

Illia Tsarenko

Strategic data-driven Urban Planner:
empowering success through insights



EDUCATION

Msc Urban Studies: urban development, real-estate and transportation, Swedish Institute Global Professional Scholar. Malmo University / Melbourne University 2021-2023. BA Management (NTUU 'Kyiv Polytechnic Institute') 2003-2008

LANGUAGES

English, Ukrainian & Russian: fluent. Swedish: conversational

CERTIFICATIONS

Integrated Urban Planning (240H), Data Analysis (36H), GIS -Applications (40H), brand management (20H), Designing Cities (10H), Strategic Plan Making (20H), Massachusetts Institute of Technology: Site Planning Online (40H), Google Analytics (10H), Design Thinking (10H), Smart Cities – Management of Smart Urban Infrastructures (20H), HarvardX: Urban101x (20H), PMP preparation certificate (40H)

WORK EXPERIENCE

Project Coordinator, Malmo Stad, Sweden, 2022

Lead project manager. Kyiv Urban Council, NGO 2019-2021

Urban Analyst. Kyiv Urban Council, NGO 2017-2019

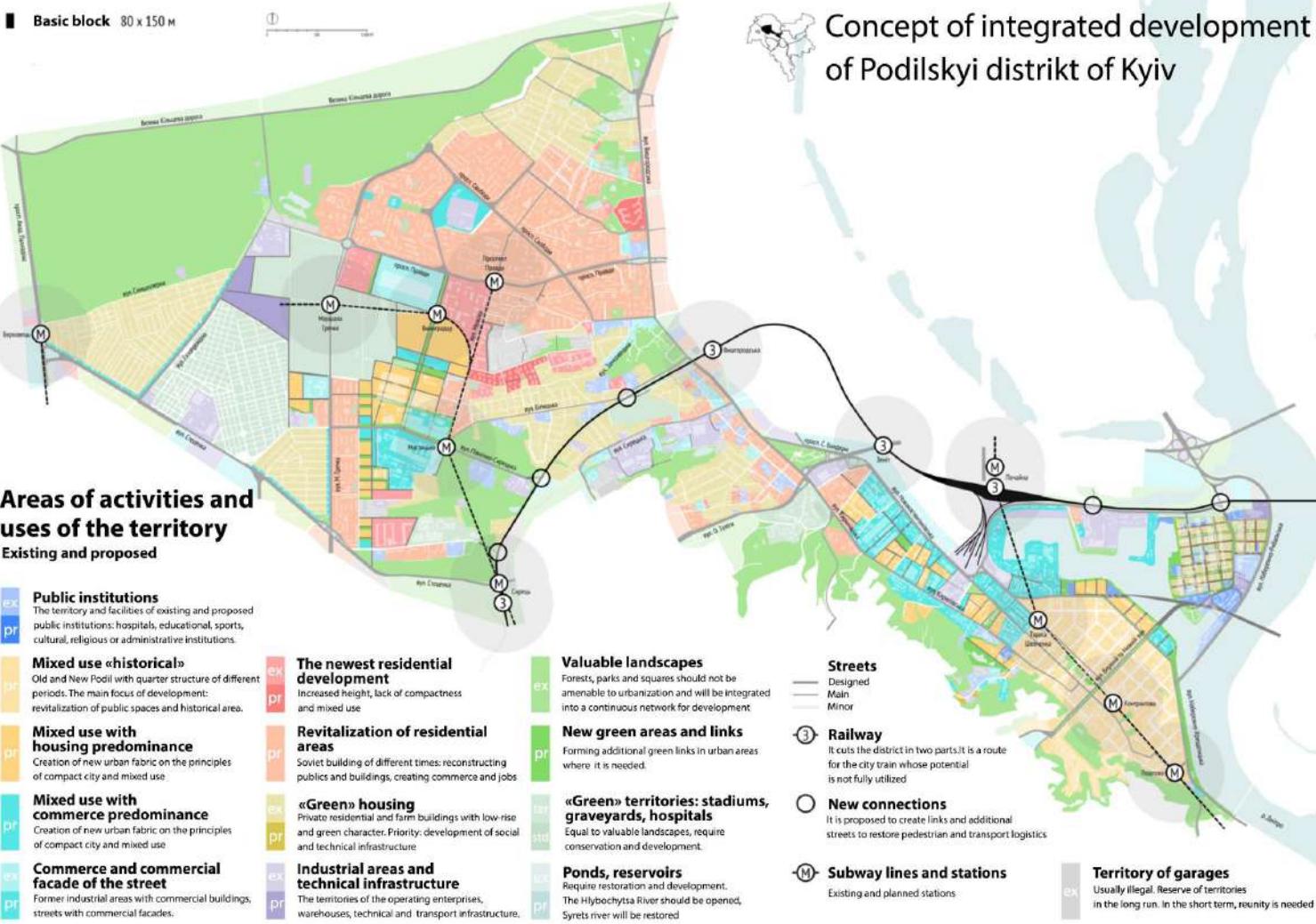
Urban planner and designer. Urbanya, NGO 2019-2020

Regional project manager. Unibud Energo Service, 2013-2016

Sales project manager. Denal Cranes, 2011-2013

Sales Project manager. Little ONE, 2008-2011

Integrated strategy of development (ISUD), Podilskyi district Kyiv, Ukraine 2018



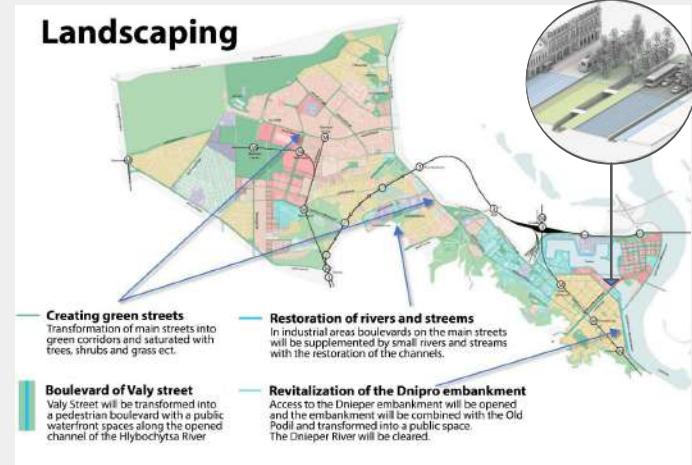
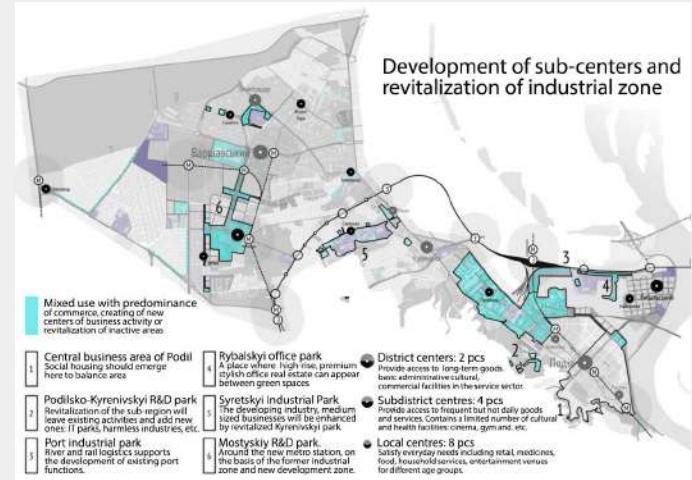
ISUD Podilskyi district

Objectives: To create a new sustainable vision of the the most diverse district of Kyiv.

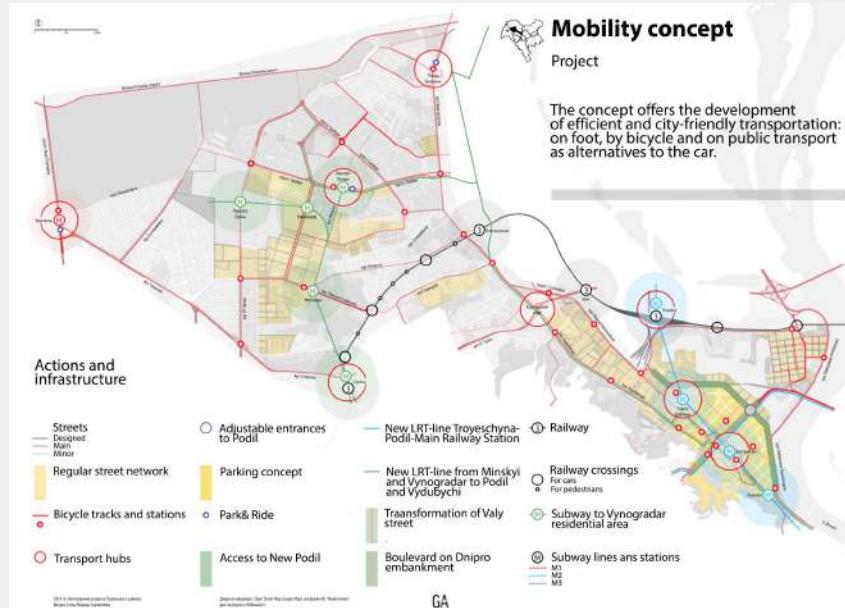
Description: The project, led by GIZ GmbH in collaboration with a team of experts from various disciplines, spanned one year. The sections I participated in are presented here.

Establishing new sub-centers and revitalising former industrial zones, the integration of more vegetation along streets to enhance landscaping, restoration of streams and small rivers, including the Hlybochytia, which flows beneath Valy street were some of the main proposed changes.

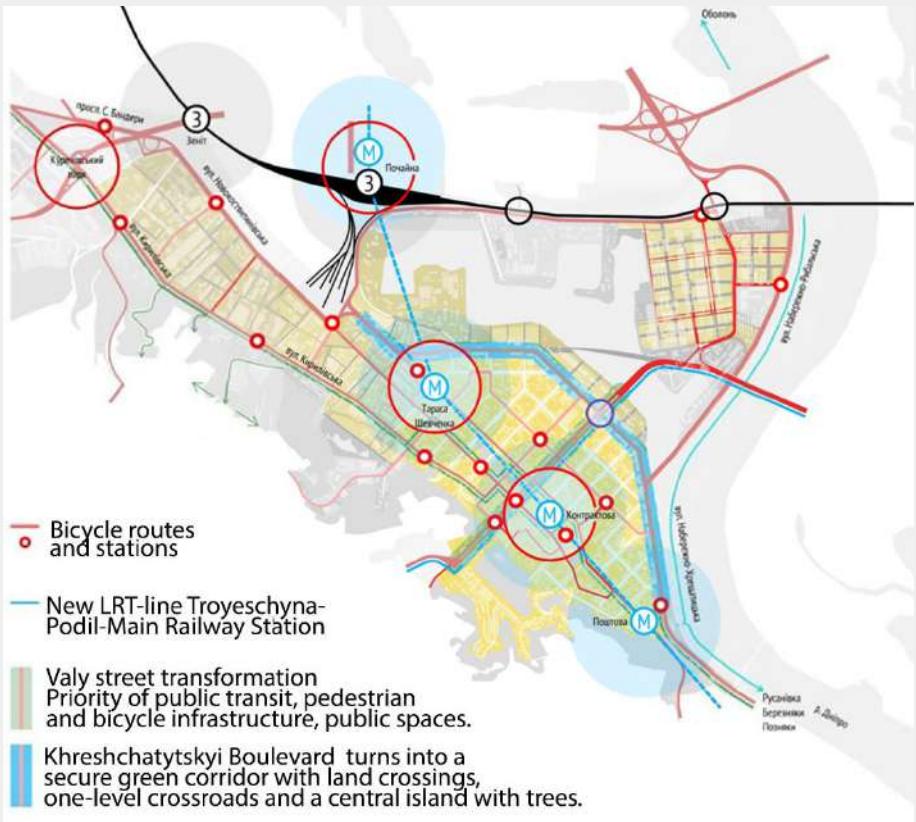
Preserving historic industrial buildings is important, as traditional manufacturing shifts due to environmental concerns. Converting these areas into compact cities creates job opportunities near housing, transforming into mixed-use areas with service trade and creative industries, including 30% rental housing.



ISUD Podilskyi district



Mobility: Sustainable public transportation should become the core of the district: the construction of a cost-effective Light Rail Transit (LRT) line connecting the Vynogradar residential area to Podil, instead of a costly heavy subway and limiting transit car traffic through the historical Old Podil area, enhancing connectivity for bicyclists and pedestrians.



Spatial research, Pankivschyna, Kyiv, Ukraine, 2019

Objectives: first project of collecting actual urban data and analysis of this area, with the aim to create a database for future ISUD and concept of reconstruction main railway station square.

Description: The interdisciplinary team of 20 students created this Concept with the pool of experts.

Team has done spatial research and analysis of nearby Pankivschyna district. I coordinated the researched the functions of all floors, activities of facades and trees layers. NextGis, QGis, Excel and Adobe Illustrator were used during this module.

Team worked with history, mobility, vegetation and rainwater management, weather protection, public spaces, river Lybid, surrounding former industrial blocks and presented the project to stakeholders and community. The social research was done by conducting interviews with different groups of users of the area.



The buildings were modelled in Rhinoceros. All the data were collected manually in the field, as no modern open database existed for Kyiv. Research revealed clusters of closed spaces without any business activity and active areas with potential for pedestrianisation and provided data for informed decisions.

Pankivschyna, Kyiv, Ukraine, 2019

Pankivshchyna is not a homogeneous area. The western part is dominated by the remnants of the industrial zone. In the Central part dominated by housing and education. Offices are mostly located in the east, as well as between Starovokzalnaya and Simona Petliura streets.



Розподіл за площею

Вироби.

8%

Обмежена Захиста

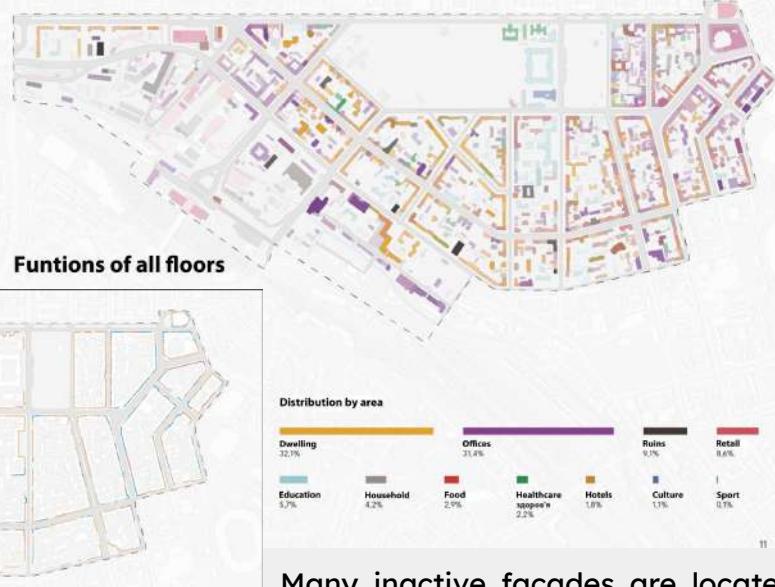
5%

Дороги

18%



Most facades are inactive or mixed. A large cluster of boring facades is located in the area of Tarasivska, Lva Tolstoy streets and adjacent streets. Most part of it is apartment buildings.



