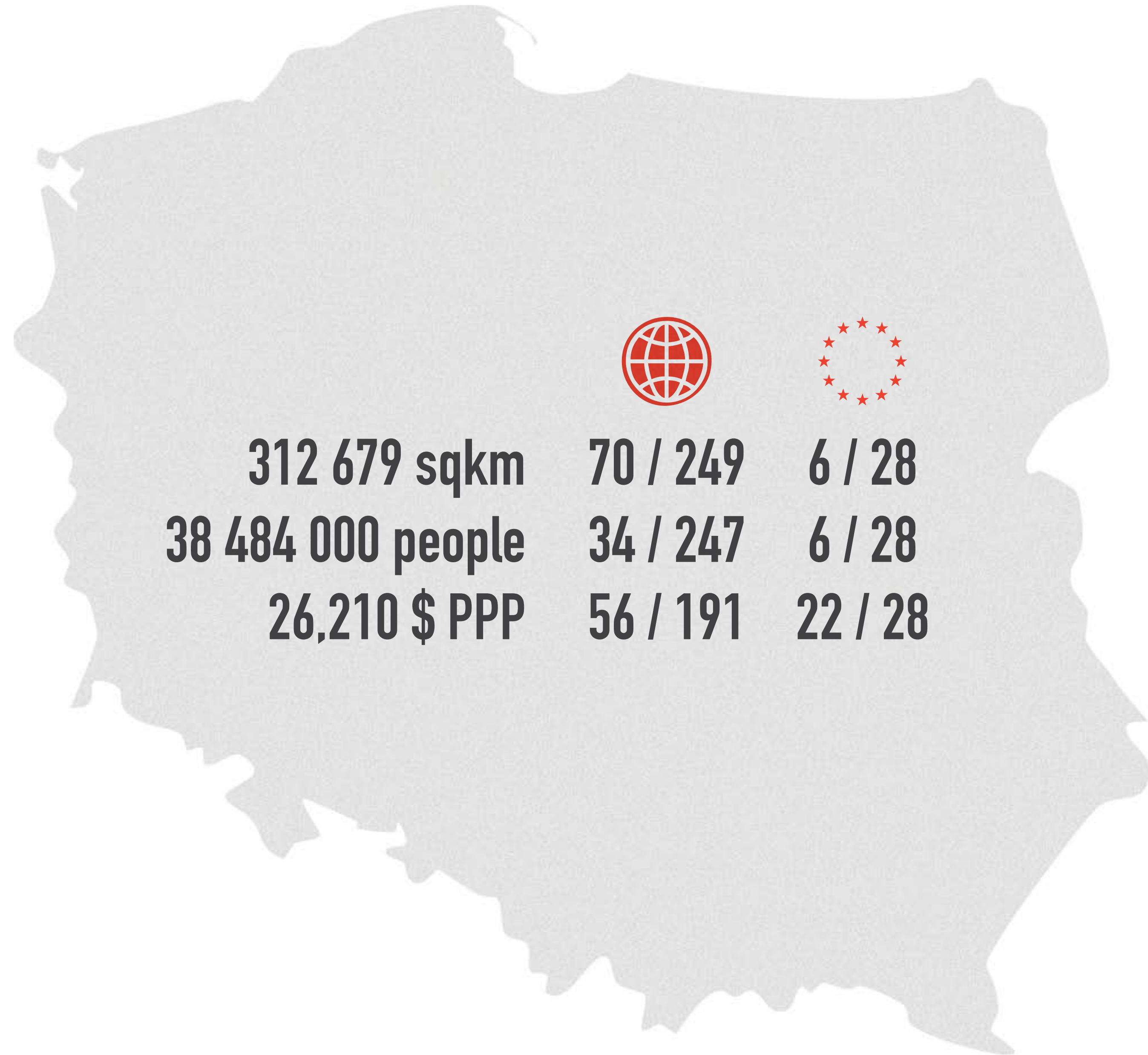
