



B E C O M I N G
N A I R O B I
CODIFYING PUBLIC SPACE
FOR AN ARRIVALS' CITY

ARRIVING TO NAIROBI | PERSONAL MOTIVATION



1. Highway Construction



2. Bus Preacher



3. Makeshift Thrift Shop



10. The Junction Mall



11. Out of Africa



12. Matatu Conductors



4. Police Collecting Bribes



5. Post-Election Violence



6. M-Pesa Shop



13. Roadside Nursery



14. Golf in Kibera



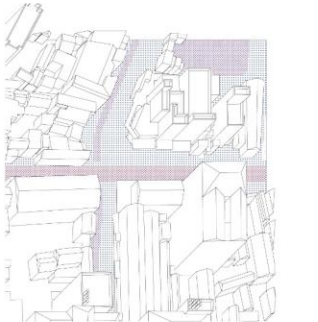
15. Brew Bistro & Lounge



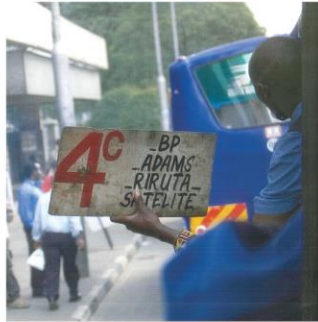
7. Chewed Sugarcane



8. Kibera Pub



9. US Embassy Bombing



16. Route Information



17. Bourgainvillea



18. Congestion

ARRIVING TO NAIROBI | PERSONAL MOTIVATION



Africa | Kenya



Kenya | Nairobi



Nairobi | Ngong Road

ARRIVING TO NAIROBI | PERSONAL MOTIVATION



my daily routine as an arrival to Nairobi



base image retrieved from Google Earth Pro

ARRIVING TO NAIROBI | MIGRANT TYPOLOGIES



THE RURAL-URBAN MIGRANT



THE INTERNALLY DISPLACED PERSON



THE UNIVERSITY STUDENT



THE REFUGEE

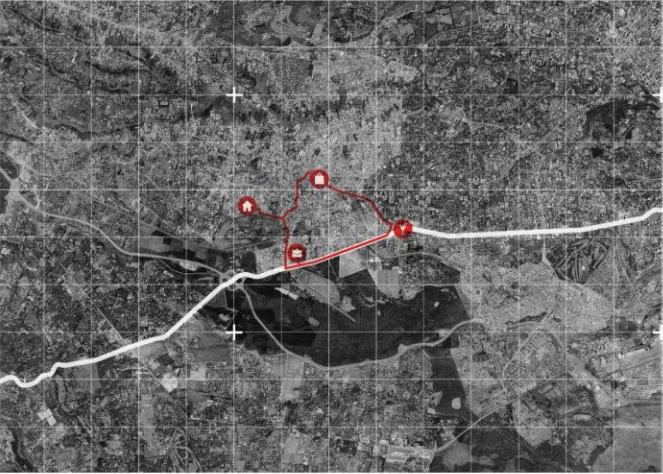


THE EXPAT



THE TOURIST

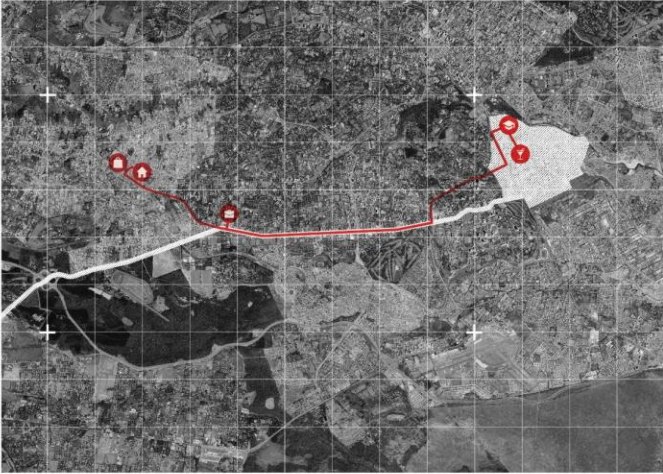
ARRIVING TO NAIROBI | MIGRANT ROUTINES



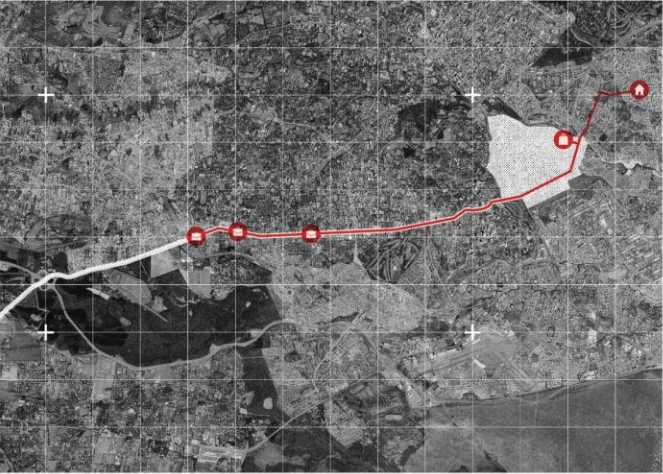
THE RURAL-URBAN MIGRANT



THE INTERNALLY DISPLACED PERSON



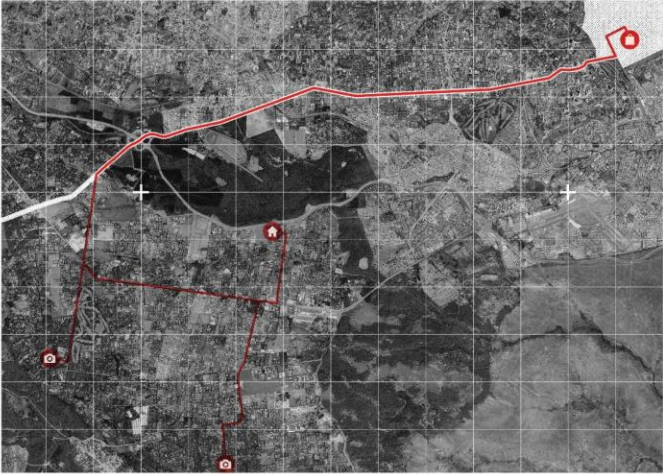
THE UNIVERSITY STUDENT



THE REFUGEE



THE EXPAT



THE TOURIST

ARRIVING TO NAIROBI | MIGRANT ROUTINES



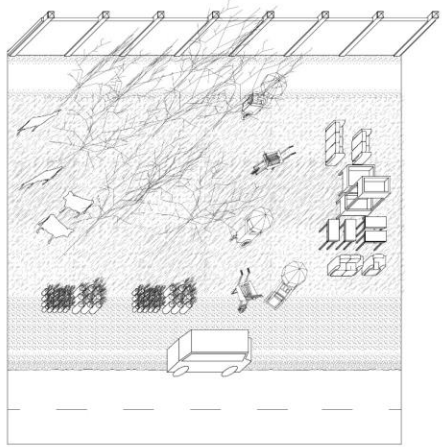
usage of western Nairobi by all types of arrivals



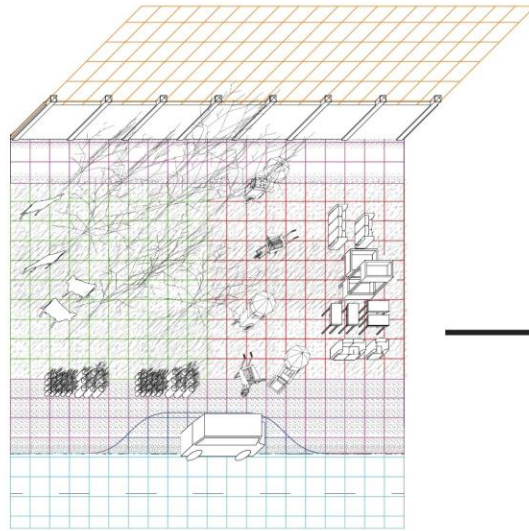
base image retrieved from Google Earth Pro

BECOMING NAIROBI | DISORIENTATION AS THE COMMON DENOMINATOR OF ARRIVALS

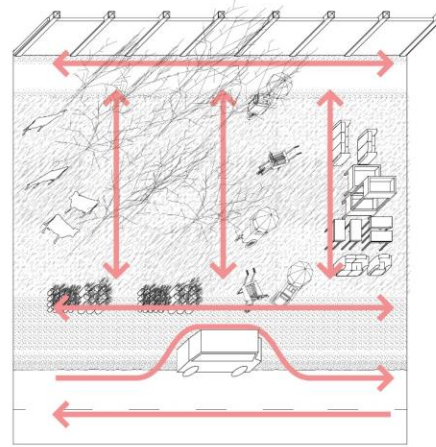
I | CHAOS



II | PATTERNS



III | INTUITION



IV | BECOMING



BECOMING NAIROBI | DISORIENTATION AS A CHALLENGE

'Urban Africans [...] appear increasingly uncertain how to spatialise an assesment of their life chances - that is, questions such as where they will secure livelihood, where they can feel protected and looked after, and where they wil acquire the critical skills and capacities to do so.'

'The urban envionment is increasingly one where it is difficult to ascertain just what social practices , alliances and knowledge can be mobilised sufficiently enough to produce probable outcomes conceived in advance.'

AbdouMaliq Simone in *For the City Yet to Come*

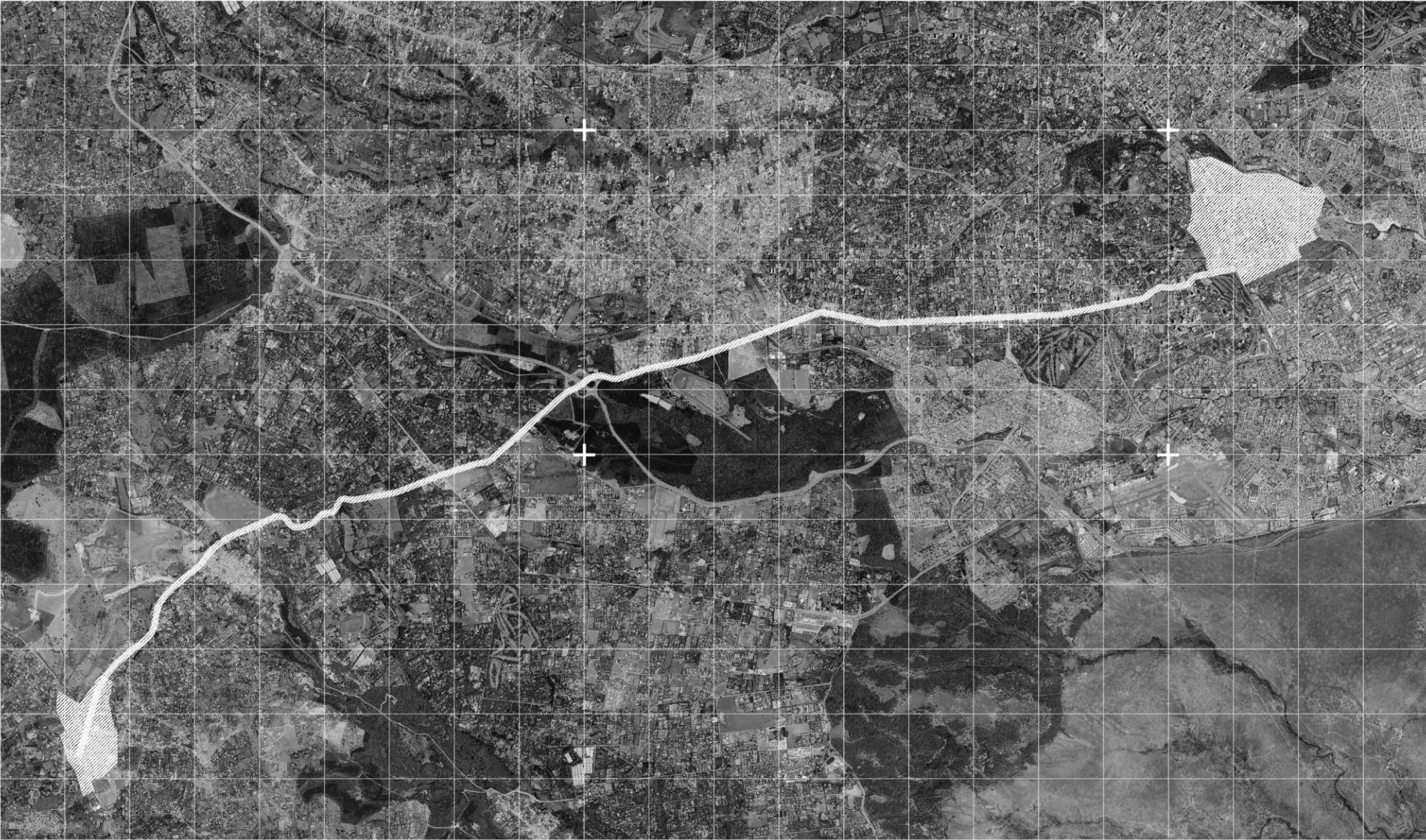
PROBLEM STATEMENT

The **lack of legibility and codification** of public space in Nairobi sidelines minorities as well as arrivals and **inhibits the long-term integration** of dwellers in the Kenyan capital, disenfranchising them with their own city.

RESEARCH QUESTION

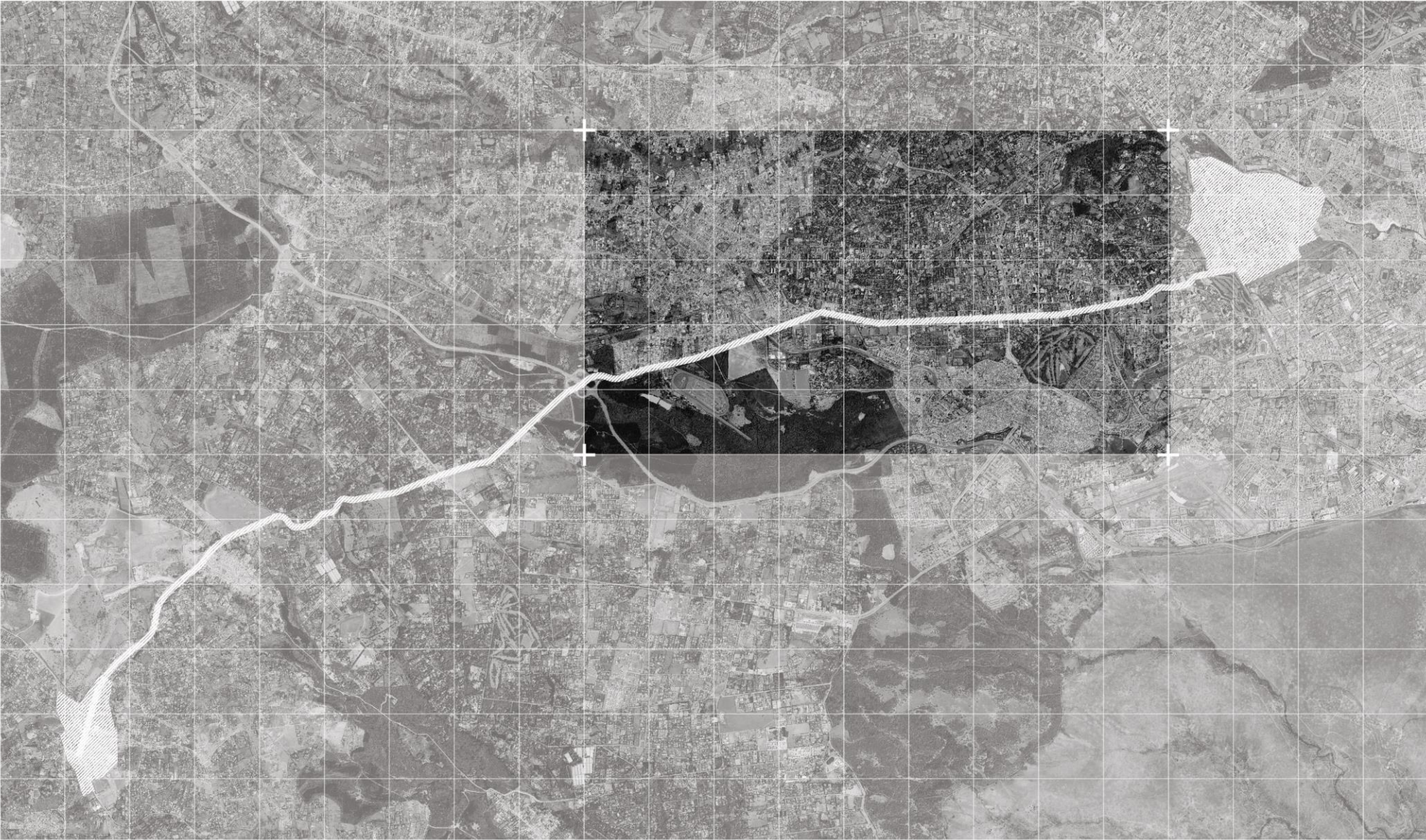
How can public space in Nairobi mediate between the short- and long-term integration of arrivals in Nairobi?

BECOMING NAIROBI | PROJECT SITE



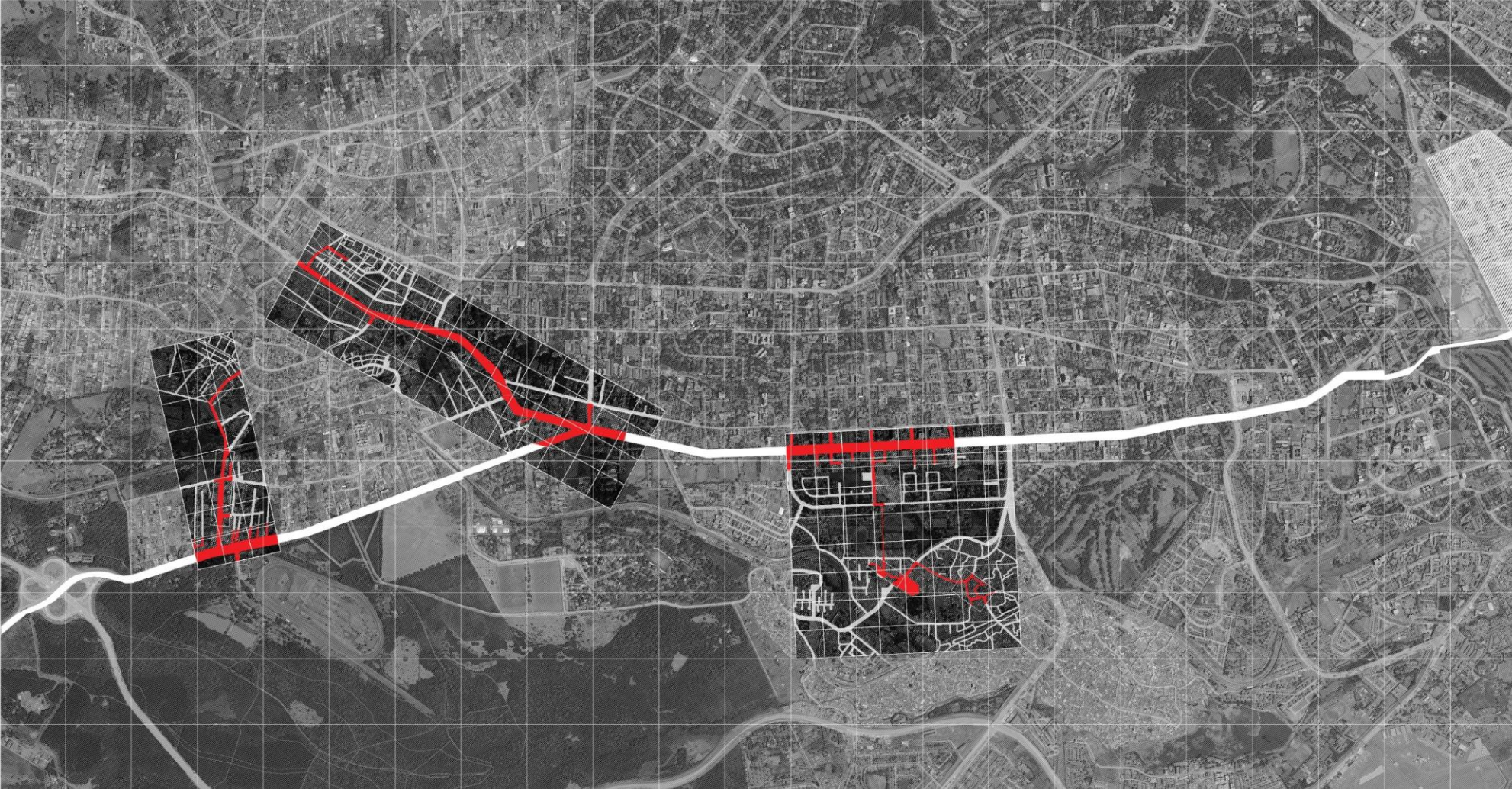
base image retrieved from Google Earth Pro

BECOMING NAIROBI | PROJECT SITE



base image retrieved from Google Earth Pro

BECOMING NAIROBI | PROJECT SITE



Project Sites | Riruta | Junction | Adams



RESEARCH
VISION
CONCEPT
CASES
CHARACTER
BECOMING

NGONG ROAD IS NOT A ROAD
CODIFYING NAIROBI'S *JUA KALI*
HARD AND SOFT SPACE
DESIGNING NGONG ROAD
FROM PLAN TO SPACE
ARRIVING TO A NEW NAIROBI

