

**Kharkiv Masterplan**  
UN4Kharkiv Task Force Meeting Update

**Update:**

**1. Key Project Milestones**

**2. Conclusions carried out work:  
Vision for Kharkiv**

**3. Following Steps**



FORUM OF  
MAYORS  
2022



UNECE



UNECE Second Forum of Mayors – April 2022





Kharkiv City Council



Norman  
Foster  
Foundation





Kharkiv City Council



Norman  
Foster  
Foundation

Ian Goldin  
Ed Glaeser

Arup

Advisory  
Board

Local  
Architects  
+ Experts

Wider UN  
Community

**APRIL 2022 – FEBRUARY 2023**

**110+ WORKING SESSIONS**

**800+ PEOPLE**

**QUESTIONNAIRE**

**16,000+**







**Diego López Urruchi**  
NFF

**Norman Foster**  
NFF

**Dmitriy Fomenko**  
Local Architect

**Alberto Cendoya**  
NFF



**Olga Demianenko**  
Kharkiv City Council

**Juan Valle**  
UNECE

**Ana Paez**  
One Works

**Gulnara Roll**  
UNECE

**Melani Steinkemper**  
UNECE

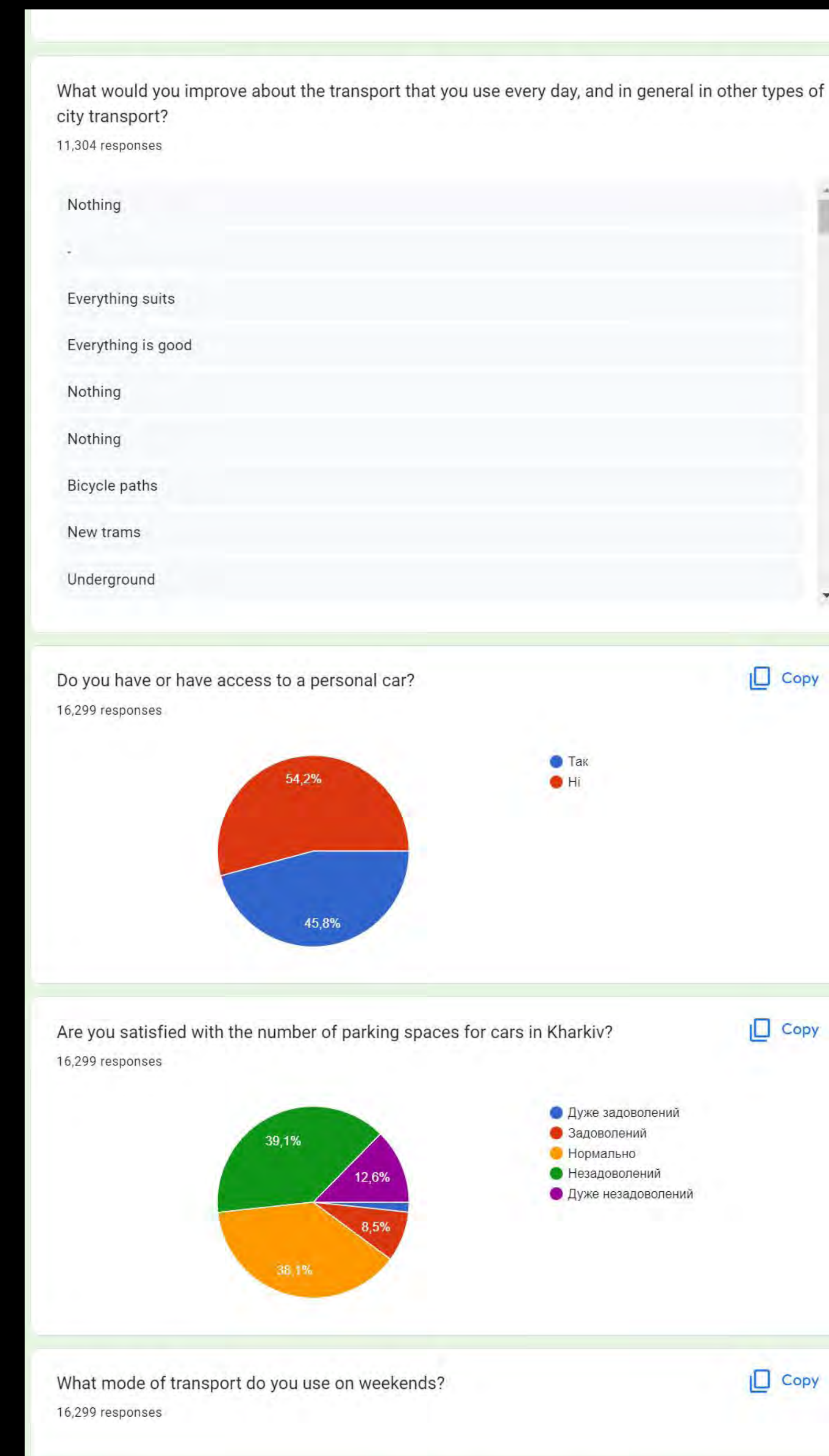
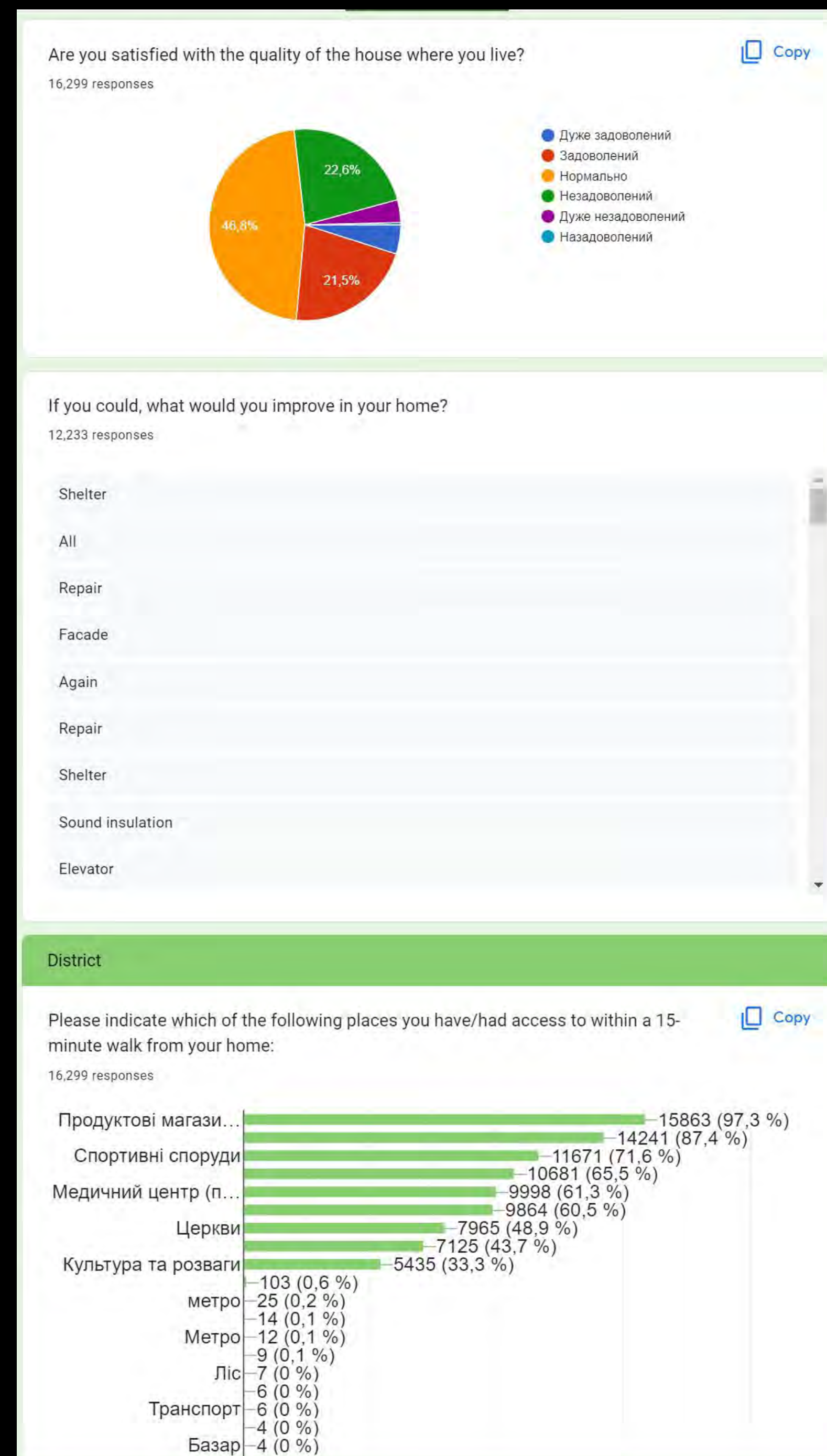
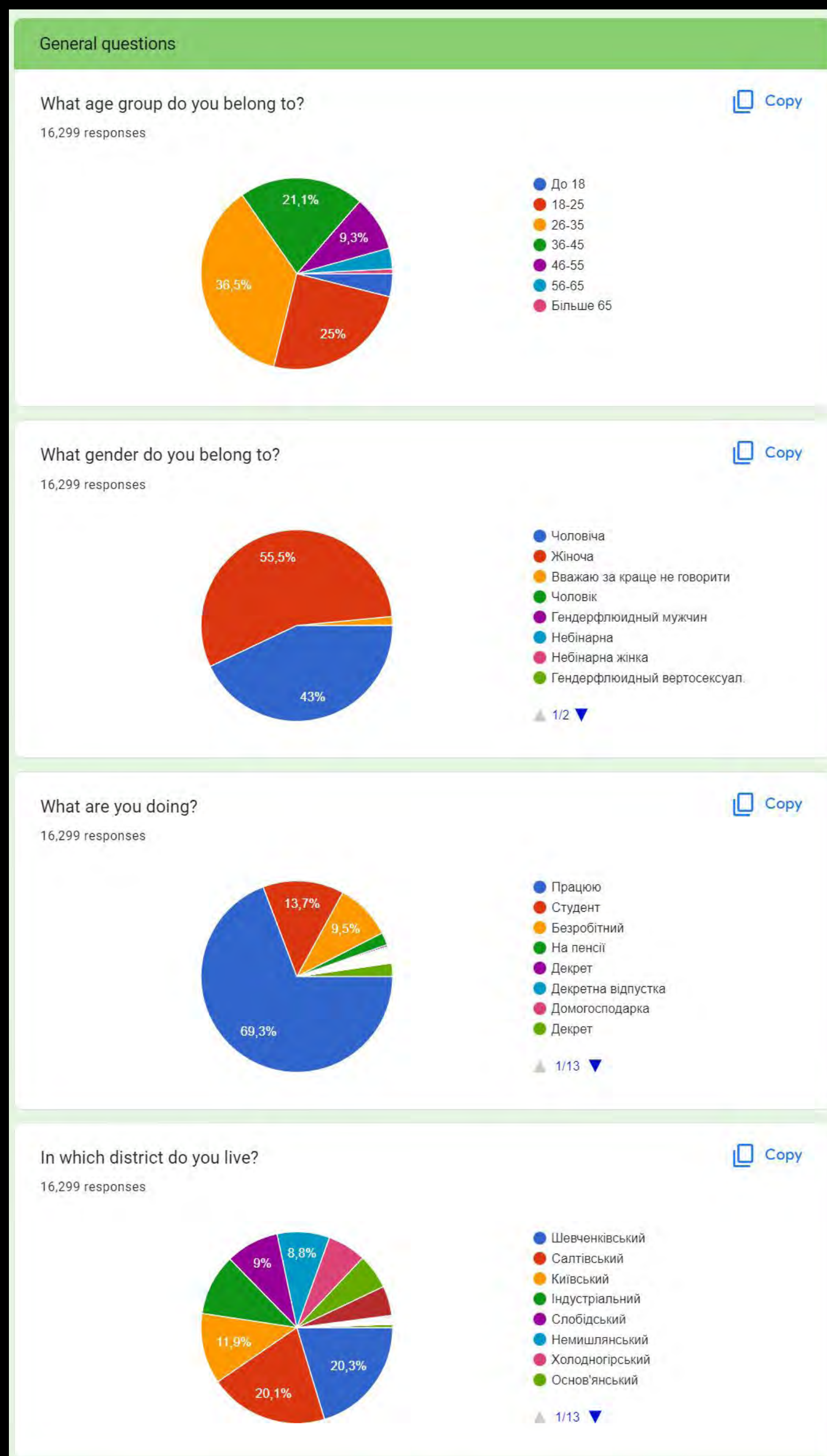


# QUESTIONNAIRE

16,000+ Citizens Replied: Social, Housing, Neighbourhood, Transport, City-Wide

## Initial Analysis

## Correlation Analysis (Ed Glaeser, Harvard University)



**Summary Statistics**

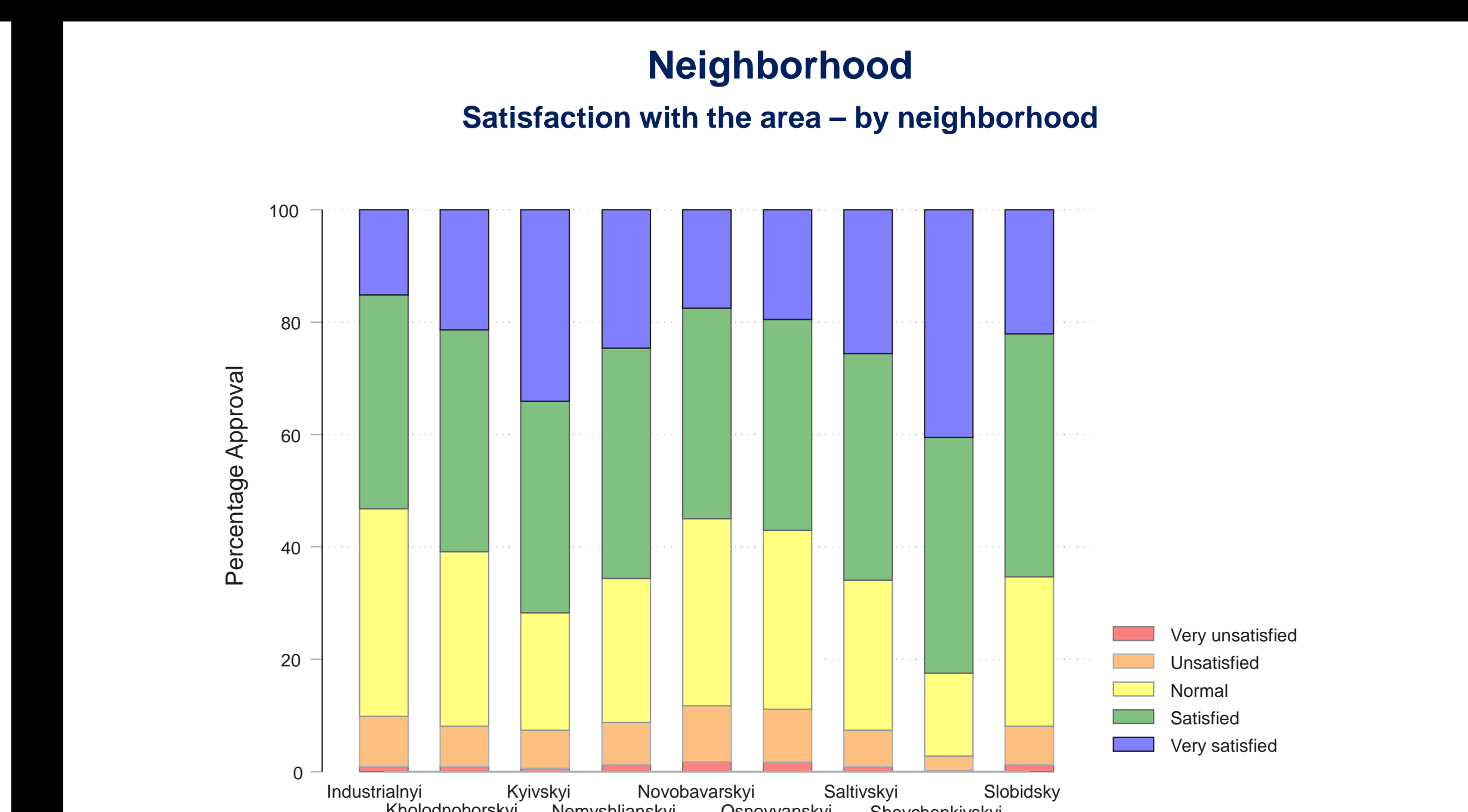
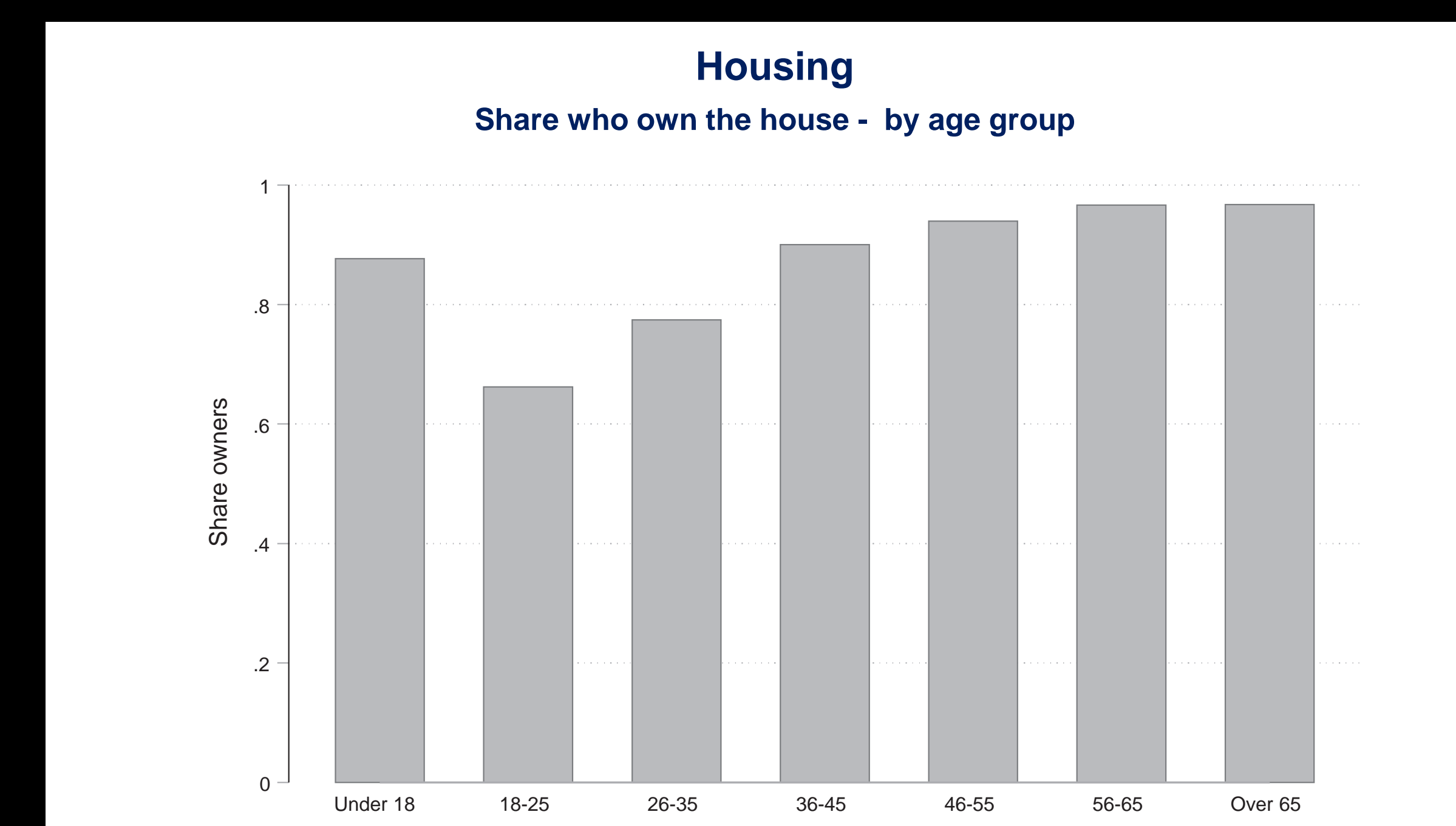
District	Average Age	Percent Female	Share Employed	Share of Students
Industrialnyi	33	0.57	0.70	0.15
Kholodnohorskyy	32	0.57	0.69	0.18
Kyivskyy	35	0.56	0.69	0.18
Nemyslianskyi	33	0.59	0.72	0.13
Novobavarskyi	34	0.58	0.67	0.15
Osnovyanskyi	33	0.58	0.71	0.13
Saltivskyy	33	0.56	0.71	0.14
Shevchenkivskyy	33	0.54	0.75	0.15
Slobidsky	33	0.55	0.73	0.13
Miscellaneous	31	0.63	0.55	0.25

**Satisfaction summary**

Table 1: Satisfaction by variable and district

	Count	Quality	Area	Security	Garbage	Transport	Parking
Industrialnyi	1,683	2.99	3.58	2.73	2.21	3.21	2.51
Kholodnohorskyy	1,059	3.09	3.73	3.01	2.26	3.25	2.53
Kyivskyy	2,016	3.13	3.98	3.07	2.37	3.23	2.48
Nemyslianskyi	1,439	2.94	3.80	3.00	2.26	3.23	2.44
Novobavarskyi	813	2.99	3.59	2.99	2.35	3.11	2.50
Osnovyanskyi	964	3.04	3.64	3.07	2.35	3.22	2.49
Saltivskyy	3,277	2.94	3.83	2.81	2.29	3.25	2.47
Shevchenkivskyy	3,315	3.04	4.20	3.40	2.32	3.44	2.46
Slobidsky	1,462	2.90	3.78	3.11	2.27	3.26	2.43
Other	264	3.18	3.63	3.05	2.40	3.10	2.65

Notes: This table shows average satisfaction (1 being very unsatisfied and 5 being very satisfied) in several characteristics split by respondent district.





