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Beyond Spatial Data

Global Frameworks of Evidence-Based Design

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Olivia Poston
Lead Researcher

Norman Foster Foundation

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Olivia Poston
Lead Researcher

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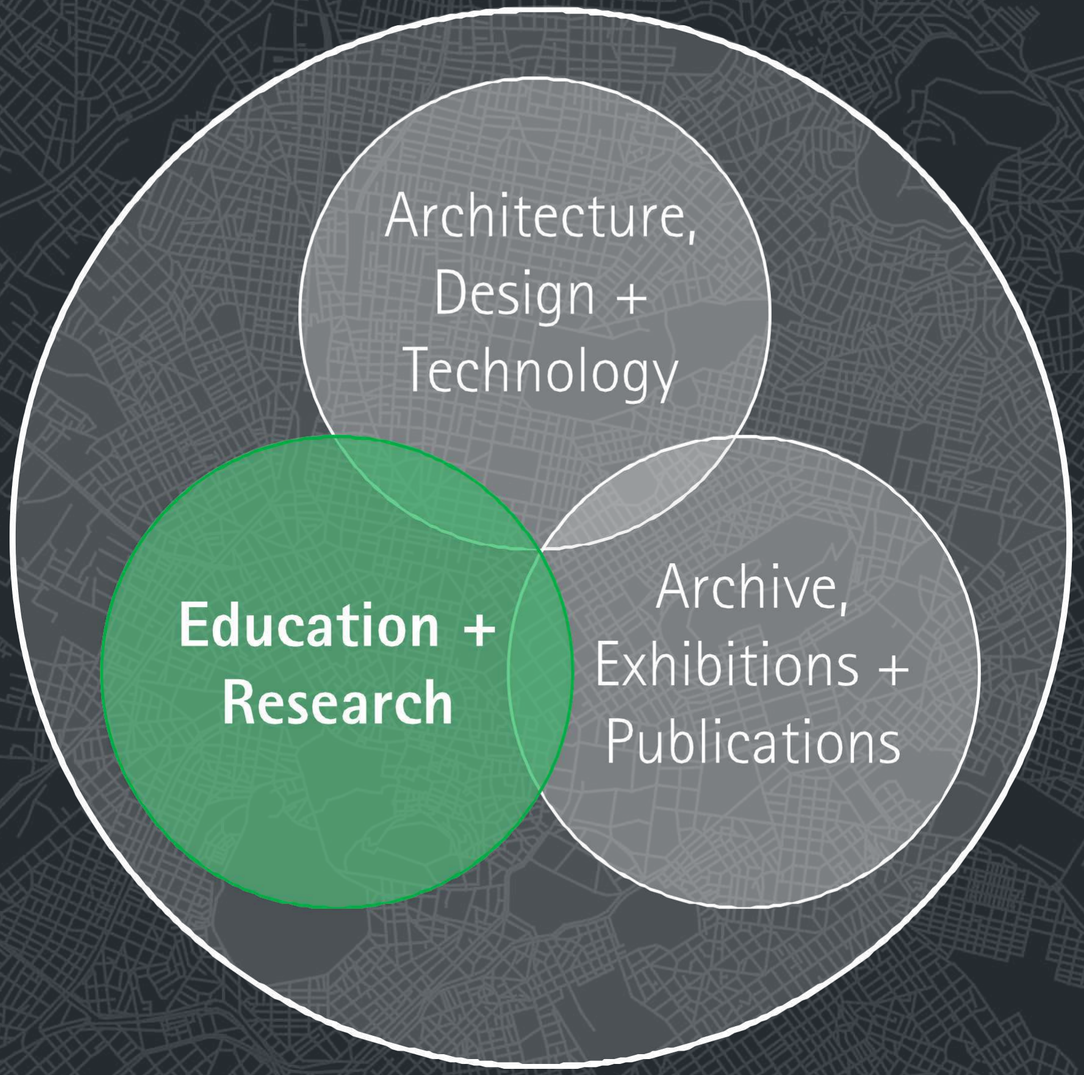

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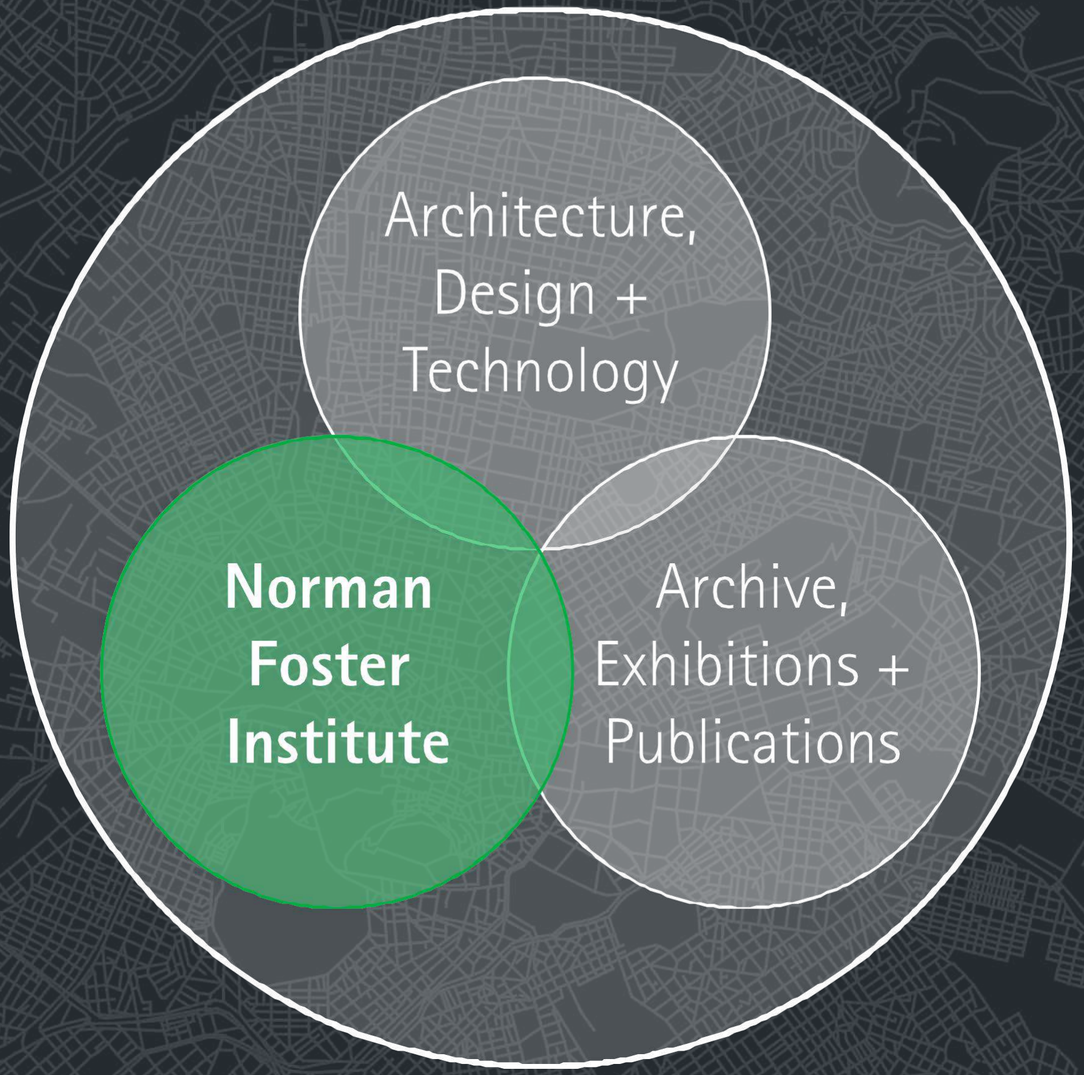

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Lead Researcher

Vision of the Norman Foster Institute

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Centre for City Science

Olivia Poston
Lead Researcher

Methodology

Academia + Research

Practice + Application

Integrating Academia, Research + Practice

Kharkiv Ukraine

Impact Assessment Tool to Measure Urban Planning Development

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Beyond Spatial Data
Reconstruction Plan

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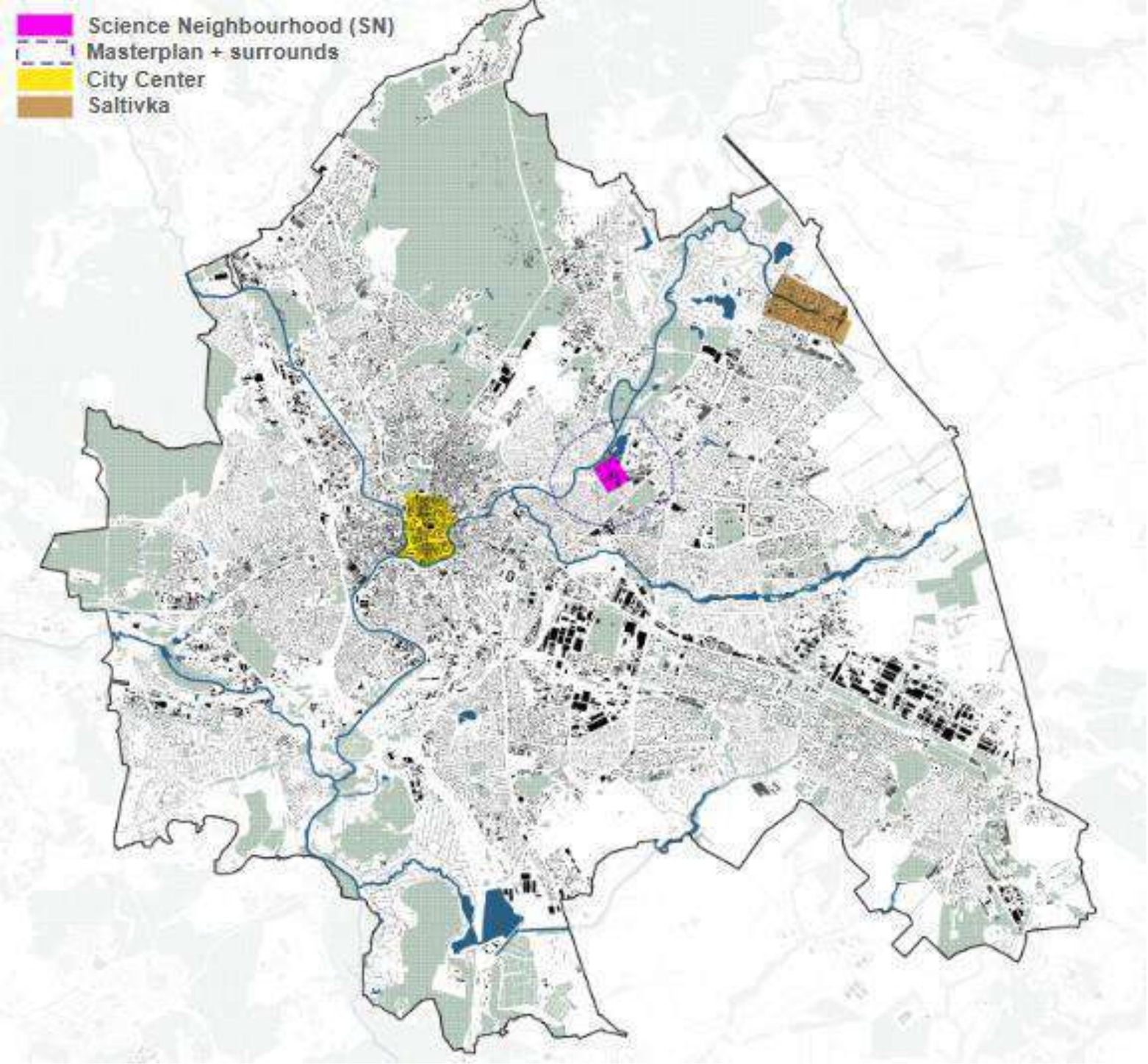
Sites of Masterplan



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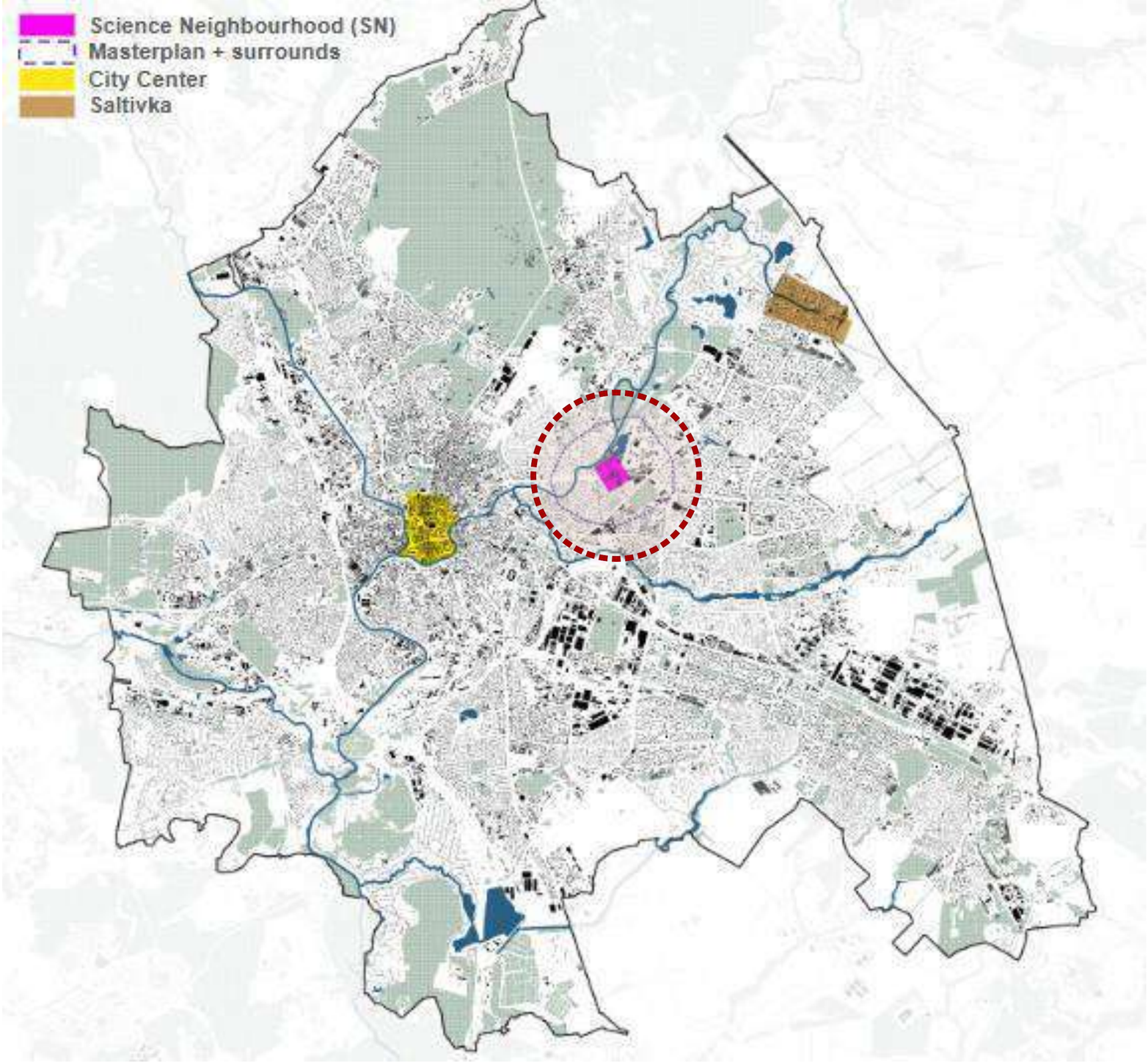
Kharkiv Science Neighbourhood



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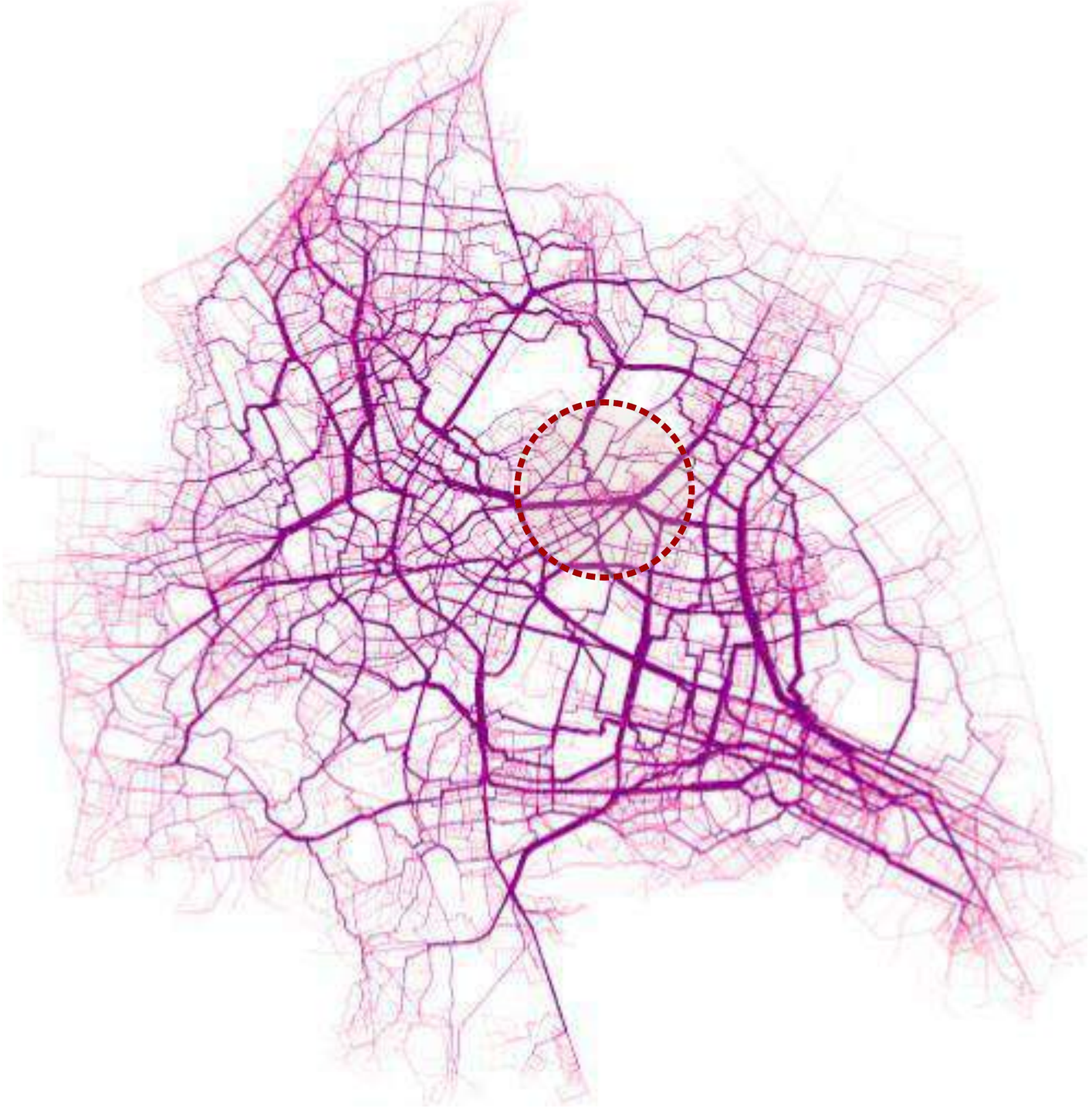
Network Analysis



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Beyond Spatial Data
Existing Conditions

Kharkiv Interactive Tool

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LAND-USE
LAND-USES AREA

VIEW SETTINGS
VISIBILITY SETTINGS

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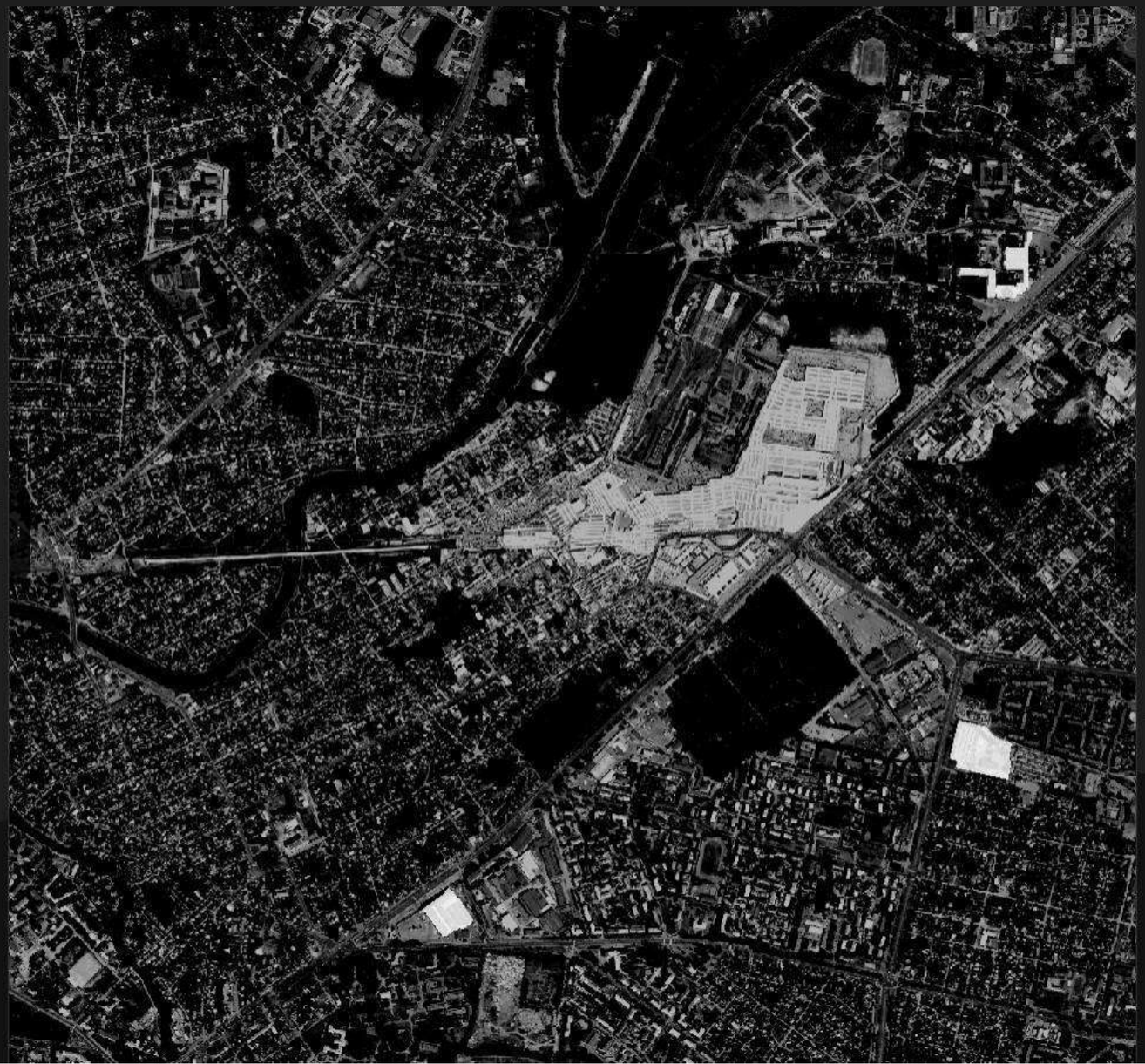
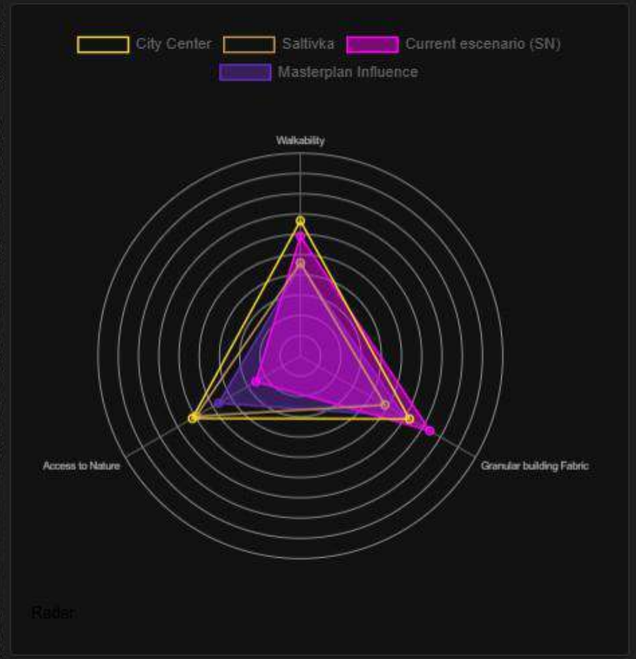