RESEARCH

VISION

CONCEPT

CASES

CHARACTER

BECOMING

NGONG ROAD IS NOT A ROAD

CODIFYING NAIROBI'S *JUA KALI*

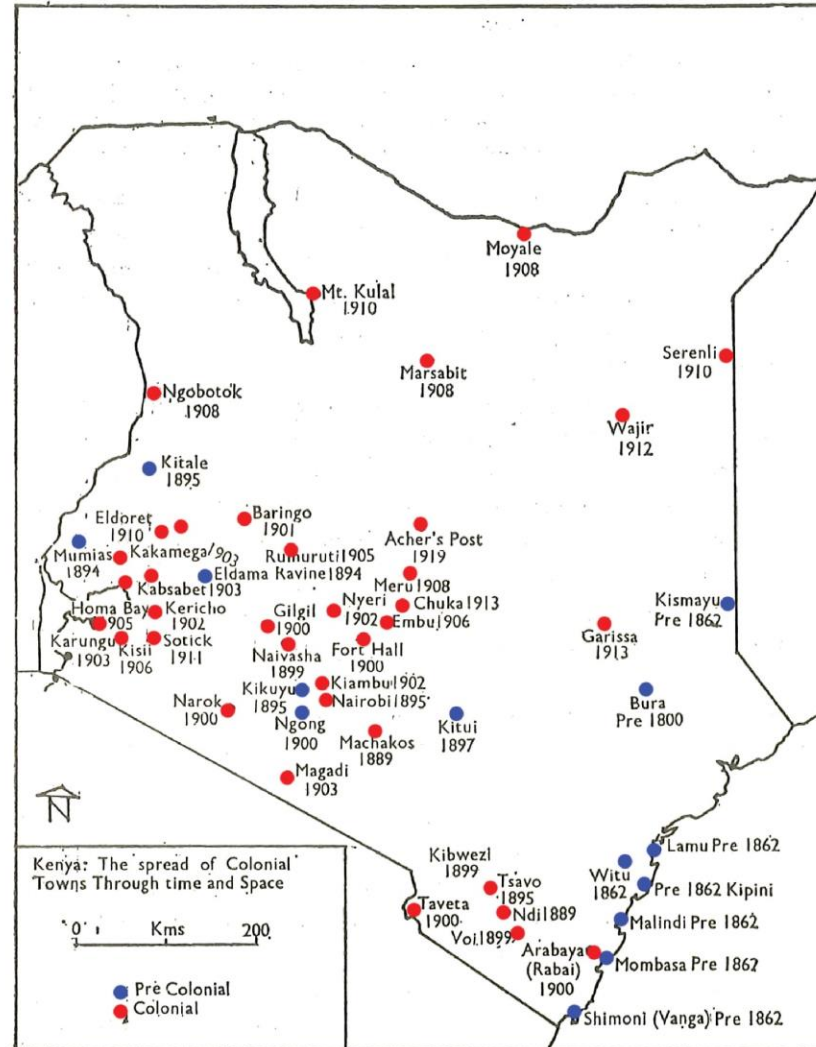
HARD AND SOFT SPACE

DESIGNING NGONG ROAD

FROM PLAN TO SPACE

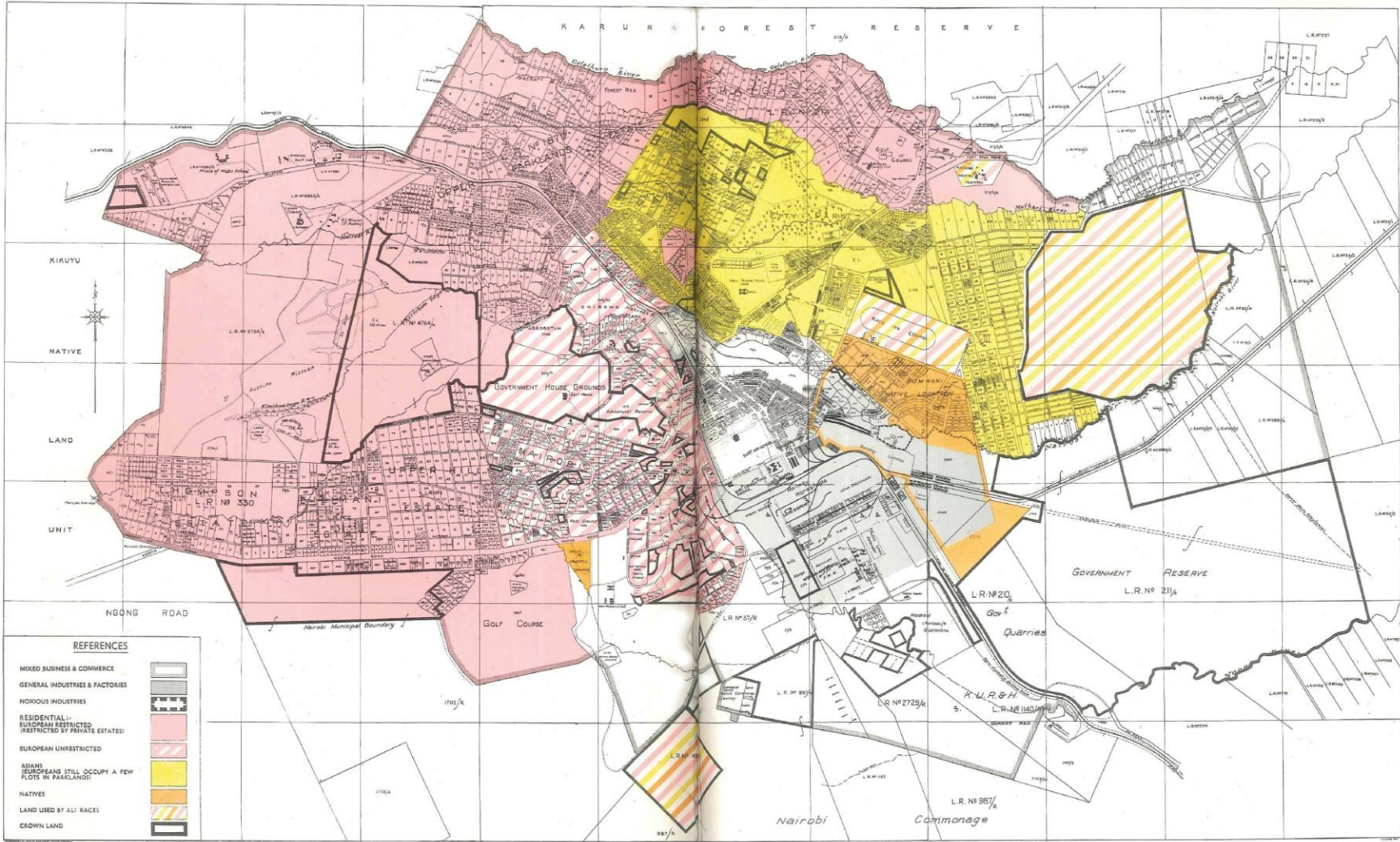
ARRIVING TO A NEW NAIROBI

NGONG ROAD IS NOT A ROAD | COLONIAL LEGACY



Colonial and Pre-Colonial Settlements in Kenya

NGONG ROAD IS NOT A ROAD | COLONIAL LEGACY



Racial Segregation according to the 1948 Masterplan

NGONG ROAD IS NOT A ROAD | THE IMPORTANCE OF THE STREETScape



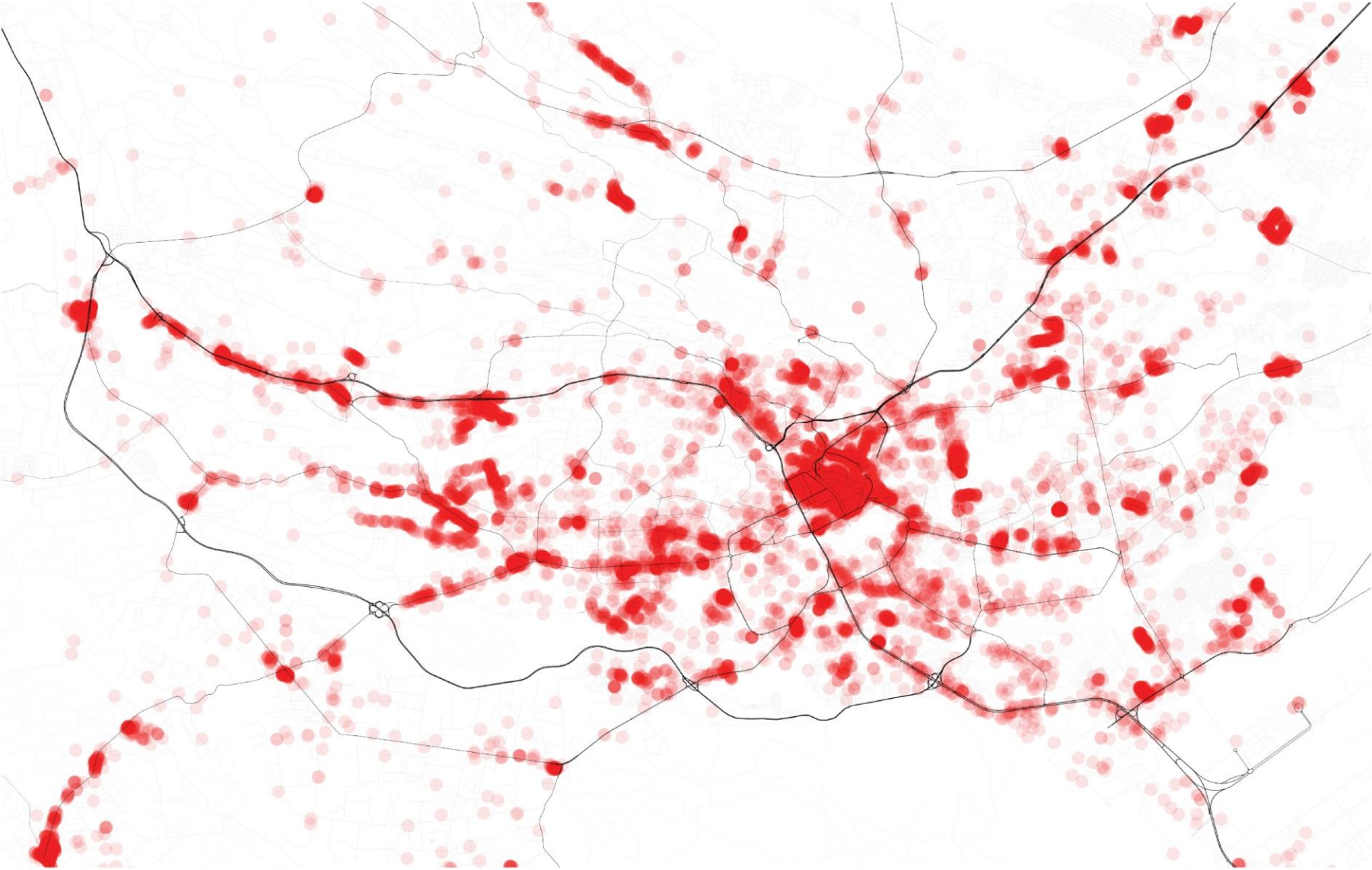
— high integration

— low integration



data retrieved from OpenStreetmap; drawing by author

NGONG ROAD IS NOT A ROAD | THE IMPORTANCE OF THE STREETScape



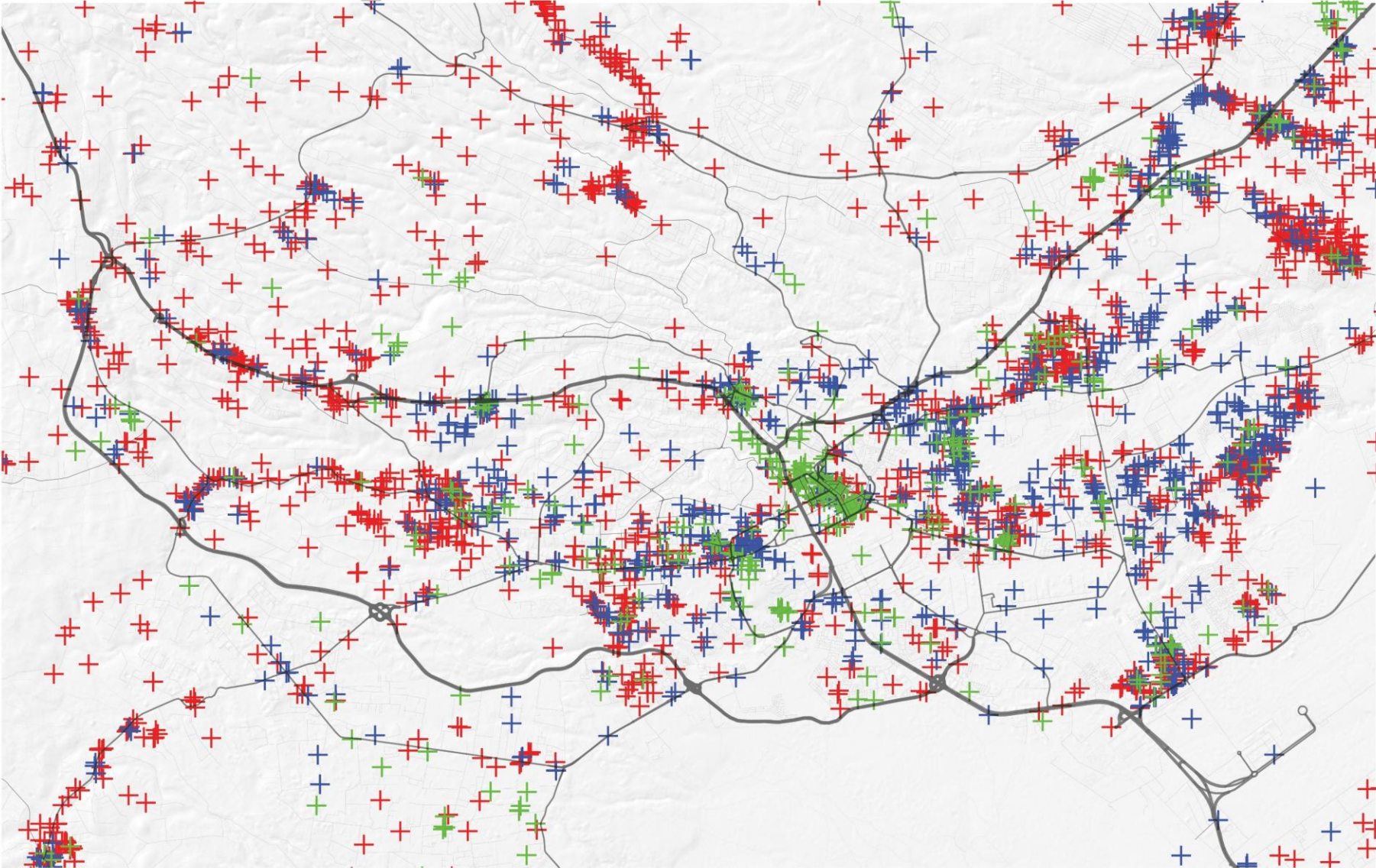
● shop location

● cluster of shops



data retrieved from Google Places API; drawing by author

NGONG ROAD IS NOT A ROAD | THE IMPORTANCE OF THE STREETSCAPE



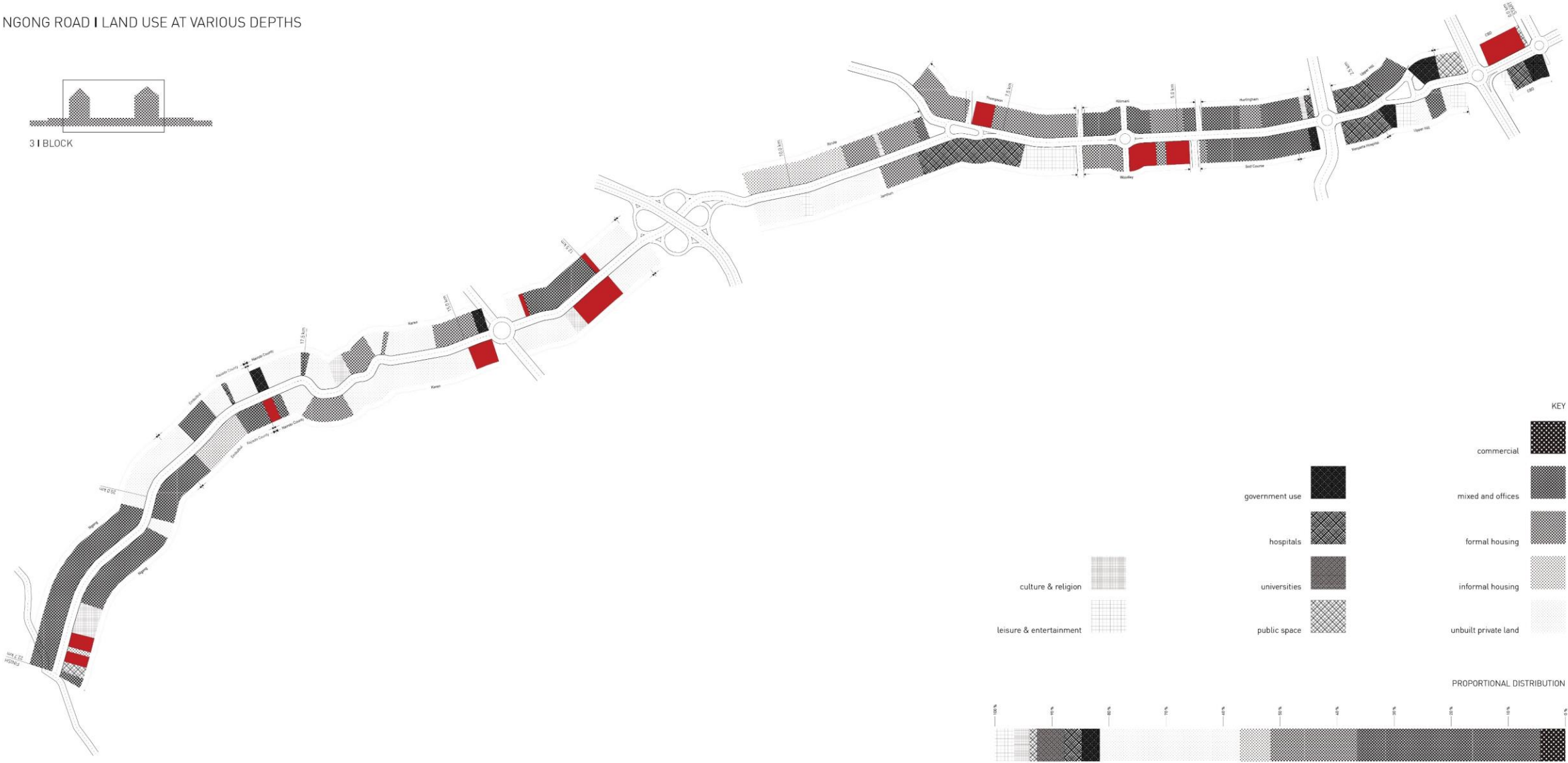
+ church + university or college + hospital



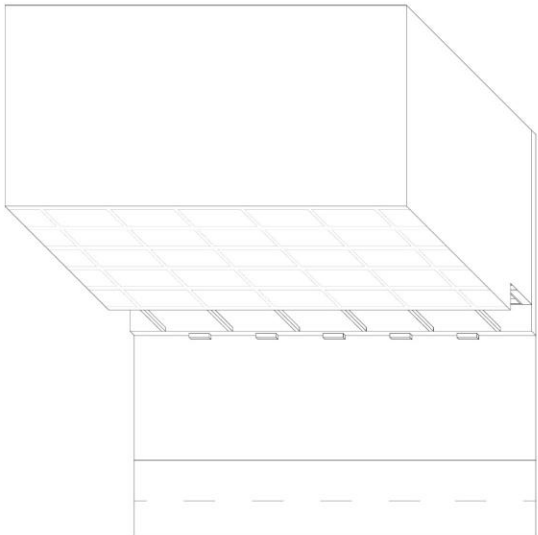
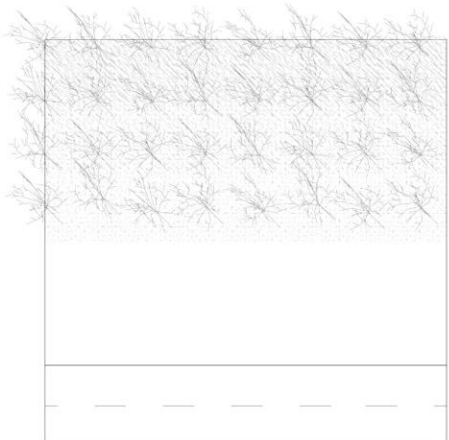
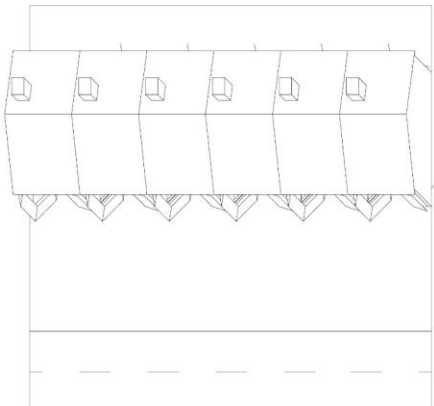
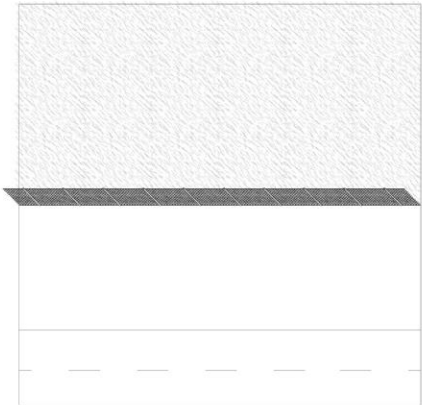
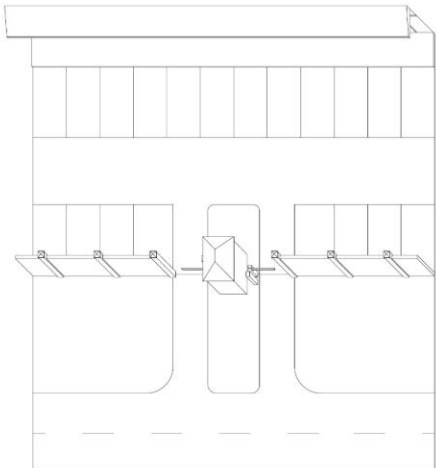
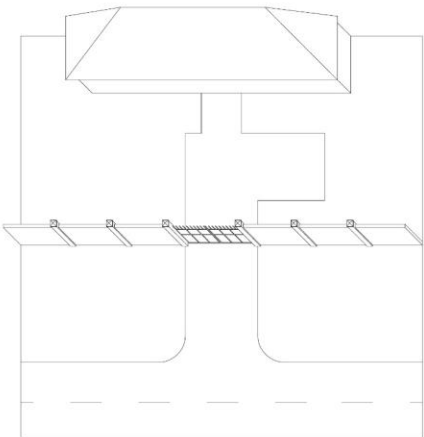
data retrieved from Google Places API; drawing by author

NGONG ROAD IS NOT A ROAD | THE IMPORTANCE OF THE STREETScape

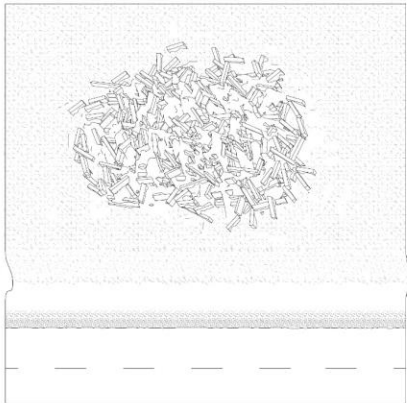
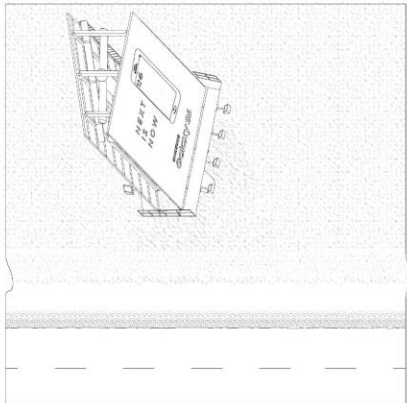
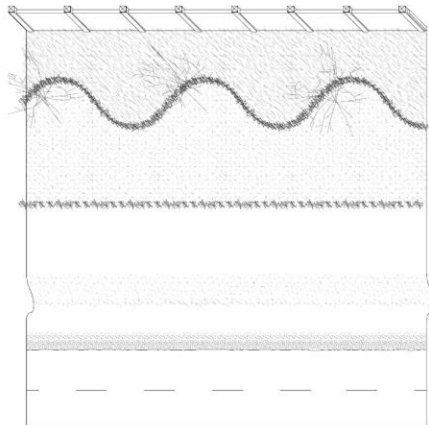
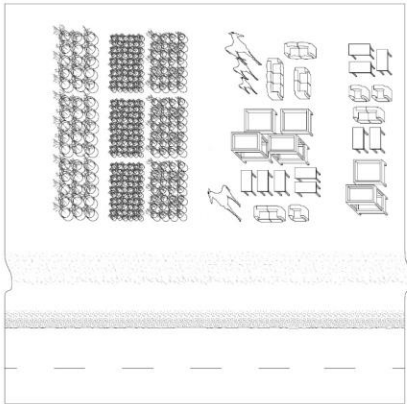
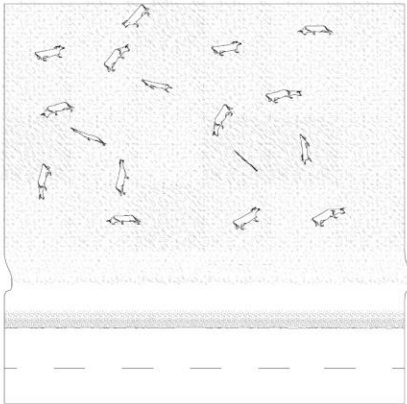
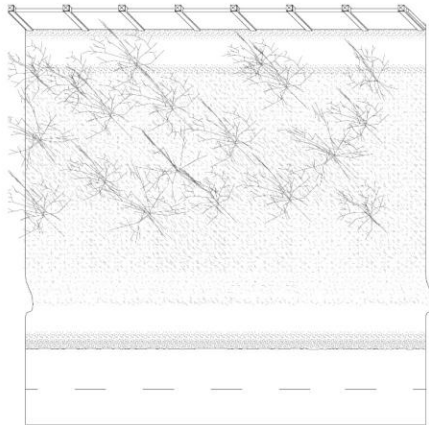
NGONG ROAD | LAND USE AT VARIOUS DEPTHS



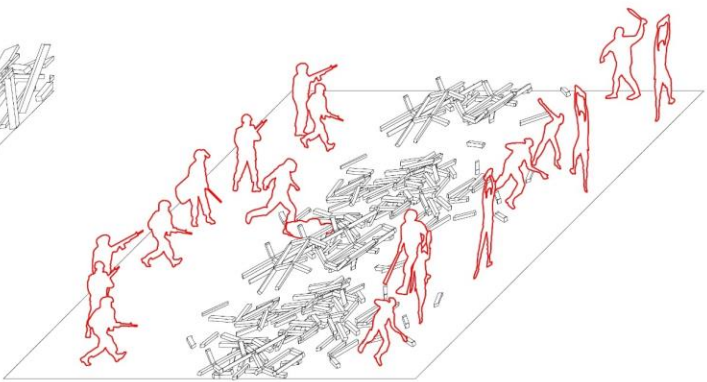
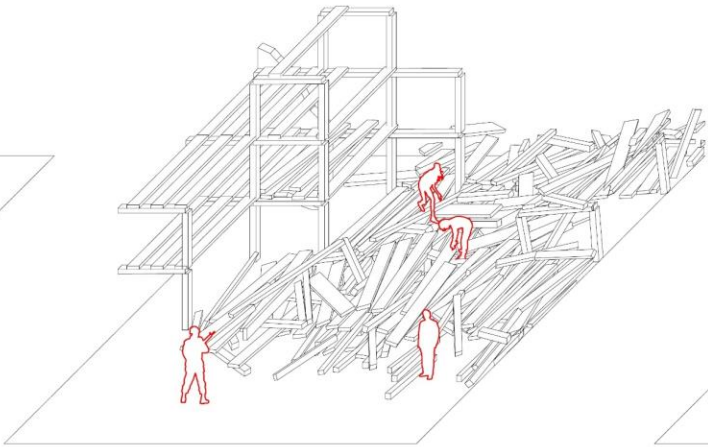
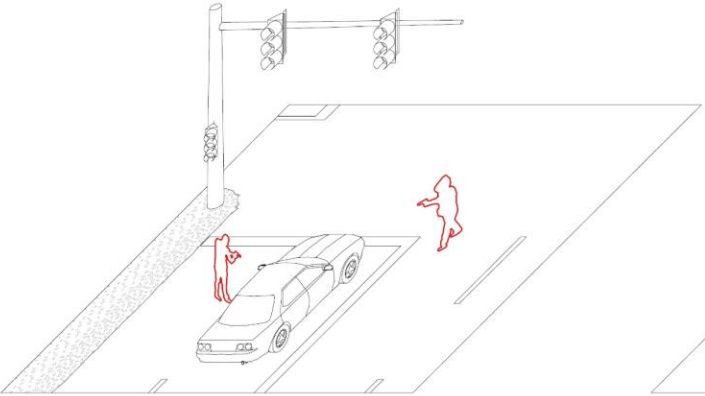
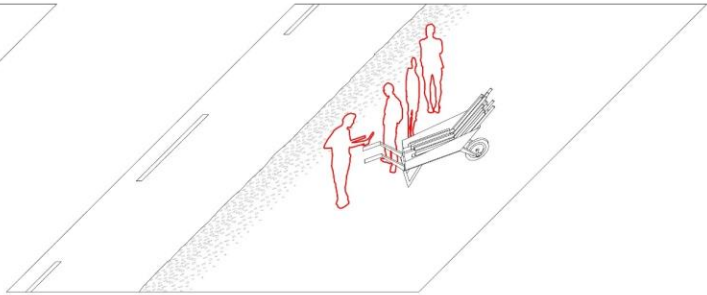
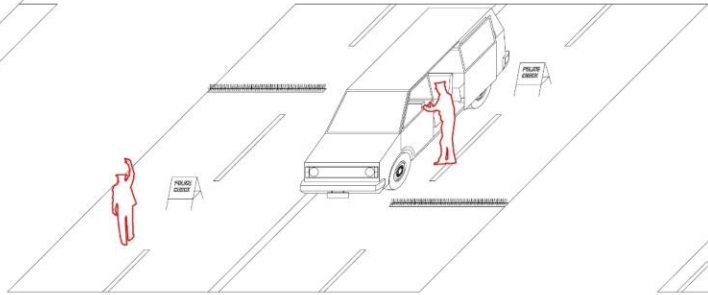
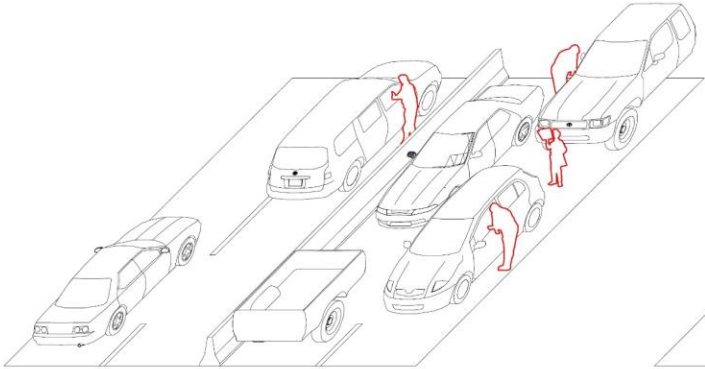
NGONG ROAD IS NOT A ROAD | THRESHOLDS



