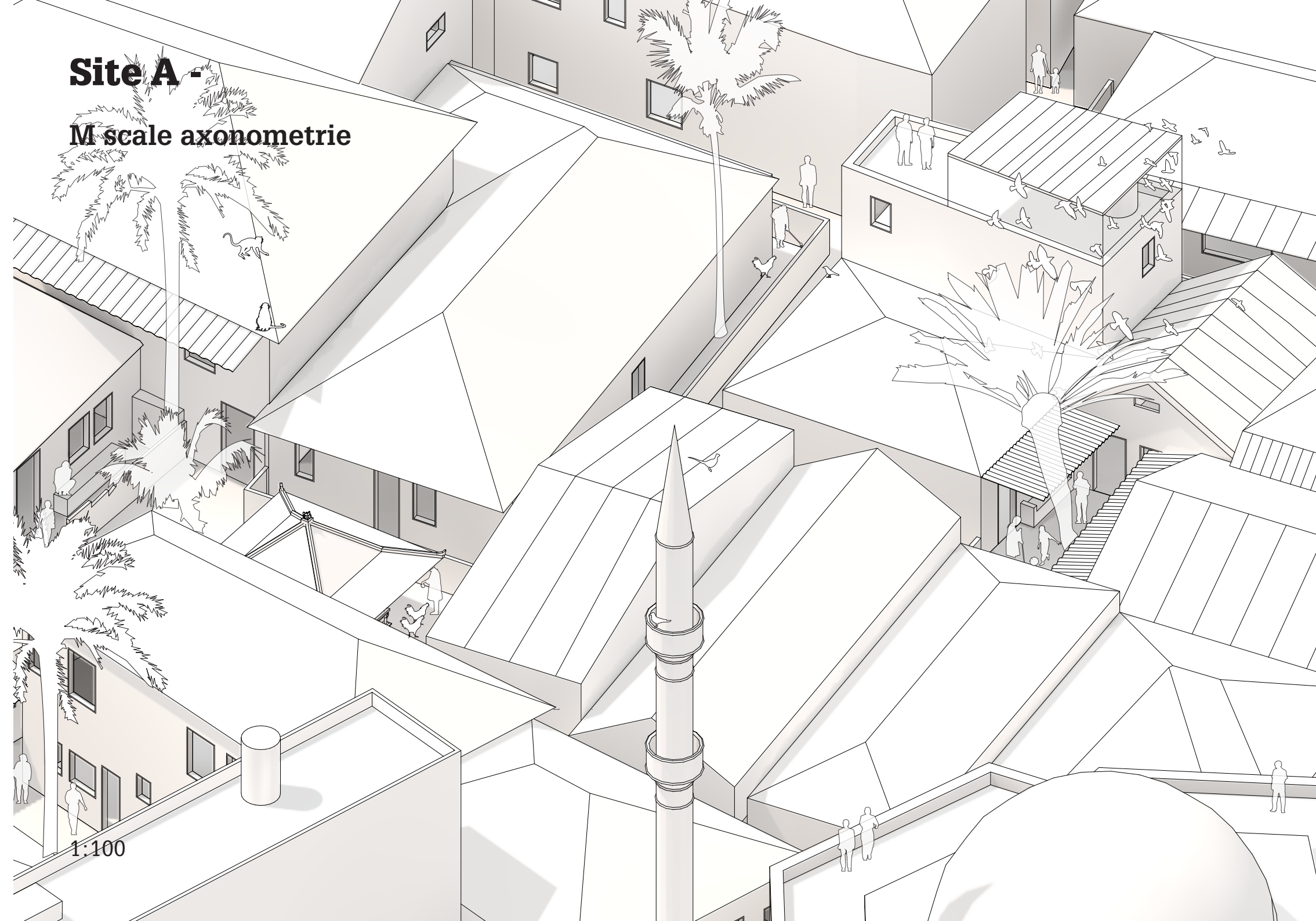
Image



1:200 Site visit Jakarta May 2014

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

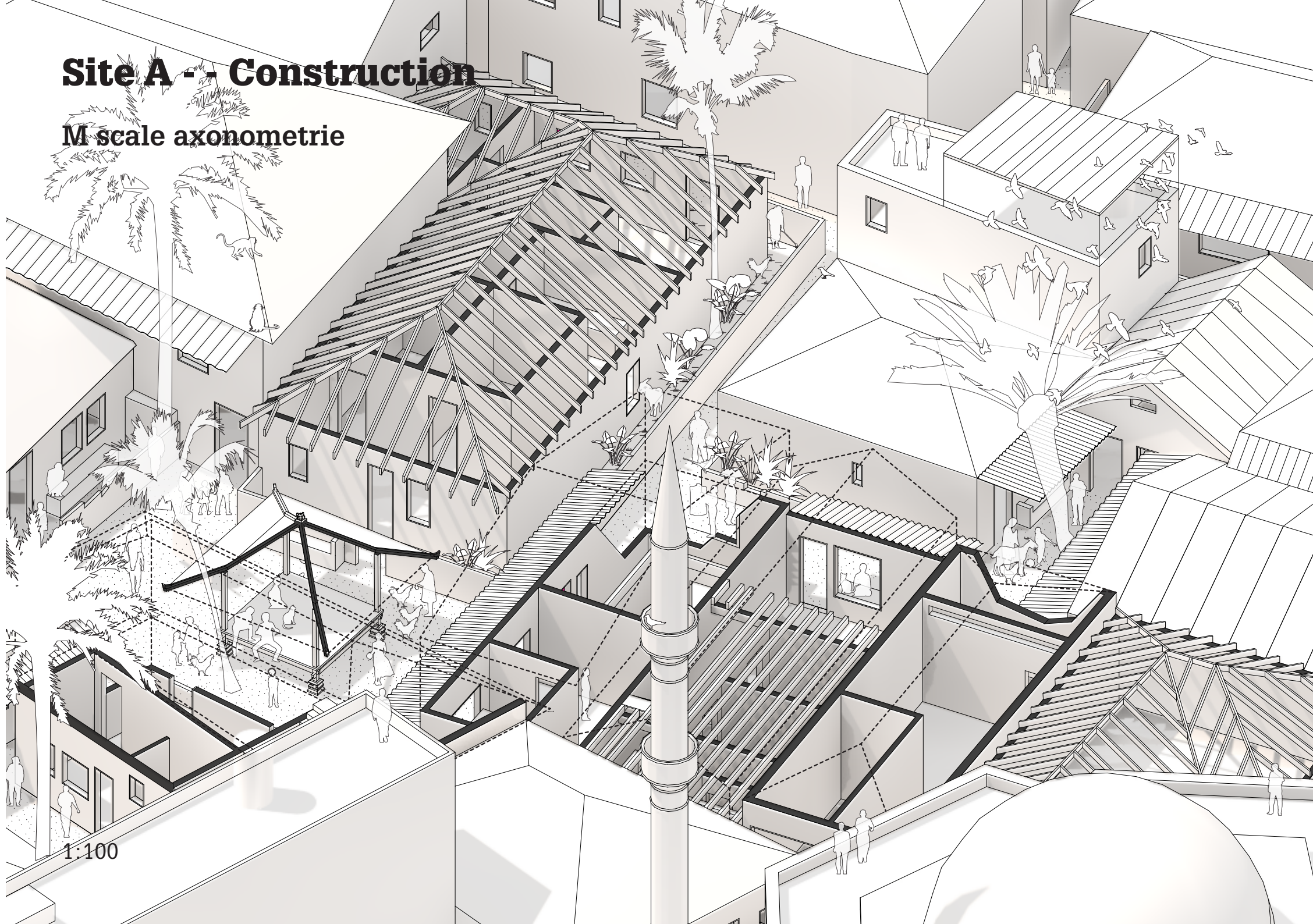


Rumah Material (Material shop) with stone and sand

Source: Sitevisit Jakarta May 2014

Site A - - Construction

M scale axonometrie



M Current situation

Image



Washing and cooking



Storage

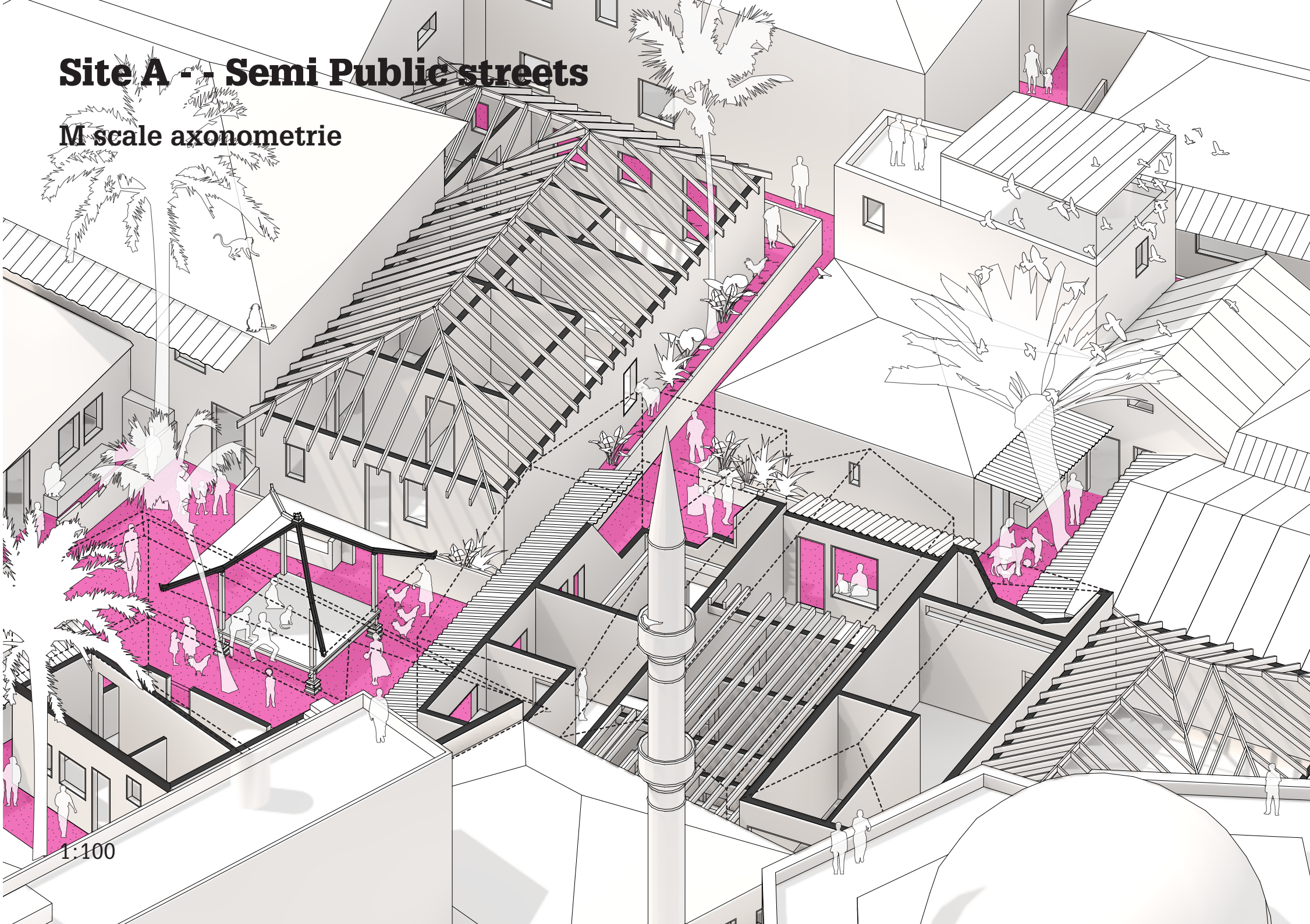


Livestock

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

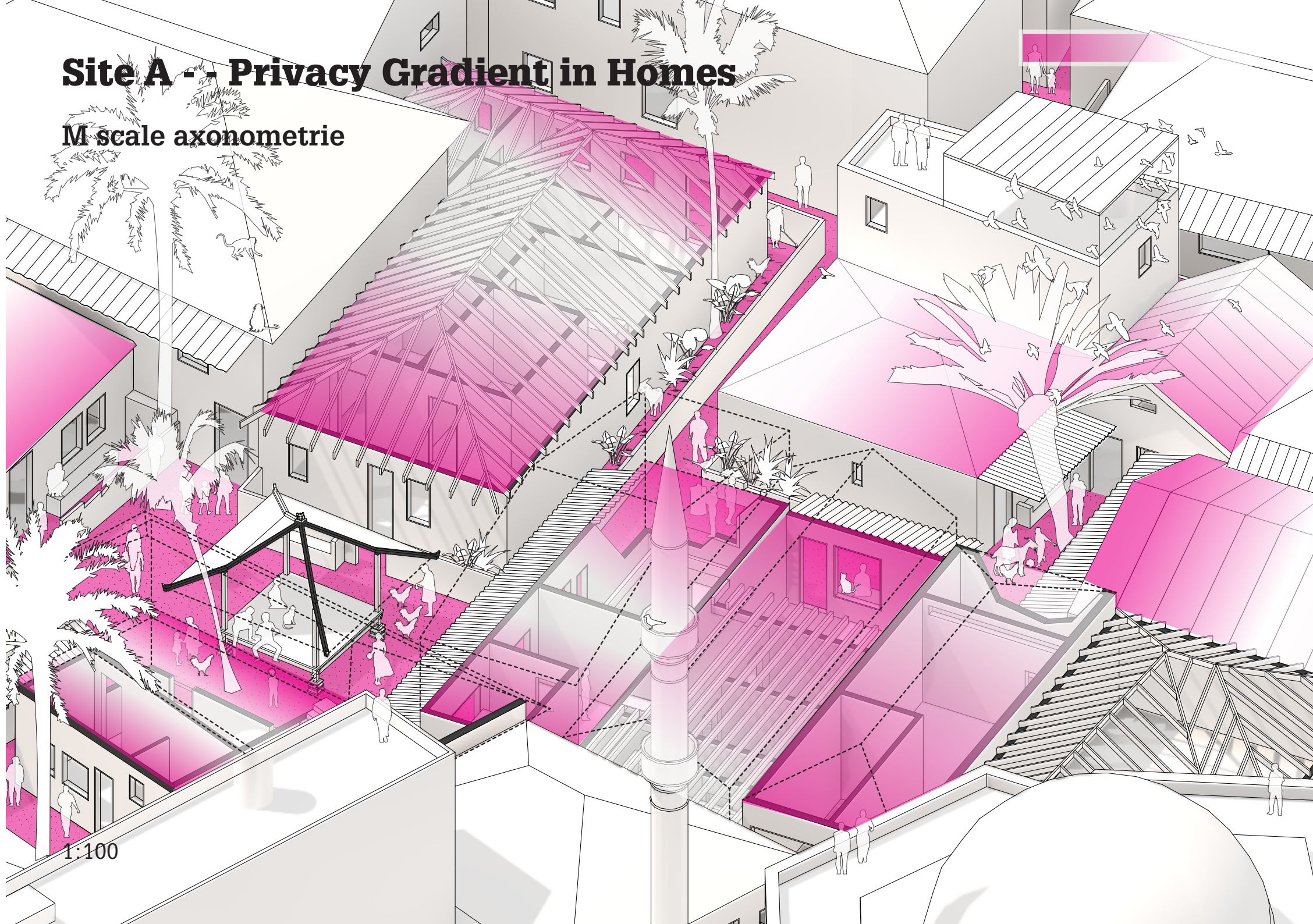


High-income. completely closed off

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

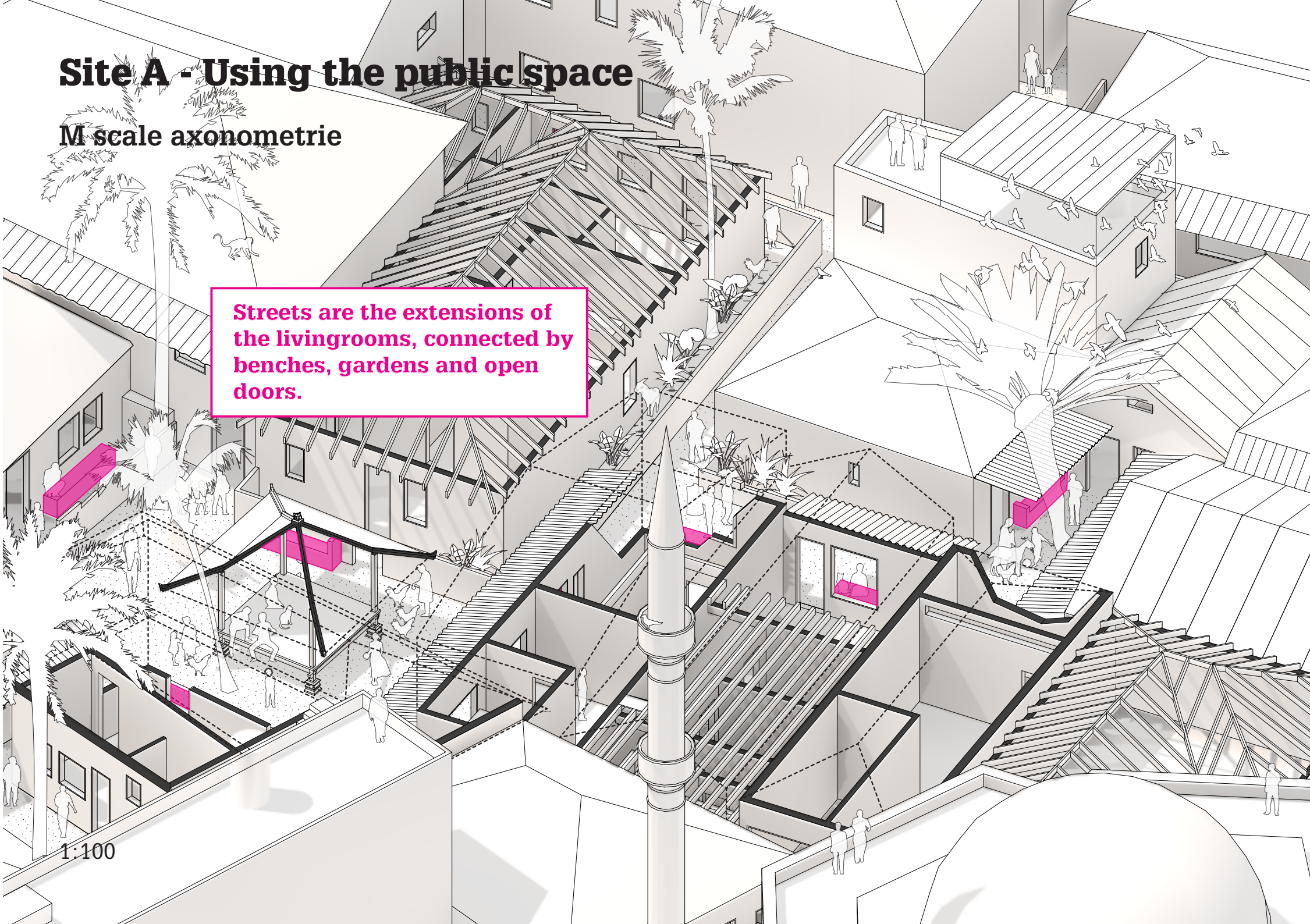


Communal livingroom in the middle of the street

Source: Sitevisit Jakarta May 2014

Site A - Using the public space