COMPARISONS
KPIS ON AREAS OF INTERESTS



BAR CHART
METRICS AND KPIS

INSIGHTS
DESCRIPTION OF THE DATA

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Beyond Spatial Data
Masterplan Phase 1

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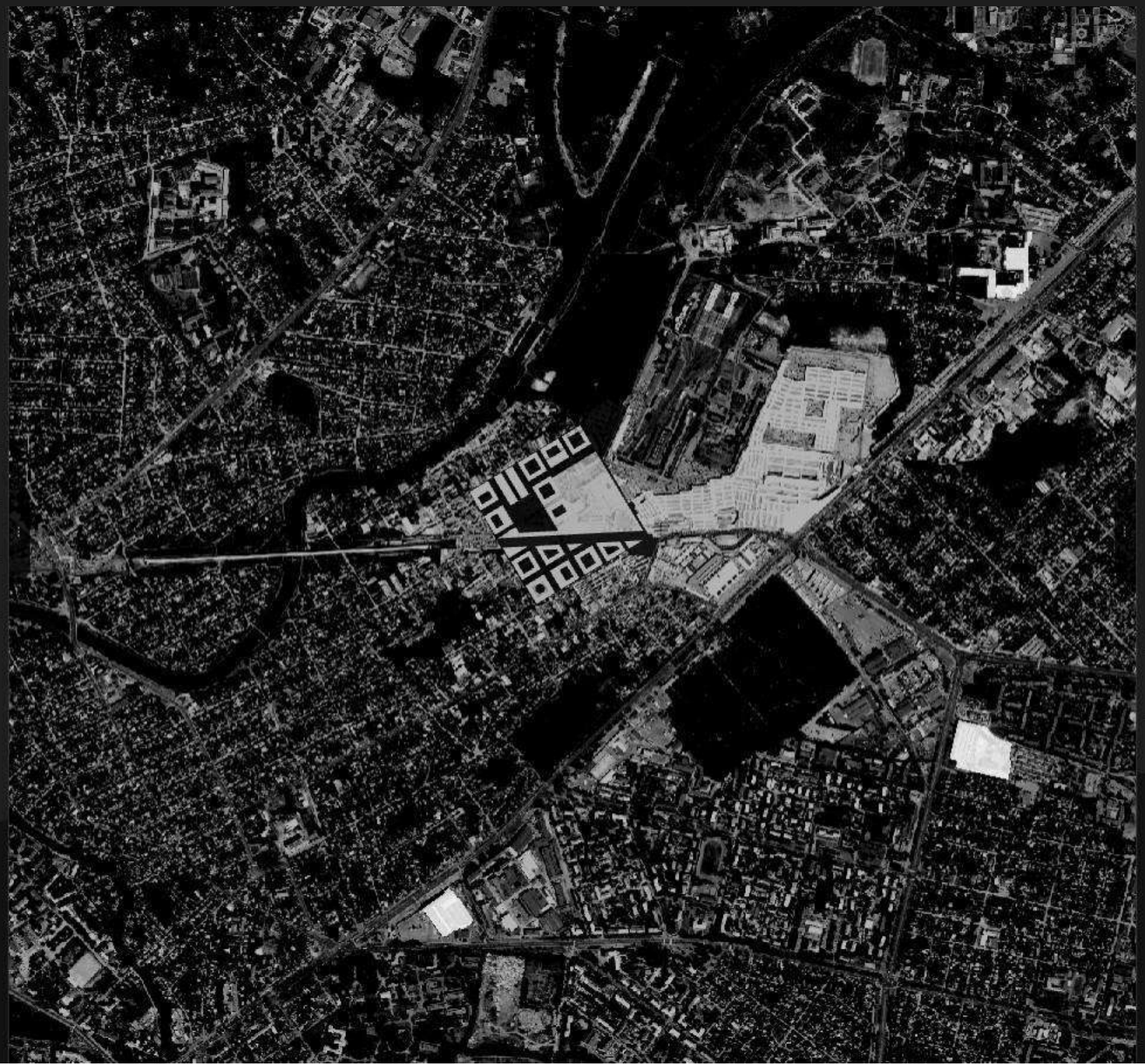
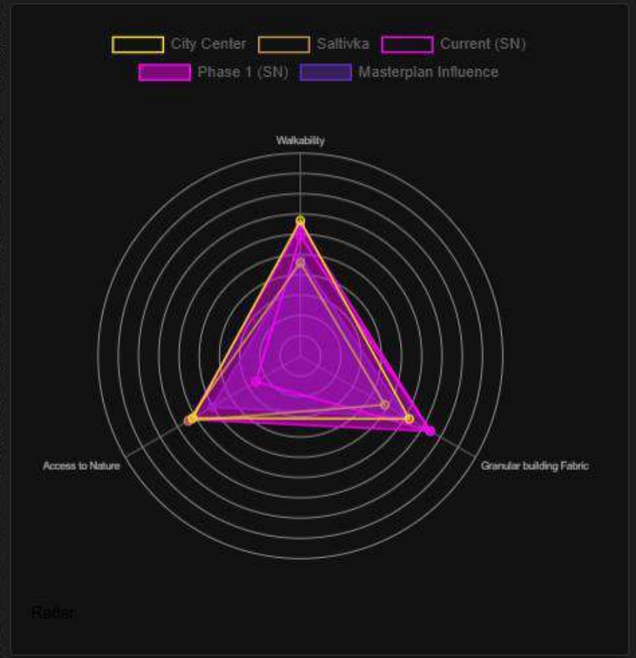


COMPARISONS
KPIS ON AREAS OF INTERESTS



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DESCRIPTION OF THE DATA

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Masterplan Phase 2

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VIEW SETTINGS
VISIBILITY SETTINGS

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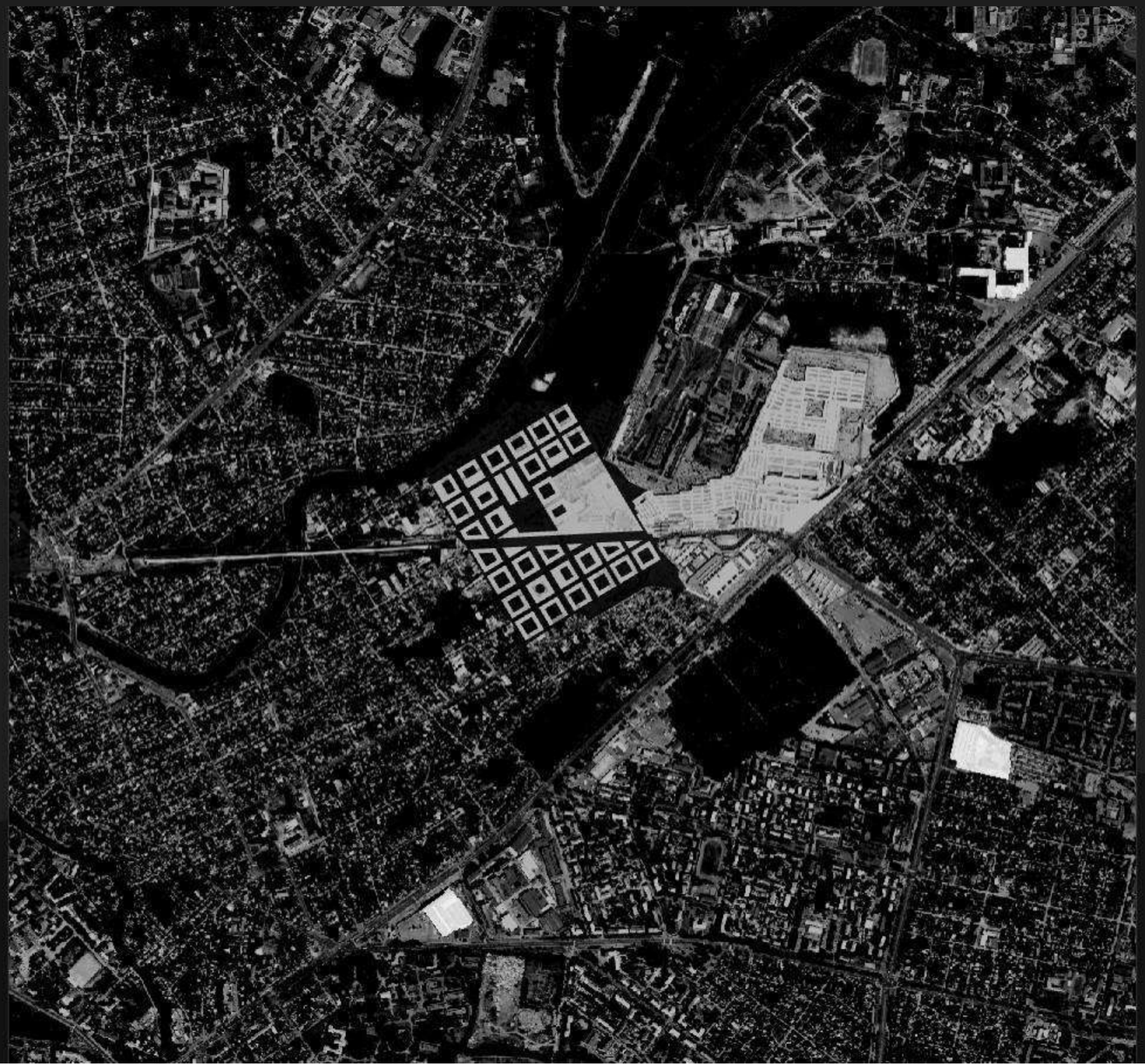
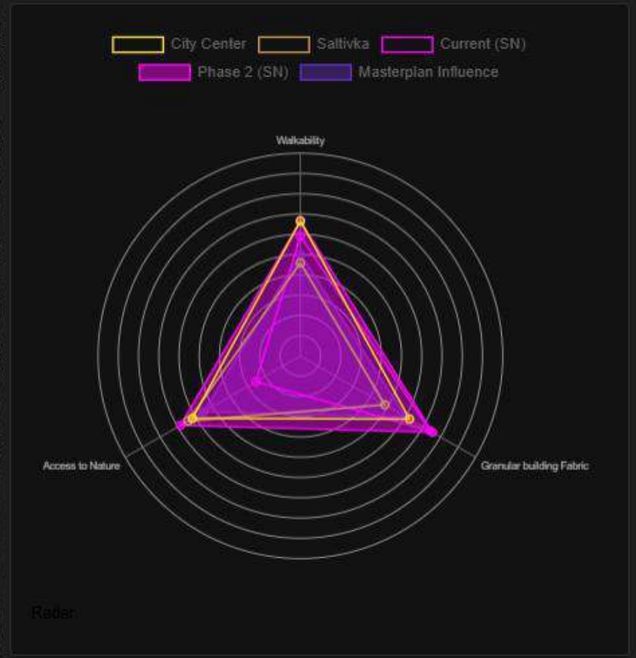


COMPARISONS
KPIS ON AREAS OF INTERESTS



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INSIGHTS
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Beyond Spatial Data
Current Access to Green Space

Kharkiv Interactive Tool

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VIEW SETTINGS
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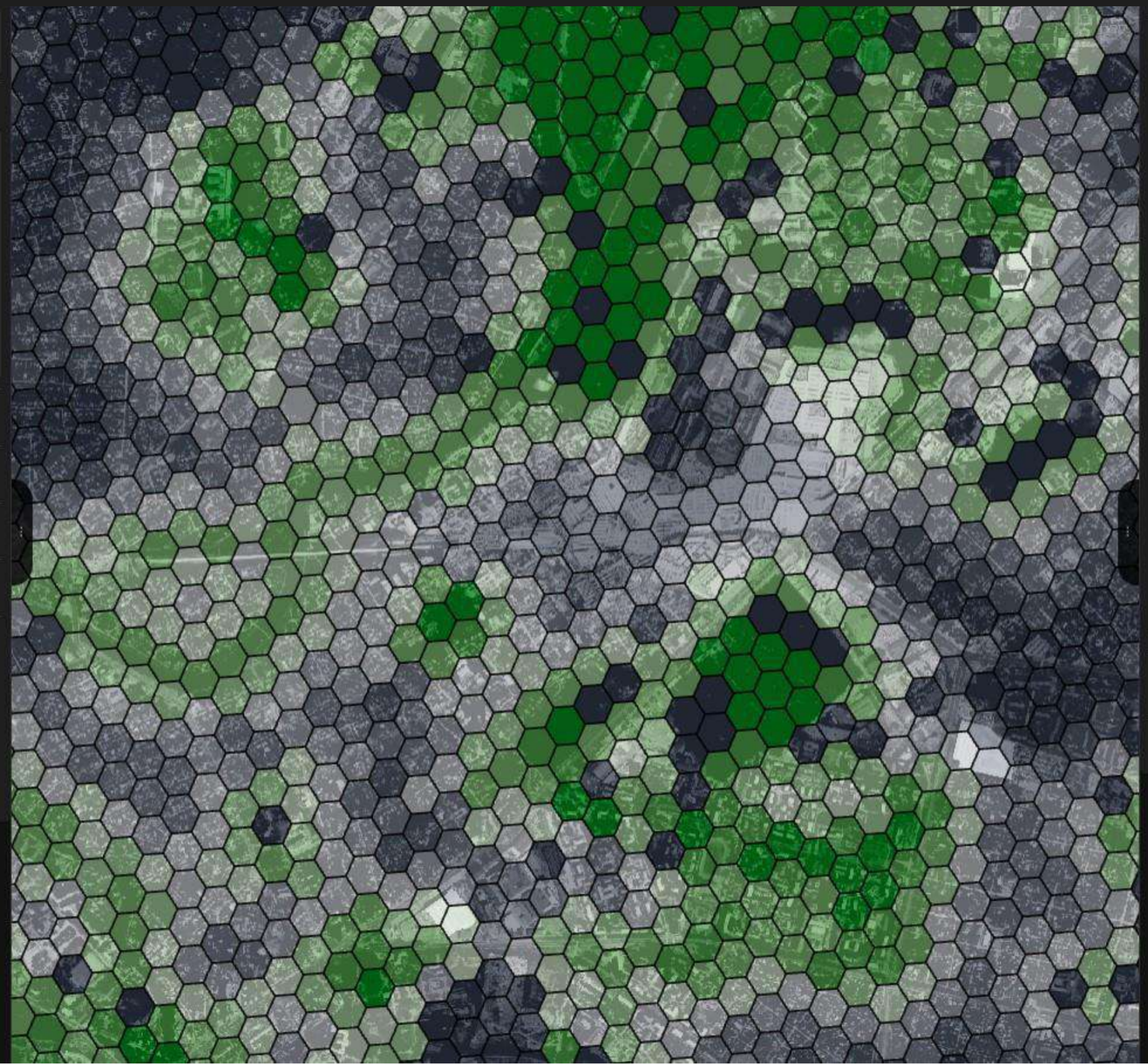

COMPARISONS
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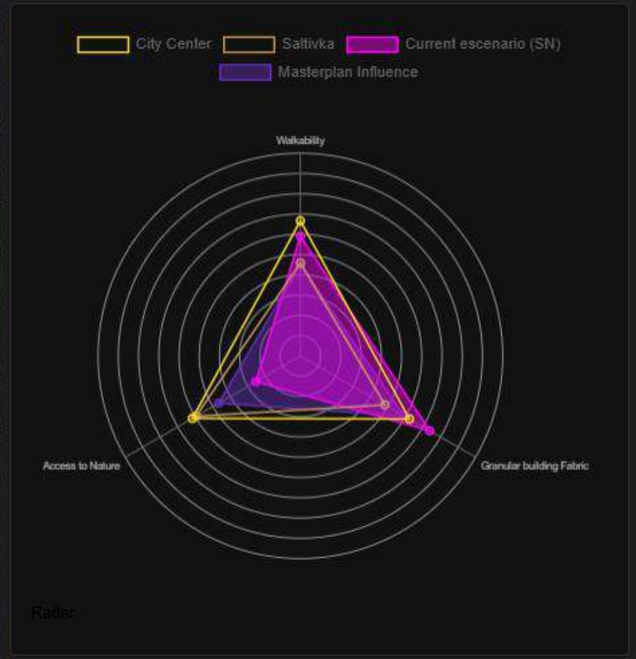

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INSIGHTS
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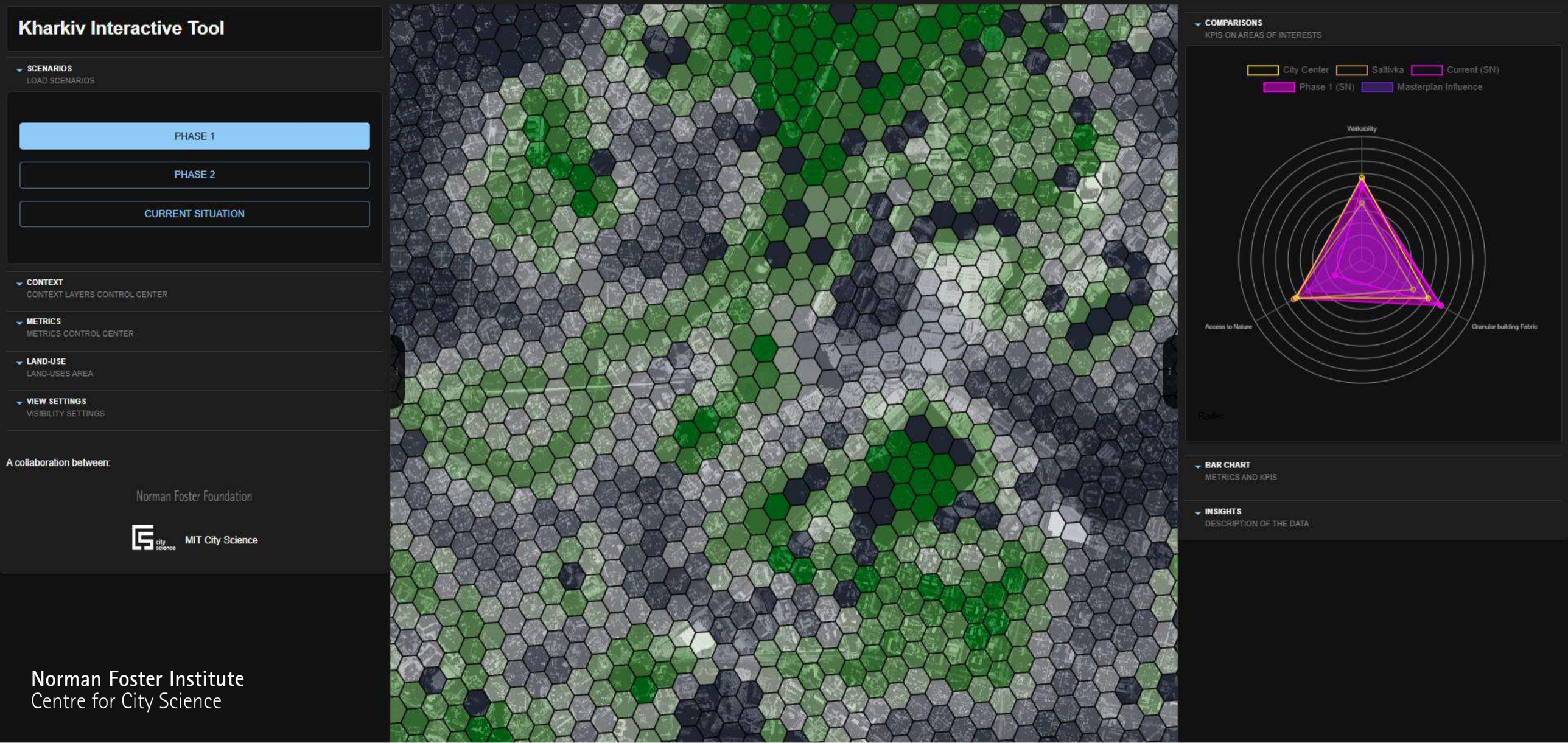
Phase 1 Access to Green Space



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Phase 2 Access to Green Space