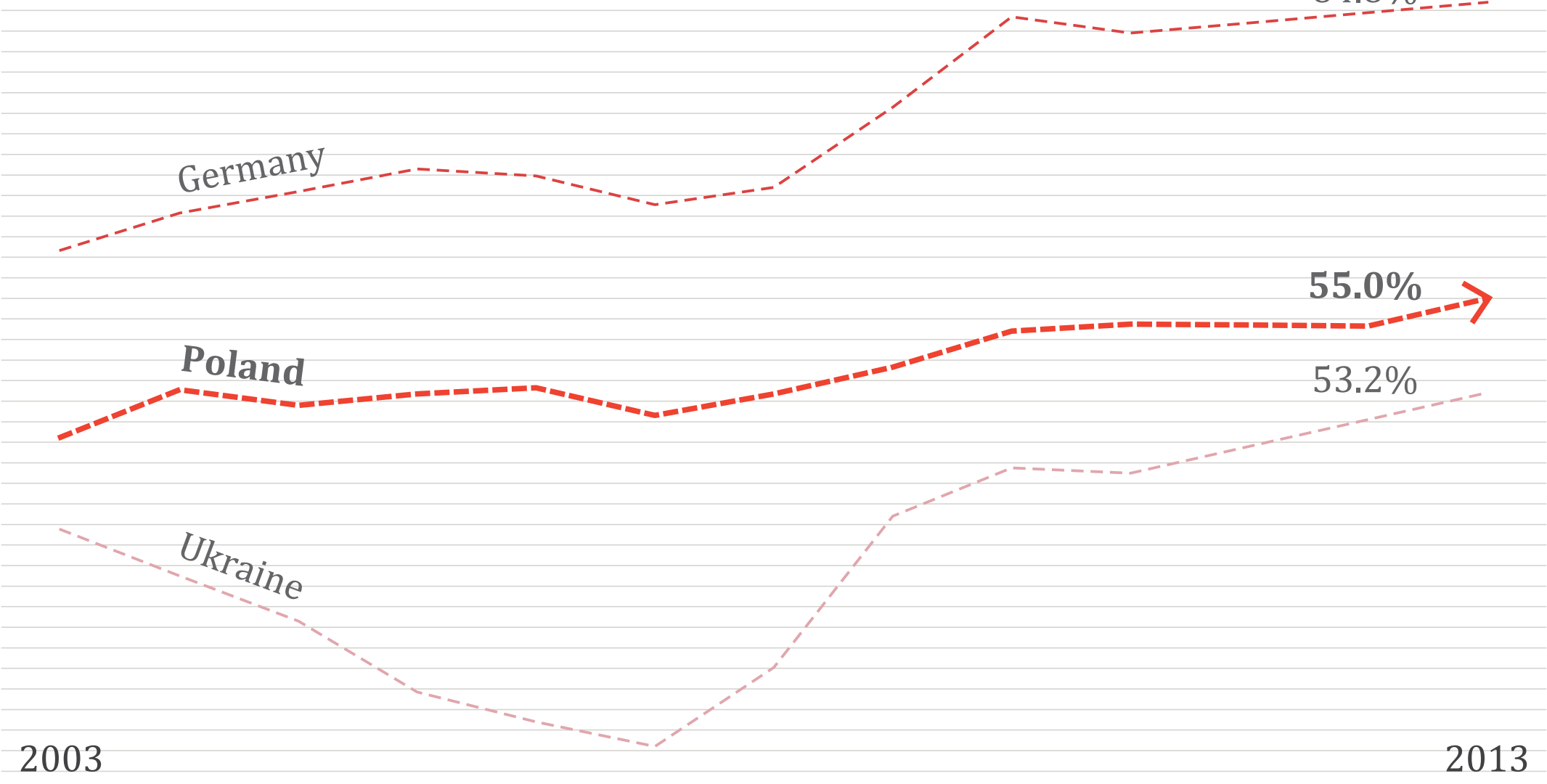