# ECONOMIC VISION PAPER

Edward Glaeser (Harvard University), Ian Goldin (University of Oxford)

## Urban Rebirth: Economic Considerations for Reconstruction in Kharkiv and Ukraine

by

Edward Glaeser and Ian Goldin<sup>1</sup>

Preliminary Rough Draft, Not for Quotation or Citation

15 August 2022

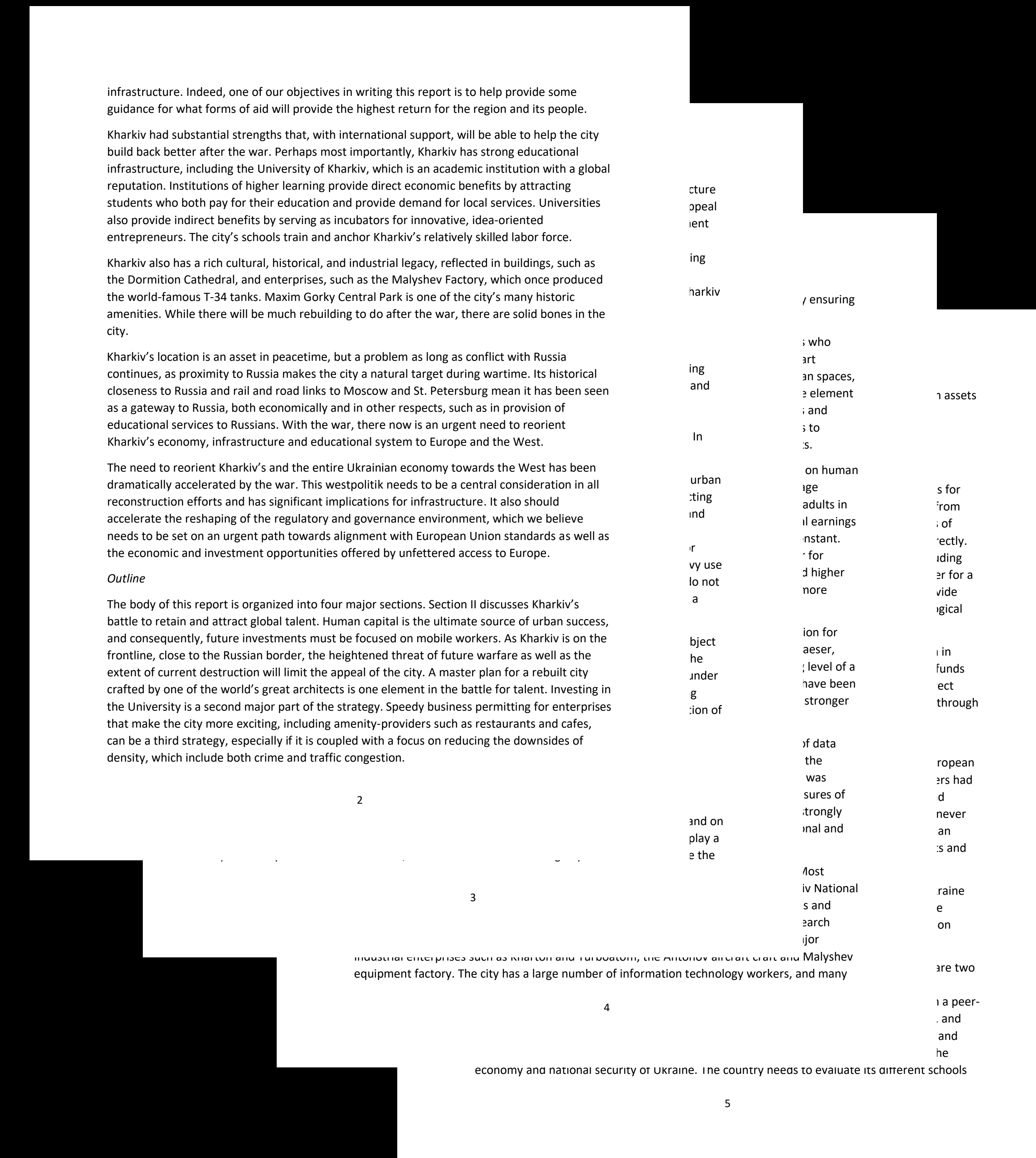
### I. Introduction

As we write this report, shells continue to batter Kharkiv and its environs, as they do many cities and villages across Ukraine. The course of the war remains uncertain, and it is unclear how long it will last and to what extent Kharkiv and other cities in Ukraine will be further damaged. The Mayor of Kharkiv is nevertheless committed to a better future for his city and has reached out to Lord Norman Foster to imagine how this may be achieved. Lord Foster has asked us to focus on the economic aspects of this vision. This document represents our aspirational hopes for post-conflict Kharkiv and provides a model for considering the economic dimensions of reconstruction which we hope will be broadly applicable throughout Ukraine.

Kharkiv is among many of the Ukrainian cities and towns that have been destroyed and damaged by Russia. By focusing on Kharkiv as a pilot we hope to provide insights which have wider implications for Ukraine. It will be up to the Ukrainian leadership to determine the priorities and allocate resources nationally for the reconstruction of their country. The dimensions we cover will be of varying significance in different parts of Ukraine, and the analysis of each city needs to be rooted in its historic, social and economic foundations and to be informed by local as well as national concerns and priorities. Nevertheless, we believe that the lessons from our analysis of Kharkiv have broader resonance.

In thinking about what is possible, we assume that when the war is over Kharkiv will remain an integral part of Ukraine, close to the Russian border and devastated by the conflict. We will also assume that substantial international aid will be available to rebuild the city and its

<sup>1</sup> Glaeser is the Fred and Eleanor Glimp Professor of Economics at Harvard University. Goldin is Professor of Globalization and Development at the University of Oxford. The views in this paper are those of the authors and should not be attributed to their universities or any other institution or individual.



36 pages



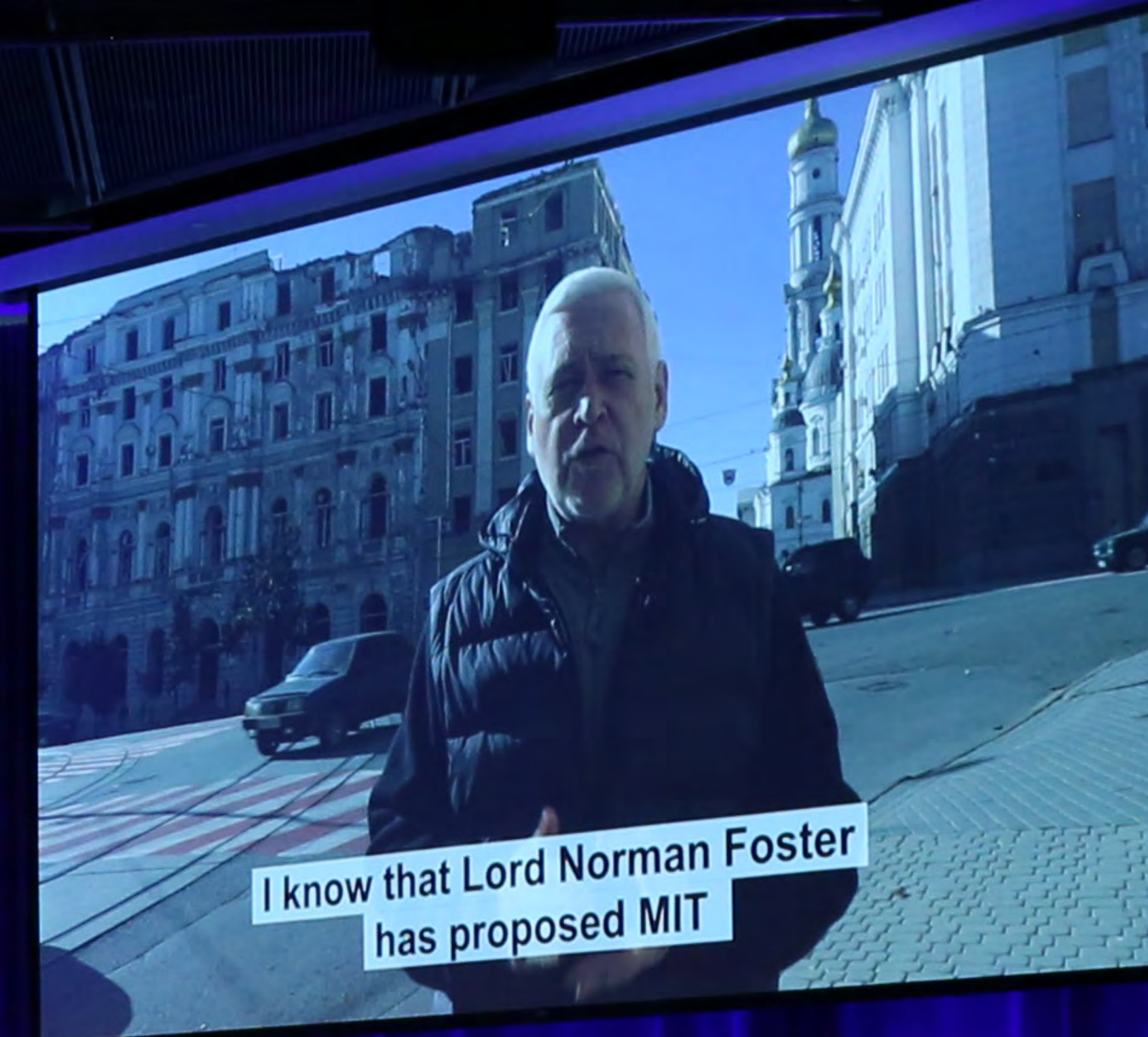
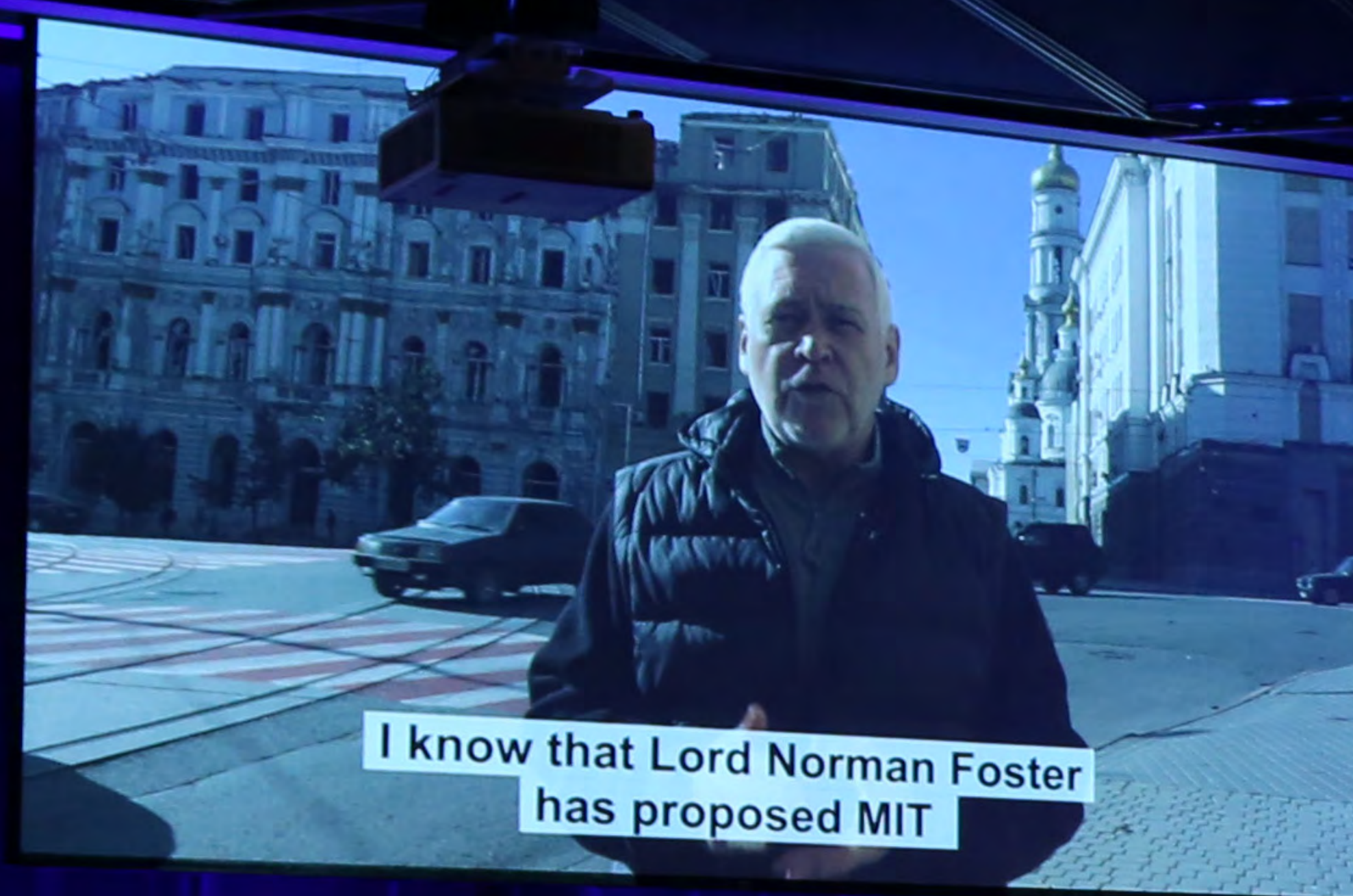
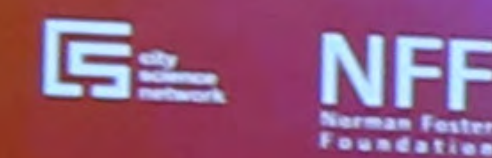


UNECE Committee on Urban Development, Land and Housing, San Marino – October 2022

Norman Foster Foundation



CITY SCIENCE  
SUMMIT 2022



CITY SCIENCE  
SUMMIT 2022

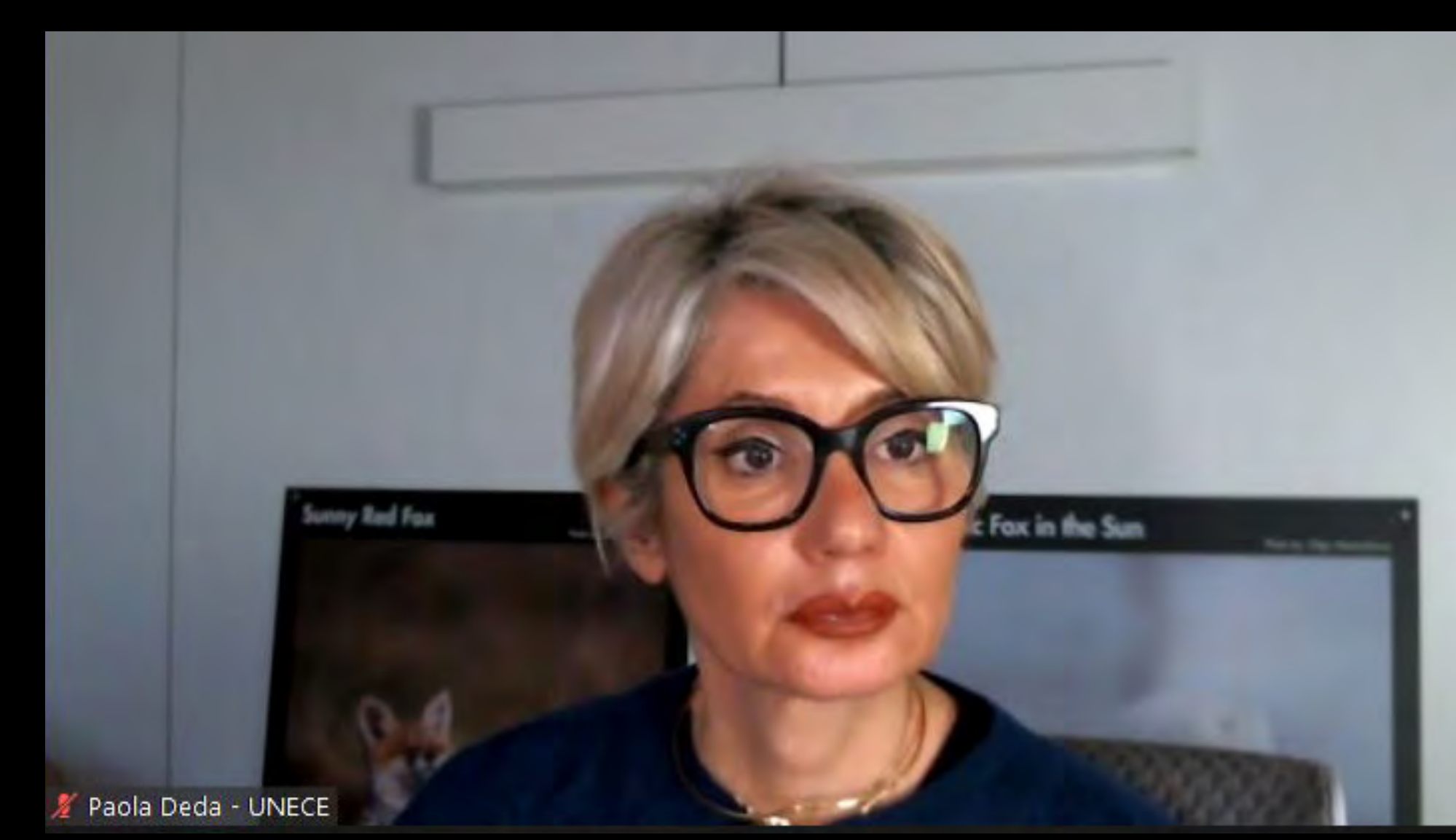






Meeting between Mayor Terekhov and Lord Foster, Ukraine – December 2022





Press Conference at Karazin University, Kharkiv, Ukraine – February 2022



# KHARKIV MASTER PLAN ANALYSIS AND VISION

April 2022 - Ongoing

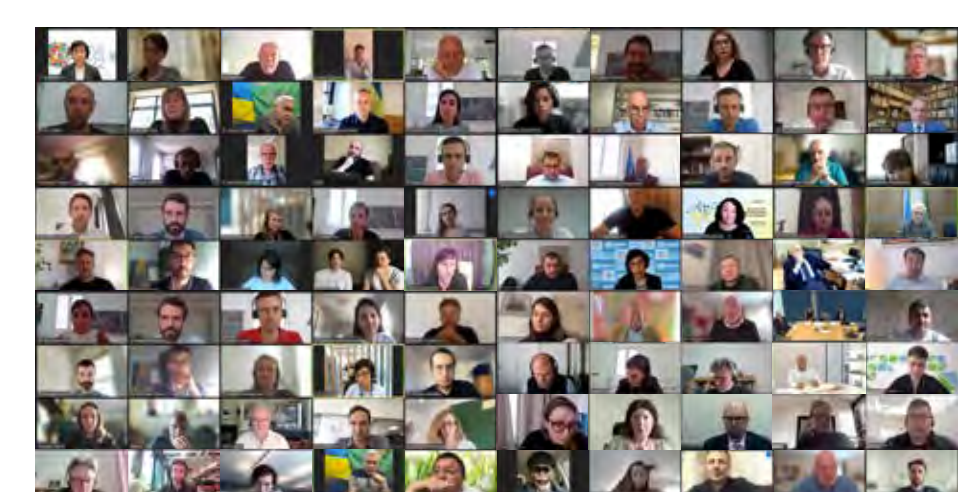
Norman Foster Foundation ARUP Kharkiv Architects