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VIEW SETTINGS
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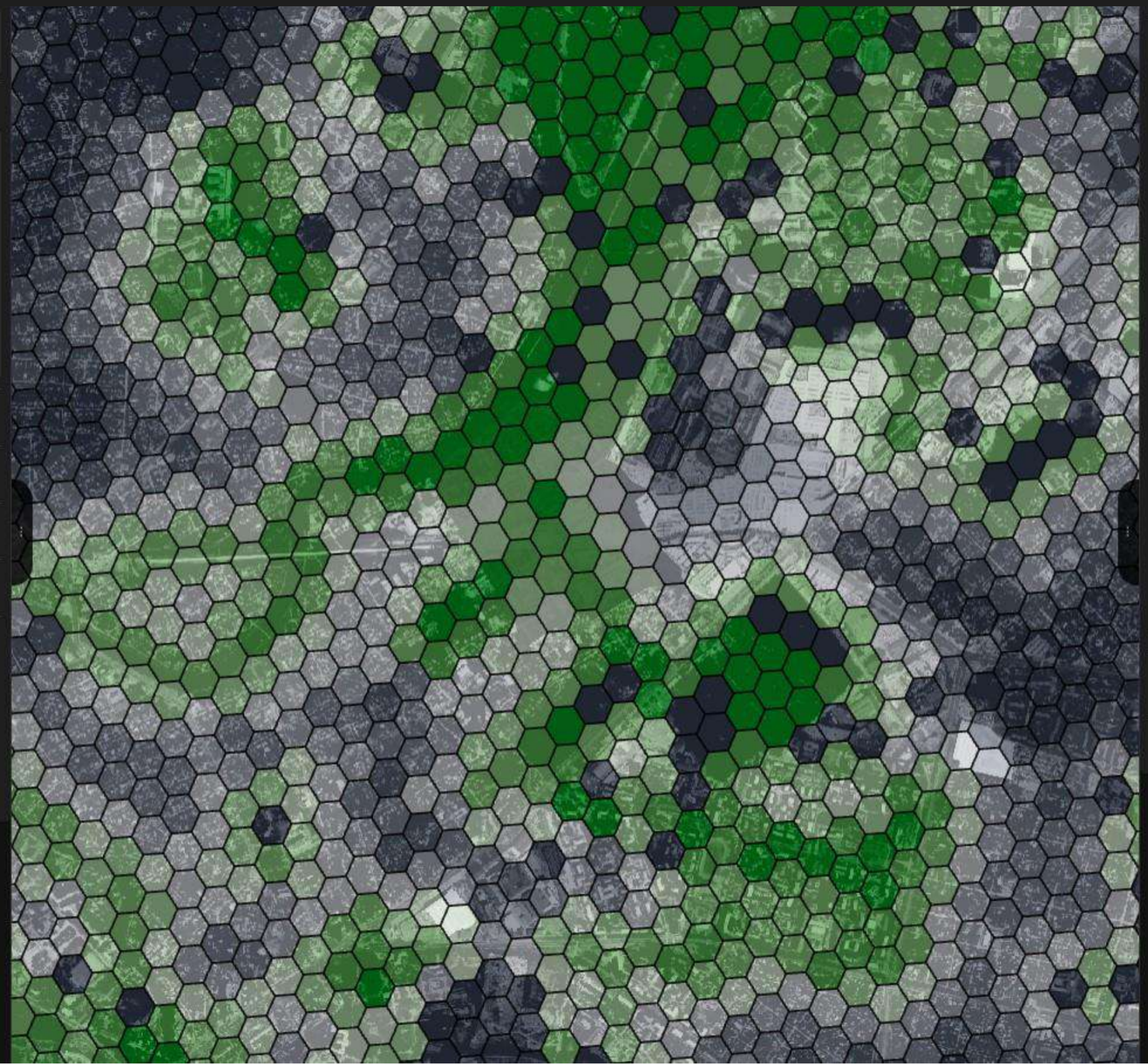
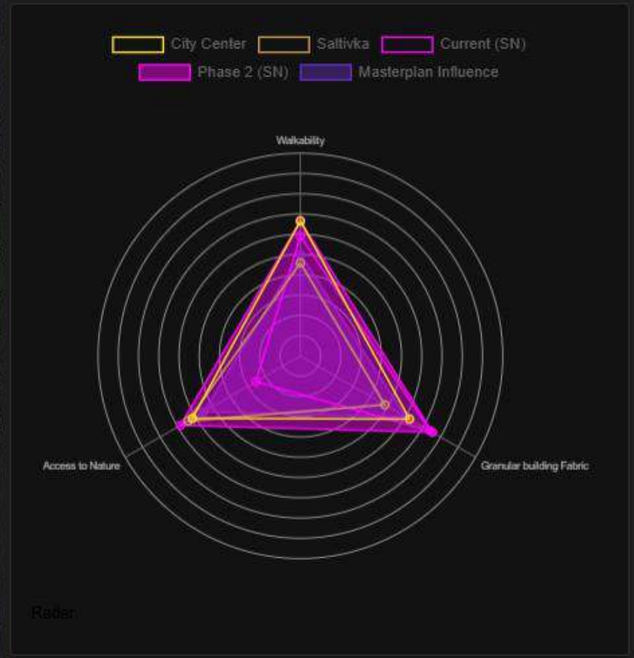


COMPARISONS
KPIS ON AREAS OF INTERESTS



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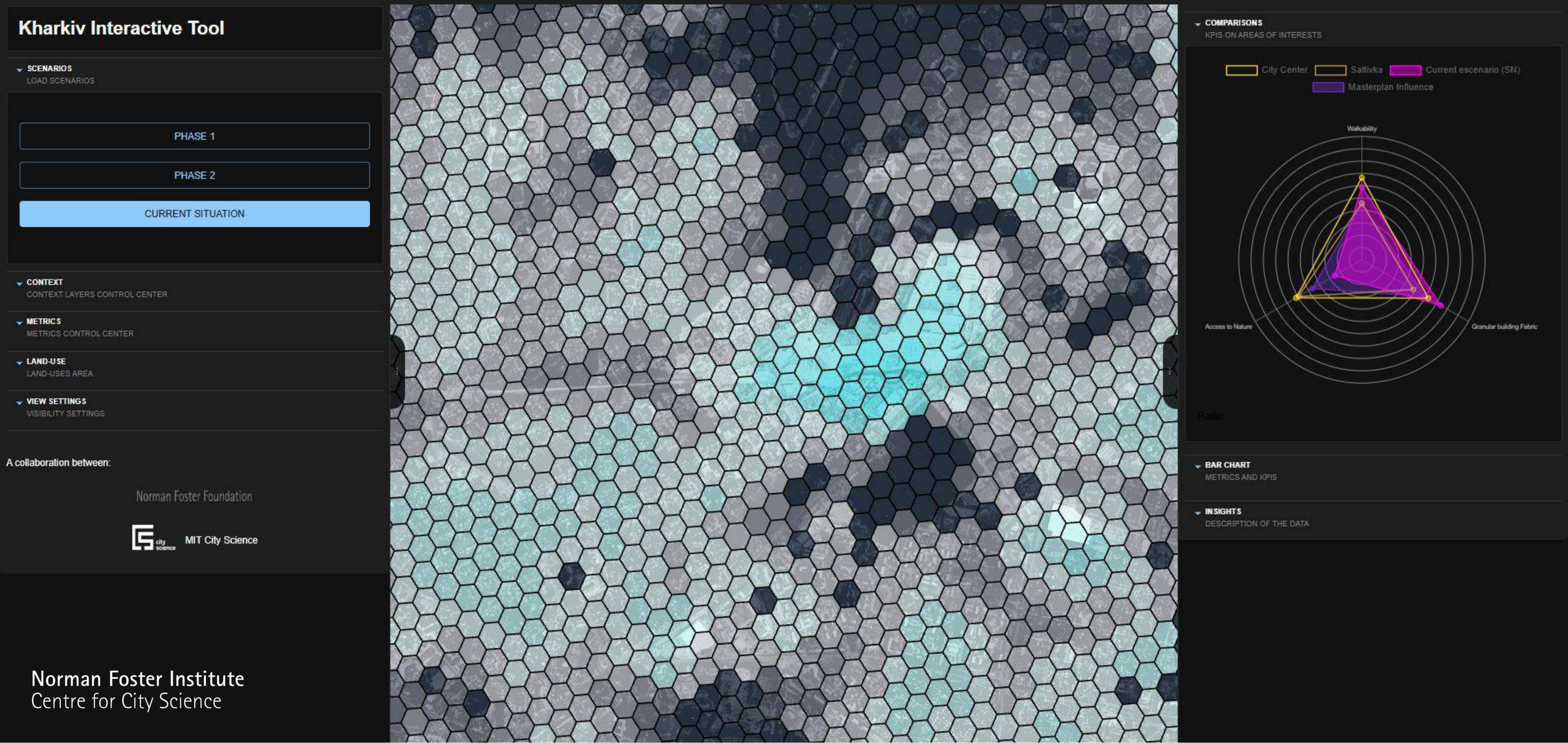
Beyond Spatial Data
Current Building Granularity



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Beyond Spatial Data
Phase 2 Building Granularity

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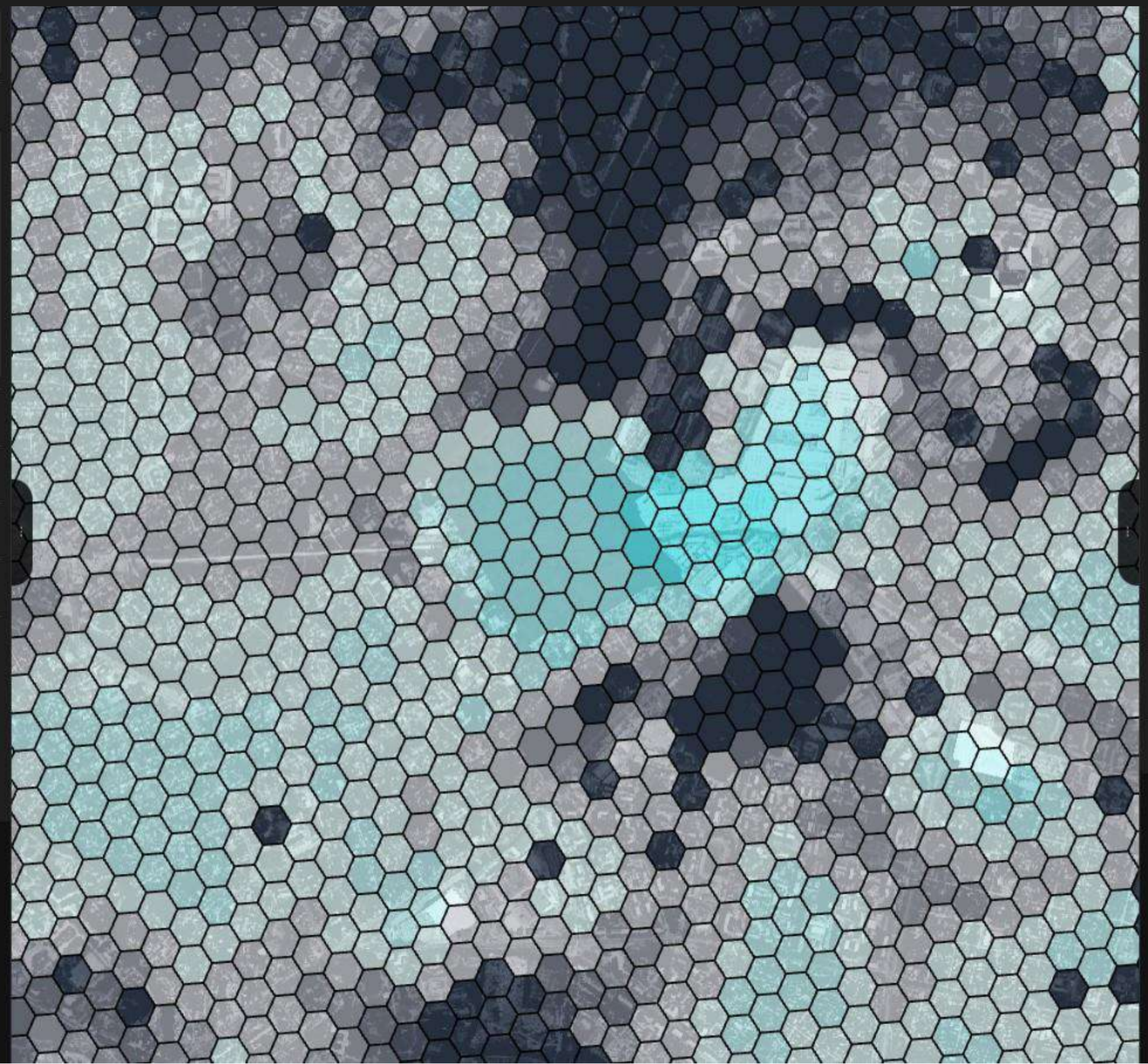

COMPARISONS
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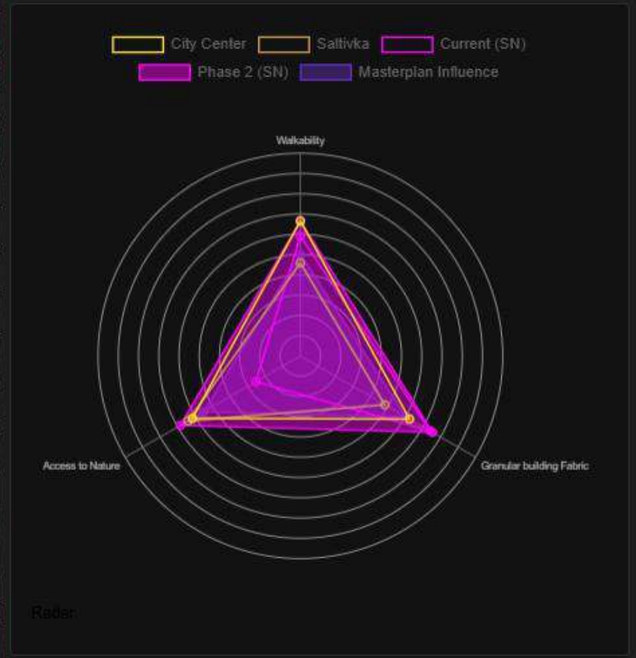

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INSIGHTS
DESCRIPTION OF THE DATA

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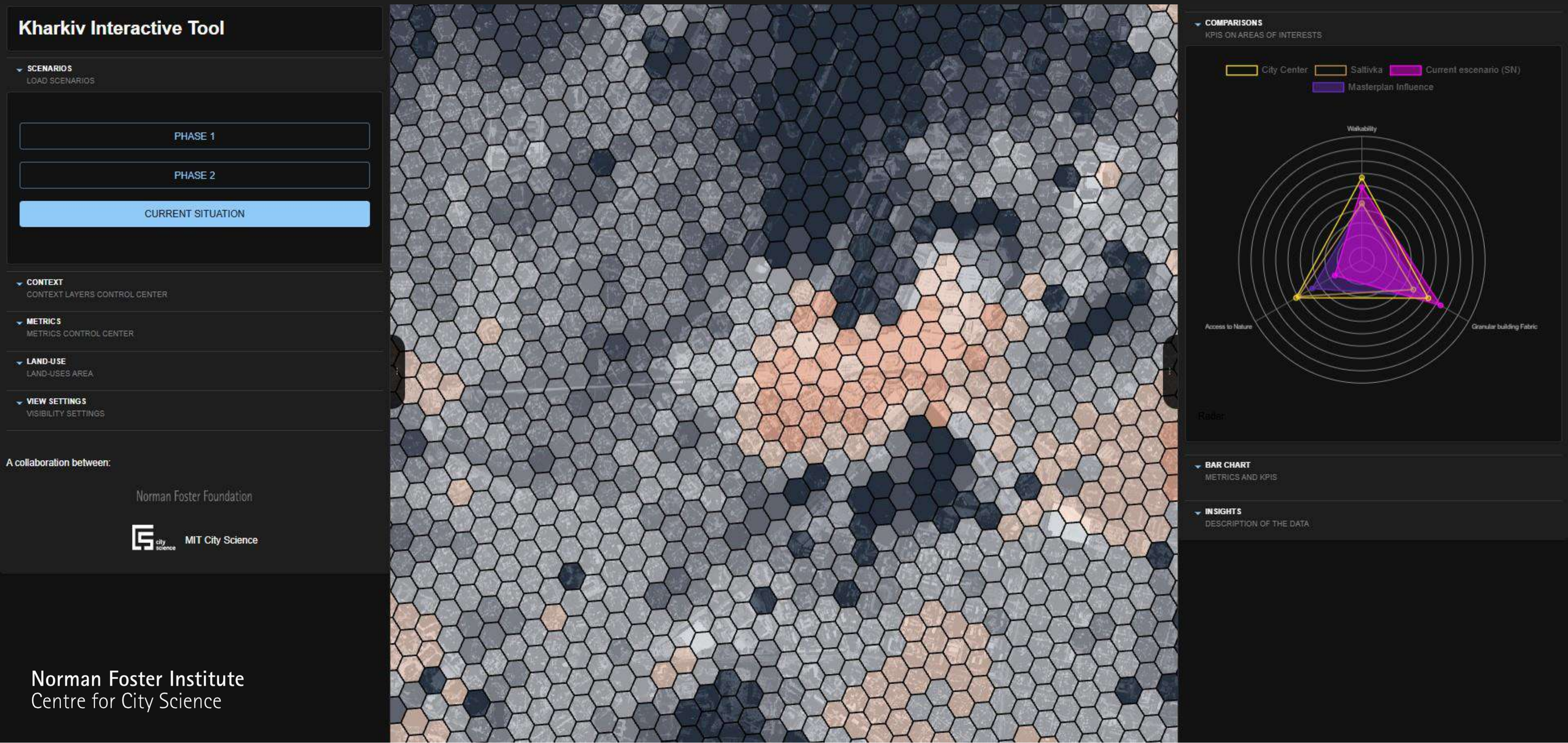
Beyond Spatial Data
Current Walkability



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Phase 1 Walkability

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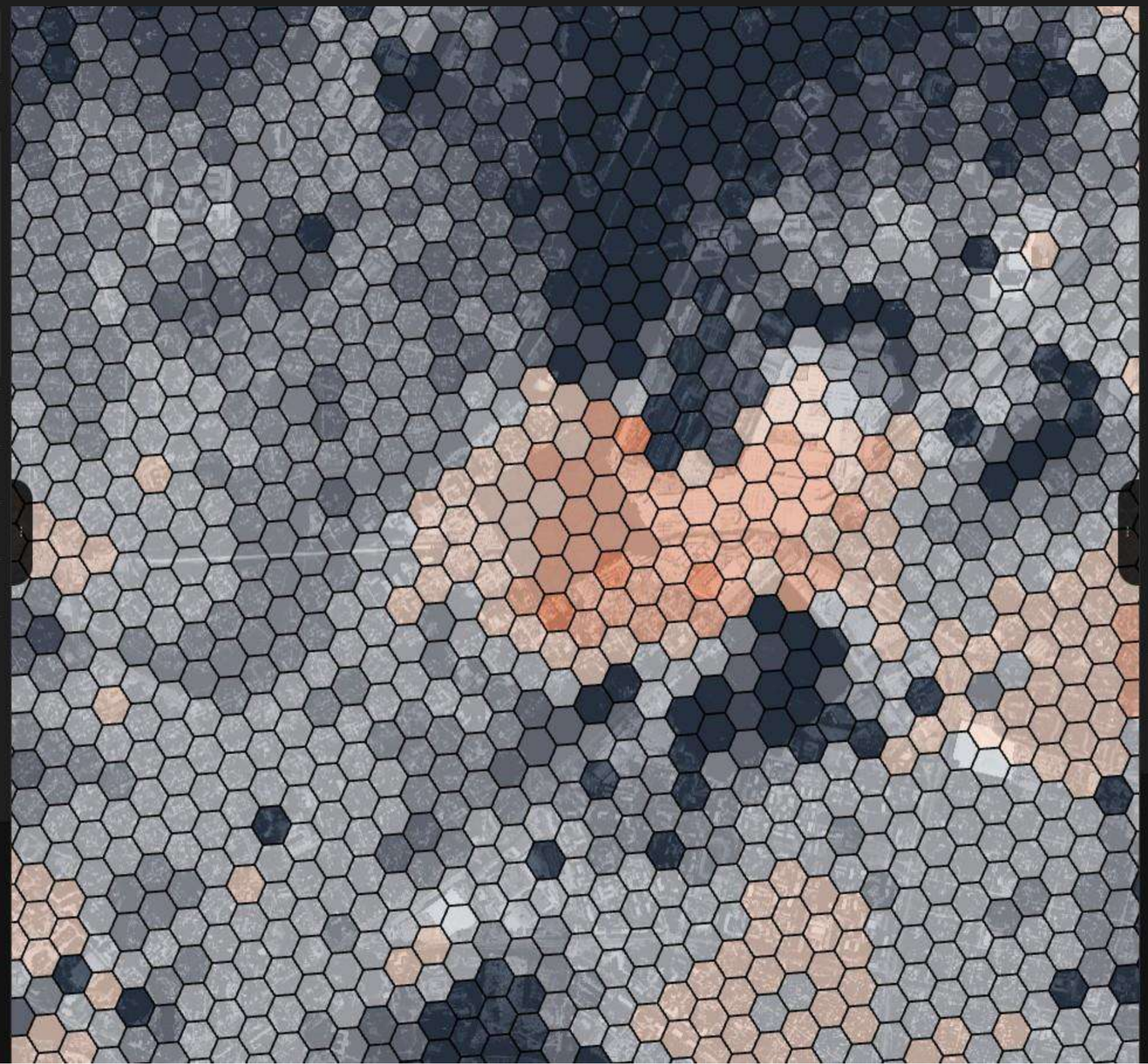

COMPARISONS
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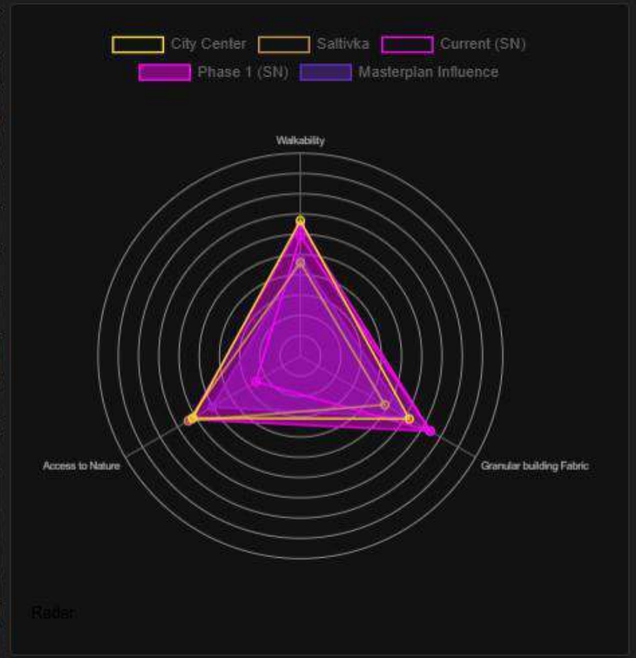