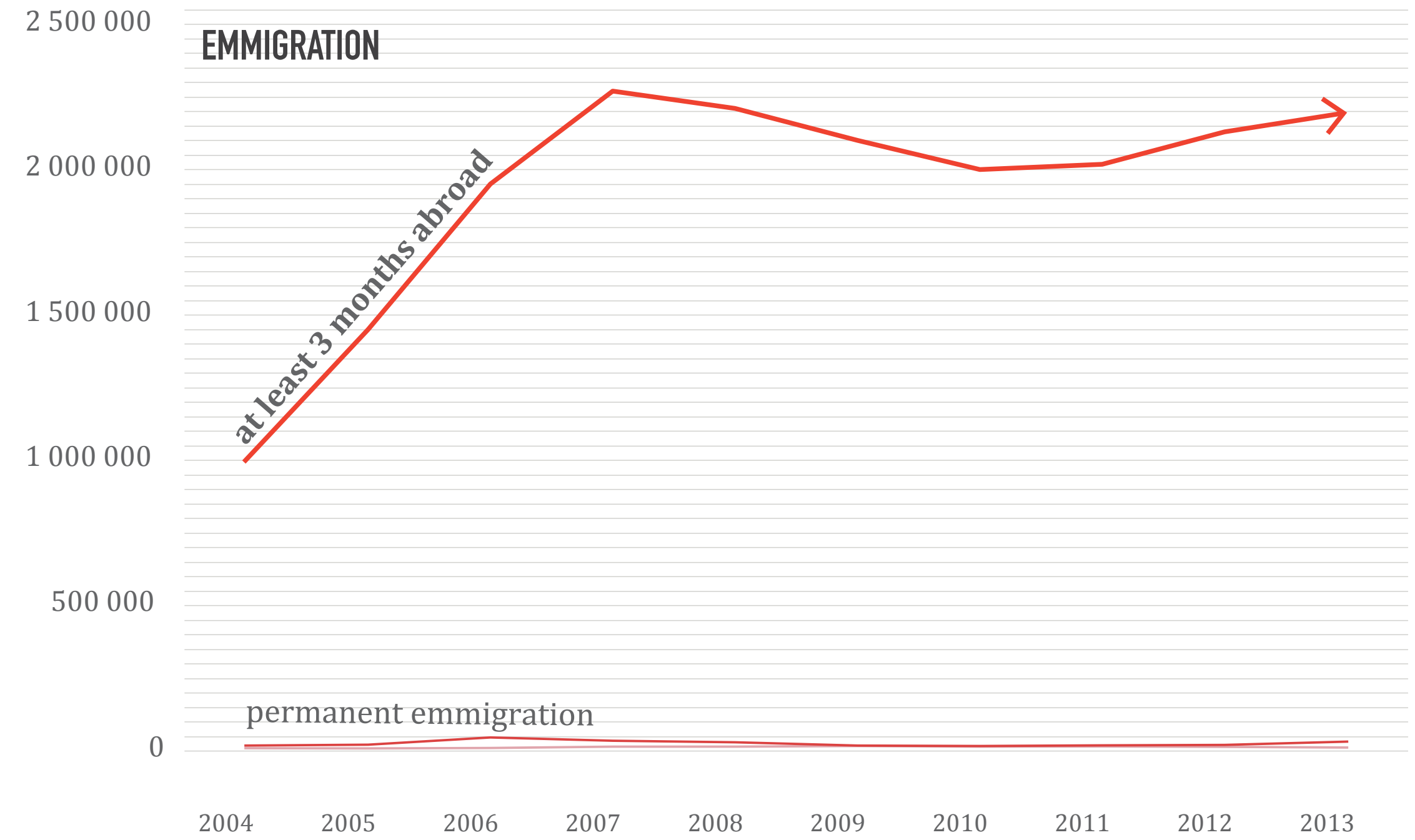
PLAN B



PUBLIC DEBT AS % of GDP



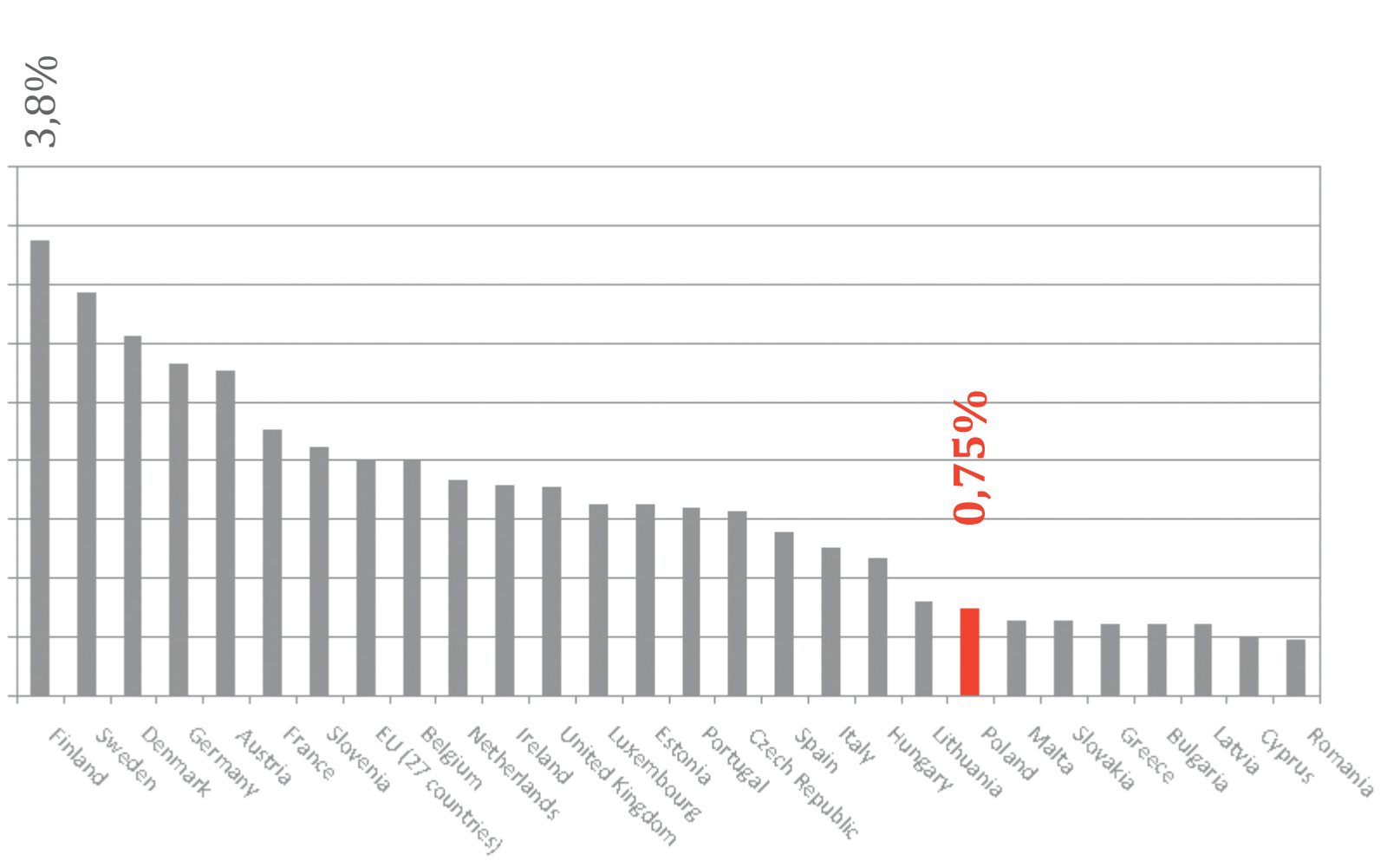