M scale axonometrie



M Current situation

Image



Sales



Production



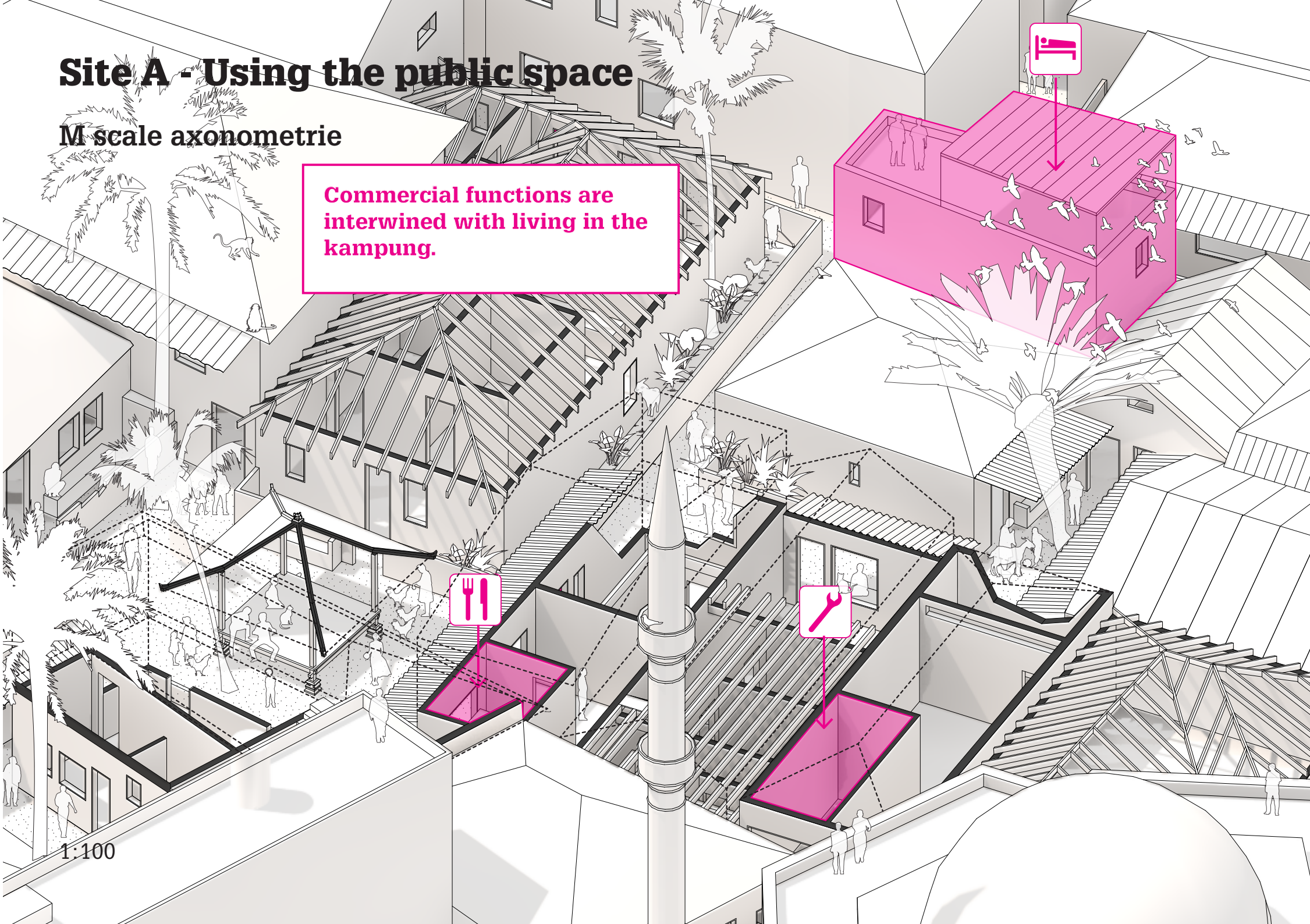
Streetfood preparation

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

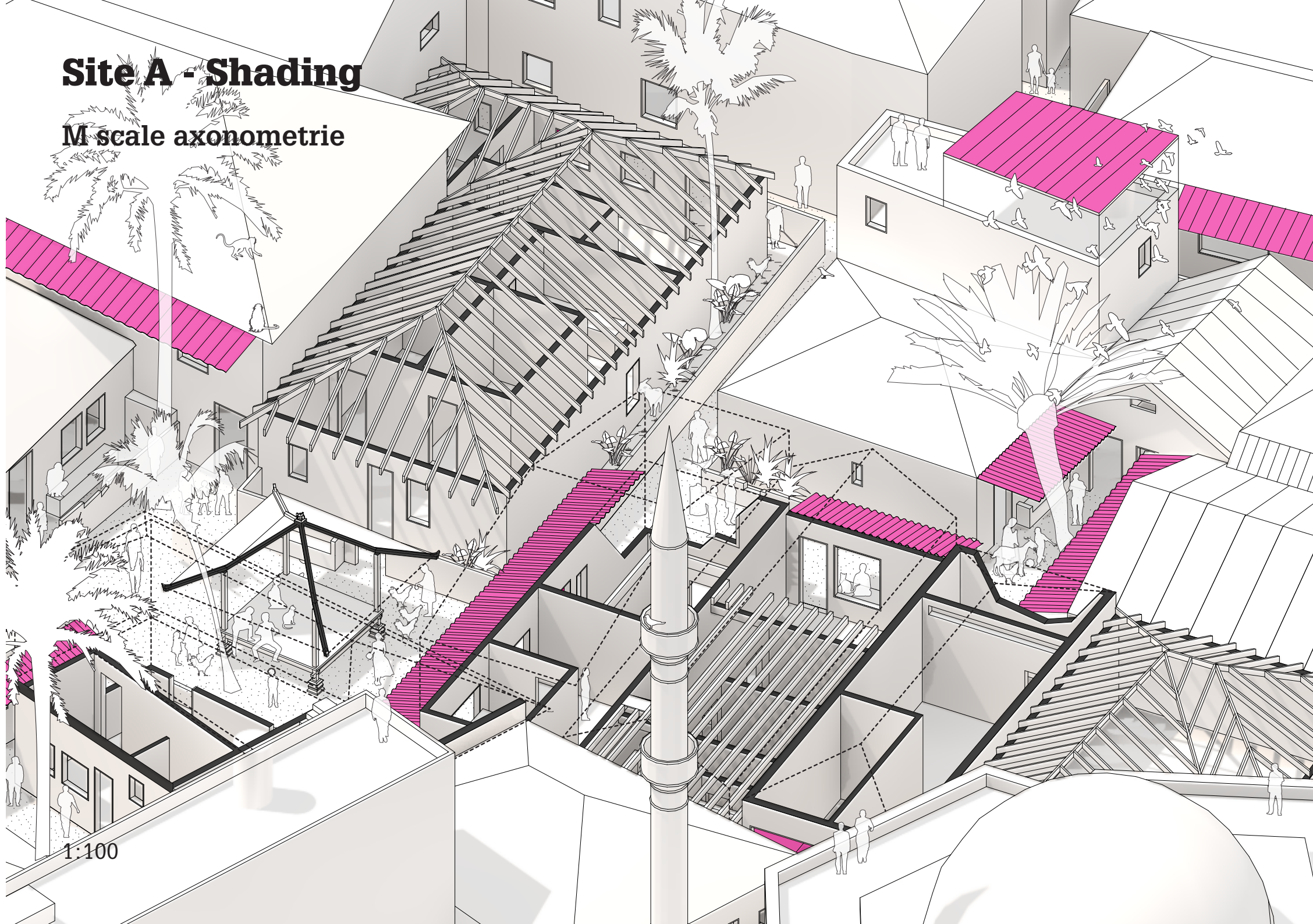


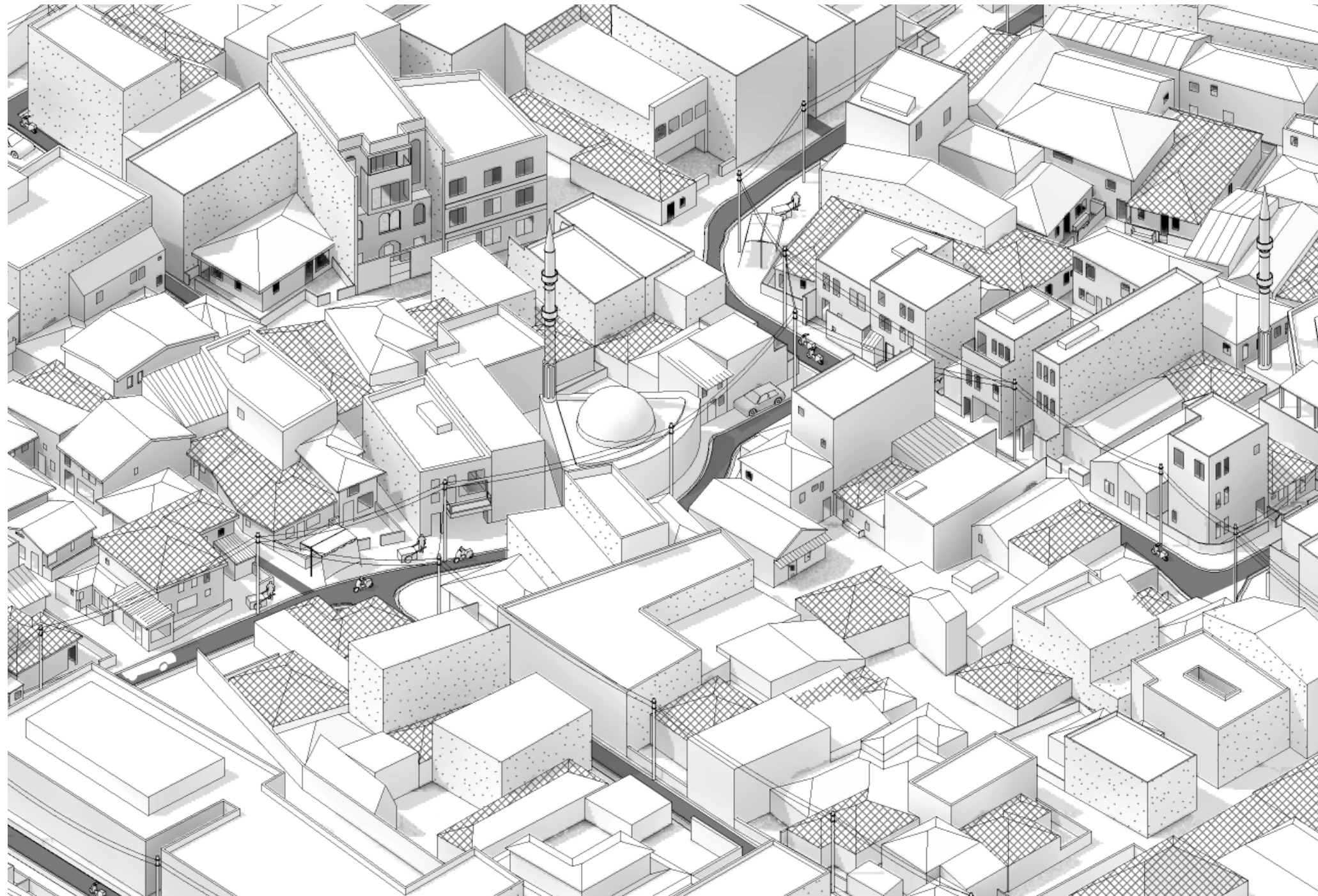
Bamboo window blinds

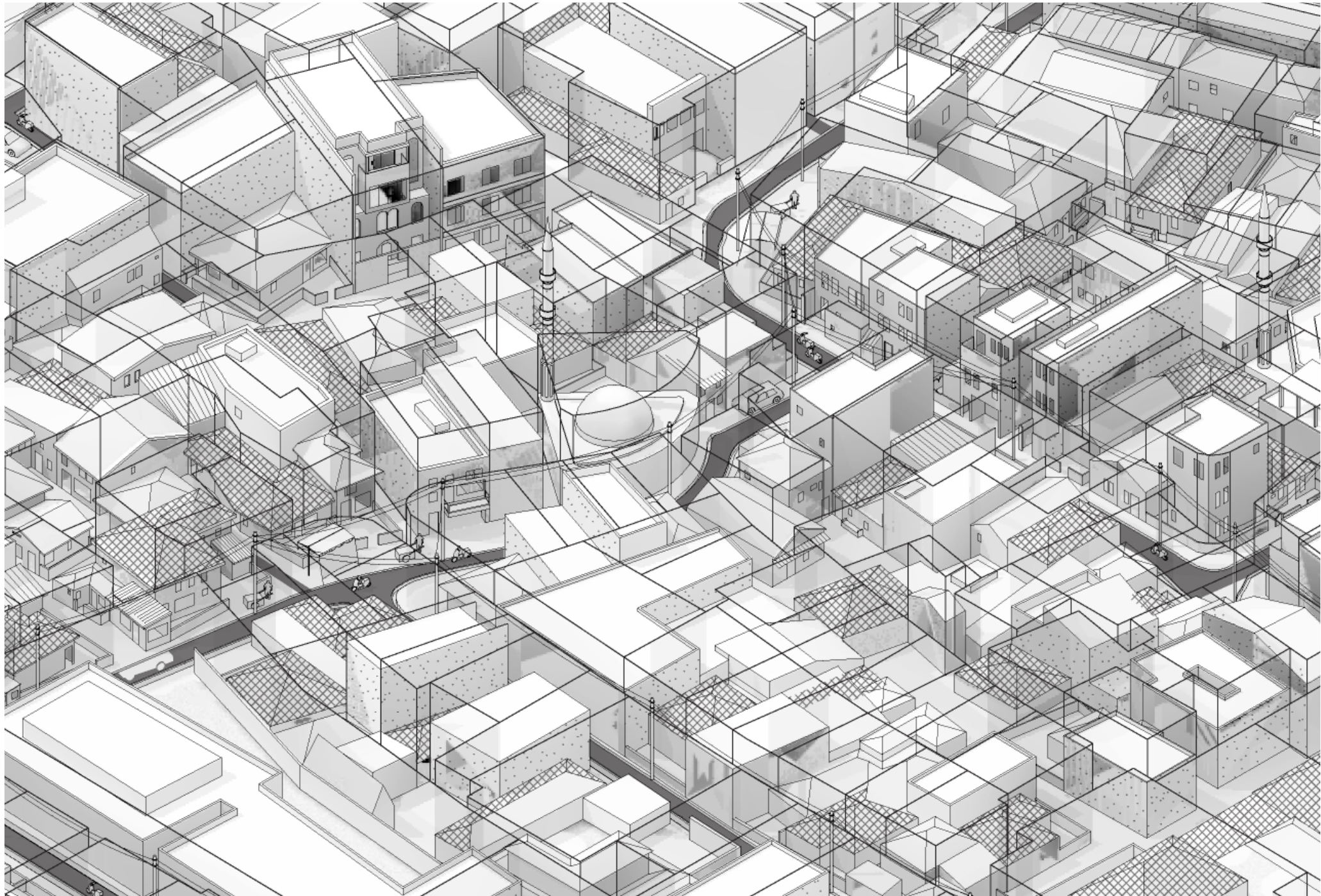
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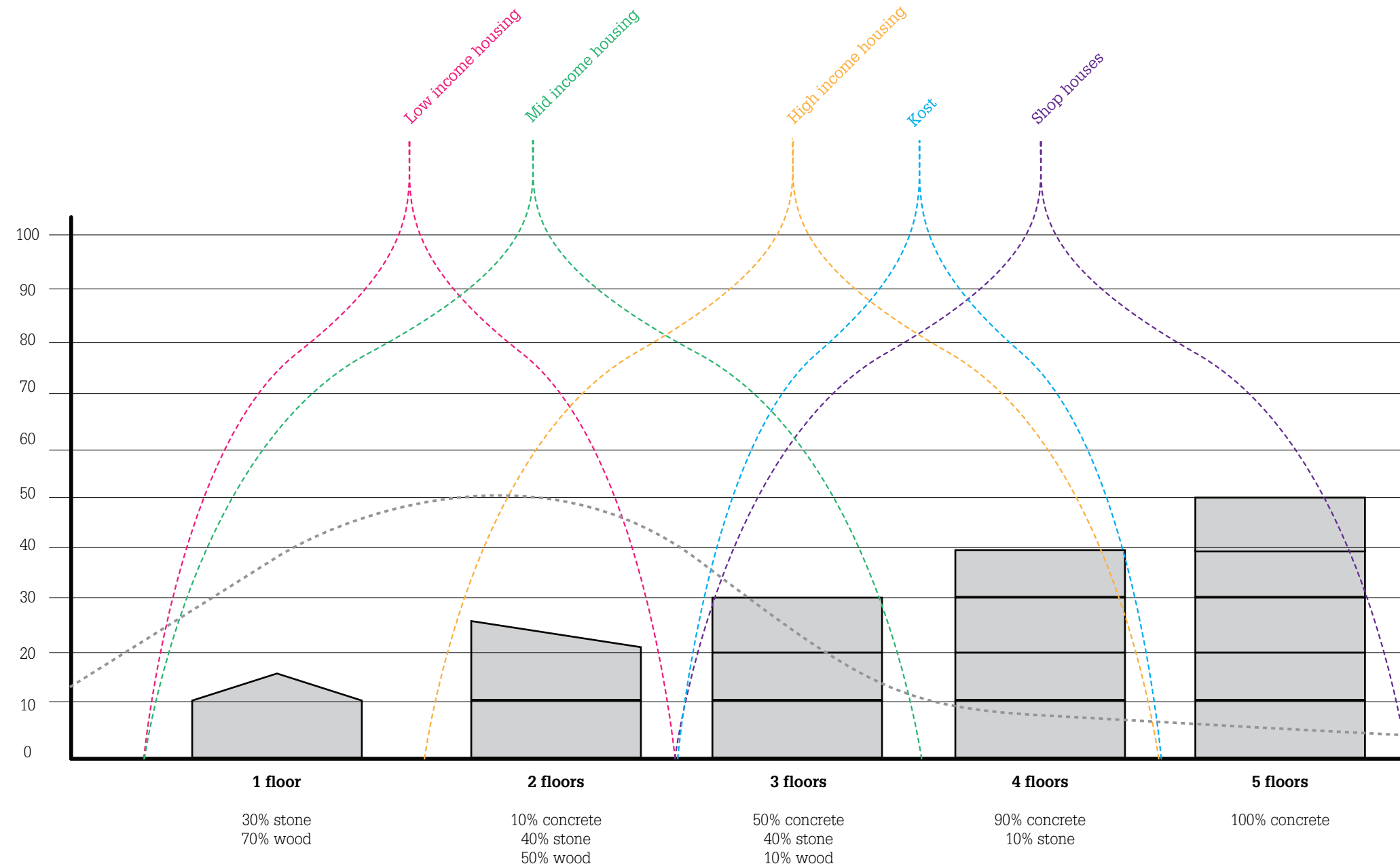
Site A - Shading

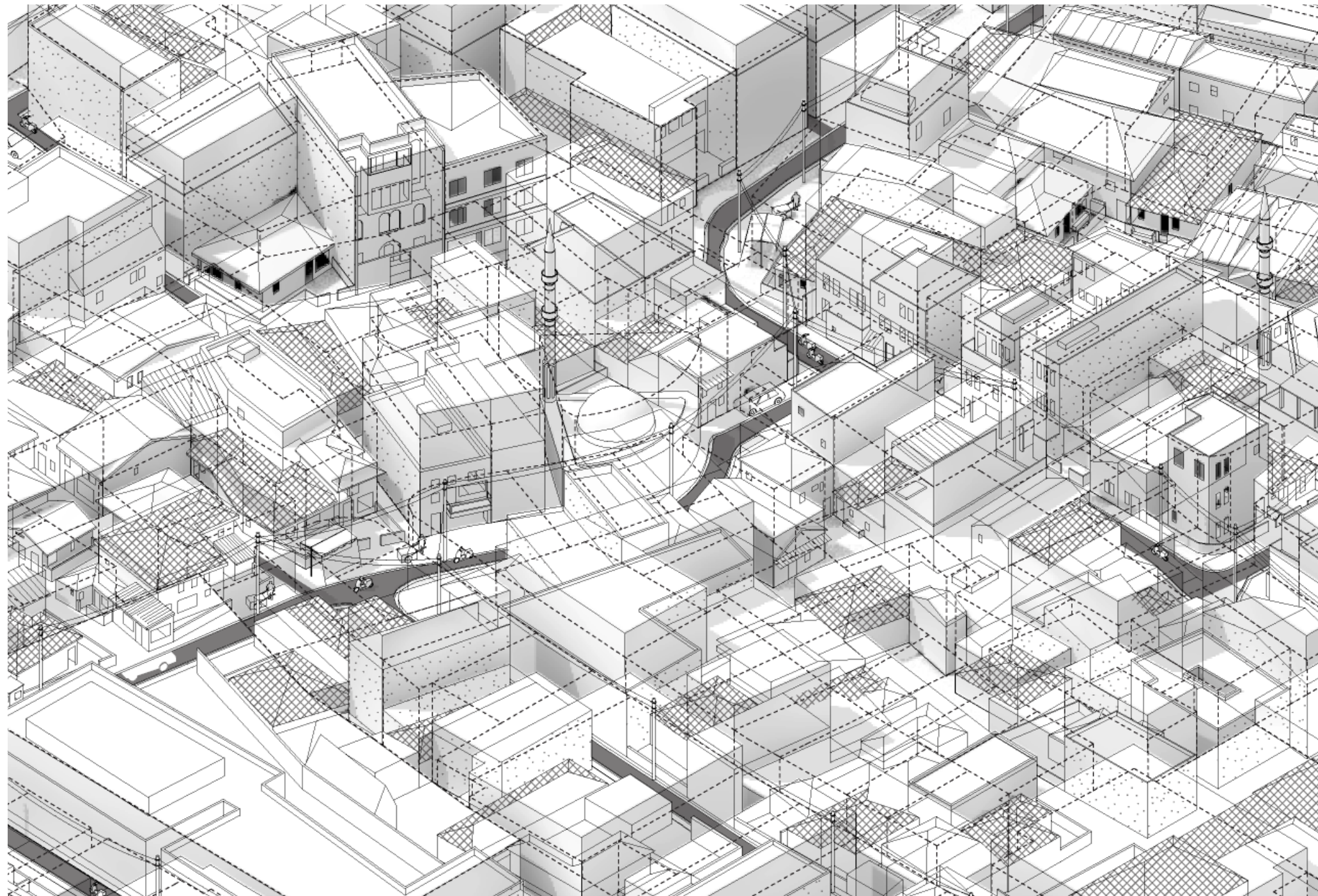
M scale axonometrie

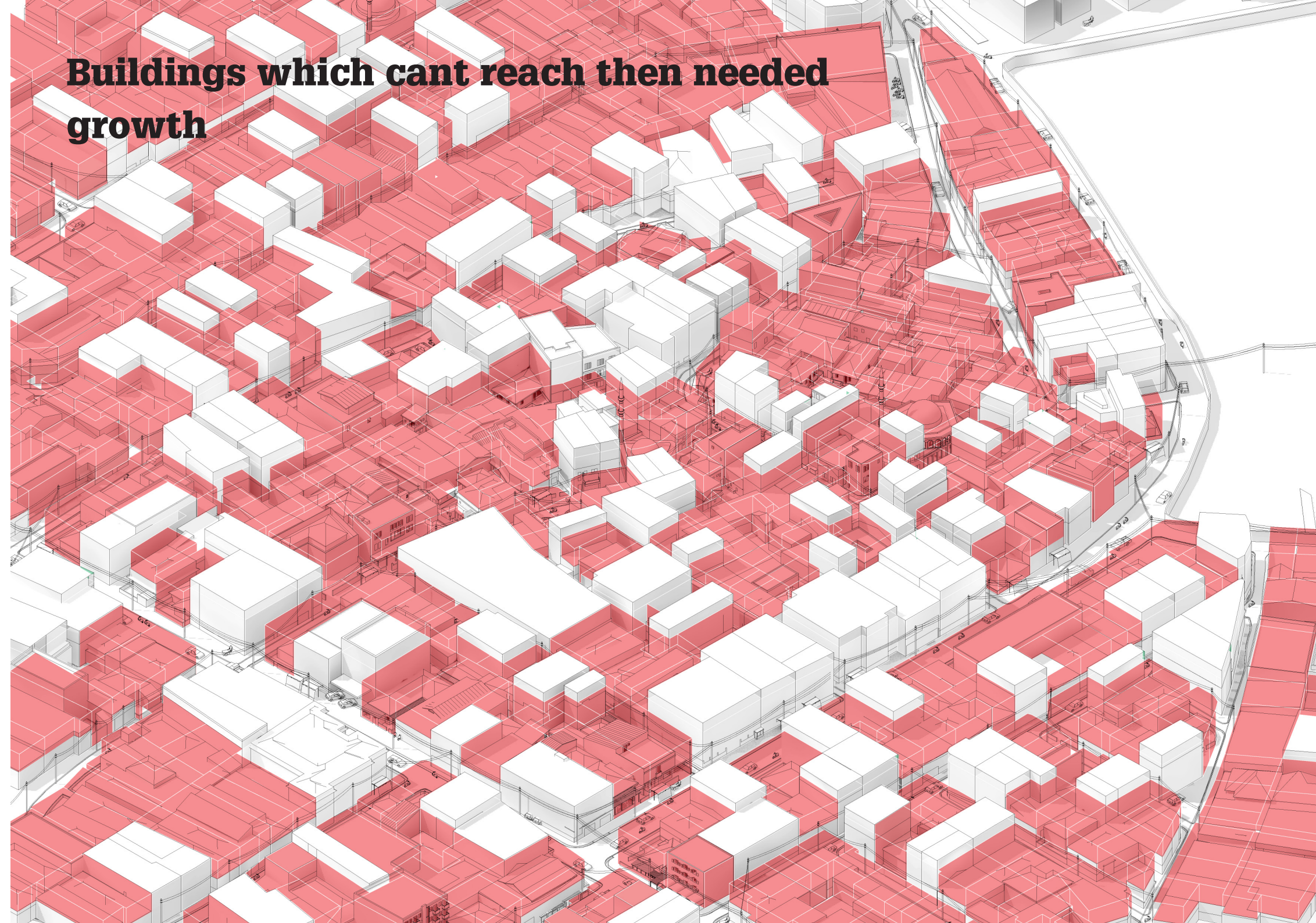
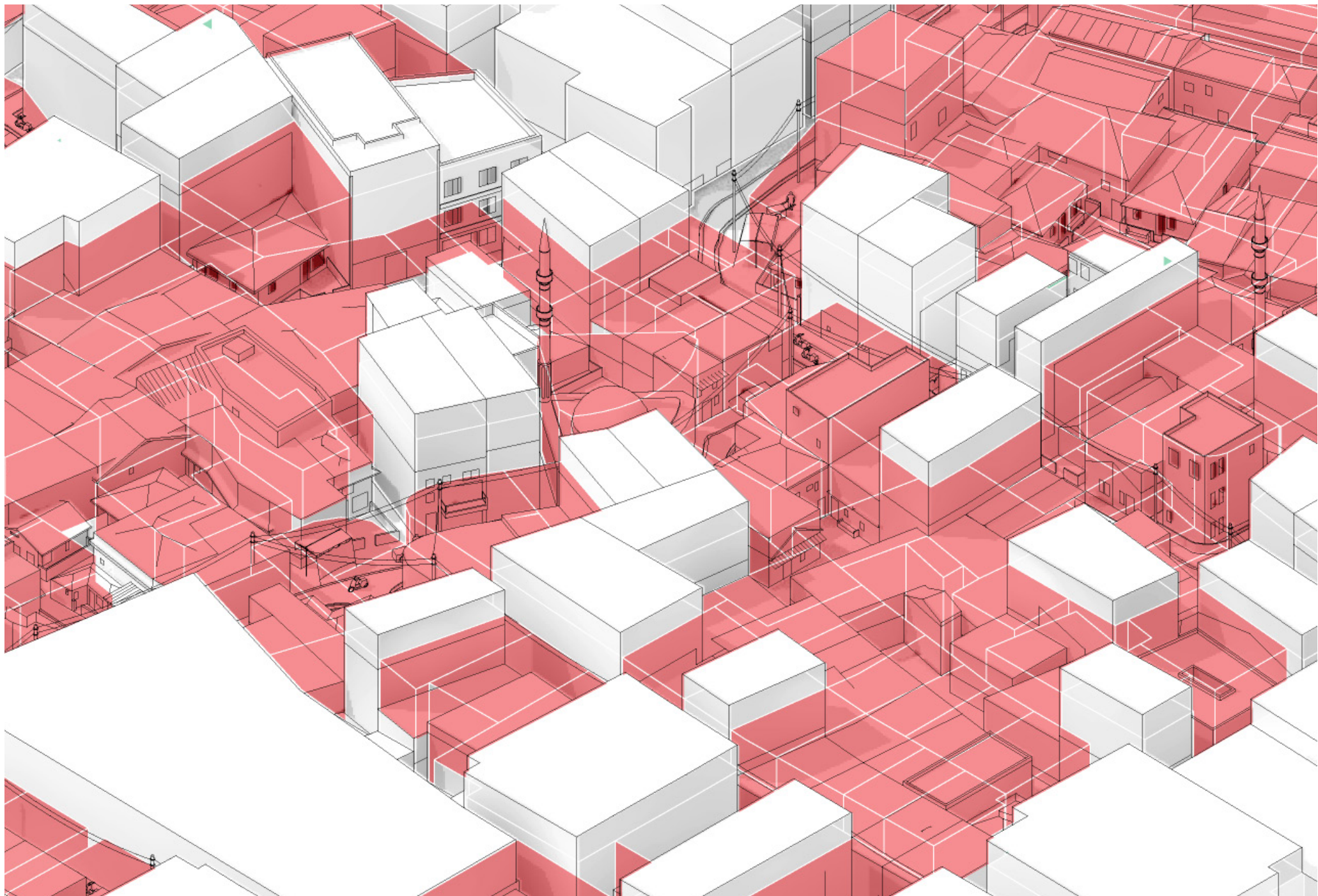












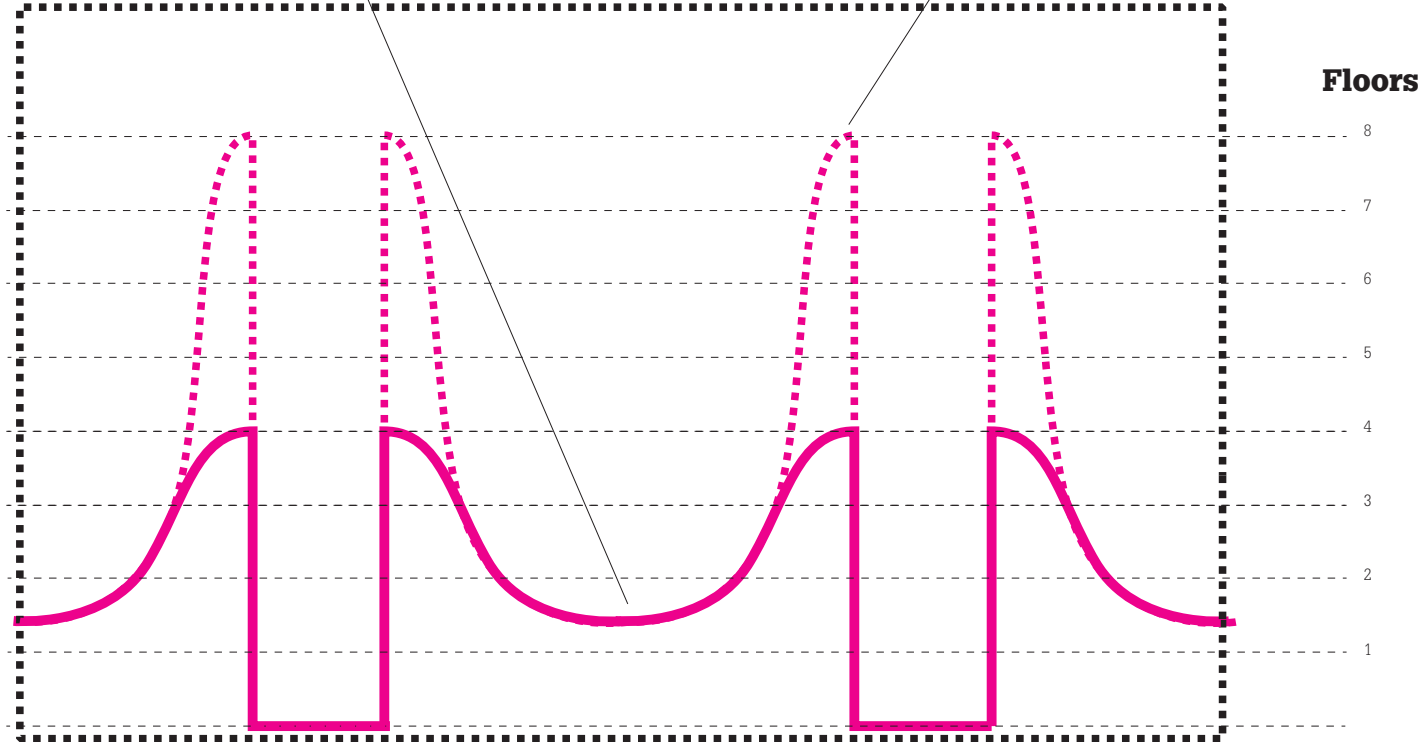
Preserve!

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

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.