### Key Milestones

- April 4-5 United Nations 2nd Forum of Mayors - Mayor Ihor Terehiov asks Lord Norman Foster for help with Kharkiv Masterplan
- April 18 Kick-off Meeting between UNICE, Mayor Terehiov, Norman Foster, Kharkiv City Council, Norman Foster Foundation, Edward Glaser, and Ian Bolton to discuss project ambitions and strategy
- April 25 Incorporation of Arup engineering to masterplan core team and creation of masterplan Advisory Board
- May 27 First meeting between Norman Foster and Kharkiv Architects Group to discuss Kharkiv's future vision
- June 2 Creation of Public Participation Questionnaire for Kharkiv citizens
- June 20 First face to face meeting at MF Headquarters between Kharkiv City Council, Kharkiv Architects Group, UNICE, Arup, and Norman Foster Foundation team to present initial research and analysis on Kharkiv
- August 15 Edward Glaser and Ian Giddin's Report: Economic Considerations for Reconstruction in Kharkiv and Ukraine
- October 3-7 San Marino UNICE 83rd session Committee on Urban Development, Housing and Land Management at San Marino to present masterplan's pilot project approach
- October 27-28 MIT City Science Summit at MIT Media Lab to present Kharkiv masterplan vision and Science Neighbourhood pilot project
- November 16 Vision phase conclusion and sign-off meeting between UNICE, Kharkiv City Council, Kharkiv Architects Group, Arup and Norman Foster Foundation
- December Development of vision phase summary document to share with Kharkiv citizens, experts and international community

### Work with Local and International Experts


- 3 meetings between Norman Foster and Mayor Terehiov
- 21 coordination meetings with the UK, Kharkiv City Council, Arup and additional experts
- Meetings with local experts:
  - 3 working sessions with Local Architects
  - 3 working sessions on Transportation (2 with locals E1 with Arup)
  - 2 meetings with City Council Communications team on Public Participation
- 10 meetings with Arup (including consultations with Transport (Engineer and Reconstruction expert)
- Participation and presentation on the 3-entertained UK Kharkiv Task Force bi-monthly
- 3 meetings with potential Donors and Financial Institutions (2 with EBRD (E with Donors)
- 5 meetings with the MIT City Science Group on the future Science Neighbourhood for Kharkiv
- 2 meetings with Advisory Board Science Park expert to discuss the pilot project approach
- 3 meetings with EBRD (1 with NEF, 1 with wider team and 1 with local architects)
- Meeting with One-works team to explain the research and work developed for Kharkiv's Masterplan




### 5. Historical and architectural heritage

To preserve the architectural authenticity of the historic part of Kharkiv following the historic reference plan, to preserve and revive the city's historical and architectural heritage, creating additional places of attraction for citizens and tourists within its borders. Furthermore, all planning decisions should be made based on the updated Historical and Architectural Plan. Therefore, new solutions and modern renovation methods within the city's historic areas should become a logical continuation of the existing construction scale (scope) and spatial environment.

Kharkiv is the second largest city in Ukraine. It has the official status of a historic city, which, according to the Law of Ukraine, sets special requirements for its historical and architectural heritage.



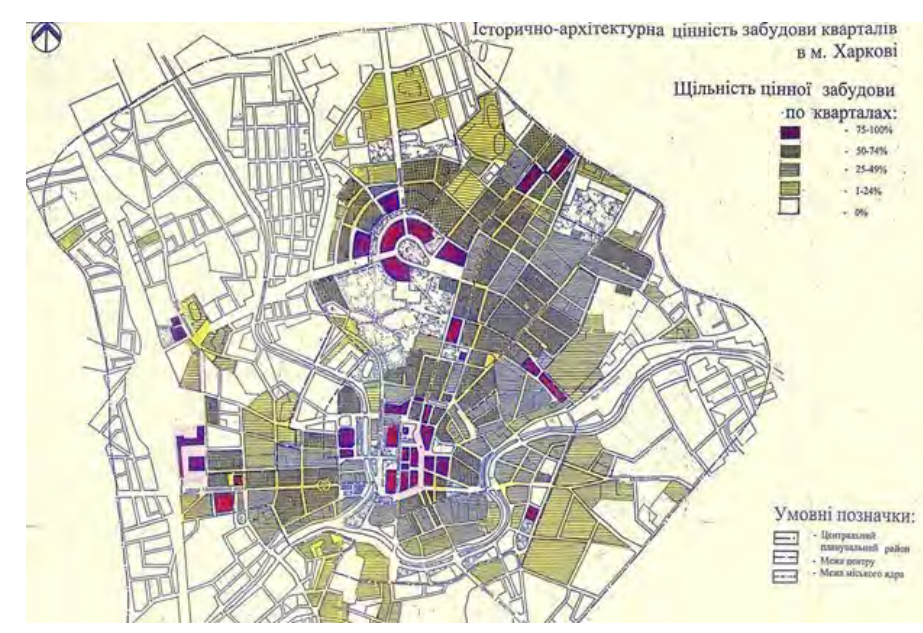
4.1. Kharkiv forms of the 17th century



4.2, 4.3, 4.4 Plans of Kharkiv in 1745, 1795, 1838

Kharkiv has about 1,200 architectural, historical, and cultural monuments covering the period from the 17th to the 20th centuries, as well as archeology monuments from older periods.

The historical and architectural framework of the city is based on the planning of the street network of its central part, developed in the XVI-XIX centuries, the system of historical and architectural dominants, which are primarily temples and other high-rise buildings of the past. The core part of the valuable historical buildings is concentrated within the old city and has a very dense concentration.



4.5. The stream of the concentration of valuable historical and architectural construction of neighborhoods of the historical center

The natural reserve fund of the city has 16 (sixteen) objects with a total area of 1550 hectares, protected by law. For various reasons, the city still needs complete information that would allow for keeping records of the historical and architectural heritage at the scientific level and its protection following existing European requirements. This issue is especially relevant now, given the damage and destruction caused by the Russian Federation's military actions during the war it unleashed against Ukraine.

No less important is to convey to the world and, in particular, the European community information about the little-known in the West - the layer of Ukrainian culture, which for many centuries has been developed with the culture of Europe and the world. The historical and architectural monuments of Kharkiv evidence this. To this end, it is necessary to develop a program for the preservation, restoration, and revitalization of the historical heritage of Kharkiv and an inventory of architectural monuments of the city and the region. Kharkiv is the capital of Ukrainian modernist architecture of the 20th century. The building of the Decembrist is included in the preliminary list of objects of global significance.

Historical and cultural, including architectural, heritage is a source of shaping and growth of an individual, society, or ethnic group and an irreplaceable repository of historical memory. Therefore, it is crucial to consider it as an essential factor in the sustainable life of Kharkiv residents, and the subject of unconditional protection of the historical part of the city and its architectural authenticity. At the end of the day, all this will contribute to the self-identification of the citizens.


### 10. Factories and production

It is proposed to combine several spaces and territories:

- Dividing lanes of forests, Kharkiv, Harkiv, and Harkiv avenues. It is necessary to domesticate solid fences, replace them with mature trees, and add bicycle lanes to the sidewalk.
- The areas of enterprises that ceased their operations and are not involved in the spatial planning due to the changes in modern production (transition from the industrial to the post-industrial era) and the decreasing consequences of Russian military aggression. It is proposed to use these areas to develop landscape parks, such as the Durburg-Noron Park (Landschaftspark Durburg-Noron).
- City hospital parks are also considered a development resource. Therefore, they should be accessible to all residents and can become part of the common environmental framework, including public bicycle and pedestrian routes.
- Manor plots (private sector land plots) that occupy 70% of the city's territory, which are an integral part of the city's green spaces. The construction of intra-district roads, network modernization, and bicycle routes can turn these territories into an essential part of the environmental framework.

See the list and description in annex 8.

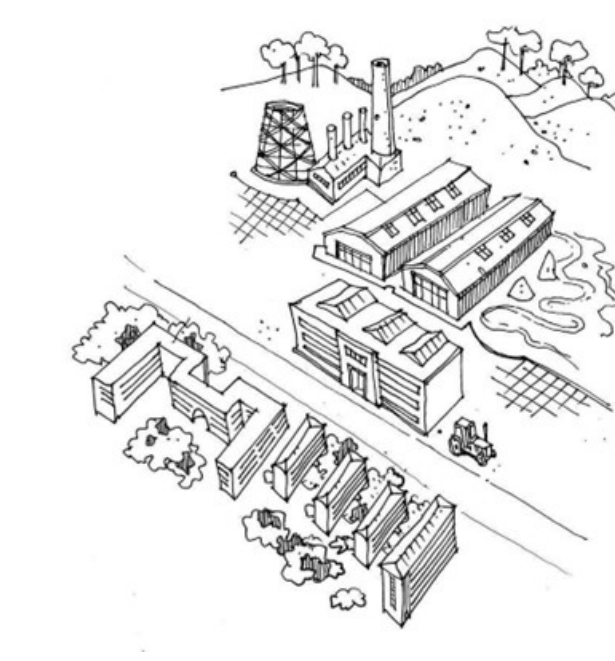
As part of the general concept, a section of the Kharkiv River from the Zhuravivka reservoir to the Harkiv Kharkiv avenue was selected as a pilot project. This section of the river is interesting in that it "meets" with residential developments, parks and industrial areas, combining various functional areas with a green framework.



8.2. Green Framework - ESing

There has long been substantial experience modernizing such territories in international practice. Therefore, the most practical experience in reconstructing this environment is functional project solutions that respect complex practical approaches. The individual approach to each such area allows for the use of those areas' potential to the maximum. In implementing each project, complex studies are conducted, considering architectural and urban planning, cultural and historical, socio-economic, and other options.

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9.1. A pattern (bottom): Factories, production, and housing

### 2. Rivers

Kharkiv has four rivers with varying widths and riverbank contents. Through the redesign of a selected river locations in the city, Kharkiv will have a strategy to transform its rivers into high quality public spaces that will serve an ecological corridor, promoting walking and cycling strategy for the city. The original purpose of the city's rivers as communication and natural arteries will be recovered.

Conclusions extracted from Dornier and Kharkiv City Council transportation study:

- Private Cars "Further increase in car ownership" "Rapid development of car-oriented mobility"
- Bicycle "Lack of bicycle infrastructure" "Only 1-2% use bicycle as a way to move"
- Walking "Walking mobility holds a significant share in the overall structure of movement, 20%"

Project Length for Bicycle Infrastructure  
Project Length for Walking Infrastructure