EMMIGRATION



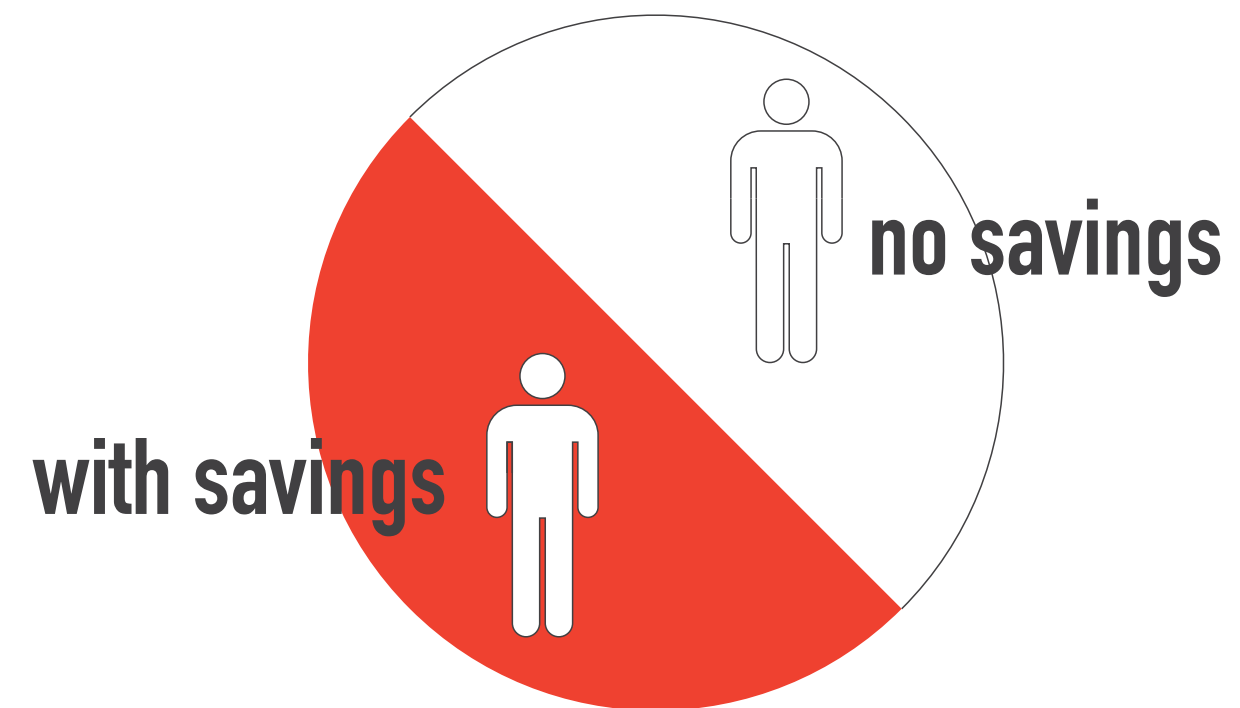
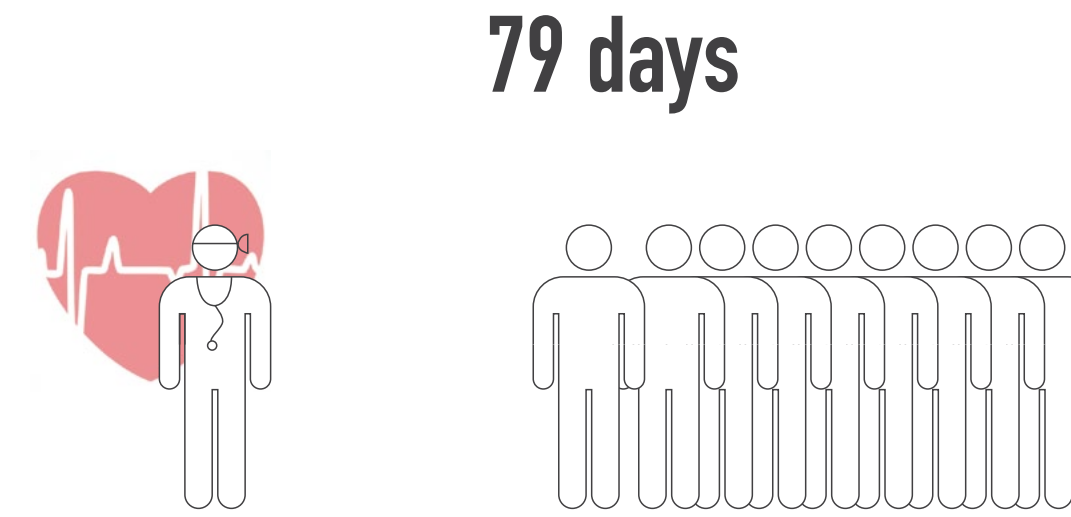
POPULATION PROJECTION