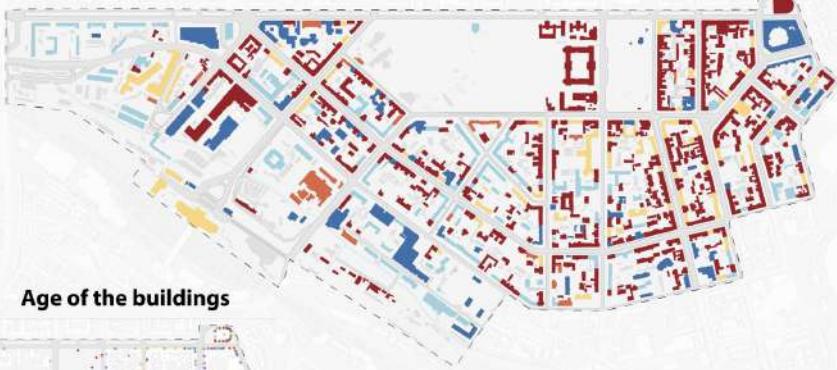
Many inactive facades are located on Zhylianska Street and adjacent blocks to the industrial area. Friendly and active facades are found in the metro area of Leo Tolstoy and Velyka Vasylkivska Street. This area is attractive for walks and is in high demand. Also, a number of friendly and active facades can be found on Saksagansky Street, which indicates its great potential for development.

Pankivschyna, Kyiv, Ukraine, 2019

The southern part has many undeveloped areas and high-rises, as well as one of the dominant areas of the 101 Tower. According to approximate calculations, there are 41,600 residents and 101,130 employees.



Most of the trees are concentrated in two green areas: Shevchenko Park and Fomin Botanical Garden. Also, a large number of trees are located on



Shevchenko Boulevard, Mykilsko - Botanichna, Pushkinska, Volodymyrska, Tarasivska st-s, part of Zhylianska and Antonovycha streets. The worst situation with trees is near the Main Train station and Bessarabska Square. There are only a few small trees close to the Vokzalna Square, Starovokzalna and Pestelya streets, and in the two blocks near the Besarabskyi Market.

Concept of
reconstruction
of Main Railway
Station square,
“Vokzalna”,
Kyiv, Ukraine,
2019.



Main Railway Station Square, Kyiv, 2019

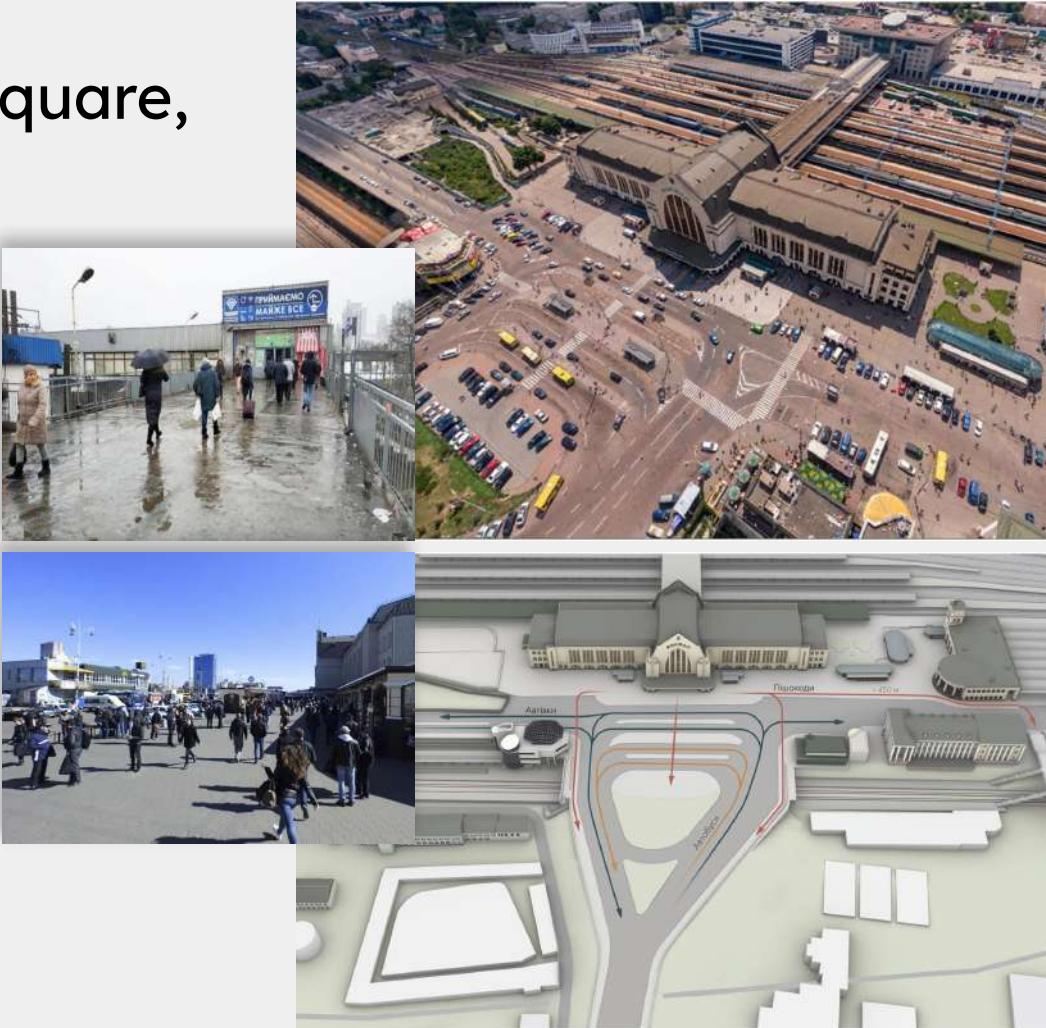
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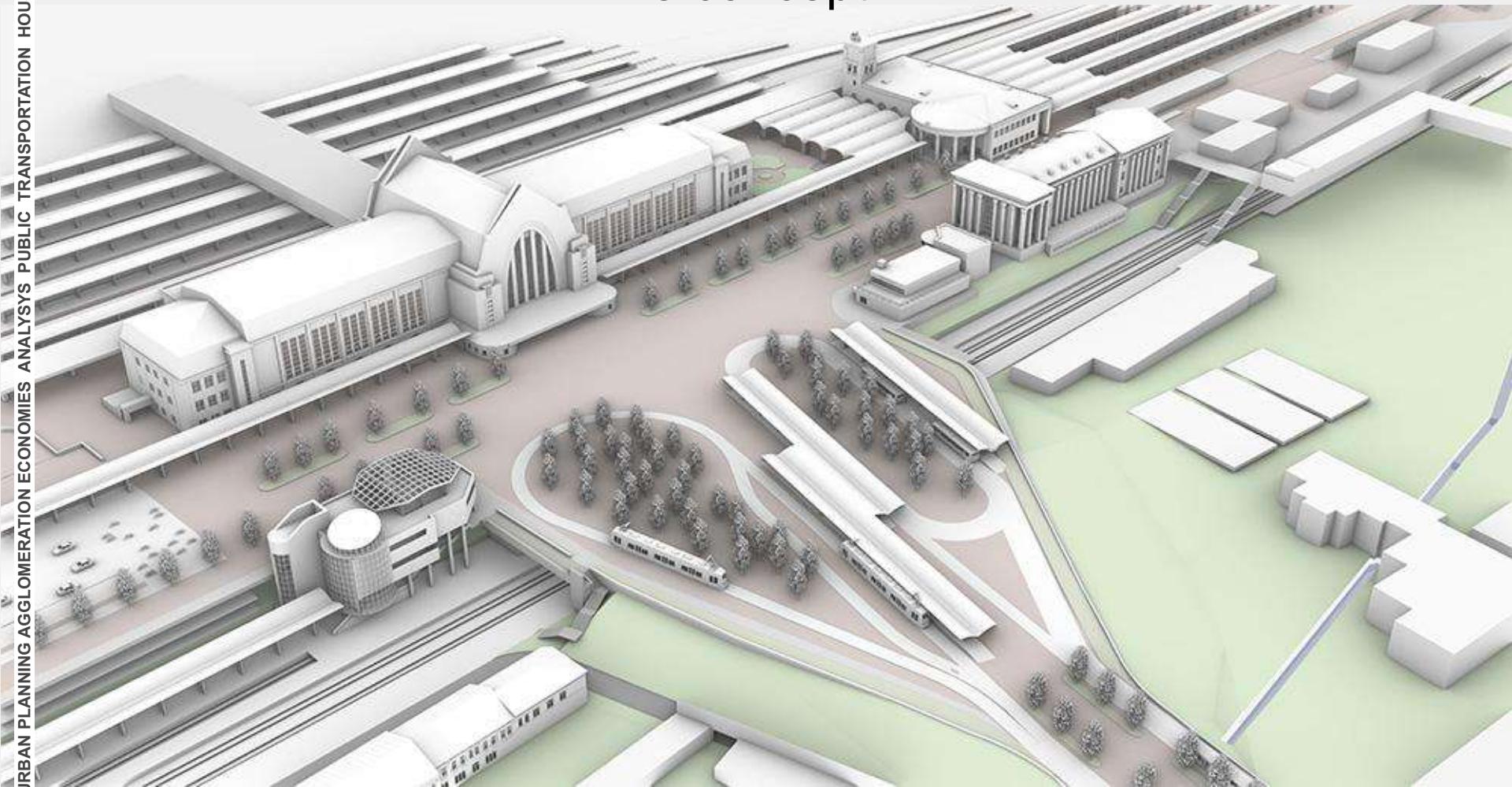
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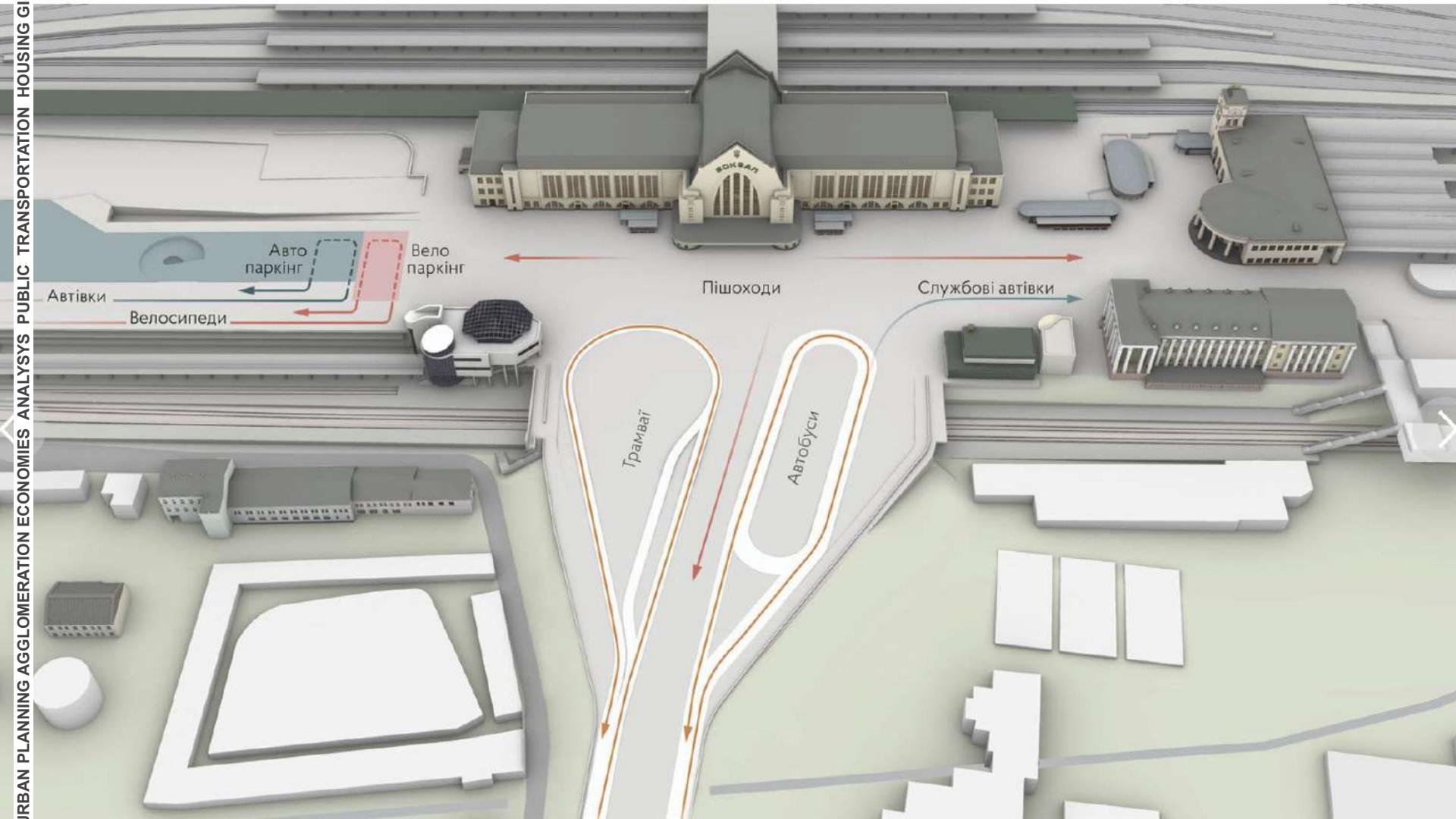
The social research was done by conducting interviews with different groups of users of the area. The buildings were modelled in Rhinoceros.

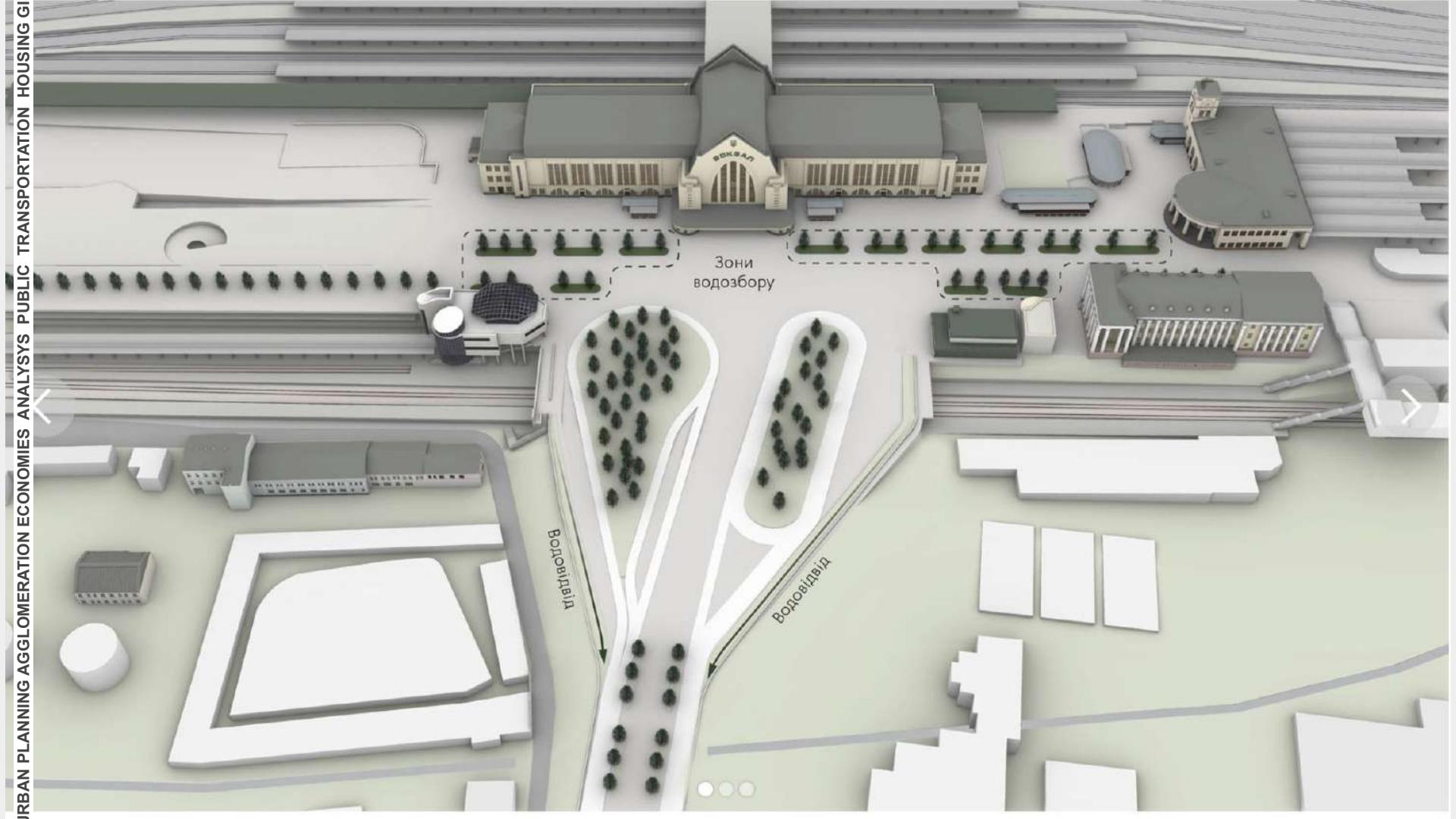
All the data were collected manually in the field, as no modern open database existed for Kyiv.