NGONG ROAD IS NOT A ROAD | APPROPRIATION OF SPACE



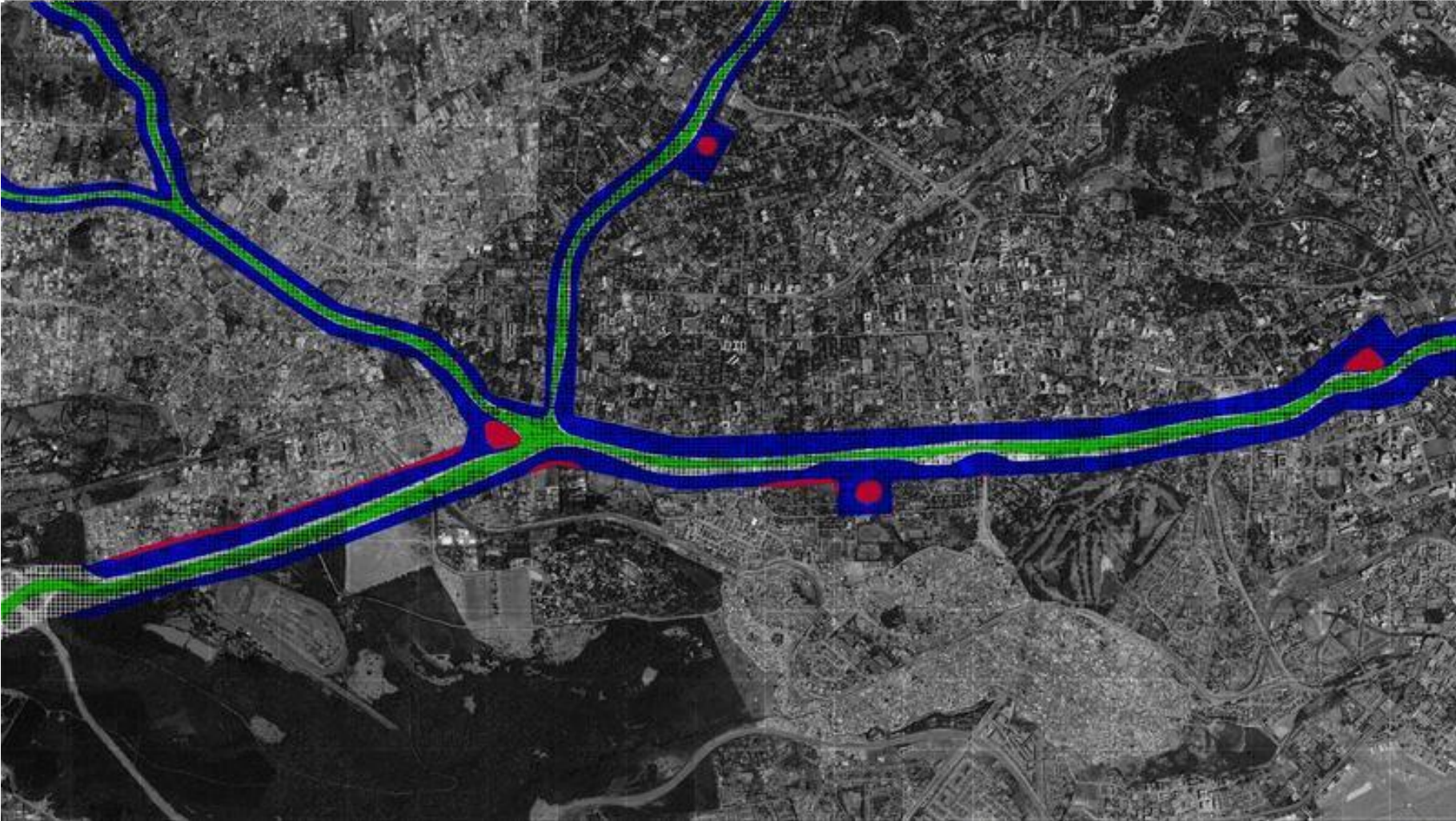
NGONG ROAD IS NOT A ROAD | NEGOTIATION OF SPACE



NGONG ROAD IS NOT A ROAD | CURRENT INTERVENTION



NGONG ROAD IS NOT A ROAD | NGONG ROAD AS NEGOTIATION



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VISION | DIGITALISATION AS A CODIFIER



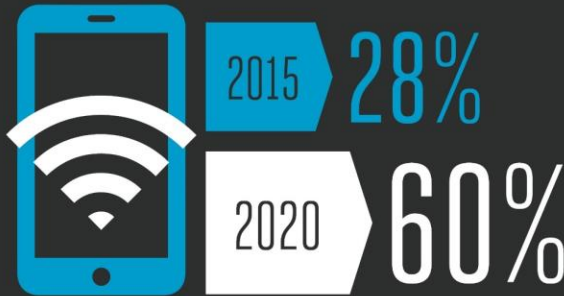
MOBILE ECONOMY AFRICA 2016

Unique subscribers

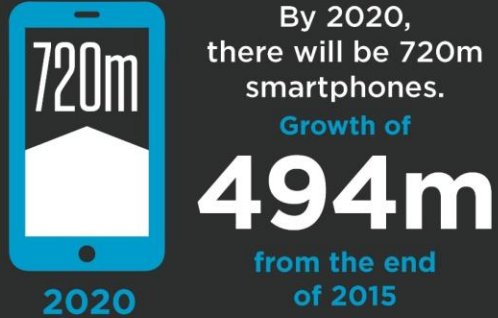


Accelerating moves to mobile broadband networks and smartphone adoption

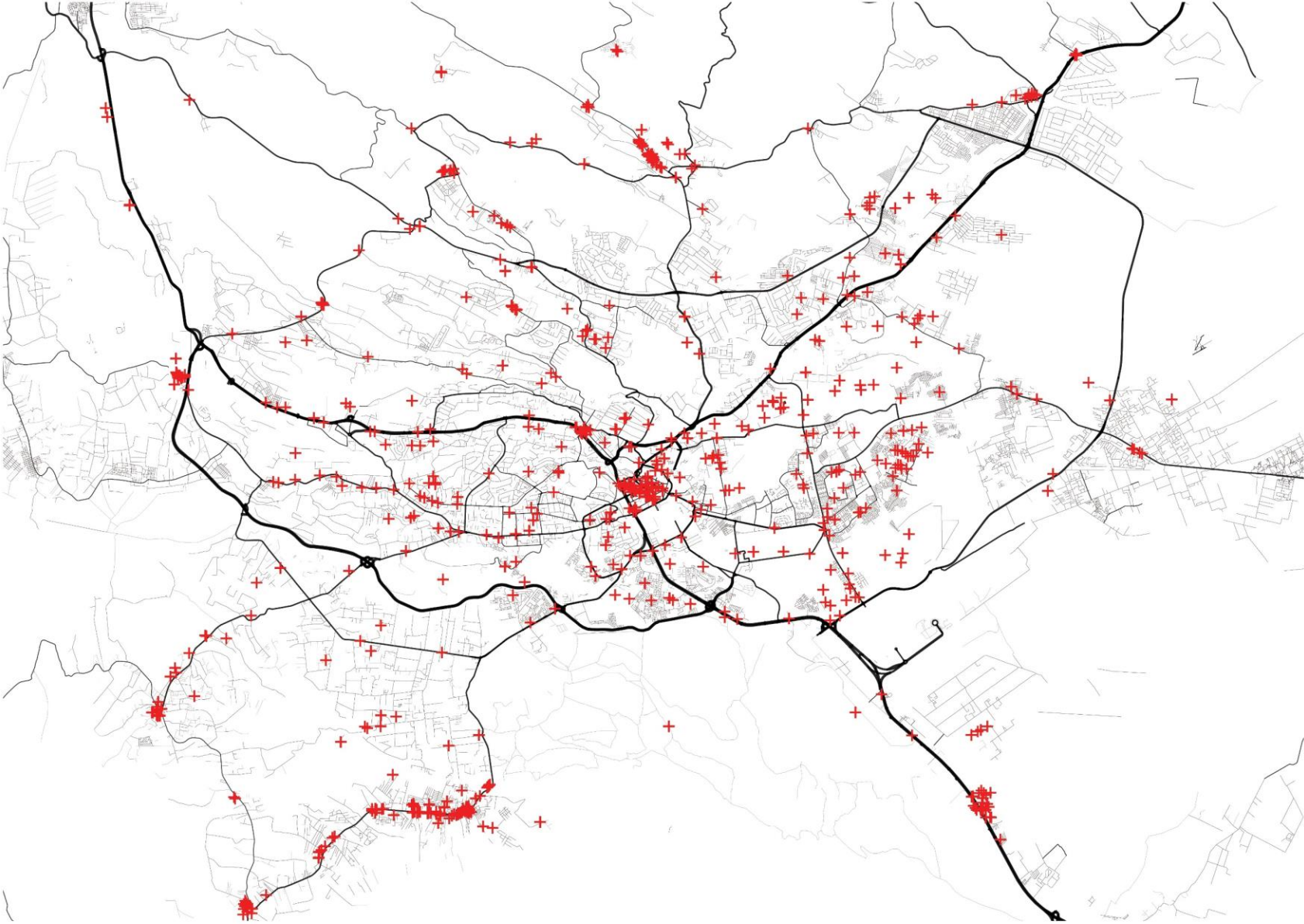
MOBILE BROADBAND CONNECTIONS



SMARTPHONES



VISION | DIGITALISATION AS A CODIFIER

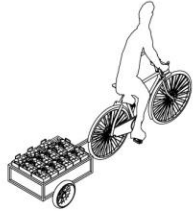



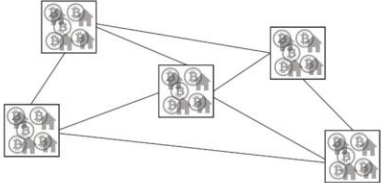
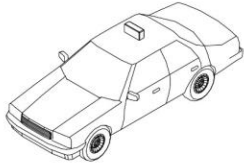

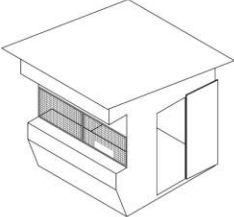

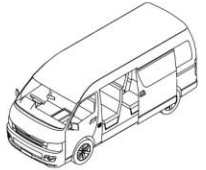

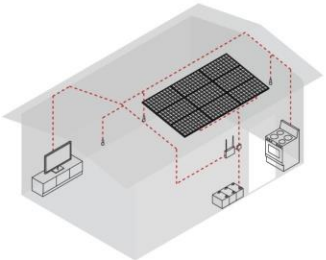
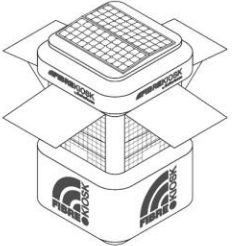




+ mpesa agent



data retrieved from Google Places API; drawing by author

VISION | TYPOLOGIES OF THE NEW FORMAL

				
L₁ THE MOBILE DUKA SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	L₂ THE DIGITAL HOTELI SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	L₃ THE DIGITAL MUUZA SPATIAL IMPACT: ●●○○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	L₄ THE DIGITAL BODABODA SPATIAL IMPACT: ●○○○○ DISRUPTION: ●○○○○ MARKETABILITY: ●●●●●	S₃ THE DIGITAL LAND LEDGER SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●●●● MARKETABILITY: ●○○○○
				
L₆ THE DIGITAL TEKSI SPATIAL IMPACT: ●○○○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●●●	L₇ THE DIGITAL BUSTANI SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	L₈ THE DIGITAL DUKA SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	L₉ THE DIGITAL MFUNDI SPATIAL IMPACT: ●○○○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	S₄ THE DIGITAL MATATU SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●●●● MARKETABILITY: ●●○○○
				
I₂ THE DIGITAL ADDRESS SPATIAL IMPACT: ●●○○○ DISRUPTION: ●●●●● MARKETABILITY: ●●●○○	I₃ THE DISTRIBUTED POWER PLANT SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	I₄ THE FIBRE KIOSK SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	I₅ THE DIGITAL MSANAA SPATIAL IMPACT: ●●●○○ DISRUPTION: ●●○○○ MARKETABILITY: ●●●○○	S₂ THE DIGITAL HARAMBEE SPATIAL IMPACT: ○○○○○ DISRUPTION: ●●●●● MARKETABILITY: ●●●○○

THE NEW FORMAL | THE DIGITAL MATATU



THE NEW FORMAL | THE DIGITAL MATATU



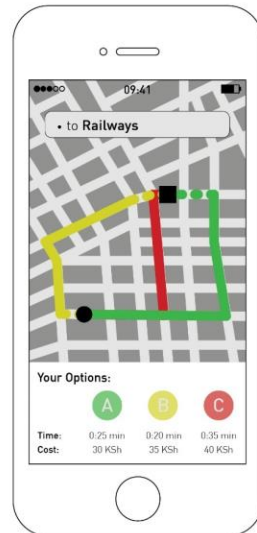
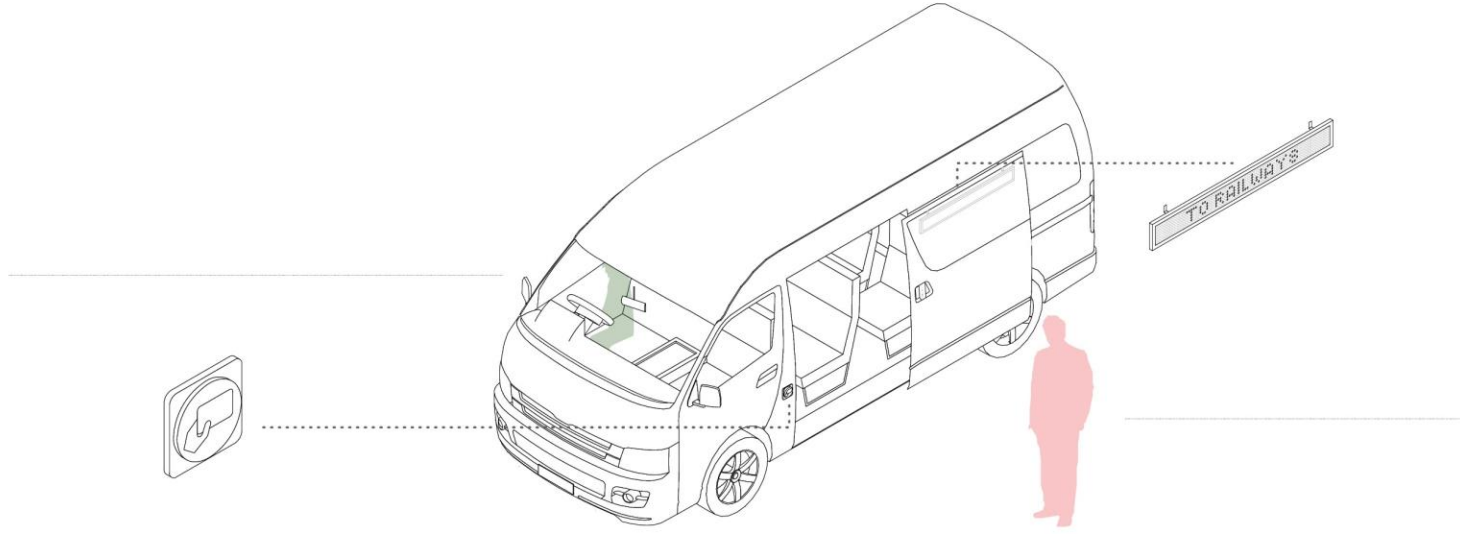
— matatu route



THE NEW FORMAL | THE DIGITAL MATATU



DRIVER INTERFACE



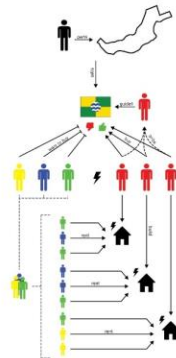
COMMUTER INTERFACE

THE NEW FORMAL | THE DIGITAL LAND LEDGER



THE NEW FORMAL | THE DIGITAL LAND LEDGER

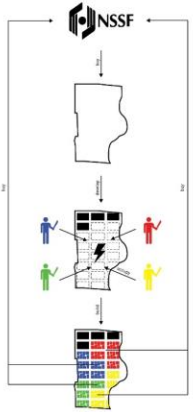
1. CORRUPT DISTRIBUTION



MATHARE NORTH
 Density
 10
 Income Level



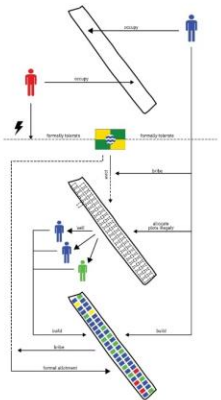
2. FORCEFUL & VIOLENT OCCUPATION



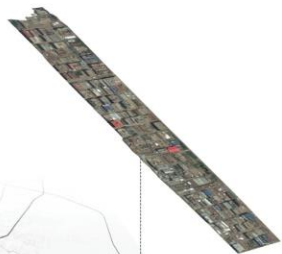
TASSIA
 Density
 3
 Income Level



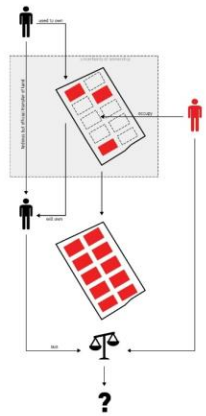
3. OBSCURE POLITICAL PROCESS



JUA KALI
 Density
 4
 Income Level



4. NON-VIOLENT OCCUPATION



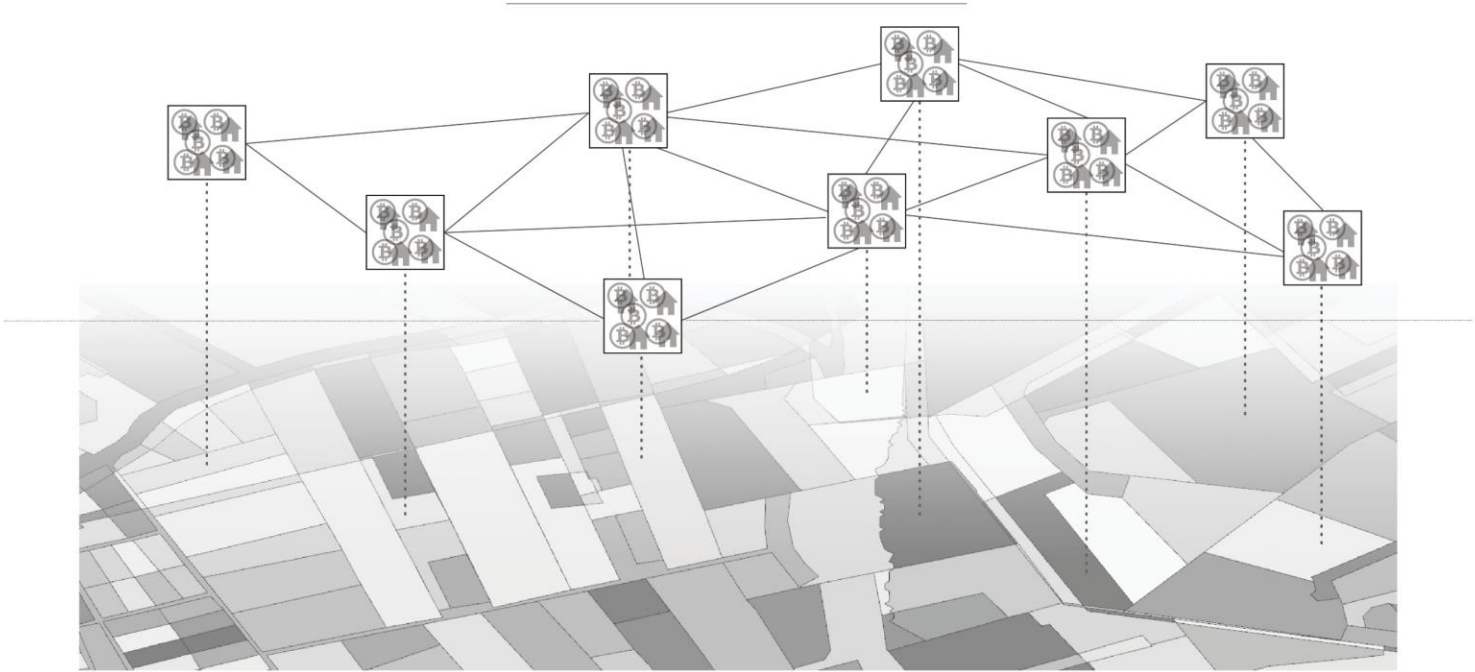
PIPELINE
 Density
 1
 Income Level



THE NEW FORMAL | THE DIGITAL LAND LEDGER



SELLER INTERFACE

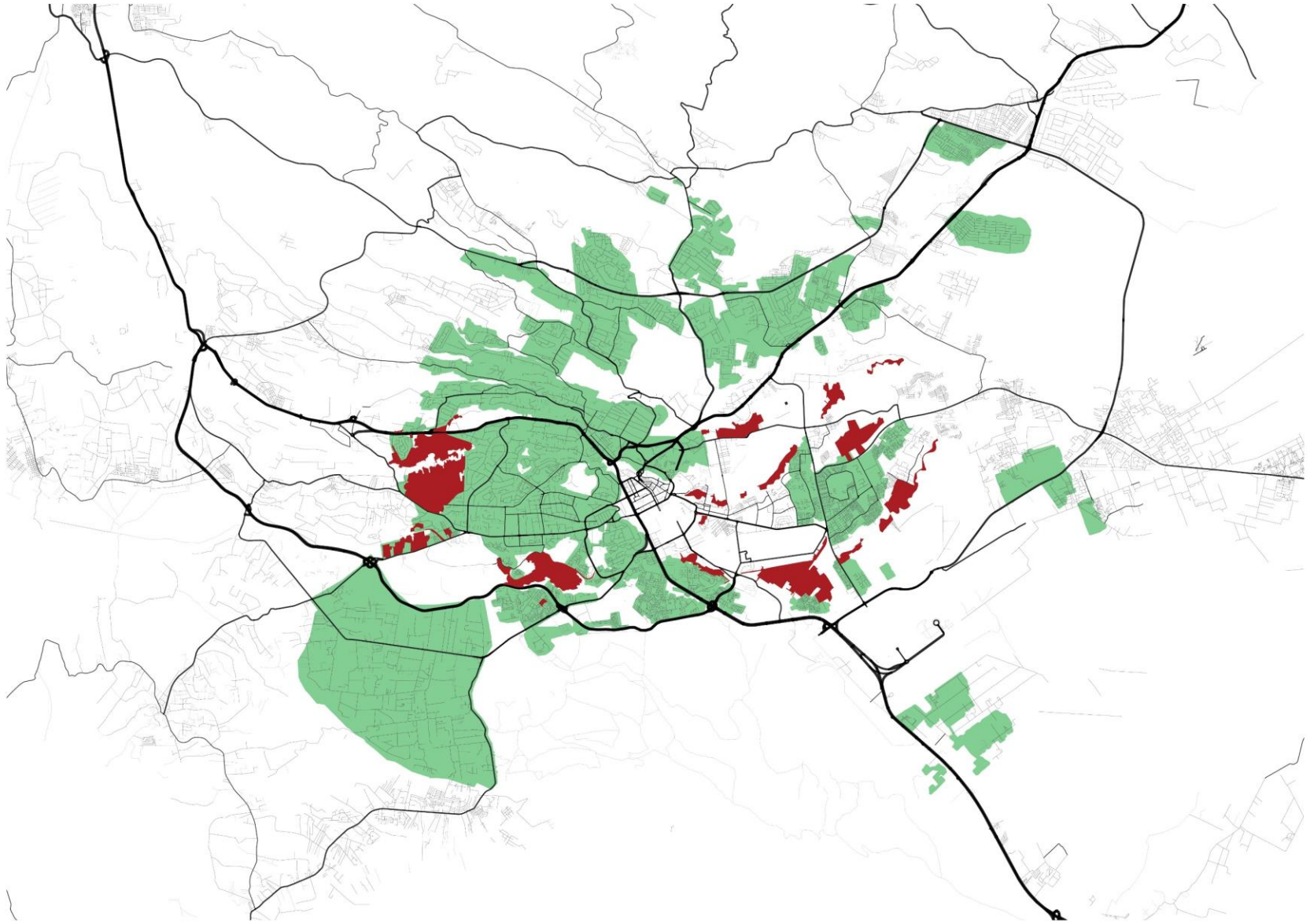


BUYER INTERFACE

THE NEW FORMAL | THE FIBRE KIOSK



THE NEW FORMAL | THE FIBRE KIOSK

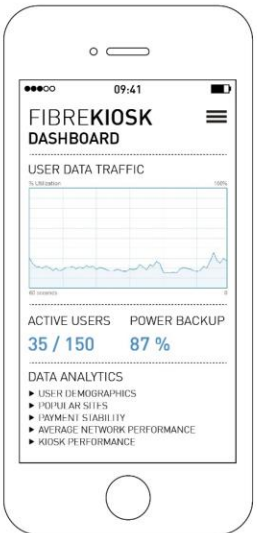


■ shanty town ■ fibre network

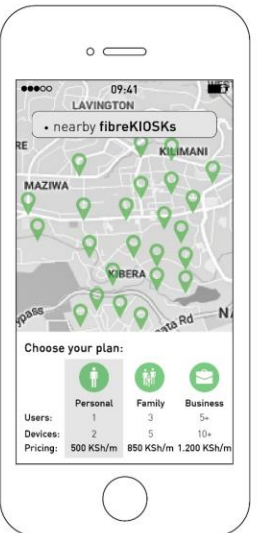
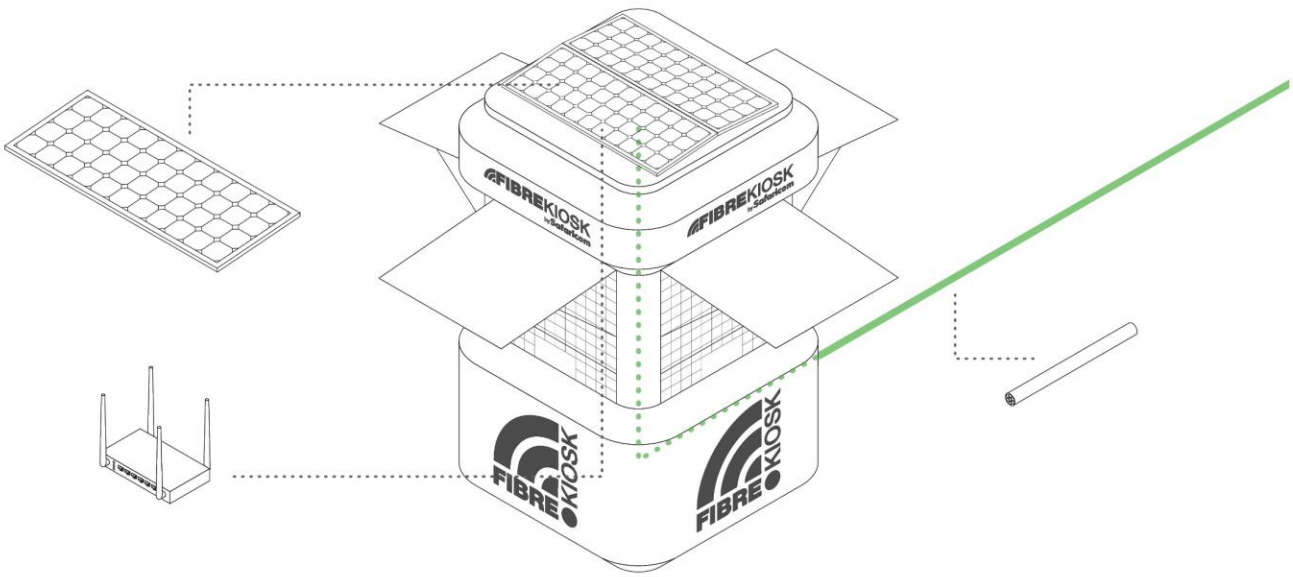


data retrieved from Zuku Fibre; drawing by author

THE NEW FORMAL | THE FIBRE KIOSK



OPERATOR INTERFACE



USER INTERFACE

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CONCEPT | STATUS QUO OF URBAN DESIGN IN NAIROBI



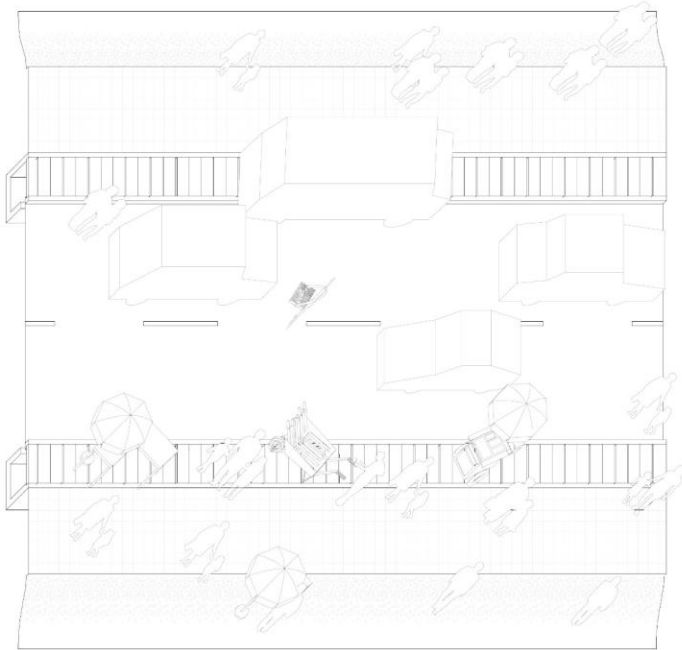
OVER-DETERMINACY

VS.