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Beyond Spatial Data
Phase 2 Walkability

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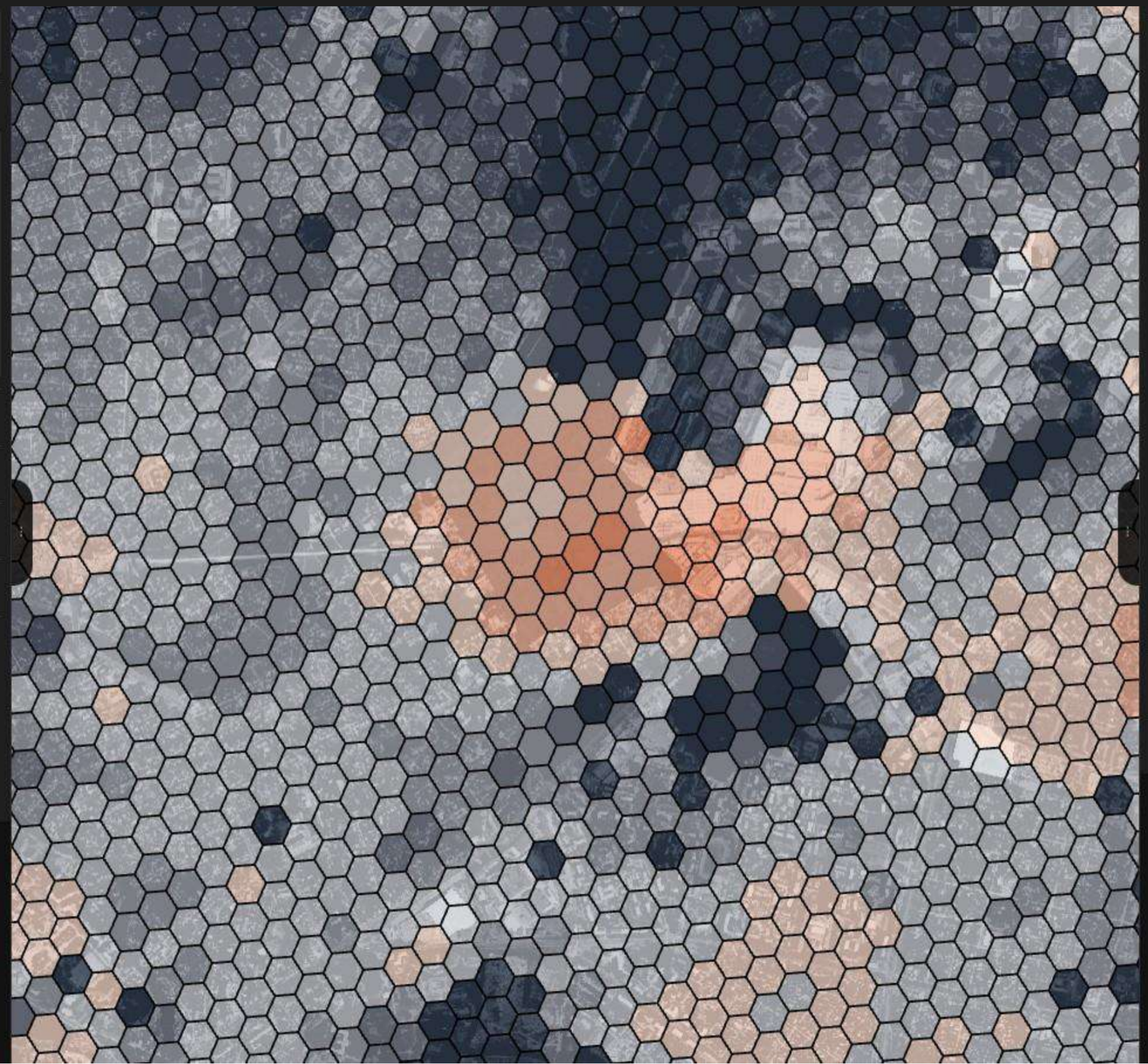

COMPARISONS
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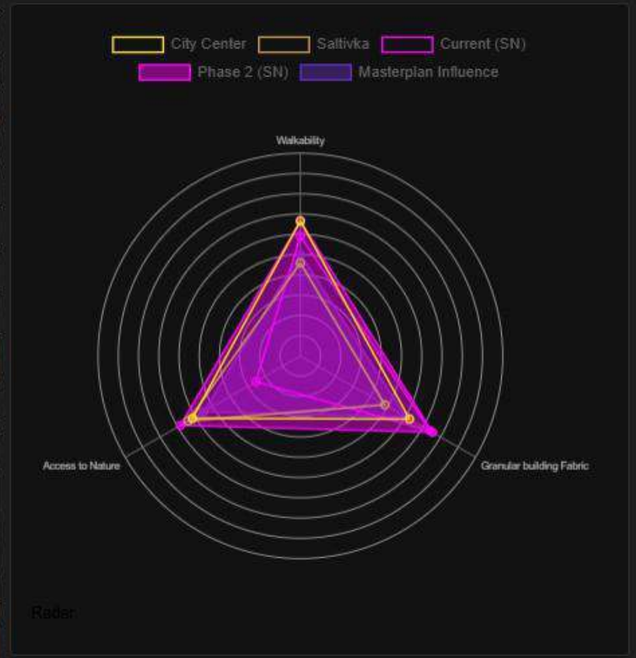

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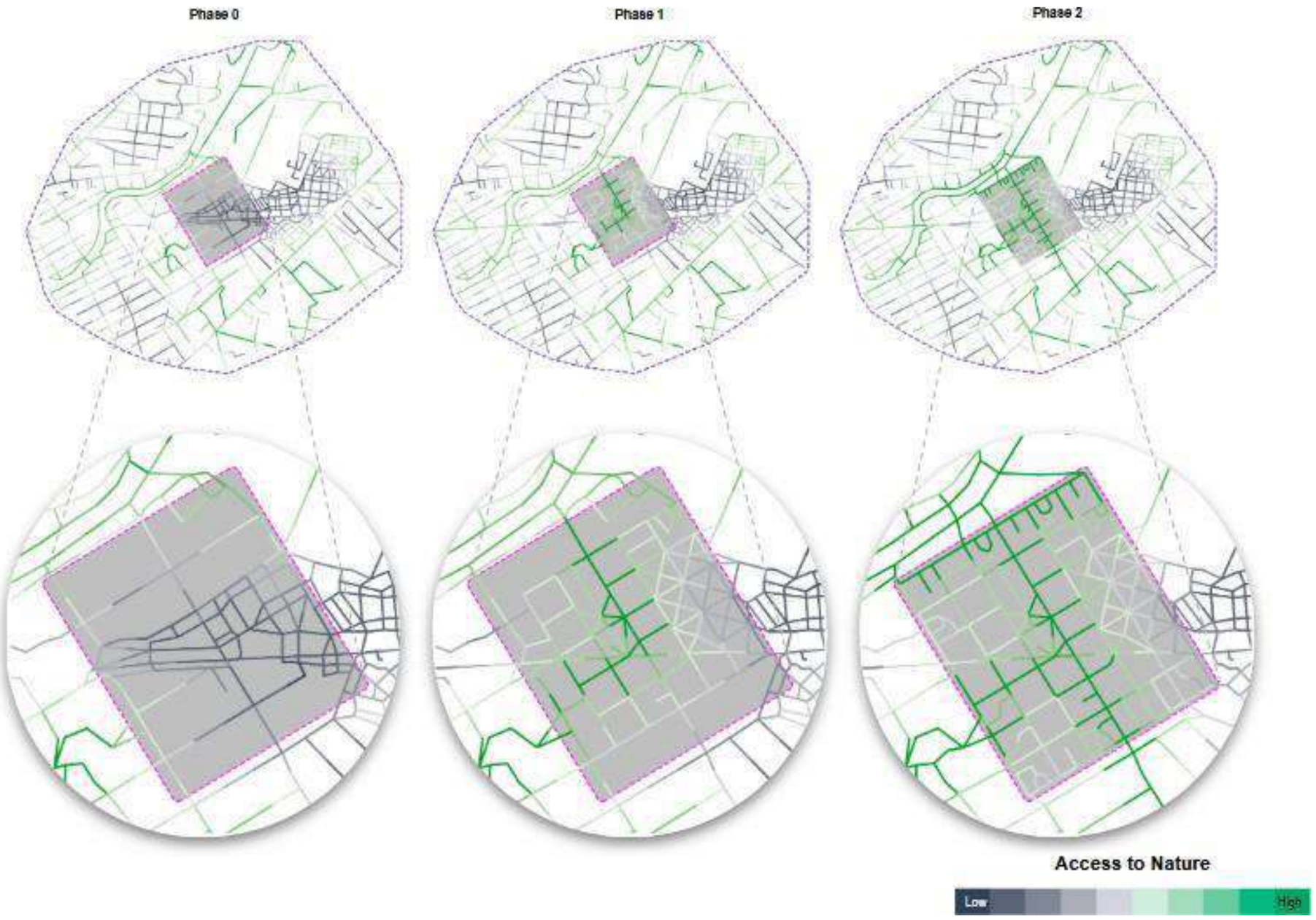
Phased Approach



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Kharkiv Reconstruction

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Bilbao Spain

Social Boosters as a Catalyst for Social Cohesion

Norman Foster Institute
Programme on Sustainable Cities

Beyond Spatial Data
Bilbao, Spain

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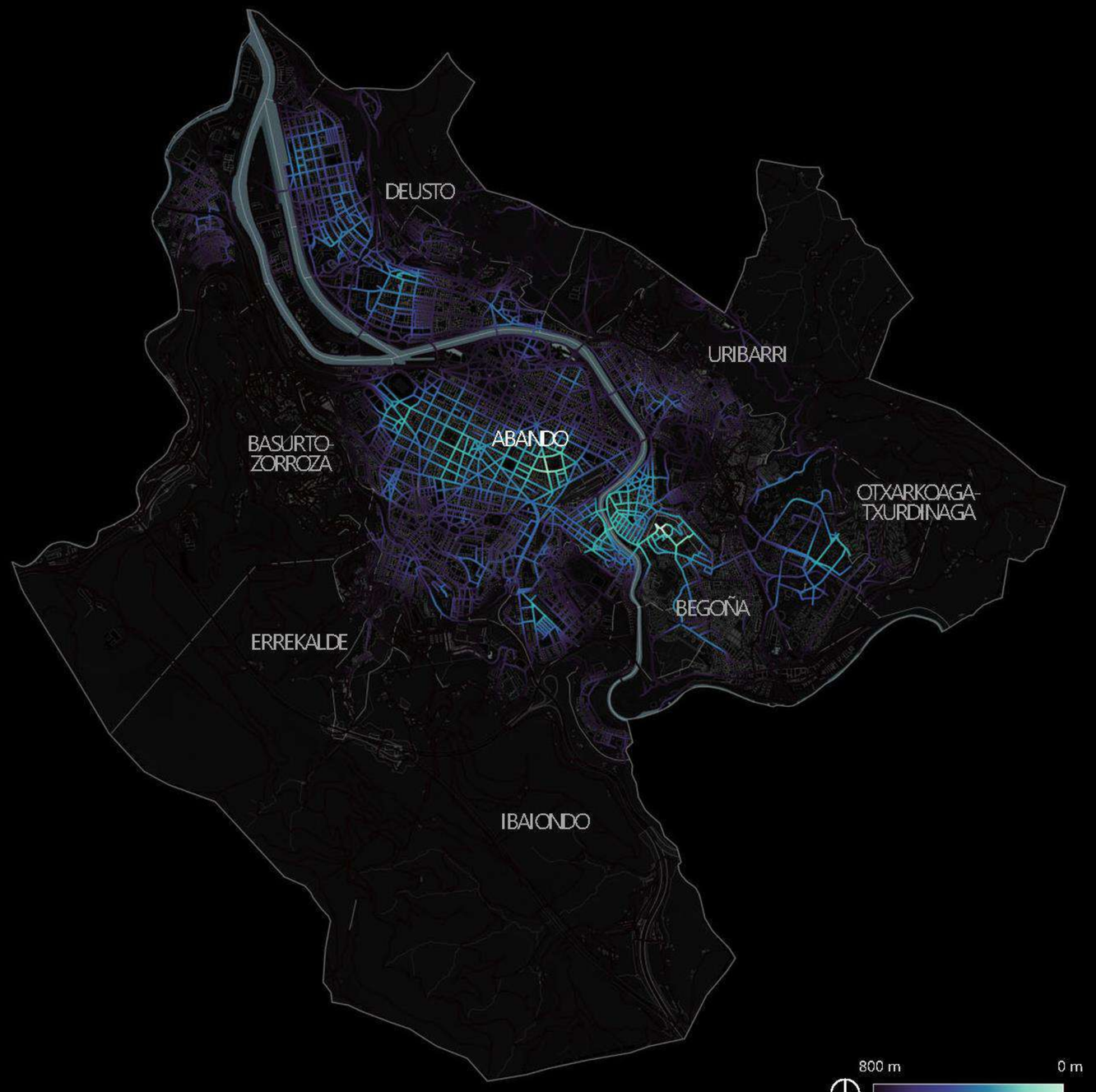
Knowledge Institutions



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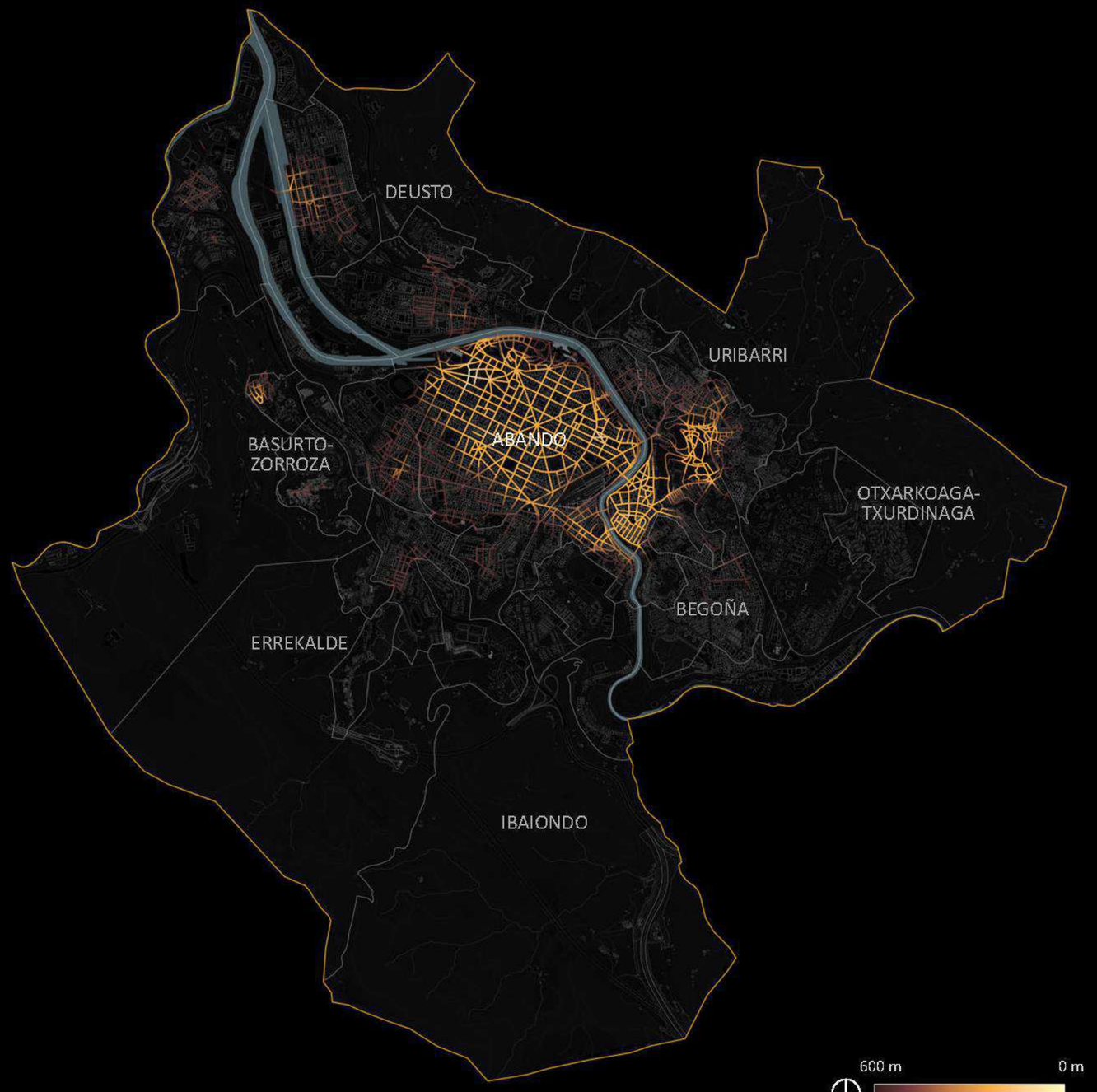
Leisure Facilities



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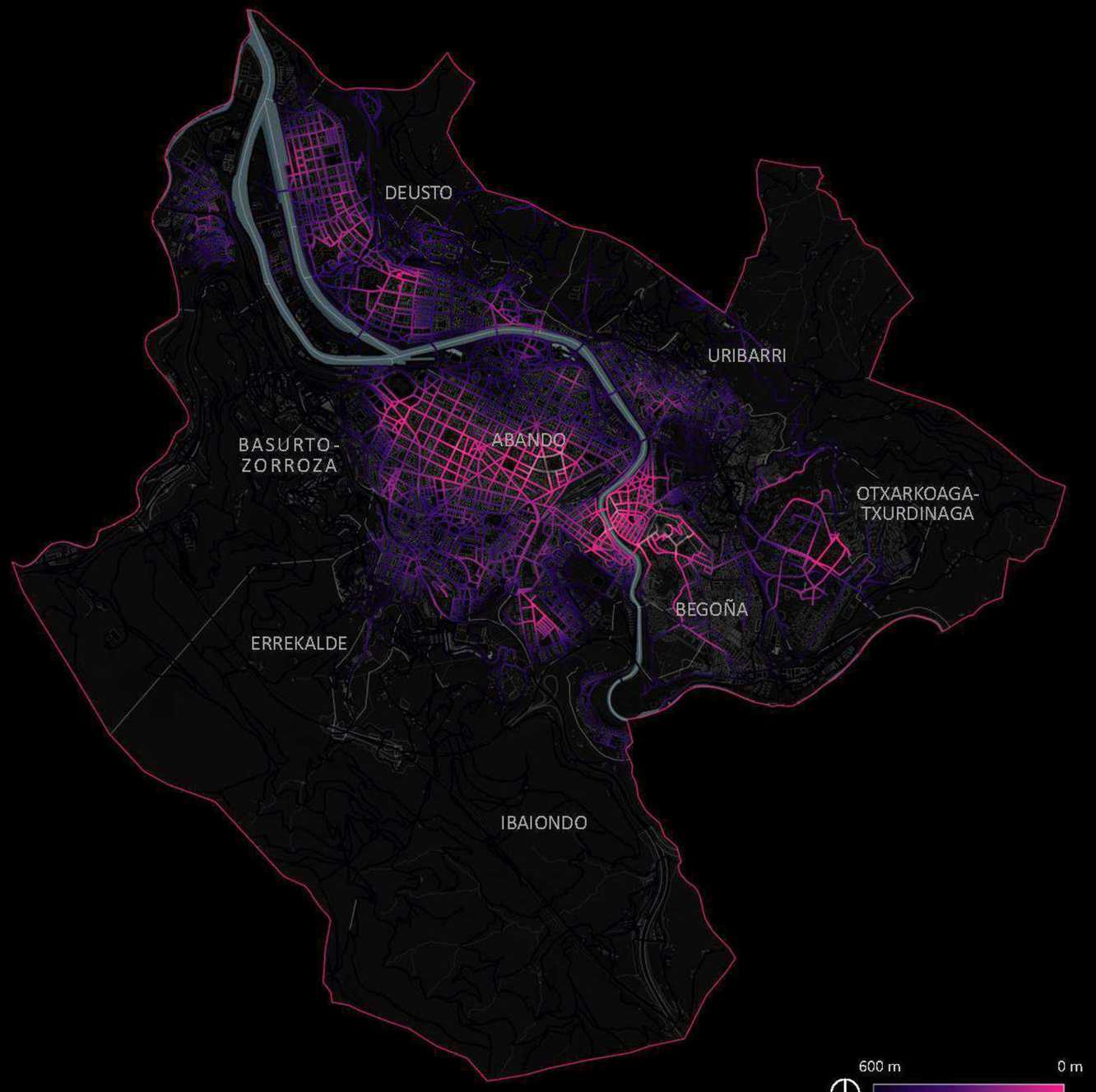
Arts + Culture Spaces