Section of location



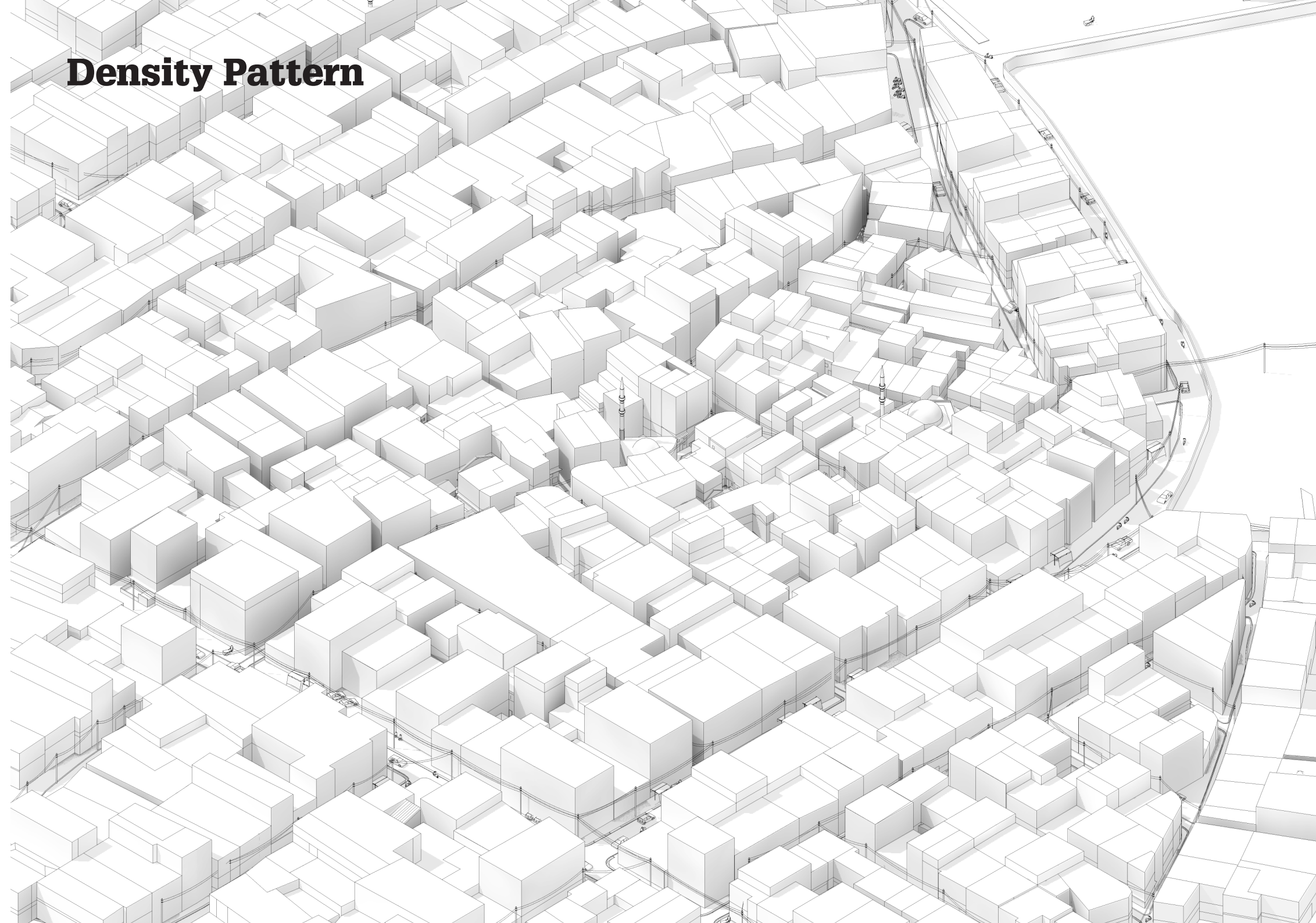
Types of traffic

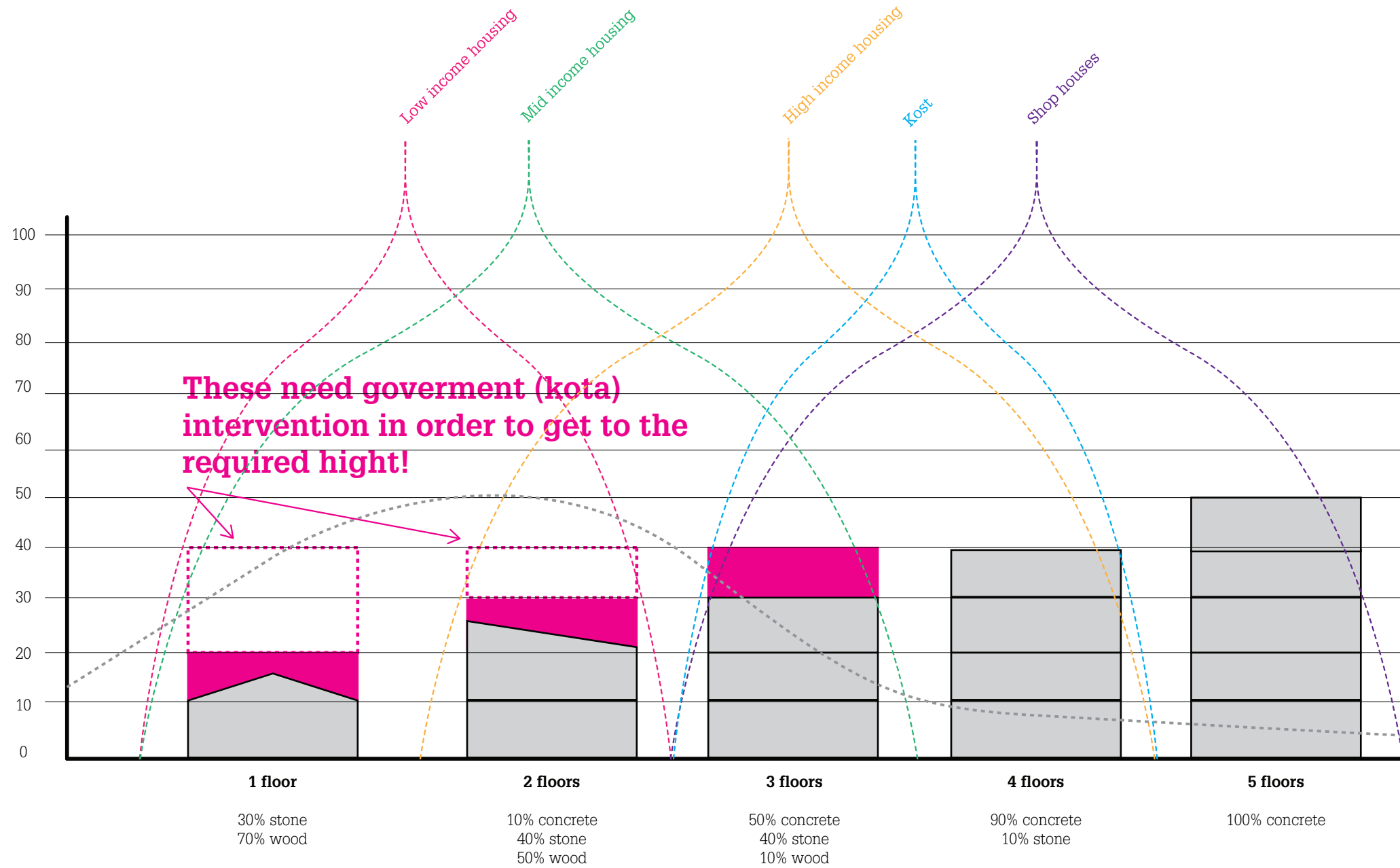


No more cars

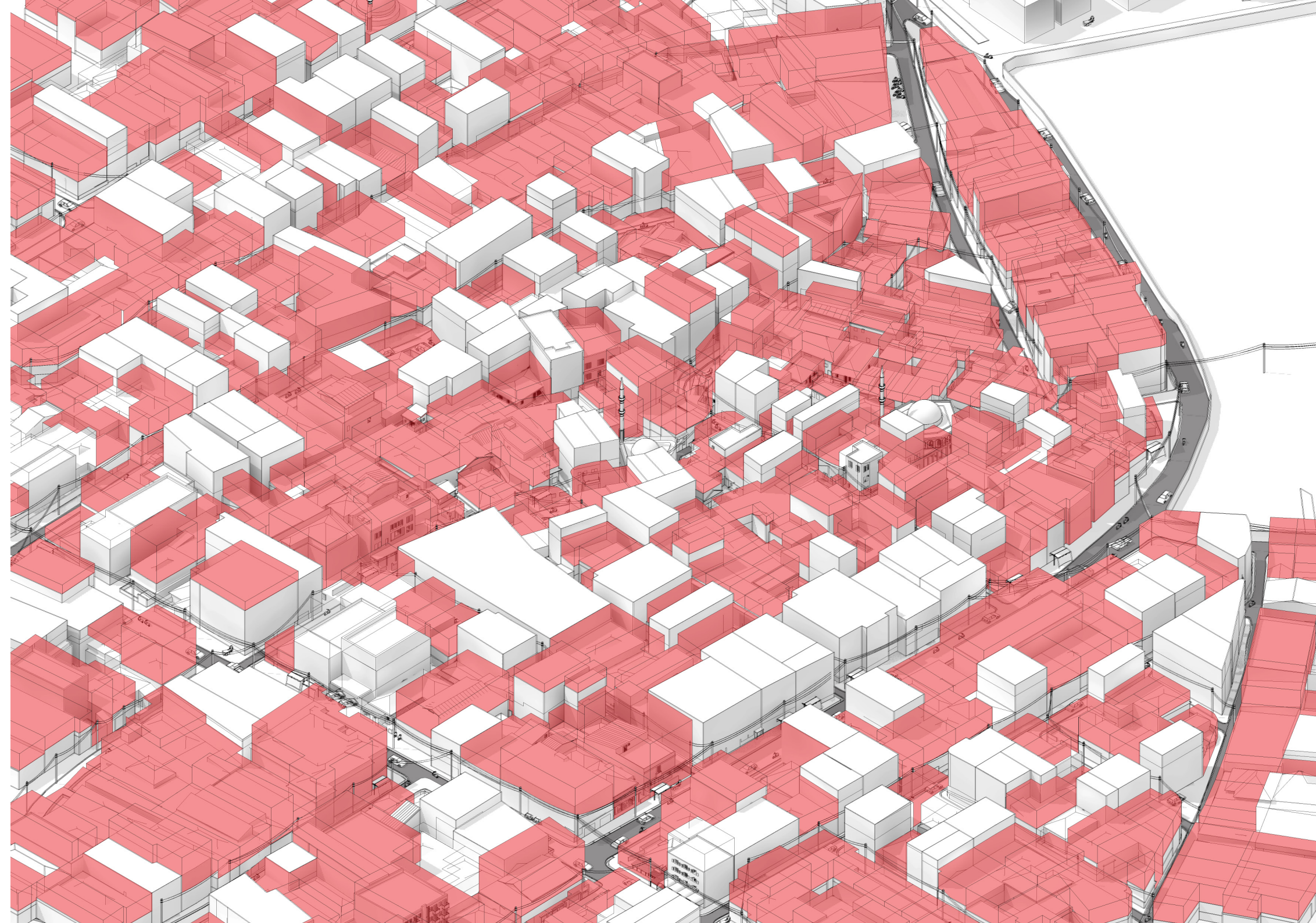
Cars will not be allowed in the center of the kampungs, they will destroy there spirit. Ojeks are only allowed into the first circle.

Density Pattern





Source:

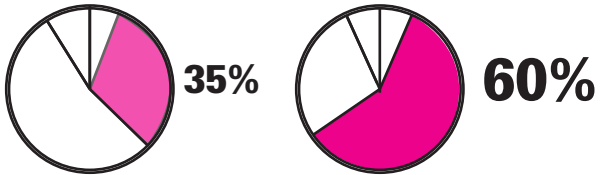


Hypothesis:

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

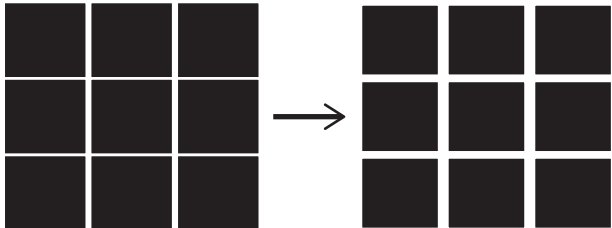
Street view
Increase of the mid-high income class
> a higher floorplace a person which leads to a higher far!



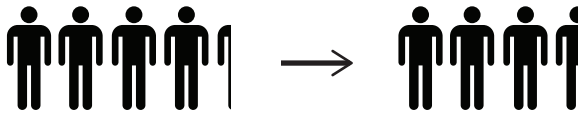
A lot more local functions
Pasar, schools, health services and shops should all be closer to home to reduce travel times



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 / km2,
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