The concept





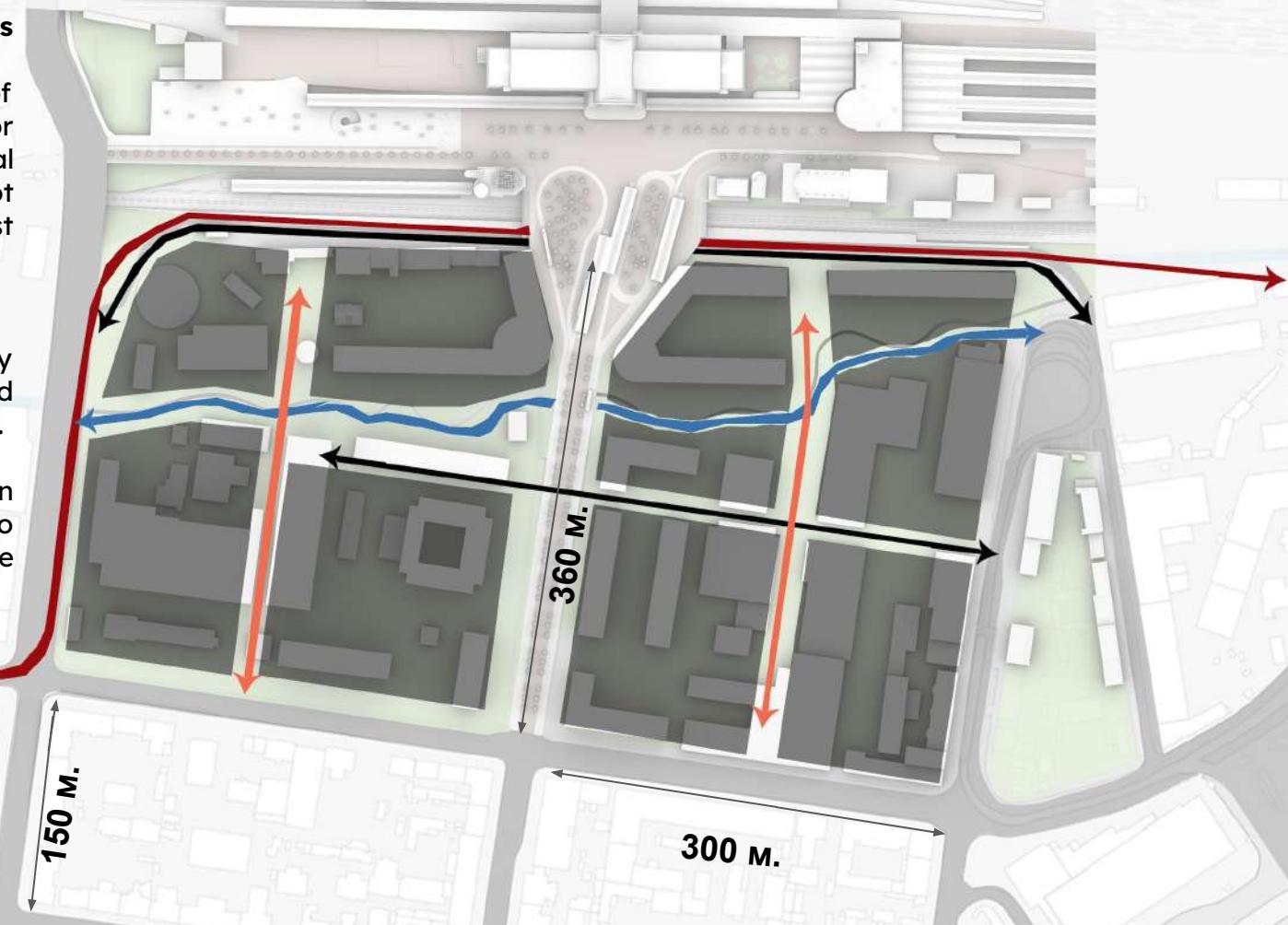


New block size and connections

Typical size of block of Pankivschyna area is 150x150 or 150x300 m. The former industrial zone is too big and has not enough connections with nearest blocks. The area is closed by fences.

Proposal: to make 8 new block by creating new connections and enclose them with new buildings.

New streets designed between old buildings that do not need to be demolished and should be renovated.

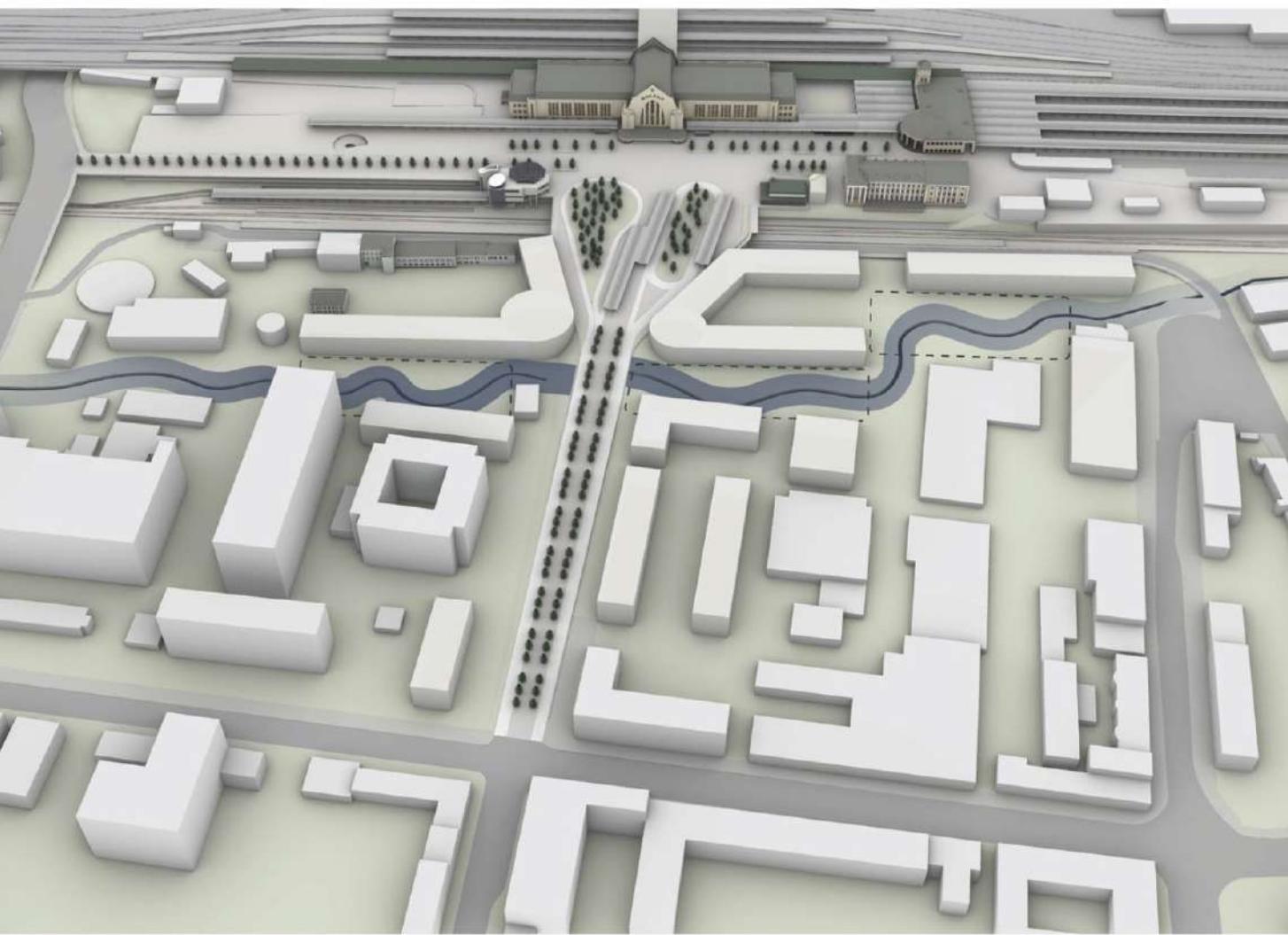


New public spaces at Vokzalna square

Proposal: vitalization the street and nearest blocks to connect square with city.

New public spaces will be located at former industrial zone near the abandoned water reservoir of power plant, along revitalized river Lybid and square itself.

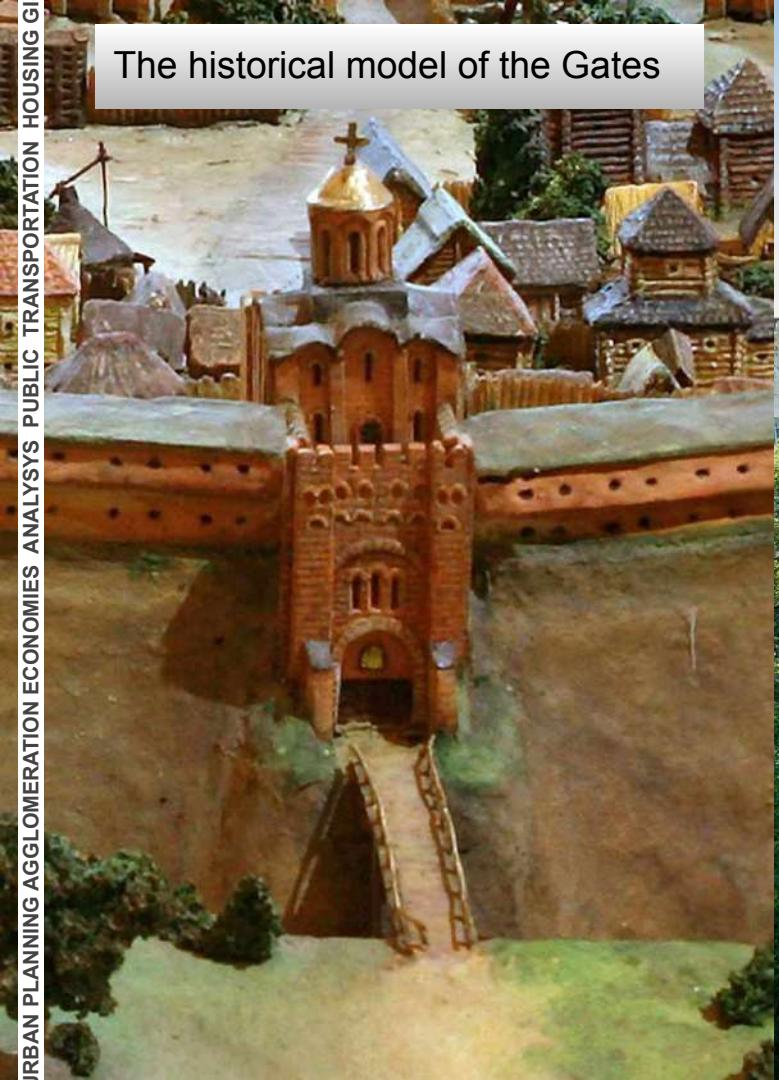
Petliury street will become a new public space with green boulevard and without private cars.



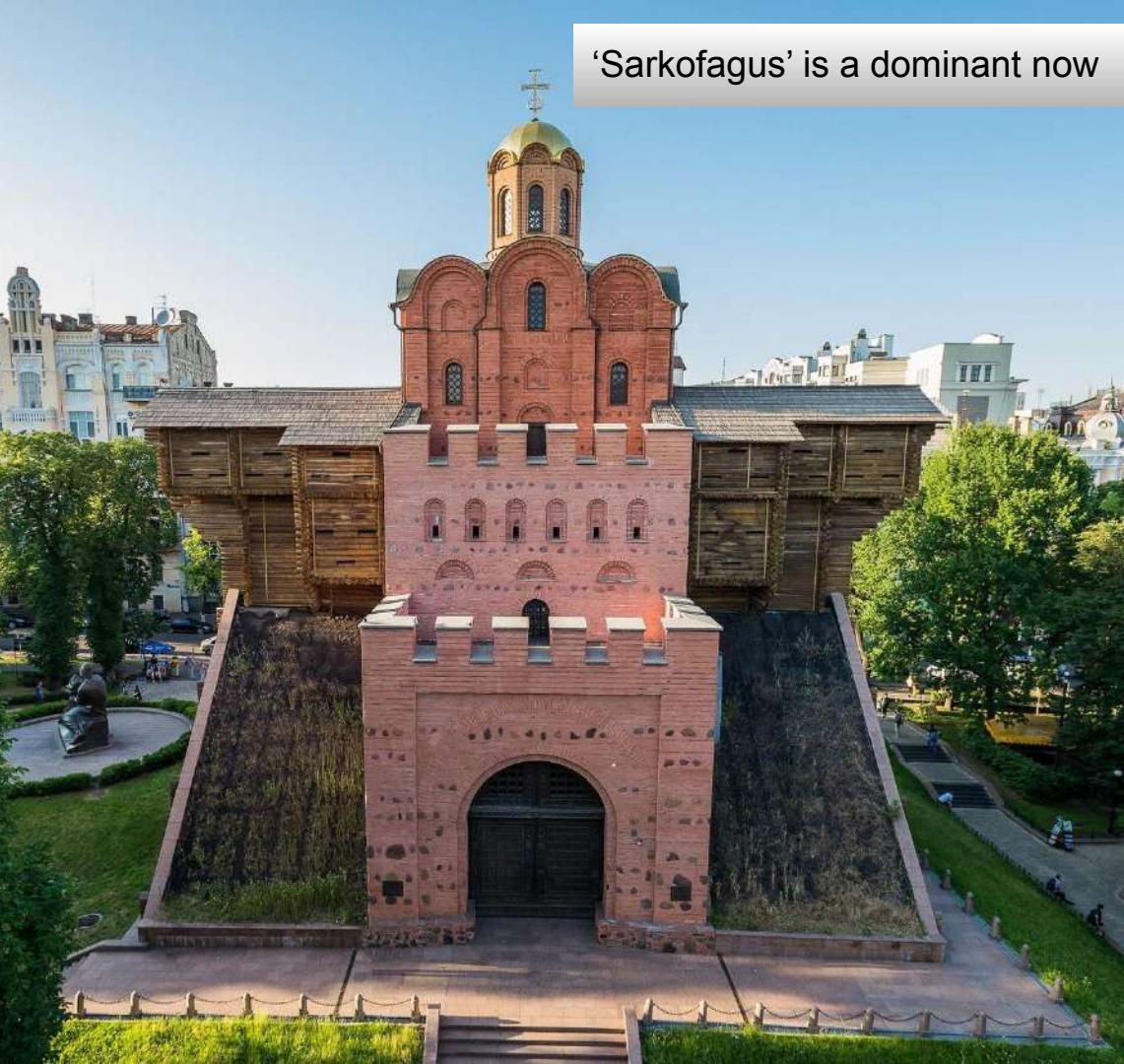
Concept of
reconstruction
of
Zolotovoritska
square, Kyiv,
Ukraine, 2020



The historical model of the Gates



'Sarkofagus' is a dominant now



This square is the part of central planning district and include the iconic historical heritage of Kievan Rus - The Golden Gate, which is covered with concrete sarcophagus and contemporary wooden imitation of west entrance to Kyiv.