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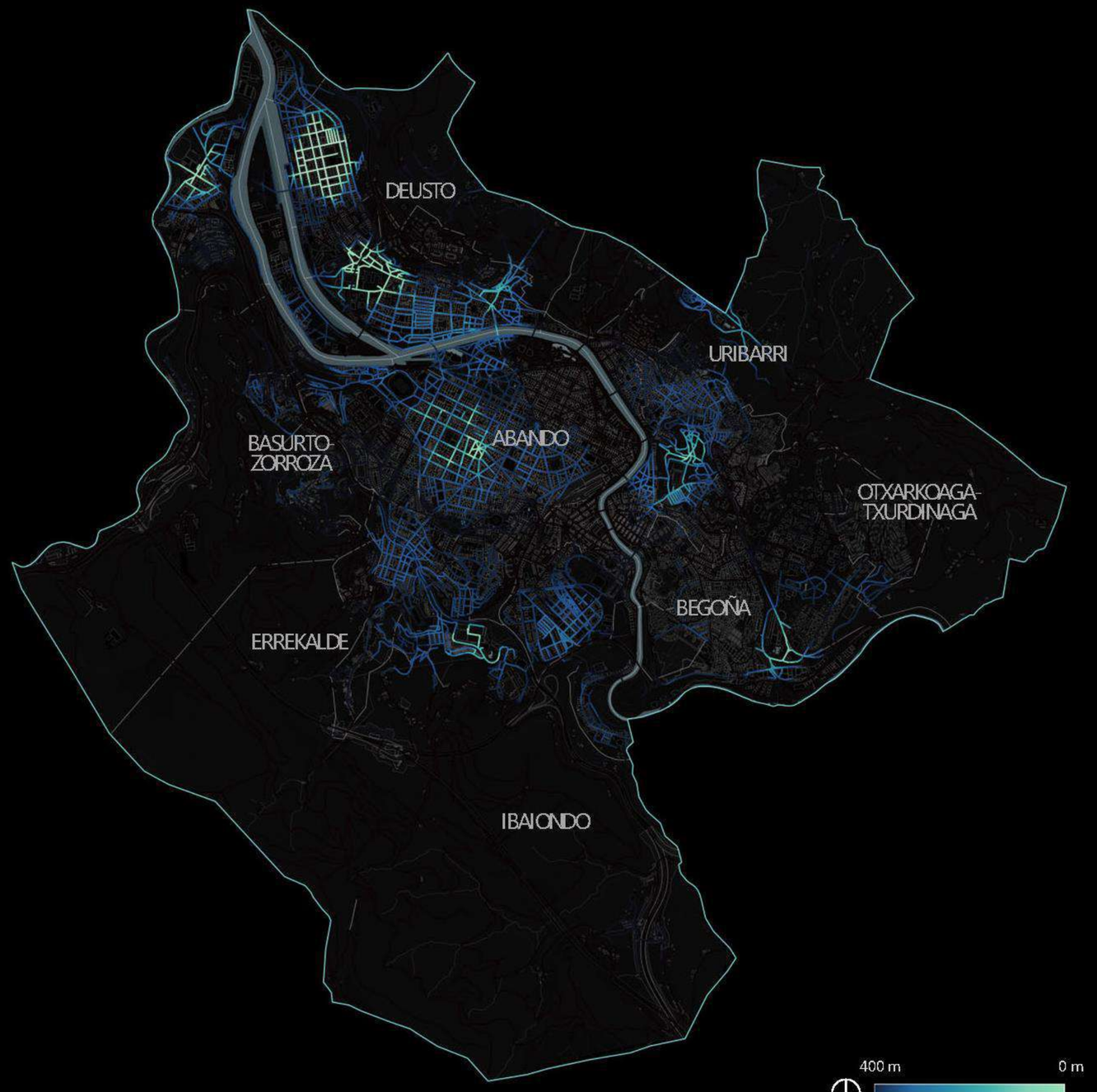
Sports + Fitness



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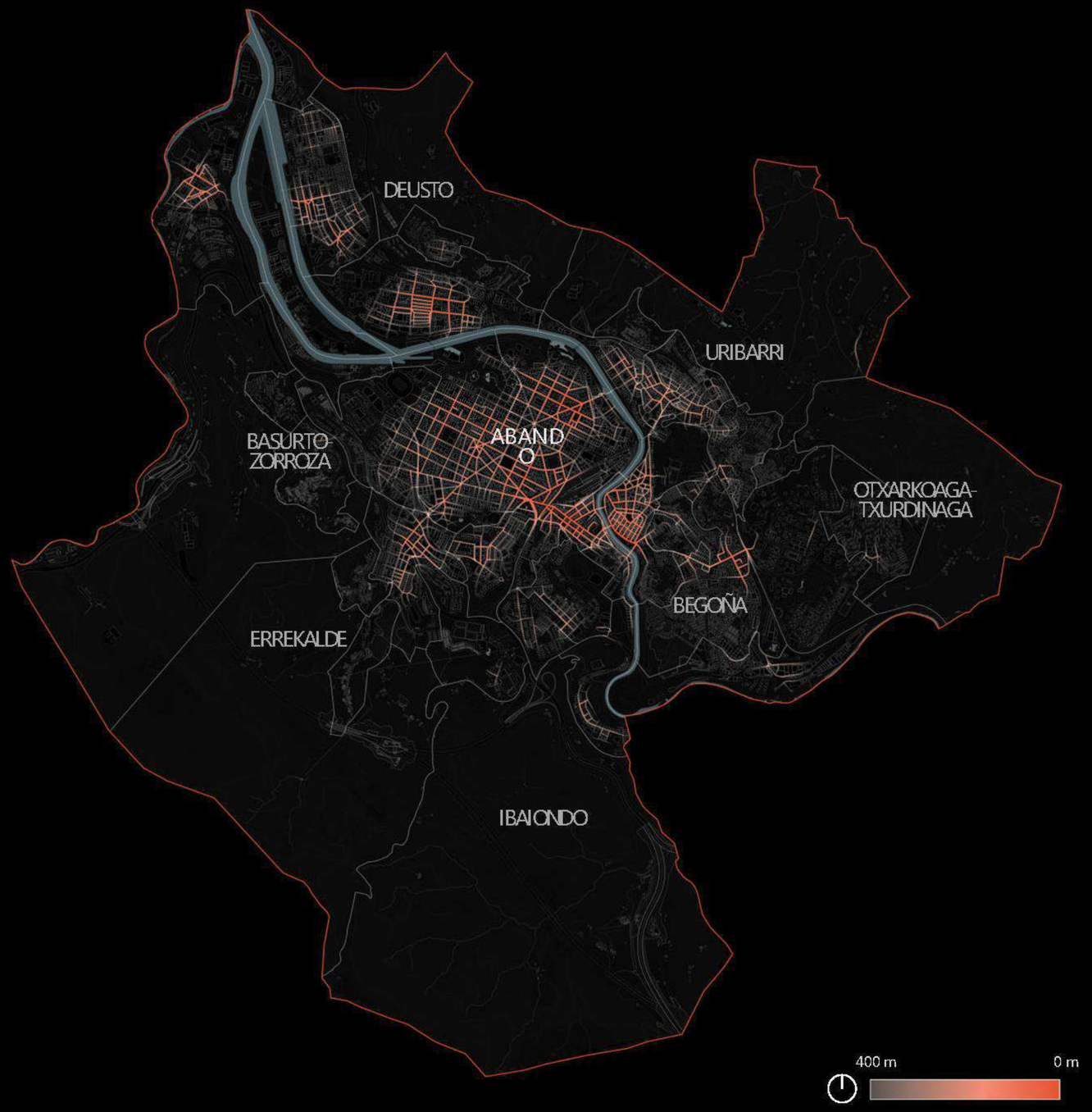
Food + Nutrition



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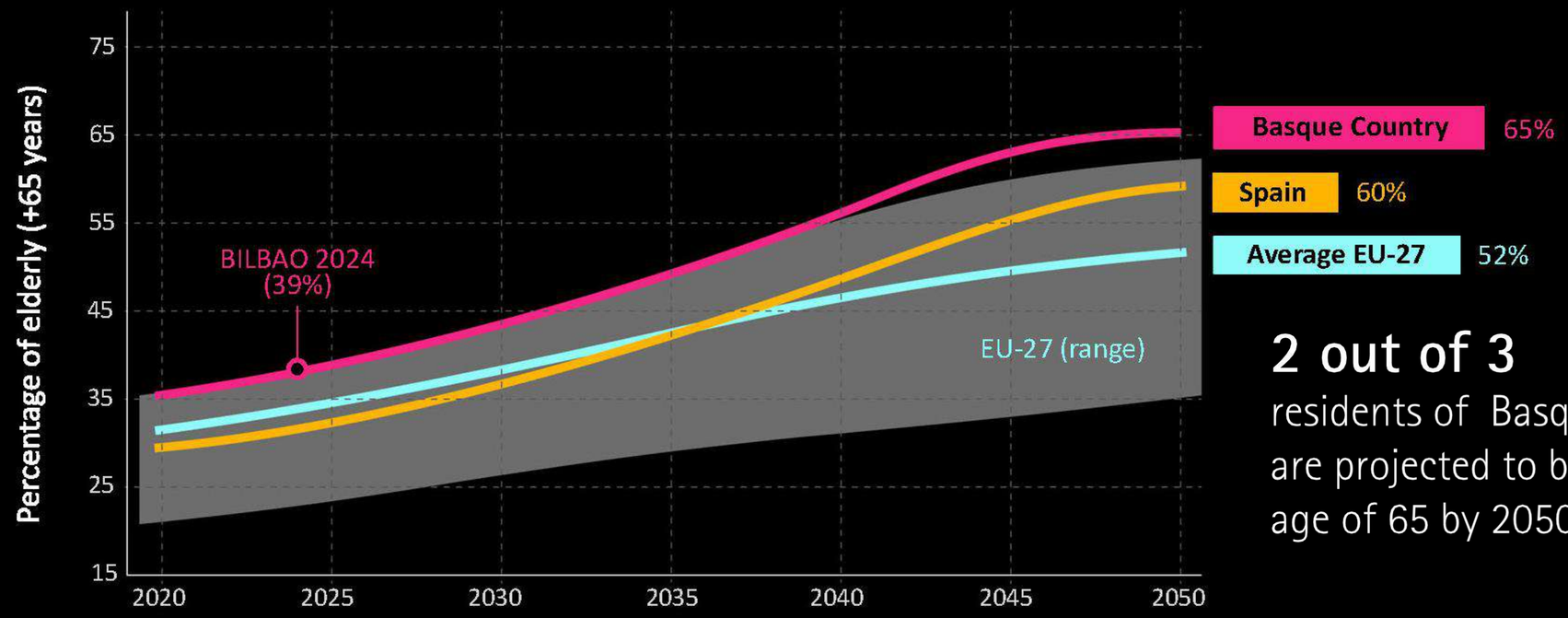
Population Demographics

Average of Basque Country (2019):

47.5 years

Rapidly Aging Population

Beyond Spatial Data
Elderly Dependency Projections



2 out of 3
residents of Basque Country are projected to be over the age of 65 by 2050.

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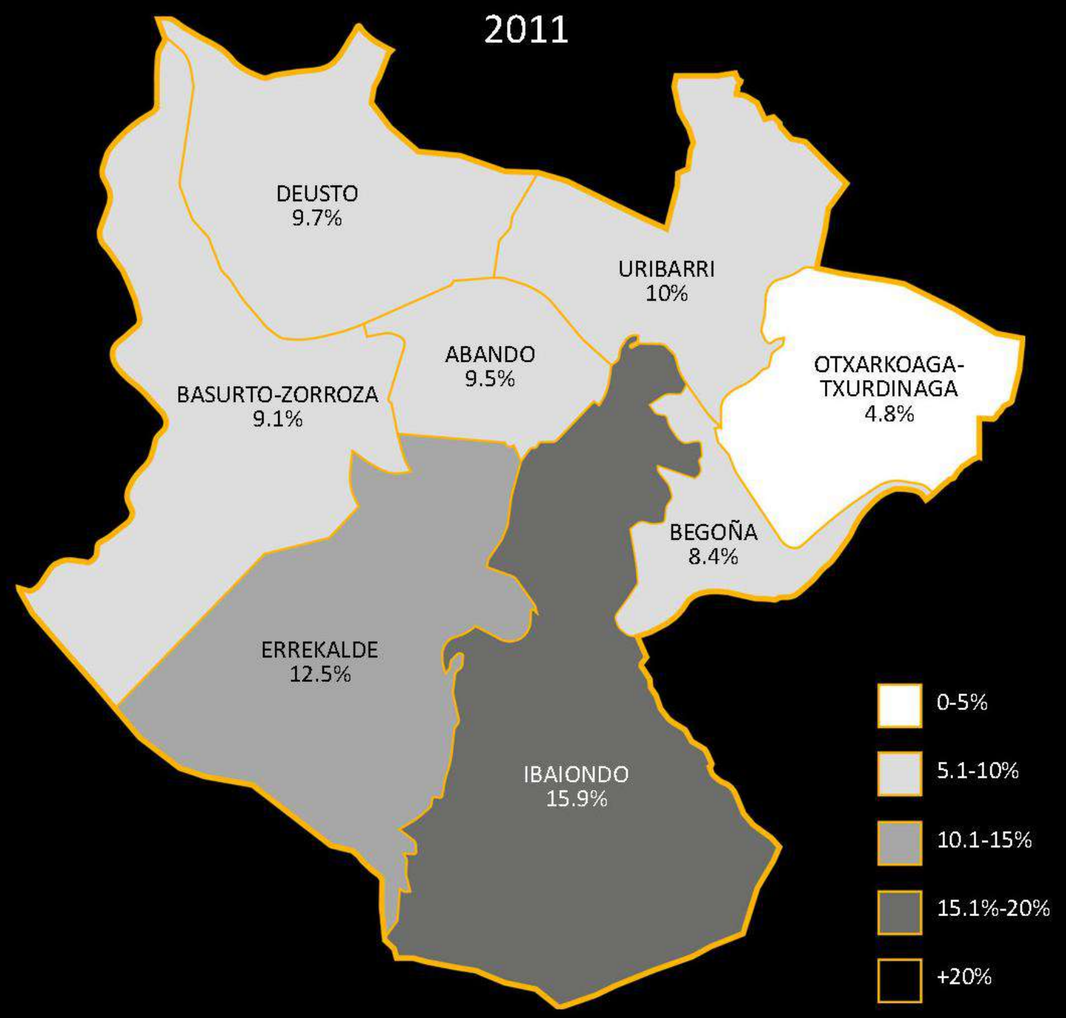
Rate of Population Change

+19%
increase in immigration
in last two years.

Beyond Spatial Data
Immigration Demographics



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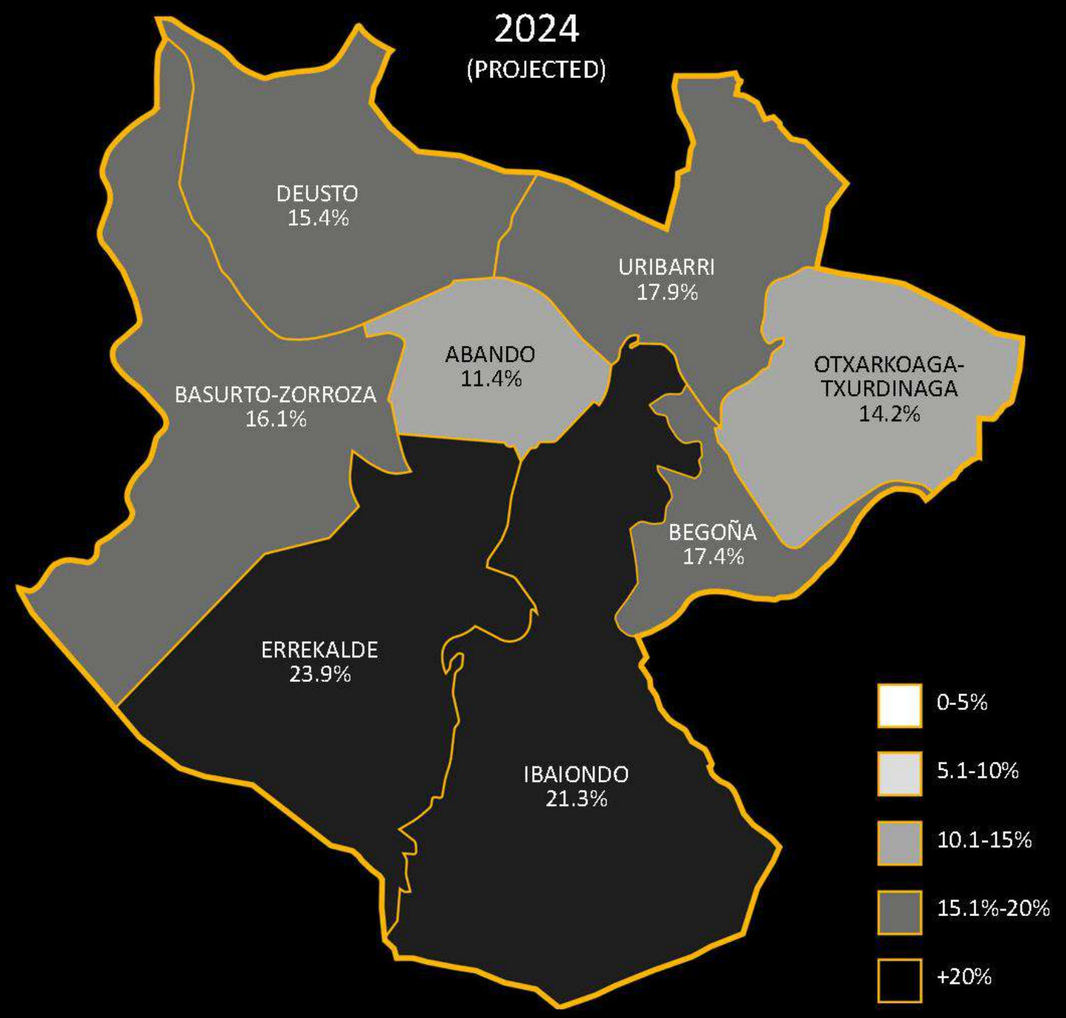
Immigration Demographics



+1.9%
in Abando (2011-2024)

+11.4%
in Errekalde (2011-2024)

+6,645
immigrants (2022-2024)

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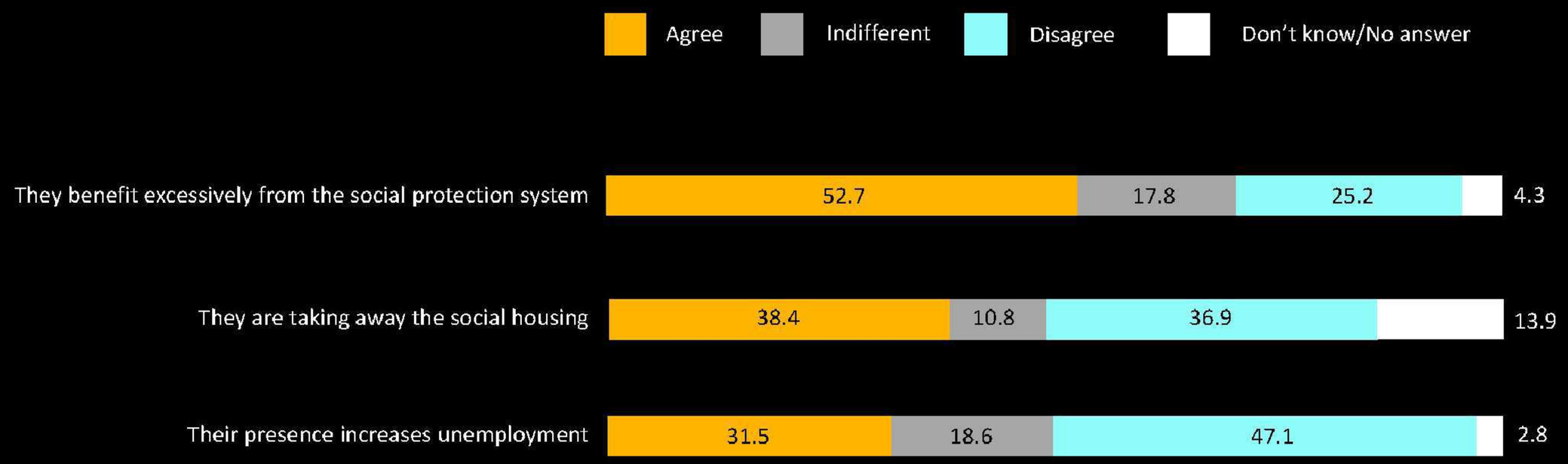
False Immigration Stereotypes



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Economic Disparities

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1 in 5 residents

suffer from unwanted social isolation in Spain

Bilbao Social Booster

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Bilbao Social Booster

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Bilbao Social Booster

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Beyond Spatial Data
Booster Challenges

Education	Education
Age	Age
Business	Business
Income	Income
Employment	Employment
Immigration	[illegible]
Gender	Gender

Beyond Spatial Data
Booster Themes

Education	Education
Age	Age
Business	Business
Income	Income
Employment	Employment
Immigration	Immigration
Gender	ĠÑŌŃÑØ

A	Arts and Culture
F	Food
N	Nature
L	Leisure
K	Knowledge
S	Ĭ ŐŎØŘŒ

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Beyond Spatial Data
Booster Dimensions

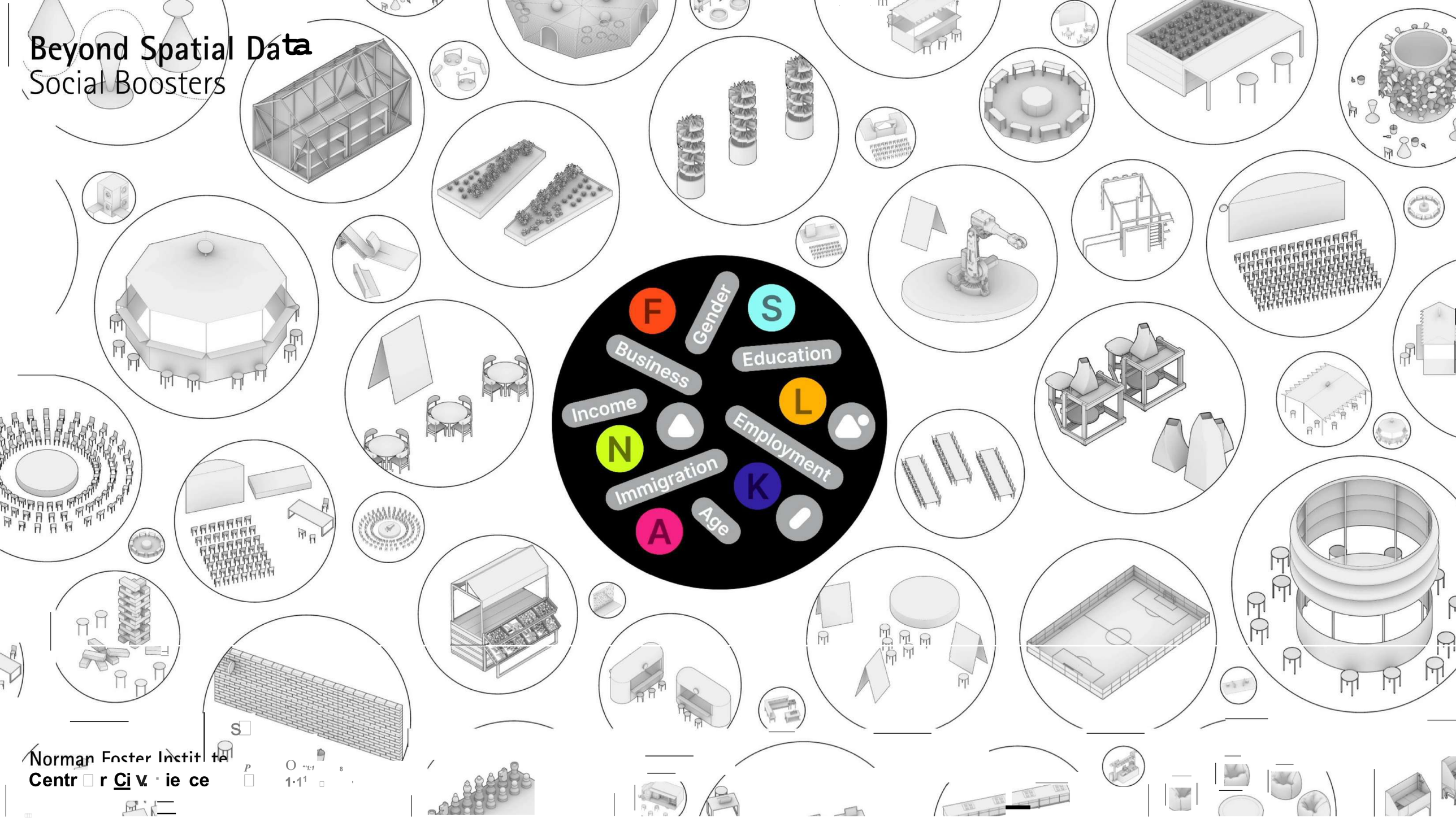
Education	ĜŇÞŃVŘŎŎŌ
Age	Age
Business	Business
Income	Income
Employment	Employment
Immigration	Immigration
Gender	Gender