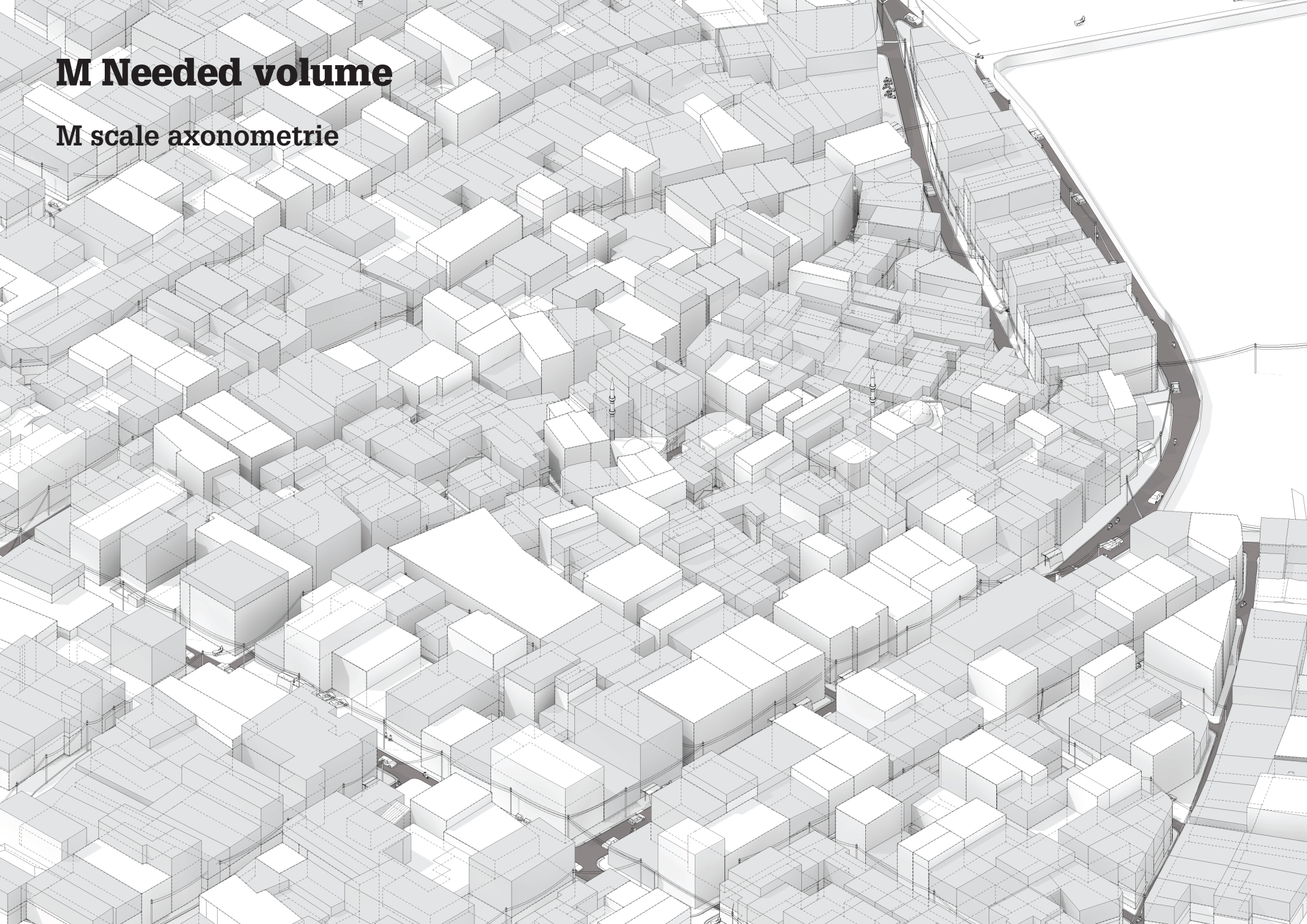
Needed volume

Street view



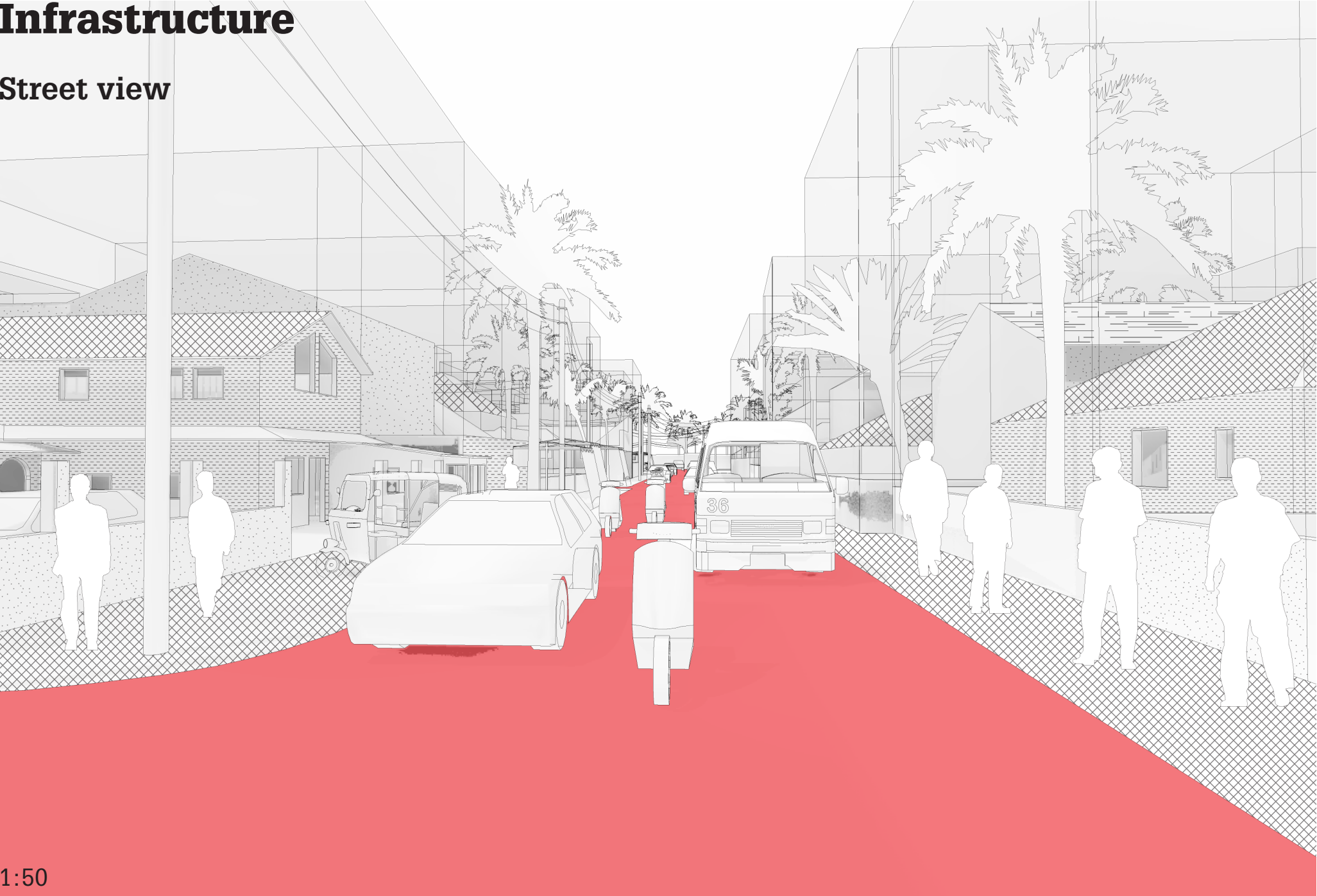
M Needed volume

M scale axonometrie



Infrastructure

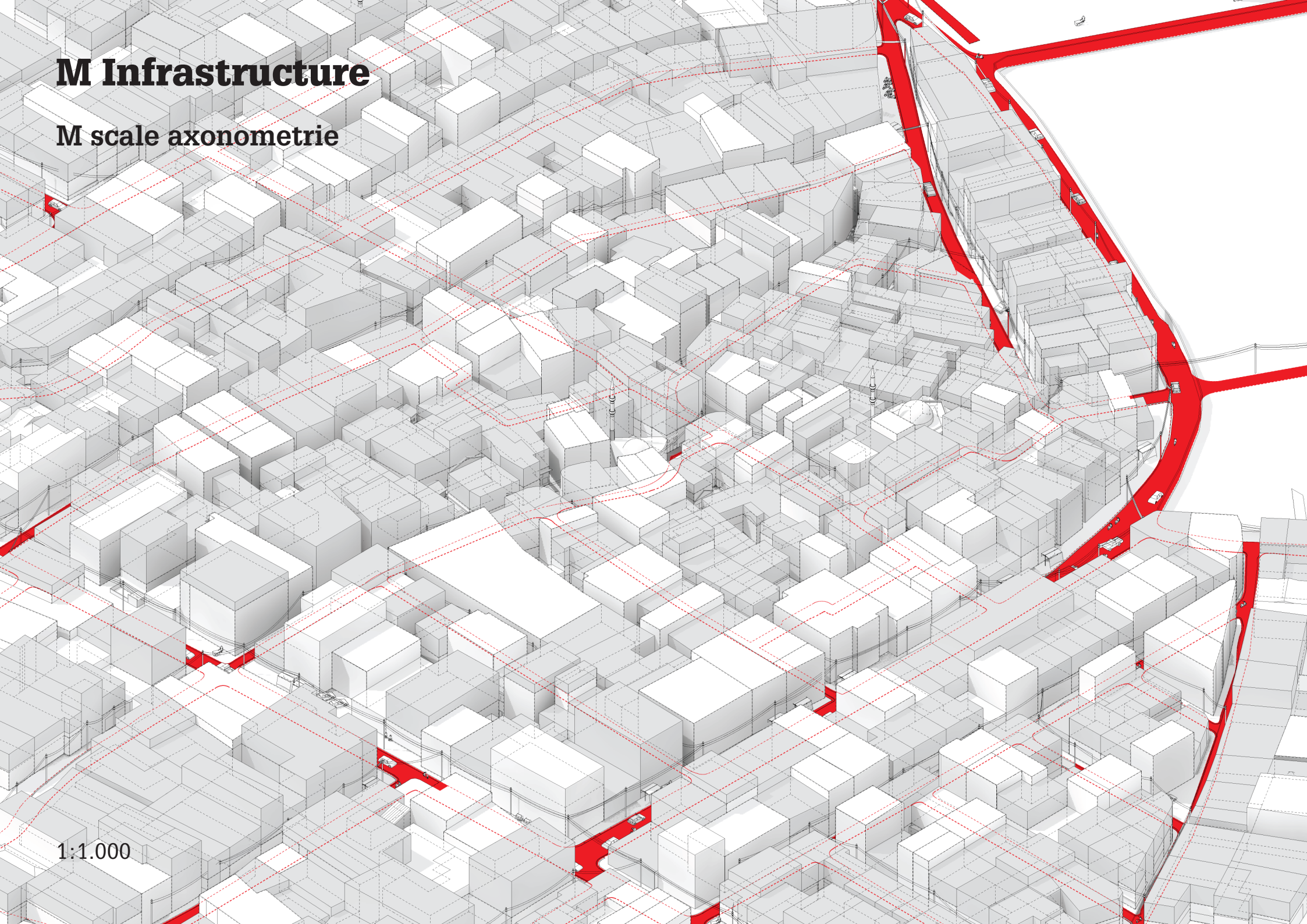
Street view



1:50

M Infrastructure

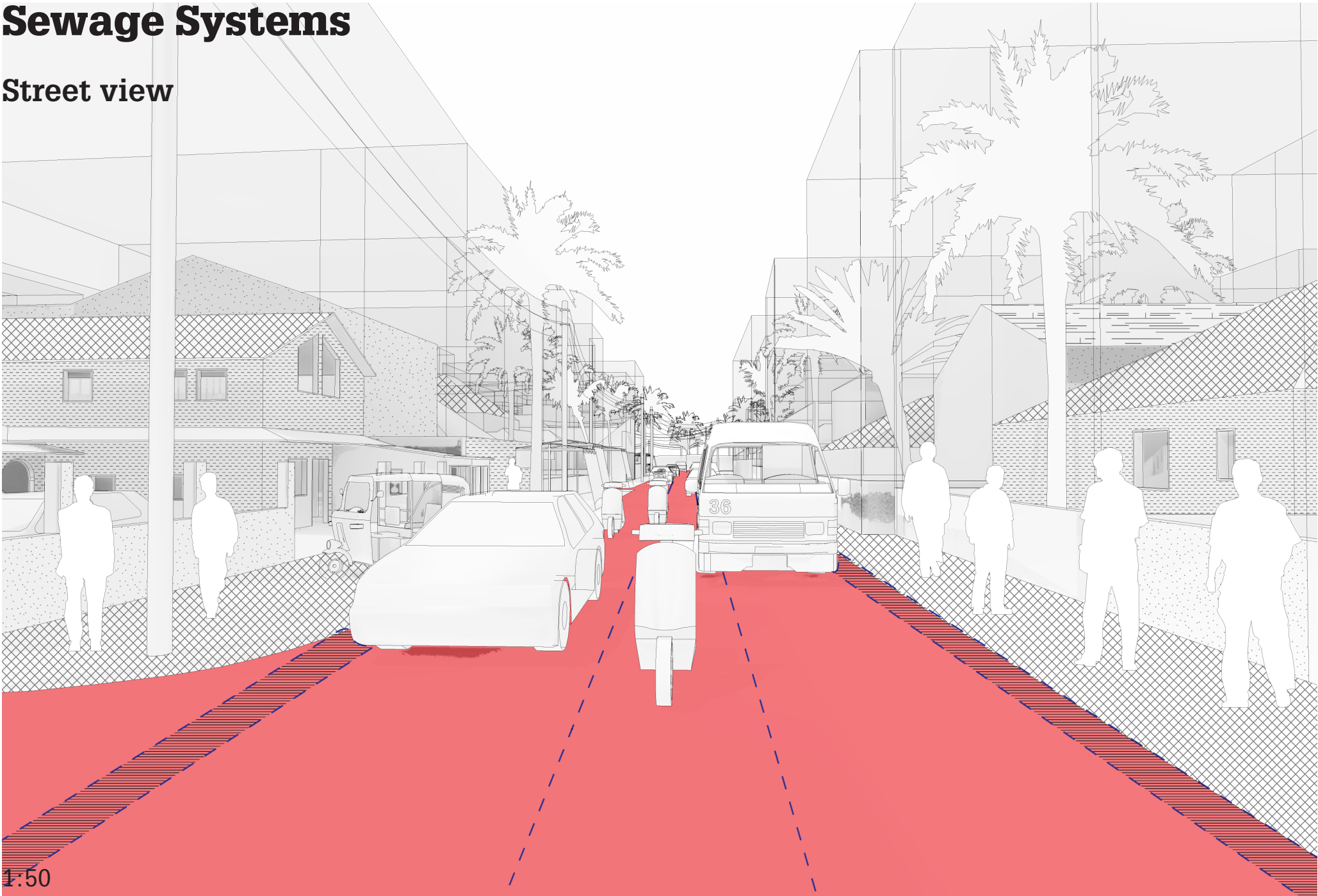
M scale axonometrie



1:1.000

Sewage Systems

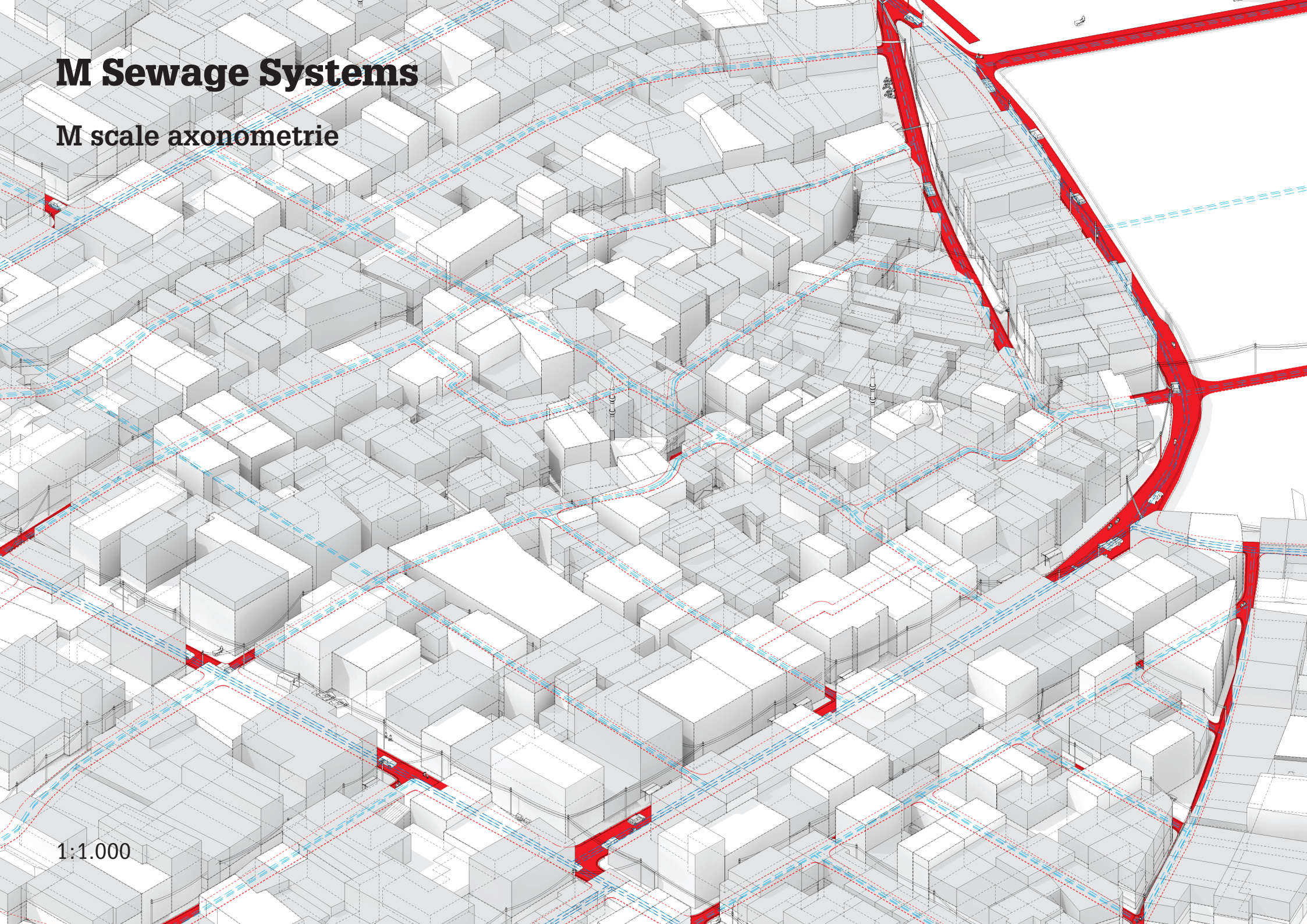
Street view



1:50

M Sewage Systems

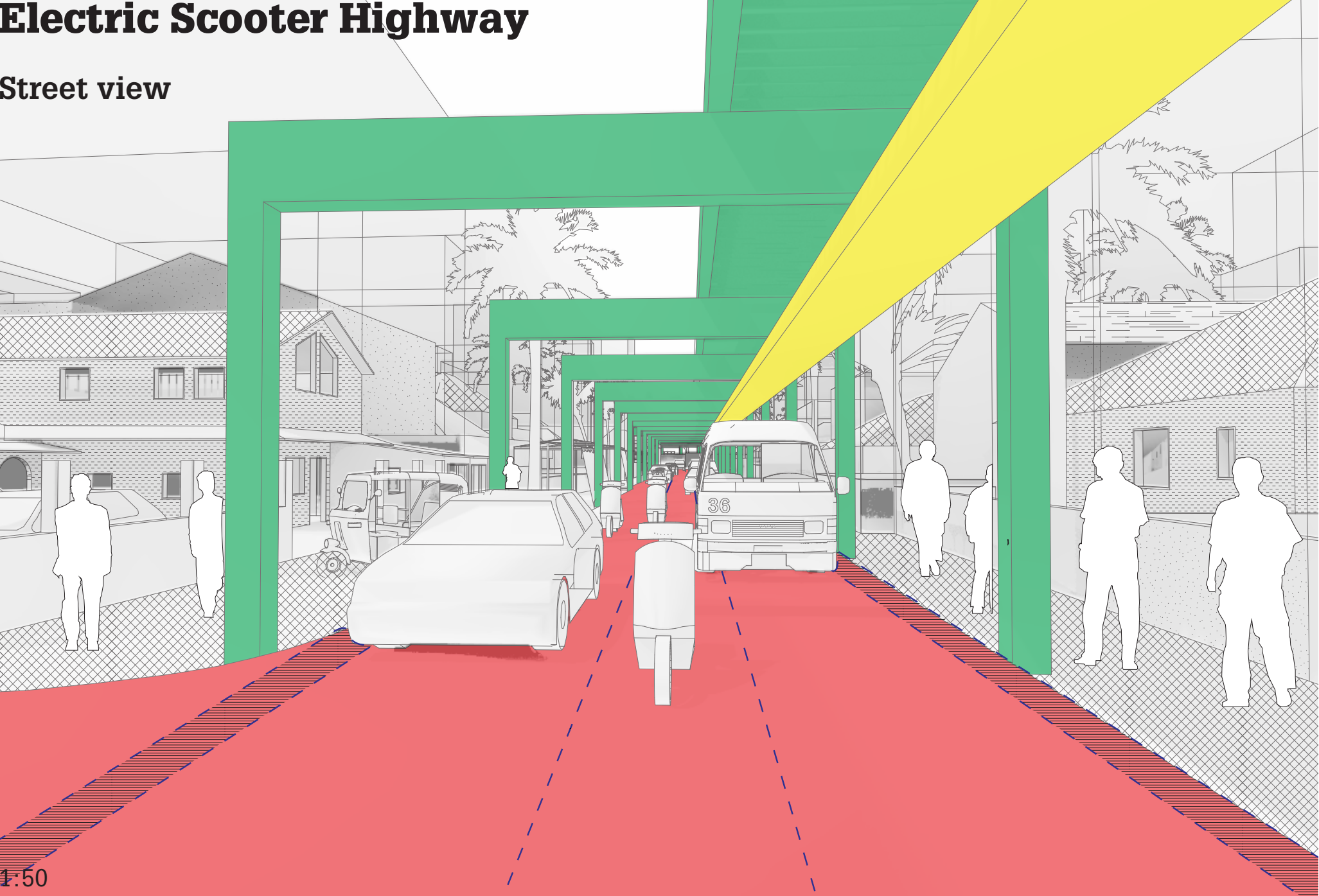
M scale axonometrie



1:1.000

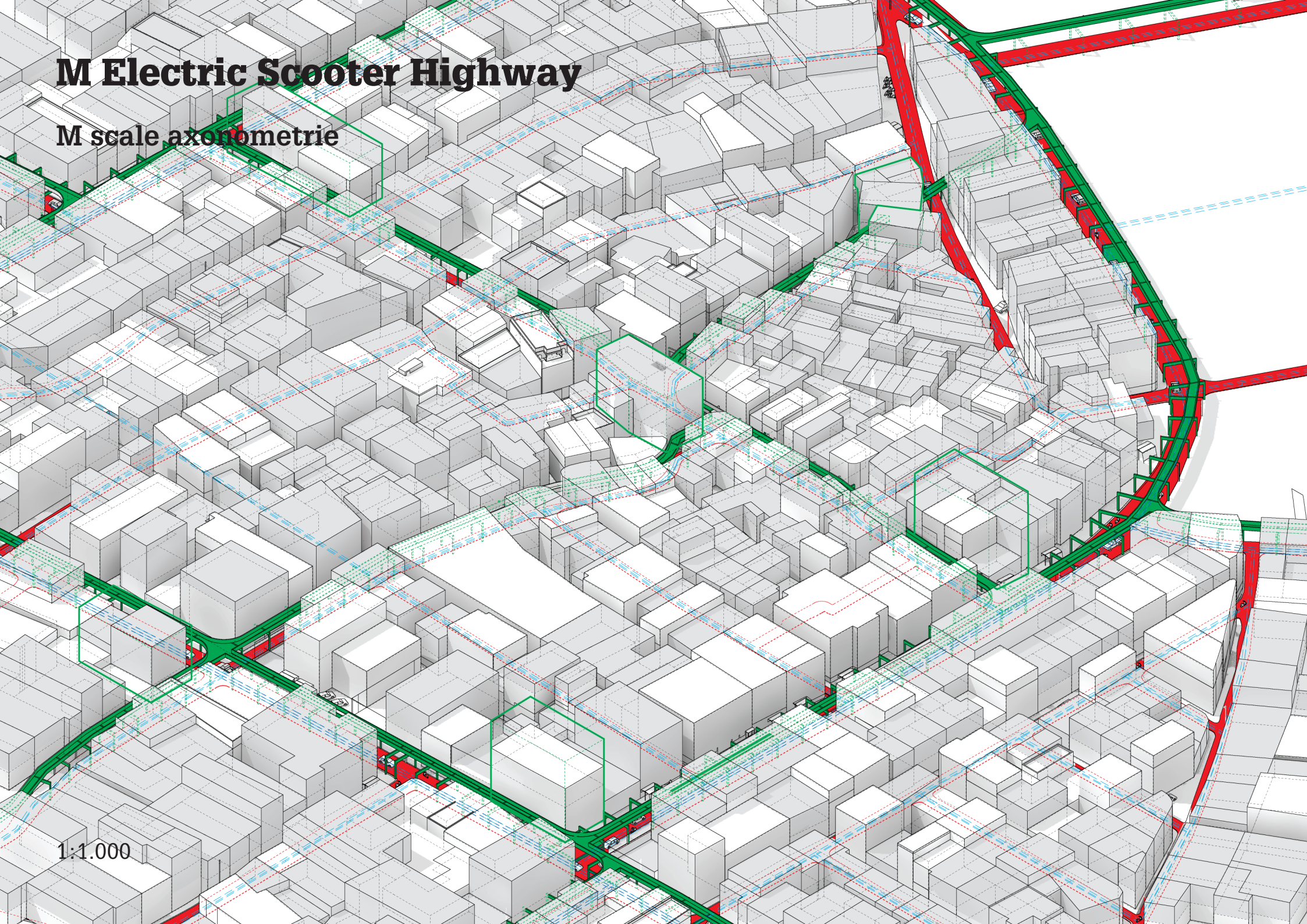
Electric Scooter Highway

Street view



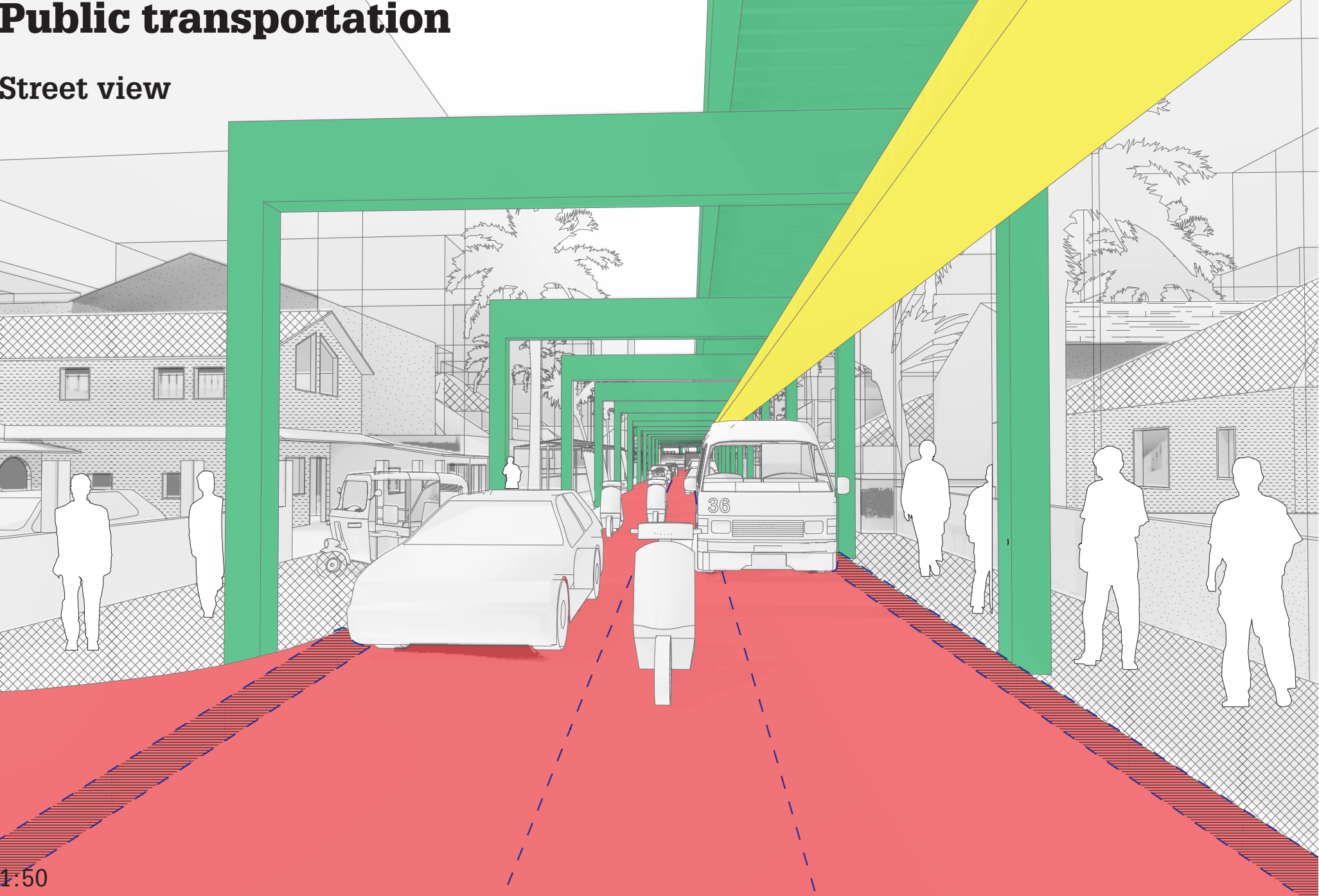
M Electric Scooter Highway

M scale axonometric



Public transportation

Street view



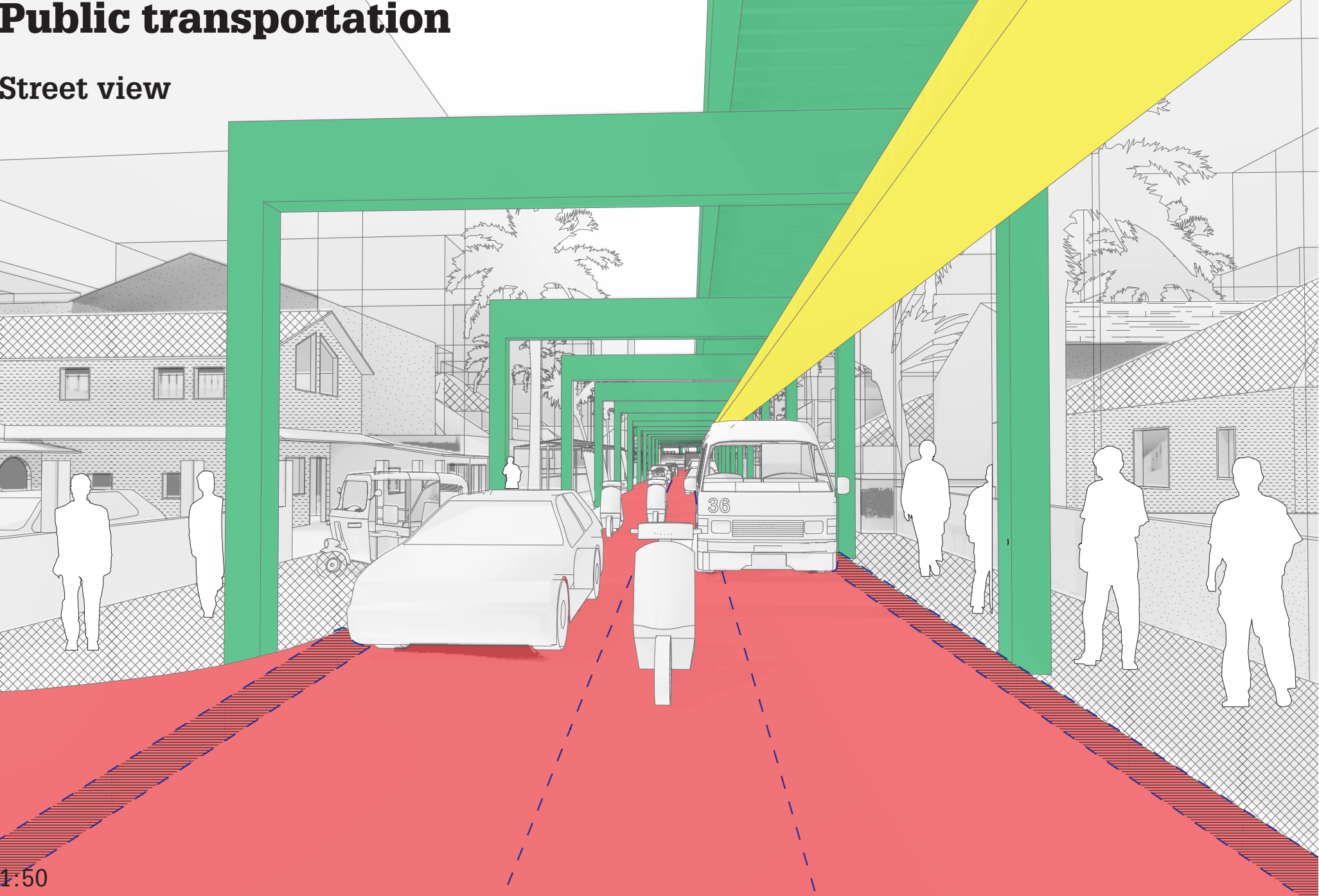
M Public transportation

M scale axonometrie