Although this public space do not need the urgent reconstruction, after spatial and social research, and the analysis of traffic data the few problems have been identified: inaccessibility of the area because of many stairs, traffic jams, hidden treasure (The Golden Gates), separated vegetation and space, historical injustice and damaging of ancient building by water because of imperfect building preservation technologies of 80s. People were used to spend time here under the trees in summer and ride a sled in winter cannot use the space now because of barriers. Generations of Kyiv citizens walked through the Gates and left scripts on it but now the access is limited for them.

The Golden Gates in 80-s: only two walls left



The ancient wall inside sarkofagus

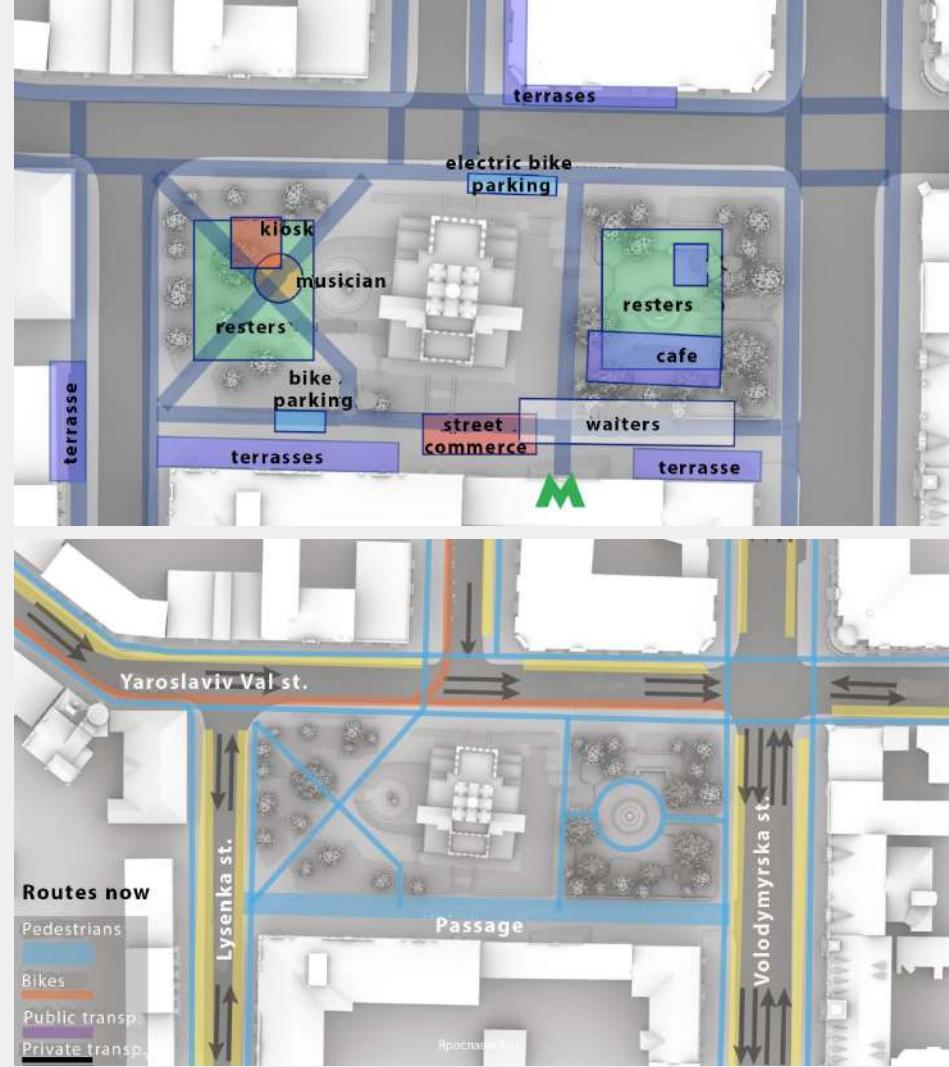
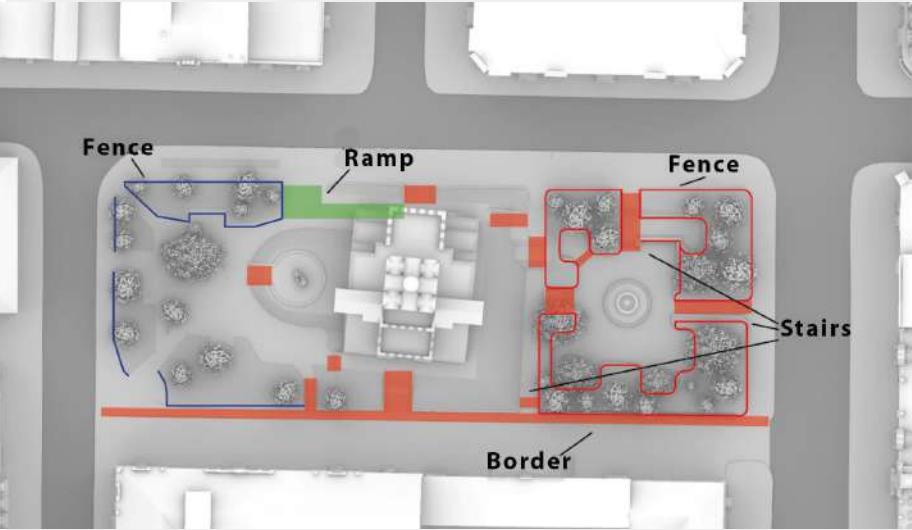


Arial view

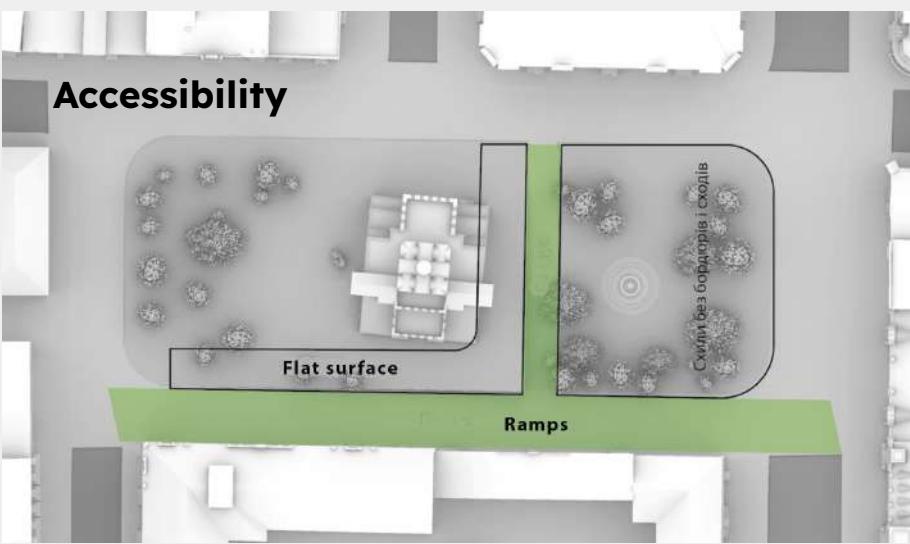
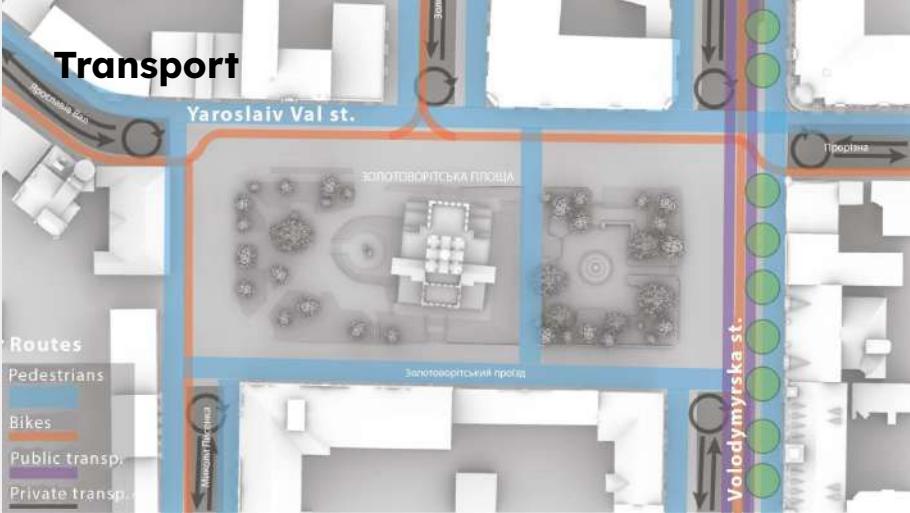


Existing conditions

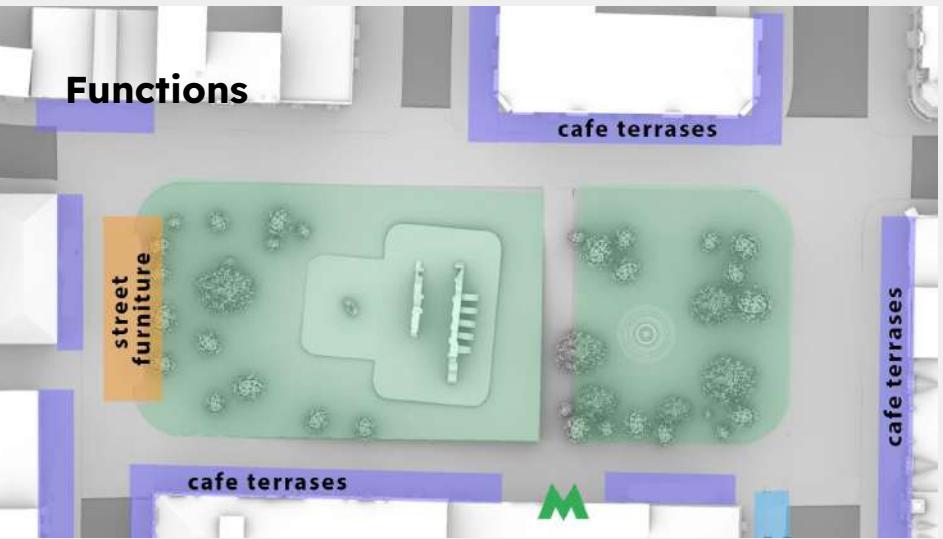
Yaroslaviv Val str. duplicates Velyka Zhytomyska str. and rests on the congested Khreshchatyk str. that why has traffic jam as well. Volodymyrska street has high width but low traffic level. The museum is settled inside of the sarcophagus, so people have to pay for the entrance to see the Gates itself. There are not any solutions to address climate change issues as well.



The proposal is to create the ramps to make square more flat and accessible for all kind of users and remove all barriers. The museum could be moved to the basement on the one side of the hill to make the passage through the Gates opened. To preserve the original Gates the removal of new building and concrete sarcophagus has been proposed. The old walls should be reinforced with contemporary technologies under archeologists supervision. In this case the dominant will not separate the square any more.



Functions



The traffic model showed the decreasing of congestion in case of pedestrianizing parts of Volodymyrska and Yaroslaviv Val streets adjoined to square. To fit the square to Kyiv bike network the bicycle infrastructure should be installed. All these solutions open the opportunity to create holistic public and green space, add more vegetation with street furniture and leaves place for commerce and street life which will create the polyfunctional park in the heart of Old Kyiv with developed public infrastructure. To meet climate change challenges and contemporary approach to waste and stormwater management the rain garden was proposed to built around the fountain. The increasing of vegetation will promote biodiversity and soil protection as well.



The museum under the hill



The Golden Gates are open now and do not separate square.



Concept of reconstruction of Lukianivska square

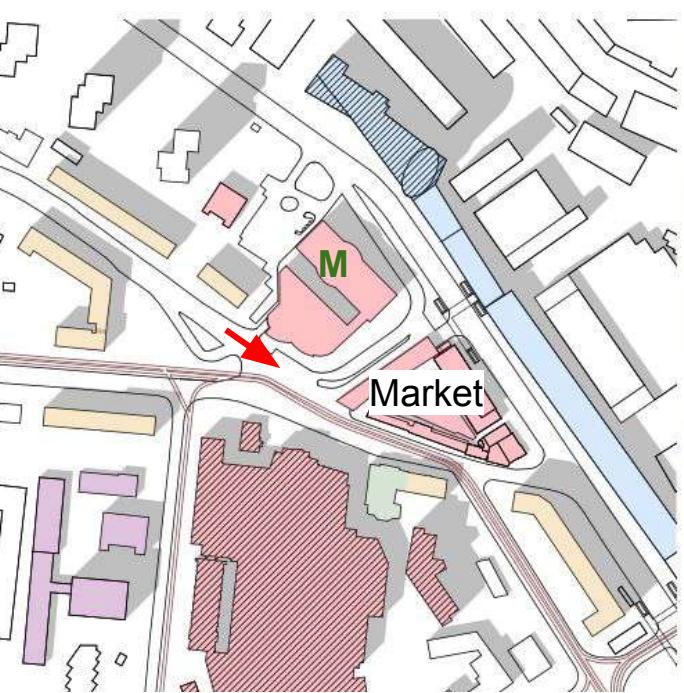
Kyiv, Ukraine,
2020



Lukianivska square, 2020

Description: Team has done the spatial research, analysis of the collected data and participatory design process in the form of workshop with stakeholders: locals, businesses, authorities, developers. We created the concept of the future square and took into account needs of stakeholders. Transportation analysis has been done by "A+S Ukraine", visualisation by architectural bureau "AER".

The intentions of developers were to transform the square into commercial, so my aim was to balance interests of stakeholders and create a vision of comfortable space for all users.



Functions of buildings

- 1 retail
- 2 housing
- 3 culture
- 4 health care
- 5 offices
- under construction



Lukianivska square, 2020

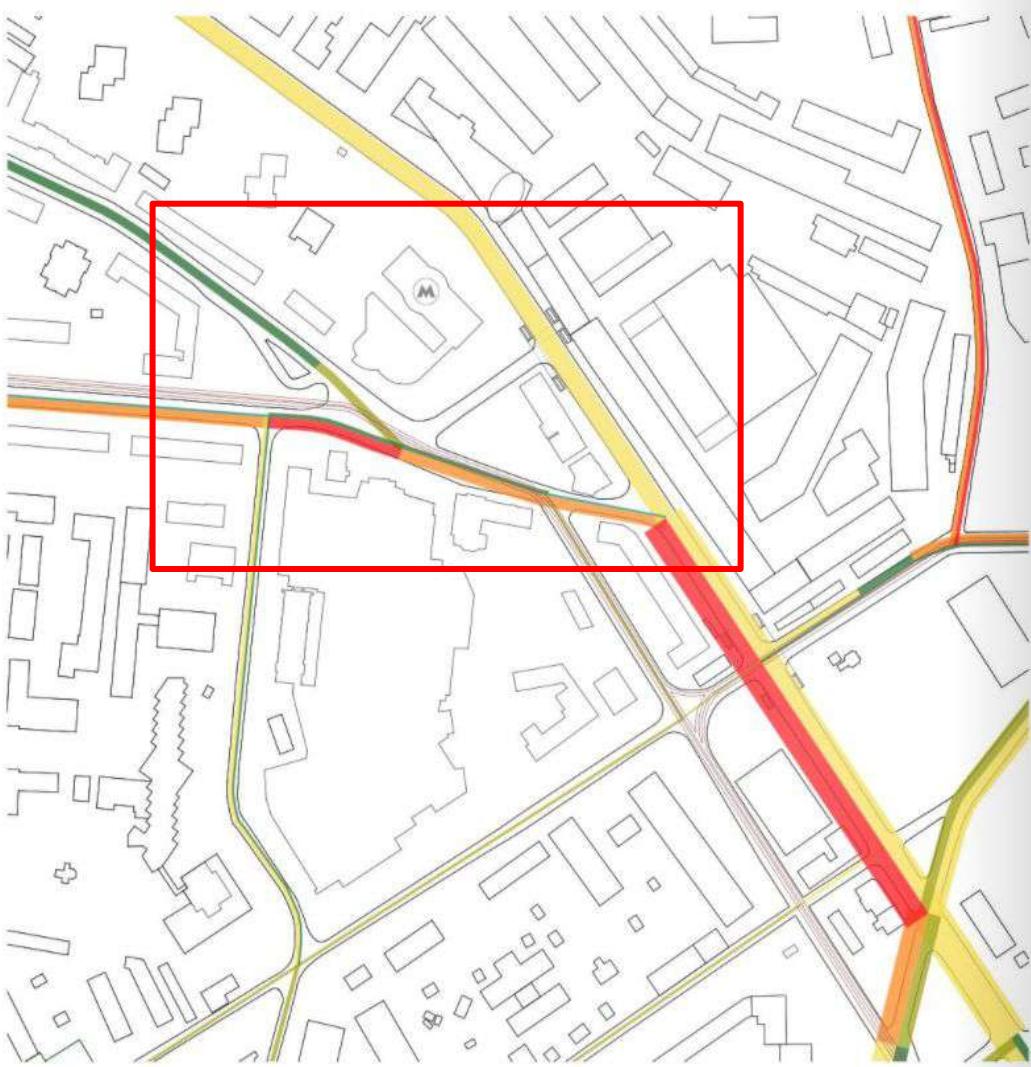
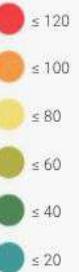
Lukyanivka began to develop intensively after the devastating flood of 1845 in Kyiv. Historically square with market and transport hub now it includes tram, trolleybus, bus and metro stations with few historical houses and industrial background.