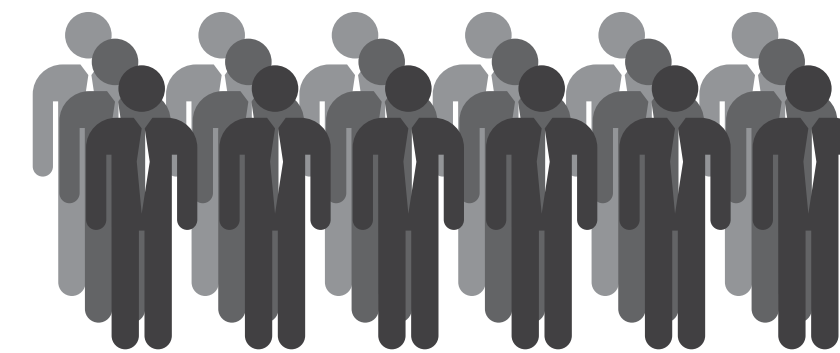
EXPENDITURE ON R&D



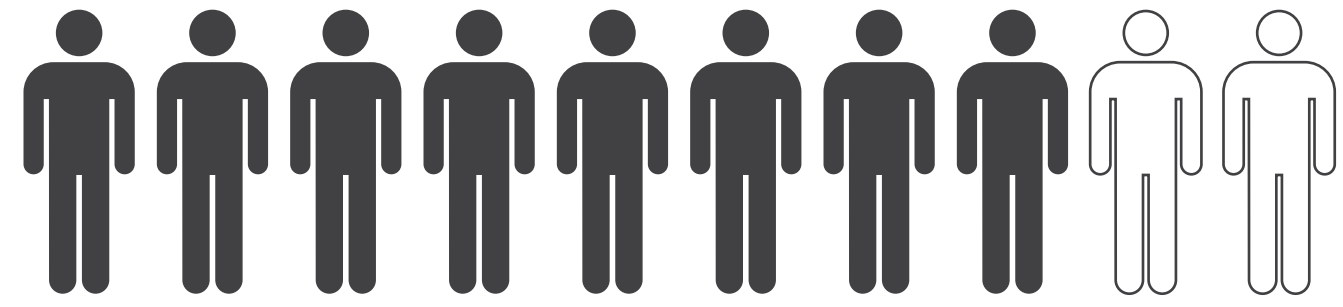
2015



700.000 civil servants



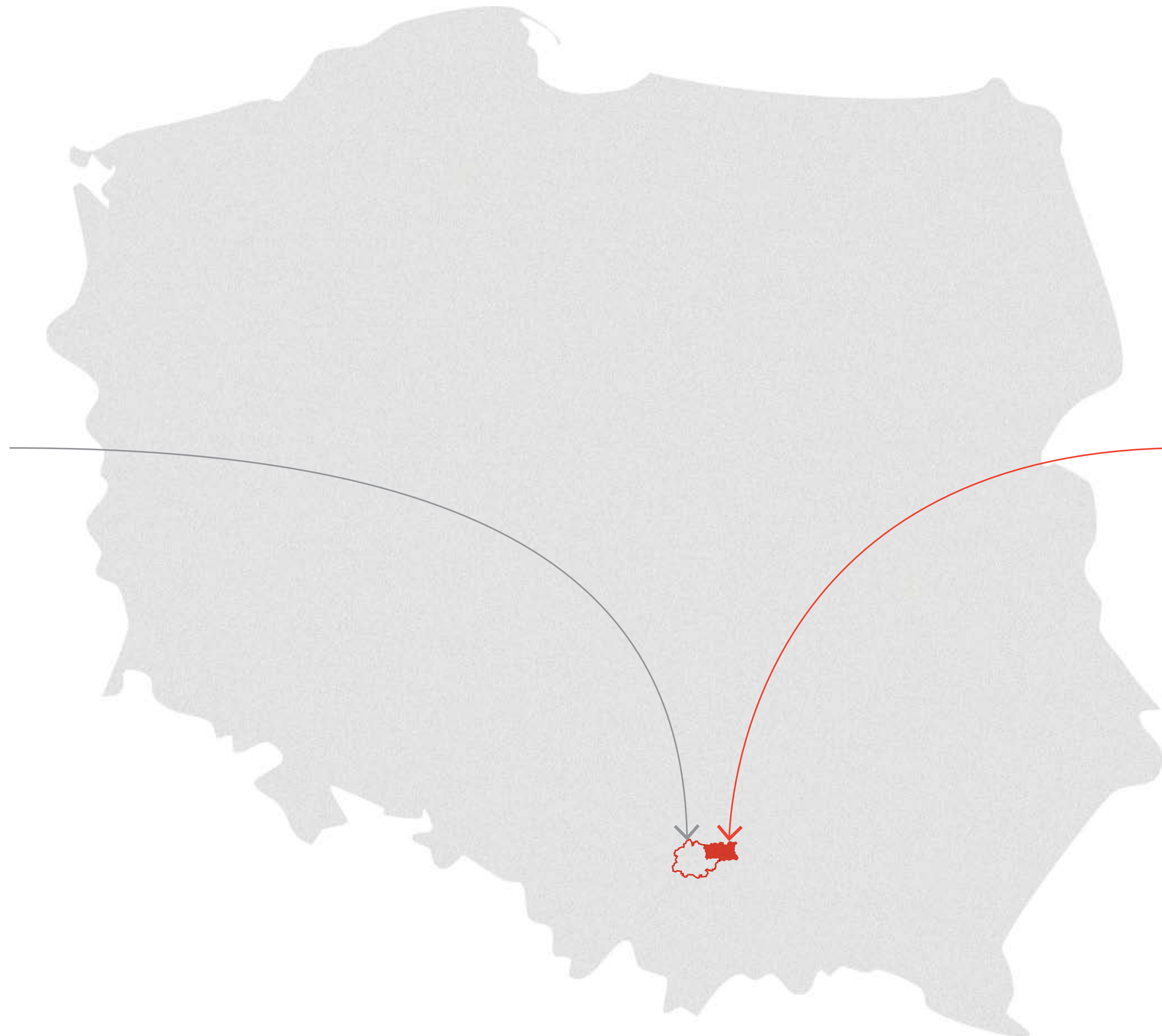
2050



~~public health care
pension fund
social benefits~~



KRAKÓW



NOWA HUTA

1956



Kraków

Nowa Huta

Steelworks

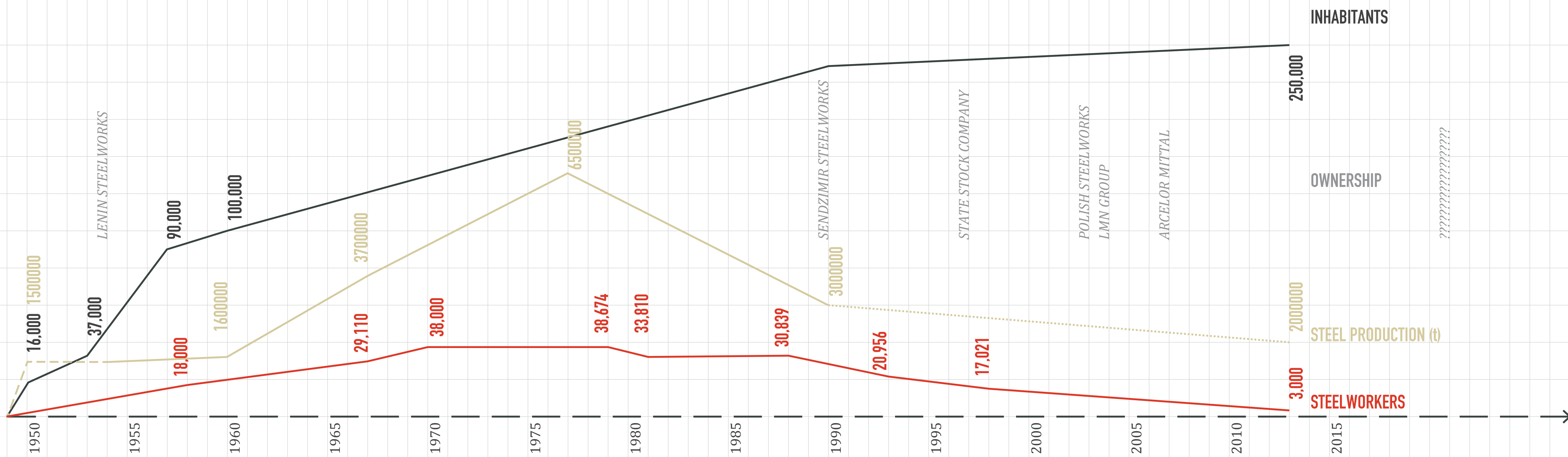
2015

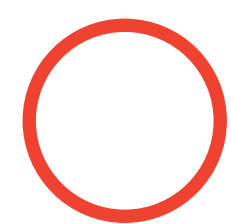


Kraków

Nowa Huta

Steelworks





Kraków: We don't like Nowa Huta



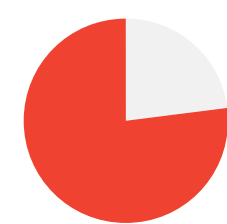
94%

I don't meet my neighbours very often



93%

I cannot make this place better with help of my neighbour



77%

district council does nothing to improve our living condition



74%

there are no leisure places



57%

it's not ugly neither nice



50%

this place is clean



10%

I'm not happy to live there



8%

Nowa Huta is unfriendly



2%

I have no contact with my neighbours

Studio Guide (p.8): “It is an invitation to think both in a utopian as in extremely realistic way: **imagining a whole new society, but building it with what you see and find around.**”

What if...

...Nowa Huta was independent again?