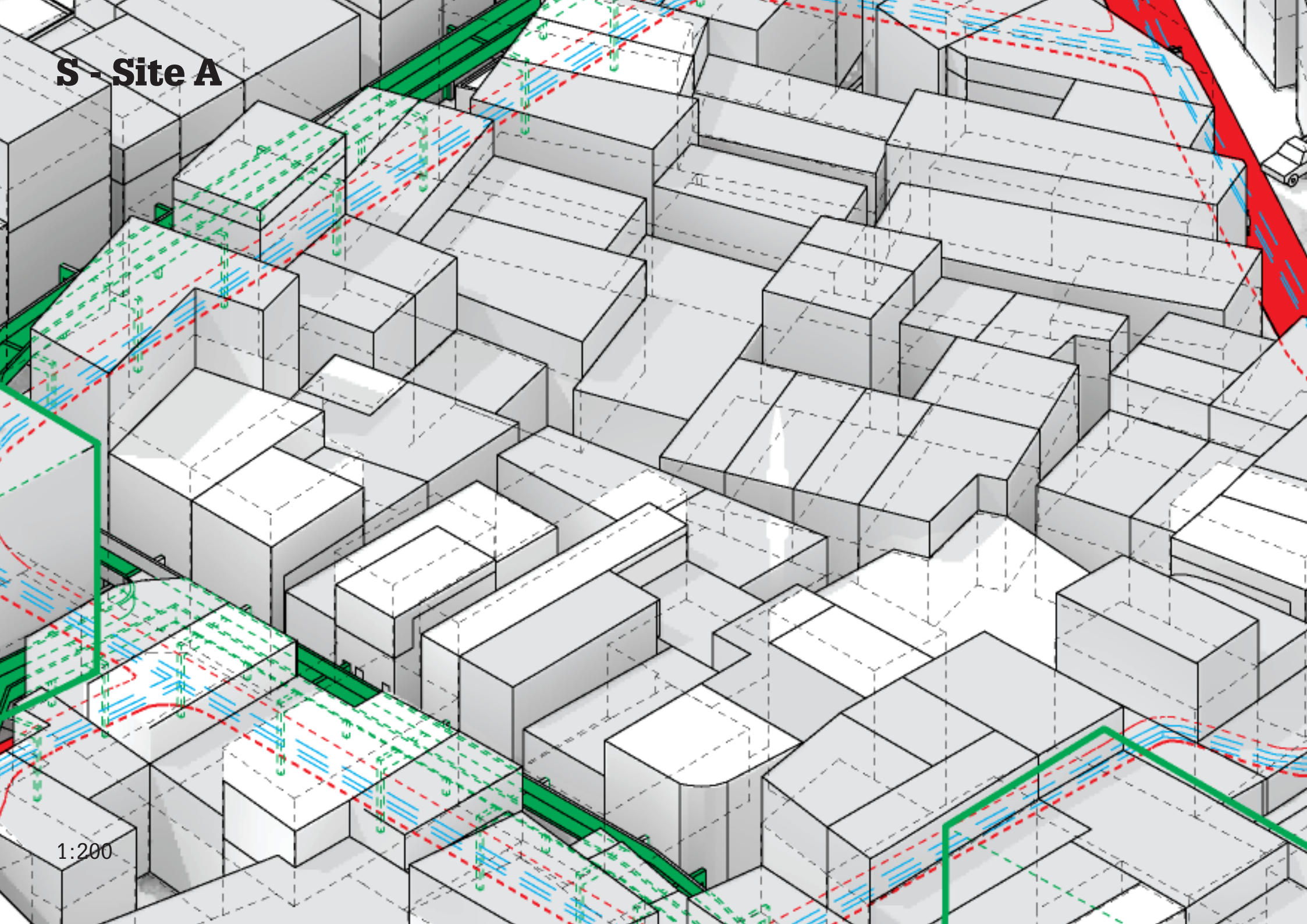


Public transportation

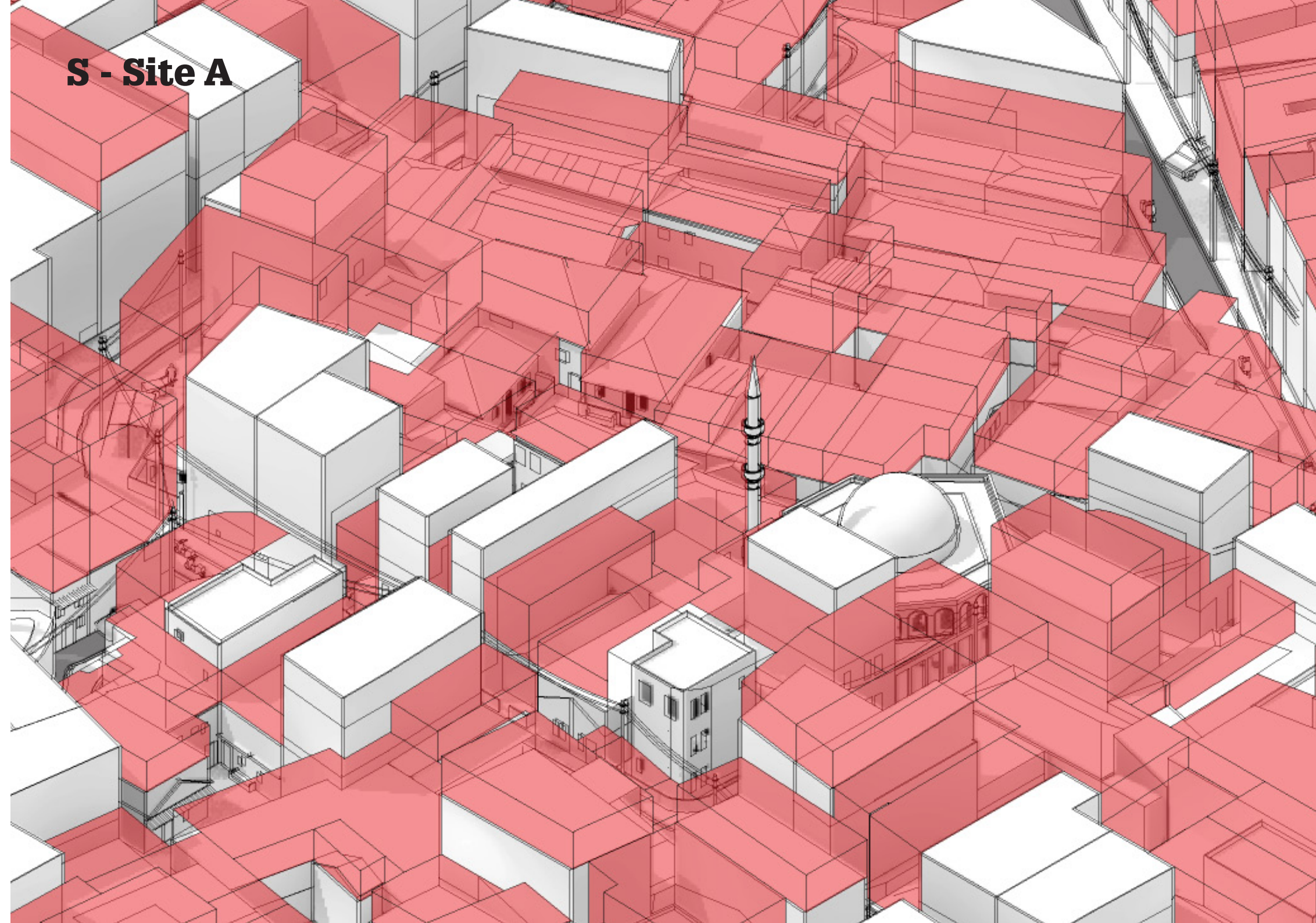
Street view



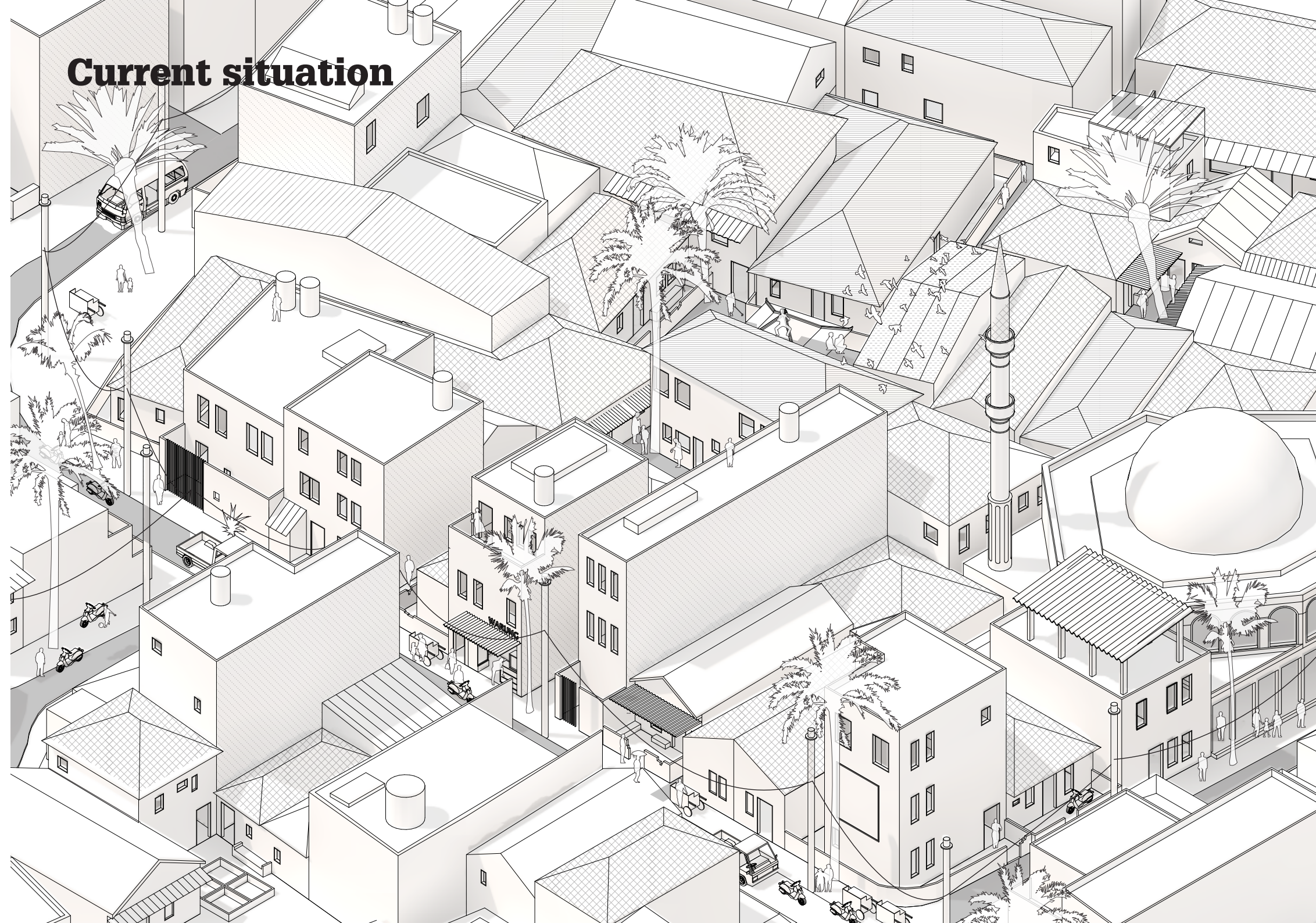
S - Site A



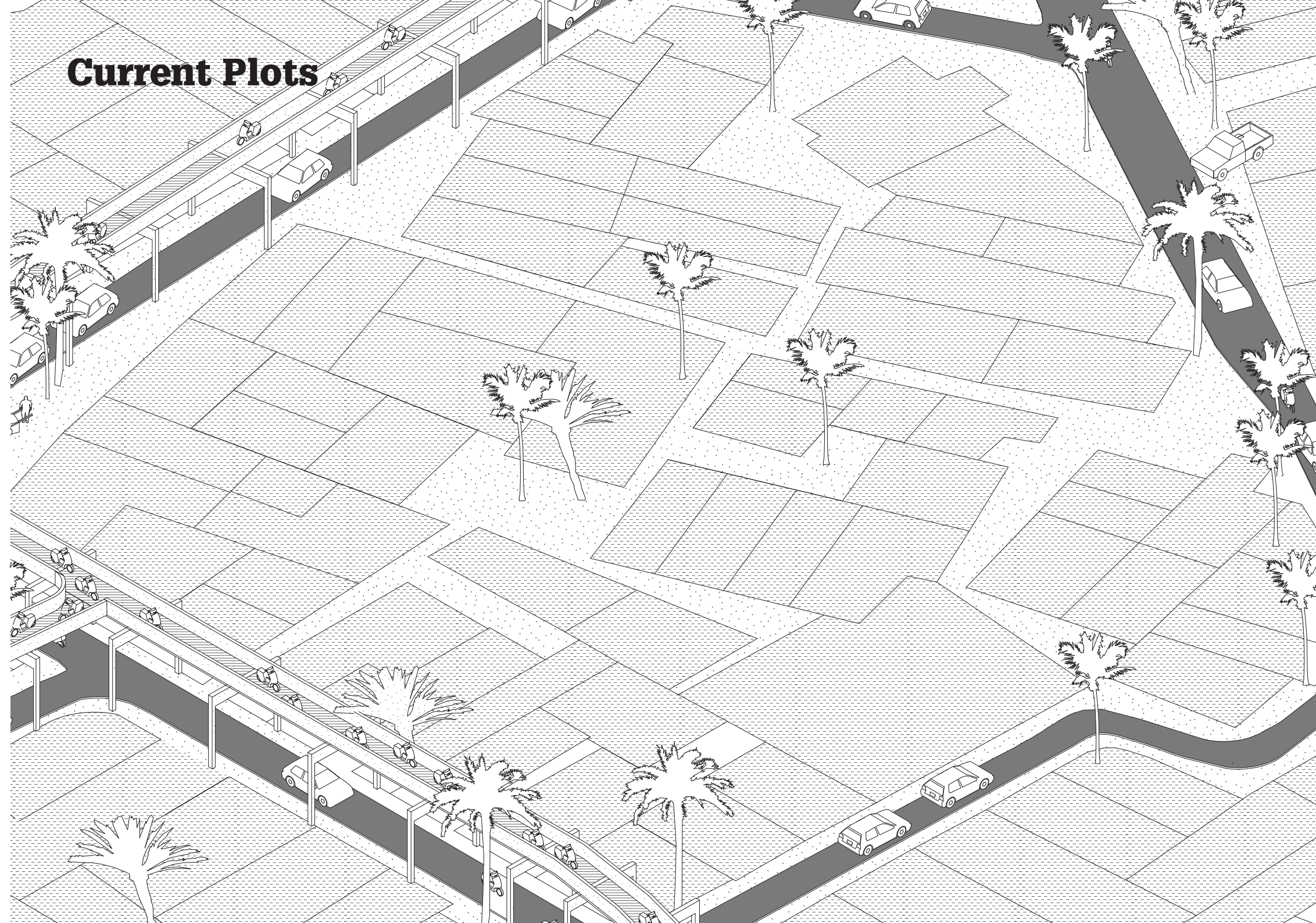
S - Site A



Current situation

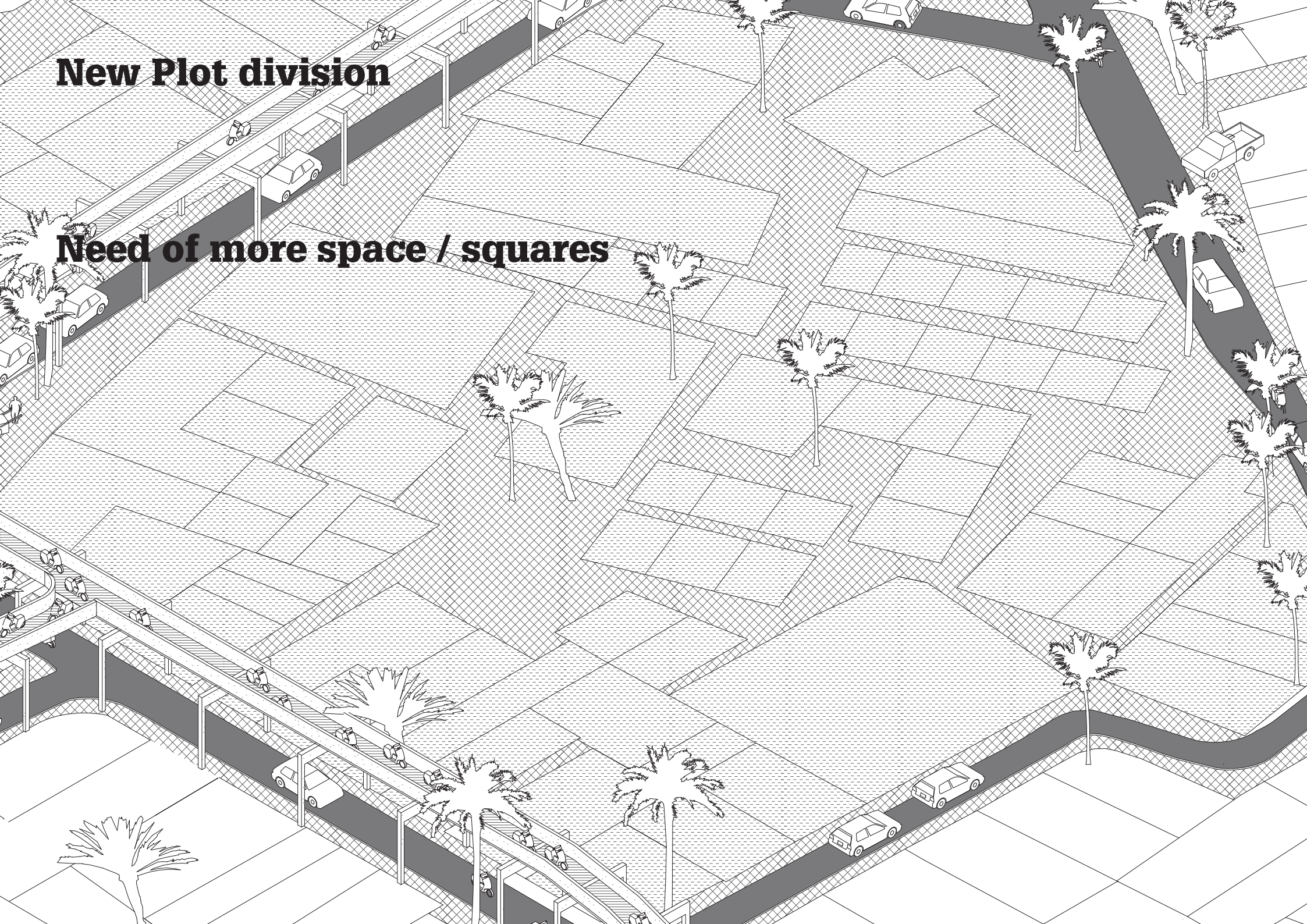


Current Plots

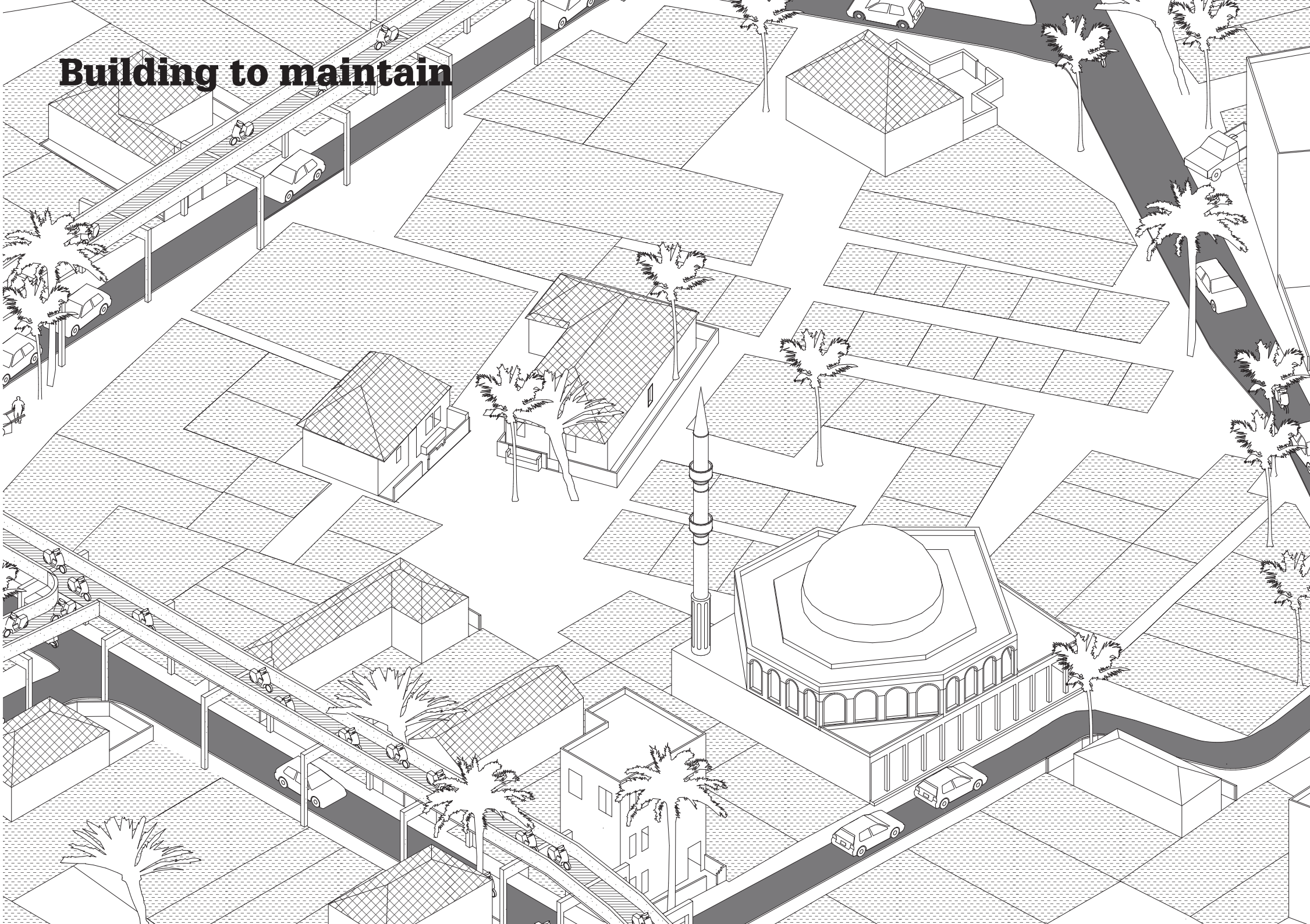


New Plot division

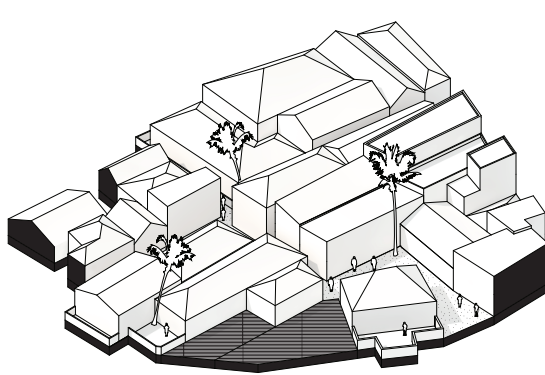
Need of more space / squares



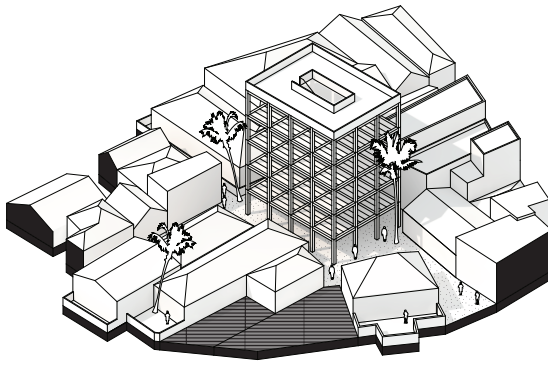
Building to maintain



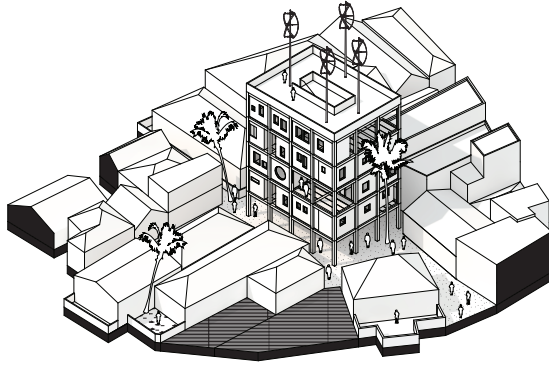
Public Service buildings



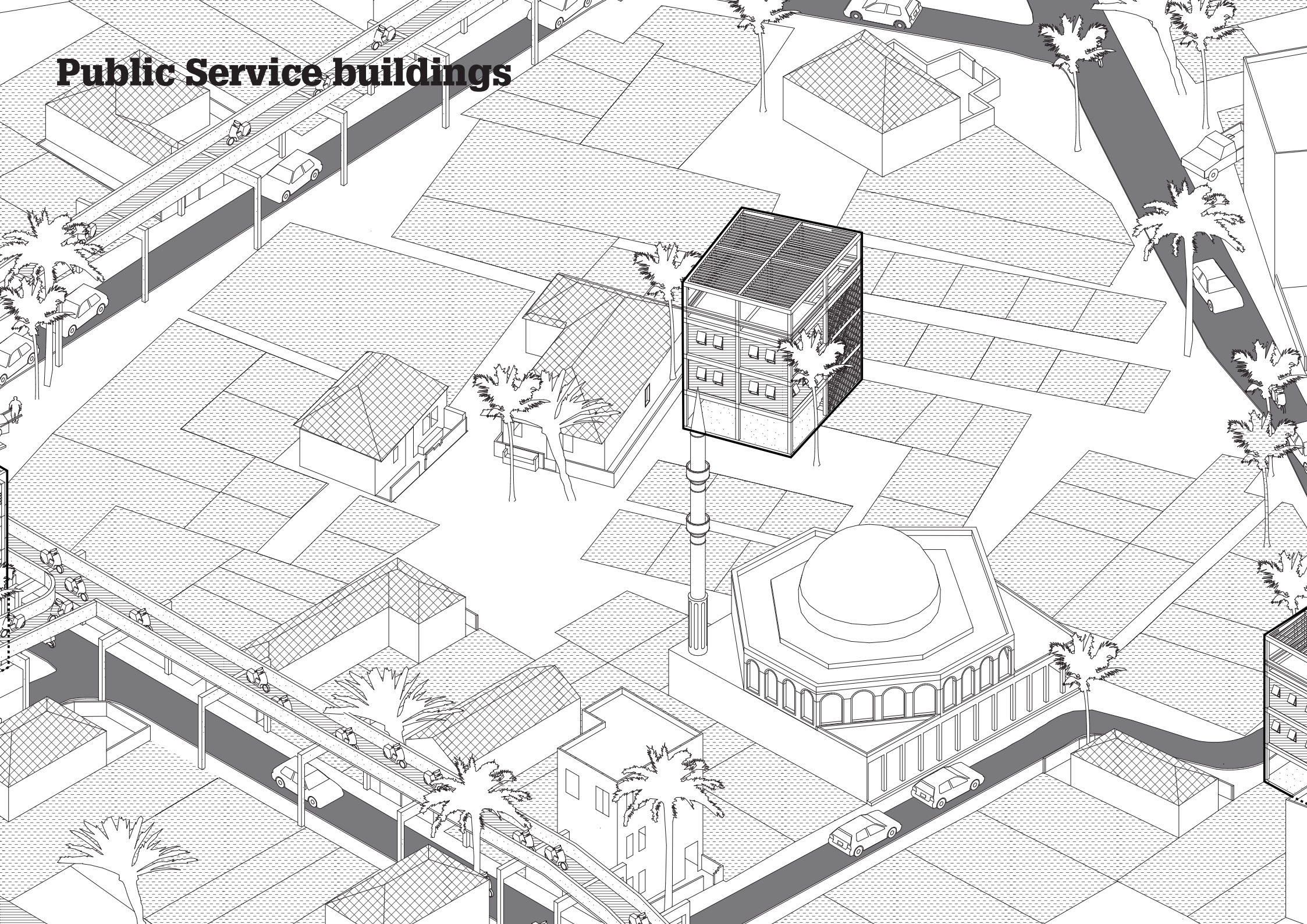
Current Situation (kampung)



Kota influence

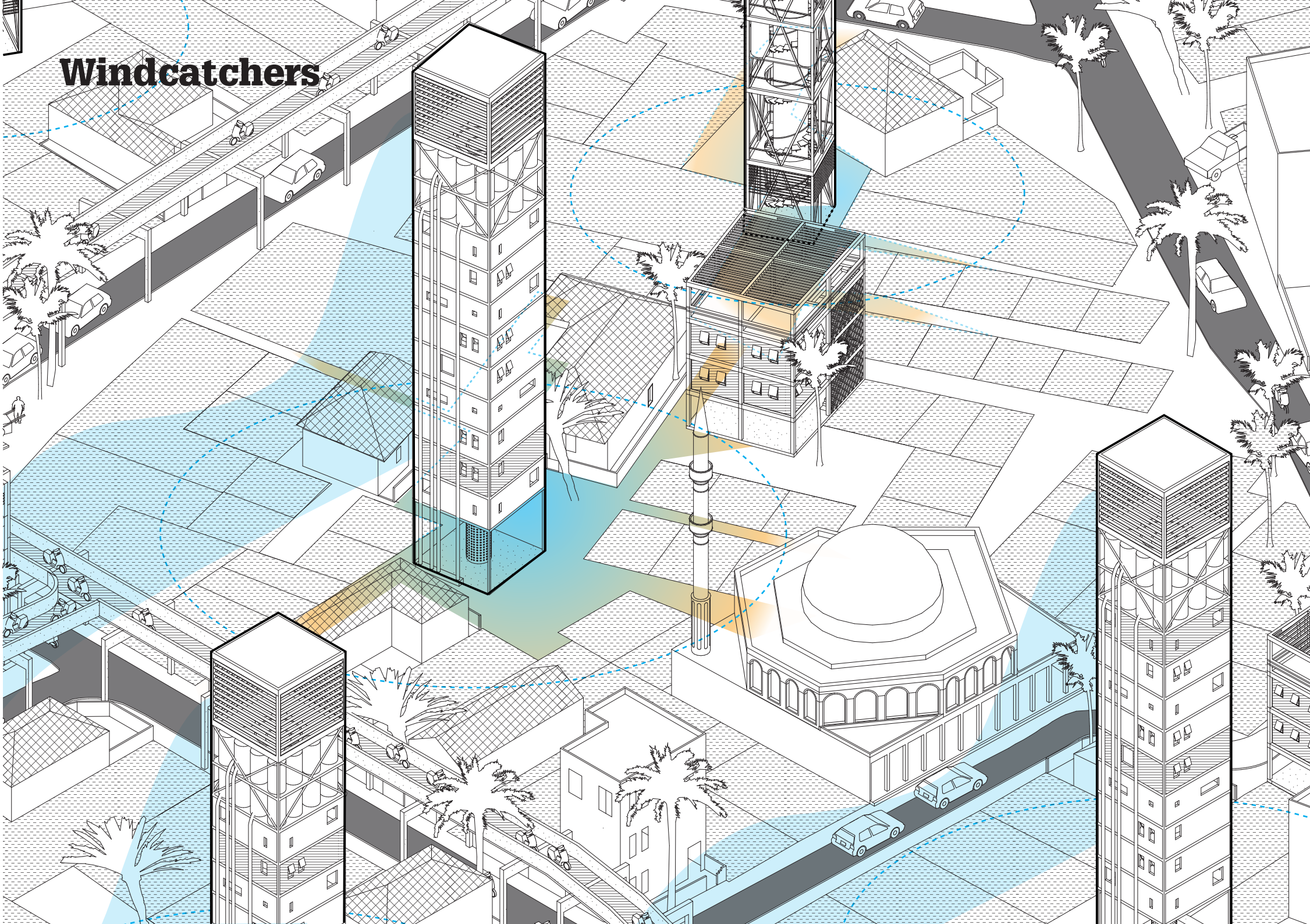


Final Situation (kampung kota)

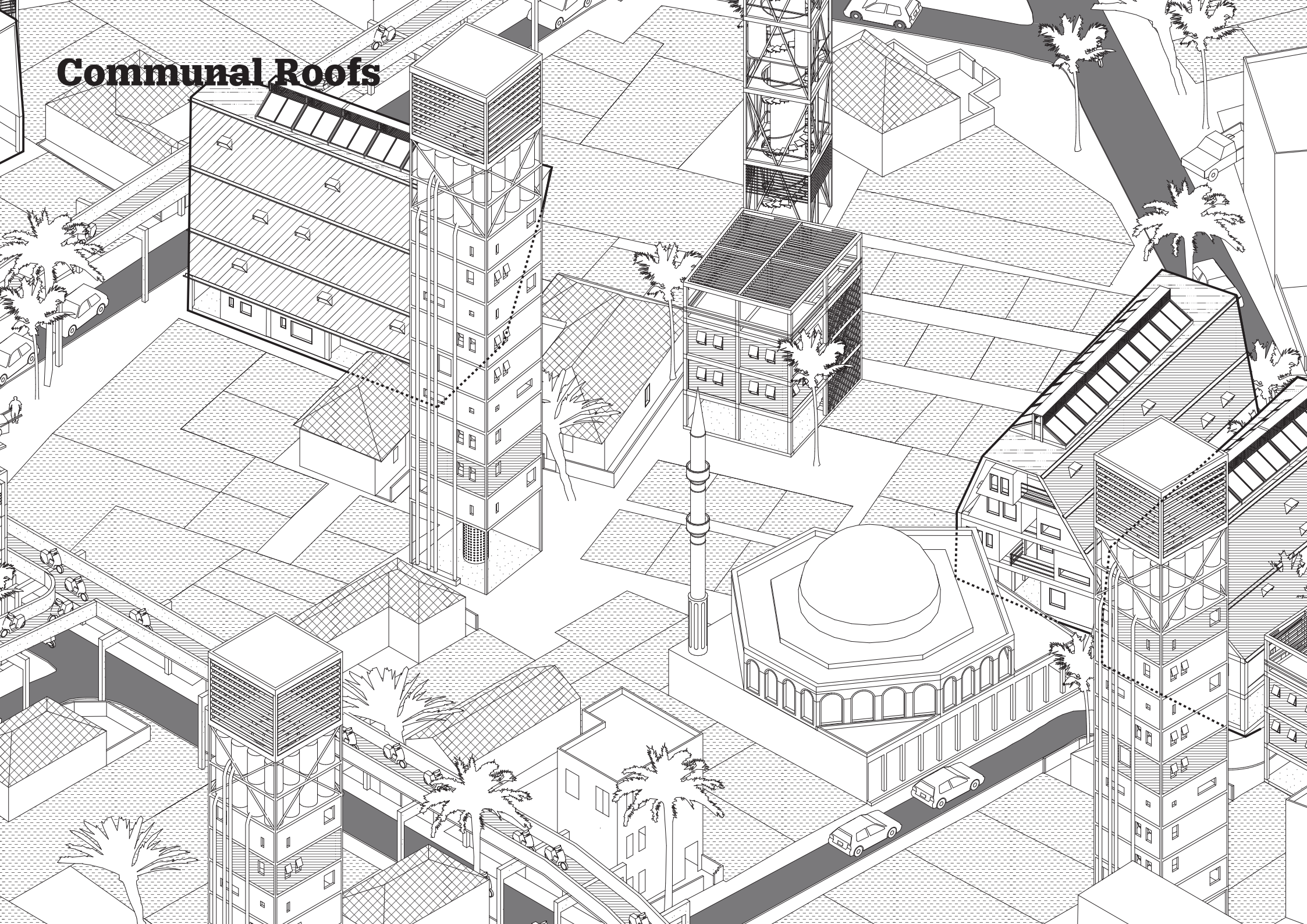
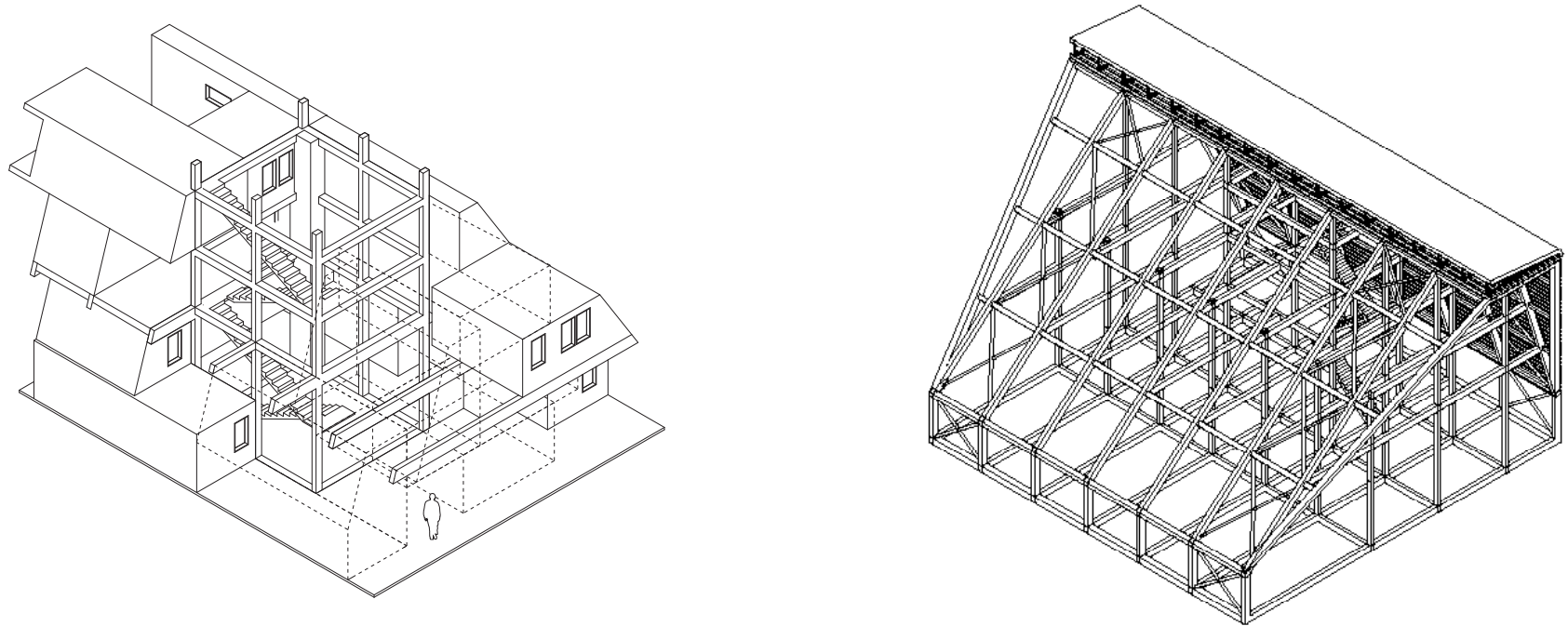