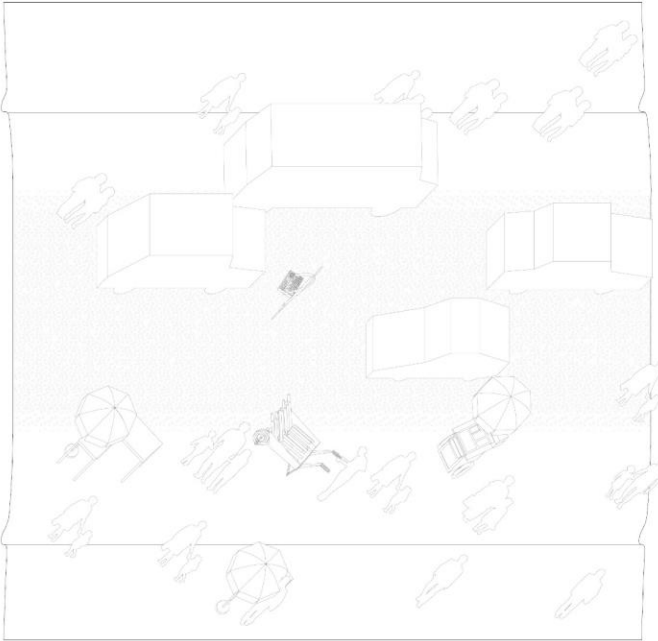
ANARCHY

CONCEPT I STATUS QUO OF URBAN DESIGN IN NAIROBI



OVER-DETERMINACY

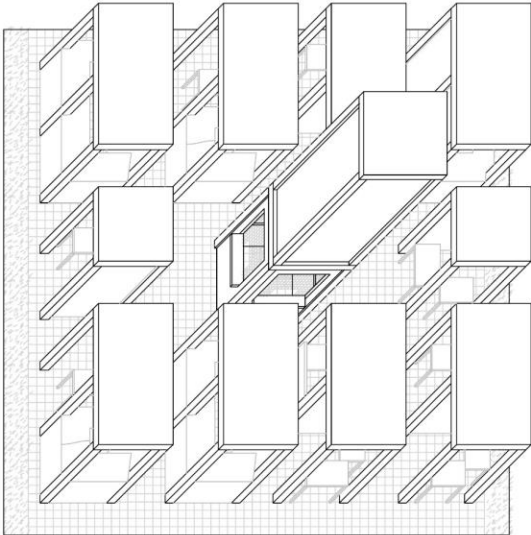
VS.



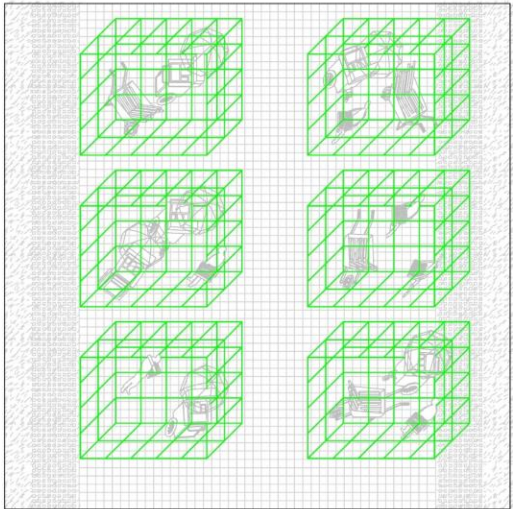
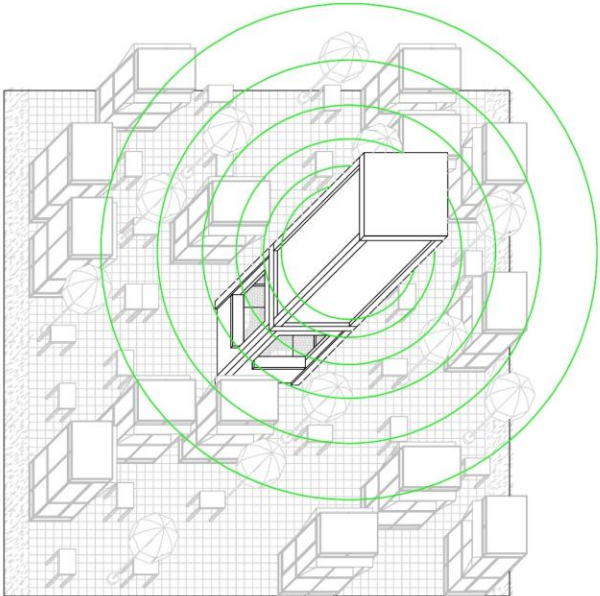
ANARCHY

CONCEPT I HARD AND SOFT SPACES

HARD SPACE

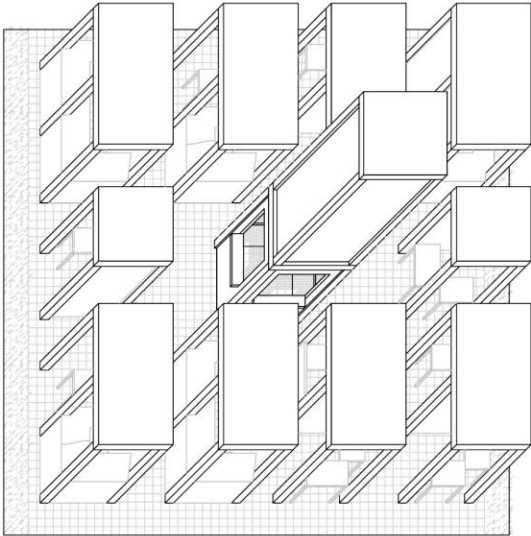


SOFT SPACE



CONCEPT I HARD AND SOFT SPACES

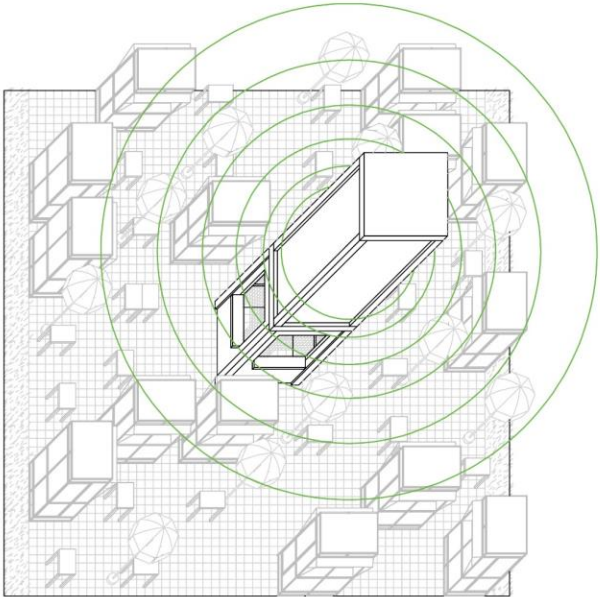
HARD SPACE



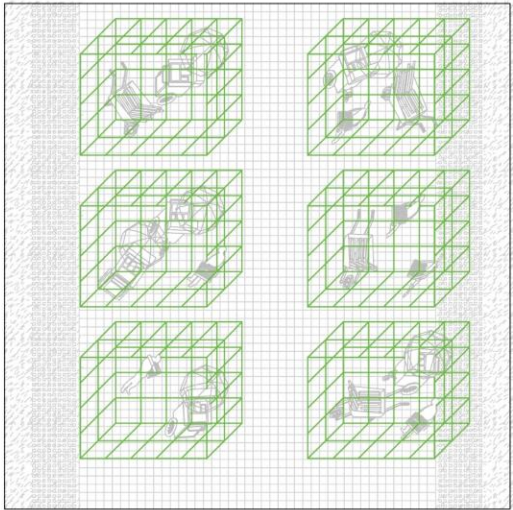
PHYSICAL SPACE



SOFT SPACE

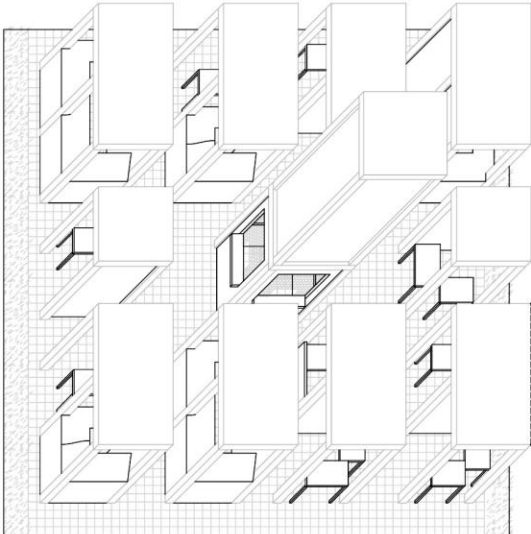


DIGITAL SPACE



CONCEPT | HARD AND SOFT SPACES

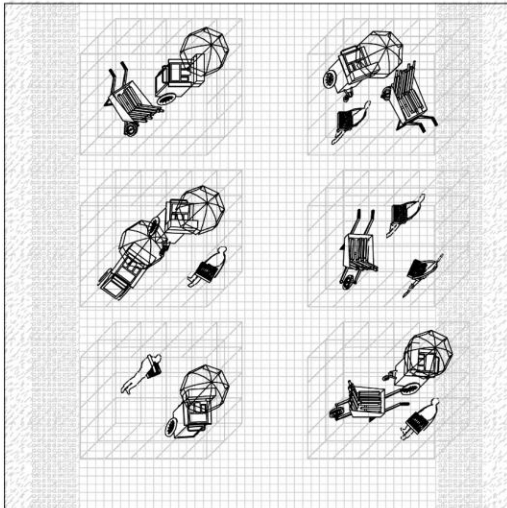
HARD SPACE



PERMANENT APPROPRIATION



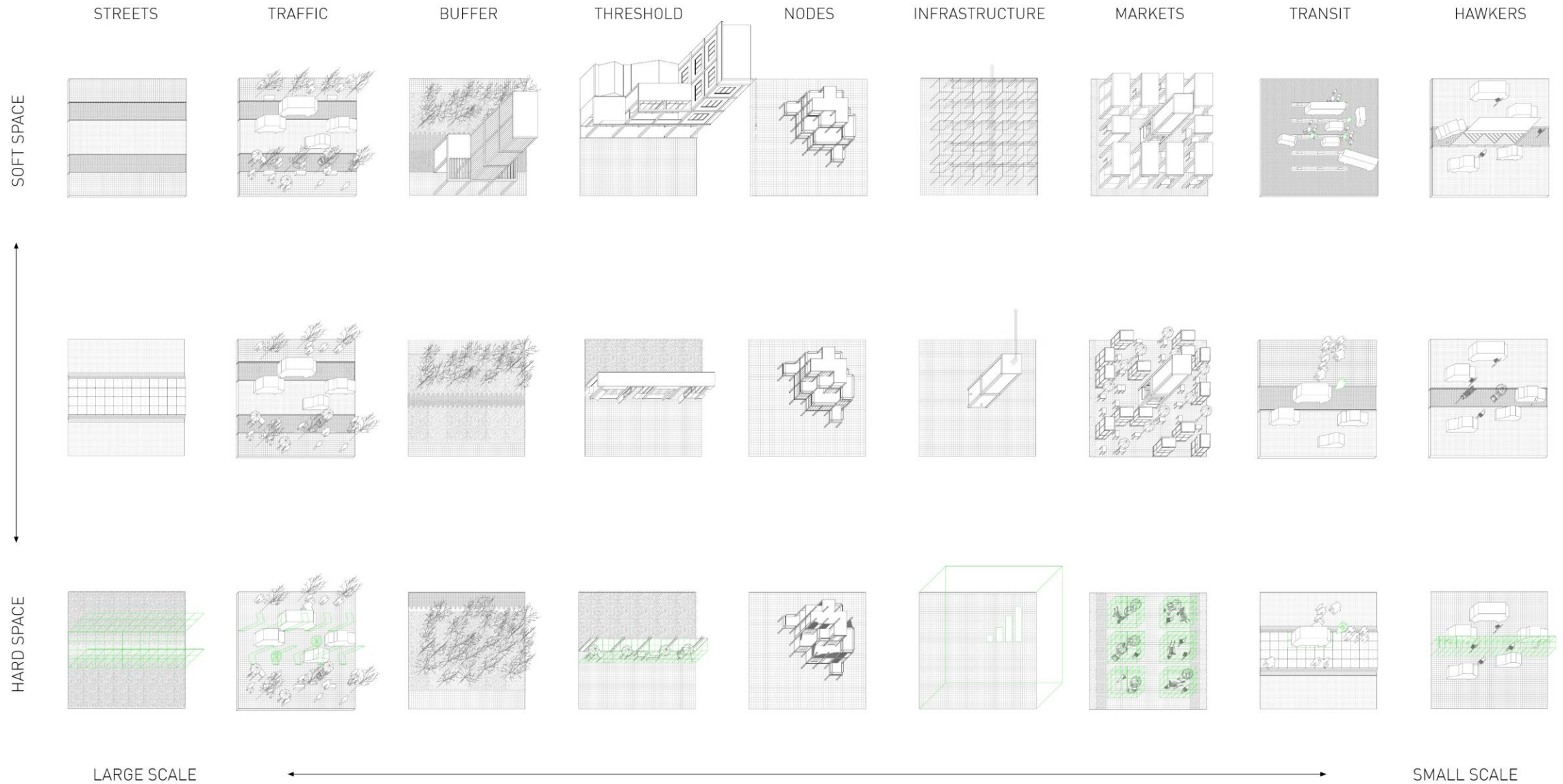
SOFT SPACE



TEMPORARY APPROPRIATION



CONCEPT I HARD AND SOFT TYPOLOGIES



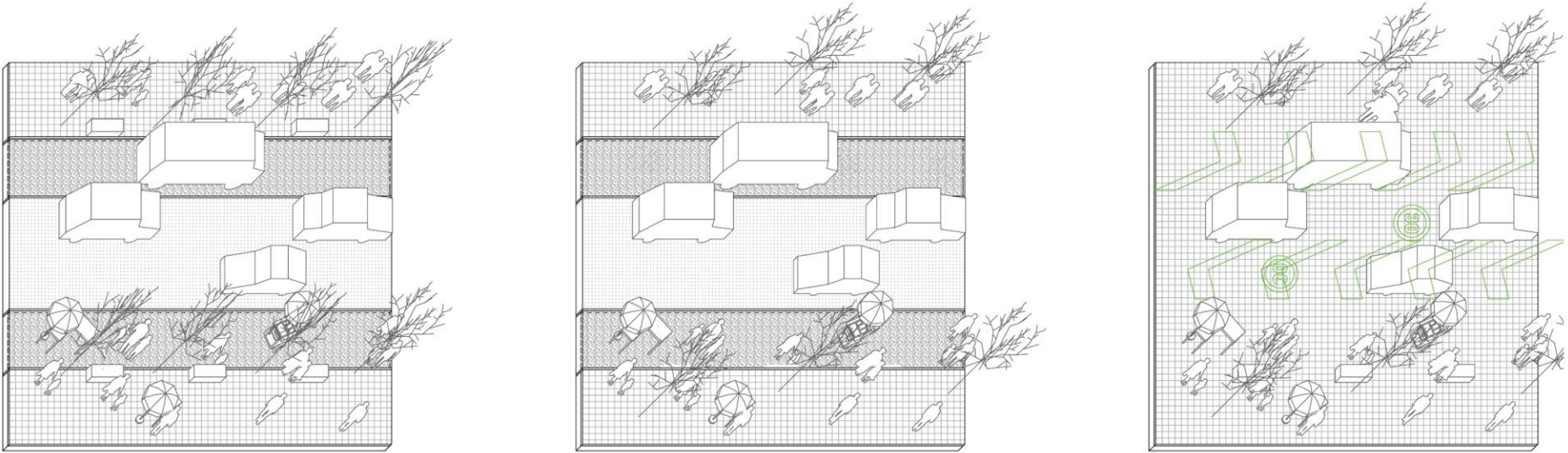
TPOLOGIES I TRAFFIC SPACE



TYOLOGIES I TRAFFIC SPACE



TYOLOGIES | TRAFFIC SPACE

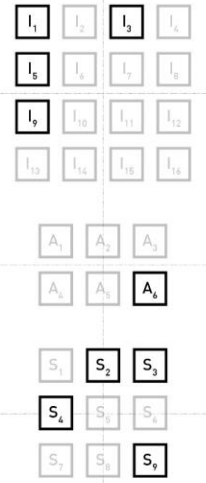
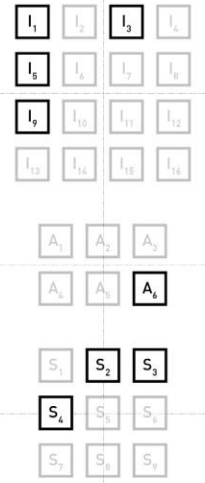
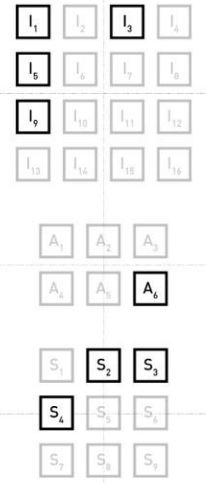


HARD

MEDIUM

SOFT

LOCALISATION
APPROPRIATION
STAKEHOLDERS



TYOLOGIES | BUFFER SPACE



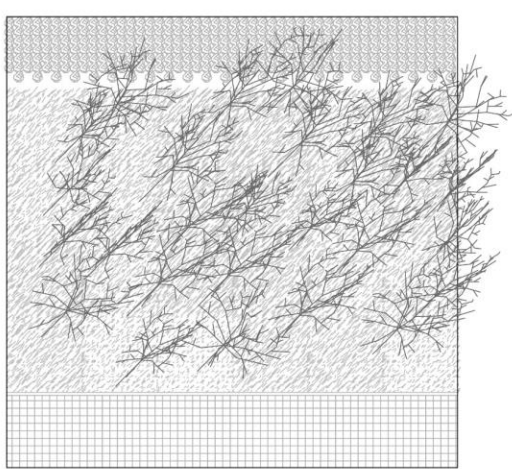
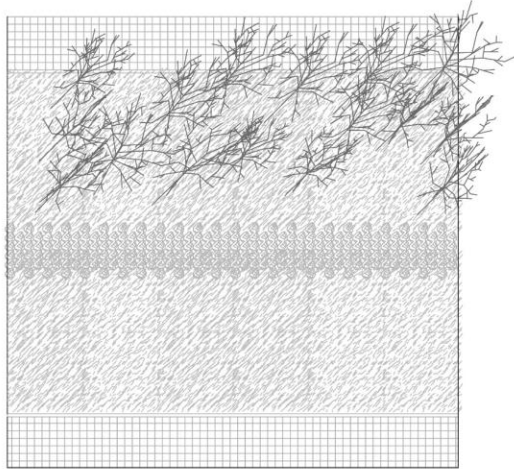
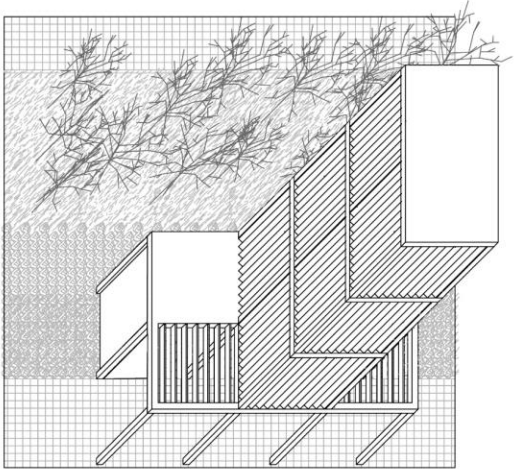
TYOLOGIES | BUFFER SPACE



TYOLOGIES | BUFFER SPACE

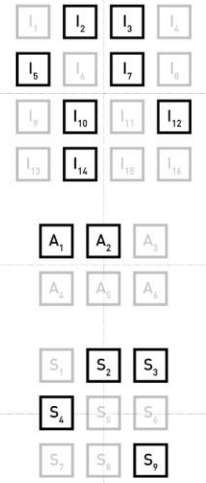


TYOLOGIES | BUFFER SPACE

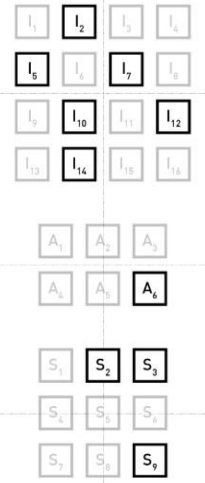


LOCALISATION
APPROPRIATION
STAKEHOLDERS

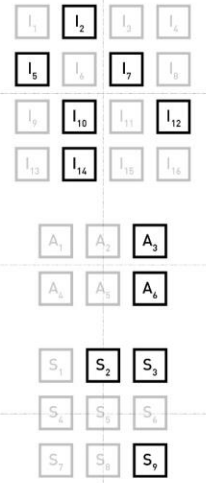
HARD



MEDIUM



SOFT



TPOLOGIES | THRESHOLD SPACE



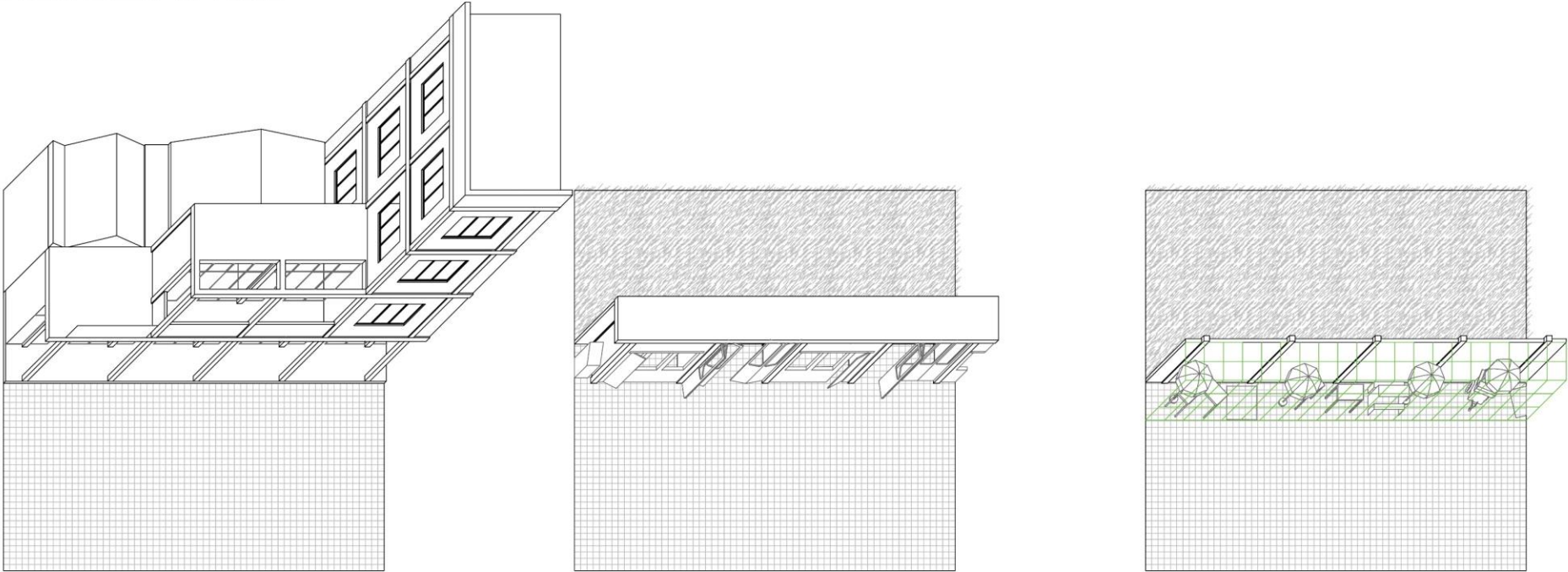
TPOLOGIES | THRESHOLD SPACE



TYOLOGIES | THRESHOLD SPACE

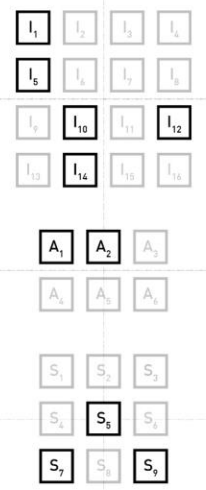


TYOLOGIES | THRESHOLD SPACE

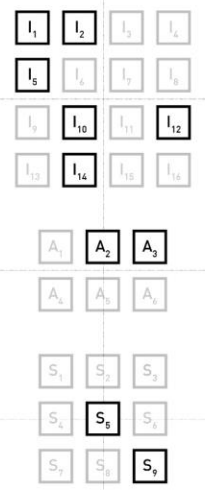


LOCALISATION
APPROPRIATION
STAKEHOLDERS

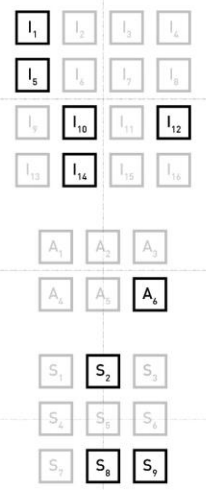
HARD



MEDIUM



SOFT



ALLOCATING TYPOLOGIES | INDICATORS

ACCESS



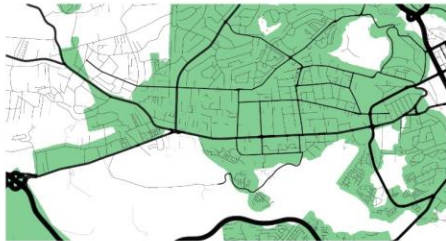
Global Integration | Space Syntax



Local Integration | Space Syntax



Traffic Density | Google Maps



Broadband Internet | Safaricom

SPACE



Road Space | Columbia University



Open Space | Google Earth



Green Space | Google Earth



Plot Structure | Columbia University

MORPHOLOGY



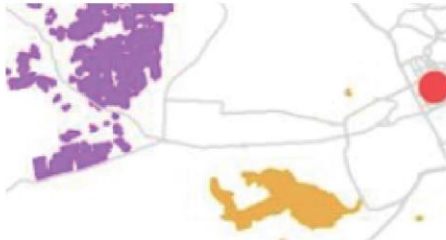
Built Density | Columbia University



Population Density | Global Human Settlements Layer

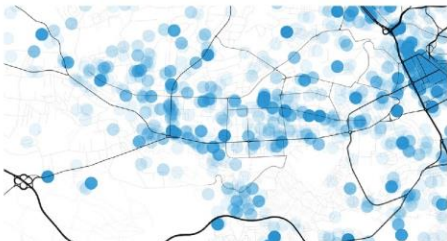


Development Activity | Global Human Settlements Layer



Degree of Planning | Githara et al.