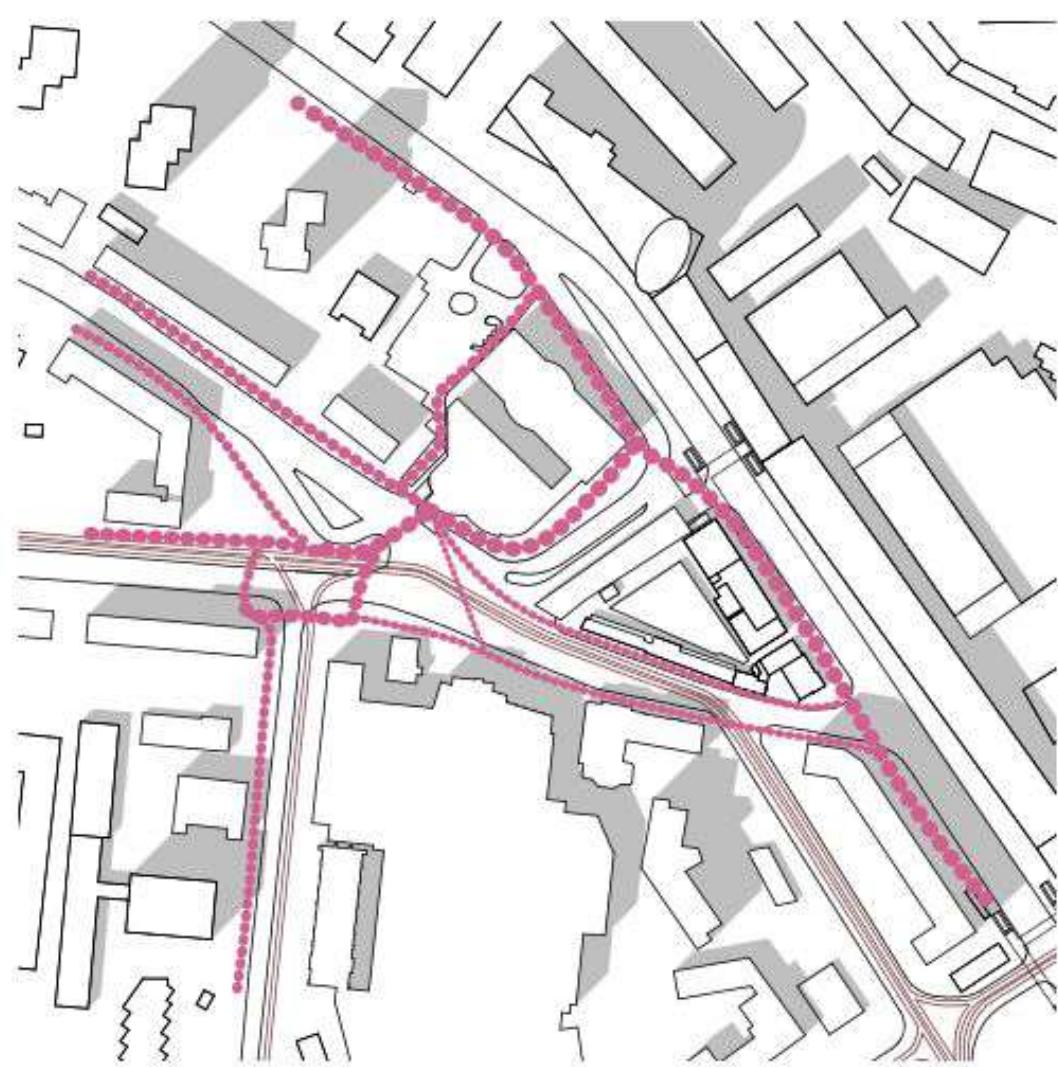
Transport modeling showed that traffic could be directed out from the square from Degtyarivska and Beloruska streets to Berdychivska. It will help to create square itself as a public space, add more functions, zones and even a fountain in the shape of riverbed to remind about the river Skomoroh which flow underground.

Private transport

Square is formed by a triangle of Illyenka st., Degtyarivska st., and Beloruska st., with a complex intersection of the Berdychivska / Beloruska streets. There is a high level of traffic and congestion around the area.

The scheme of congestion around,%





Scheme of pedestrian traffic intensity people per hour

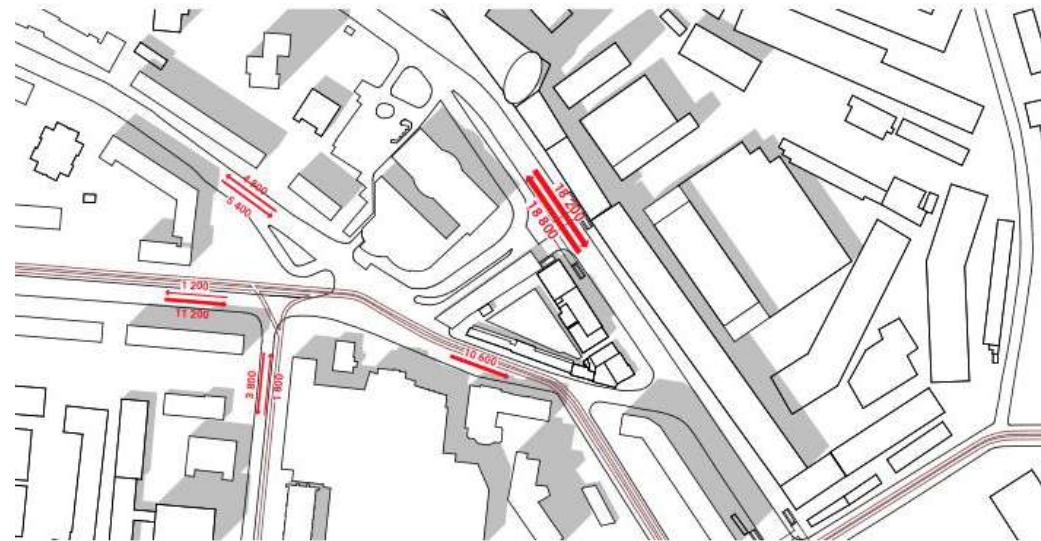
- 1000-2000
- 750-1000
- 500-750
- 250-500
- 100-250
- less than 100

The area has poor vegetation with the few big trees and only partially accessible. Even the basic street furniture like benches and garbage bins are rarely present in the public space.

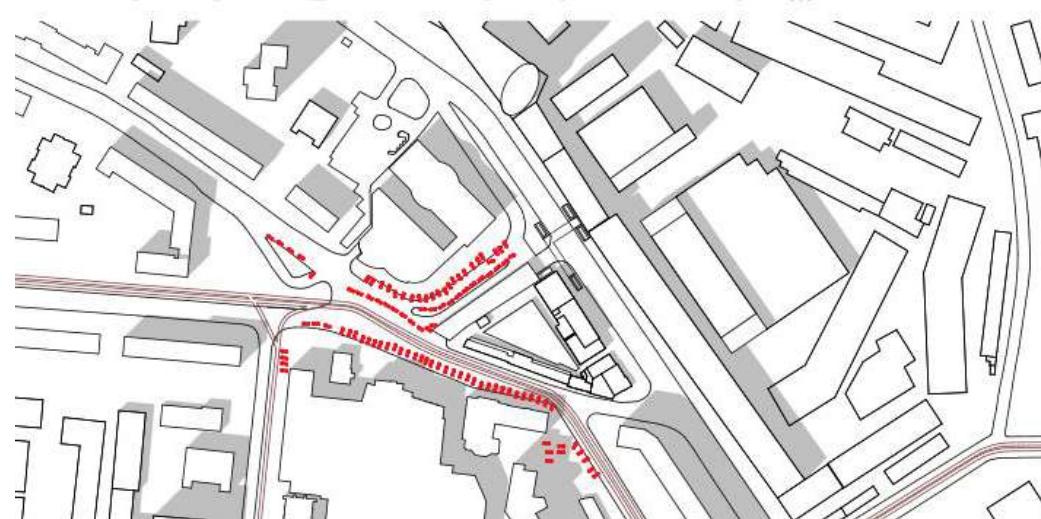
Scheme of current landscaping

- green circle: trees
- blue circle: benches
- red circle: garbage bins





The scheme of traffic intensity



The scheme of illegal parking at the square

Stages:

- .Presentation of collected data
- .Presentation of similar domestic and foreign cases
- .The excursion to the square
- .Working in groups
- .Presentation of group work



The workshop.

We presented the result of research has been done before and discussed problems and possible solutions in thematic groups.



**Participants
worked
in four groups**

1

General scheme of
traffic

2

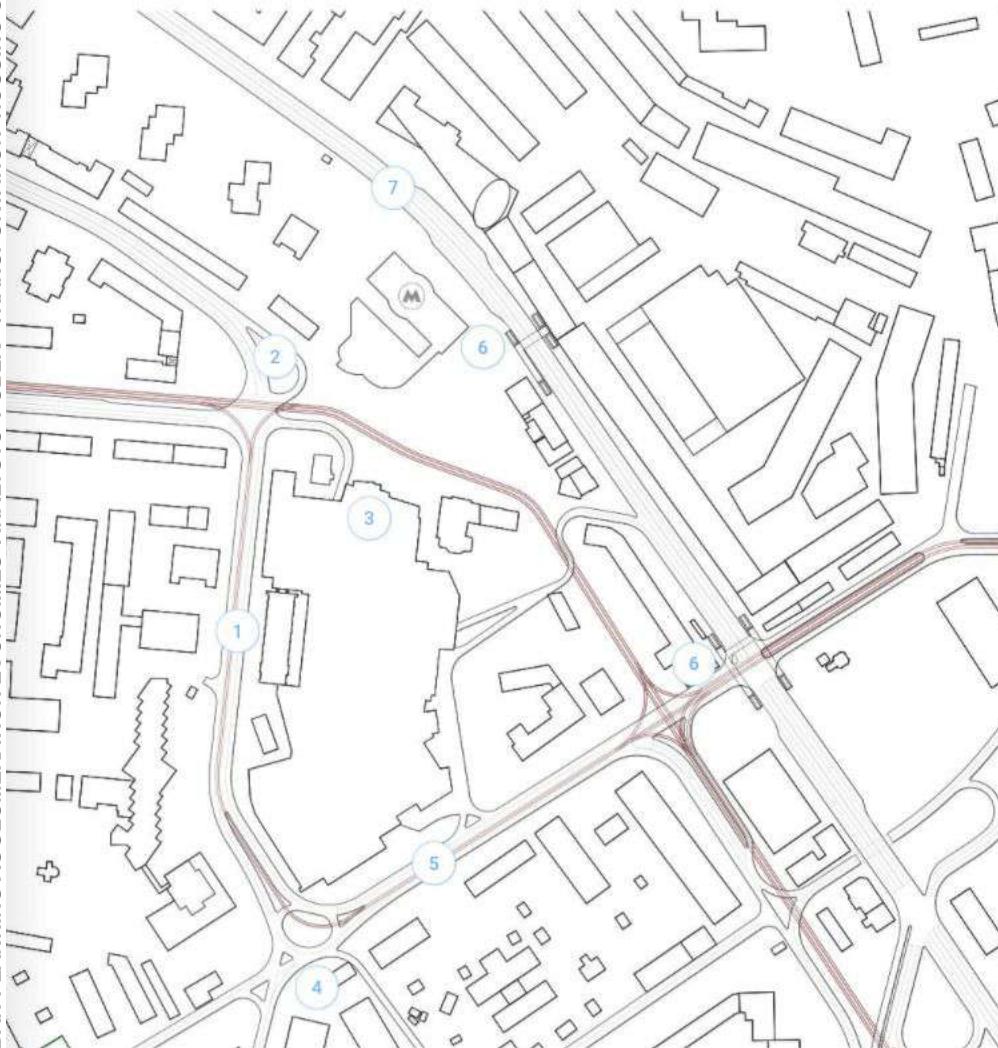
Transport
interchange station

3

Space for bikes and
pedestrians

4

Scenarios on square

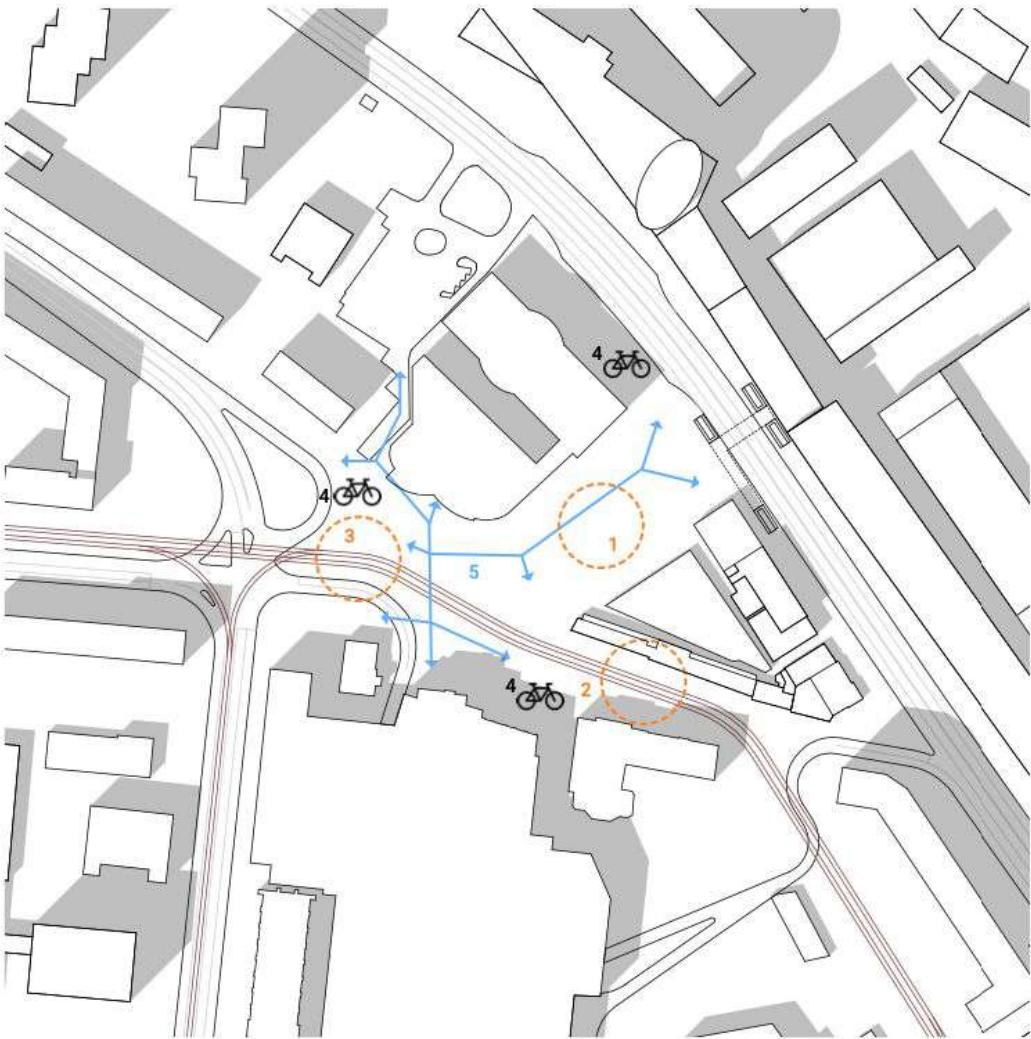


Private transport, parking and porches

1. Expanding of the Berdychivska street to four lanes within the “red” lines
2. Creation of a classic crossroads Berdychivska-Belaruska streets and a direct passage through a traffic light
3. Creation of new parking spaces in the mall to meet the demand for parking, use as P+R
4. To take into account the additional transport from residential complexes being built around
5. To widen Copernic str. and demolish illegal garages within the red lines
6. to create ground crossings instead of underground ones in front of the “Artem” plant and the “Kyivska Rus” cinema
7. To close the zebra crossing near the Artem business center as it will duplicate the new one near the Lukyanivska metro station