*If we are not treated equally,
let's underline our autonomy!*

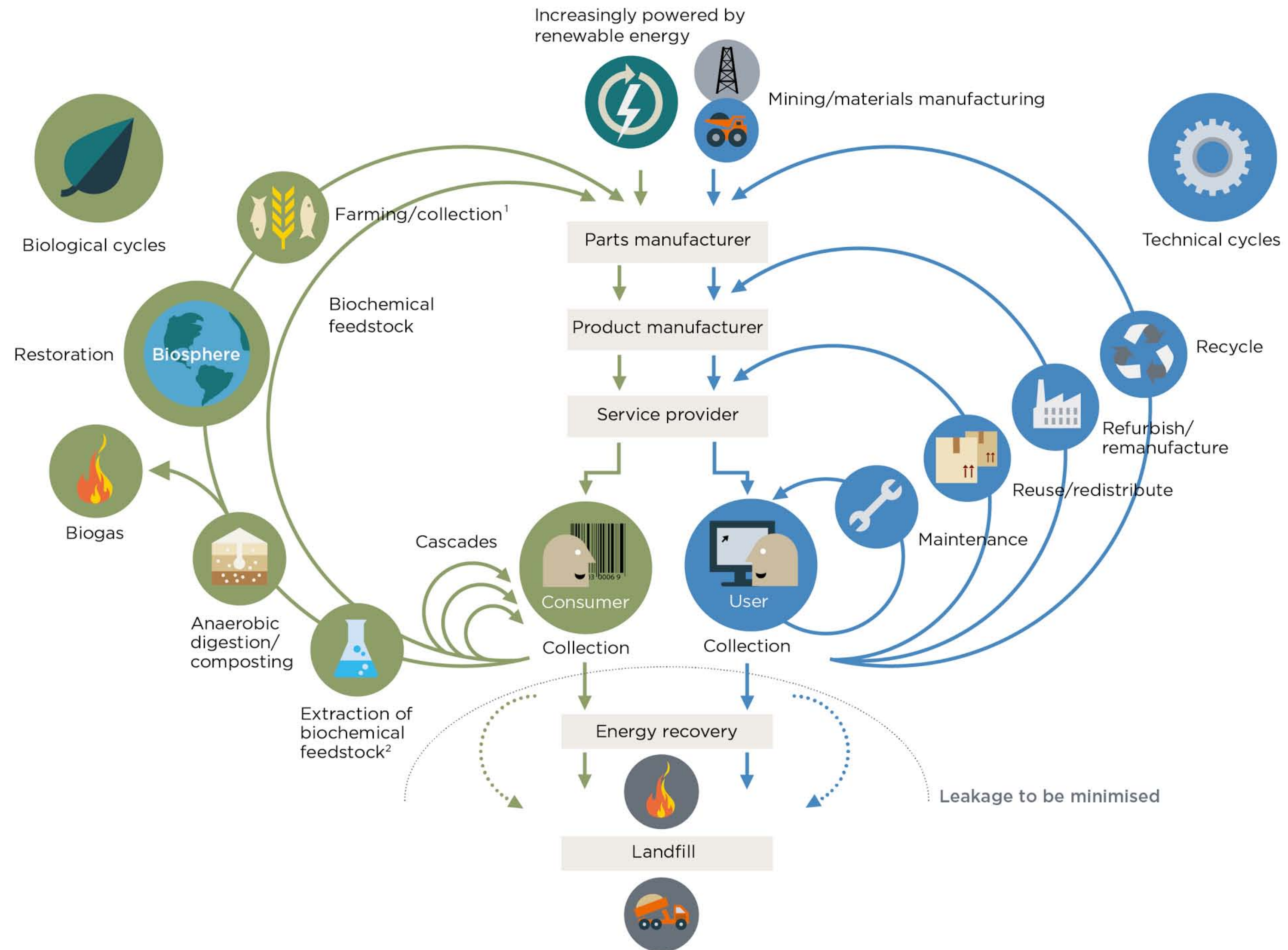
*I will not give
Nowa Huta back!*



Adam Grzanka, Nowa Huta Autonomy Movement

Jacek Majchrowski, Kraków President

Circular Economy



Research Question

How the circular economy utopia could look like?

How is developed the civil society in Nowa Huta?

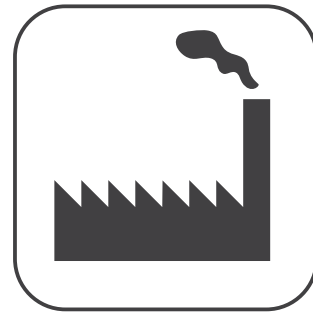
How the circular economy utopia could support the emergence of the civil society in Nowa Huta underpinning its identity, independence and improving the economical situation in the area?

What is the identity of Nowa Huta?

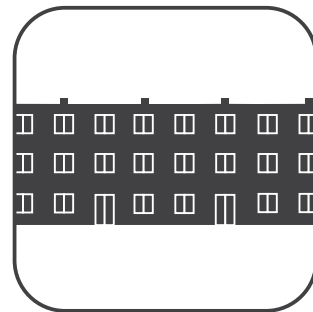
Why is improving economy in Nowa Huta important?

What are advantages of independent Nowa Huta?