# 2. Analysis and Vision



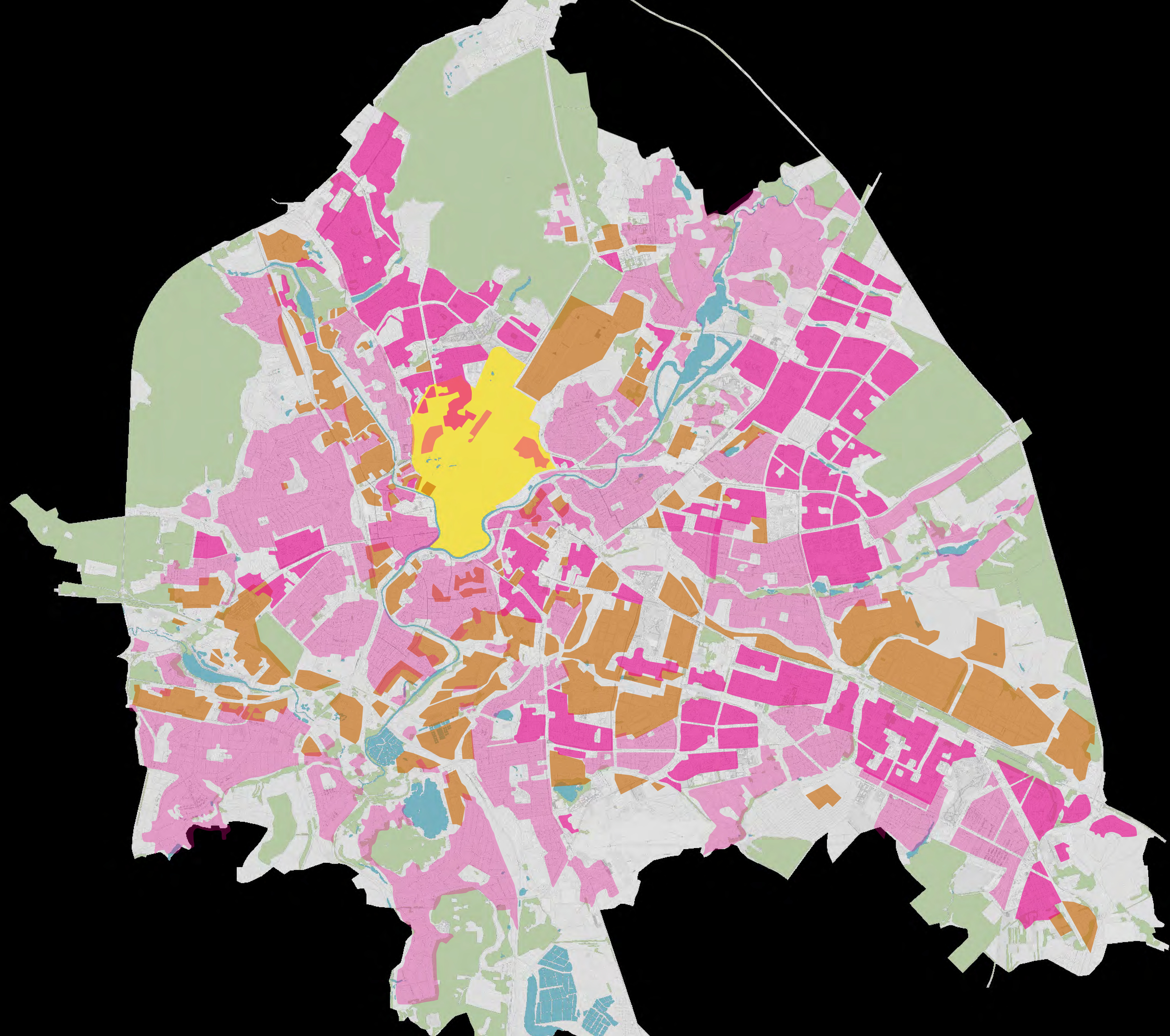
**HERITAGE**

**RIVERS**

**INDUSTRY**

**PARKS**

**HOUSING**





# HERITAGE







**5000 Homes 280 Schools 77 Hospitals 1800 Offices 60 Cultural**



**REBUILD DESTROYED HERITAGE**

**"KHARKIV ARCHITECTS GROUP"**

**IMPROVE PUBLIC SPACES**

**"KHARKIV SUSTAINABLE TRANSPORT REPORT"**

**CREATE NEW LANDMARK**

**"MAYOR OF KHARKIV"**





**DERZHPROM at Freedom Square. 1928. Serafimov, Kravets, Felger.**





**Regional Administration Building Transformation at Freedom Square**



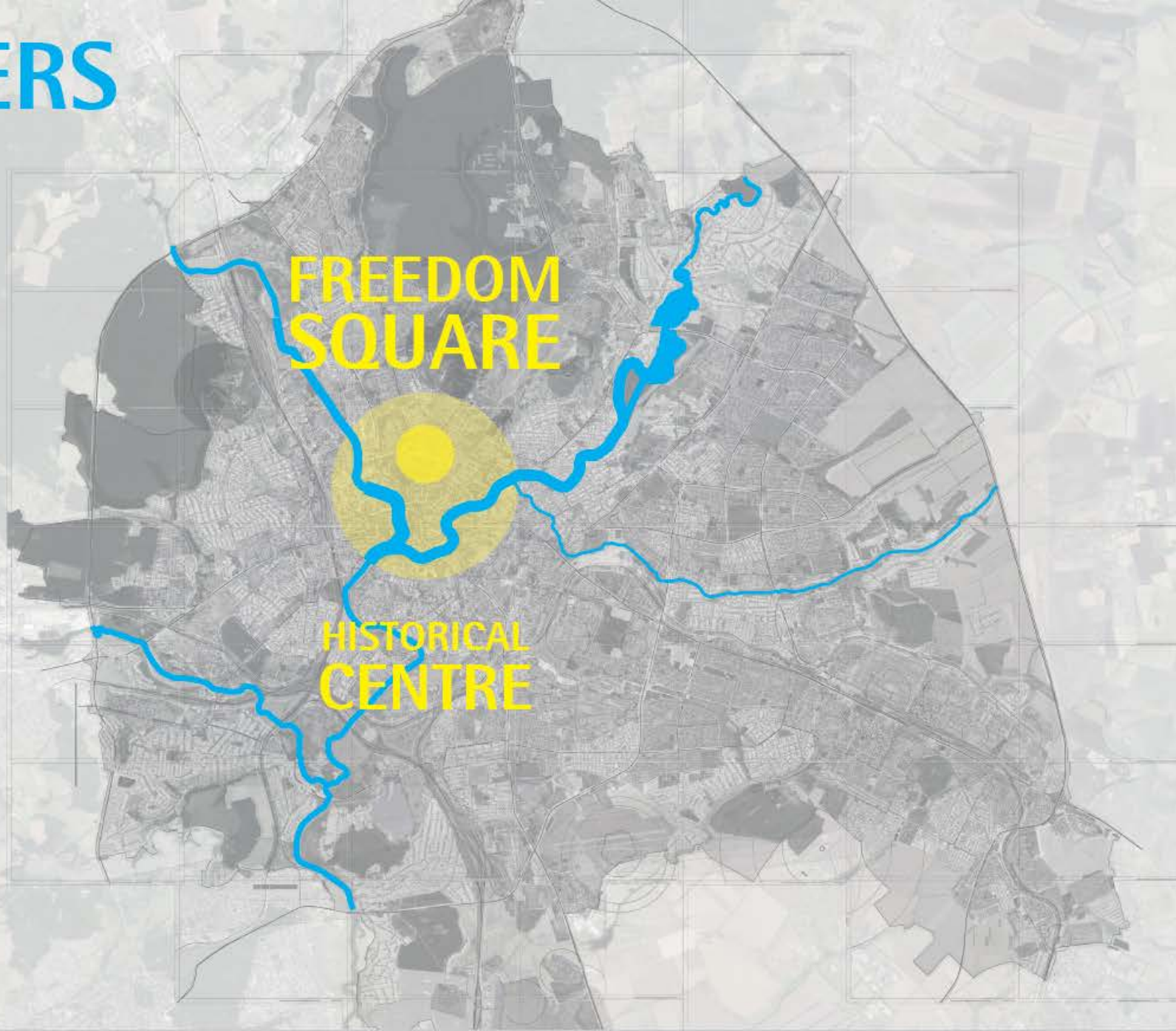








# RIVERS



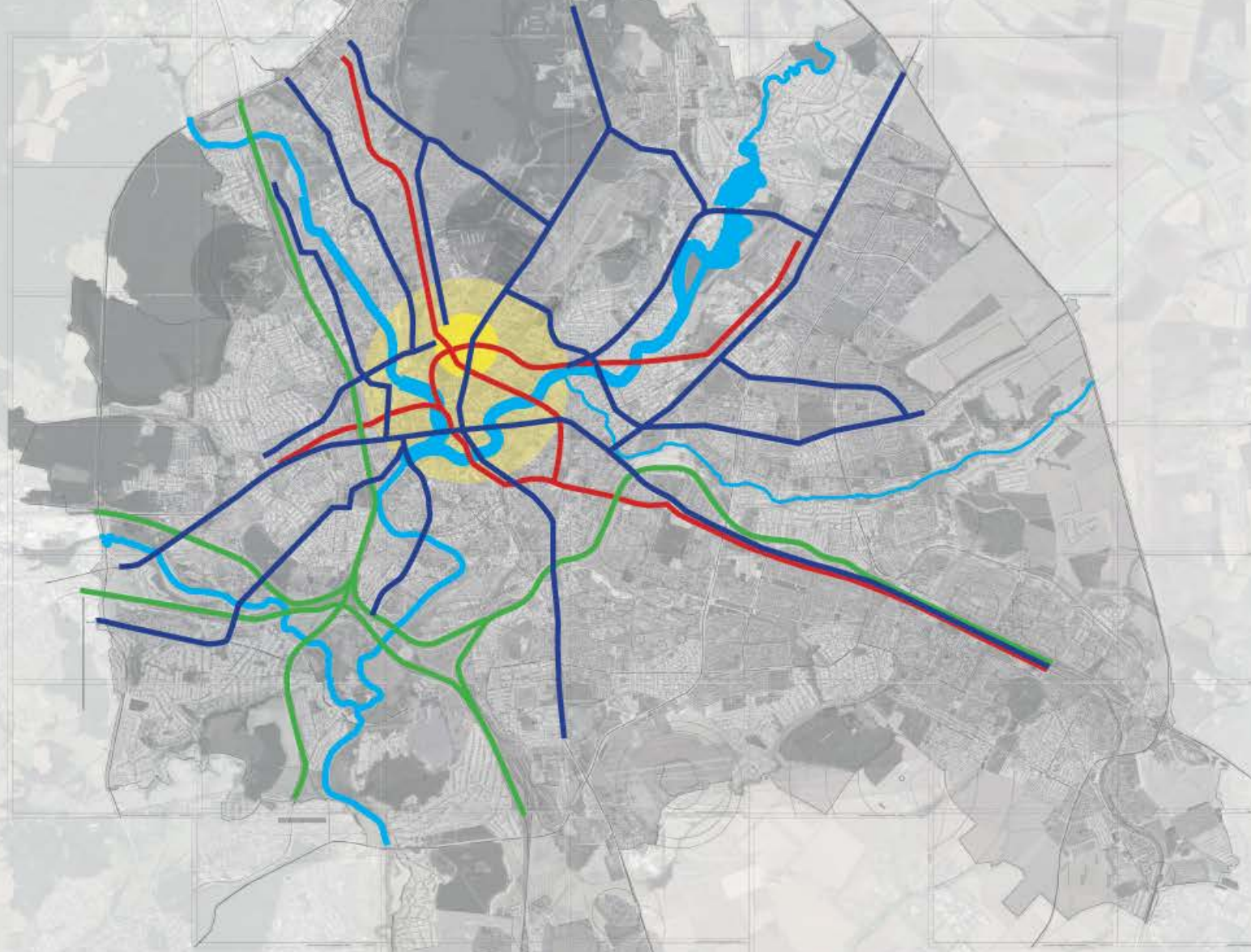


**RIVERS**

**ROADS**

**RAIL**

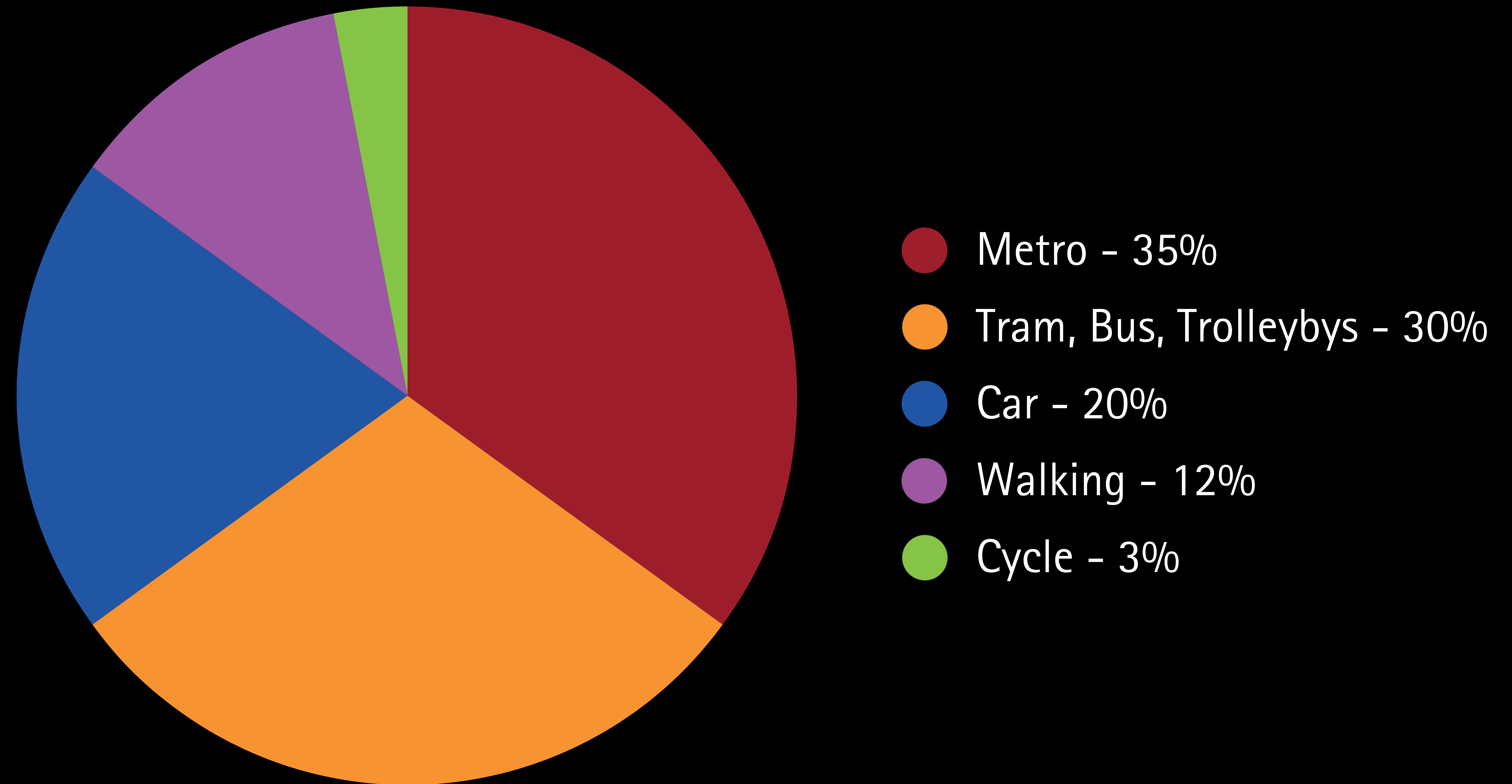
**METRO**





# COMMUTING

Main Mode of Transport in Daily Use





# STATUS OF SUSTAINABLE URBAN MOBILITY DEVELOPMENT PROJECTS IN KHARKIV

Extended meeting of stakeholders

За підтримки Німеччини / Швейцарії



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Швейцарська Конфедерація

Виконавець:

**giz**

Генеральне управління  
у міжнародній  
кооперації розвитку



**ХАРКІВ 2030**

ІНТЕГРАЦІЙНИЙ РОЗВИТОК МІСТА

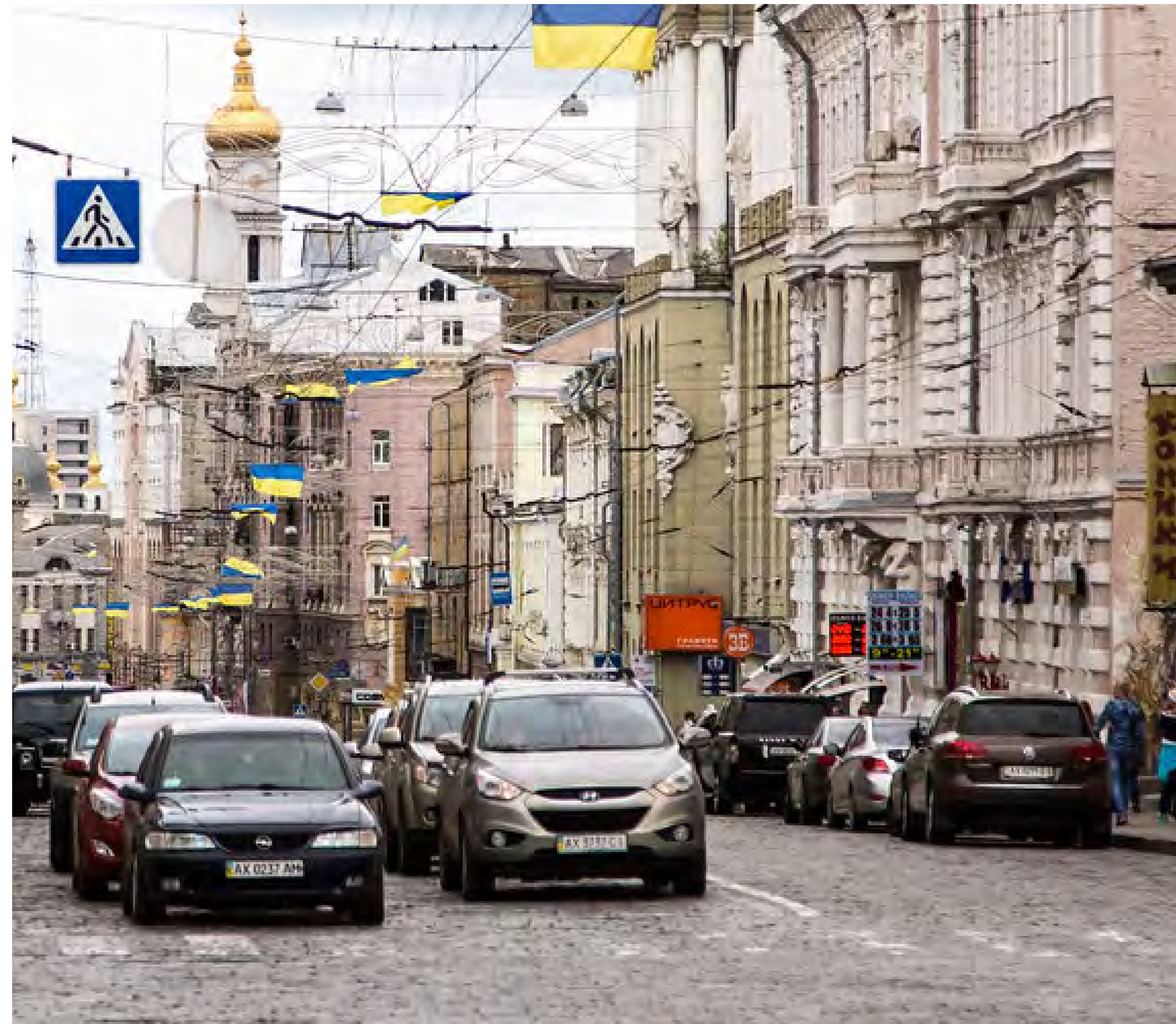
www.kharkiv2030.com

 **DORNIER**





## Private Cars



"Further increase in car ownership"  
"Rapid development of car-oriented mobility"

## Bicycle



"Lack of bicycle infrastructure"  
"Only 1-2% use bicycle as a way to move"

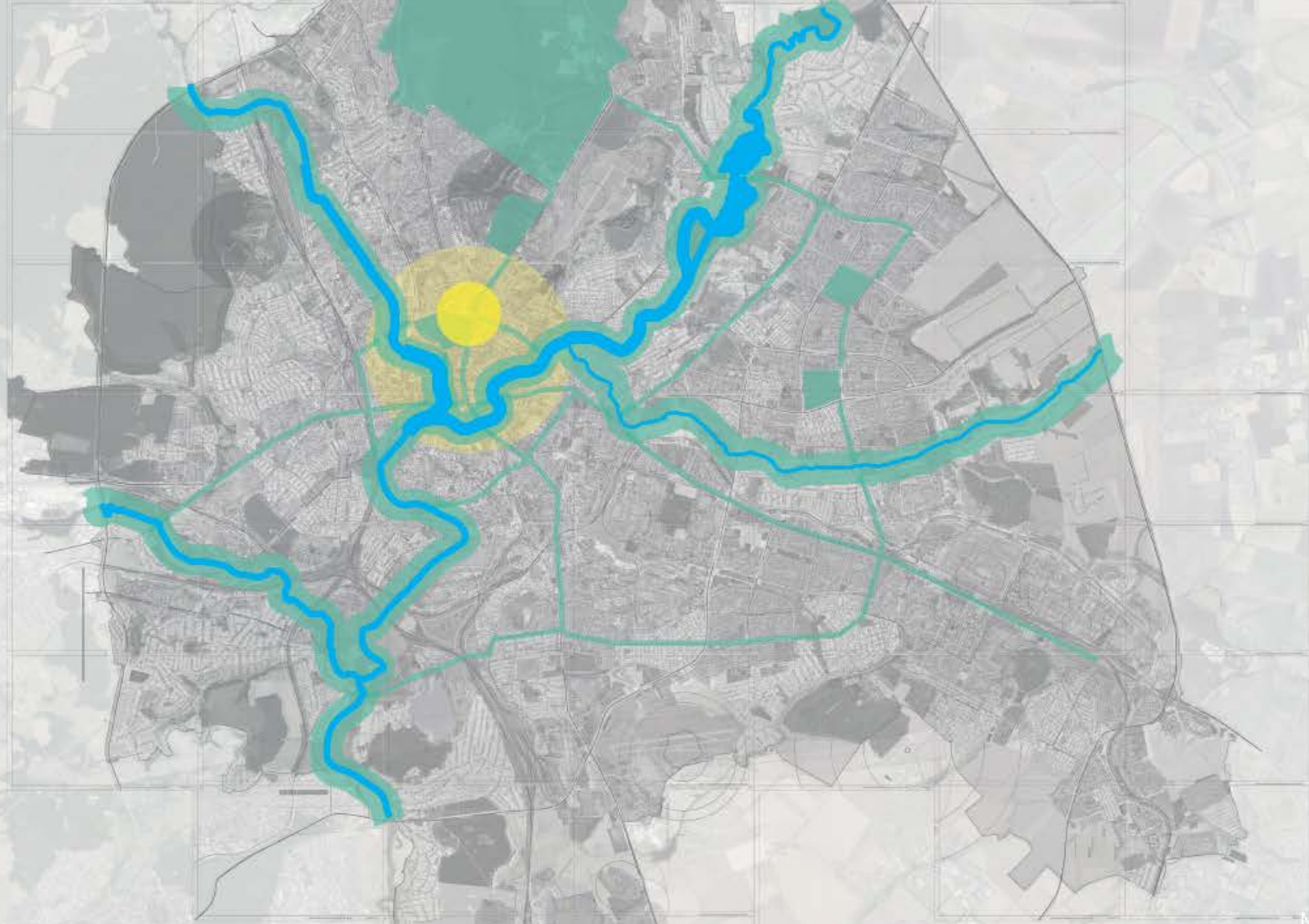
## Walking



"Walking mobility holds a significant share in the overall structure of movement, 28%"