Bicycle and pedestrian infrastructure

1. Create a shared space and fill it with content
2. Elaborate drainage - “concept of dry feet”
3. Suspend car transit through the square and create a car-free zone
4. Parking for bikes near the new mall, subway and tram stops
5. Pedestrian flows and navigation



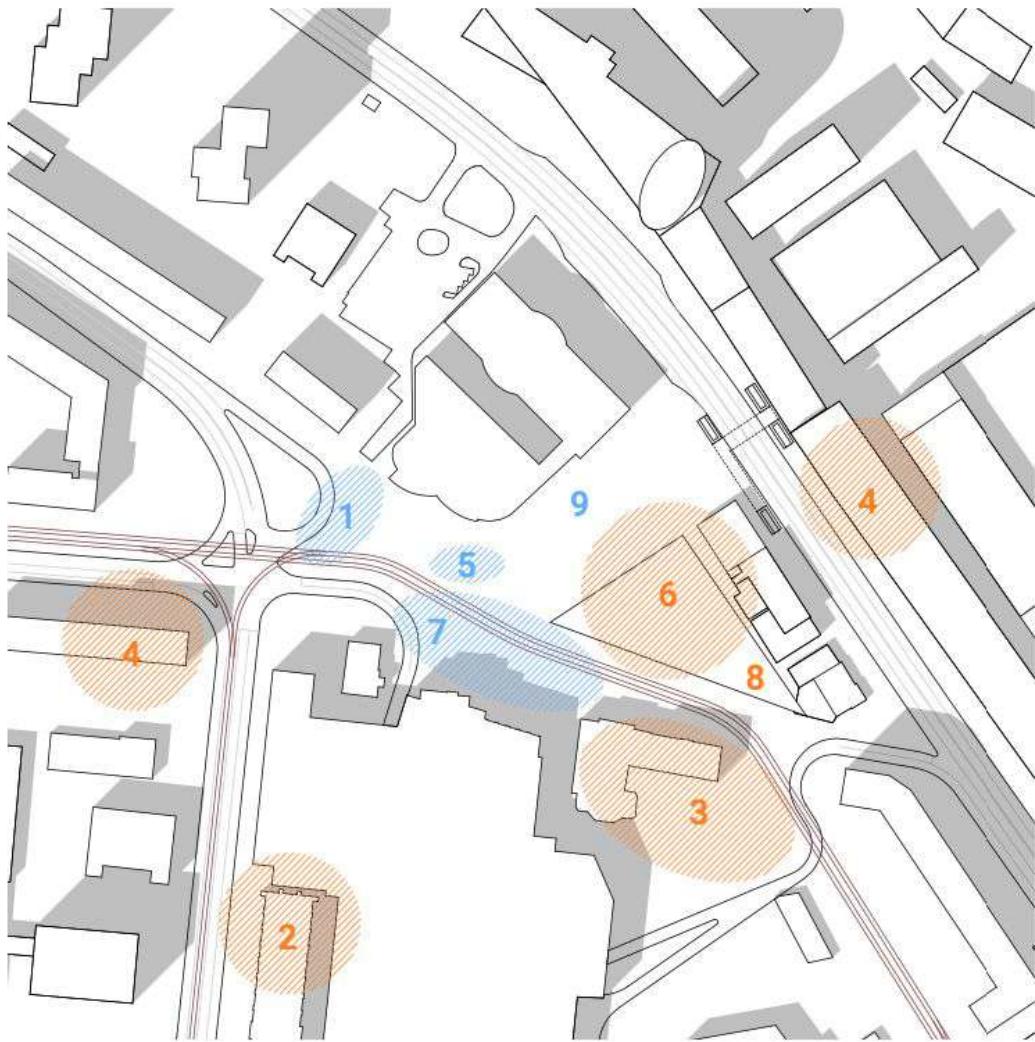


Landscaping and rainwater management

1. Come up with drainage in the area. It is necessary to inspect the collector of Skomorokh river, to clean and repair it.
2. Add more full-size trees in direct to create an ambush where to place enough benches and bins for garbage
3. Add a fountain as a reflection of the underground river Skomorokh

Visions and scenarios of the square

1. Interchange station
2. Shopping and entertainment center with Museum of Transport
3. Cultural cluster of Small Opera and cinema
4. Museums of the "Artem" plant and prison
5. Fountain "Skomorokh" on the former riverbed
6. Modernization of the market
- 7 Recreational area on the square
- 8 Provide places for small grocery
- 9 Places to rest



Concept



Spatial research, Lypky, Kyiv, Ukraine, 2019

Objectives: first project of collecting actual urban data and analysis of this area, with the aim to create a database for future ISUD and concept of reimagination of the district from administrative into something else.

Description: The interdisciplinary team of 15 students created this Concept with the pool of experts. The area were modelled in Rhinoceros. All the data were collected manually in the field, as no modern open database existed for Kyiv. The team suggested relocating some government organizations and dispersing them around the city, to give their place to the culture and functions that are missed in district. Residential buildings predominate in Lypki, but almost a third of the entire area is occupied by offices. According to approximate estimates, 35,000 people live in the district, and there are 64,000 workers. The offices of the government quarter are concentrated in the central part of the district, which strongly affects the scenarios of its use.



These quarters are detached from the everyday life of the residents, which is concentrated on the perimeter. The quarter of the Oleksandrivska Hospital on the slope along Mechanikova Street stands out separately.

Spatial research of Lypky district, Kyiv, 2020

The whole district is oppressed by burden of governmental functions and users of this buildings. Although it's the heart of the city and the real estate prices are high but the actual condition of the building are embarrassing. They are on the way to collapse.

Functions of the ground floors

On the first floors of Lipok offices predominate in almost a third of buildings the most accessible floor is occupied by office space. Trade and housing have about the same rate of 14%, which is not typical for the central districts of Kyiv. For example in Podil only 6.8 % of the area on the ground floor is occupied by housing, while trade is 19.8%. On Pankivschyna only 5.5% of the first floors are housing, while trade is 27.3 % on the first floor.

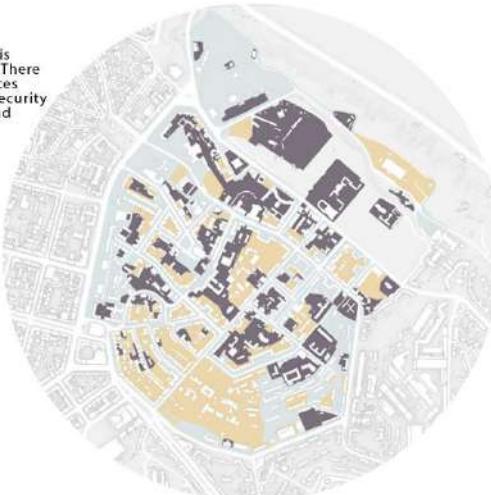
Offices	31,6%
Retail	14,7%
Housing	14,3%
Not in use	8,0%
Culture	7,7%
Utility rooms	6,6%
Food	6,1%
Education	5,5%
Health	4,1%
Hotels	1,4%
Sport	0,1%



Accessibility

Half of the territory of Lipok (49%) is closed (25%) or semi-closed (24%). There are dozens of closed gates and fences in quarters, and tens yards with a security guards asking "who are you to?", and closed park around Alexandrivska Hospital. Even a third of Mariiinska Park is closed for people.

open closed
semi-closed



Locals cannot afford to repair their houses and sometimes even pay the high prices for living expenses. The quality of retail, grocery shops and other services is moderate because of lack of competition, low demand and

Activity of facades

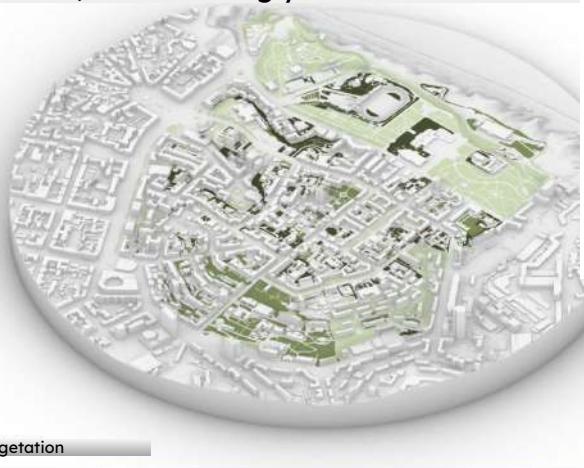
Khreshchatyk and Baseina streets are very different from the general situation of the district, because on these streets almost every facade is active or friendly and often the vast majority of facades on other streets are boring and inactive. They can be observed along the entire length of the street Lutheranska and Instituytska and in the south of the district.



high prices for rent. The district is surrounded by perfect transport, sport, commercial and cultural infrastructure but has not within and the lack of proper connections make this infrastructure unavailable for locals. This with the location on the hill makes citizens by a car to get services reachable by bike or foots in case of comfortable pedestrian network.

Spatial research of Lypky district, Kyiv, 2020

In general, residential buildings predominate in Lypki, but almost a third of the entire area is occupied by offices. According to approximate estimates, 35,000 people live in the district, and there are 64,000 workers. The offices of the government quarter are concentrated in the central part of the district, which strongly affects the



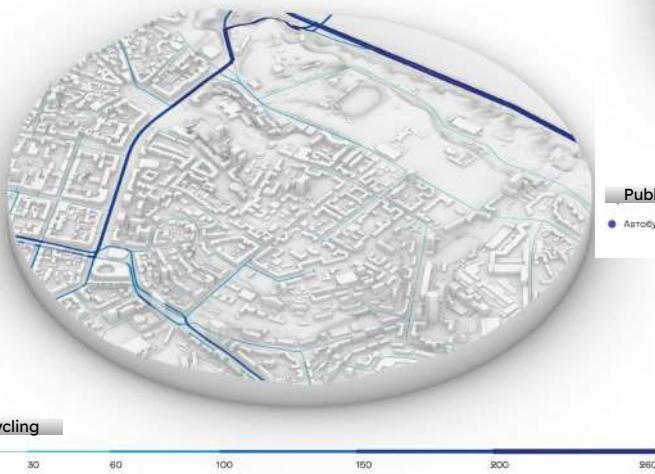
scenarios of its use. These quarters are detached from the everyday life of the residents, which is concentrated on the perimeter. The quarter of the Oleksandrivska Hospital on the slope along Mechnikova Street stands out separately.



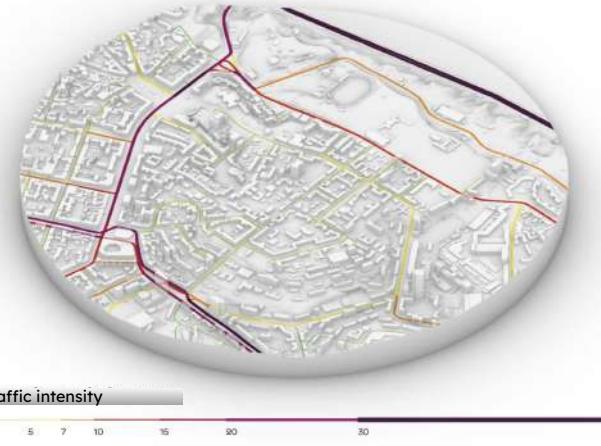
On Lipska and Bogomoltsa streets there is still a solid greening, but in general the green zones are often separated from each other and do not form a single green network. A significant number of trees are absent on the streets around the perimeter of Lypky, where the greatest pedestrian and traffic traffic takes place. In addition, there is no drainage network and water flow management on the streets.

Spatial research of Lypky district, Kyiv, 2020

Currently, all public transport routes pass around Lypky and none of them pass through the district. Due to steep descents and long distances to stops, some of them are inaccessible to local residents and workers. A big advantage is the subway, which most people use to get to this area.



As the locals themselves say, the subway is a so-called taxi that they use to get around the steep descents. Bicycles are most actively around the area.



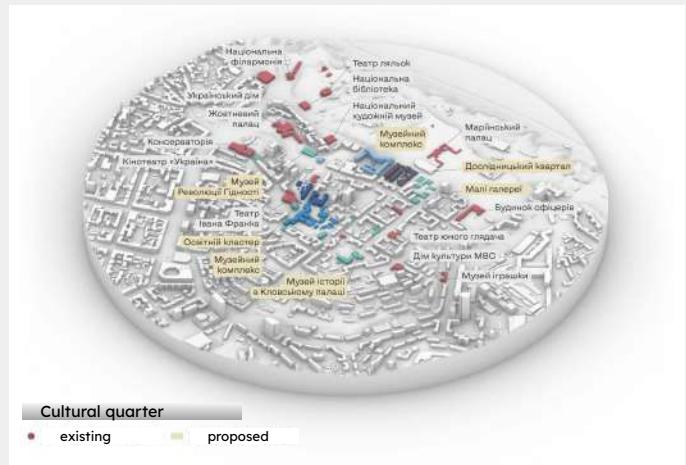
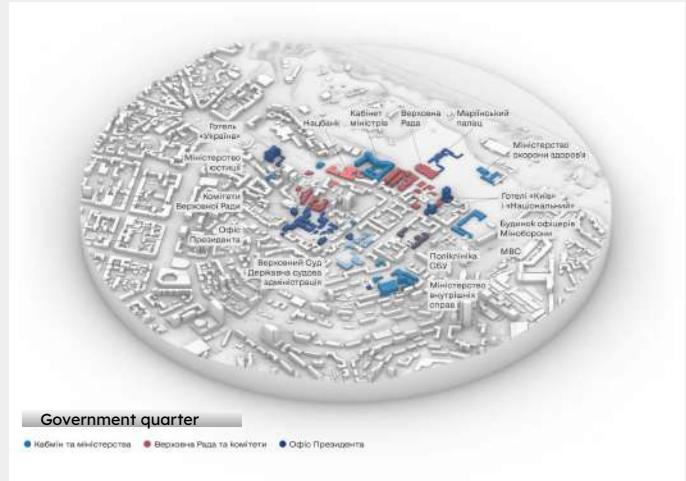
The district is located in the center of Kyiv, where the main transport highways pass. However, the intensity of individual transport within the district is quite low. The traffic network within the district, designed for private cars, is not fully utilized.