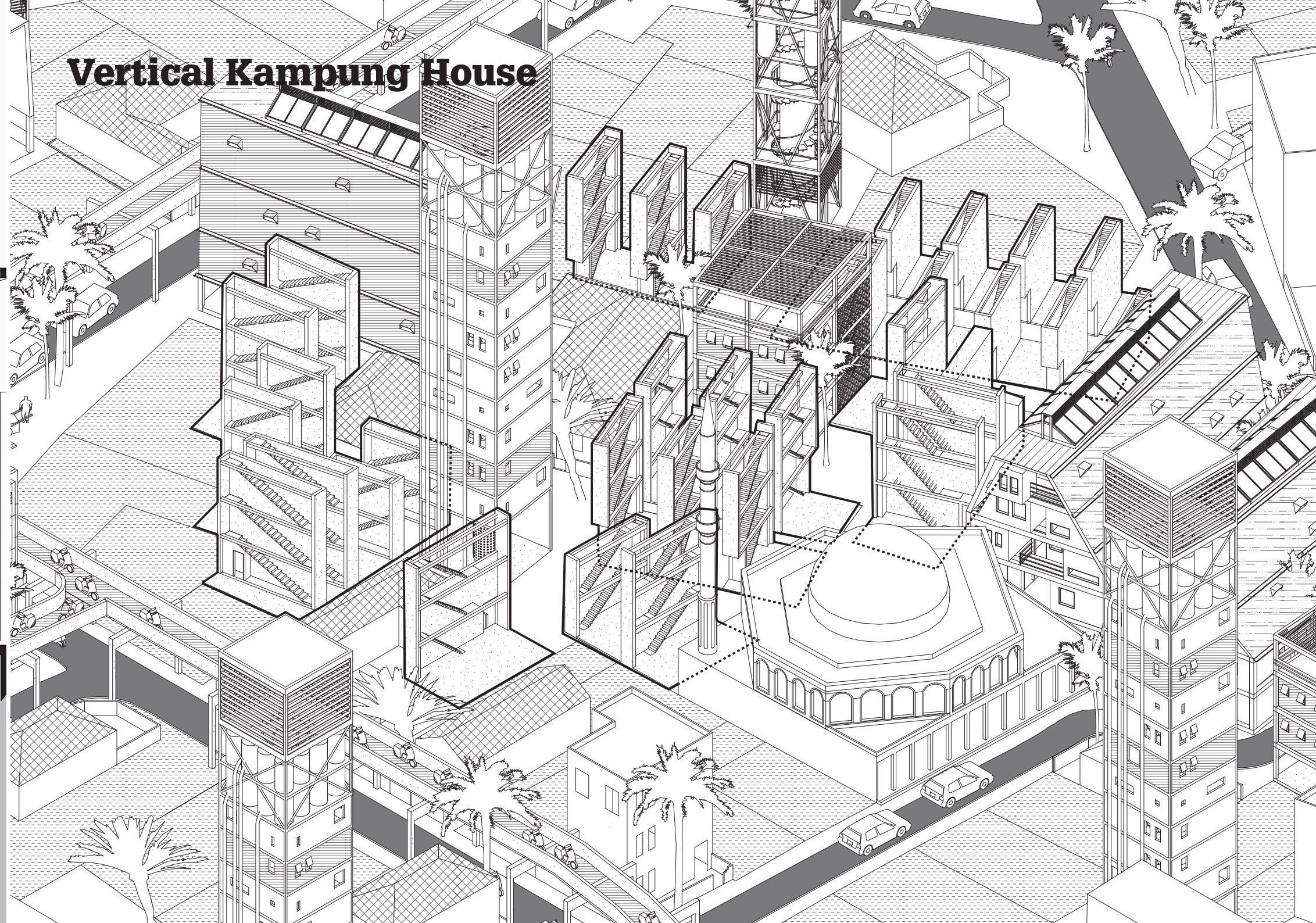
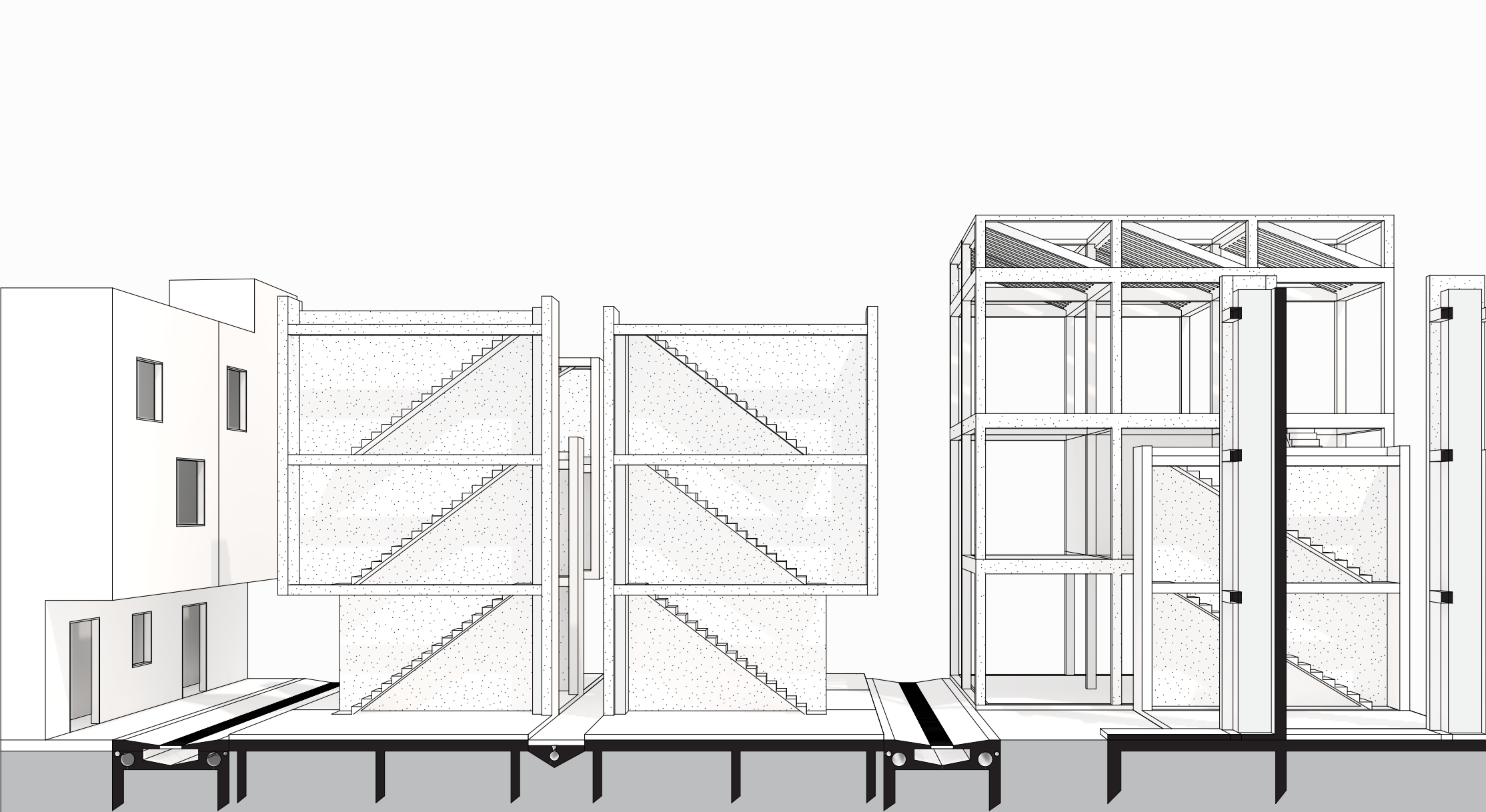
Public Service buildings

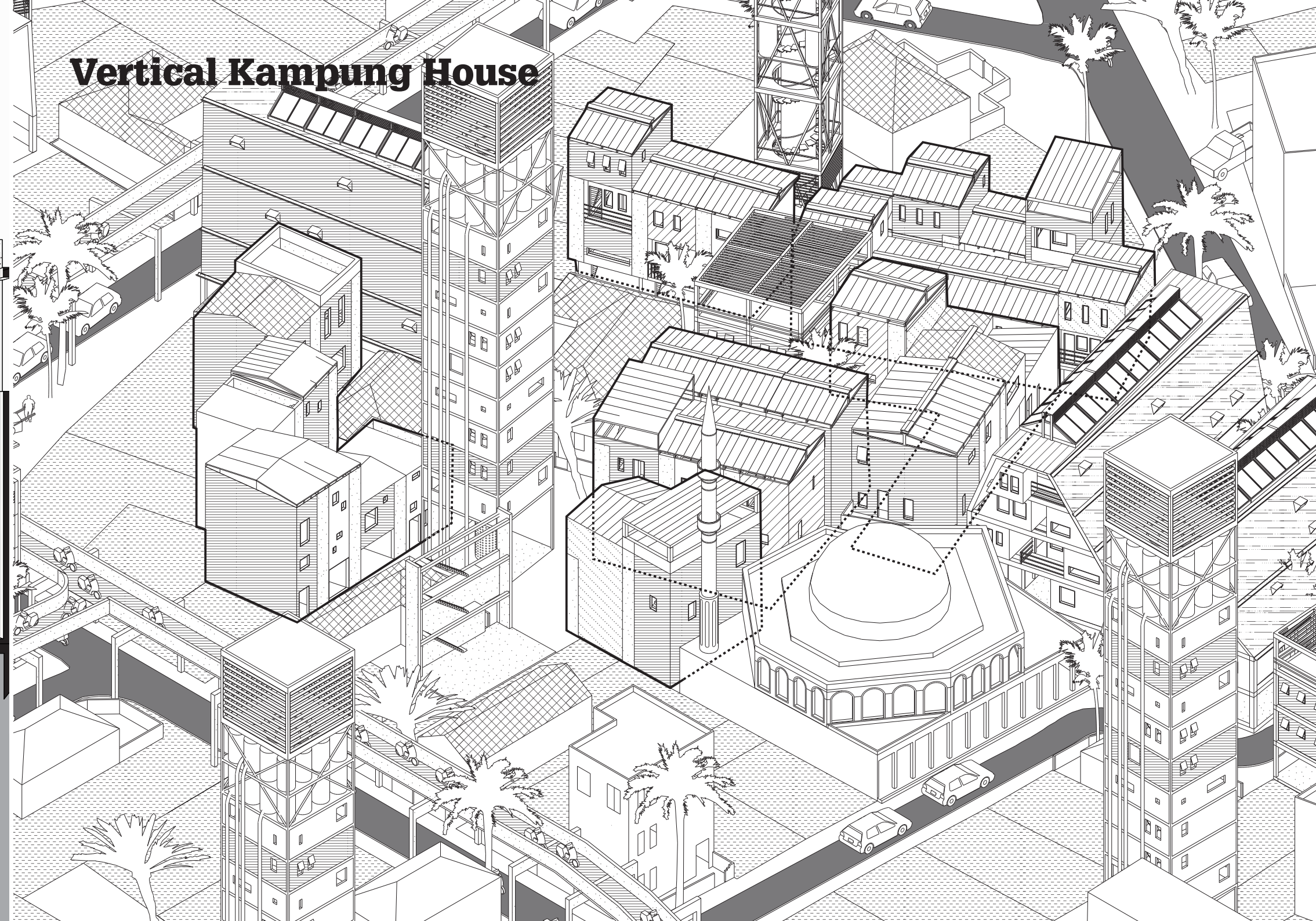
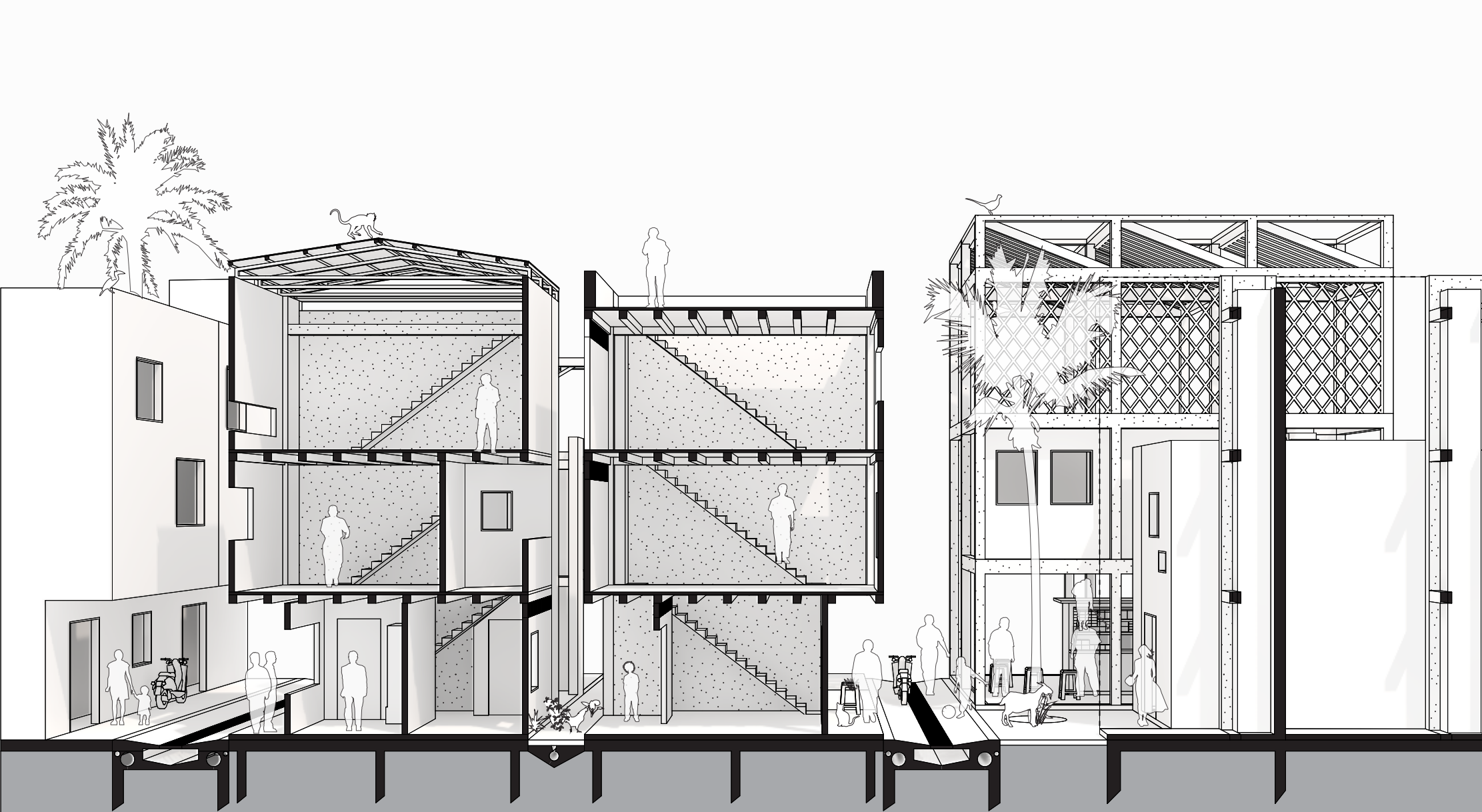
Windcatchers



Communal Roofs

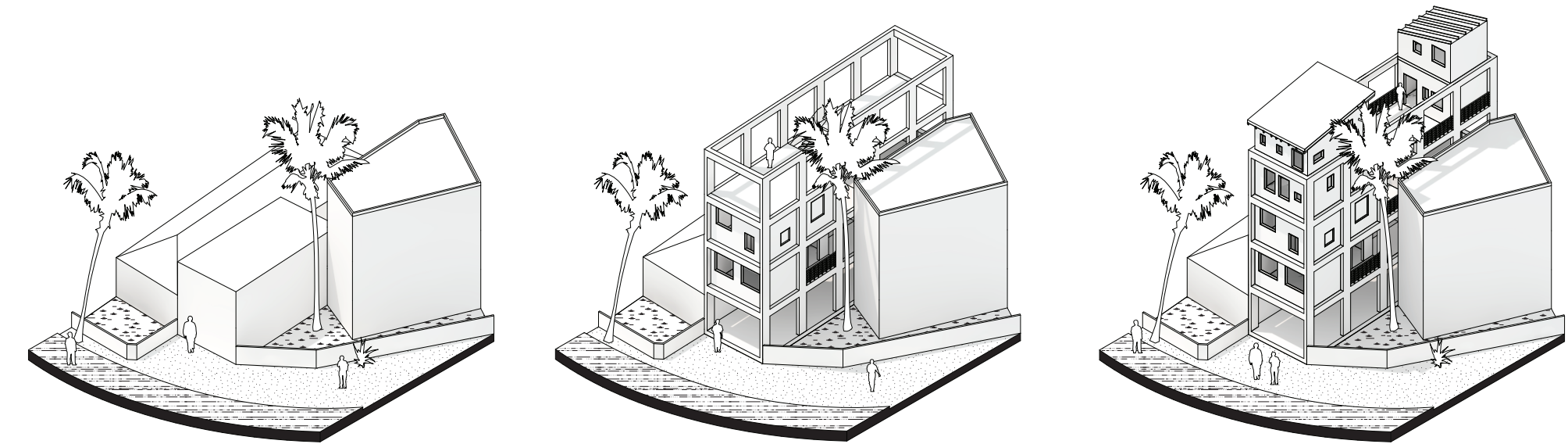






S - The Collective House

Do you want to live with your entire family in the same street, but are all the plot 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!

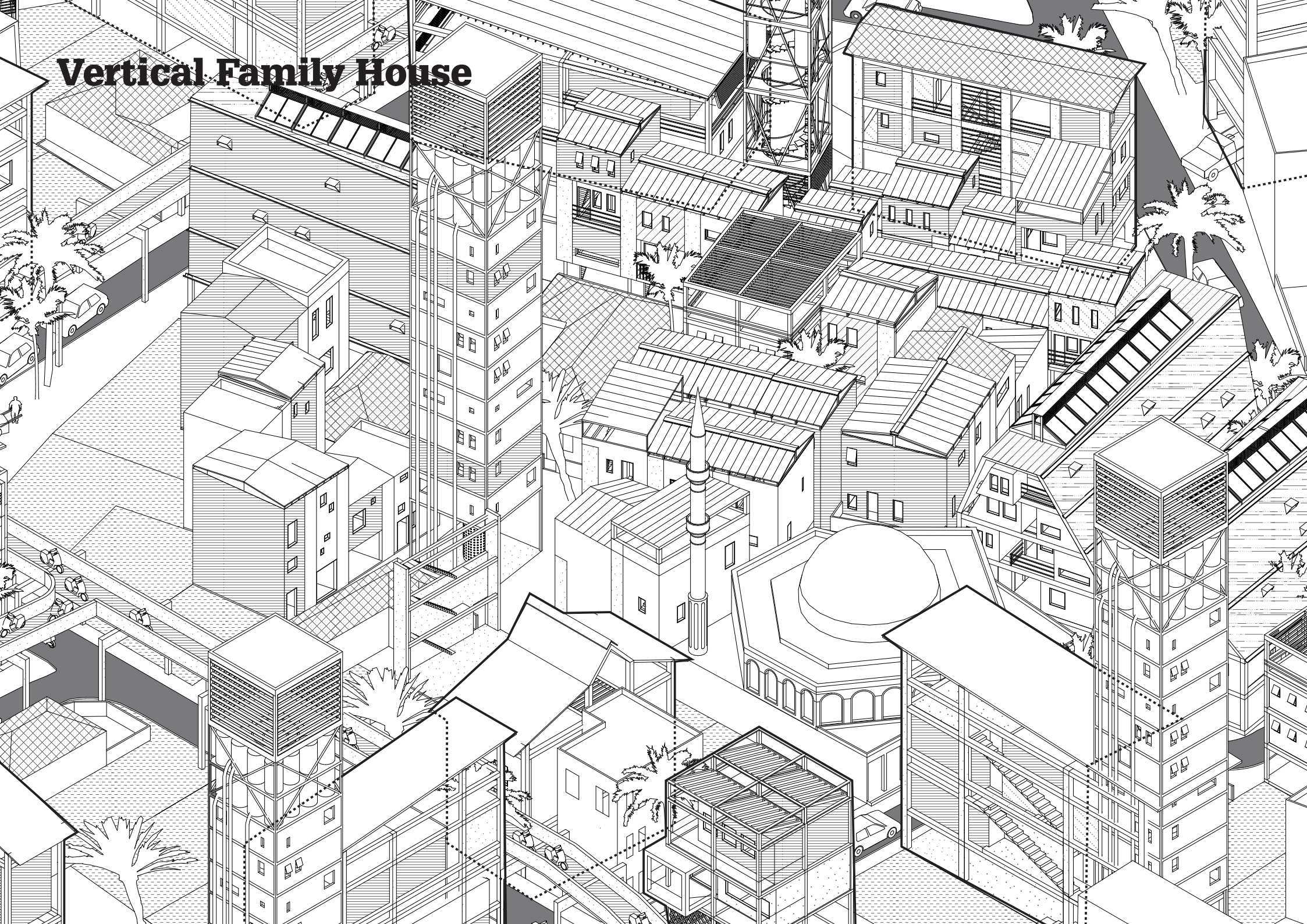


Current Situation (kampung)

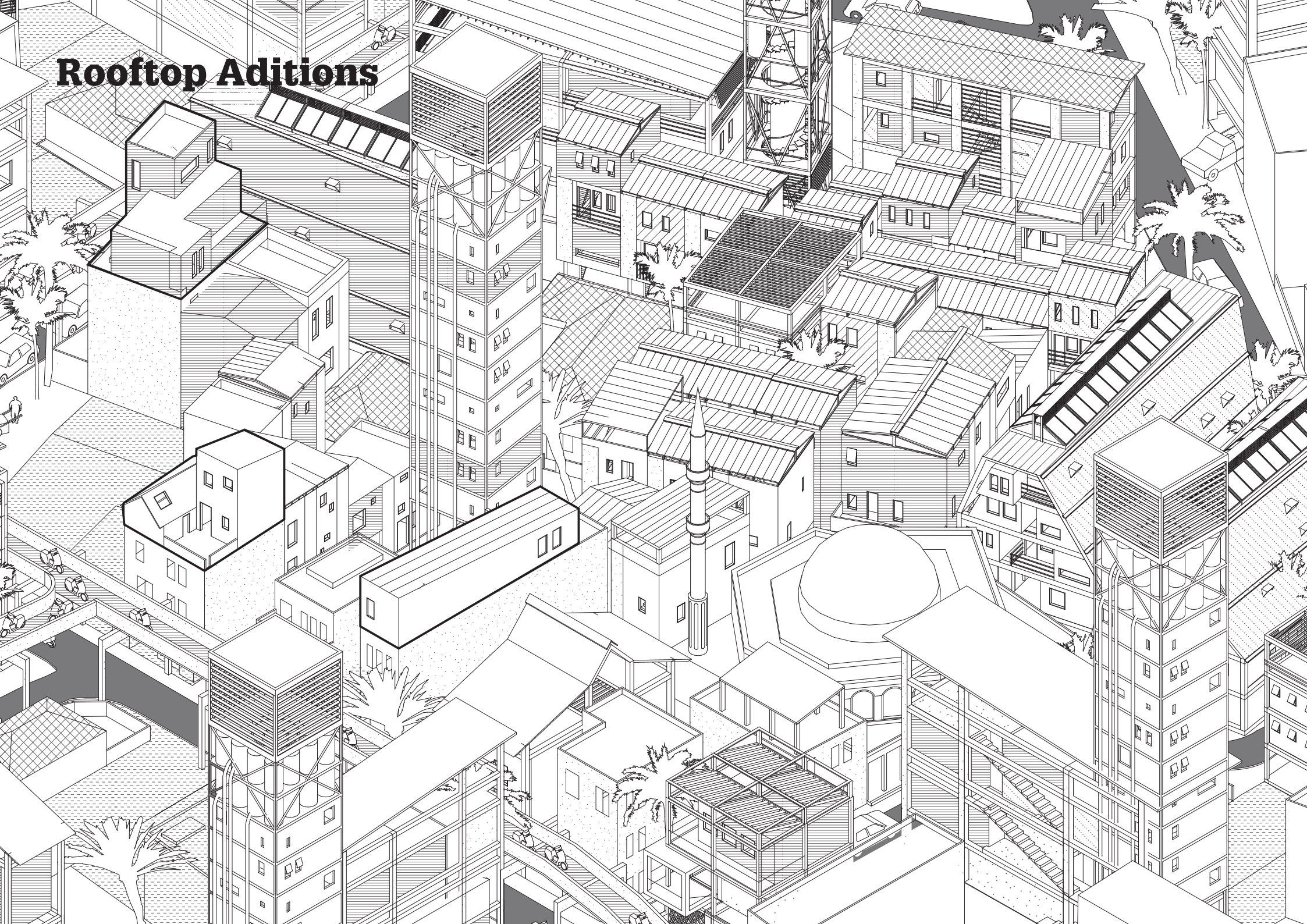
Kota influence

Final Situation (kampung kota)

Vertical Family House

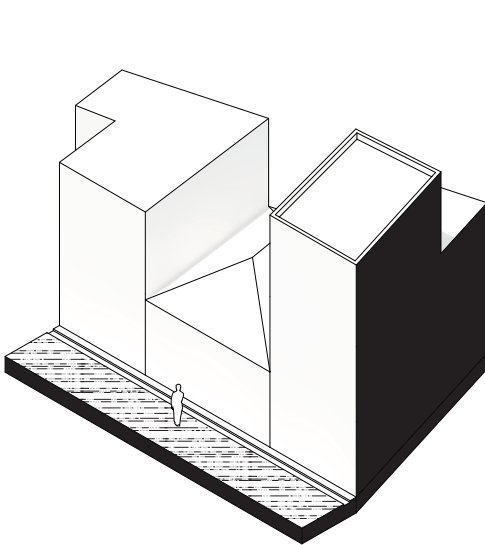
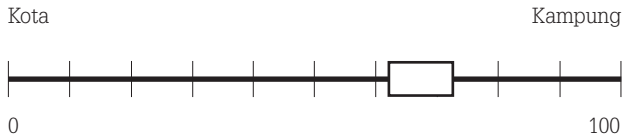


Rooftop Aditions

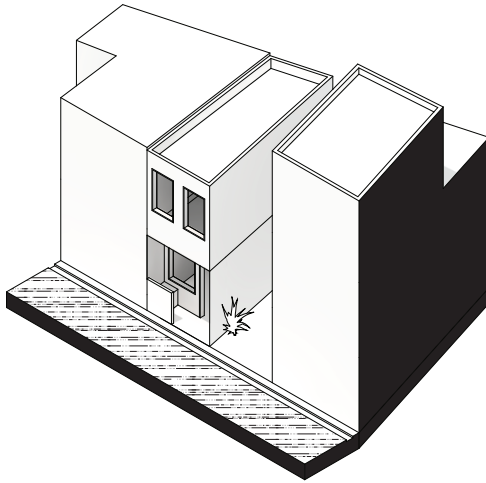


Split Houses

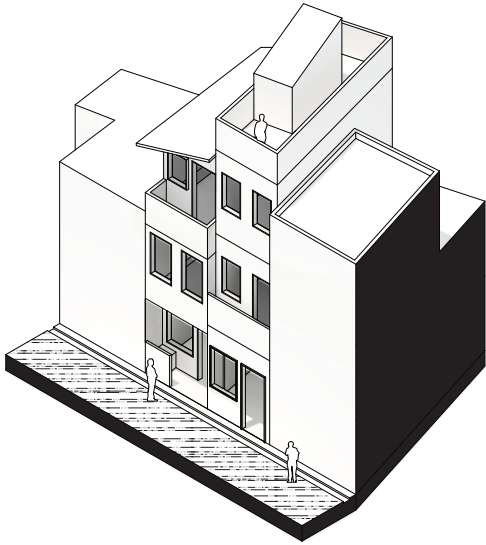
The split house is based on a policy to help double the amount of registrable and legal land. If you self half of your plot you'll get formal right for the other half and a budget to build a new house (from concrete and bricks!). Because of this your able to build a much higher house. The land next door 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

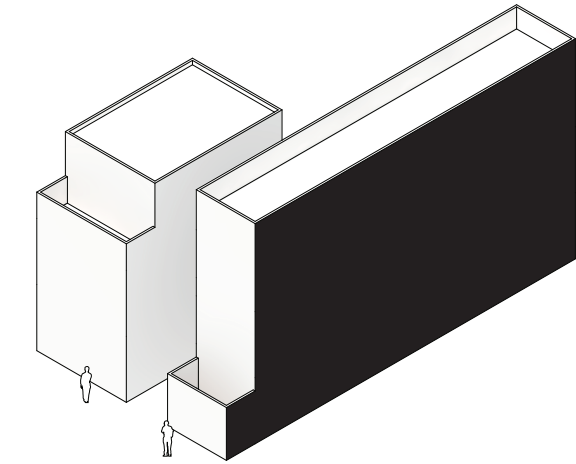


Final Situation (kampung kota)

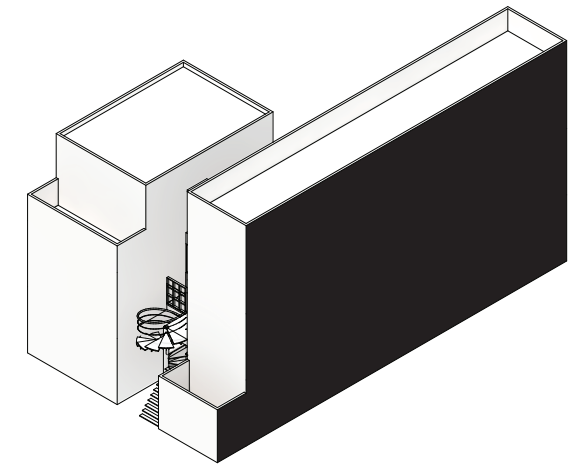


XS - The Parasite

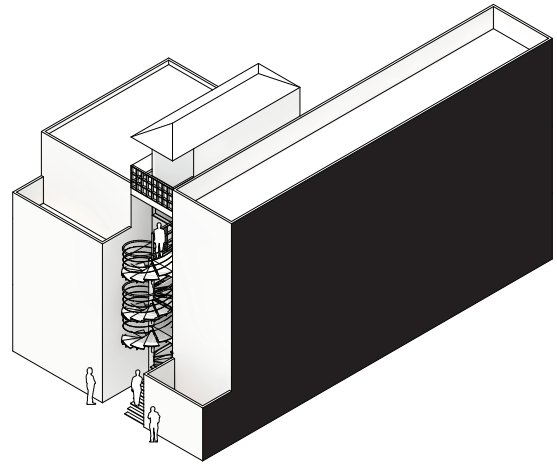
The parasite takes advantage of the concrete walls of the higher mid-income inhabitants of the inner-city Kampung by placing floors between the 2 adjacent walls. The houses might by small of they take full advantage of the depth of their neighboring houses. A spiral staircase is attached as the main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