# RIVERS AND CITY WIDE NETWORK

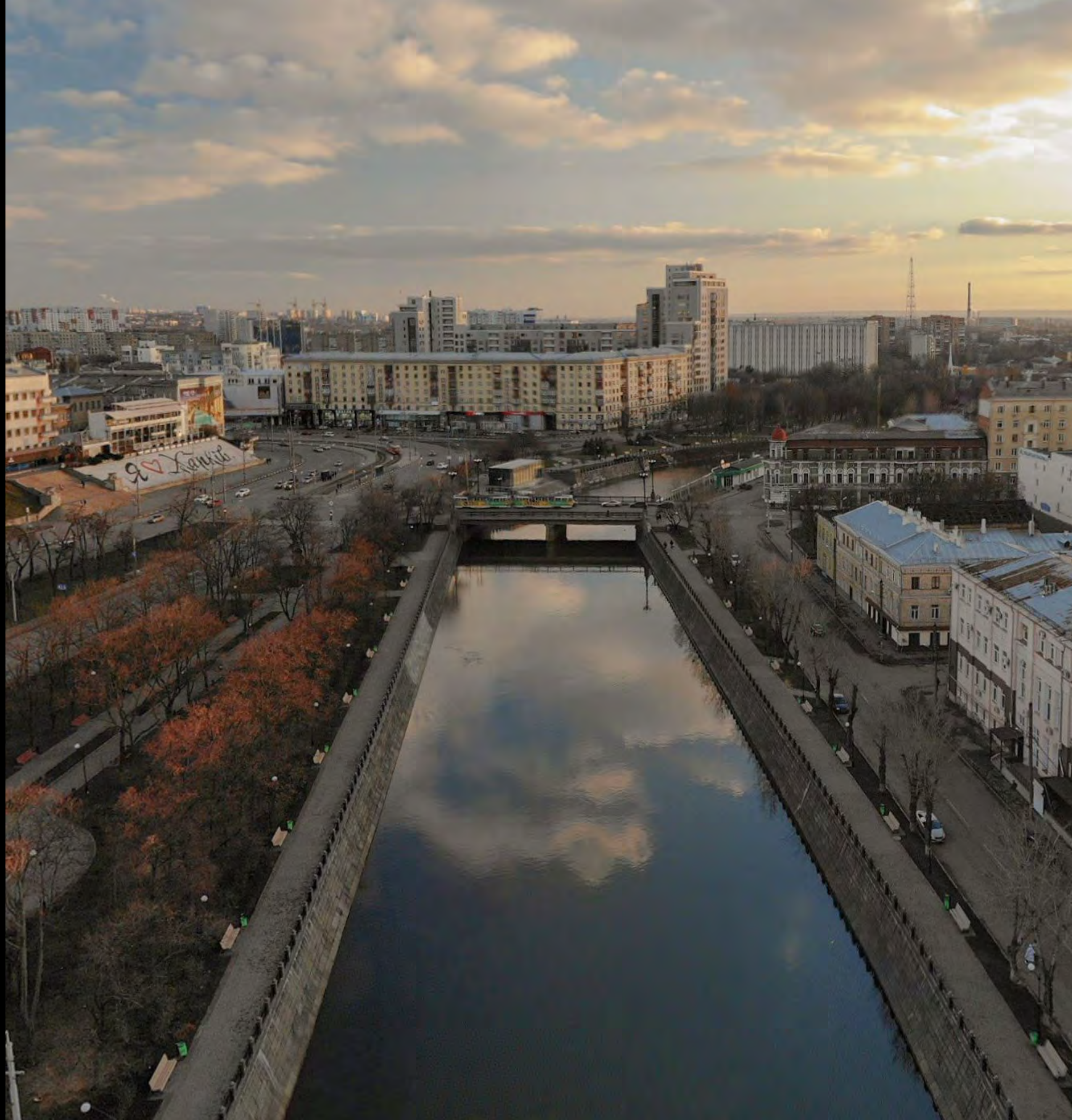




**TRANSFORM RIVERBANKS  
GREEN AND BLUE NATURE CORRIDORS  
PEDESTRIAN AND BIKING PATHS  
CREATE CITY-WIDE NETWORK**

**“KHARKIV ARCHITECTS + ARUP”**









Project Length on  
Kharkiv River: 4km

Project Length on  
Nemyshlya River: 2km

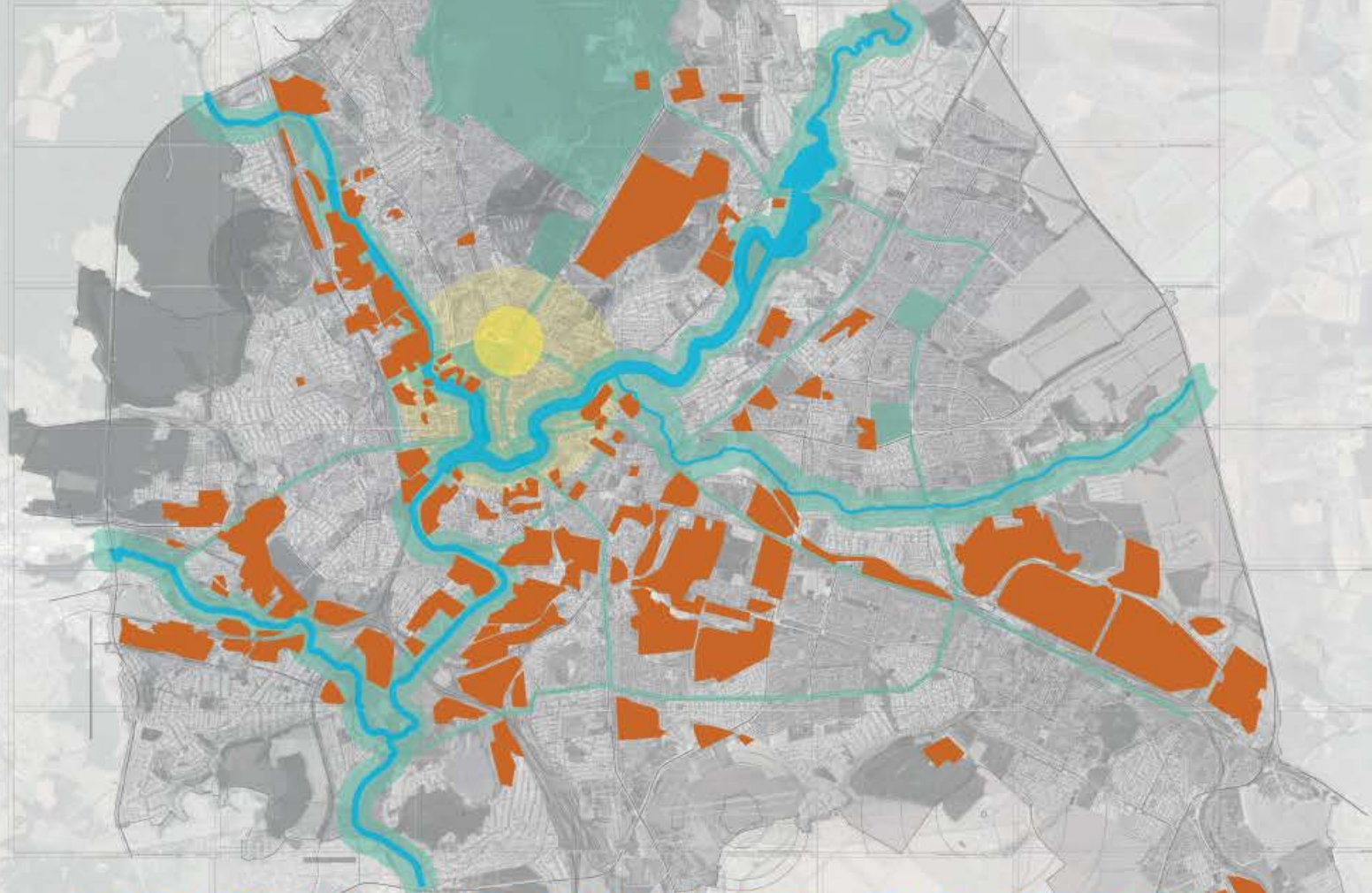


**20%**  
**URBAN AREA**  
**HEAVY**  
**INDUSTRY**





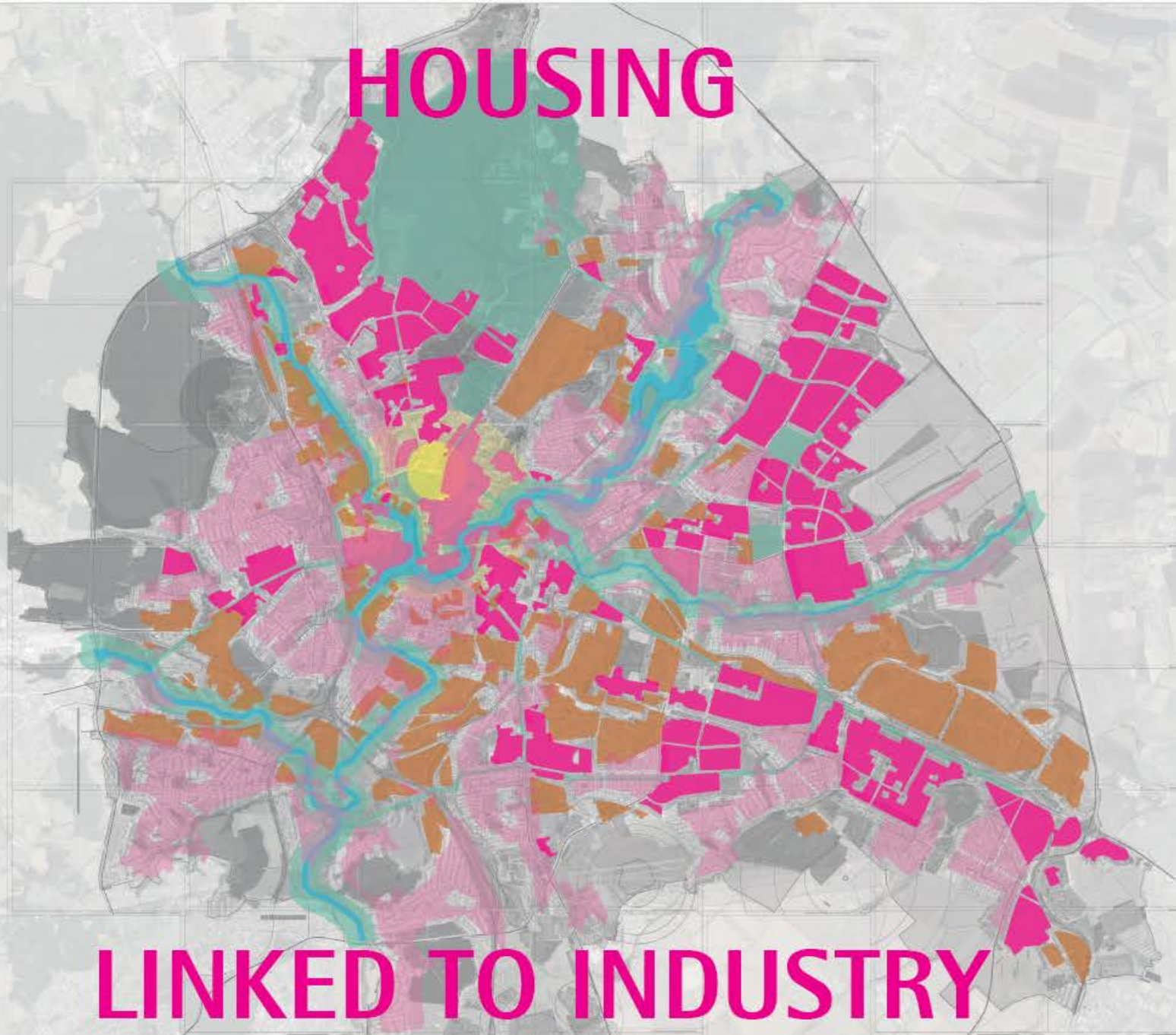
# INDUSTRY: KHARKIV'S BACKBONE



**GREW AROUND RIVERS**



**HOUSING**

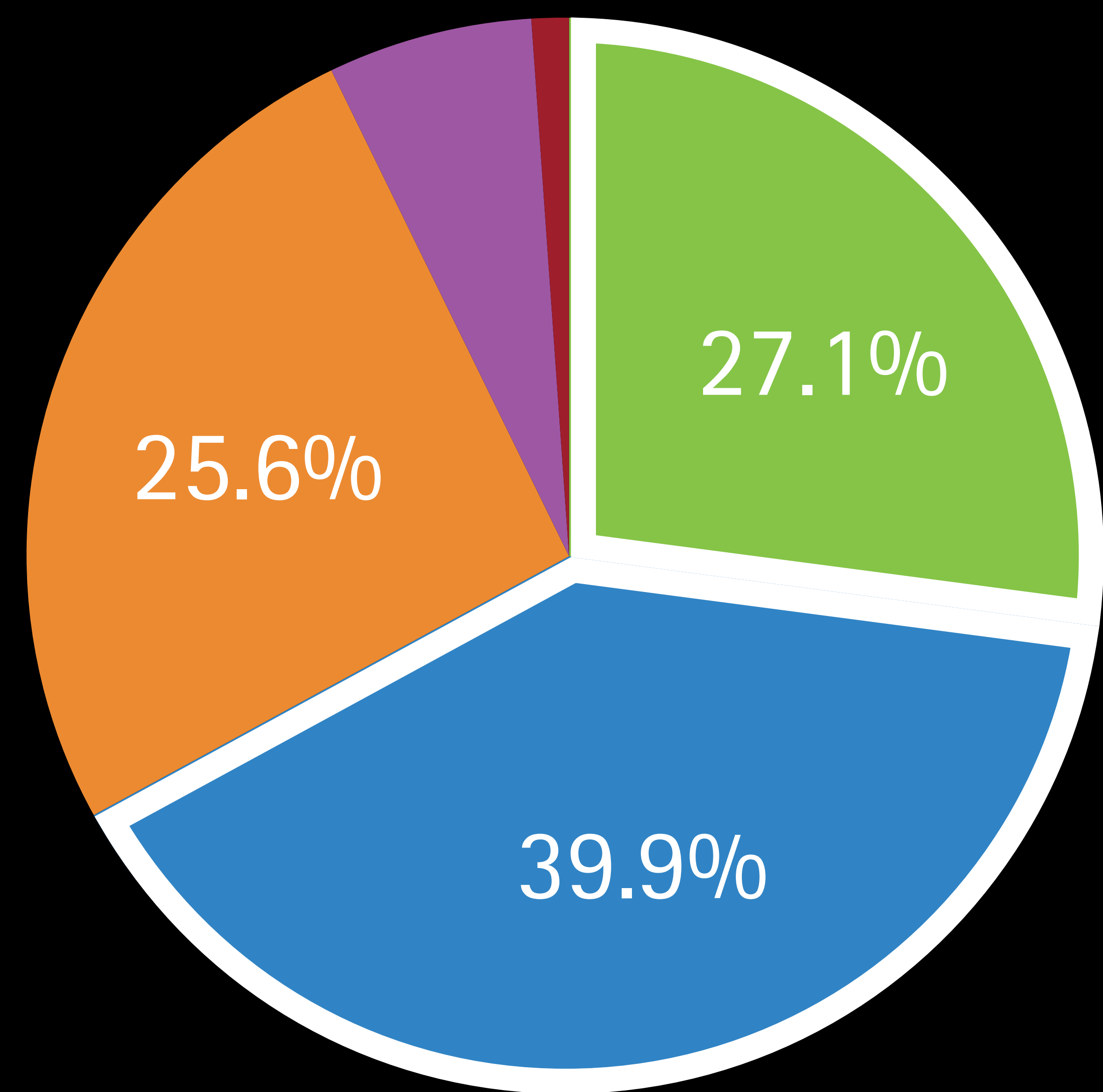


**LINKED TO INDUSTRY**



# ARE YOU SATISFIED WITH THE NEIGHBOURHOOD YOU LIVE IN?

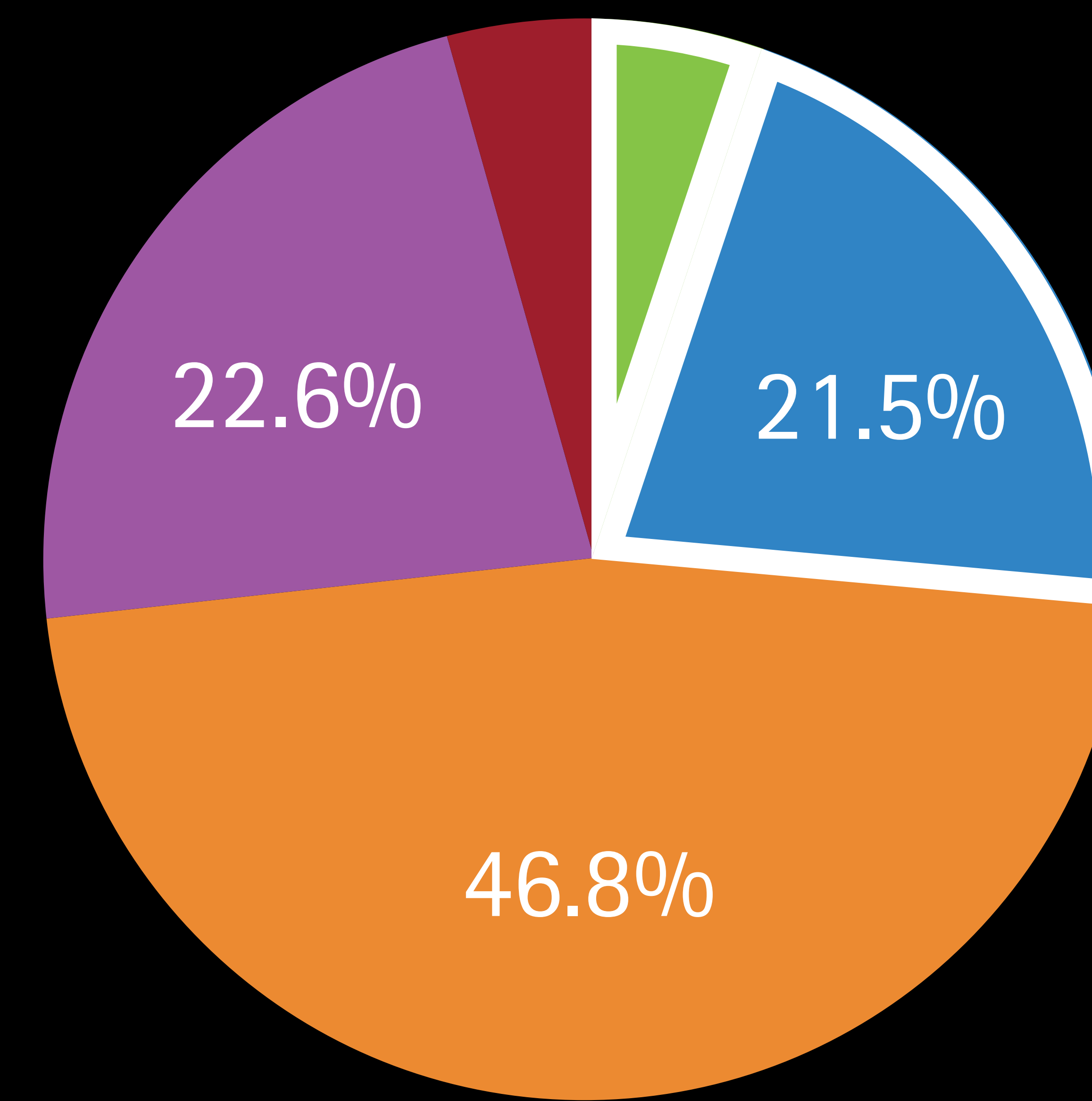
67%



- Very satisfied
- Satisfied
- Normal
- Unsatisfied
- Very unsatisfied

# ARE YOU SATISFIED WITH THE QUALITY OF THE HOUSE YOU LIVE IN?

26%



- Very satisfied
- Satisfied
- Normal
- Unsatisfied
- Very unsatisfied



# NEIGHBOURHOOD

**2/3** **SATISFIED**  
VERY SATISFIED

**1/3** **IMPROVED**  
**PUBLIC SPACE**

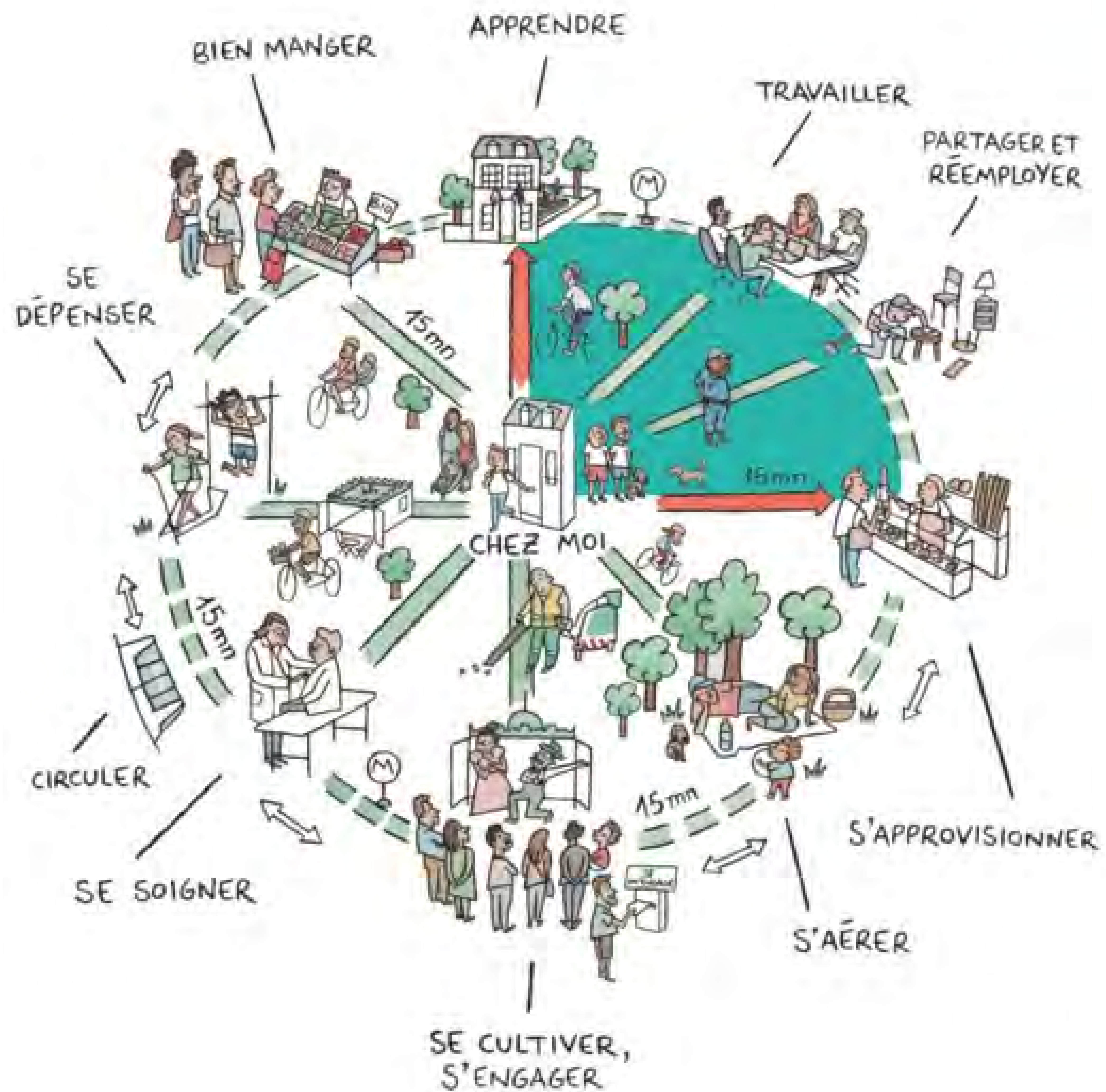
**1/3** **BOMB SHELTERS**  
**REQUESTED**