ISUD, Lypky district, Kyiv, 2020

Objectives: rethink the functions of the district and develop an integrated development strategy on the basis of collected spatial data and surveys of residents

Description: In order to start developing it as a comfortable area for life, we are moving the functions of the Office of the President, the Ministeries. We propose to leave the parliament and its infrastructure on the territory of Lypki, but partially change the location. We propose to fill vacated buildings with cultural and creative institutions: artistic, event, exhibition, research and educational. We base new institutions on the basis of already existing cultural objects and open up the closed territories of government quarters and connect them with existing public spaces, creating new centers of gravity.

We are returning the Kyiv History Museum to the Klovsky Palace, and we are creating an archaeological museum on the territory of the former Klovsky Monastery, forming a Historical Quarter on this territory. We are filling the buildings in the quarter of the President's Office, which borders the Franko Theater, with educational institutions and museum spaces turning it into the Theater Quarter.

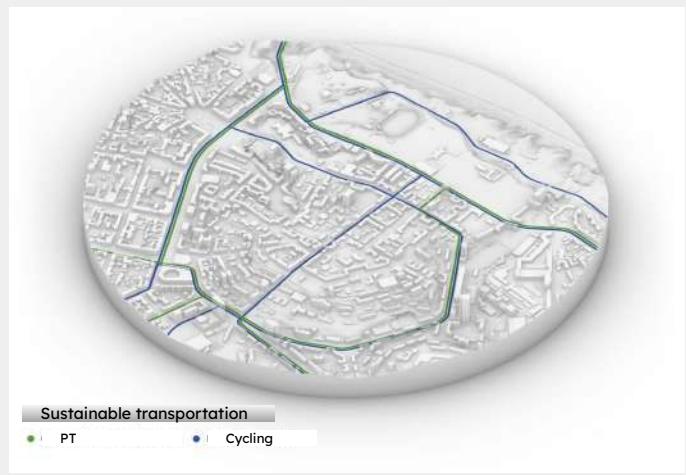


ISUD, Lypky district, Kyiv, 2020

The building of the Cabinet of Ministers, which borders the Art Museum, will be filled with the function of the Art Museum, and the neighboring quarters with the buildings of the Verkhovna Rada committees will be turned into a research quarter and small galleries. The territory around the Cabinet building will become the Art Quarter.

We created a network of bicycle routes based on the adopted concept of development of the bicycle infrastructure of Kyiv and the routes most used by cyclists. In order to increase the number of users of public transport and improve the comfort of its use for the residents of Lypok, separate lanes were designed for the movement of public transport on Mykhailo Hrushevskyi, Khreshchatyk, Baseina, Mechnikova and Klovsky Uzvoz Streets. We are also transferring public transport traffic from Kryposny Lane to Lipska Street.

We interrupt transit traffic through Lypky and leave three main entry points around the perimeter. Cars are diverted from Ivan Franko Square along Horodetskyi Street to the main Khreshchatyk Street. From Luteranska and Pylyp Orlyk, we direct traffic to Shovkovychna in the direction of Hrushevsky Street. Along the lower perimeter, we take cars from Shovkovychna and Kruglouuniversitetska streets to Bessarabska Square.

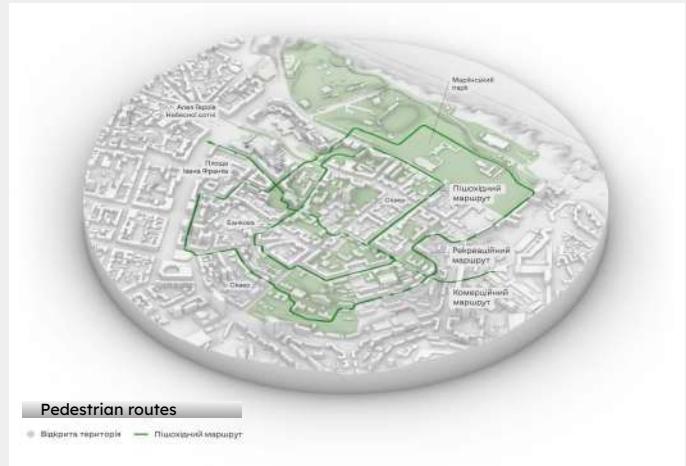


ISUD, Lypky district, Kyiv, 2020

In order to connect separate green zones, to restore greenery on the main pedestrian routes and to solve the issue of stormwater, we are creating a single green-blue network on the streets. Existing green areas can absorb only a limited volume of stormwater. Therefore, the system of sustainable landscaping directs water flows, filters them and directs them along the watercourses to restored riverbeds at the foot of Lipky.

Thus the closed squares inside the Presidential and Judicial Quarters will become open to the community. The square near the Ministry of Internal Affairs is being turned into a commercial one. There small commercial and recreational spaces should emerge in the bleakest (sought) part of the district to activate it and meet the needs of local community.

The recreational scenario includes the new spots and attractions but should to make existing infrastructure accessible as well, for instance to city stadiums and tennis courts. The green hills of Dnipro river and the water itself are unavailable for citizens so comfortable routes to embankment should be added.



ISUD, Lypky district, Kyiv, 2020

Scenarios of using public spaces and infrastructure

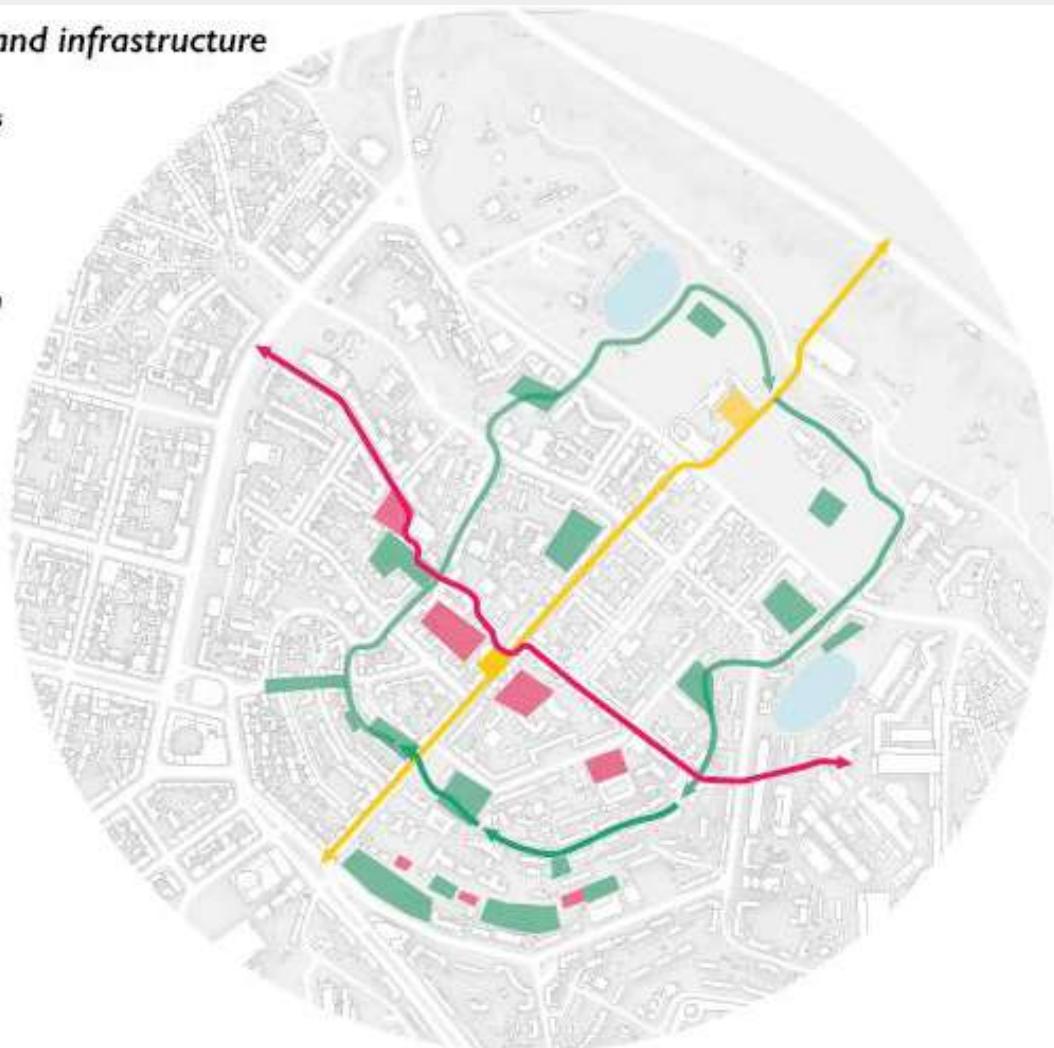
Commercial scenario - wide commercial sidewalks for summer terraces and trade, street life and activities.

Recreational - green and sports grounds with a large number of benches, canopies for weather protection and community activation, in the south part of district in particular.

Transit - the main direction of pedestrian traffic to the Dnipro and Mariinsky park and back to the city.

In the center of the Lypky district a small central square emerges with branches into the Presidential and Judicial Quarters, which should become a meeting place for the community.

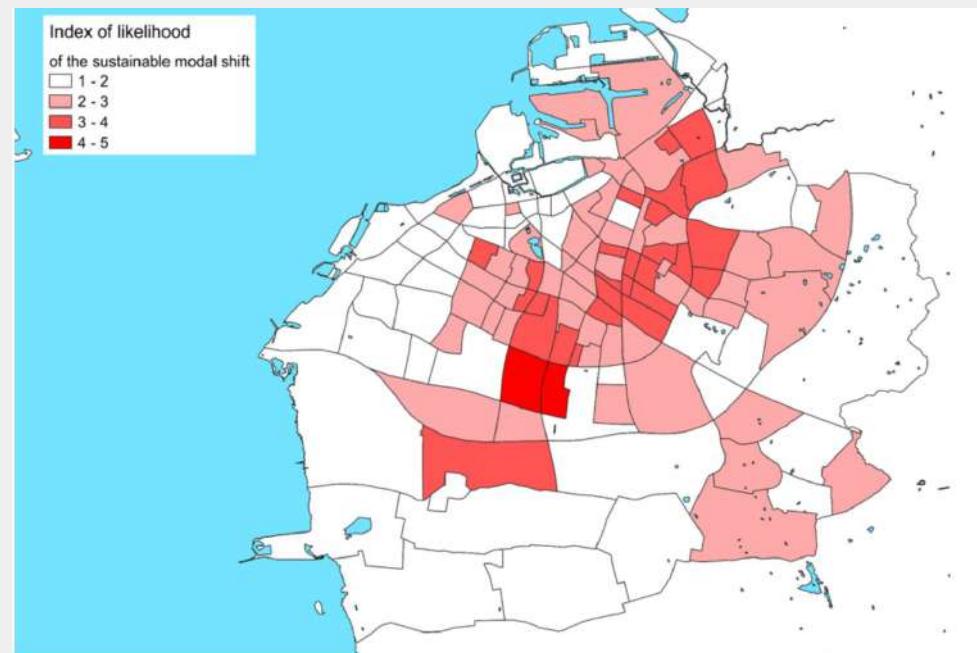
- Commercial
- Recreational
- Transit



Urban research on car ownership, Malmo, Sweden, 2021

Objectives: empirically single-out factors which impact car ownership level in the districts of Malmo; present politically feasible policy recommendations to the stakeholders.

Description: The project is based on the data from Swedish Statistics database (SCB) and data from City of Malmo. Based regression analysis the Index of the likelihood of the sustainable modal shift has been developed to visually present results to the stakeholders. The index was constructed as a sum of one point per each of factors (if higher than average): level of car ownership, average income, level of bus service and distance to the nearest transport hub together with population density. The index is developed based on theoretical concept of 'Forced Car Ownership' (FCO) when low income households are forced to buy a car in absence of other transportation options. It results in a high proportion of their income going to cars. Other factors such as scooter and bike sharing services and bike infrastructure are proven as insignificant

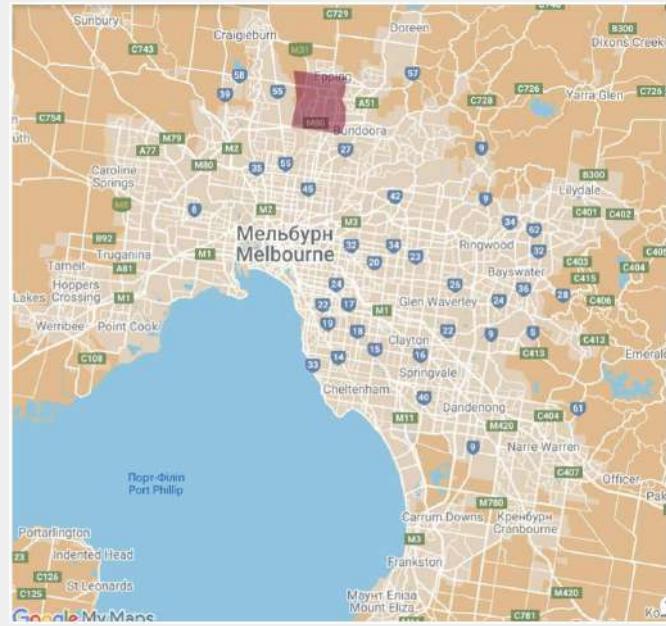


in regards of car ownership level in Malmö. The quality of bus service has been confirmed as the most feasible factor to deal with to decrease car ownership. As a result several districts were confirmed with the highest index but Lindeborg and Almvik as a first priority to increase bus service provision and connectivity.

Public transit network planning, Lalor, Australia, 2022

Objectives: to propose maximum increase of network coverage, reach of homes and jobs within 5% increase of operational budget; to propose largest increase of reach within the minimum increase of budget as an optimistic scenario.

Description: Lalor is typical (for Greater Melbourne) low-density car-oriented municipality located on the North, City of Whittlesea. It has spread out disconnected unfrequent PT network with poor transfer points and lots of line duplicates. Using the network approach best practice: distances to and between stops, increase of frequencies, avoiding duplications, proper line placement the significant increase of jobs (54%)



and homes(40%) reached within 30 min of commuting was achieved for the basic improvement of network. The operational budget increased less than 3%. For enhanced network - less than 11% with the increase of population and jobs accessibility of 240% and 220% respectively.