A	Arts and Culture
F	Food
N	Nature
L	Leisure
K	Knowledge
S	Sports

- Fostering
- Bridging
- Linking


Education
Employment
Business
Gender
Income
Age
Immigration

Beyond Spatial Data
Social Boosters



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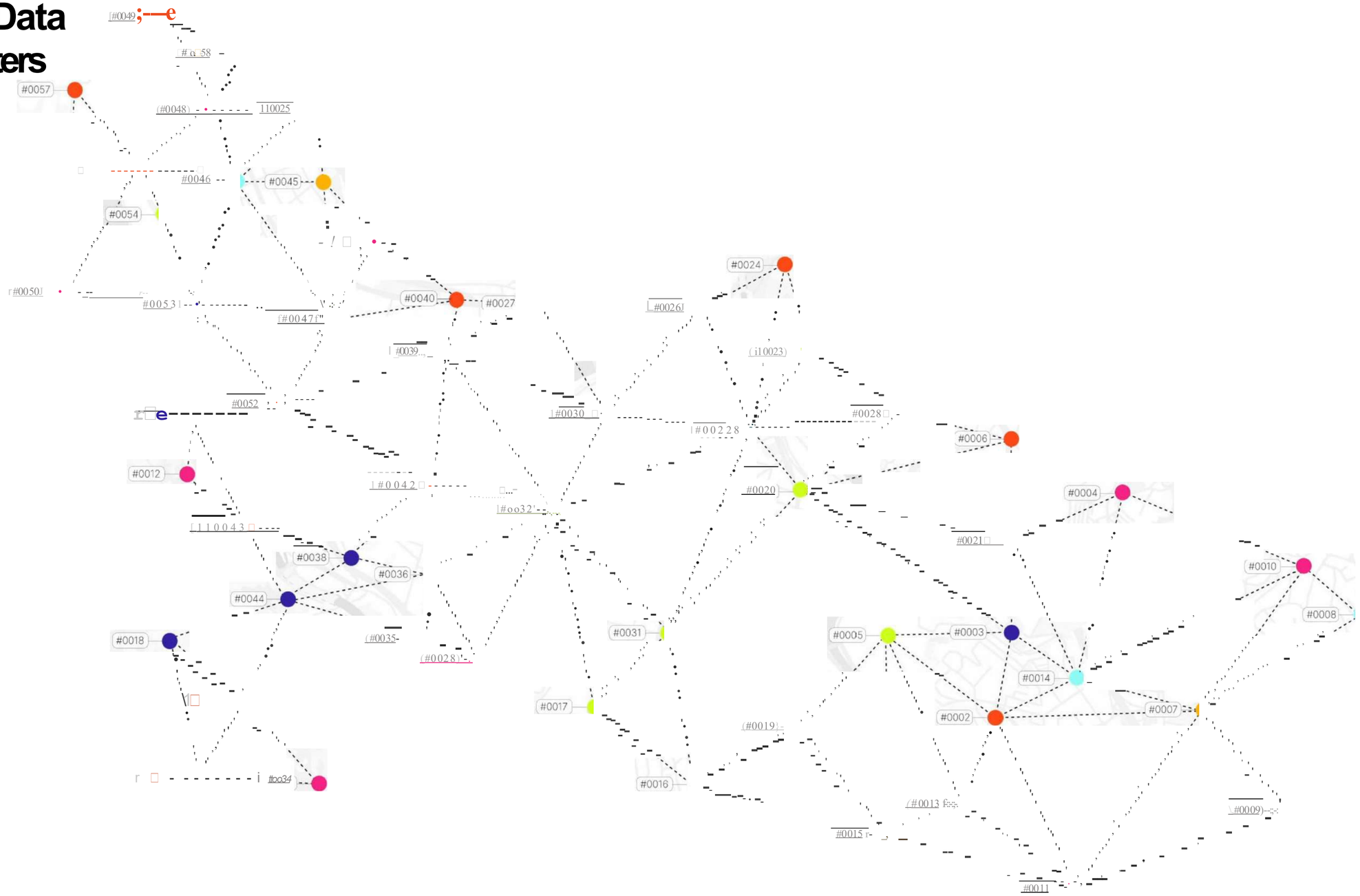
Network of Boosters



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Social Boosters

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Beyond Spatial Data
Build a Booster: Socio-Demographic Analysis

Challenges

- Education
- Age
- Business
- Income
- Employment
- Immigration
- Gender
- Amenities

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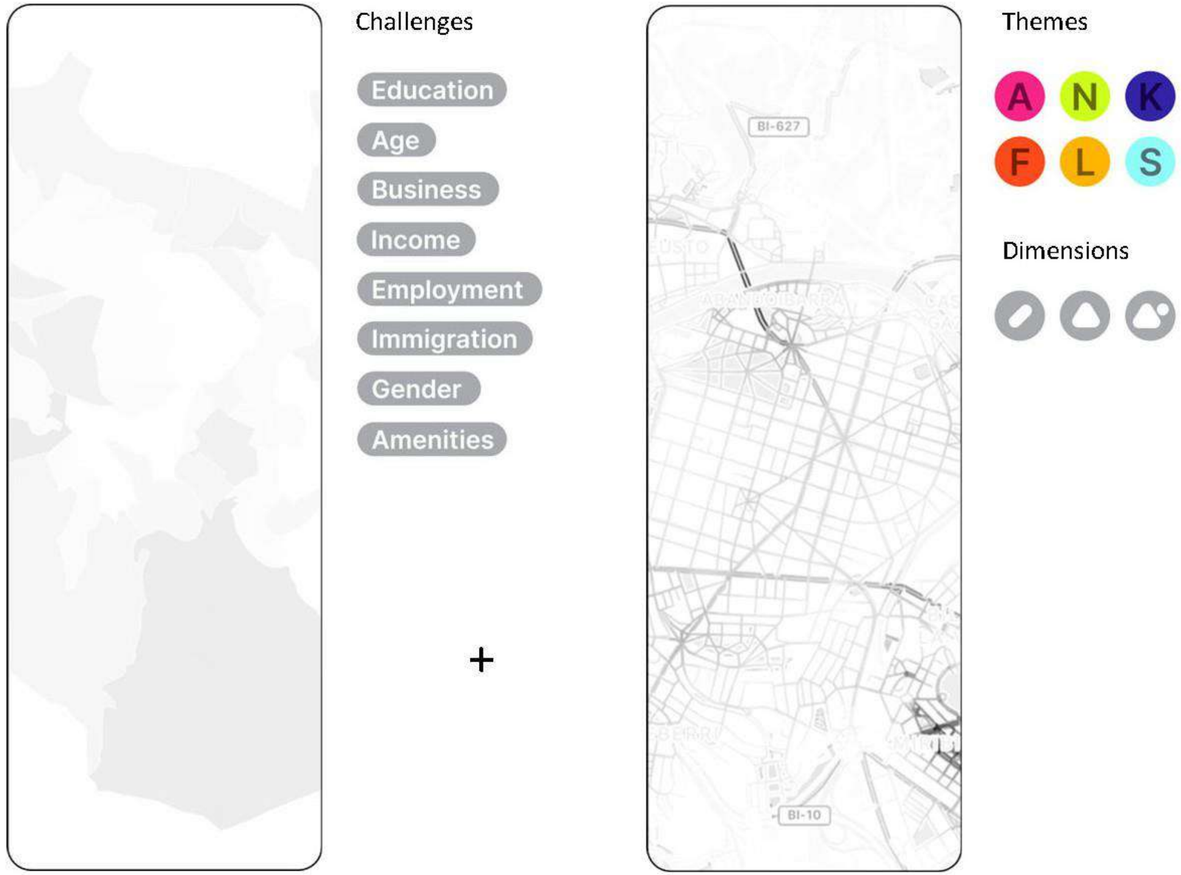
Build a Booster: Spatial Analysis



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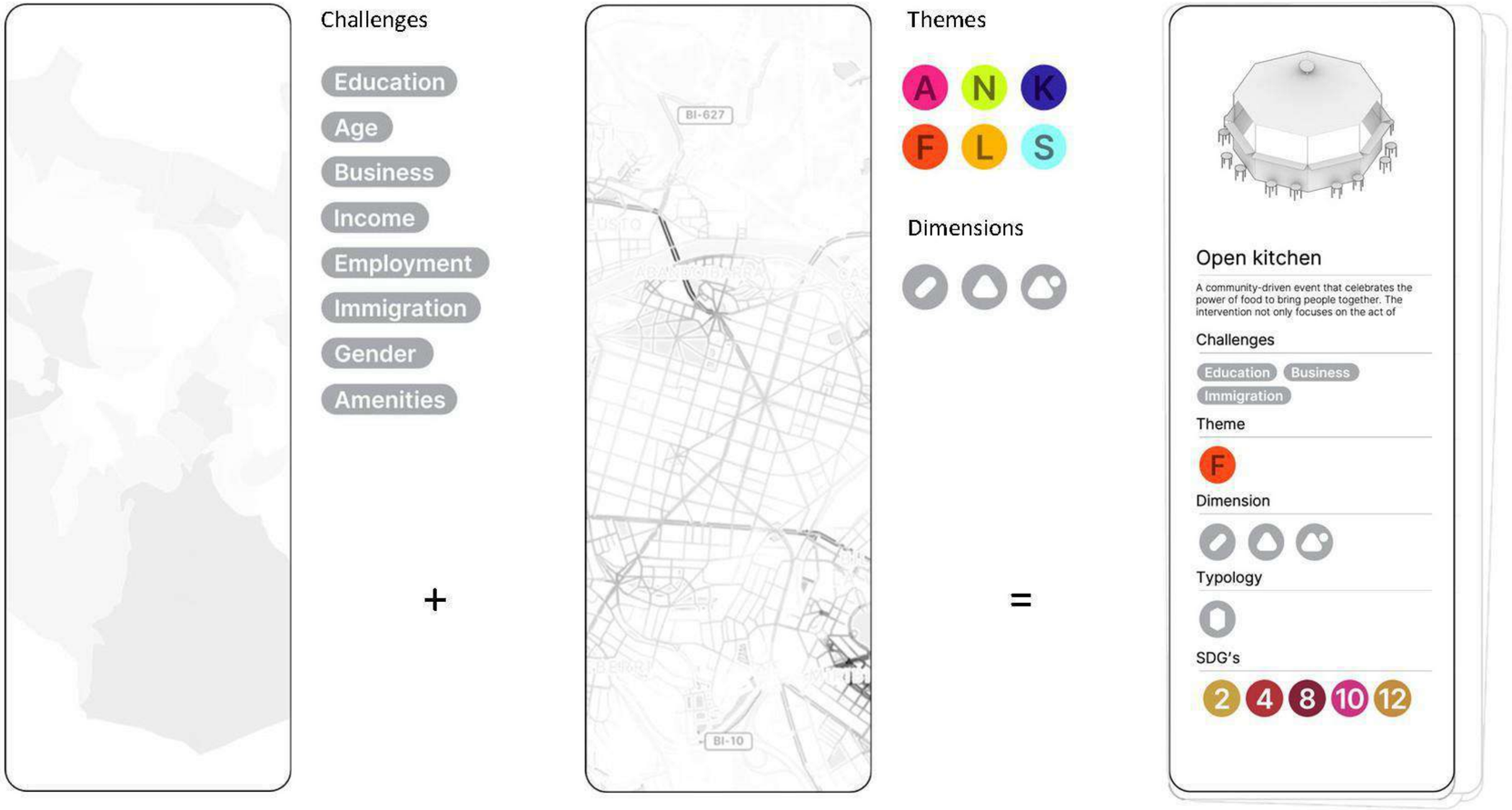
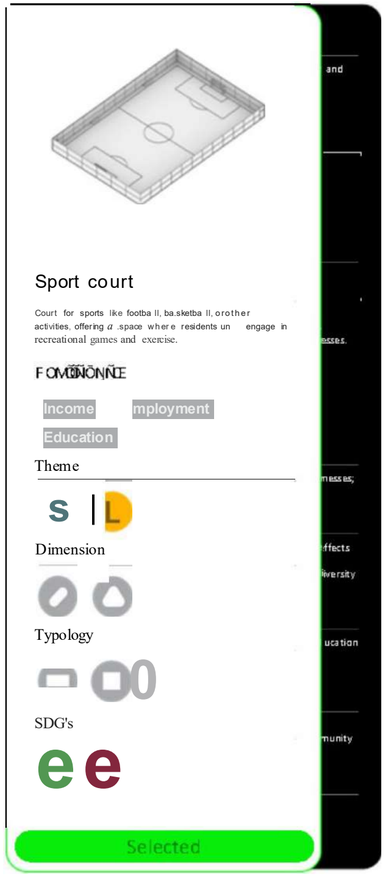
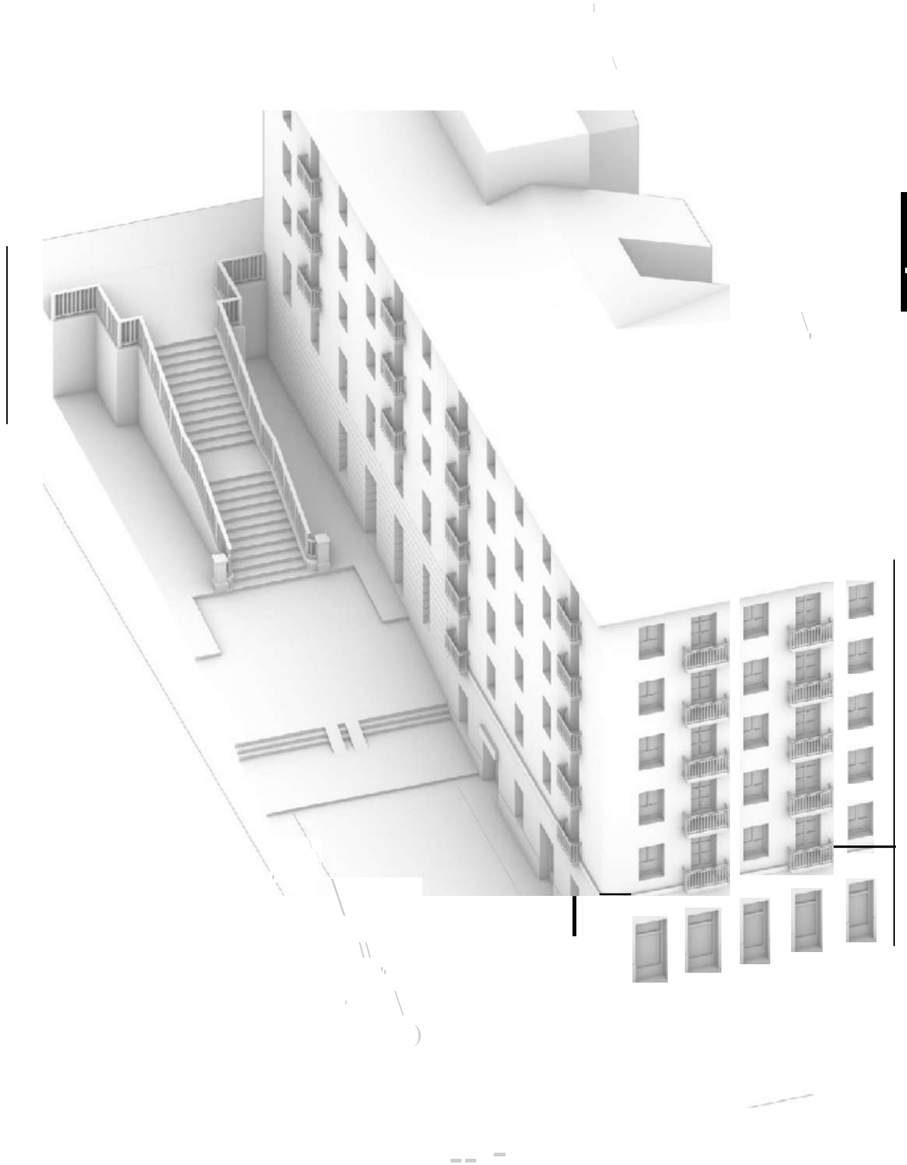
Build a Booster: Booster Catalogue



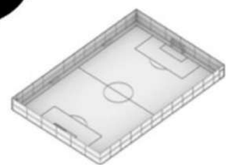




I do not feel safe.
There is no
street activity.

Socio-demographic analysis (- spatalAnalysis) (- Boostercatabgue) Voting Booster Application Evaluation (Booster Iteration) Disassemble

#1



Sport court

Court for sports like footba ll, basketba ll, or other activities, offering a spa n where residents can engage in recrea tion.il games and exer-c:ise.

Challenges

Income Employment Education

Theme

S L

Dimension

Typology

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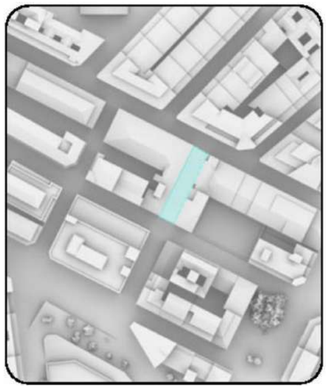
SDG's

e e

[illegible]



Evaluation criteria

The eva luation process is going to be done before and after the intervention implementation.
The catchment area of analysis is for a 5-minute walk.

[illegible]

Occupancy of space:
- Counting: People passing
- Counting: People staying
- Counting: Time people stay
- Survey: People returning

Particular criteria

Challenge - Education

-Survey: Increase in footfall to local businesses.
-Survey: Increased turnover in the local economy.
-Analysis: Economic impact on surrounding businesses.

Challenge - Employment

-Survey: Number of jobs created, diversity of opportunities and types of businesses involved.

Challenge - Business

-Survey: Profit margins and presence of local businesses; opportunities for economic growth.

Theme - Nature

[illegible]

Theme - Knowledge

-Survey: Accessibility and frequency of visits to education centres, activities, and learning opportunities.

Dimension - Bonding

-Survey: Neighbourhood of residence
-Survey: Strength of relationships within the community (same neighbourhood).

Dimension - Bridging

-Survey: Neighbourhood of residence
-Survey: Connections made between different neighbourhoods.

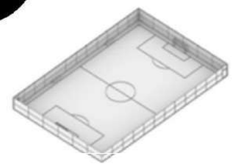
The additions are great, but we need more places to sit

We love the vibrant colours, we could use some more

100+ people pass by the court every day

Socio-demographic analysis | (□ spatial Analysis □) (□ Booster catalogue □) | Voting | Booster Application | Evaluation | (Booster Iteration) | Disassemble

#2



Sport court

Court for sports like football, basketball, er other activities, offering a space where residents can engage in recreational games and exercise.

FOCUS ON ACCESS

Income Employment Education

Theme

S L

Dimension

Typology

00

SDG's

Selected

Socio-demographic analysis | Spatial Analysis | Booster Catalogue | Voting | Booster Application | Evaluation | Booster Iteration | Disassemble

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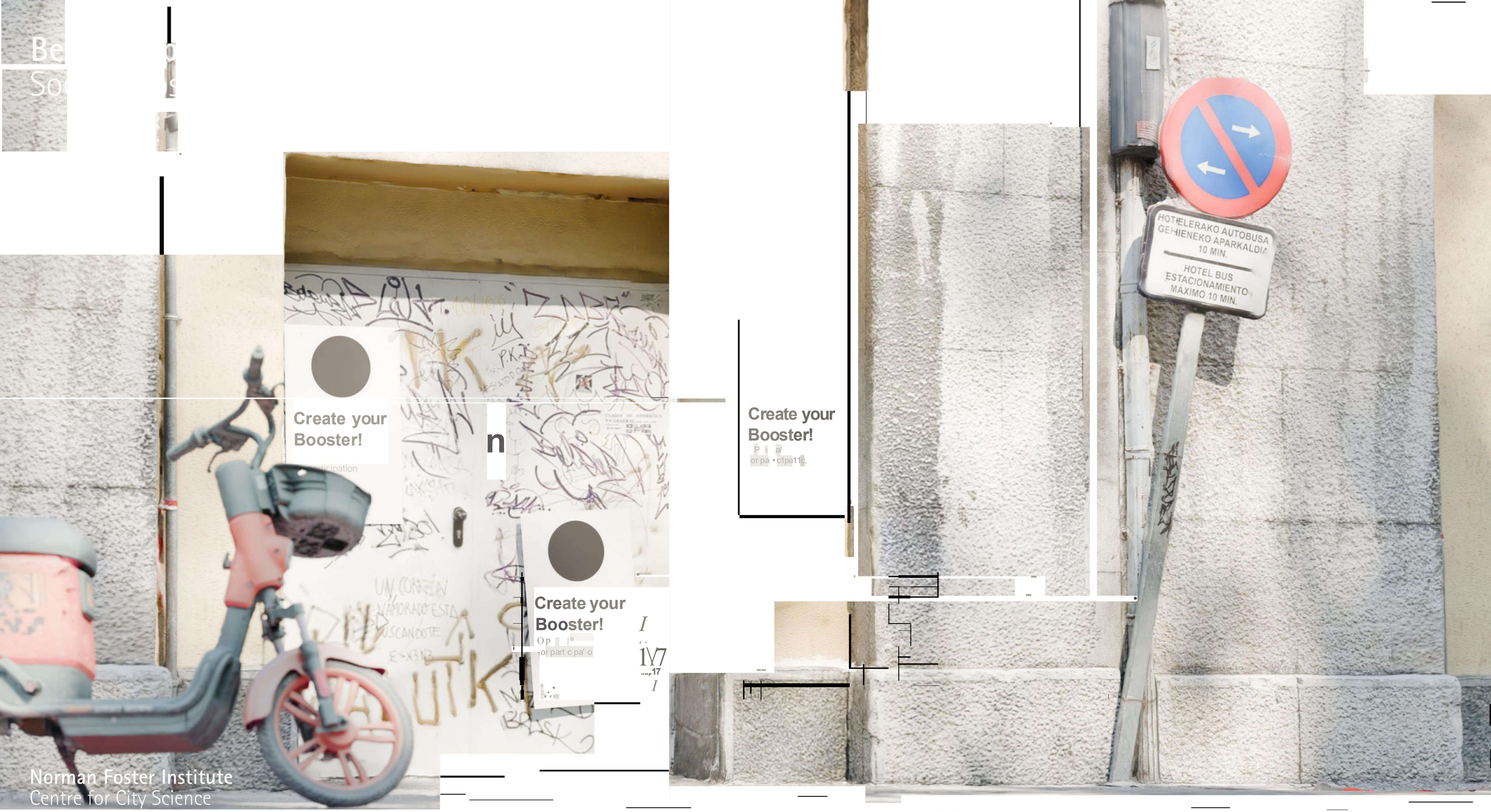
Create your Booster!
Create your Booster!
Create your Booster!
HOTELERAKO AUTOBUSA
GEHIENEKO APARKALDIA
10 MIN.
HOTEL BUS
ESTACIONAMIENTO
MÁXIMO 10 MIN.