# LE PARIS DU 1/4 HEURE



MICAËL





PUERTA DEL SOL

(Sfera)



# 80% CONCRETE MULTI STOREY HOUSING





# HOUSING

75% OWNER OCCUPIED

50% BETTER INSULATION  
SOUND & THERMAL

25% SATISFIED





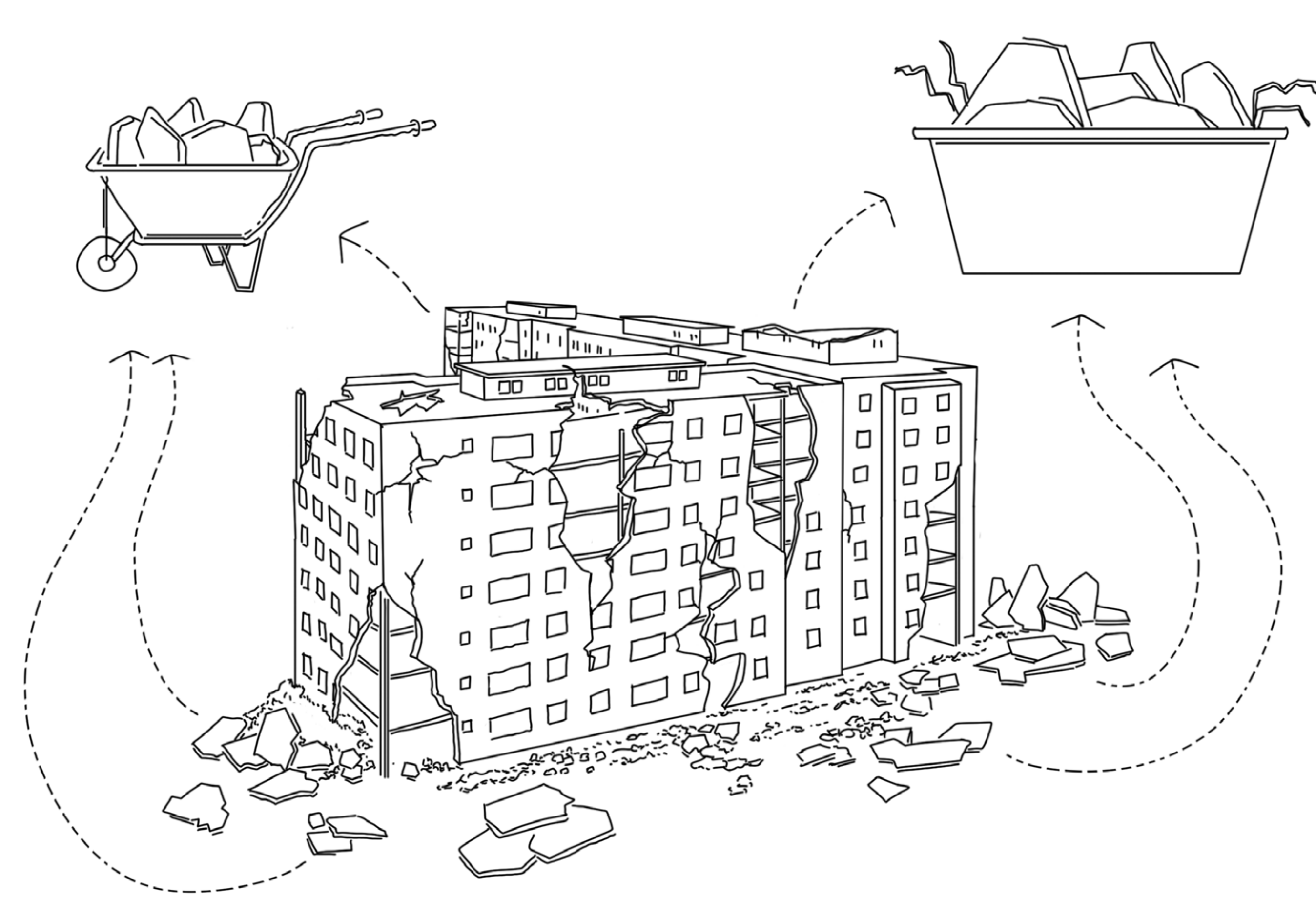
**LACATON & VASSAL.** Transformation of 530 Households. Bordeaux, France. 2017 Philippe Ruault.