Lalor, Australia, 2022

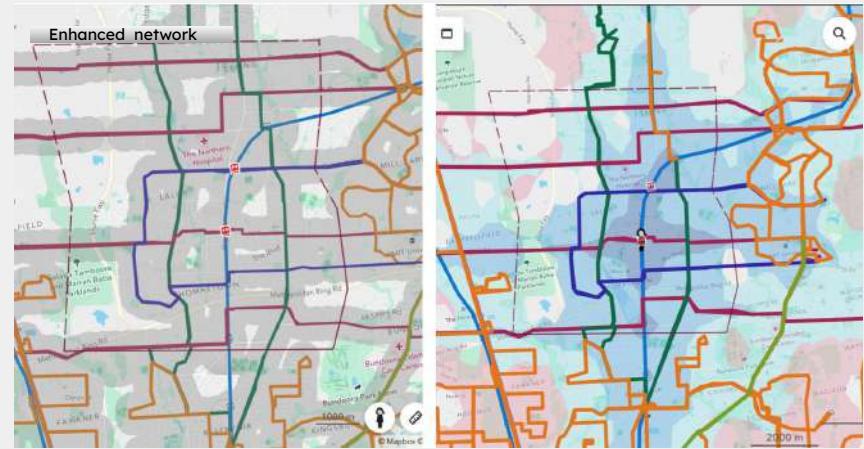
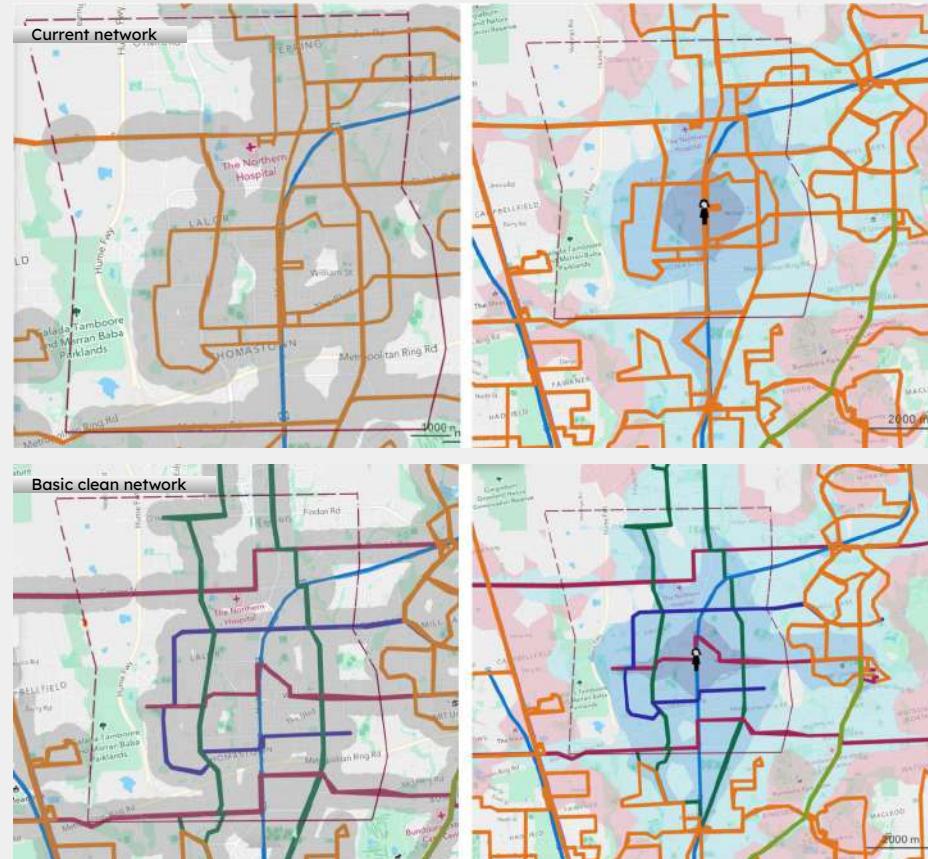


Table 5. Comparative population and job accessibility of scenarios (Source: Remix model)

Travel time, min	Scenarios	Population 2021				Jobs 2016				
		Time and day	Weekday 17:00	+%	Saturday 17:00	+%	Weekday 17:00	%	Saturday 17:00	+%
15	Current		8,731	0	8,468	0	1,285	0	1,222	0
			51,415	0	32,907	0	16,316	0	9,168	0
			214,650	0	127,302	0	63,442	0	38,646	0
			508,917	0	328,601	0	409,056	0	172,238	0
30	Basic clean lines		12,663	45	12,272	45	1,657	29	1,574	29
			71,930	40	67,924	106	25,084	54	22,303	143
			236,893	10	219,909	73	70,899	12	66,796	73
			519,712	2	459,810	40	418,378	2	336,070	95
45	Enhanced		17,326	98	11,223	33	3,803	196	1,981	62
			153,475	199	111,650	239	51,903	218	38,329	318
			414,250	93	339,120	166	232,859	267	140,360	263
			818,583	61	660,746	101	660,947	62	574,797	234

Climate change policy evaluation: Arden Structural Plan (Australia), 2022

Objectives: to assess newly elaborated structure plan for the largest development area of the City of Melbourne accordingly to the best practice of mitigation and adaptation to climate change.



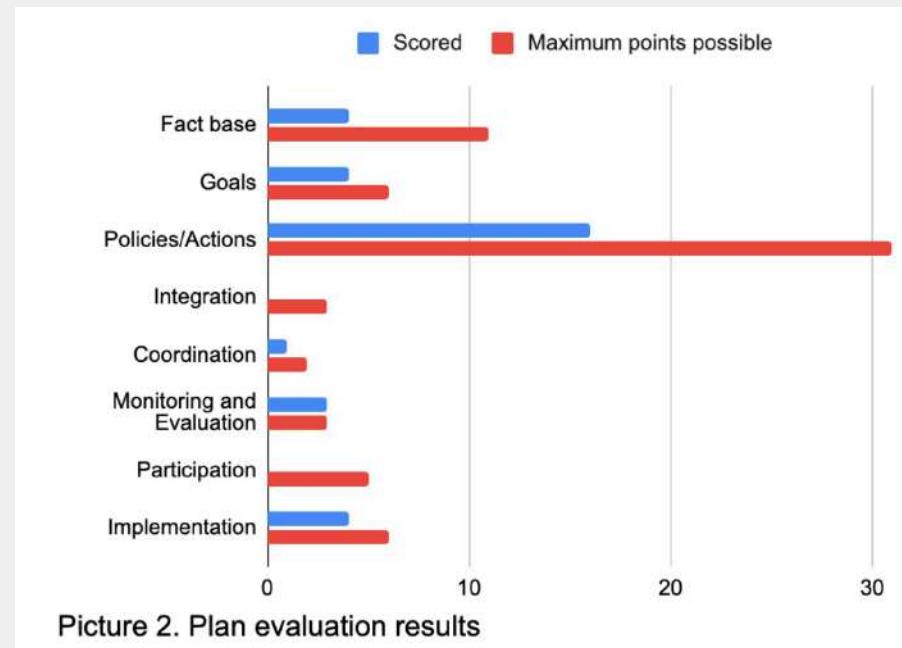
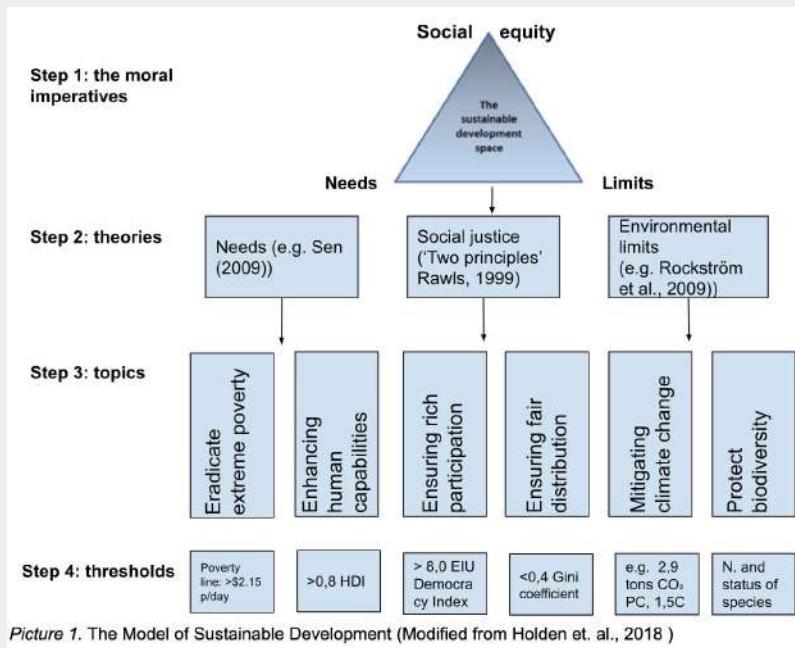
Arden Structural Plan, 2022

Evaluation consists of 67 assessment criterias used with scoring system, modified from Guyadeen et al. (2019), meaning if criteria is presented in the plan, then it gets 1 point and 0 if it is absent. Assessment criterias for ASP are presented in the table:

Indicators		Description	Adaptation – General		Transportation	
Climate Change Awareness	Does the plan include climate change?	Does the plan include at least one broad goal related to adaptation or reducing vulnerability to climate change?	1	1		
Climate Change Context	Does the jurisdiction have a climate issue?	Does the plan include at least one specific goal related to adaptation or reducing vulnerability to climate change (e.g., reducing development in hazard areas found in the jurisdiction)?	1	1		
Emissions Inventory	Does the jurisdiction have a greenhouse gas inventory?	Does the plan include at least one goal related to community emissions (i.e., how can the community reduce its impact related to climate change)?	1	1	Yes? 0 Between? 0 What? 0	1
Emissions Inventory Breakdown	Does the jurisdiction have a breakdown of its greenhouse gas emissions?	Does the plan include at least one goal related to government emissions (i.e., how can the local government reduce its impact related to climate change)?	0	1	Yes? 0 Between? 0 What? 1	3
Base Year Emissions	Does the jurisdiction have a base year emissions forecast?	Does the plan include at least one long-term (i.e., 20 years or greater) target for reducing GHG emissions?	1	1	Yes? 0 Between? 1	1
Emission Trends Forecast	Does the jurisdiction have emission trends forecast?	Does the plan include at least one short-term (i.e., less than 20 years) target for reducing GHG emissions?	0	1	Yes? 1 Between? 1 What? 1	1
General Climate Change Impacts	Does the jurisdiction have a discussion of the specific impacts of climate change (e.g., increased storm frequency, impact on quality of life, etc.)?	Does the plan include funding for climate resilience mechanisms to address climate change impacts, and	4	6		
Specific Climate Change Impacts	Does the jurisdiction have a discussion of the specific impacts of climate change to the jurisdiction (e.g., identifies specific areas in the jurisdiction that are vulnerable to the effects of climate change)?	Does the plan include tools to enforce sustainable development requirements, or relies on advocacy and guidance?	0	1		
Vulnerability Assessment	Does the jurisdiction have any threshold indicators for GHG emissions? (e.g., 2.9 tons CO ₂ per capita to stay under temperature increase goal)	Does the plan include a separate section that addresses what needs to be done to monitor and evaluate the plan?	1	1		
	Does the plan identify certain geographic areas that will be disproportionately affected by climate change?	Does the plan identify departments responsible for monitoring the plan?	1	1		
	Does the plan identify certain demographic populations that will be disproportionately affected by climate change?	Does the plan identify a timetable for updating the plan based, in part, on results of monitoring changing conditions?	1	1		
	Does the plan identify certain industries that will be disproportionately affected by climate change?	Monitoring and Evaluation	3	3		
		Horizontal Coordination	0	1	Does the plan include at least one horizontal connection with other local plans/programs (e.g., official plan documents and other climate change initiatives)?	
		Vertical Coordination	1	1	Does the plan include at least one vertical connection to federal, provincial plans and applicable (e.g., provincial legislation on climate change)?	
		Coordination				16
						31

Arden Structural Plan, 2022

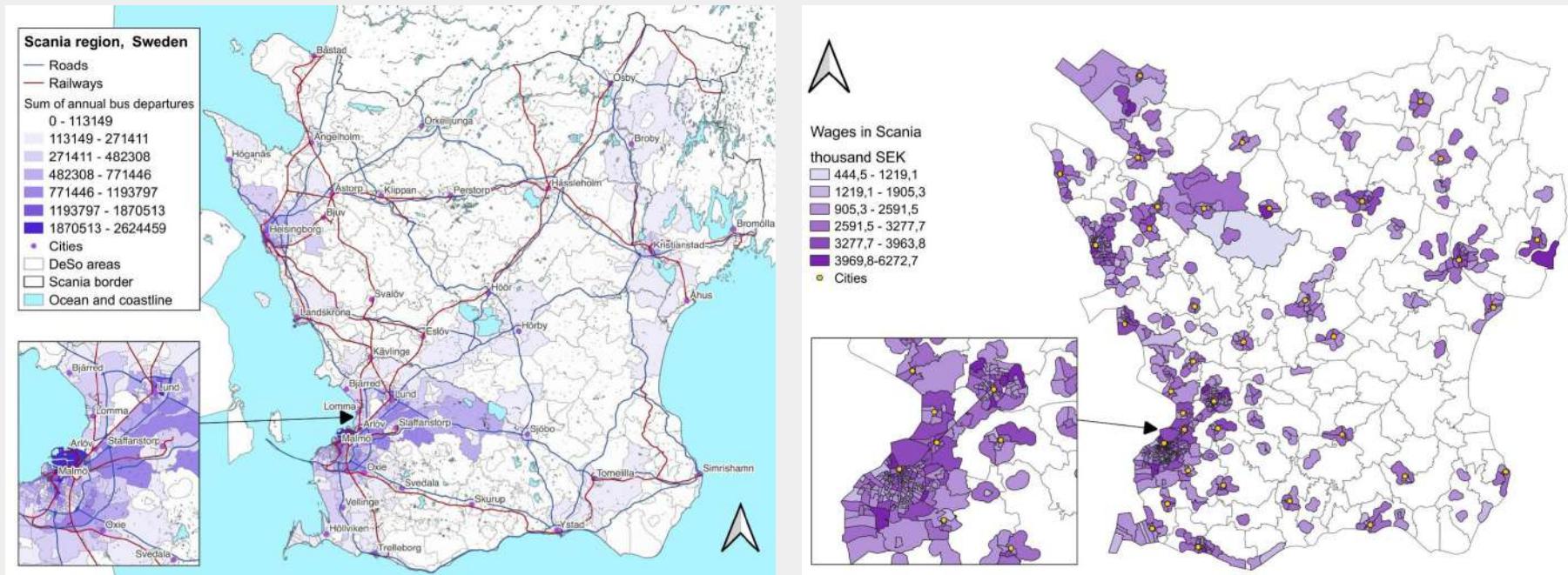
The Arden Structure Plan scored 32 out of 67 possible points or less than 50%, whereas only the sector of ‘Community needs’ has got somewhat sustainable qualification with 58.3%. The lowest score of Social justice indicators implying serious distortions in the ASP, while there is no threshold set for any of imperatives. Therefore ASP is defined as unsustainable.



Urban research on the impact of transport infrastructure on regional productivity, Scania, Sweden, 2023

Objectives: empirically single-out types of transport infrastructure which impact workers productivity in the region.

Description: The projects is based on the data from swedish Statistics database (SCB) and data from Region Skone administration. Based regression analysis, the strong positive and significant impact of bus service provision on



Urban research, Scania, Sweden, 2023

wages in the region was found. It indicates that a 1% increase in bus service increases worker productivity by 0.0235%, all else being equal.

Moreover, there is a significant negative effect of road-kilometres density (-0.0365) while railways show positive and significant effects in the form of distance to railway station (0.0327), but the data for this variable and therefore estimates could be improved. The econometric model was controlled for impacts of localisation (in the form of Krugman Industrial index), economic activity (employment density), quality of local amenities (average housing prices) and human capital (share of skilled workers).

The model was checked for multicollinearity and heteroscedasticity, omitted variable bias and endogeneity.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Wage						
Employment density	0.0401*** (0.00638)	0.0709*** (0.00725)	0.0554*** (0.00750)	0.0363*** (0.00756)	0.0306*** (0.00786)	0.0804*** (0.0114)	0.0907*** (0.0119)
Average housing prices		-0.133*** (0.0244)	-0.188*** (0.0254)	-0.179*** (0.0241)	-0.201*** (0.0262)	-0.142*** (0.0299)	-0.140*** (0.0294)
Share of skilled workers			0.531*** (0.0906)	0.533*** (0.0859)	0.525*** (0.0893)	0.405*** (0.113)	0.397*** (0.111)
Krugman Specialisation index				0.131*** (0.0175)	0.124*** (0.0186)	0.0847*** (0.0220)	0.0809*** (0.0217)
Bus service provision					0.0235** (0.0106)	0.0242* (0.0136)	0.0201 (0.0135)
Road length density						-0.0365*** (0.0132)	-0.0341*** (0.0130)
Distance to the train station							0.0327*** (0.0102)
Constant	7.584*** (0.0394)	8.803*** (0.239)	7.211*** (0.357)	7.118*** (0.339)	6.959*** (0.366)	6.908*** (0.449)	6.677*** (0.451)
Observations	580	499	499	499	473	219	219
Adj R-squared	0.055	0.176	0.229	0.308	0.322	0.479	0.497

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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