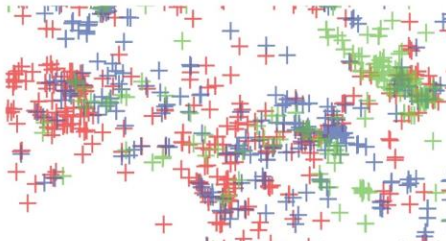
ACTIVITY



Social Media | Twitter



Commercial Activity | Google Places

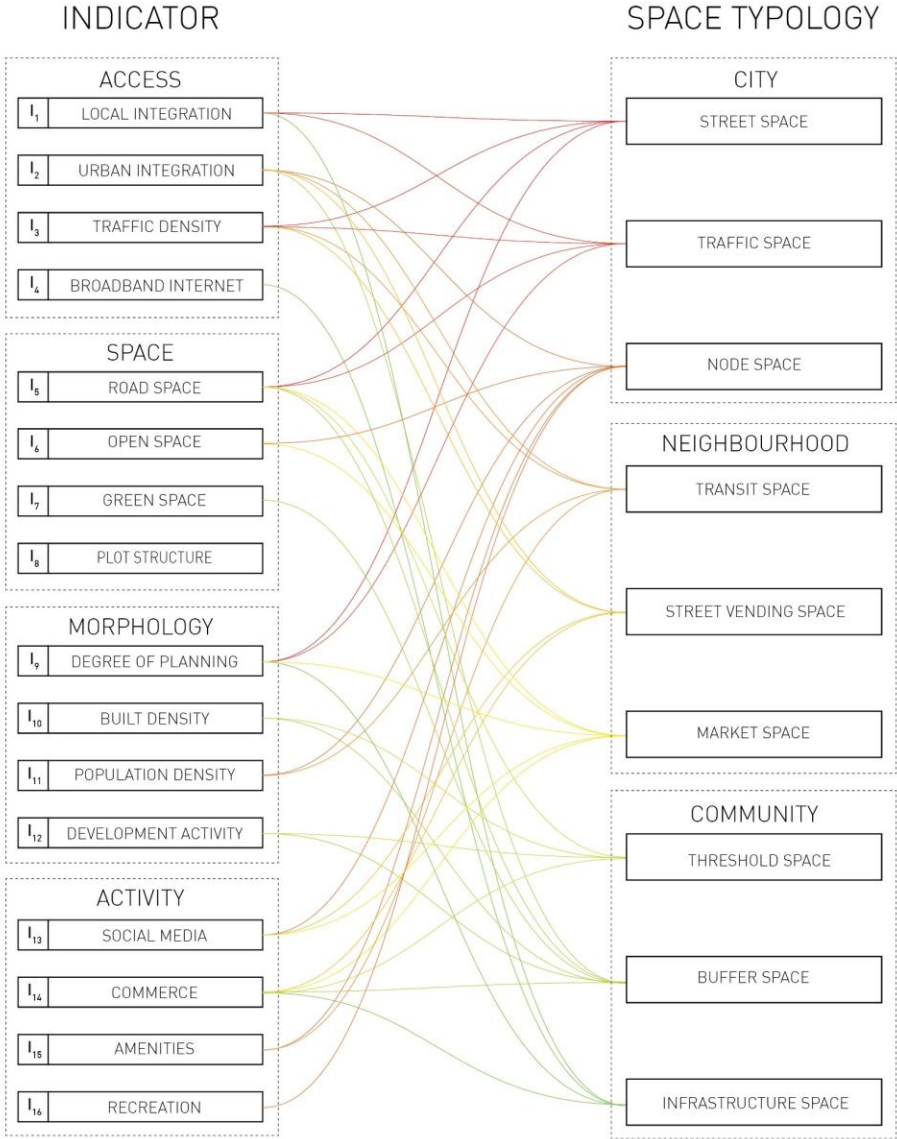


Amenities | Google Places



Exercise Activity | Strava

ALLOCATING TYPOLOGIES | INDICATORS



RESEARCH
VISION
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BECOMING

NGONG ROAD IS NOT A ROAD
CODIFYING NAIROBI'S *JUA KALI*
HARD AND SOFT SPACE
DESIGNING NGONG ROAD
FROM PLAN TO SPACE
ARRIVING TO A NEW NAIROBI

DESIGNING NGONG ROAD | DESIGN PROCESS



1 | STATUS QUO



2 | TABULA RASA



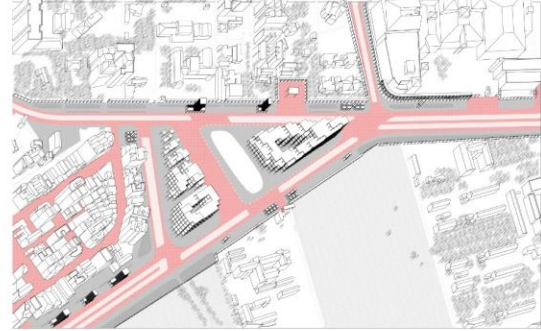
3 | FREE FLOW ANALYSIS



4 | DYNAMIC ZONING



5 | DETERMINING HARD-SOFT SPACE



6 | MASTER PLAN



6 | ALLOCATING TYPOLOGIES



7 | SCENARIO TESTING

DESIGNING NGONG ROAD | CASE SITES



Case Sites | Junction | Mekina



JUNCTION I STATUS QUO



Junction I Aerial Photo

JUNCTION I STATUS QUO



Junction I View Towards Dagoretti



Junction I View Towards Central Nairobi

JUNCTION I STATUS QUO



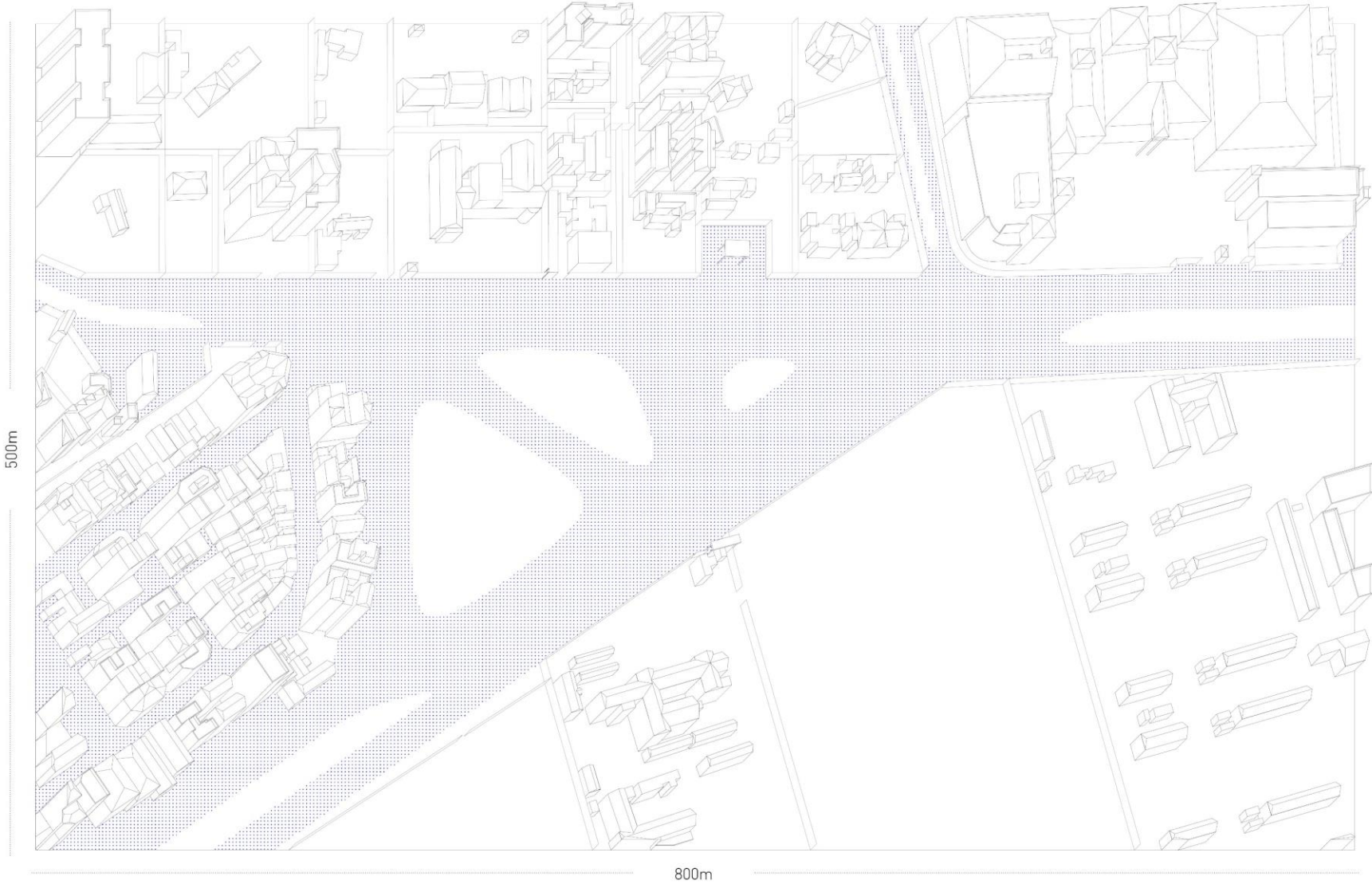
Junction I Status Quo

JUNCTION I TABULA RASA



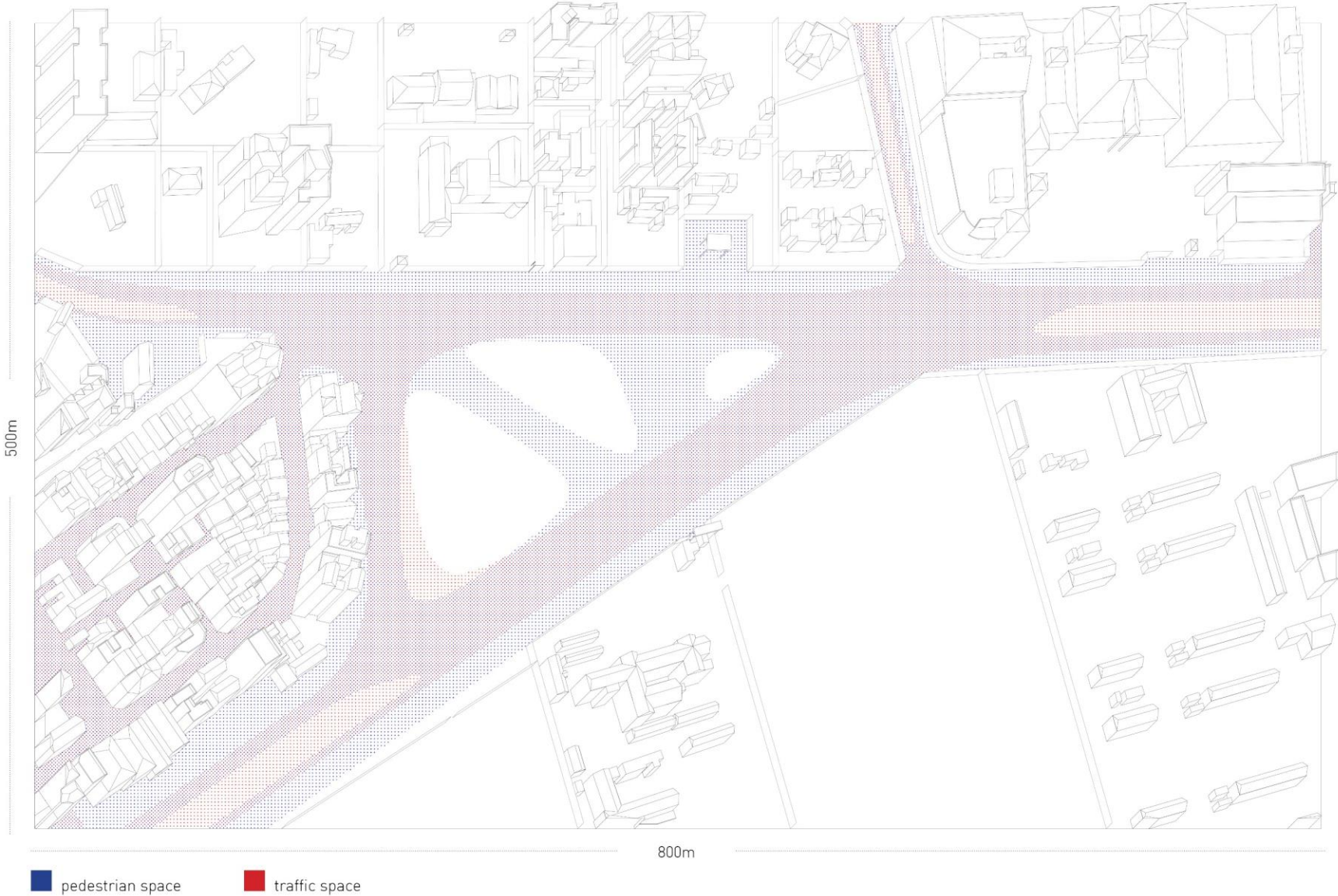
Junction I Tabula Rasa

JUNCTION | FREE FLOW ANALYSIS

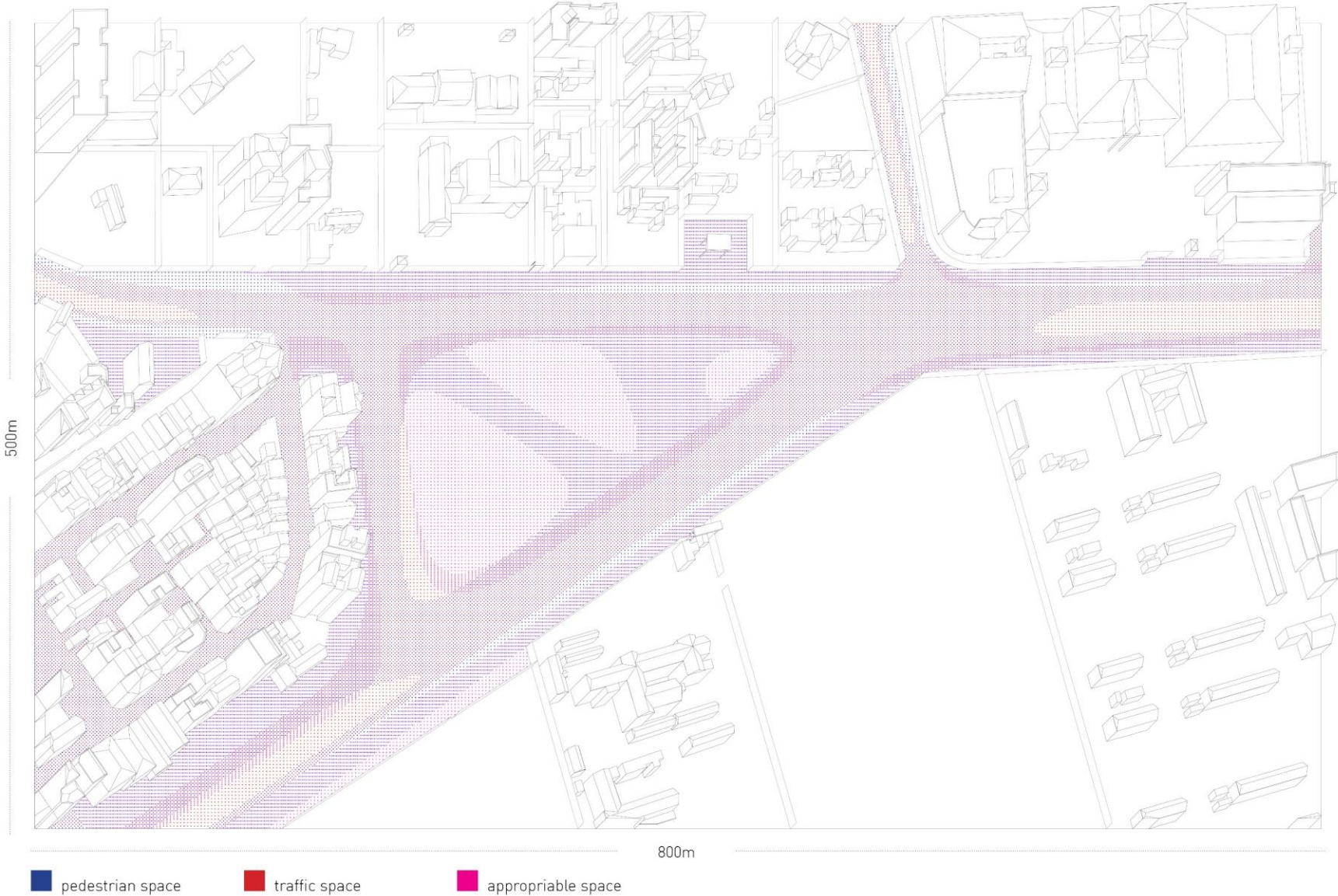


■ pedestrian space

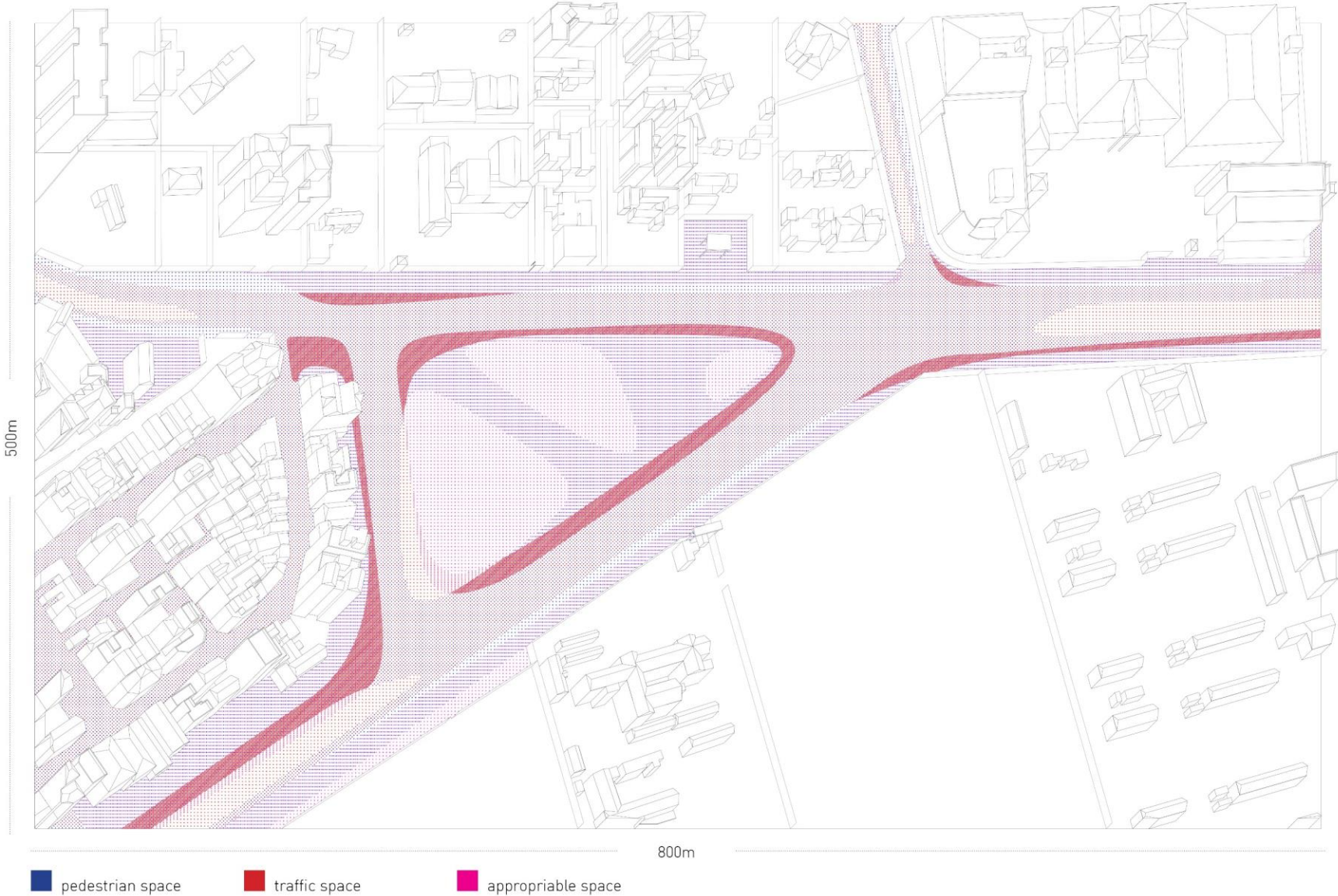
JUNCTION | FREE FLOW ANALYSIS



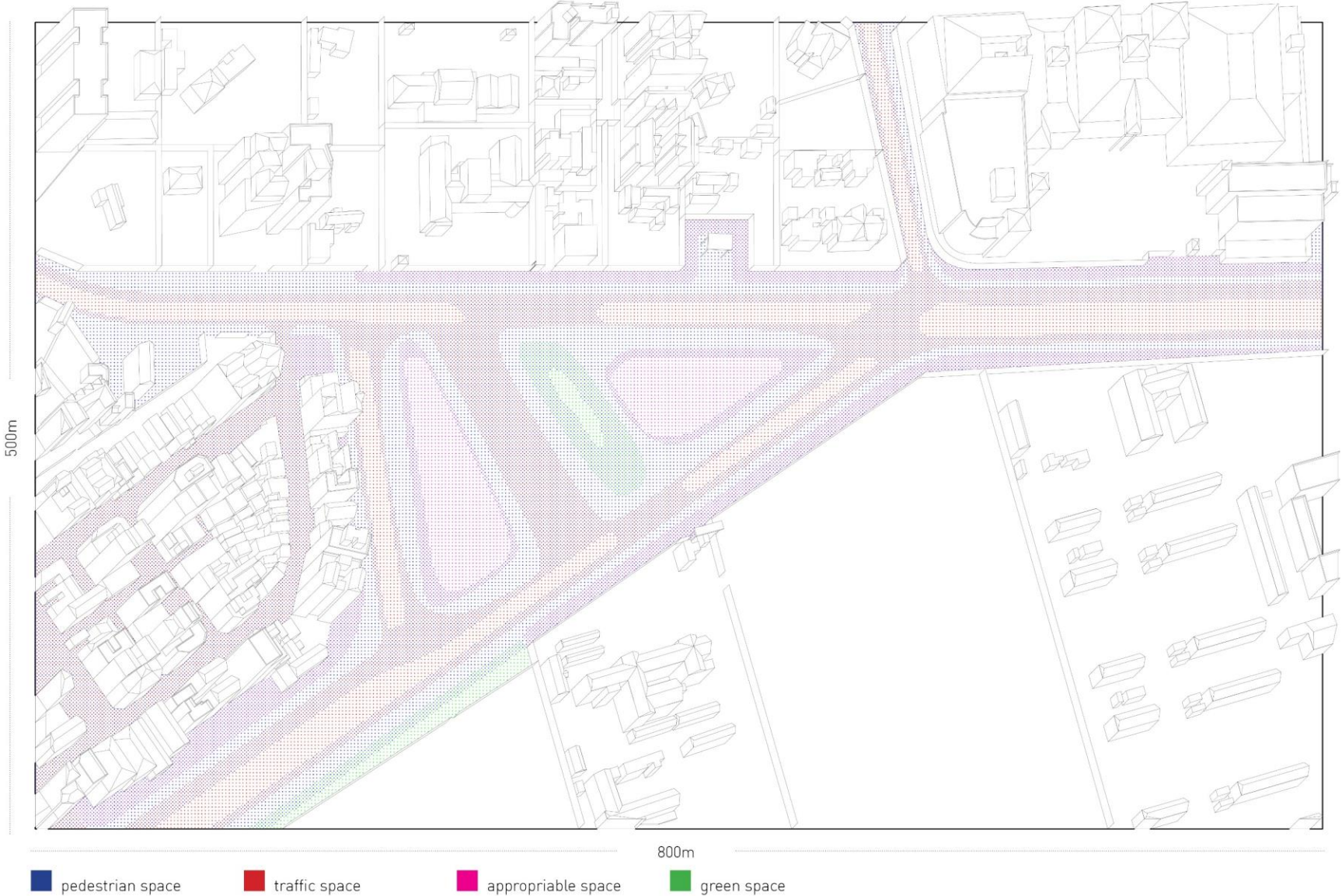
JUNCTION | FREE FLOW ANALYSIS



JUNCTION | FREE FLOW ANALYSIS



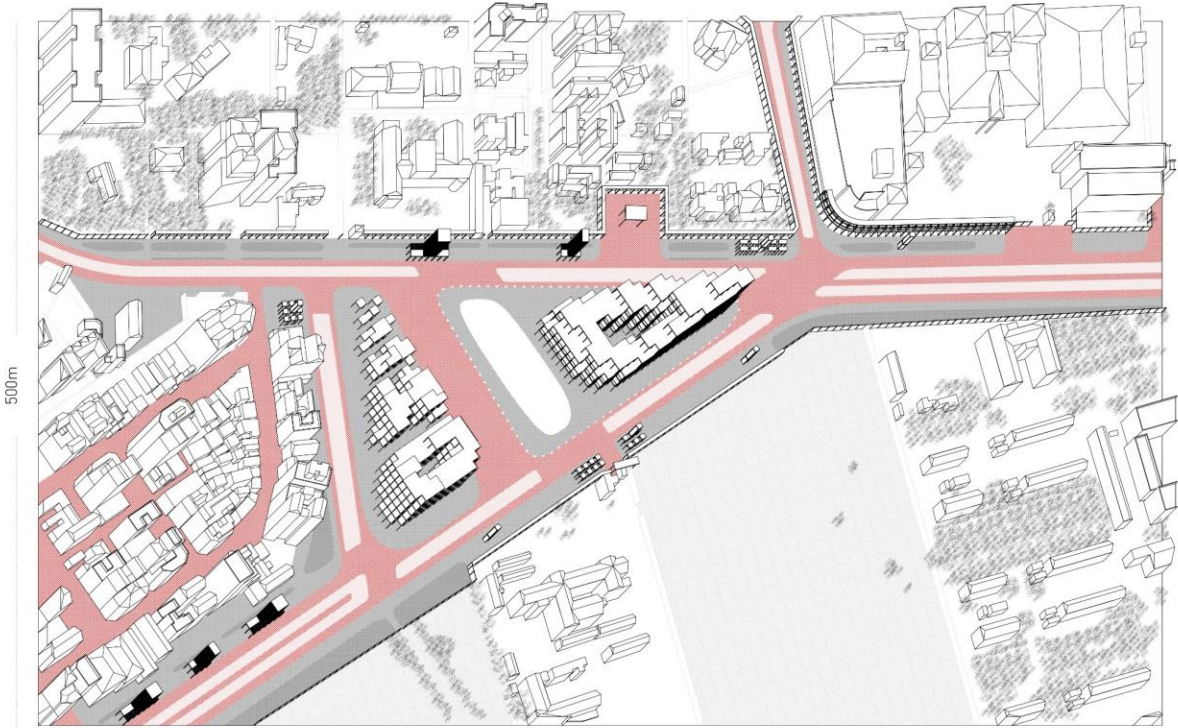
JUNCTION | DYNAMIC ZONING



JUNCTION I HARD AND SOFT SPACE



- hard traffic space based on local indicators
- medium traffic space based on local indicators
- soft traffic space based on local indicators