Freetown Sierra Leone

Urban Regeneration Catalysts in Central Business Districts

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Beyond Spatial Data

Freetown, Sierra Leone

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Freetown, Sierra Leone

10x
Population Growth in 50 years

1.38 million
Residents in 2024

2 million
Residents Projected in 2028

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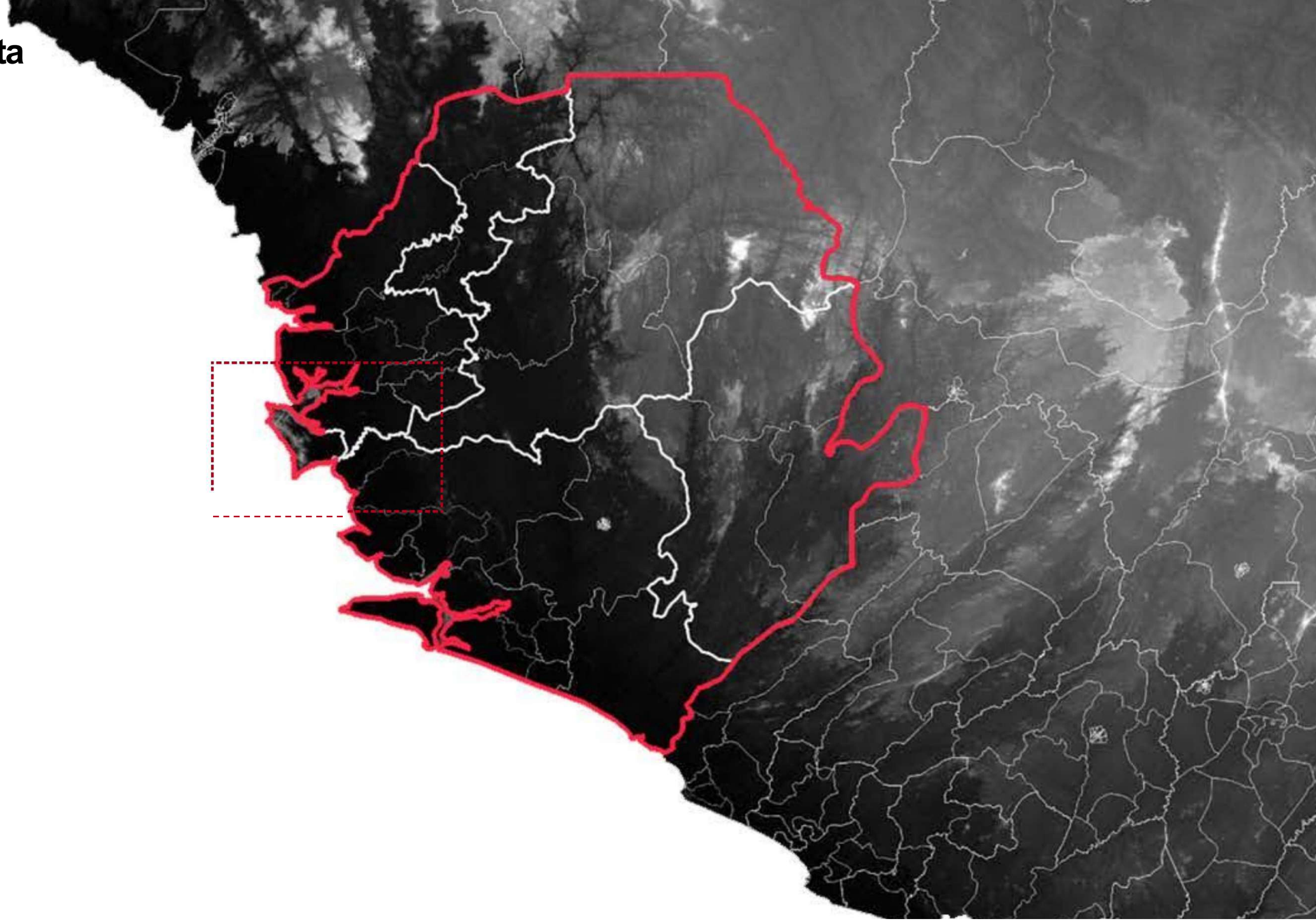
Sierra Leone



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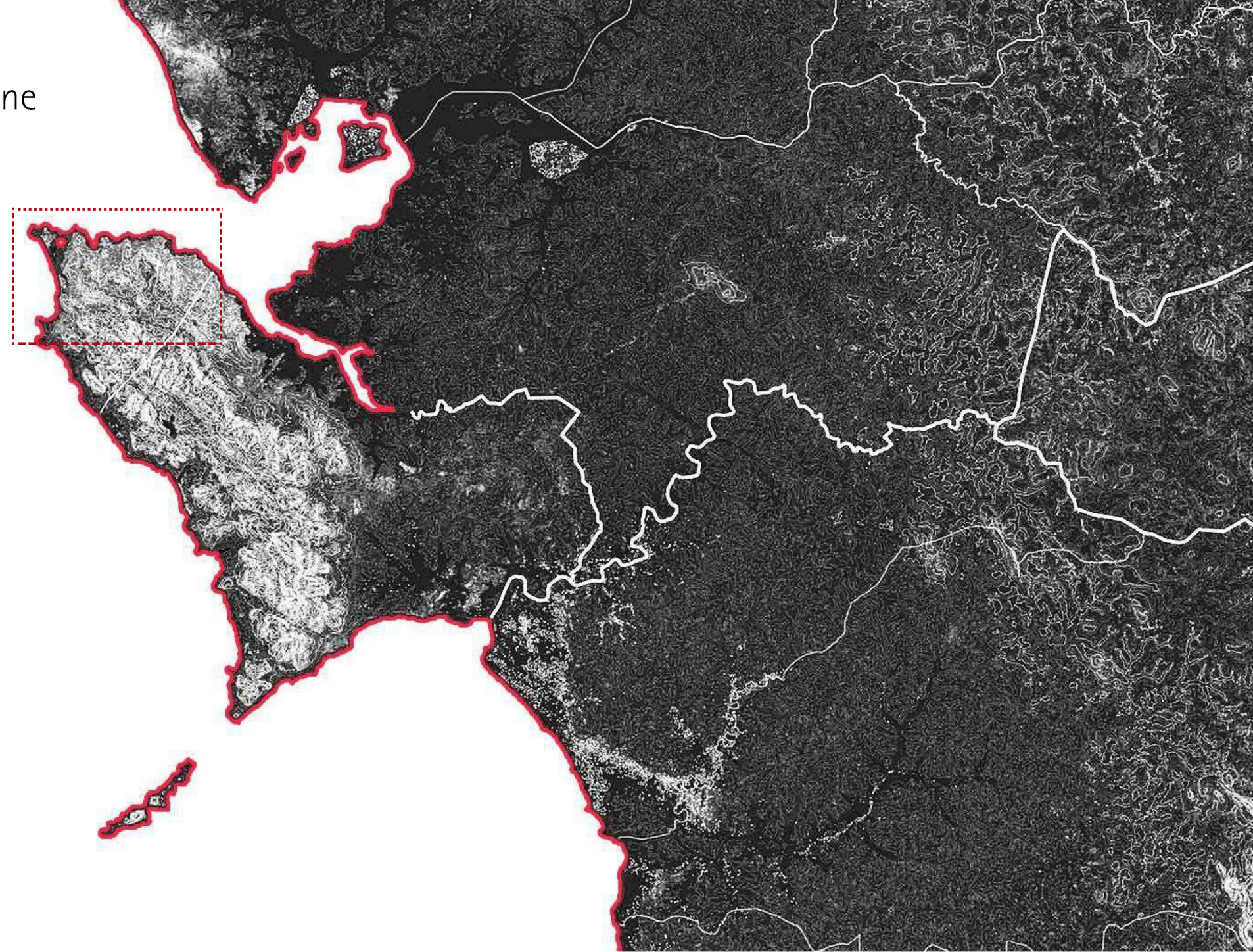
Western District, Sierra Leone



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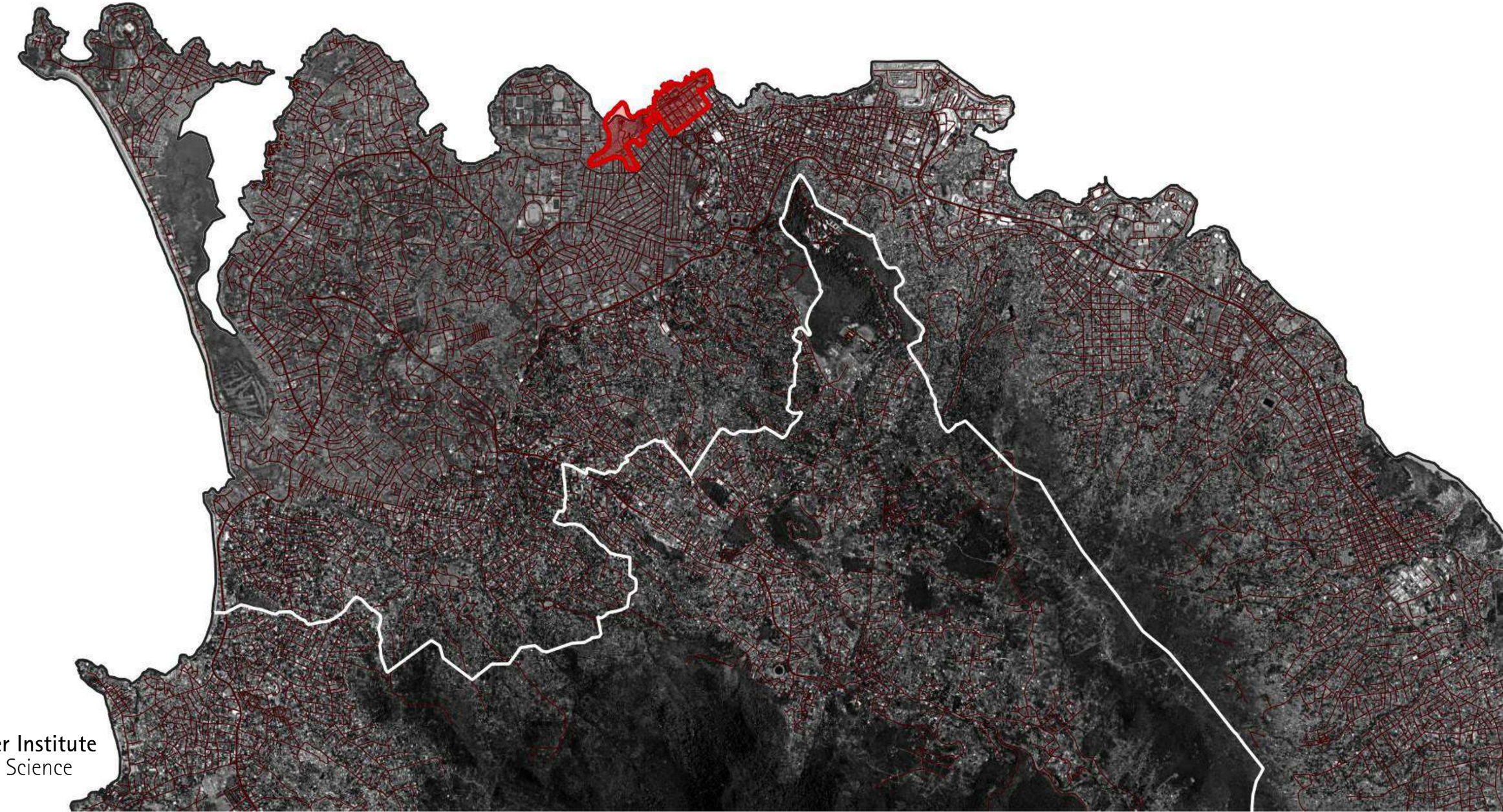
Central Business District, Freetown



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Freetown, Sierra Leone

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Freetown, Sierra Leone

90 minutes

to cover 10 km in rush hour

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Beyond Spatial Data:
Freetown, Sierra Leone

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Freetown, Sierra Leone
24%
of streets are paved
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Freetown, Sierra Leone

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Freetown, Sierra Leone
42%
of streets are vulnerable to seasonal flooding
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Betown, Sierra Leone

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Freetown, Sierra Leone

54%
of trips are taken by foot

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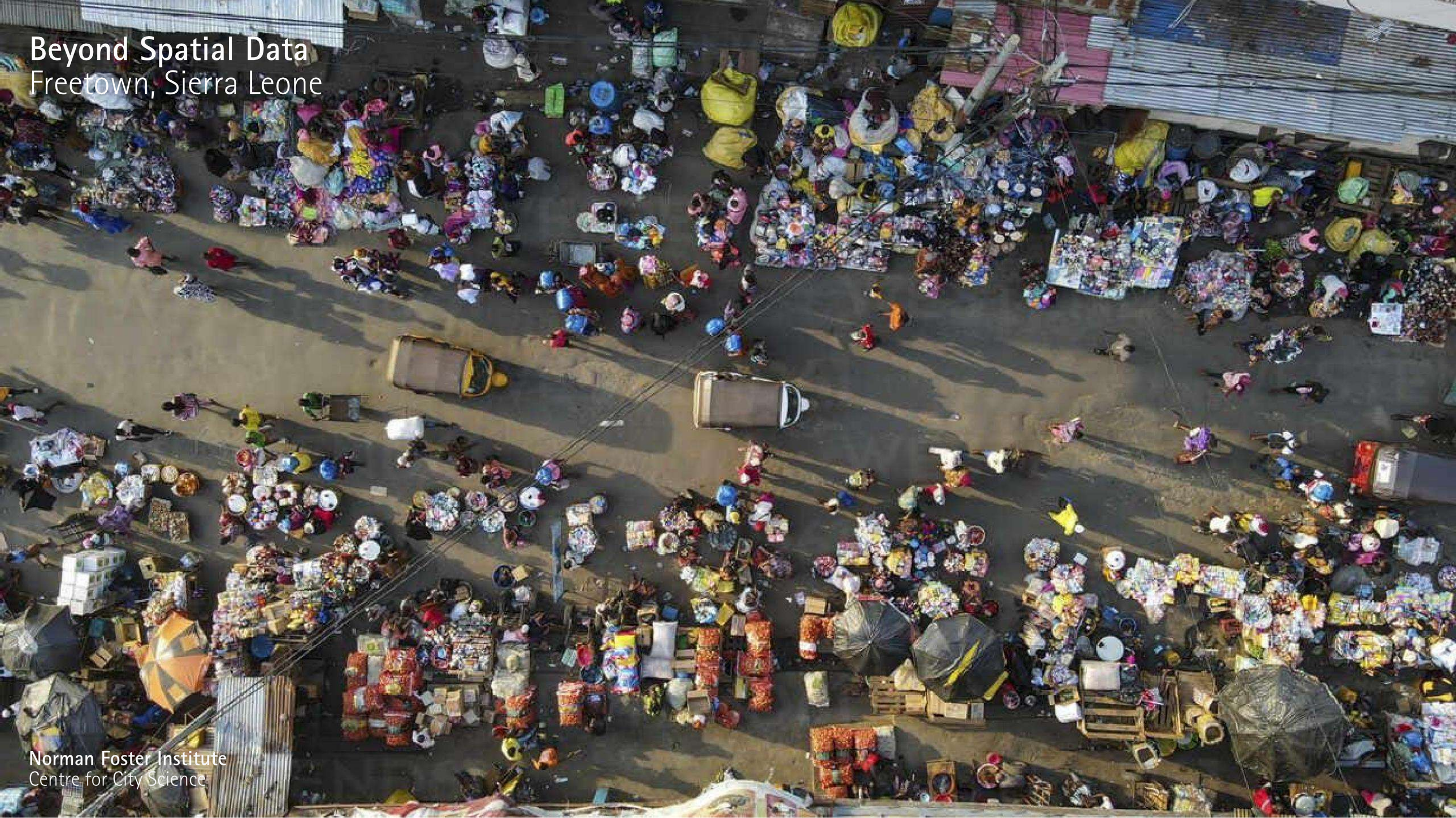
Freetown, Sierra Leone



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Freetown, Sierra Leone
60%
of traders work on the street
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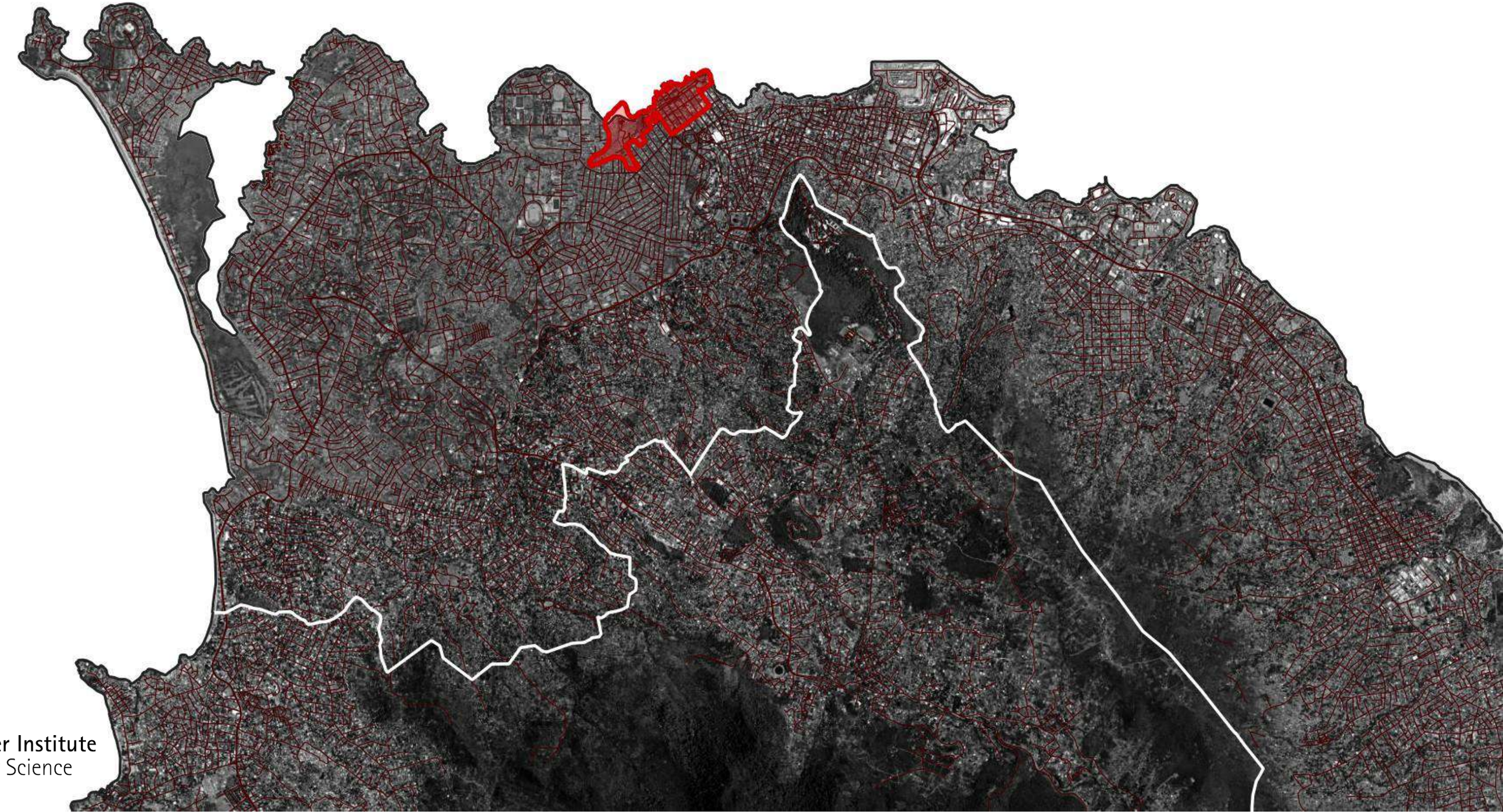
Central Business District, Freetown