Current Situation (kampung)



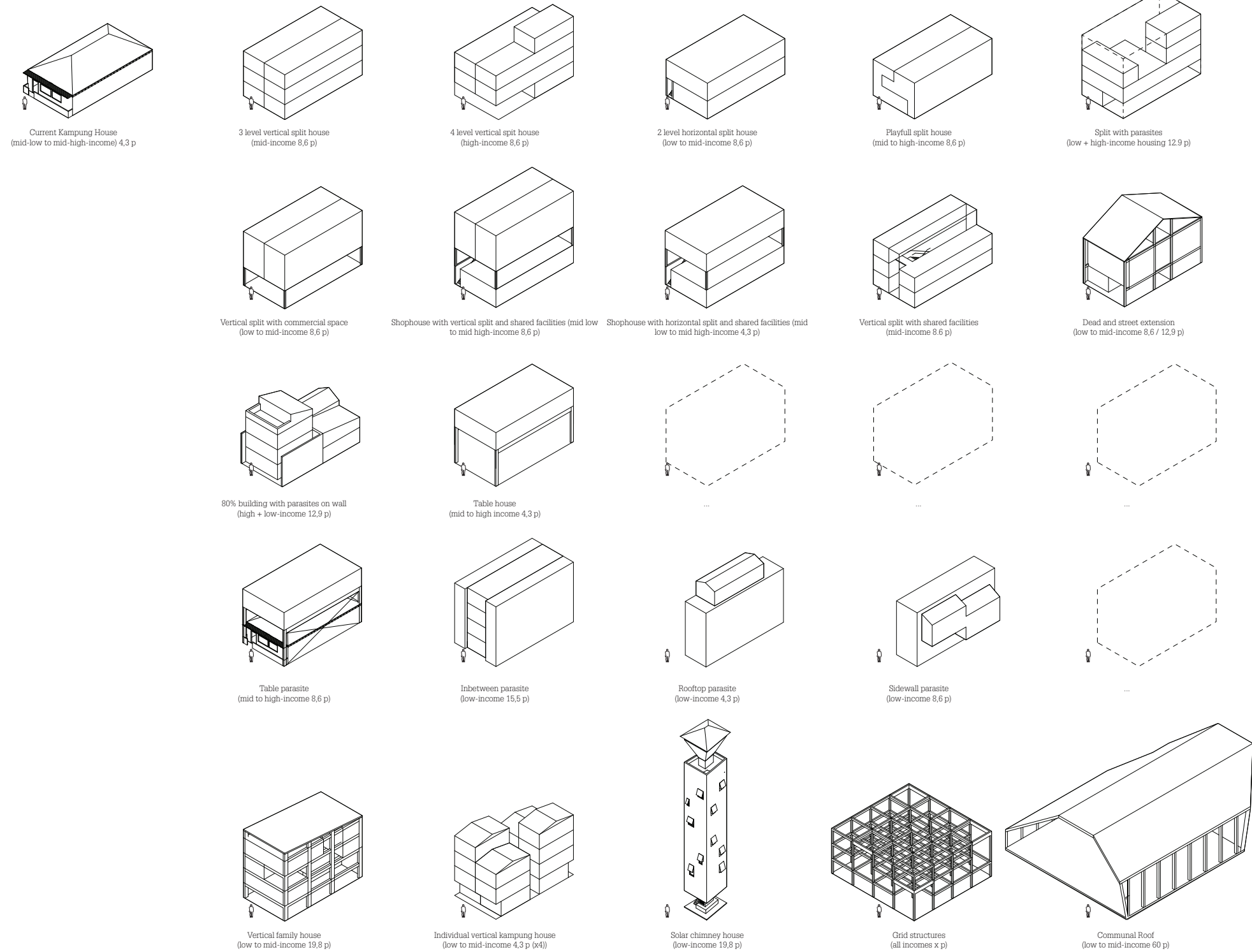
Kota influence



Final Situation (kampung kota)



Parasites



Communal Roof

Total

+

1. Communal Roof
(low to mid-income 14 x 25 m2)

 x 60

Sun & Ventilation

+

Water

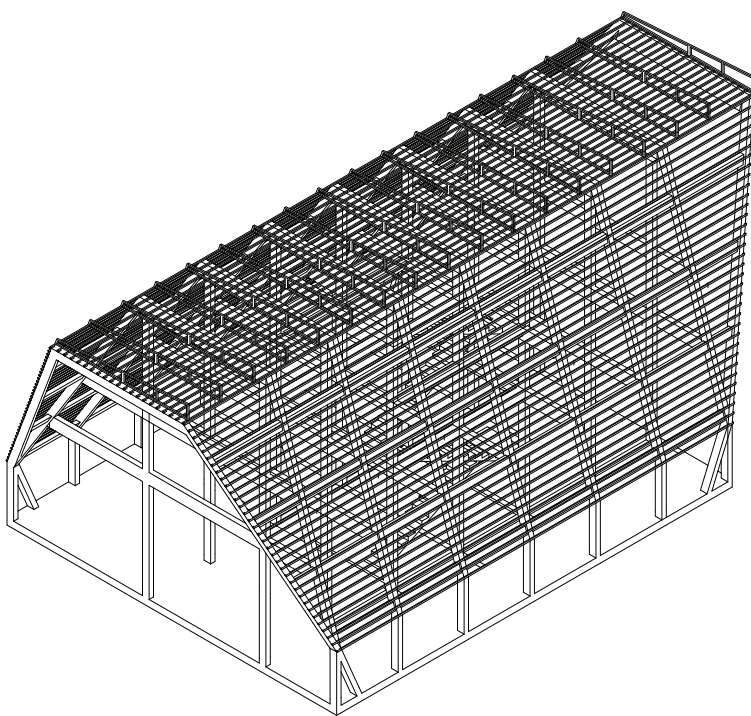
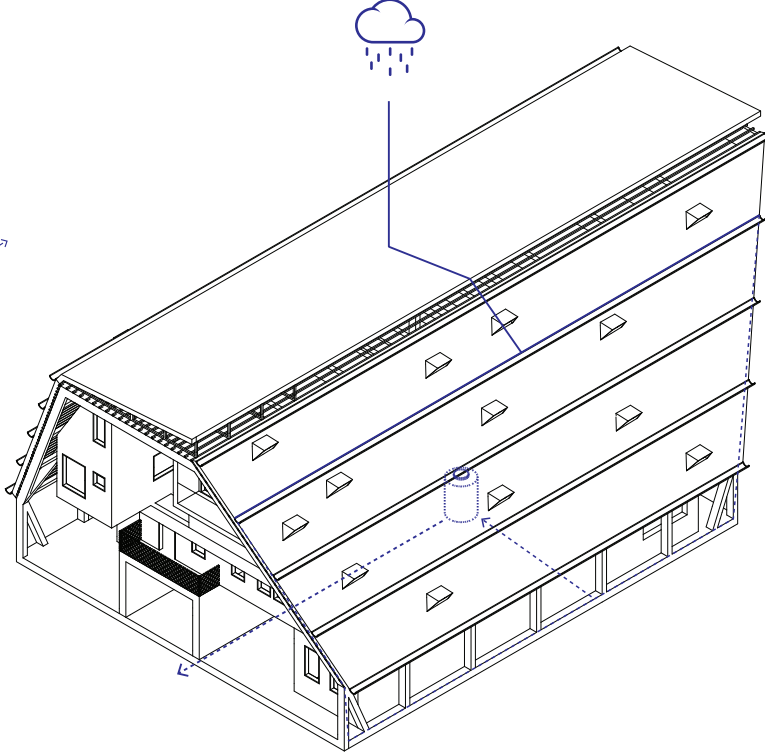
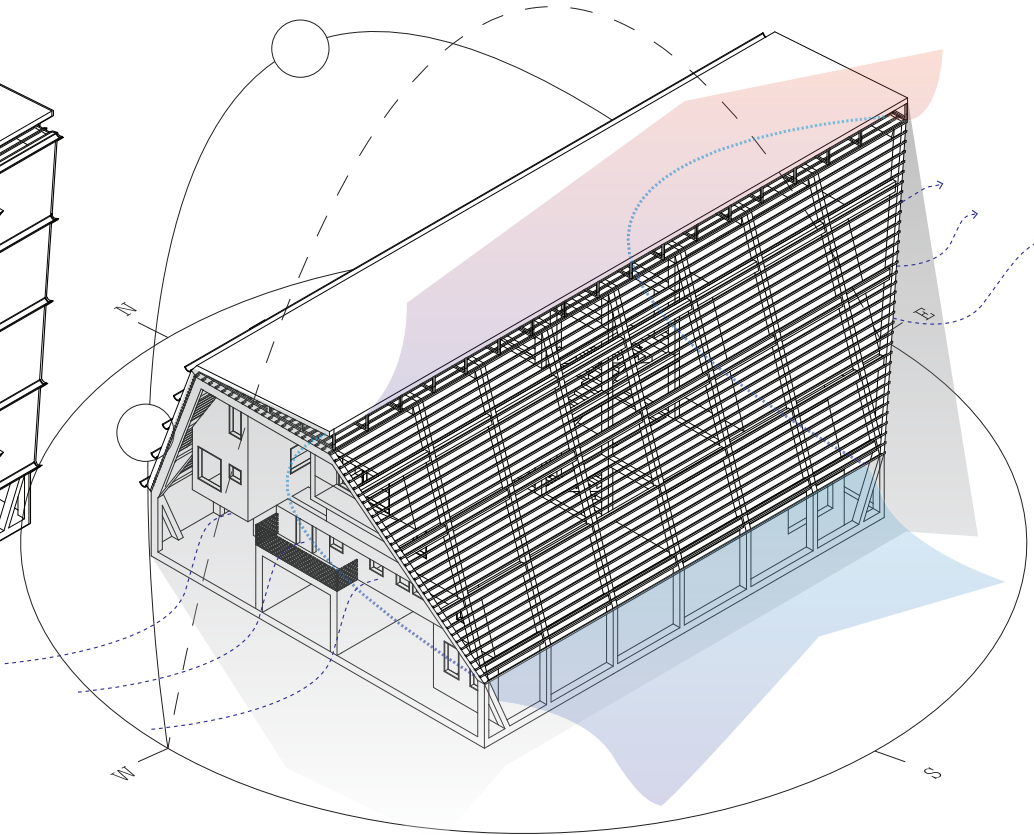
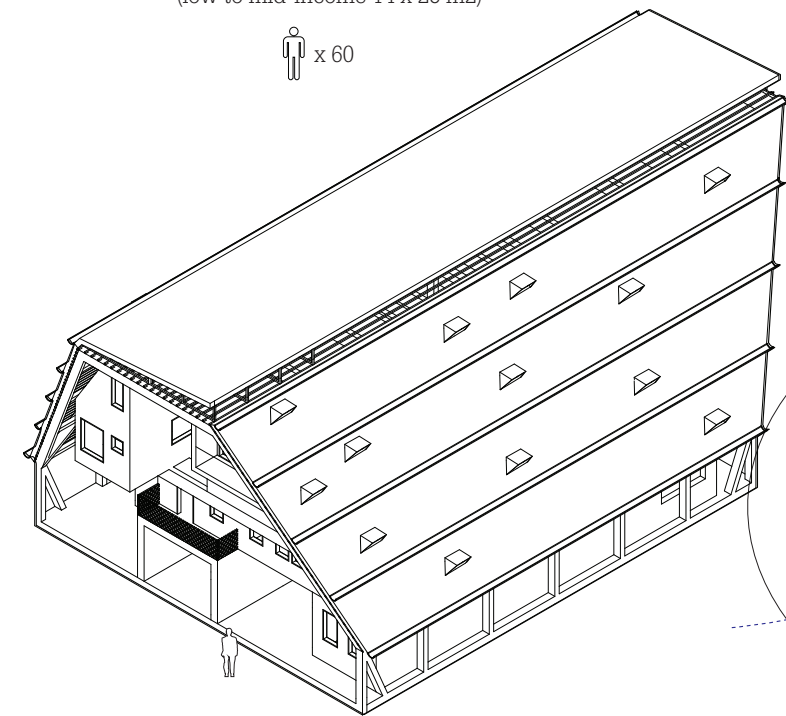
+

Kota Structure

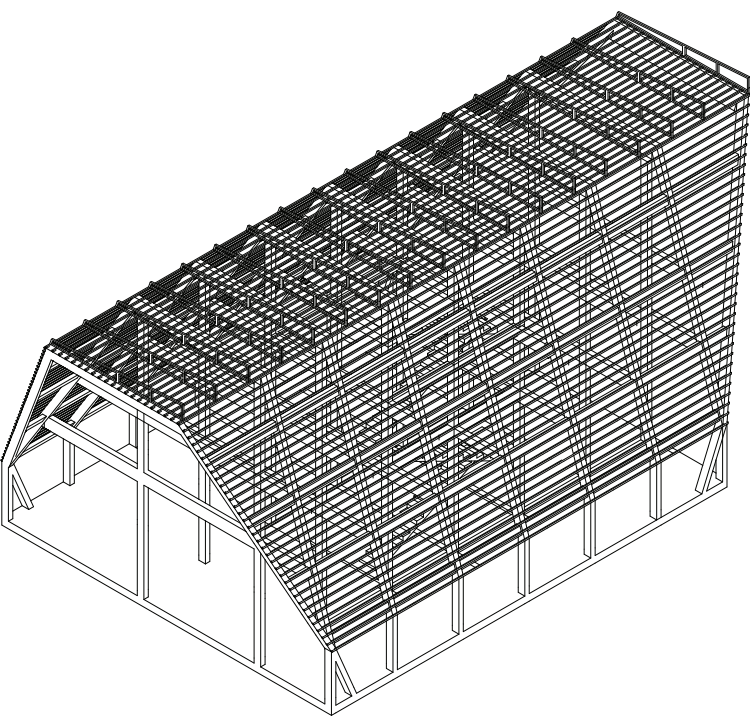
+

Kota Kampung Structure

+



Prefab steel beams. Wooden secondary structure on top of a concrete slab casted in site



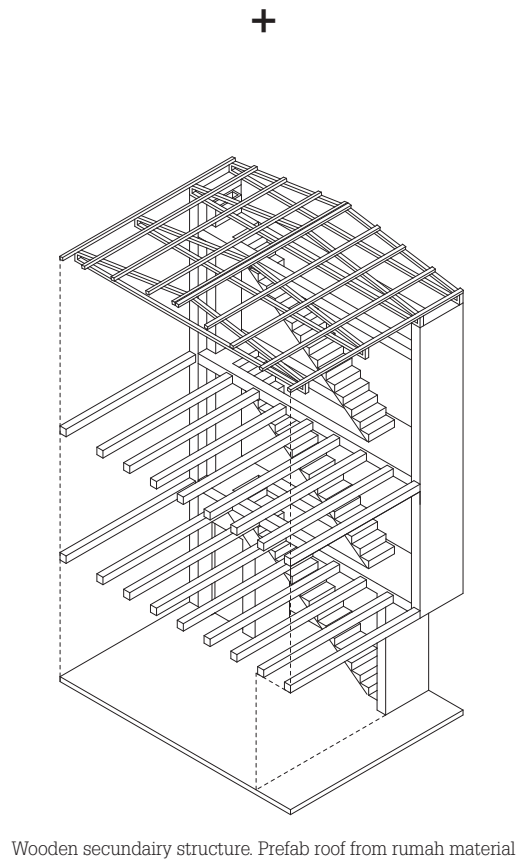
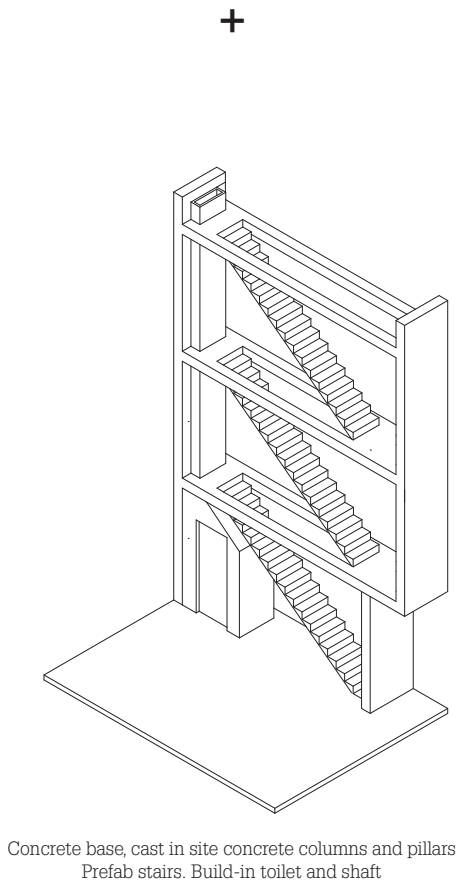
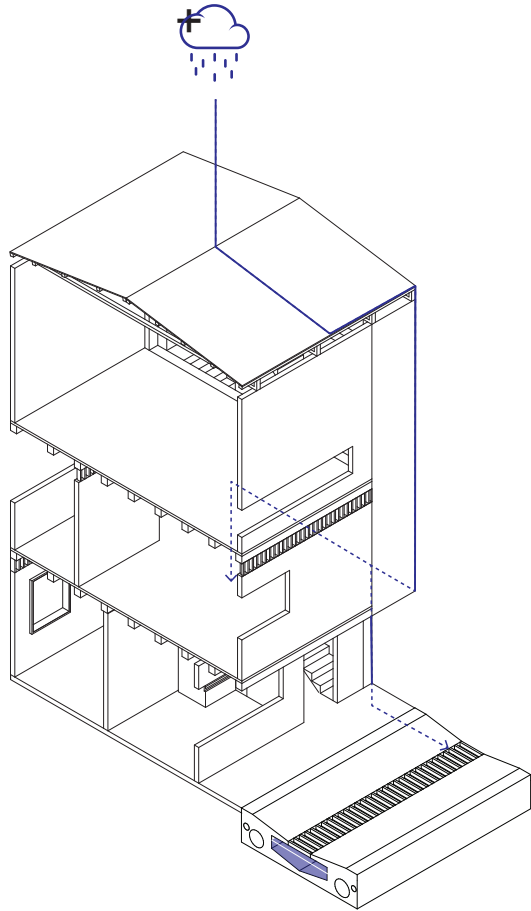
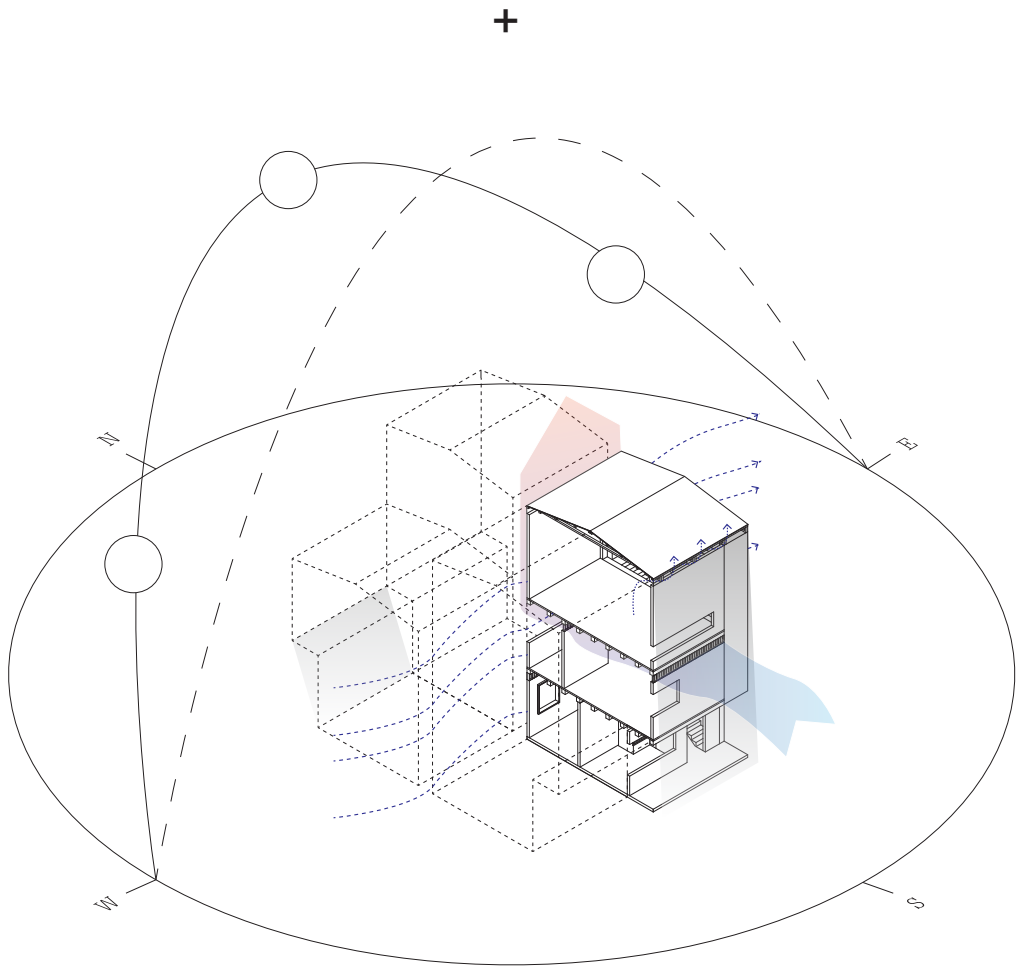
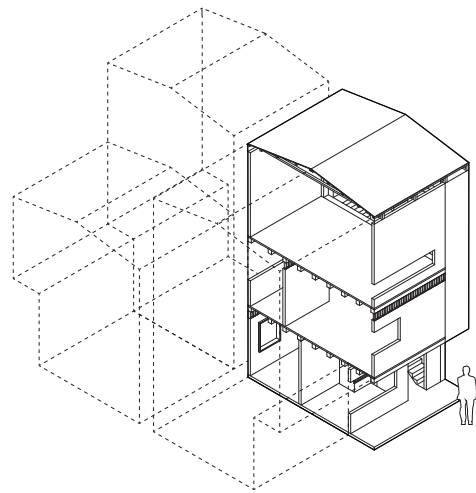
Wooden secondary structure

Vertical kampung house

+

2. Individual vertical kampung house
(low to mid-income 40 m2)

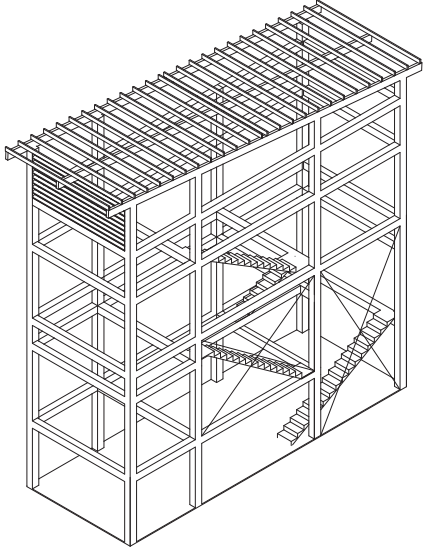
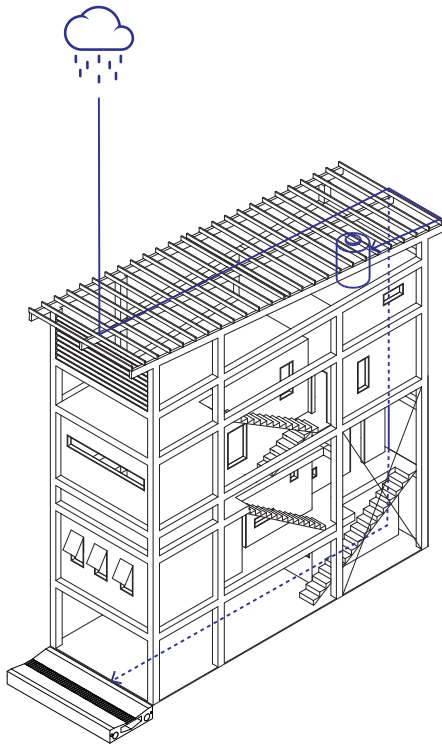
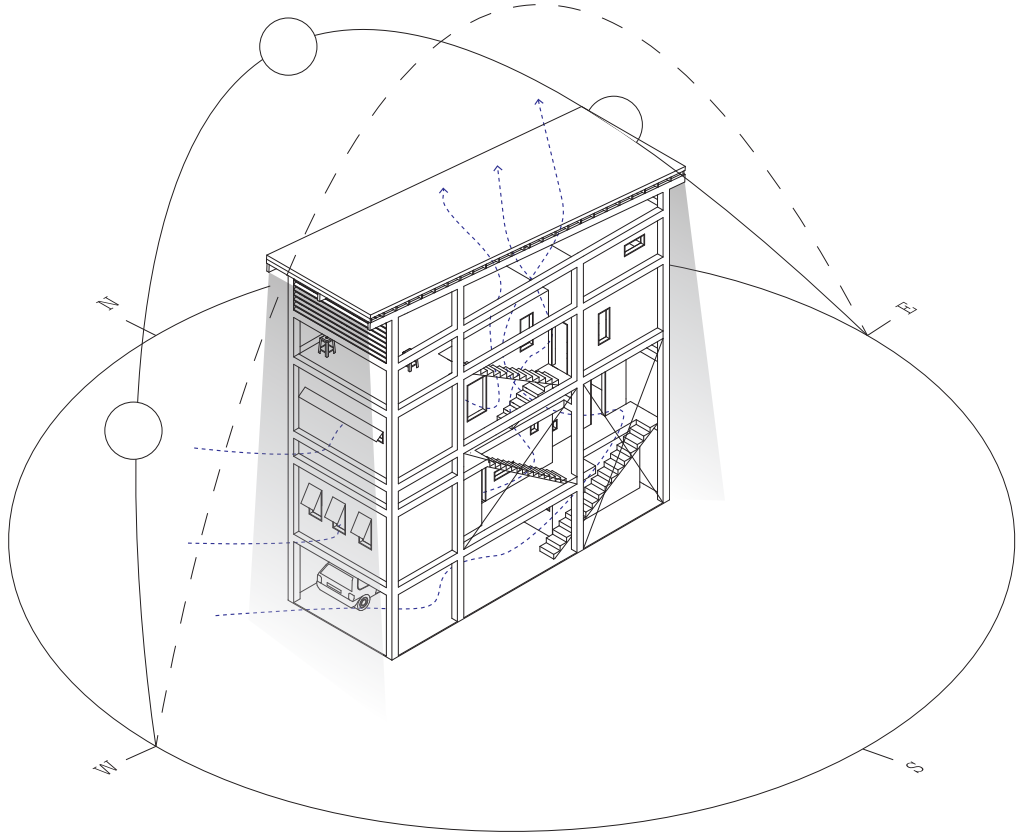
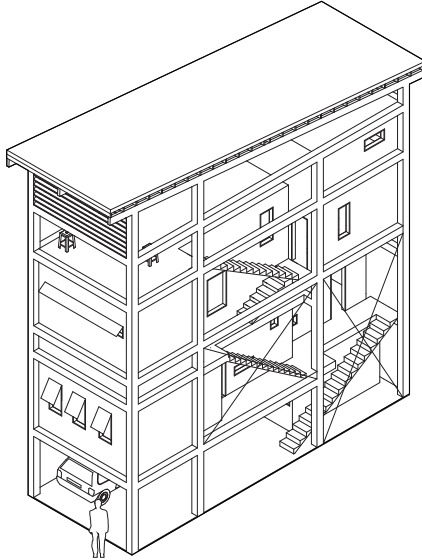
👤 x 4,2