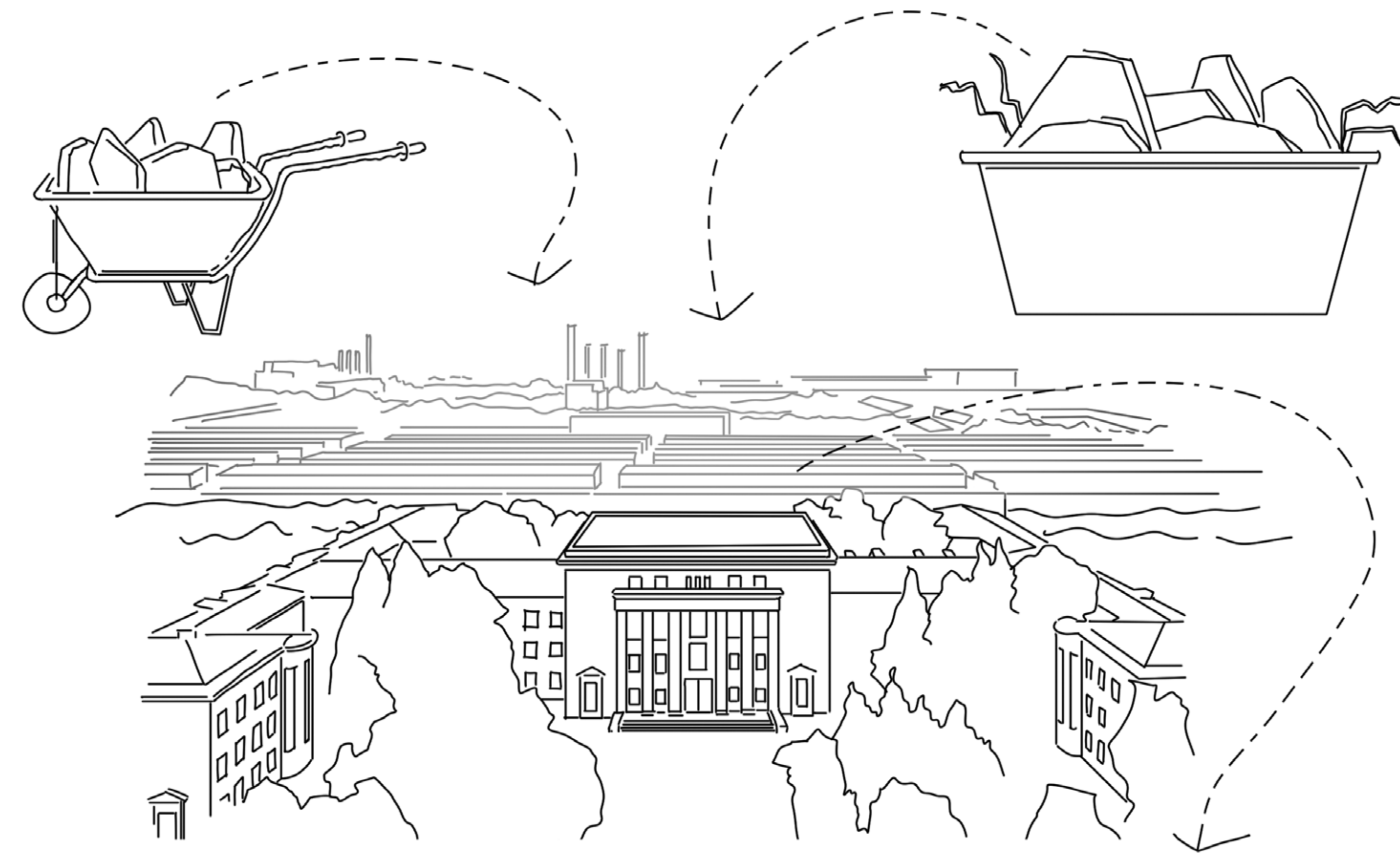


**LACATON & VASSAL.** Transformation of 530 Households. Bordeaux, France. 2017 Philippe Ruault.

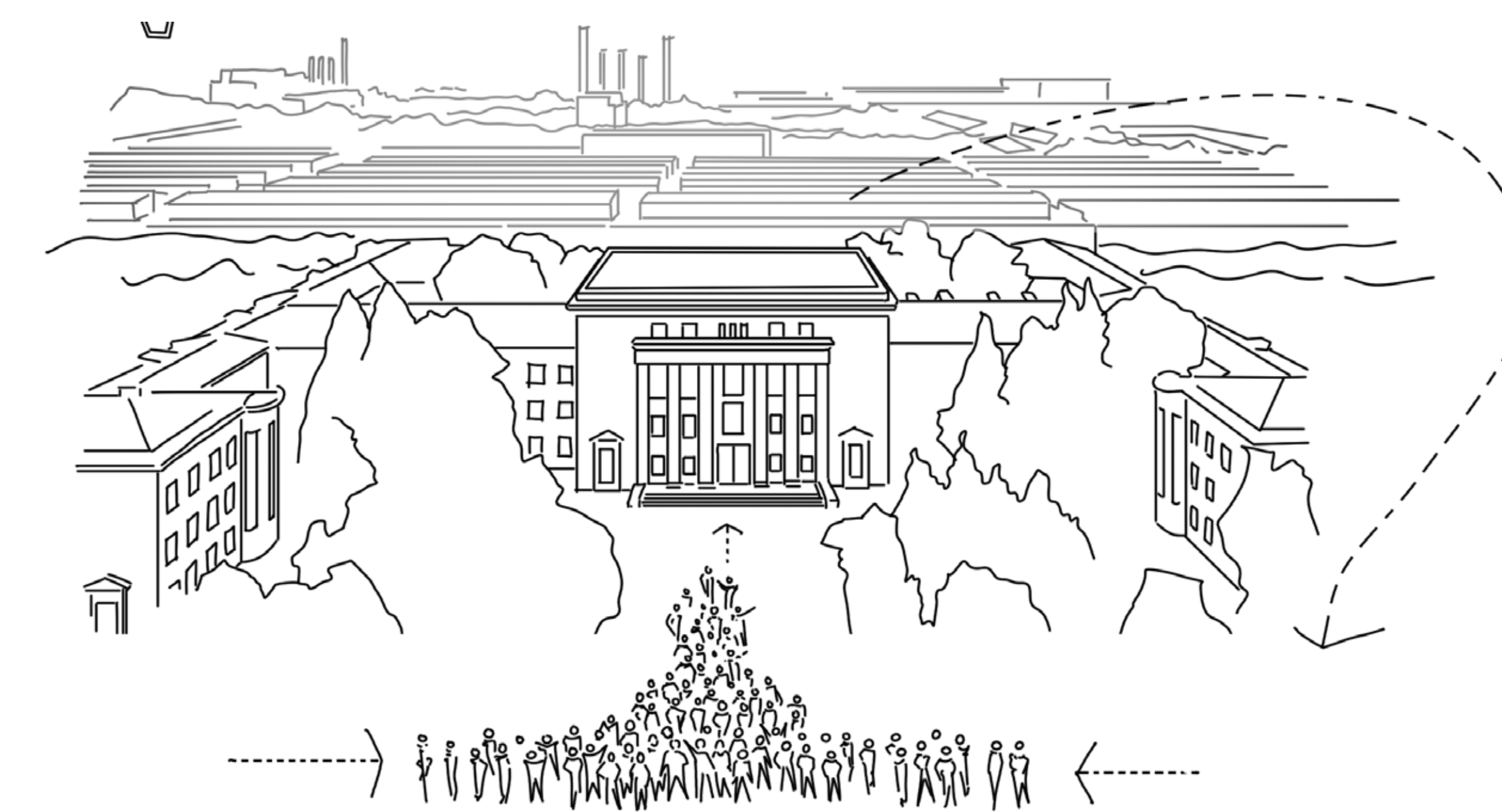




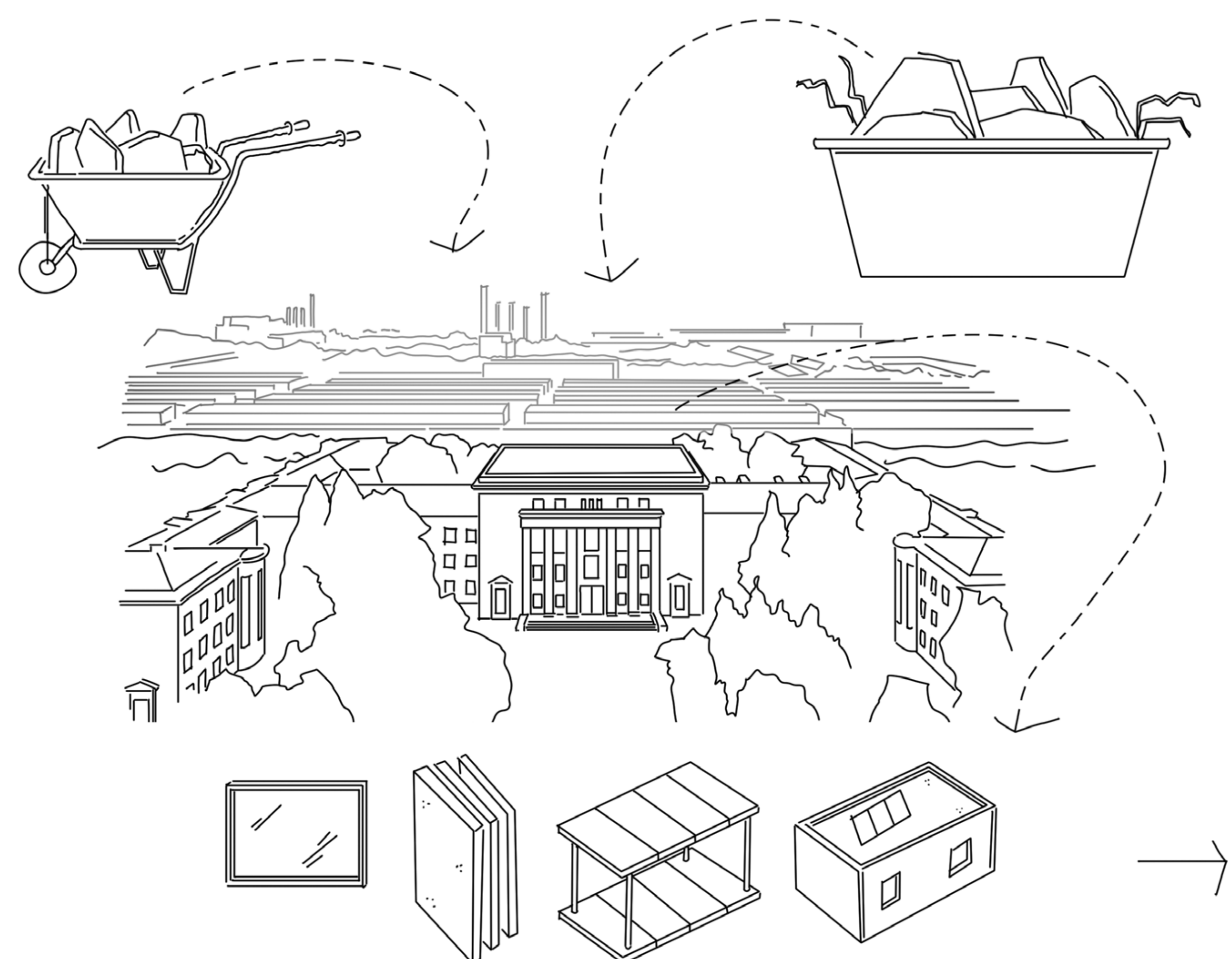
Recycling rubble to reuse materials



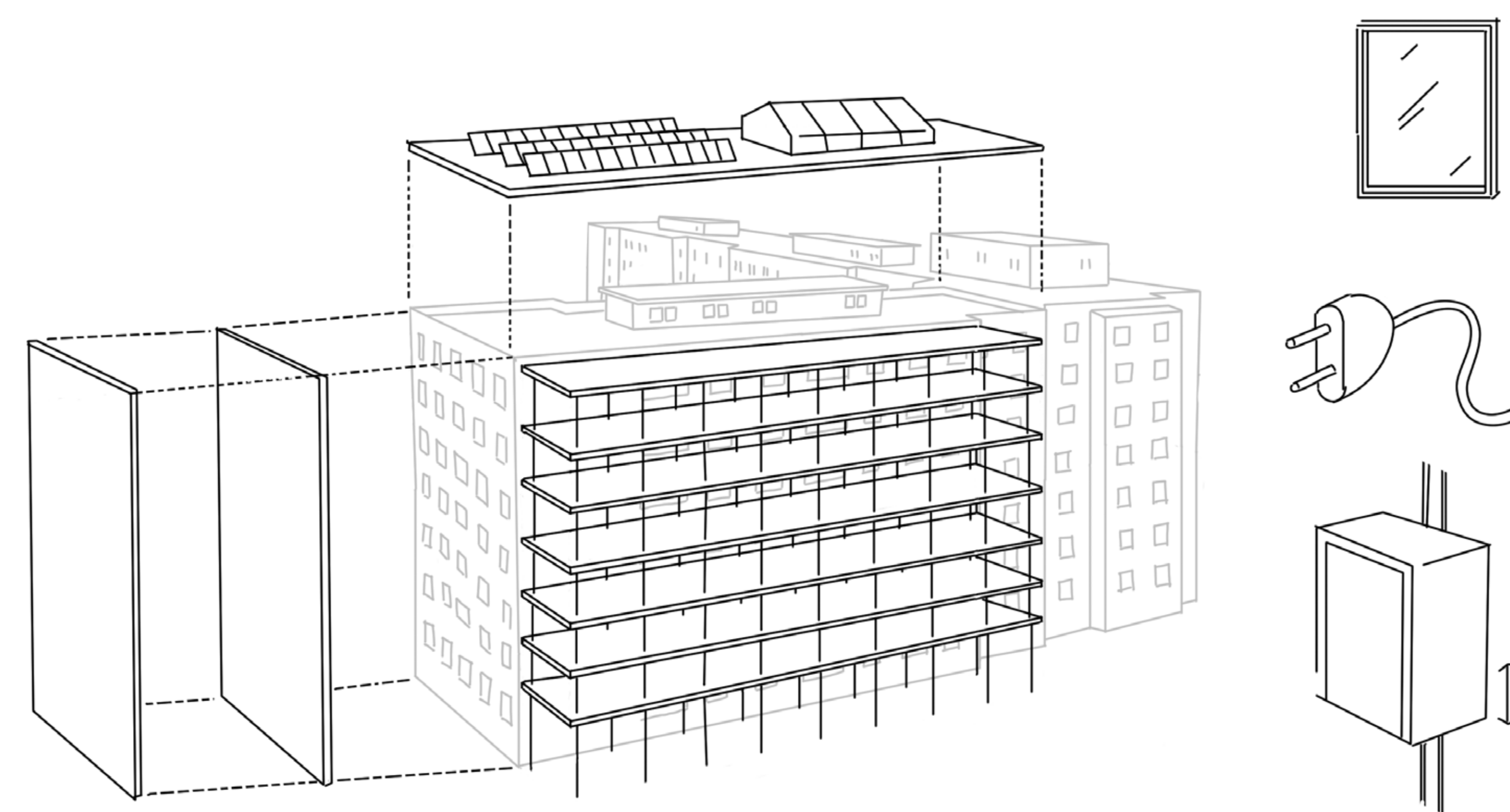
Repurpose local industry



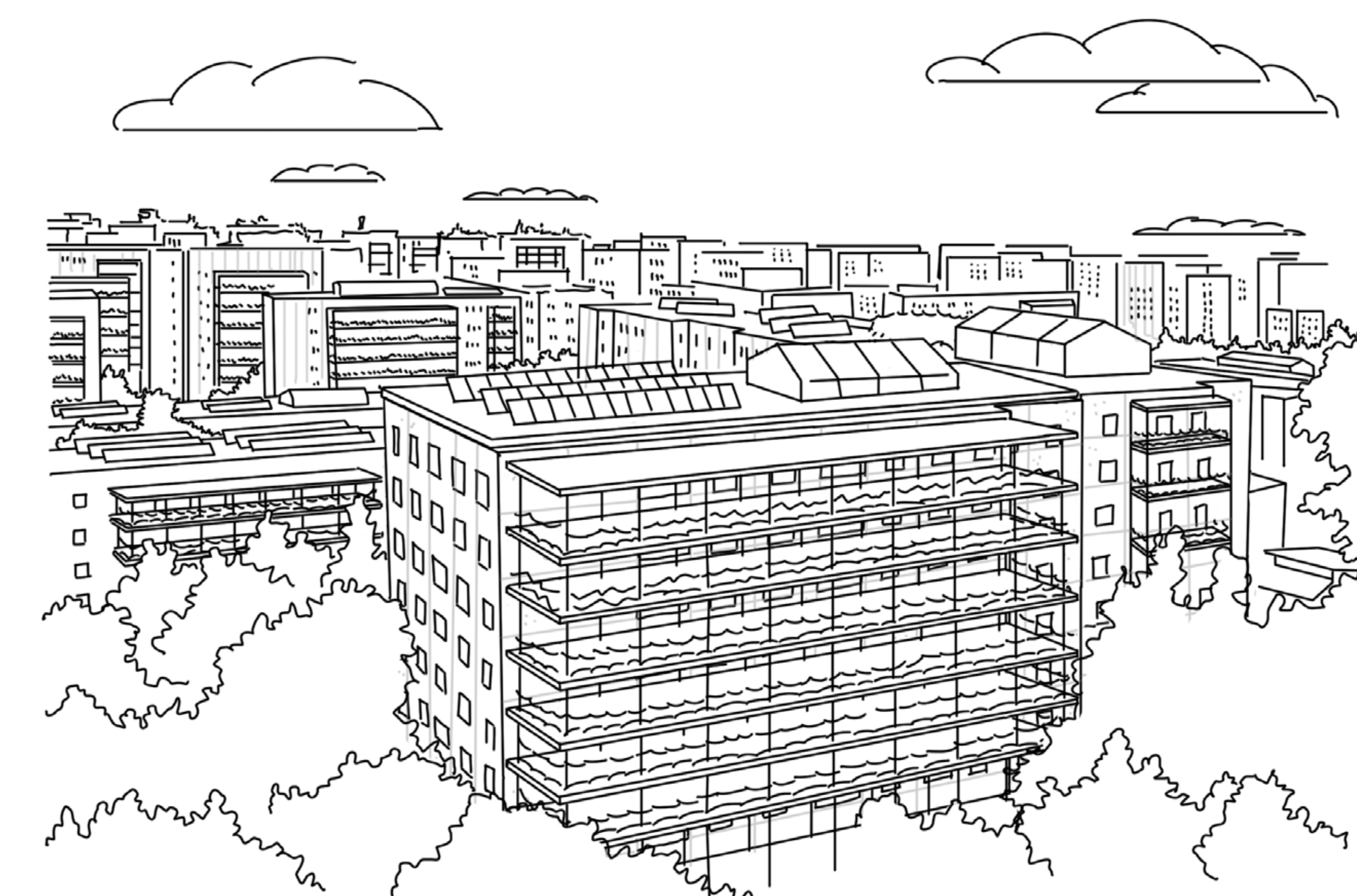
Promote local jobs



Modular prefabricated construction materials



Upgrade & retrofit housing



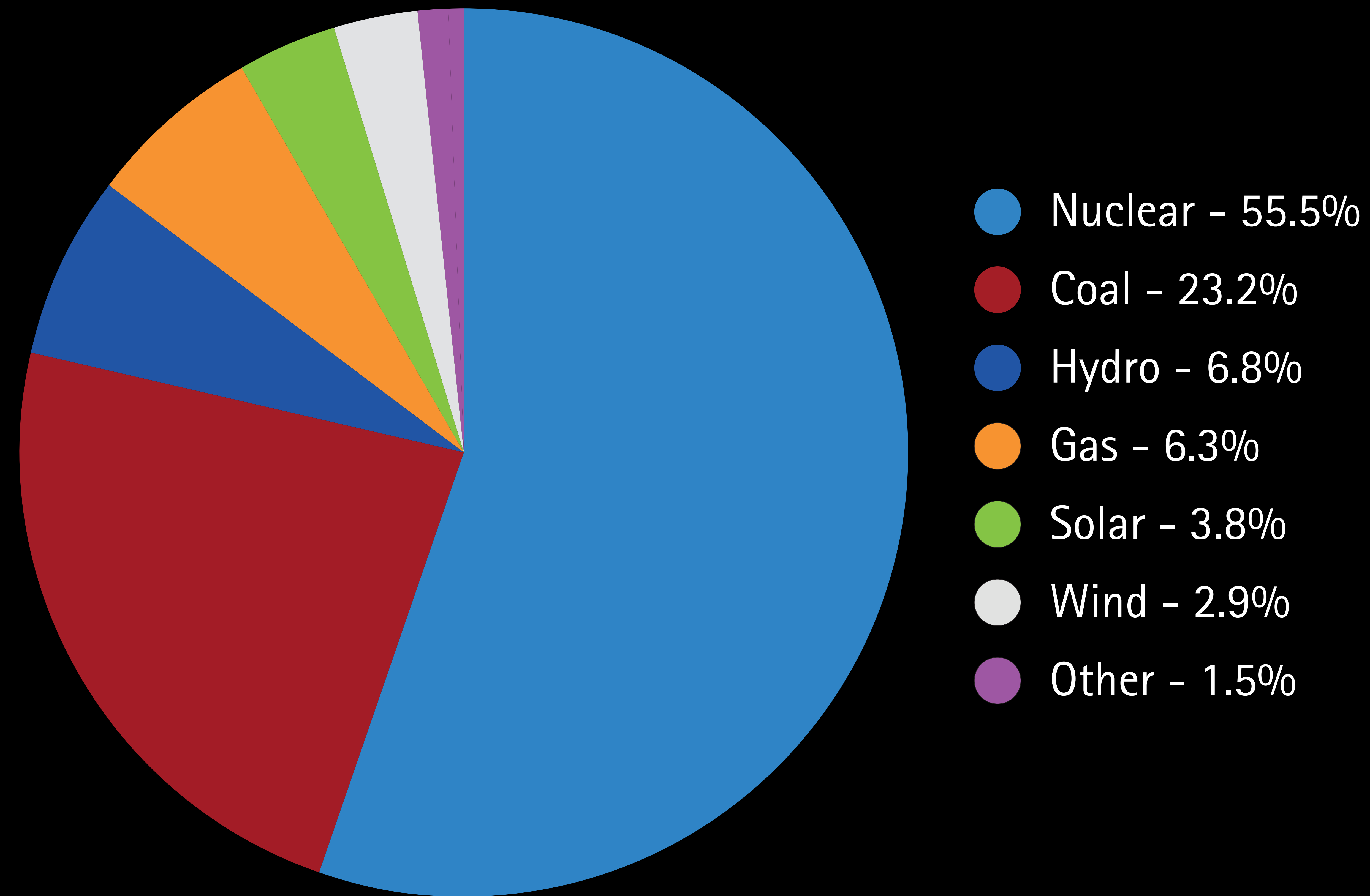
Lively & energy efficient neighbourhoods







# UKRAINE'S ELECTRICITY GENERATION MIX



Source: International Energy Agency, 2019





Ultra Safe Nuclear Corporation Power



EFFEKT. Regen Villages. Almere, The Netherlands. 2016.



# SCIENCE NEIGHBOURHOOD

COMBINED BENEFITS:

SCIENCE PARK + NEIGHBOURHOOD

INNOVATION

ECONOMIC DEVELOPMENT

MODERN WORKSPACES

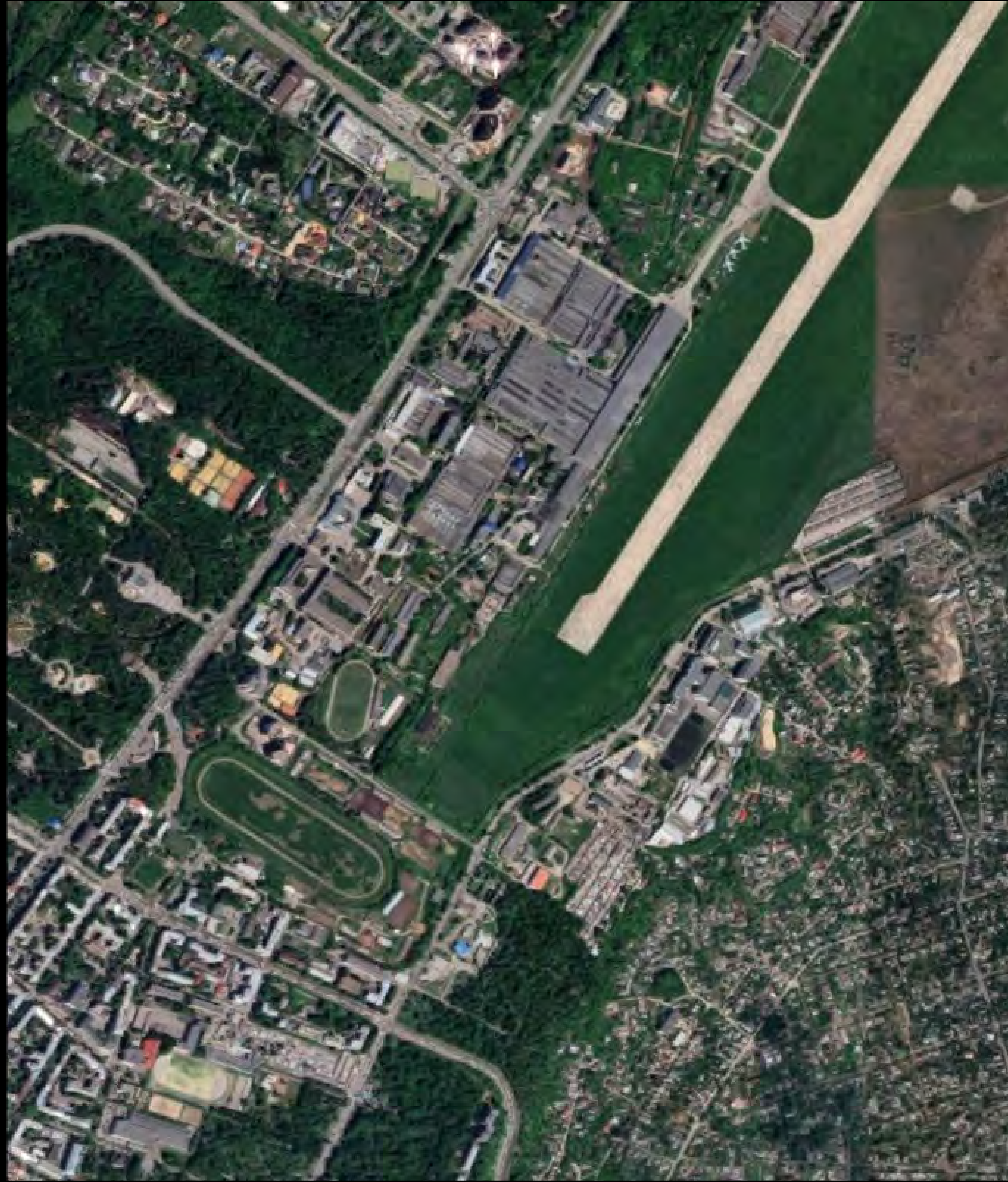
DENSE MIXED USES

PUBLIC TRANSPORTATION

URBAN SYNERGIES

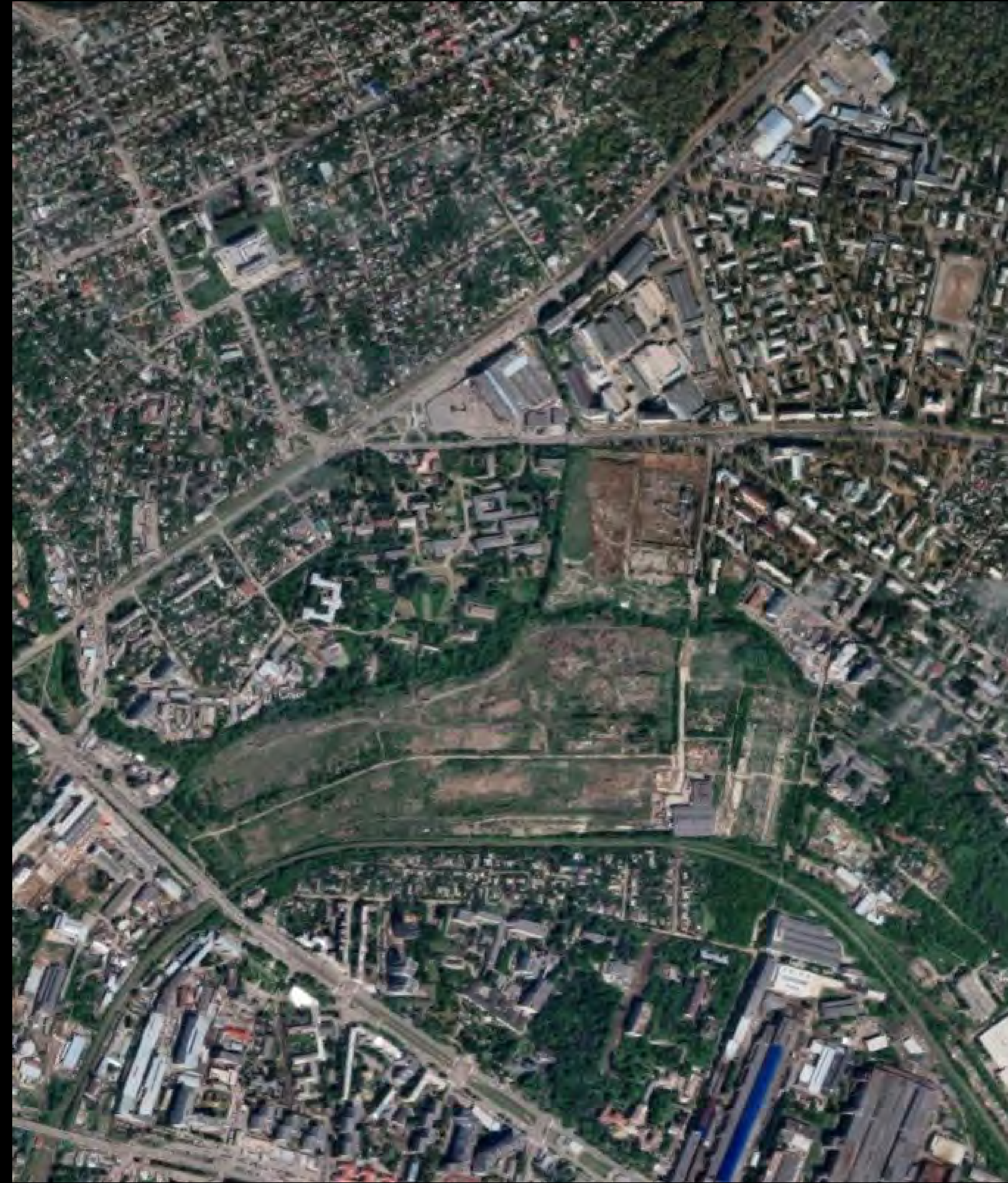


## SITE 1 – AIRCRAFT FACTORY



- FLEXIBILITY TO GROW
- CLOSE TO CITY CENTRE
- STATE-OWNED AND STRATEGIC
- NO METRO STATION

## SITE 2 – INDUSTRIAL GREENFIELD



- AVAILABLE LAND
- VERY GENEROUS PLOT
- NO METRO STATION
- NO FLEXIBILITY TO GROW

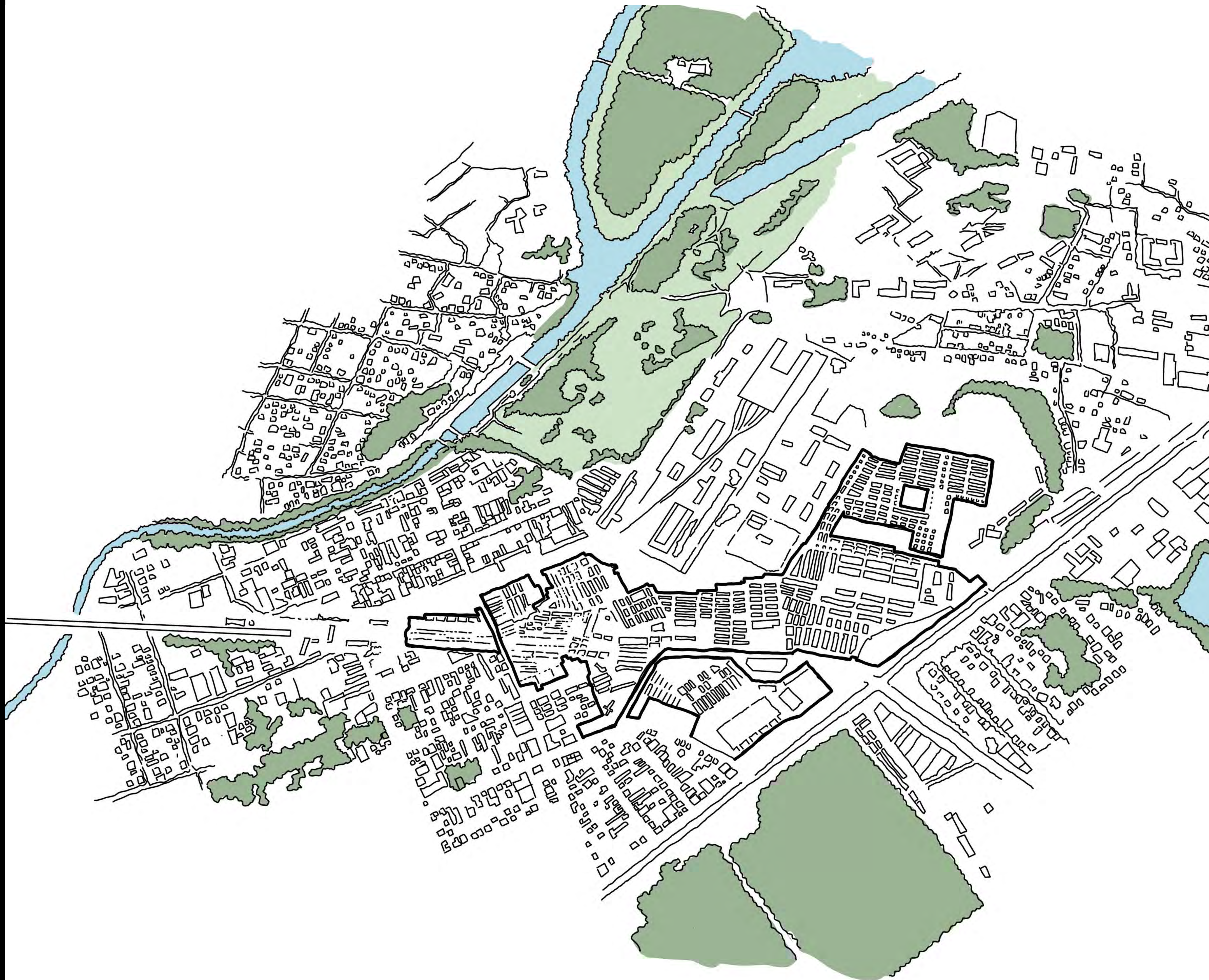
## SITE 3 – BARABASHOVA MARKET



- AVAILABLE LAND
- FLEXIBILITY TO GROW
- CLOSE TO METRO STATION
- PROXIMITY TO RIVER AND NATURE

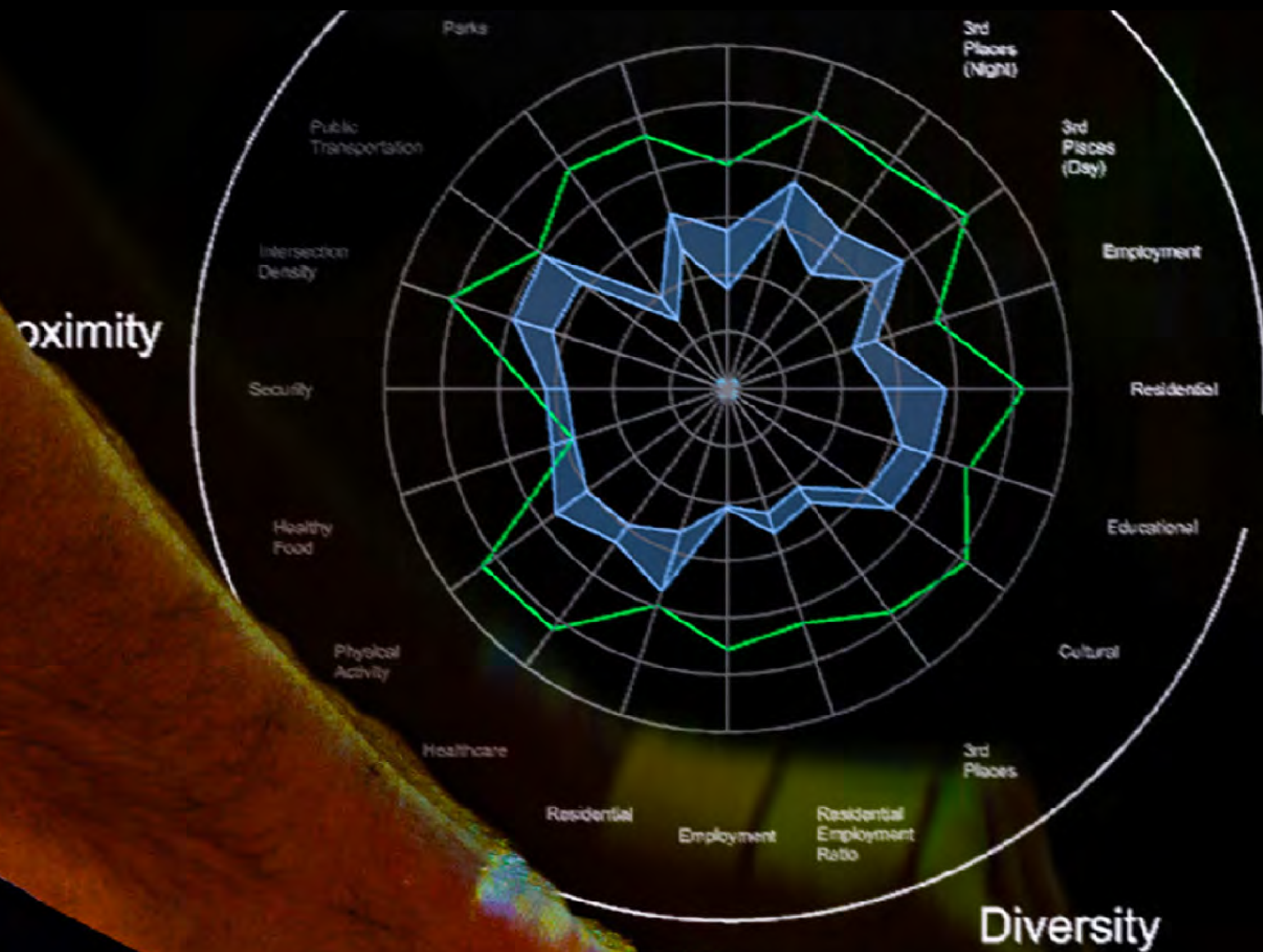


**COMPACT MARKET**  
**HOUSING**  
**MODERN WORKSPACES**  
**UNIVERSITIES**  
**RESEARCH LABS**  
**PUBLIC TRANSPORT**  
**NEW PARK**  
**EMERGENCY SHELTERS**  
**SHOPS CAFES**  
**RESTAURANTS**





# A LOCAL AND INTERNATIONAL COLLABORATION

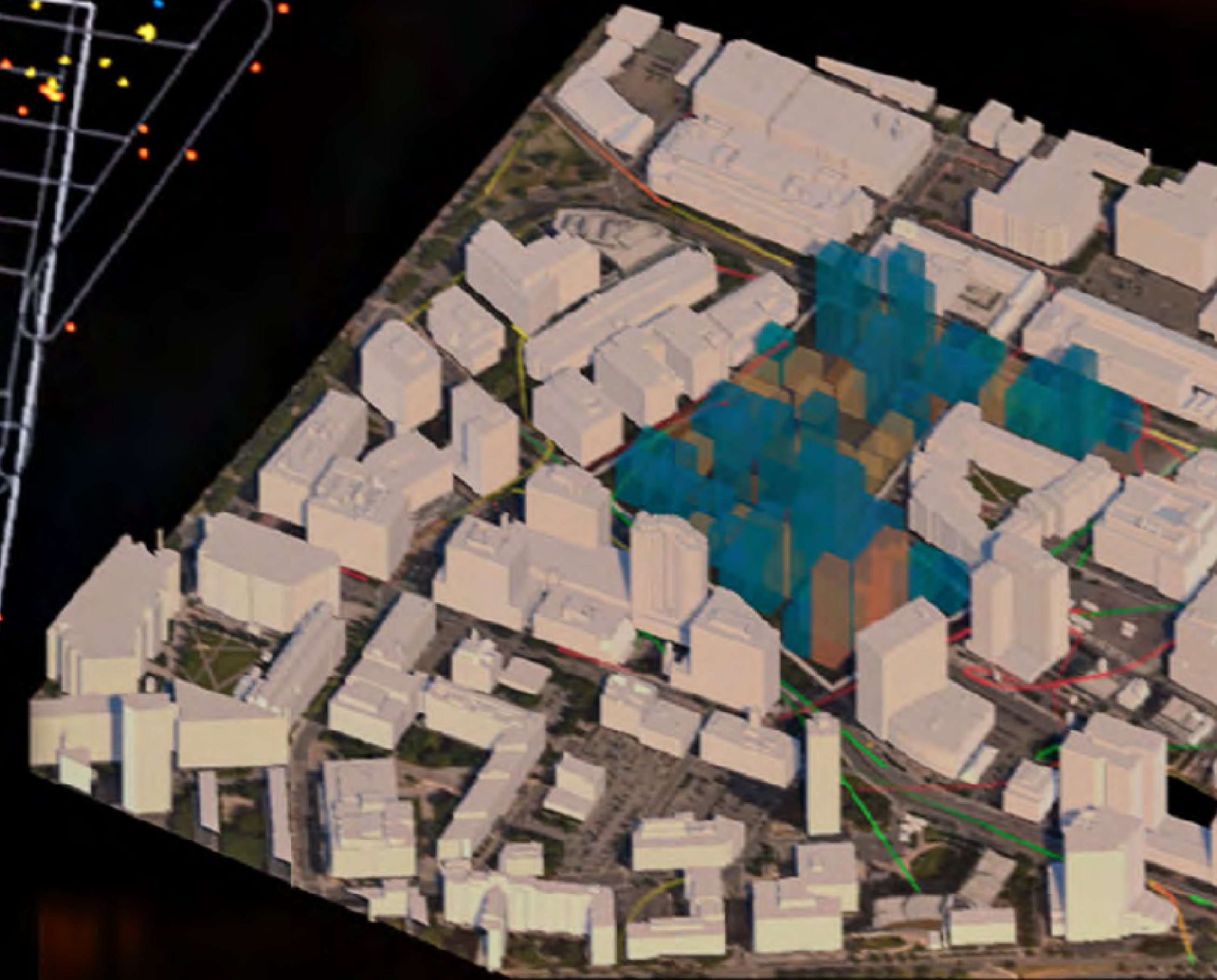
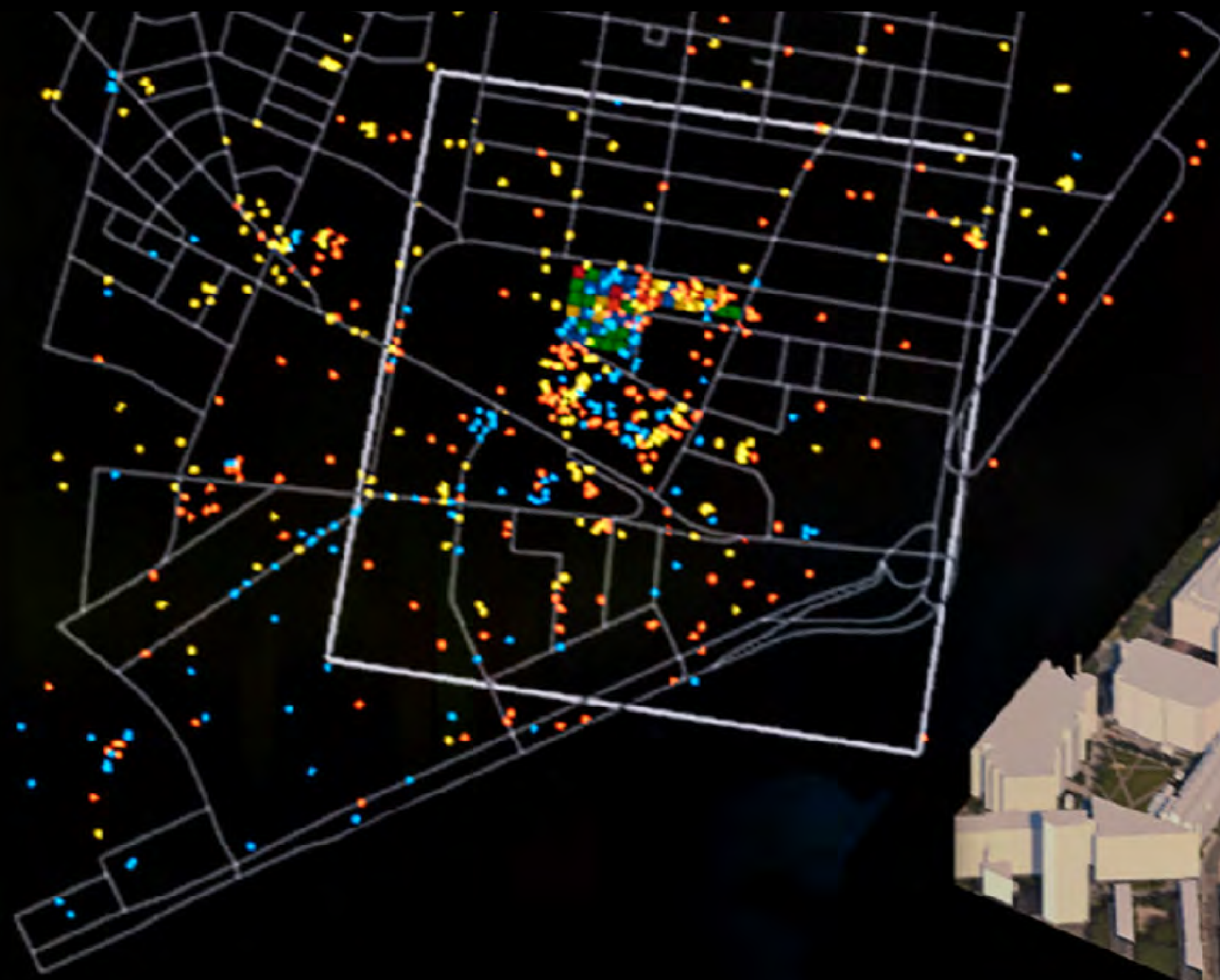


**AMENITIES**

3RD PLACES	KENDALL	BARCELONA
Hotel	2	12
Restaurant	1	18
Night Life	1	12
Leisure & Wellness	1	12
Culture	1	12
Fashion	1	12
Luxury Shopping	1	12
Shopping Center	1	12
Technology Store	1	12
Market	1	12
Bank	1	12
Educational	1	12
Post Office	1	12
Co-Working	1	12

**SQ. FOOTAGE**

Residential	653858	
Small Unit	529973	
TTC sqm/ft	144473	
Medium Unit	38412	
Large Unit	361989	
Small Unit	220112	
TTC sqm/ft	15559	
Medium Unit	113298	
Large Unit		



mit media lab city science  
**CityScope**



# SCIENCE NEIGHBOURHOOD



**A LOCAL AND INTERNATIONAL TALENT MAGNET**  
**POSITION KHARKIV IN THE FRONTLINE OF INNOVATION, TECHNOLOGY AND URBANISM**

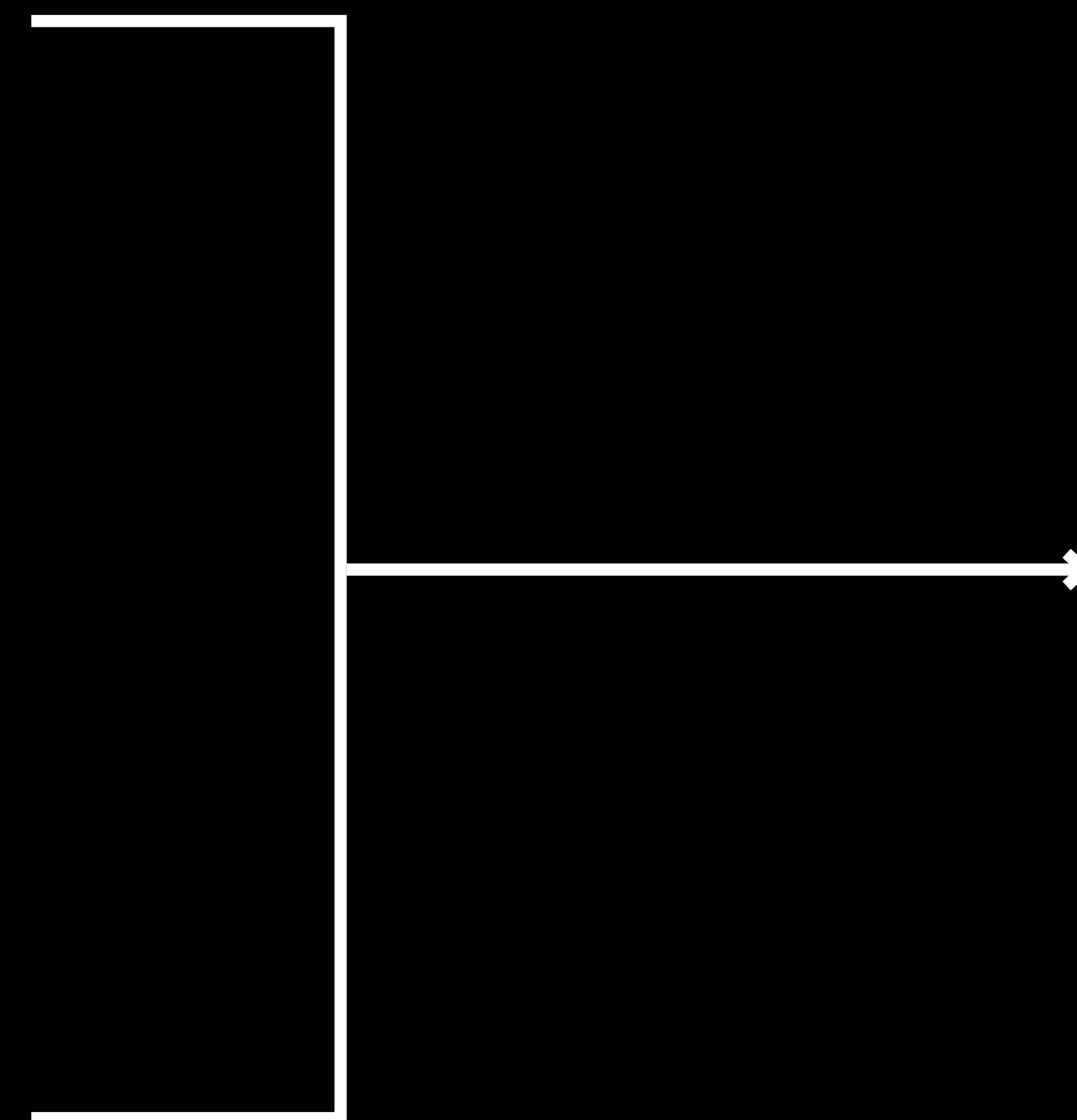


# 3. FOLLOWING STEPS



**Concept Master Plan**  
(Locals and internationals)

**Monitoring (Ukrainian Legislation)**  
(Locals)



**Legal Master Plan**



**Concept Master Plan**  
(Locals and internationals)



**5 PILOT  
PROJECTS**

**+**

**5 CITY-WIDE  
STRATEGIES**

**HERITAGE**

**RIVERS**

**INDUSTRY**

**HOUSING**

**SCIENCE**

**NEIGHBOURHOOD**

**TRANSPORT**

**ENERGY**

**WATER**

**NATURE**

**ECONOMY**



Subject to funding:

Phase 1

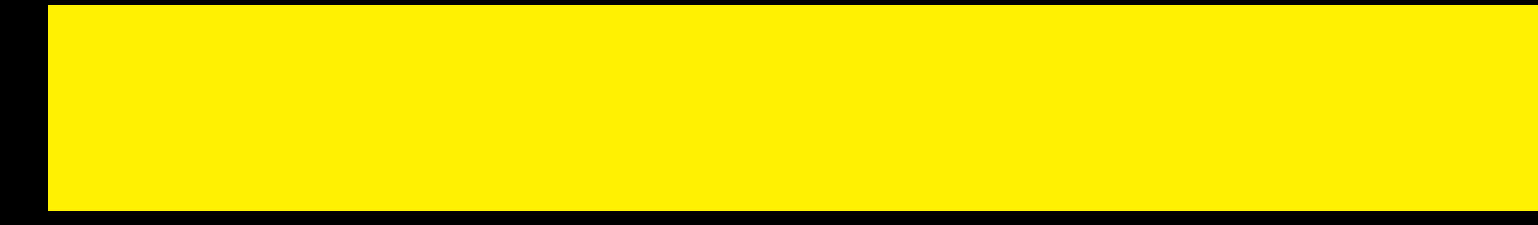
Phase 2

Phase 3

Phase 4

Pilot Projects

Heritage:



Rivers:



Industry:



Housing:



Science Neighbourhood:



City-wide Strategies

Economy:



Transport:



Energy:



Water:



Nature:



Stakeholder Engagement,  
Coordination, Communication:





Thank you