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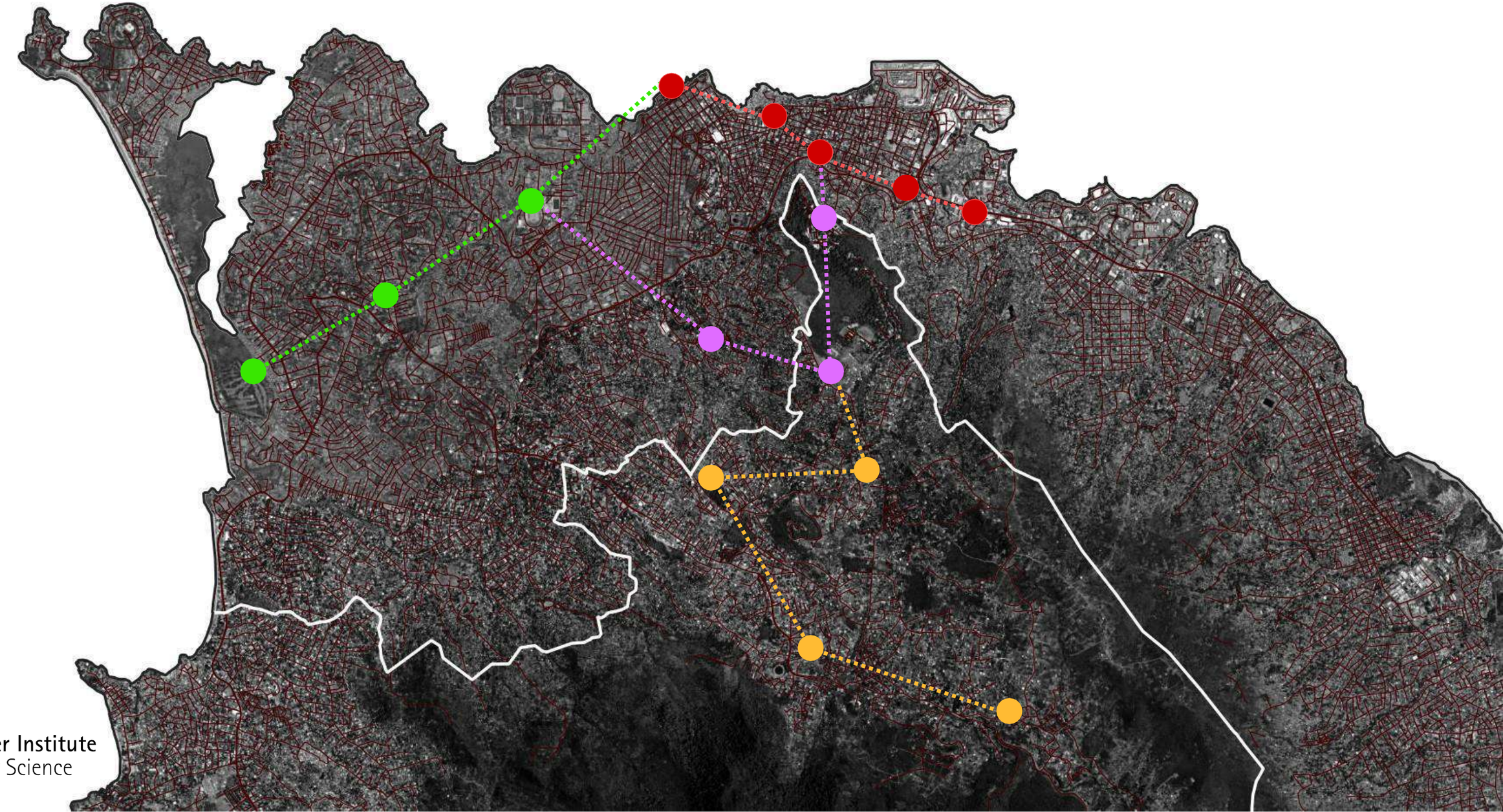
Proposed Cable Car Corridors



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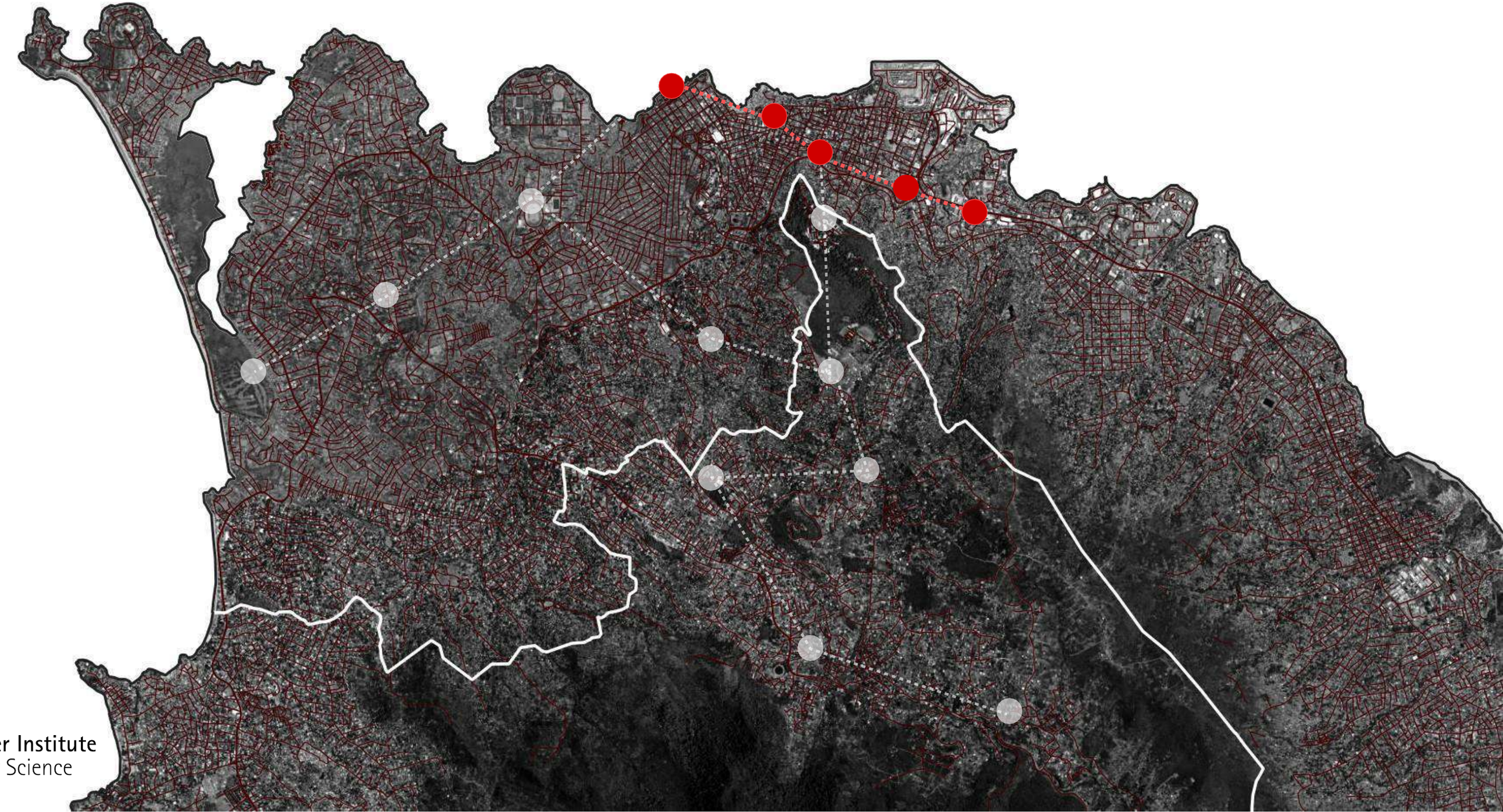
Proposed Phase One



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Beyond Spatial Data
Proposed Phase One

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Central Business District

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Beyond Spatial Data
Modular Street Interventions

Street Markets

How to make market stalls efficient, moular and adaptable for vendors while optimising space

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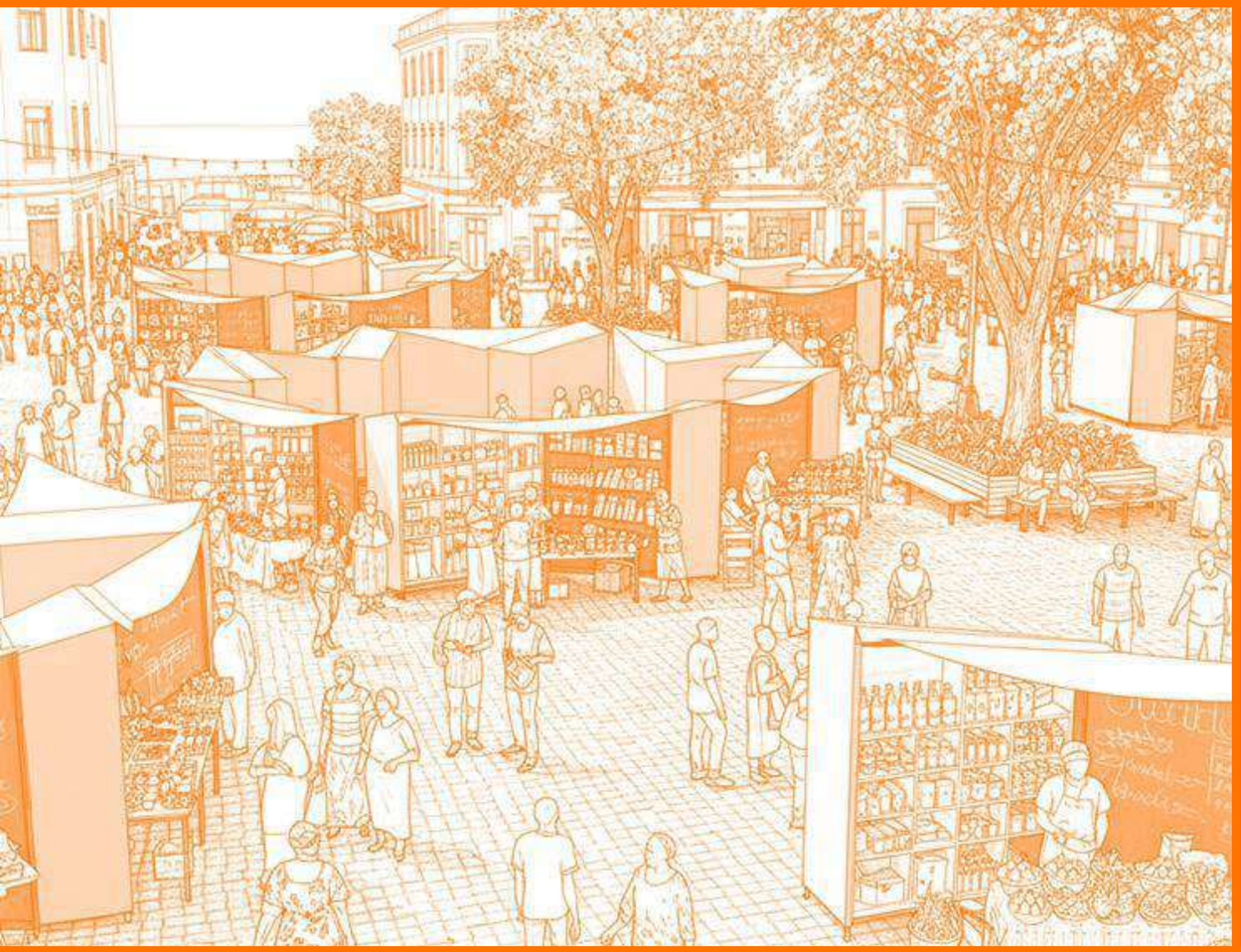
Modular Street Interventions



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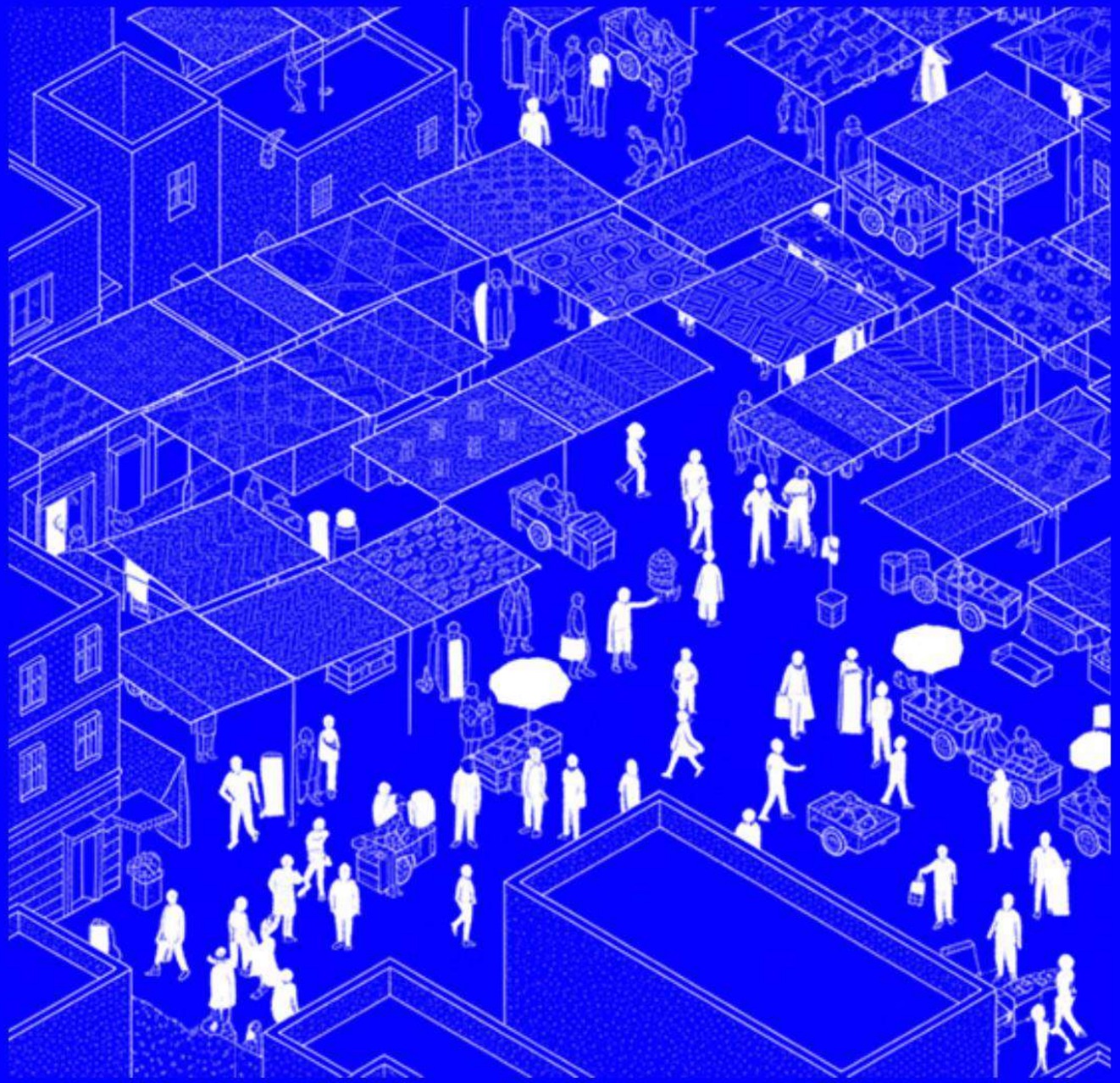
Beyond Spatial Data
Modular Street Interventions

Shaded Relief

How to provide adequate shading to ensure comfort for all pedestrians while optising street space



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Modular Street Interventions

Night Economies

How to provide innovative uses of streets lighting through citizen monitoring to reduce theft and improve safety

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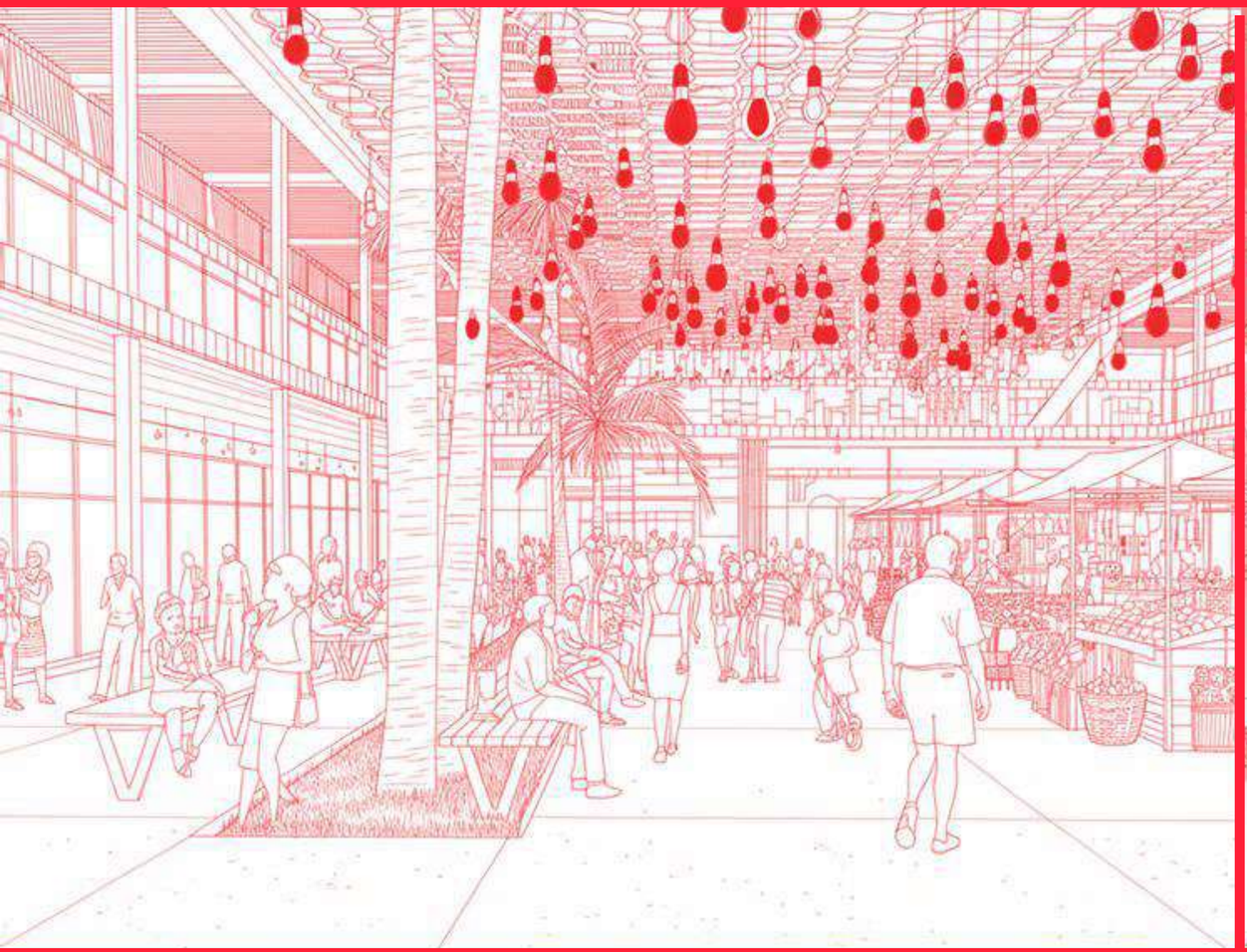
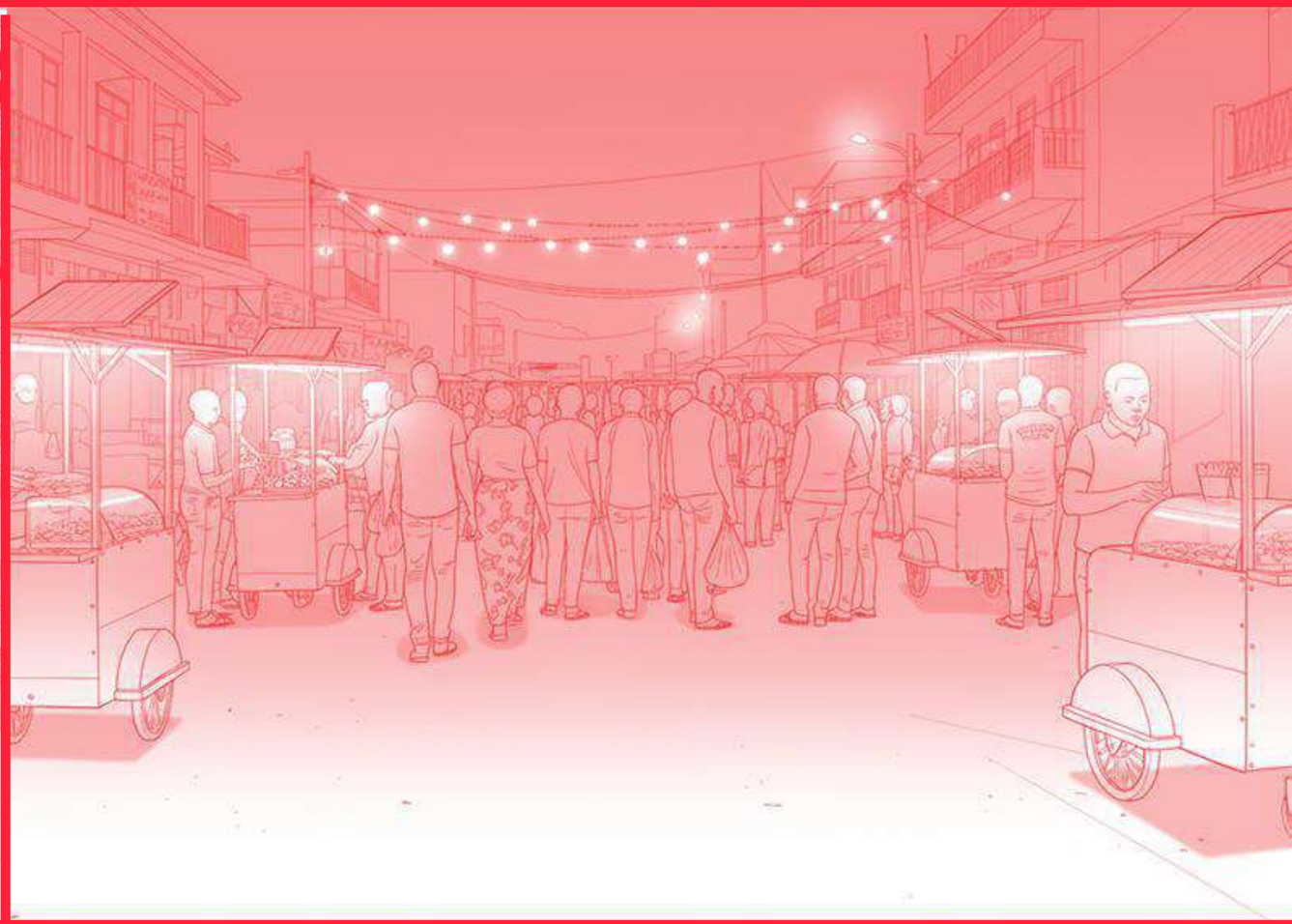
Modular Street Interventions





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Modular Street Interventions

Public Resorces

How to distribute public services to ensure equity and resilience for all pedestrians

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Vision for Streets

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