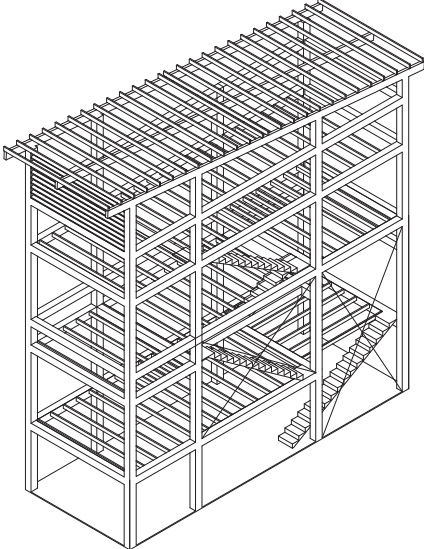
Vertical family house

3. Family vertical kampung house
(low mid-income 5 x 25 m2)

 x 21



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

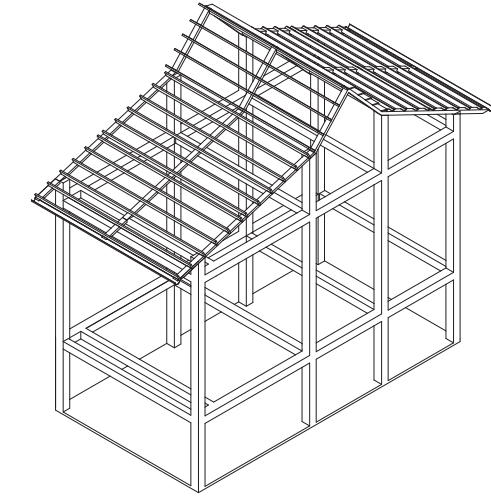
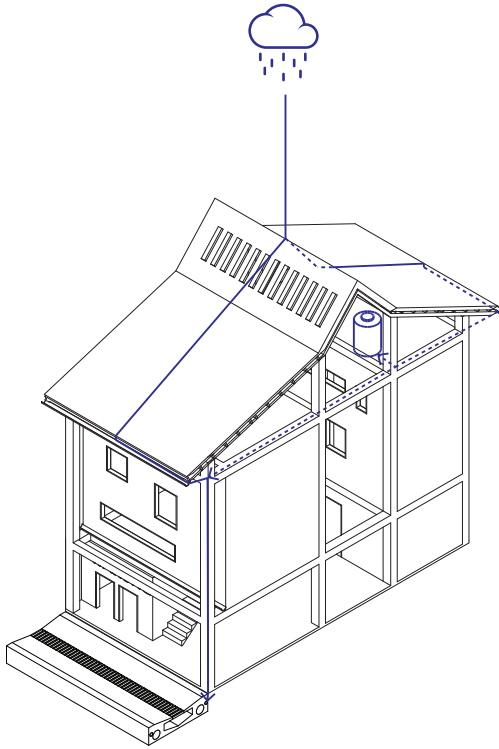
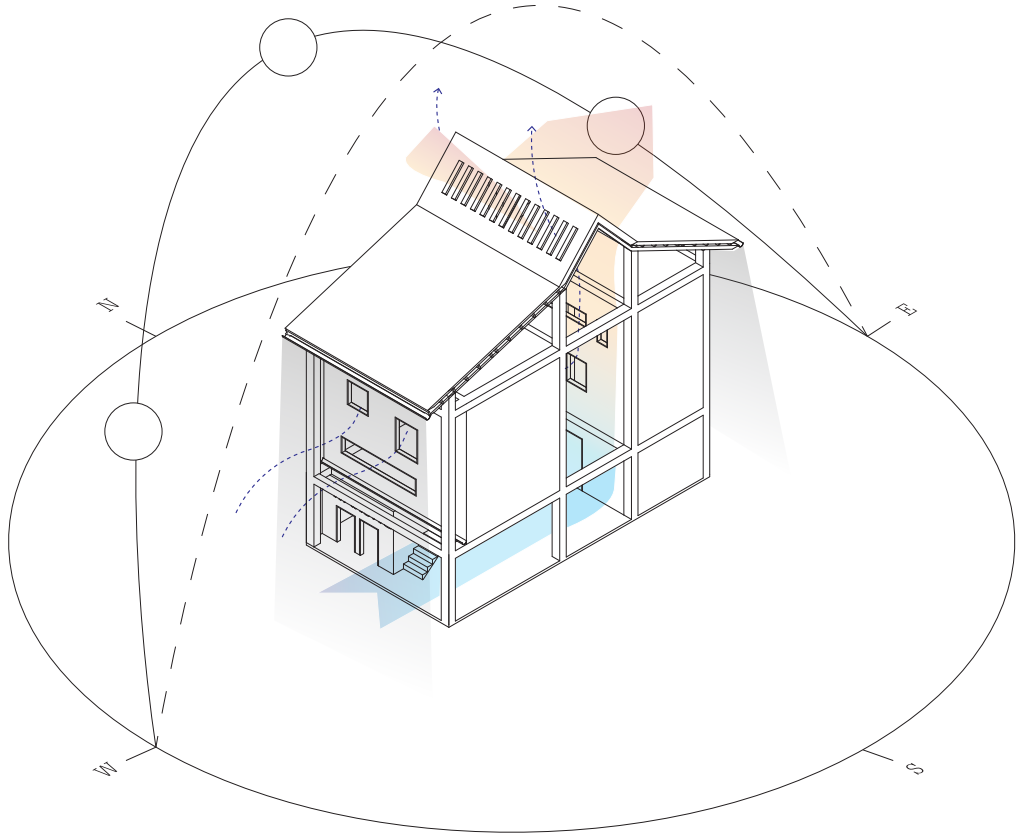
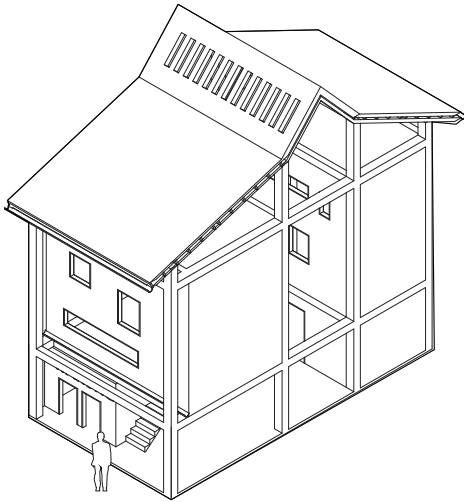


Wooden secondary structure.

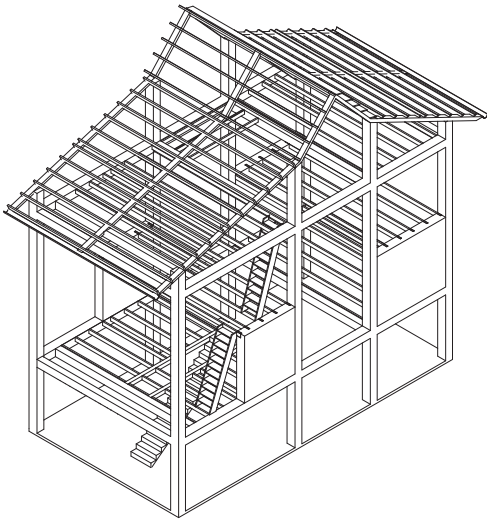
Street extension house

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

x 8,4



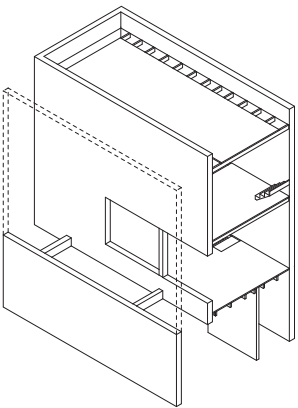
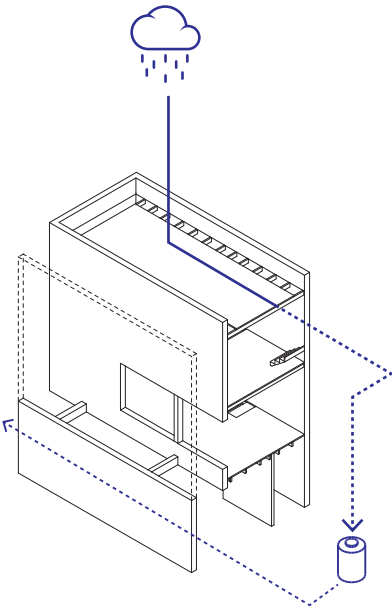
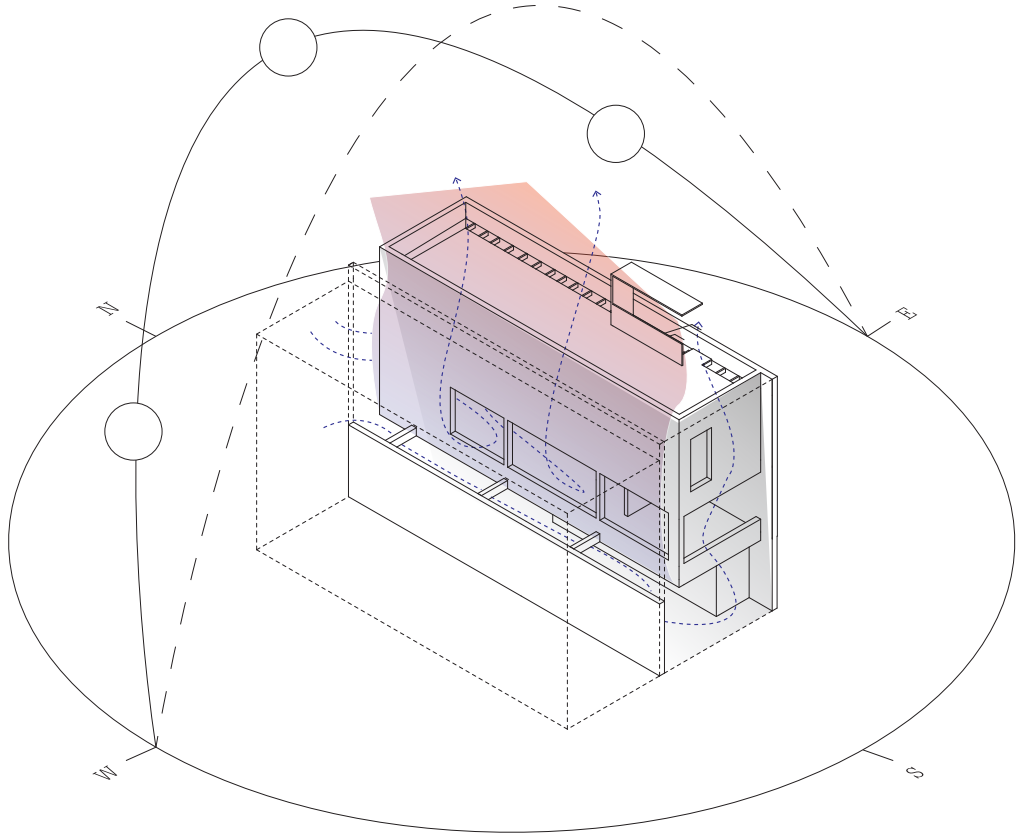
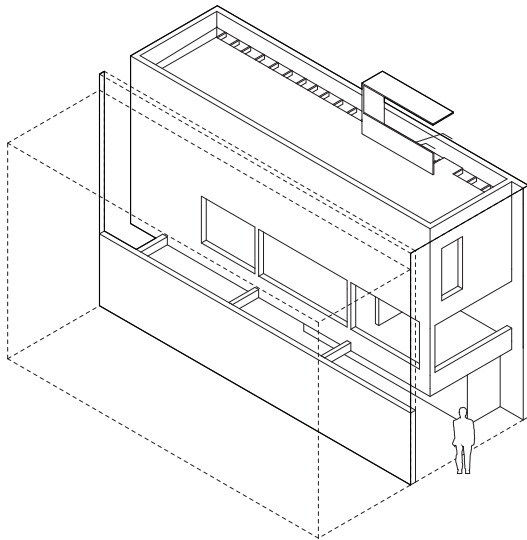
Concrete base, cast in site concrete columns and pillars
Wooden roof



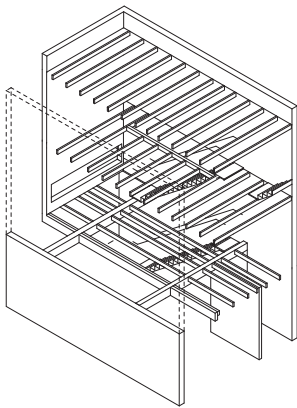
Wooden secondary structure. Stairs from rumah material

High income house

5. Split house
(mid & high-income 80 m2)
x 4,2




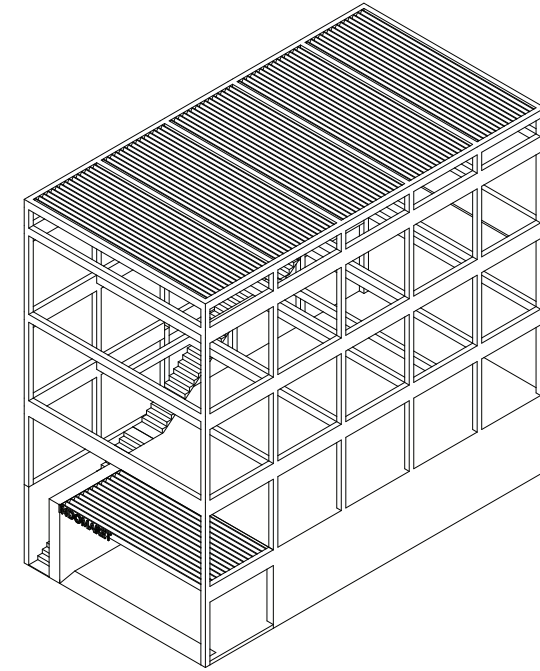
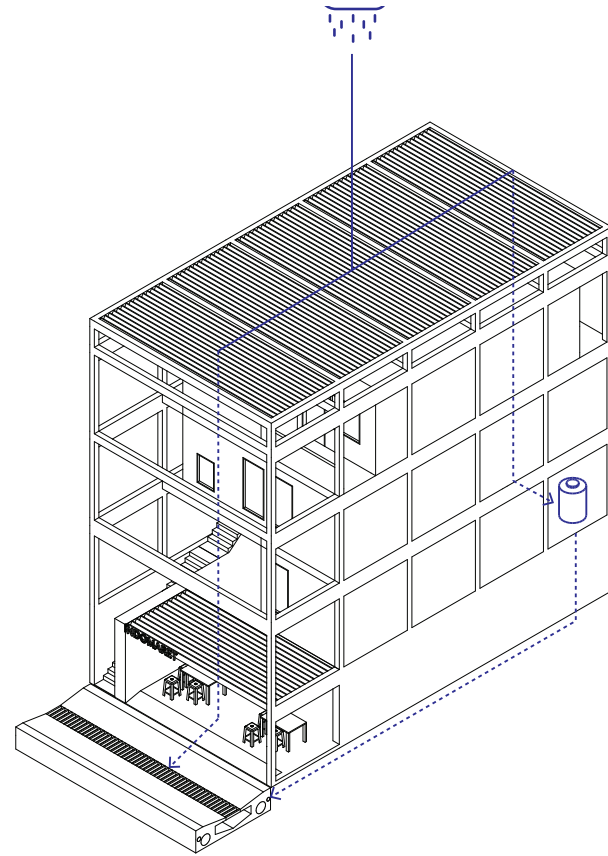
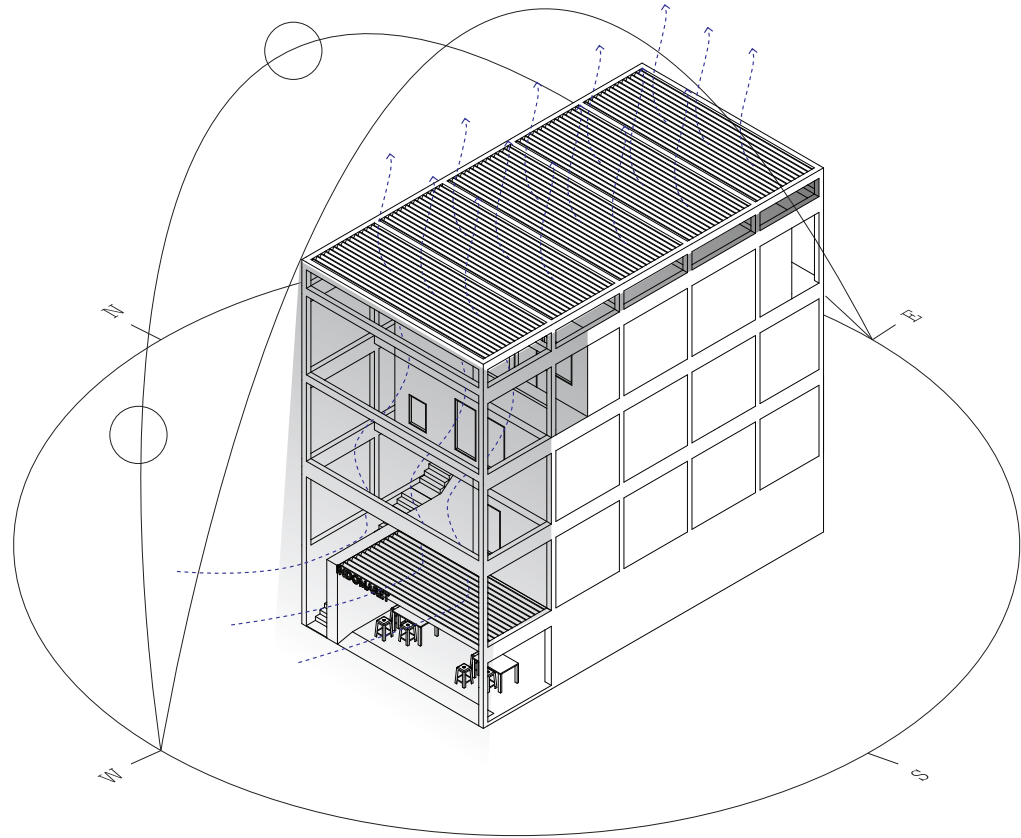
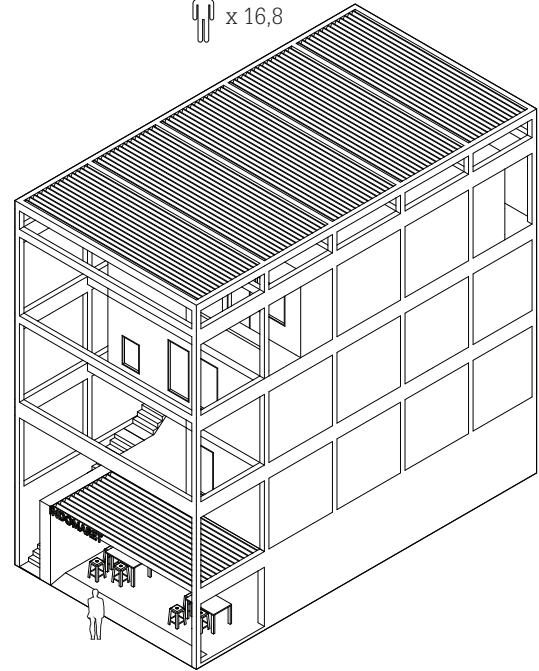
Concrete base, cast in site concrete walls. Main beams concrete, secondary beams wood.



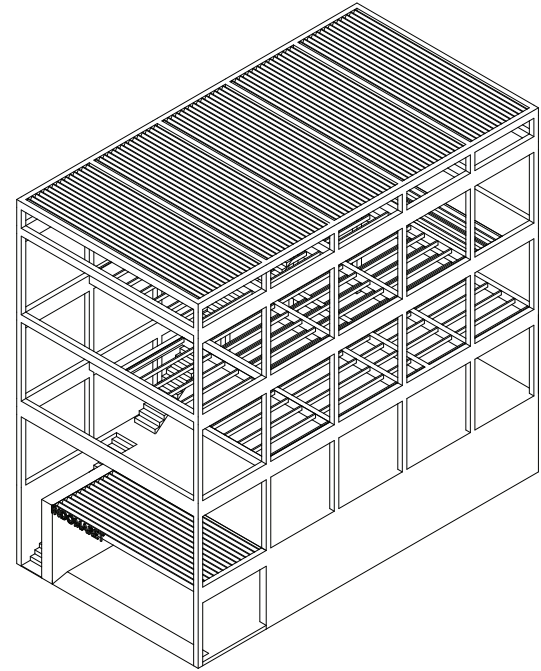
Wooden or concrete secondary structure

6. Shop house
(Low and mid-income 3 x 30m2 / 1 x 60 m2)

 x 16,8



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



Wooden or concrete secondary structure

Section A current



Section A Future



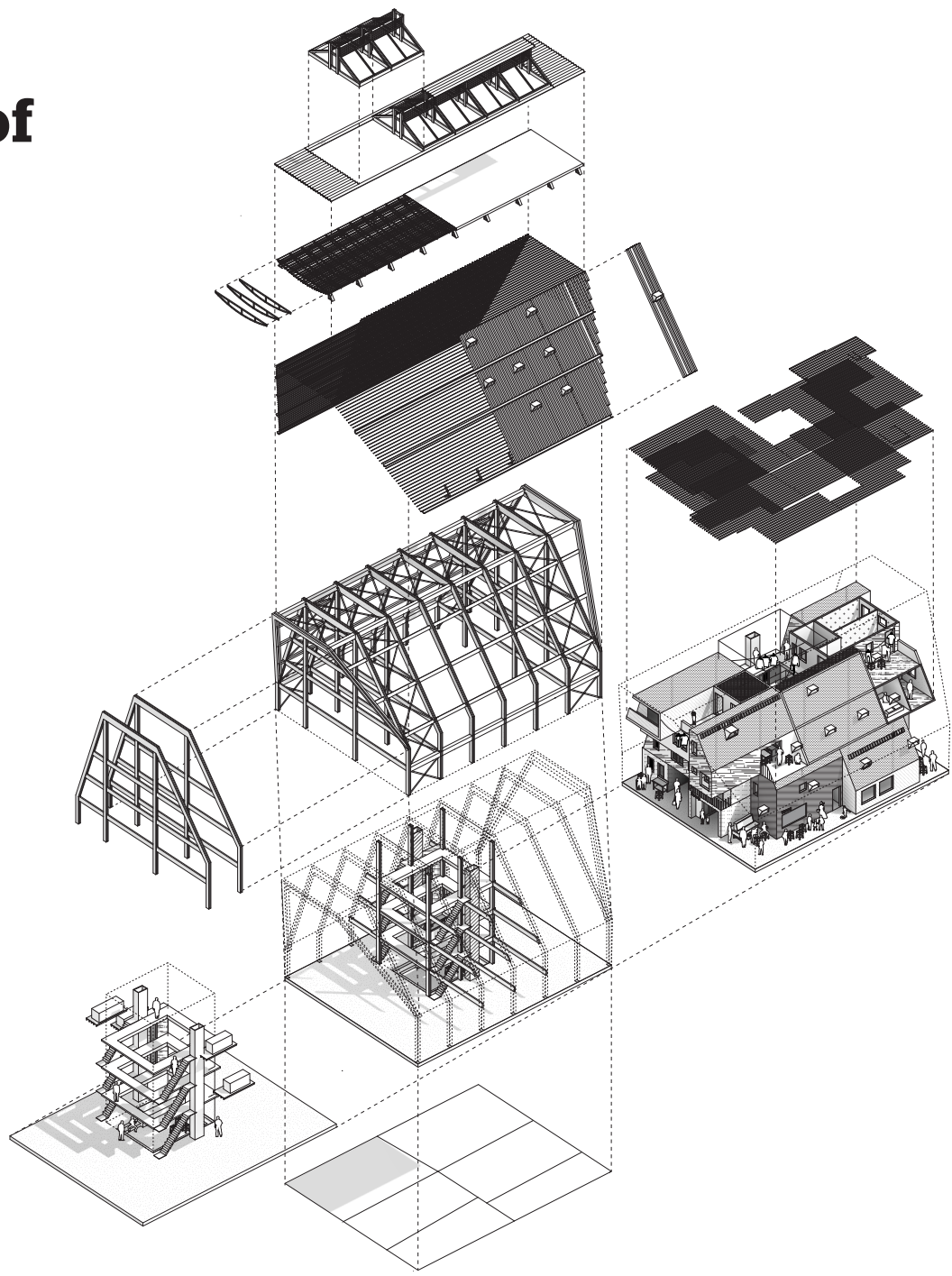
Section B Current



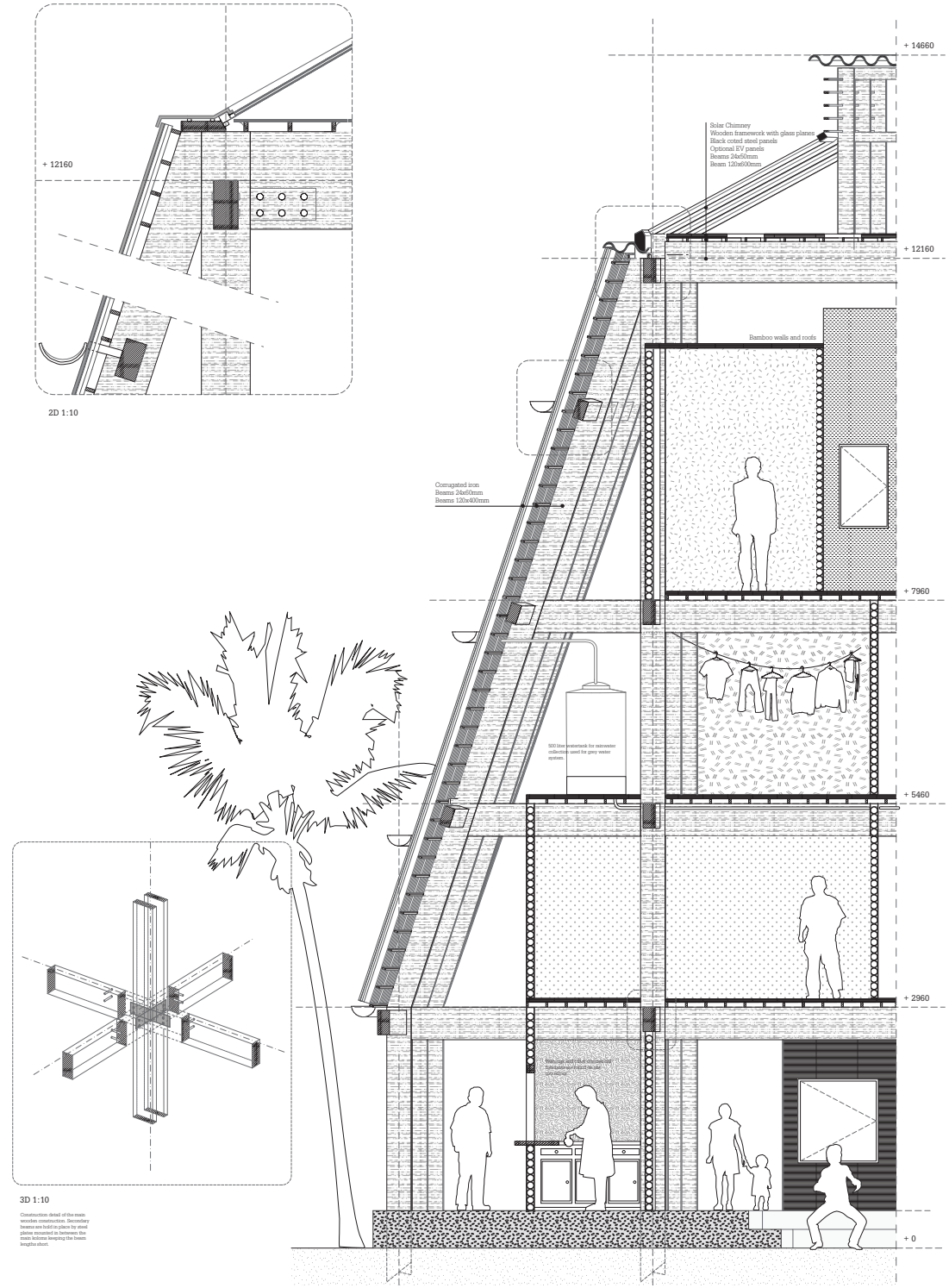
Section B Future



Exploded Axo Communal Roof



1:20 section



Section C current



Section C Future