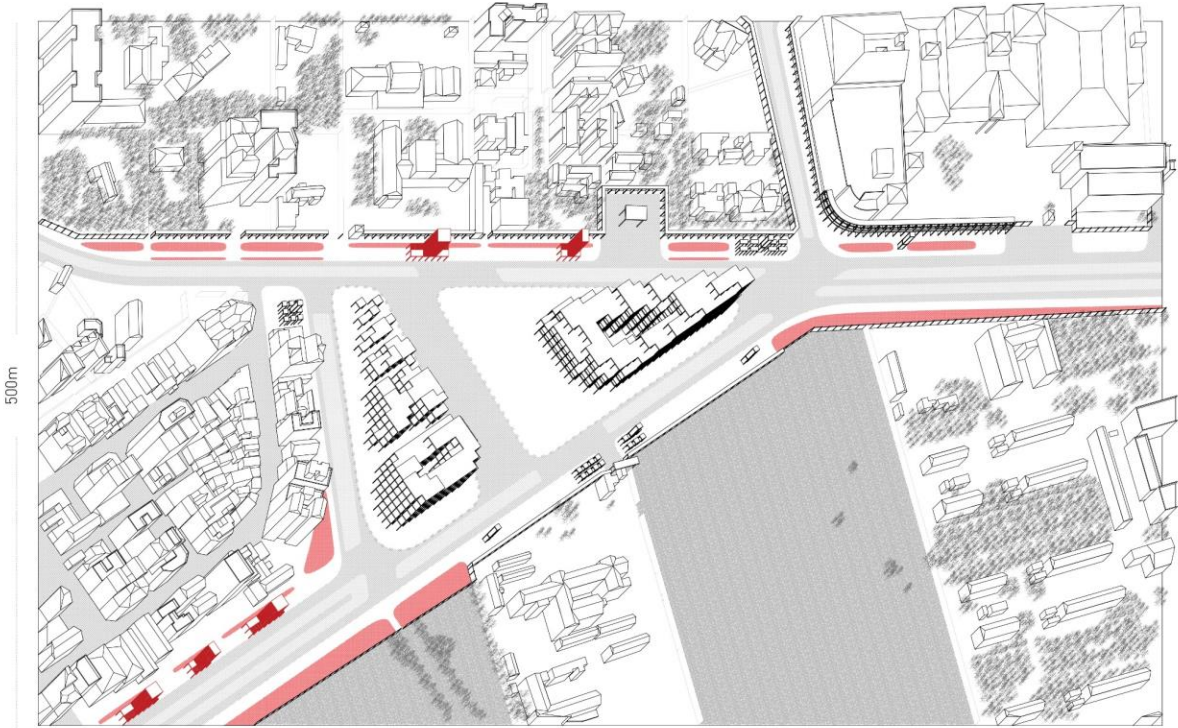


Junction I Proposed Traffic Space

JUNCTION I HARD AND SOFT SPACE



- hard buffer space based on local indicators
- medium buffer space based on local indicators
- soft buffer space based on local indicators

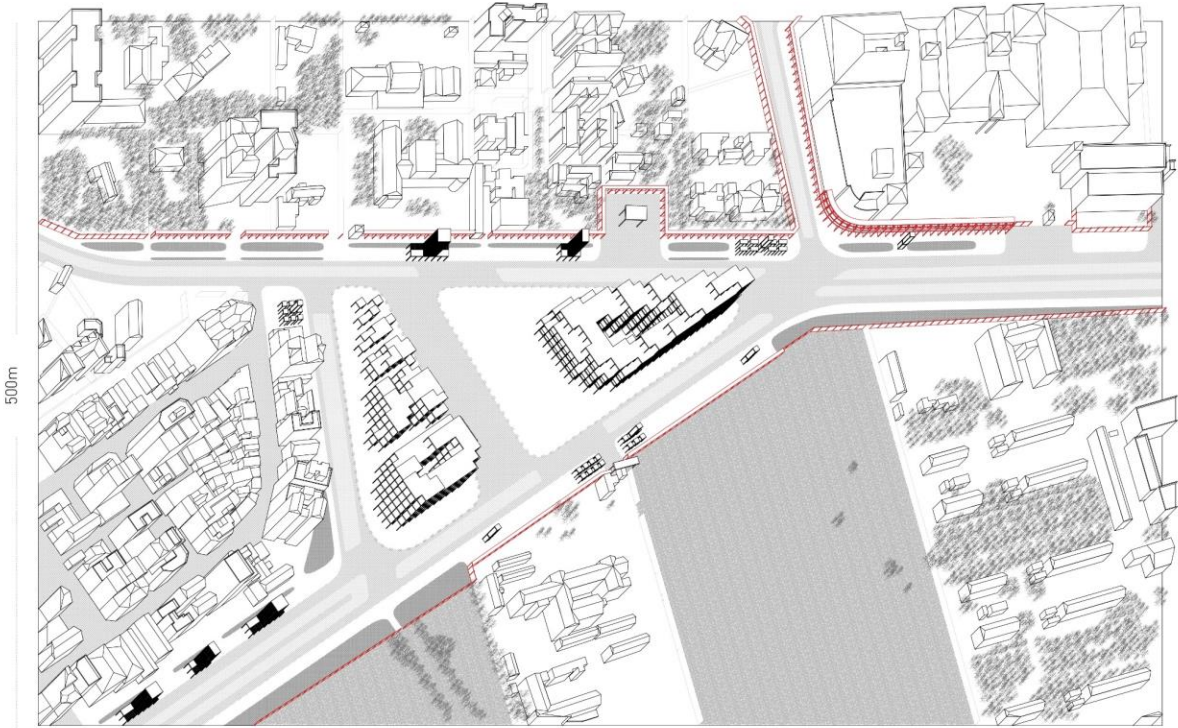


Junction I Proposed Buffer Space

JUNCTION I HARD AND SOFT SPACE



- hard threshold space based on local indicators
- medium threshold space based on local indicators
- soft threshold space based on local indicators

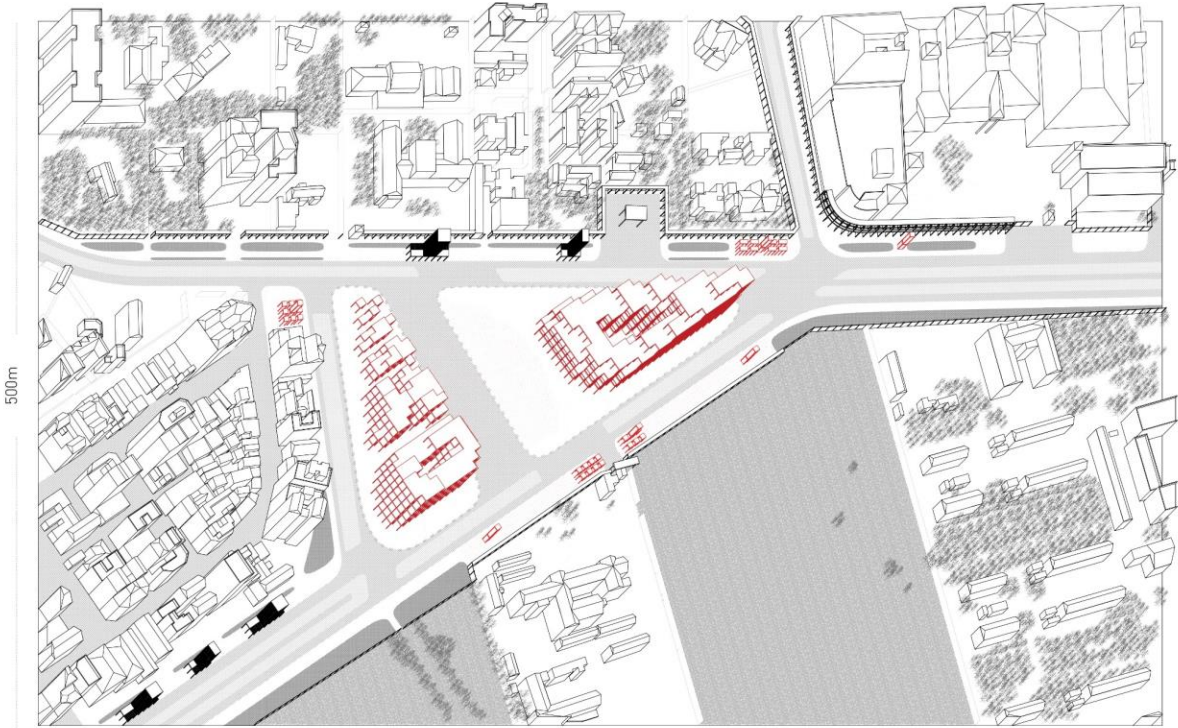


Junction I Proposed Threshold Space

JUNCTION I HARD AND SOFT SPACE

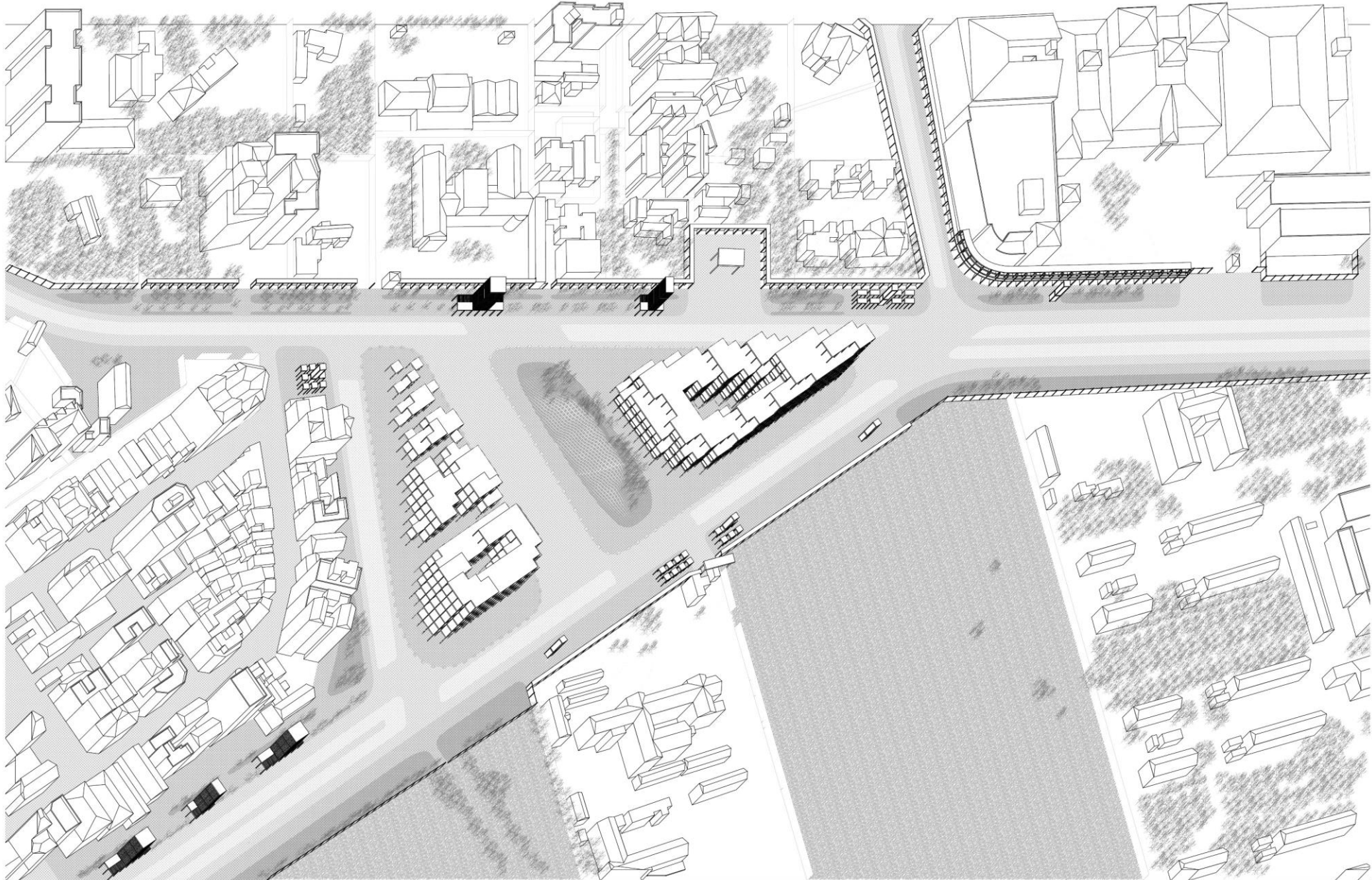


- hard market space based on local indicators
- medium market space based on local indicators
- soft market space based on local indicators

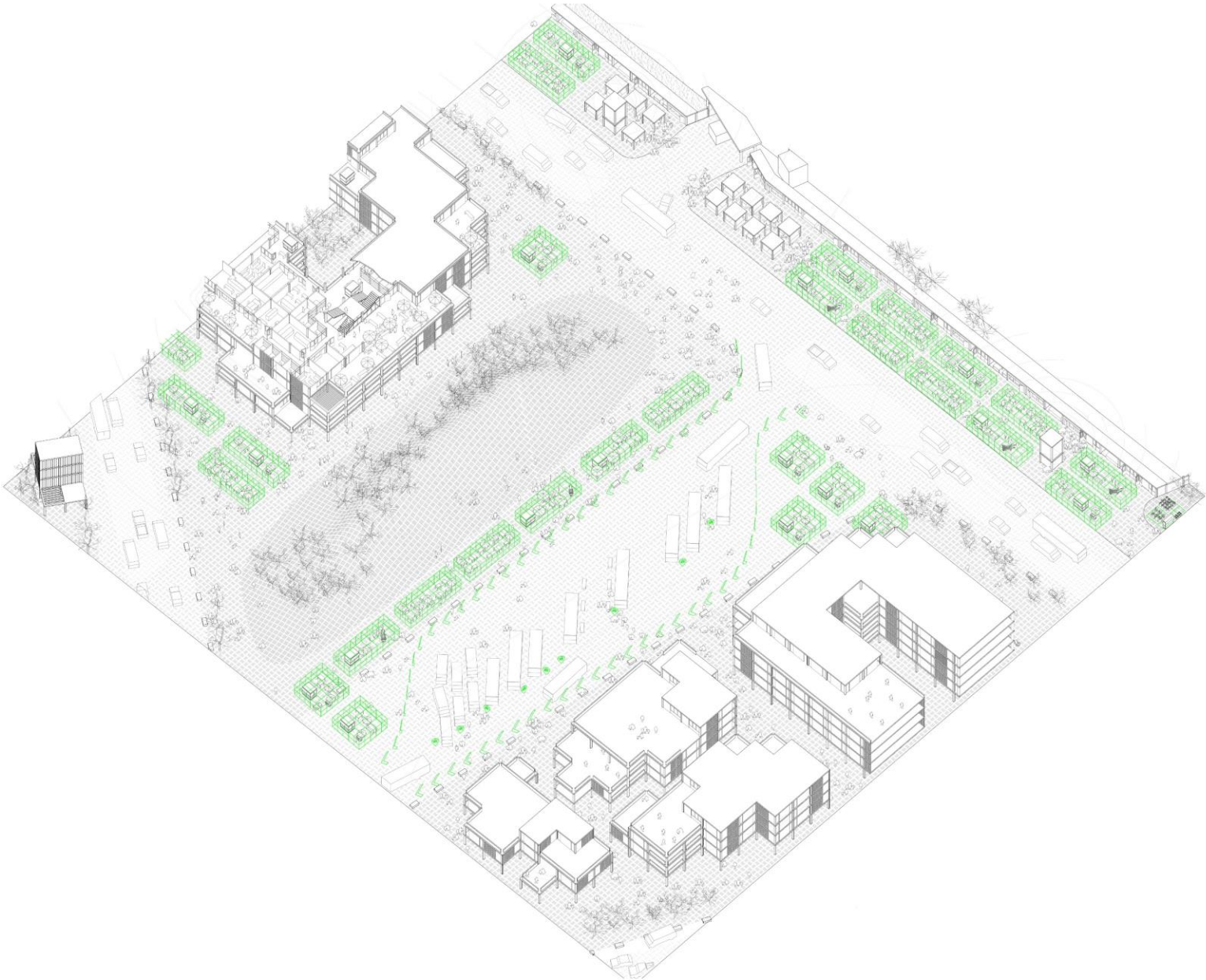


Junction I Proposed Market Space

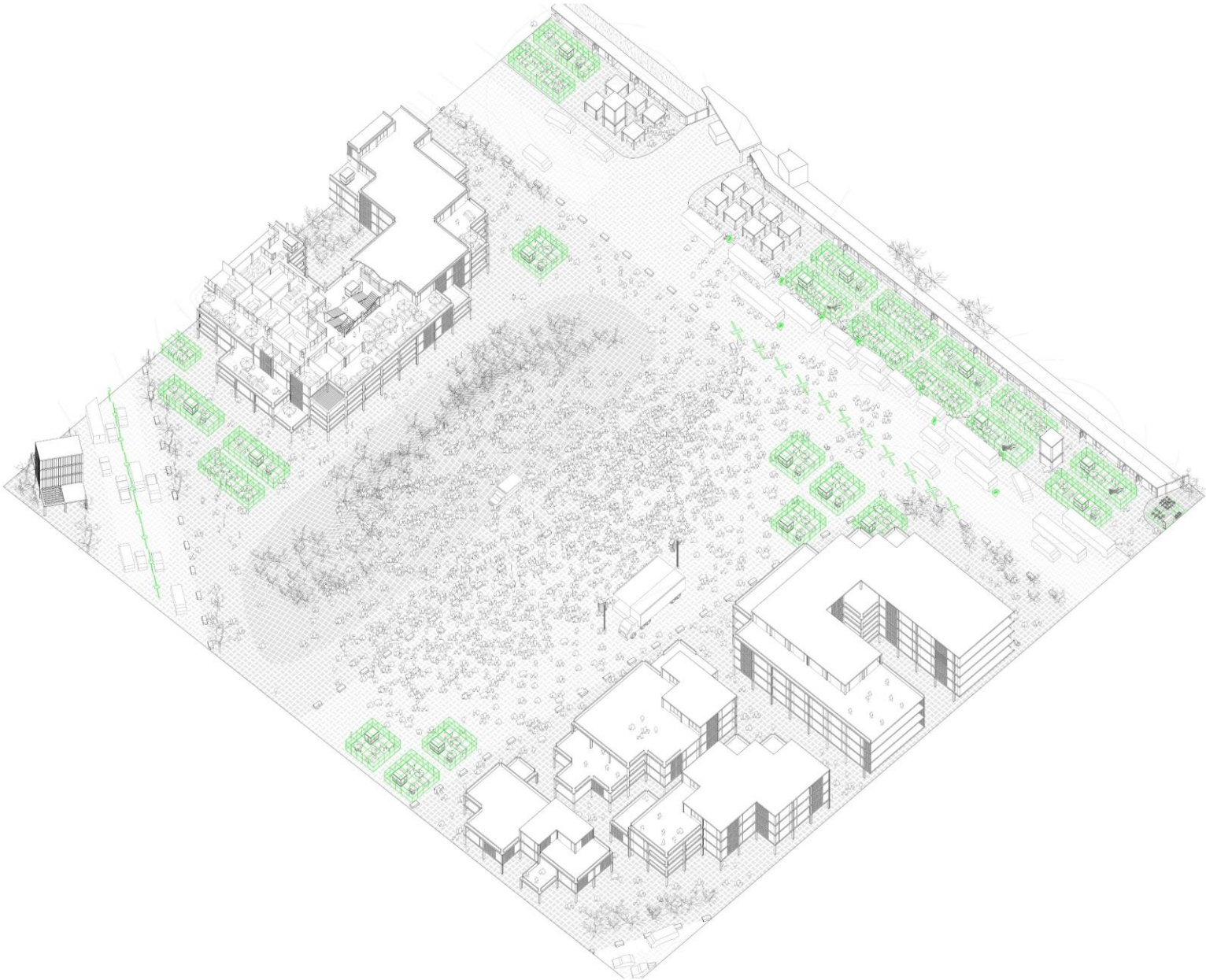
JUNCTION I MASTER PLAN



JUNCTION | USAGE SCENARIO BUS TERMINAL



JUNCTION | USAGE SCENARIO RALLY



MEKINA | STATUS QUO



Mekina | Aerial Photo

MEKINA | STATUS QUO

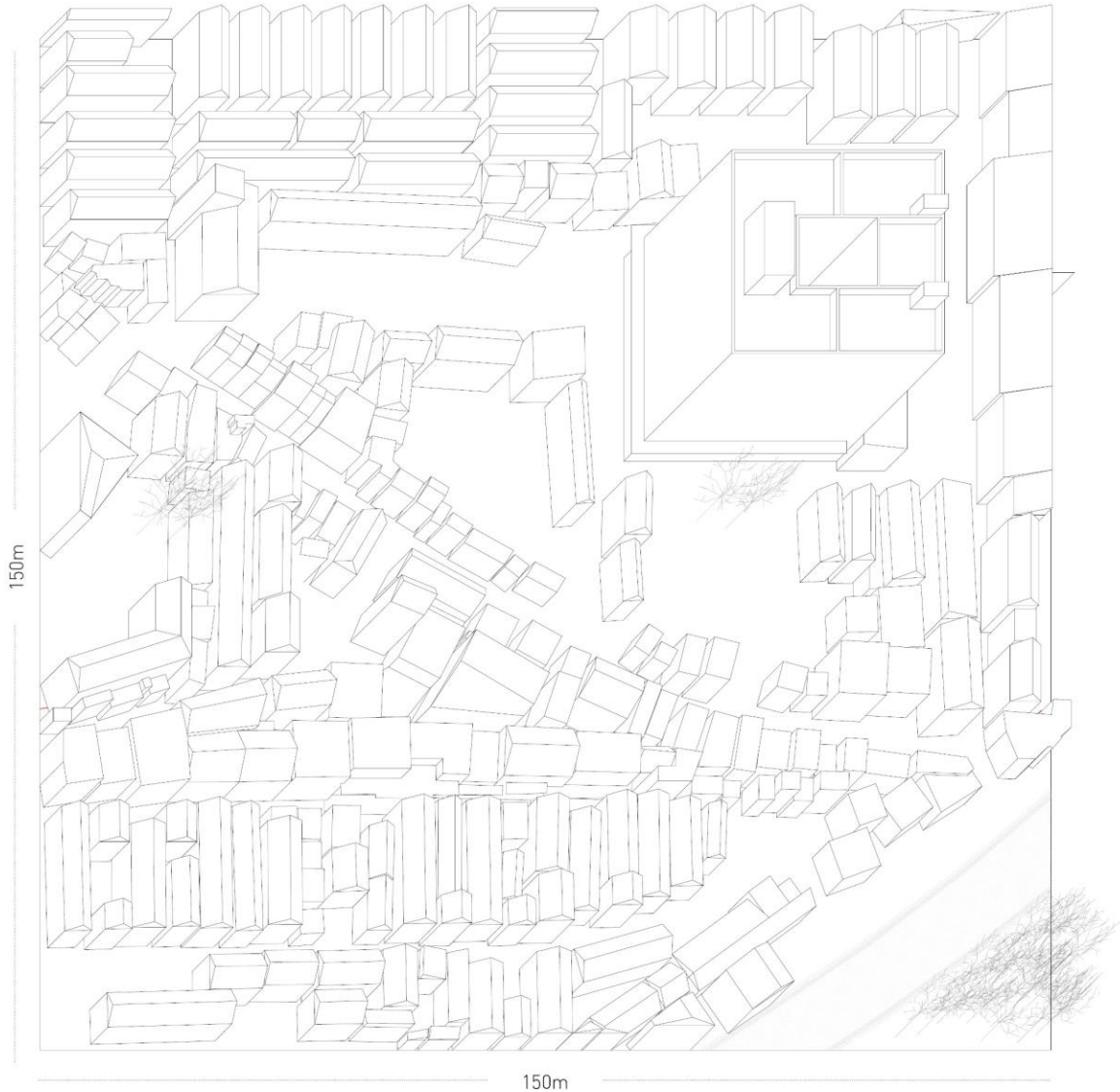


Mekina | View Towards Kibera Drive



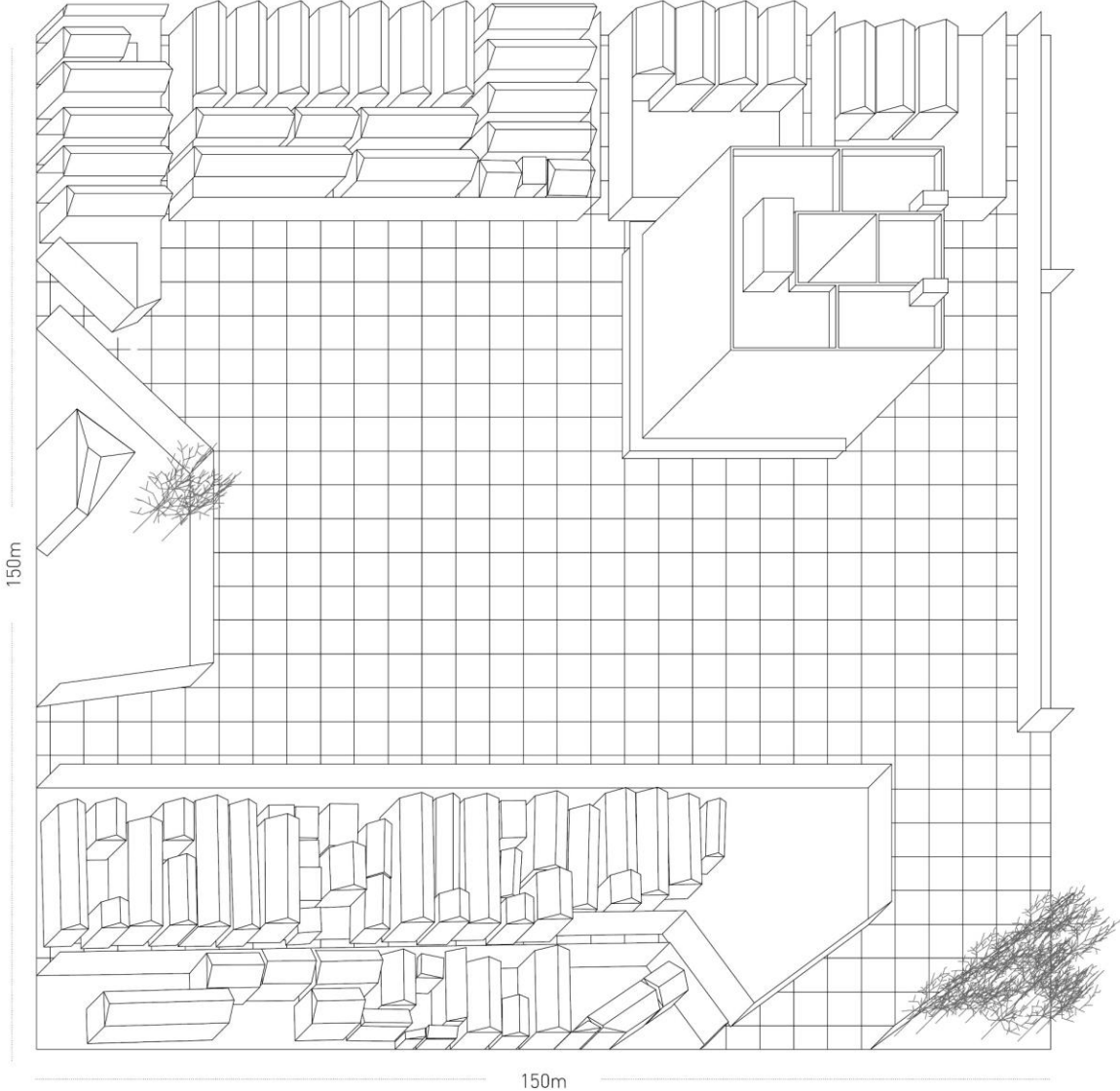
Mekina | At Toi Market

MEKINA | STATUS QUO



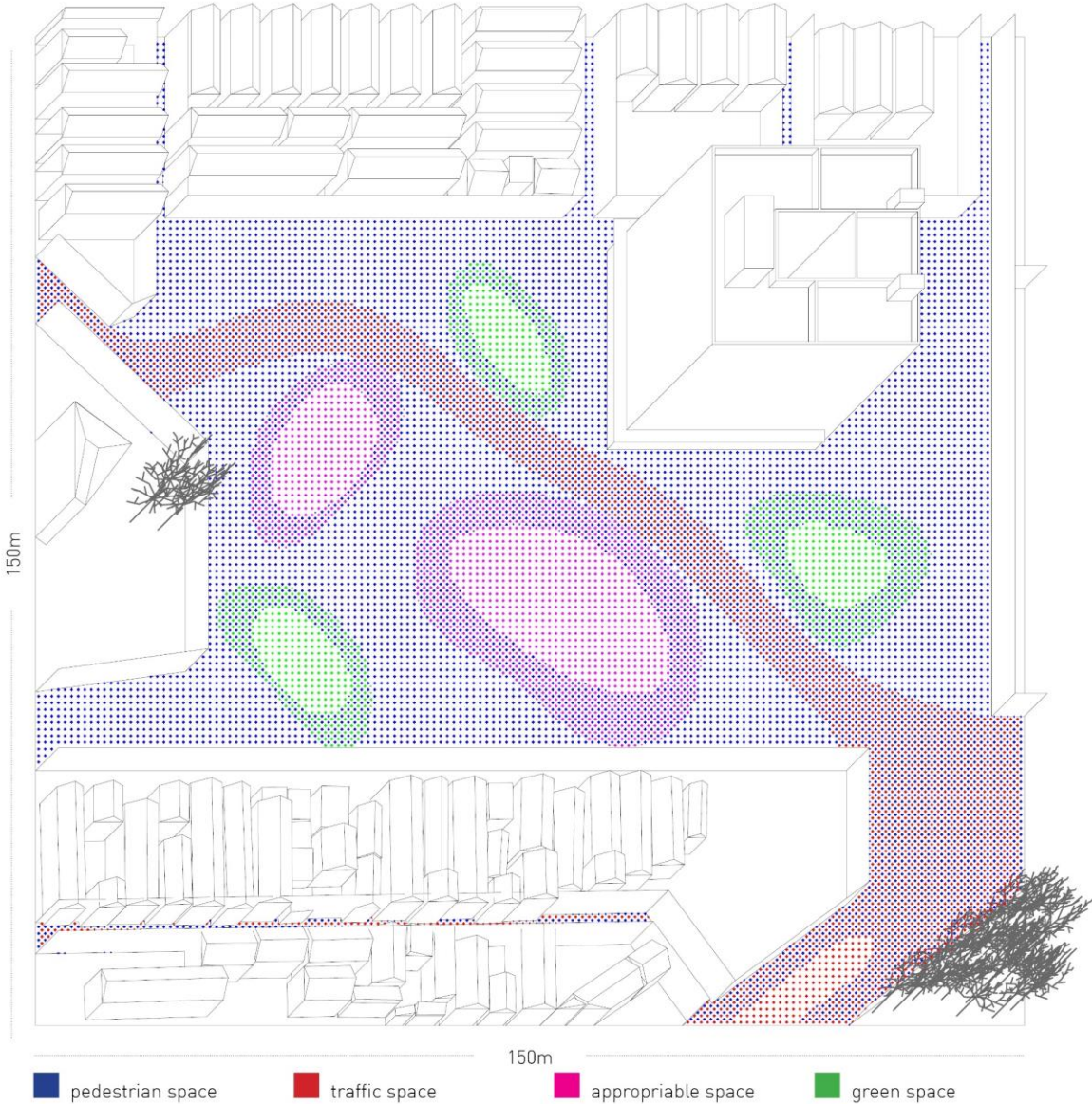
Mekina | Status Quo

MEKINA | TABULA RASA



Mekina | Tabula Rasa

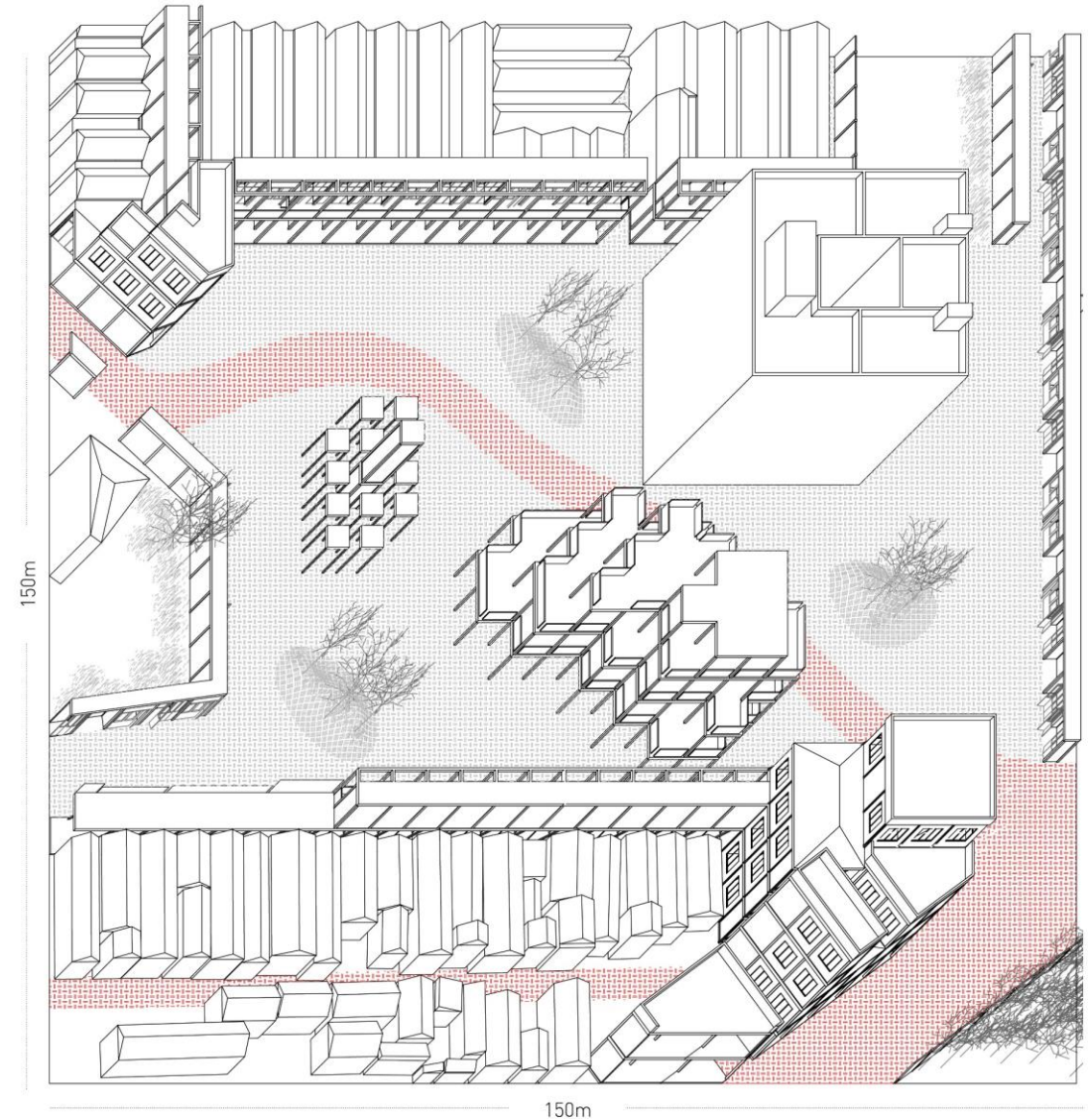
MEKINA | DYNAMIC ZONING



MEKINA | HARD AND SOFT SPACE






- hard traffic space based on local indicators
- medium traffic space based on local indicators
- soft traffic space based on local indicators

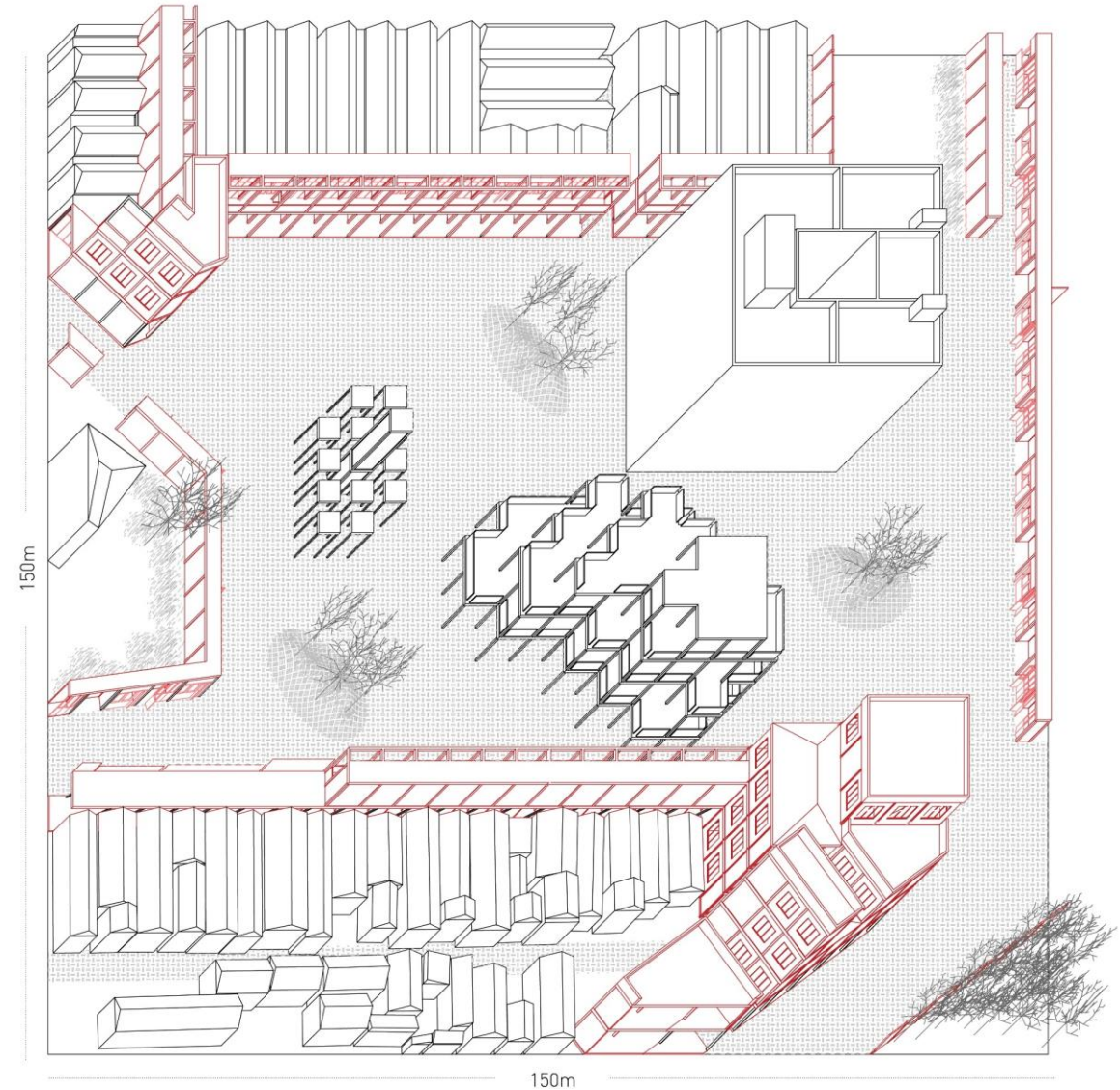


Mekina | Proposed Traffic Space

MEKINA | HARD AND SOFT SPACE

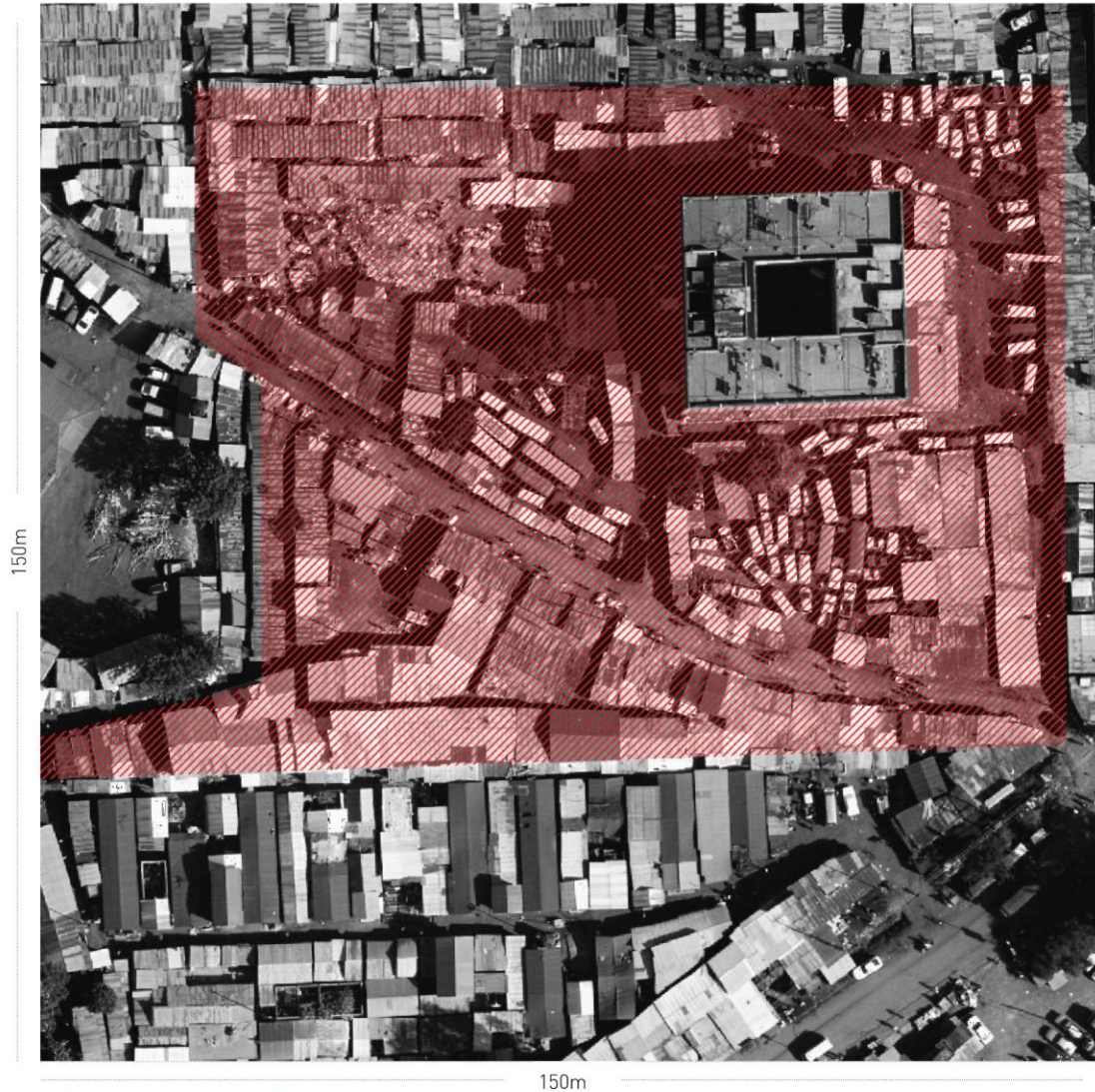




-  hard threshold space based on local indicators
-  medium threshold space based on local indicators
-  soft threshold space based on local indicators

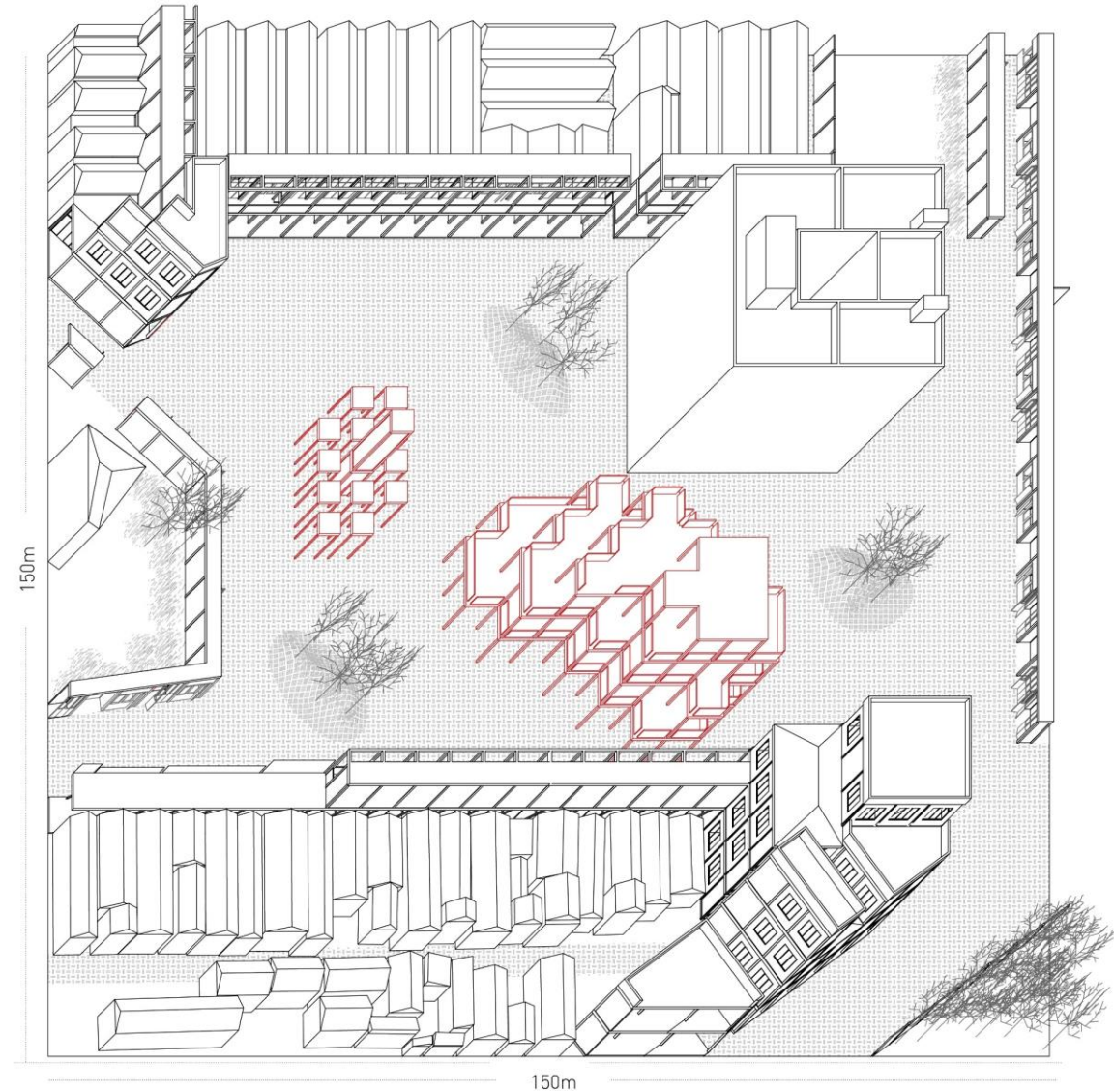


Mekina | Proposed Threshold Space

MEKINA | HARD AND SOFT SPACE

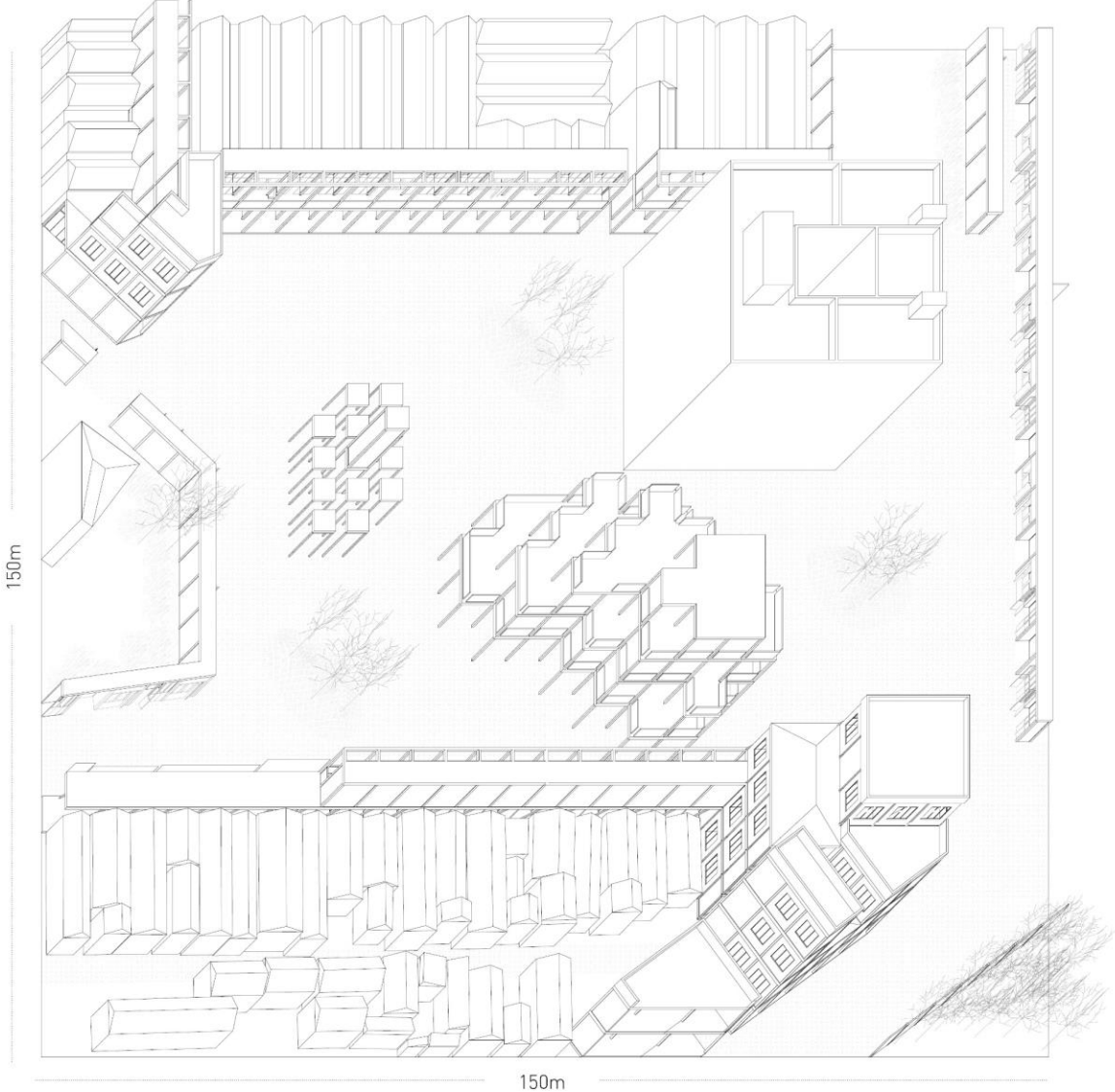


-  hard market space based on local indicators
-  medium market space based on local indicators
-  soft market space based on local indicators

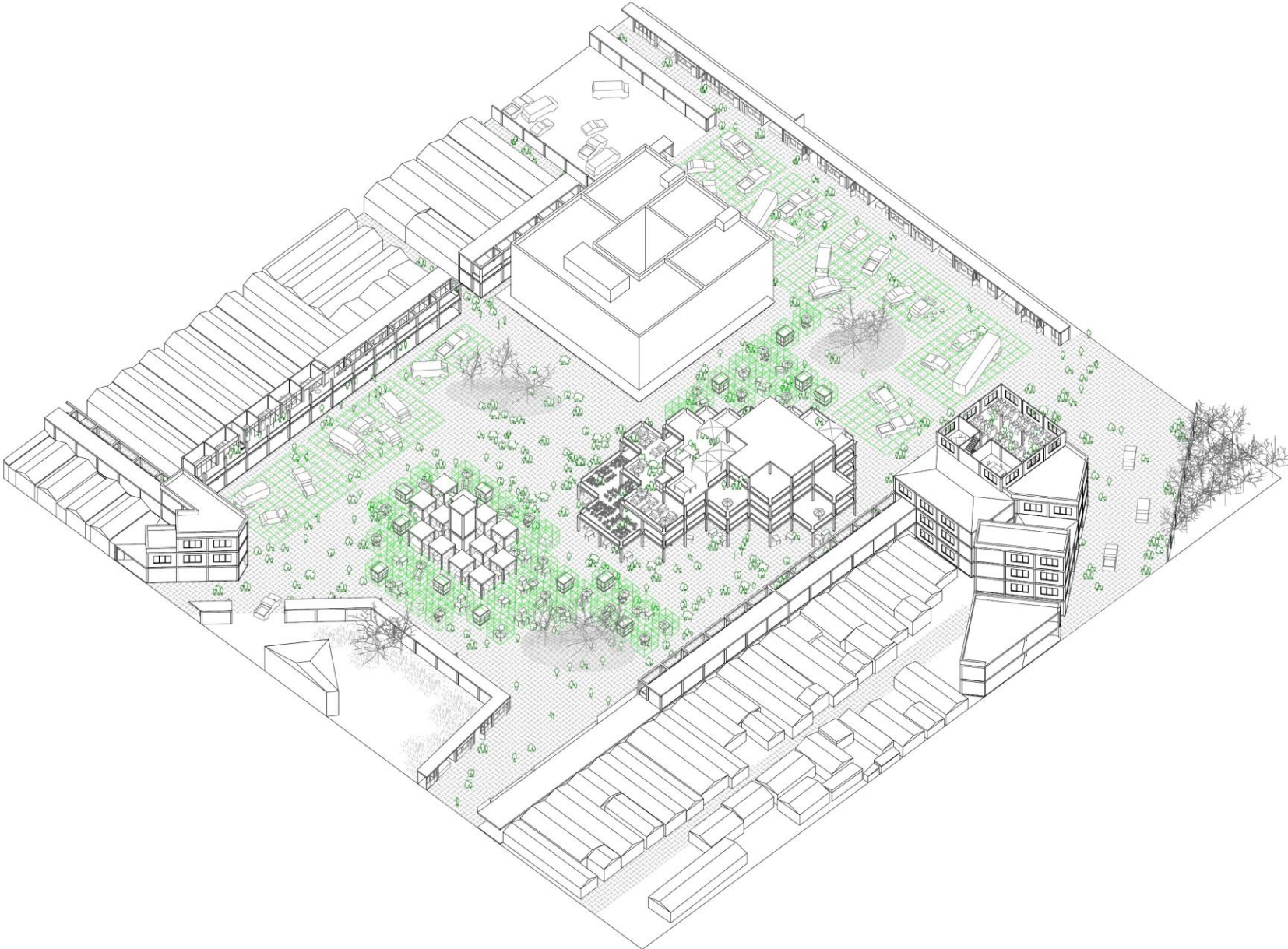


Mekina | Proposed Market Space

MEKINA | MASTER PLAN



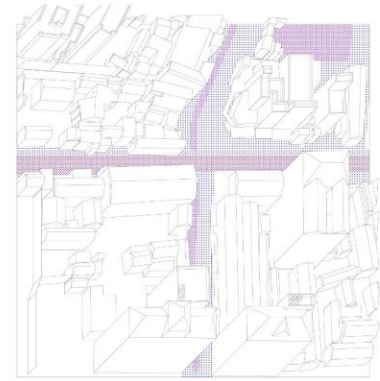
MEKINA | USAGE SCENARIO GARAGE



MEKINA | USAGE SCENARIO MARKET



DESIGNING NGONG ROAD | TRANSFERABILITY OF THE APPROACH



RESEARCH
VISION
CONCEPT
CASES
CHARACTER
BECOMING

NGONG ROAD IS NOT A ROAD
CODIFYING NAIROBI'S *JUA KALI*
HARD AND SOFT SPACE
DESIGNING NGONG ROAD
FROM PLAN TO SPACE
ARRIVING TO A NEW NAIROBI

CHARACTER | PUBLIC SPACE AS AN ENGINEER'S ENDEAVOUR



CHARACTER | A MATERIAL LANGAGE FOR NAIROBI



A | GRASS PAVERS



B | RED IN-SITU CONCRETE

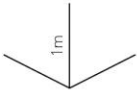
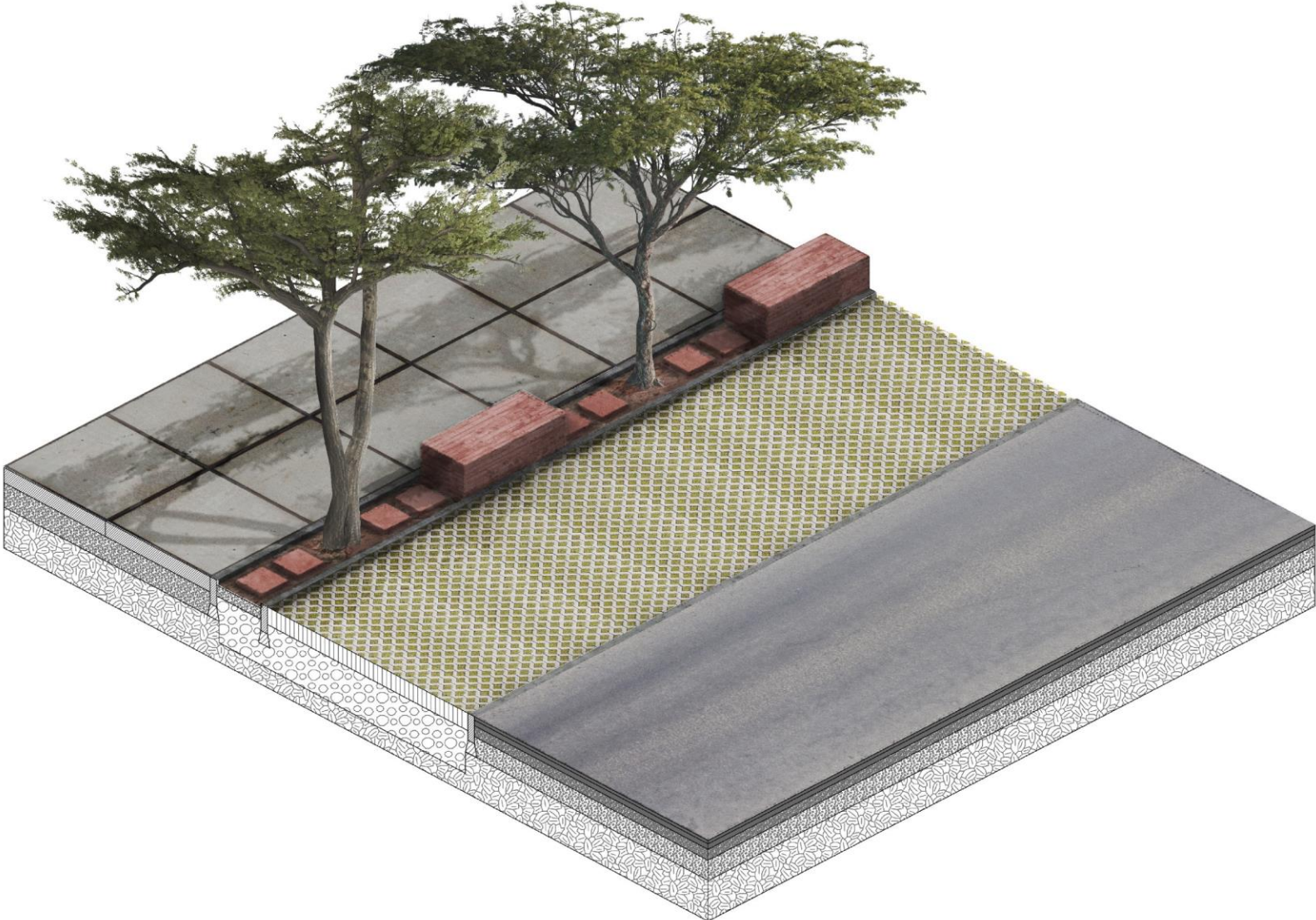


C | STELCON SLAB

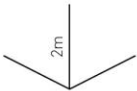


D | CONCRETE BLOCKS

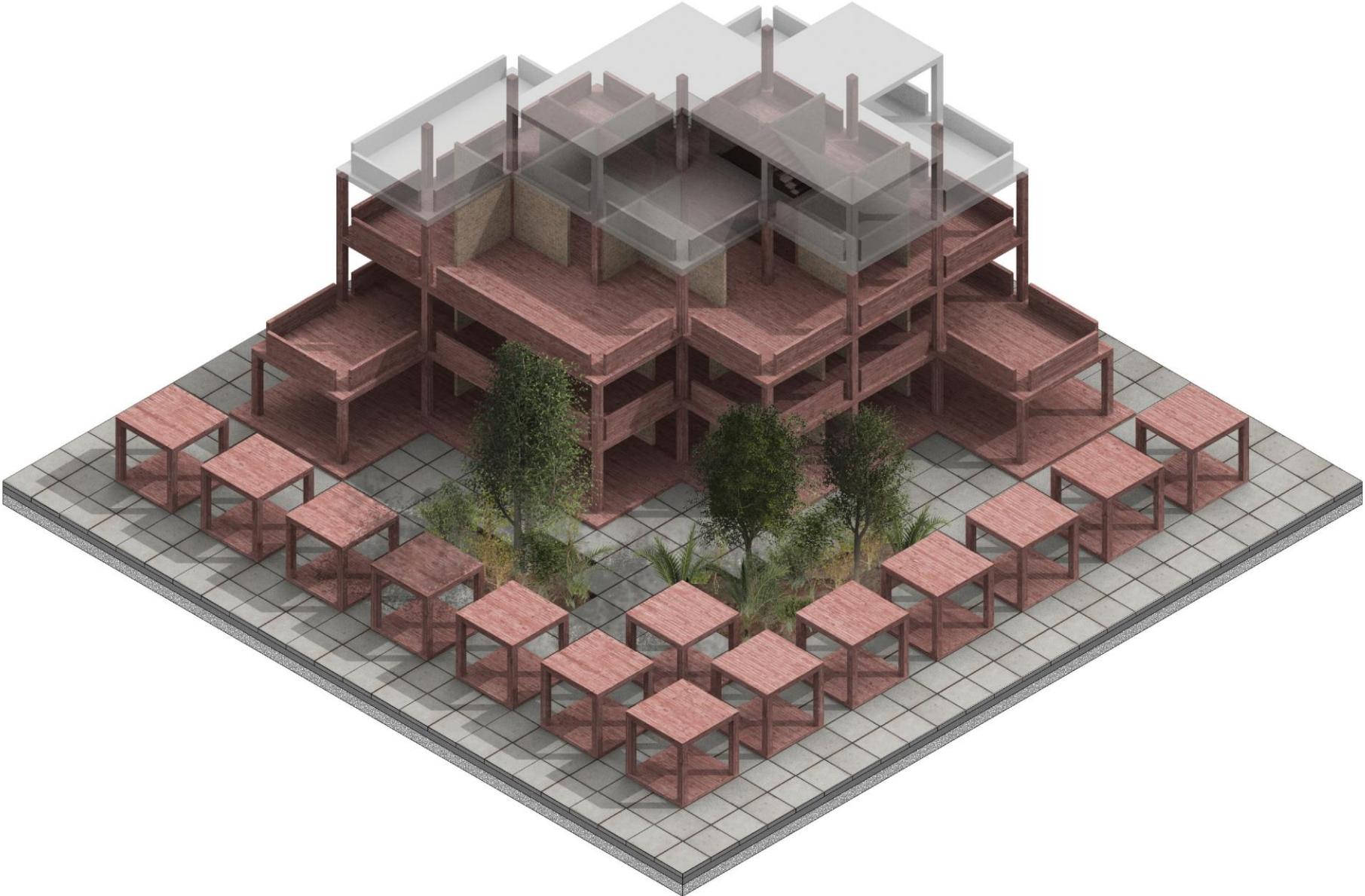
MATERIALITY | TRAFFIC SPACE



MATERIALITY | THRESHOLD SPACE



MATERIALITY | MARKET SPACE

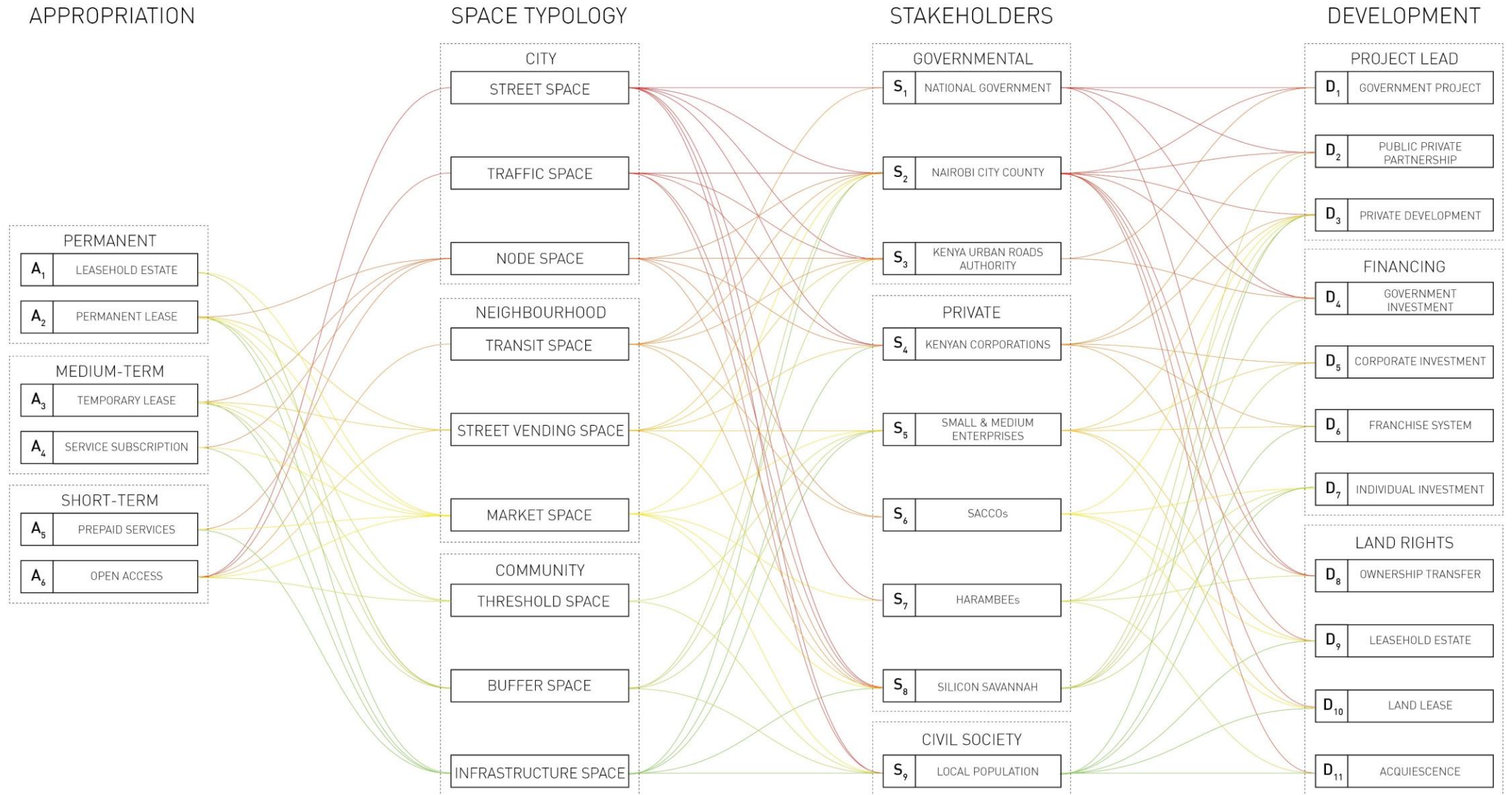


THE NEW NGOG ROAD | IDEALISED IMPRESSION



the New Ngong Road | ideal perspective of physical space towards Adams with appropriation ghosted

IMPLEMENTATION | THE COMPLEXITY OF KENYAN POLITICS



THE NEW NNGOG ROAD | REALISTIC IMPRESSION

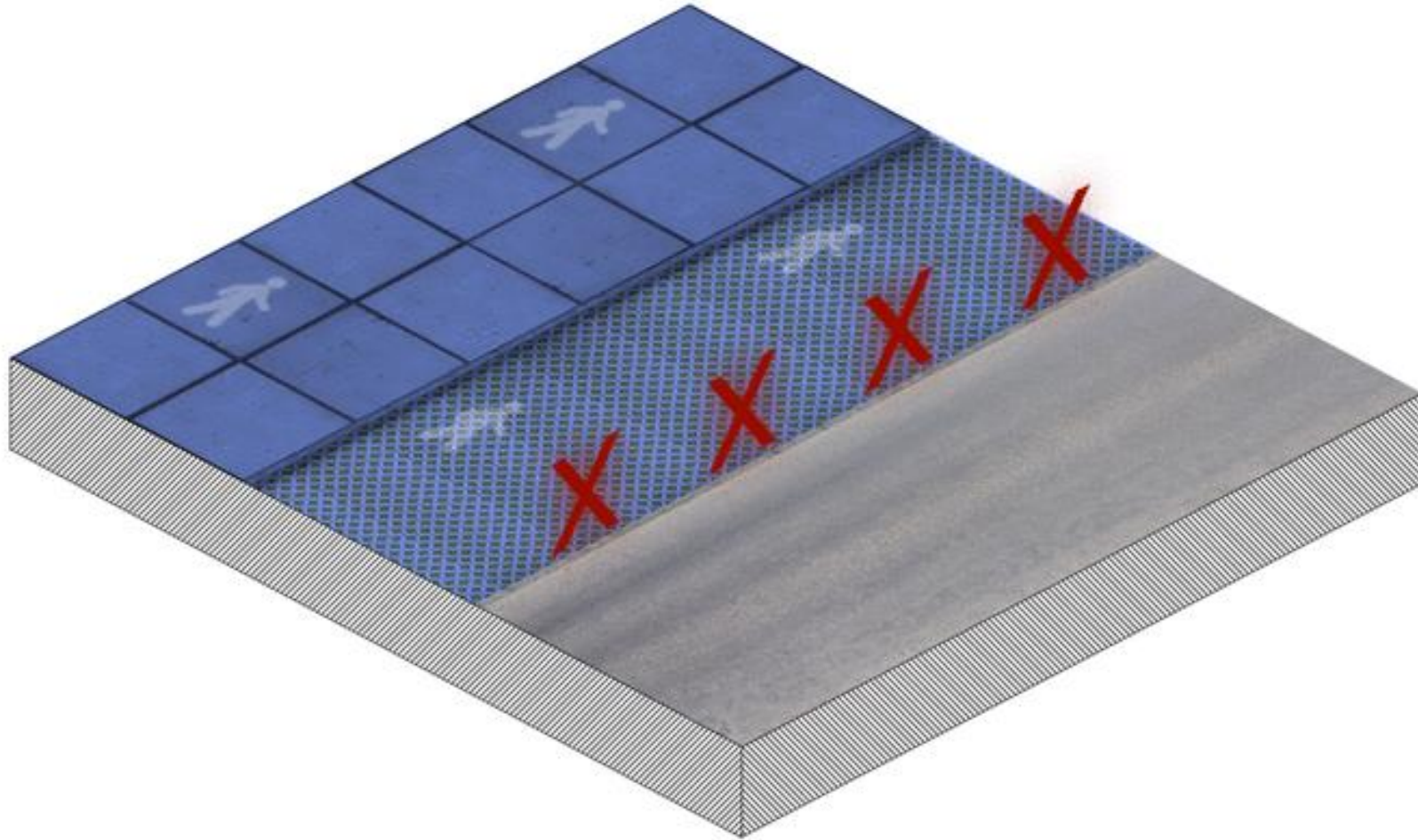


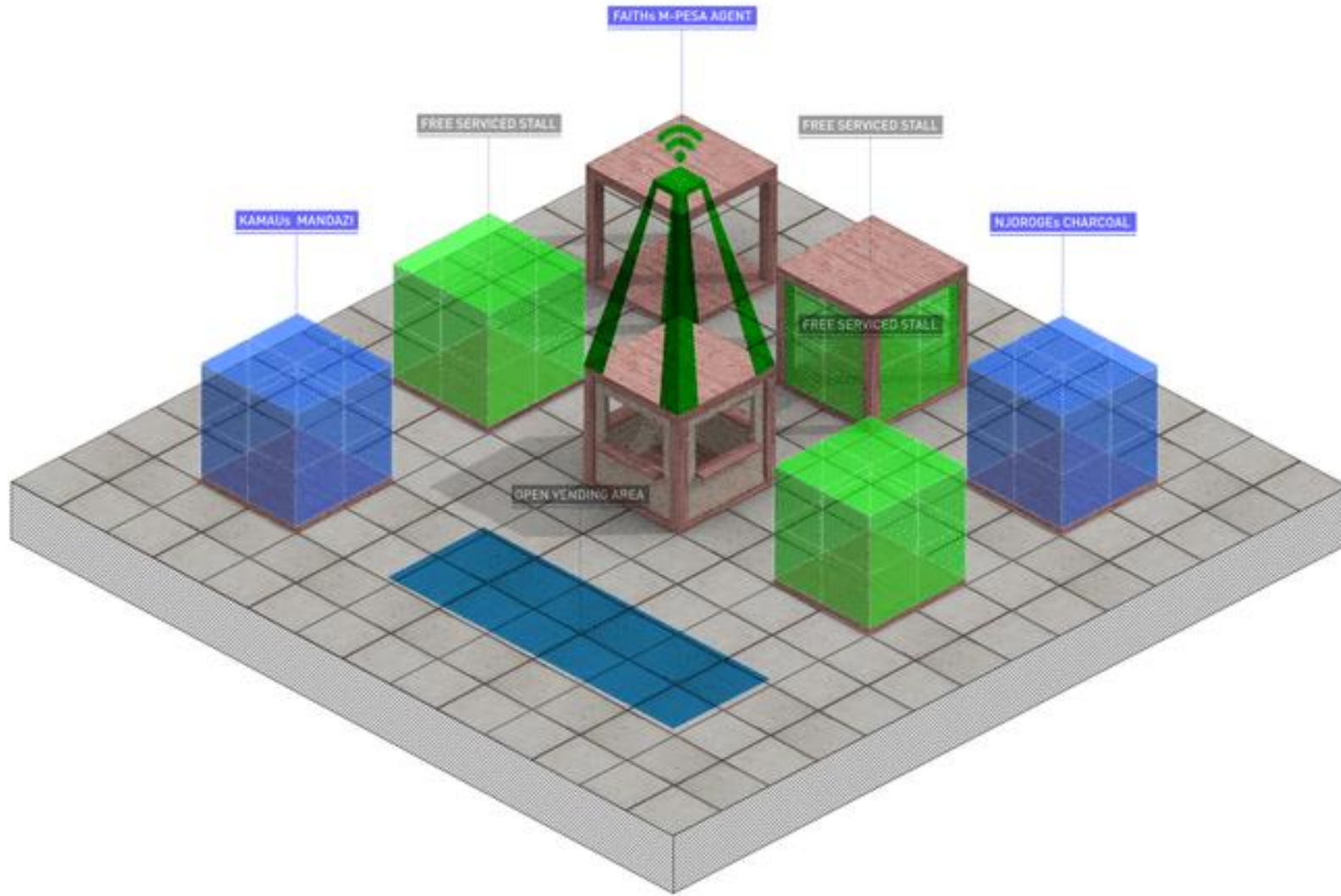
the New Ngong Road | realistic perspective of physical space towards Adams preconceiving failure during implementation

THE NEW NNGOG ROAD | AUGMENTED IMPRESSION



the New Ngong Road I using augmented reality as a prosthesis to the exiting design

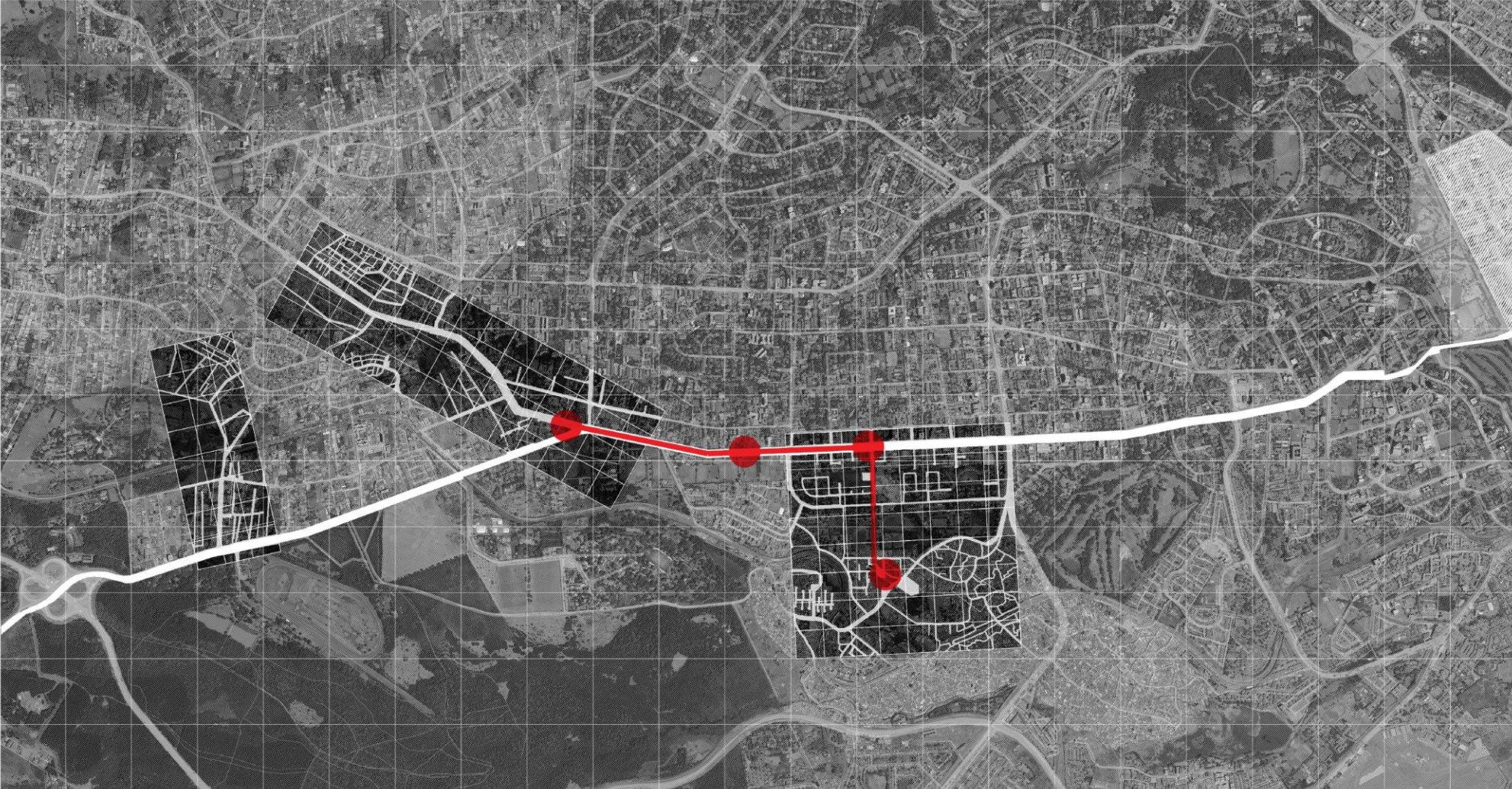




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ARRIVING TO A NEW NAIROBI

VISION | ARRIVING TO A NEW NAIROBI



Case Sites | Junction | Mekina



AT THE BUS TERMINAL | IMPRESSION



AT THE BUS TERMINAL | DIGITAL SPACE



AT THE BUS TERMINAL | PHYSICAL SPACE



IN THE MATATU | IMPRESSION



IN THE MATATU | DIGITAL SPACE



IN THE MATATU | PHYSICAL SPACE



ON THE STREET | IMPRESSION



ON THE STREET | DIGITAL SPACE



ON THE STREET | PHYSICAL SPACE



ON THE MARKET | IMPRESSION



ON THE MARKET | DIGITAL SPACE



ON THE MARKET | PHYSICAL SPACE



ROOM FOR QUESTIONS