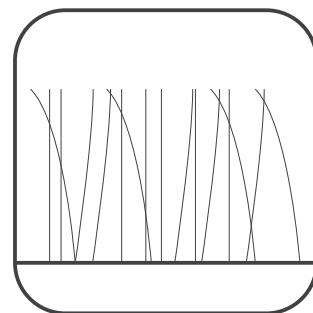
5 STRATEGIES



industrial ecology



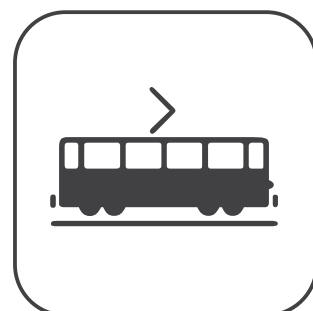
urban mining



productive countryside



restoring nature



transport revolution

GUIDEPLAN

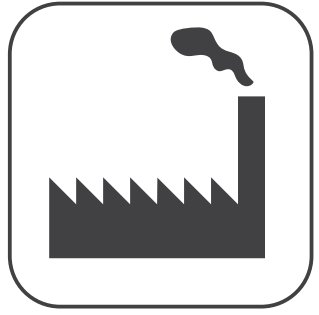


TEST SITES

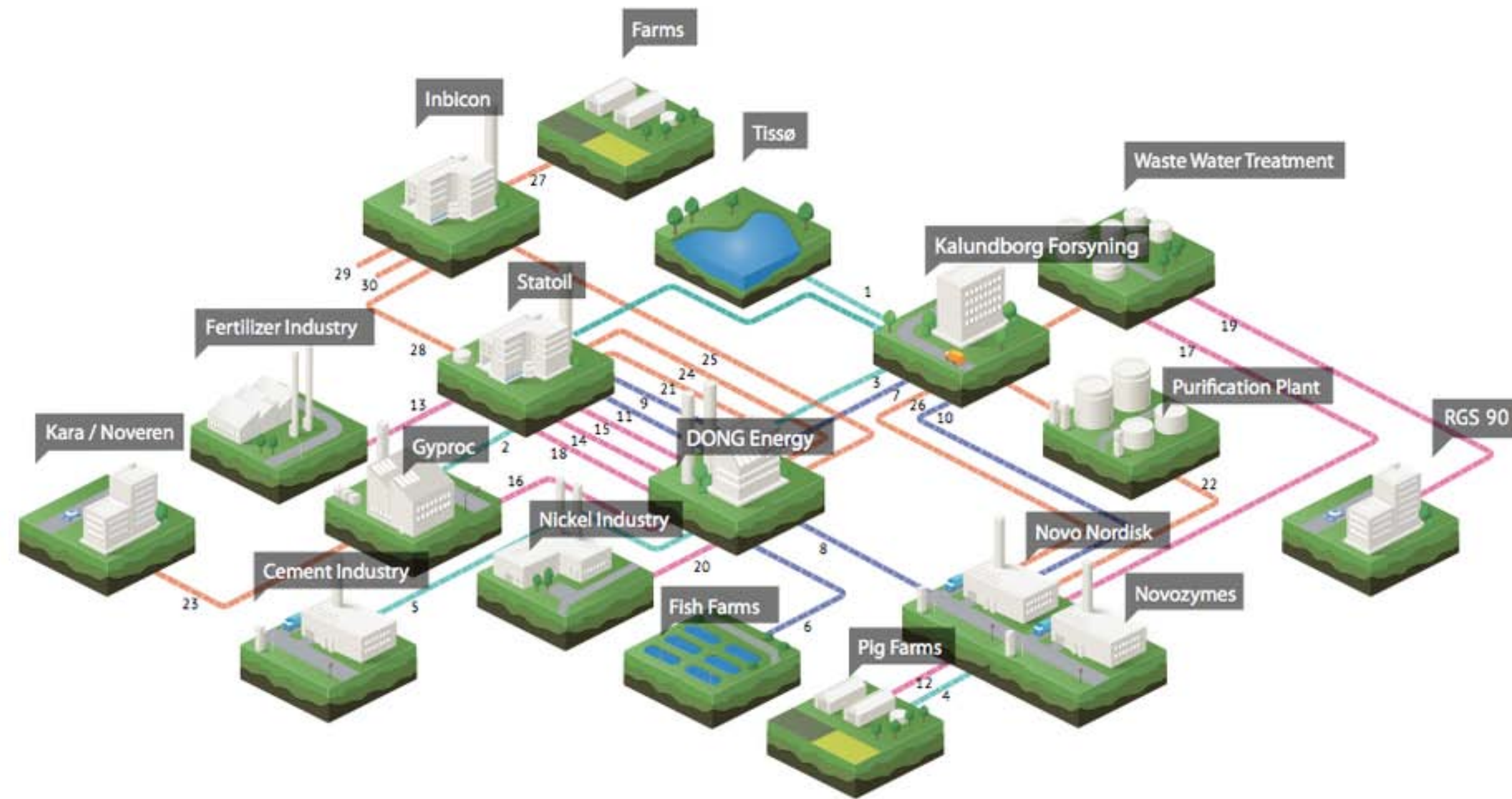


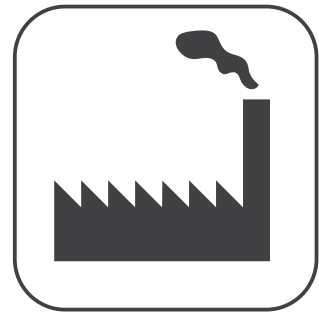


**INDUSTRIAL
ECOLOGY**

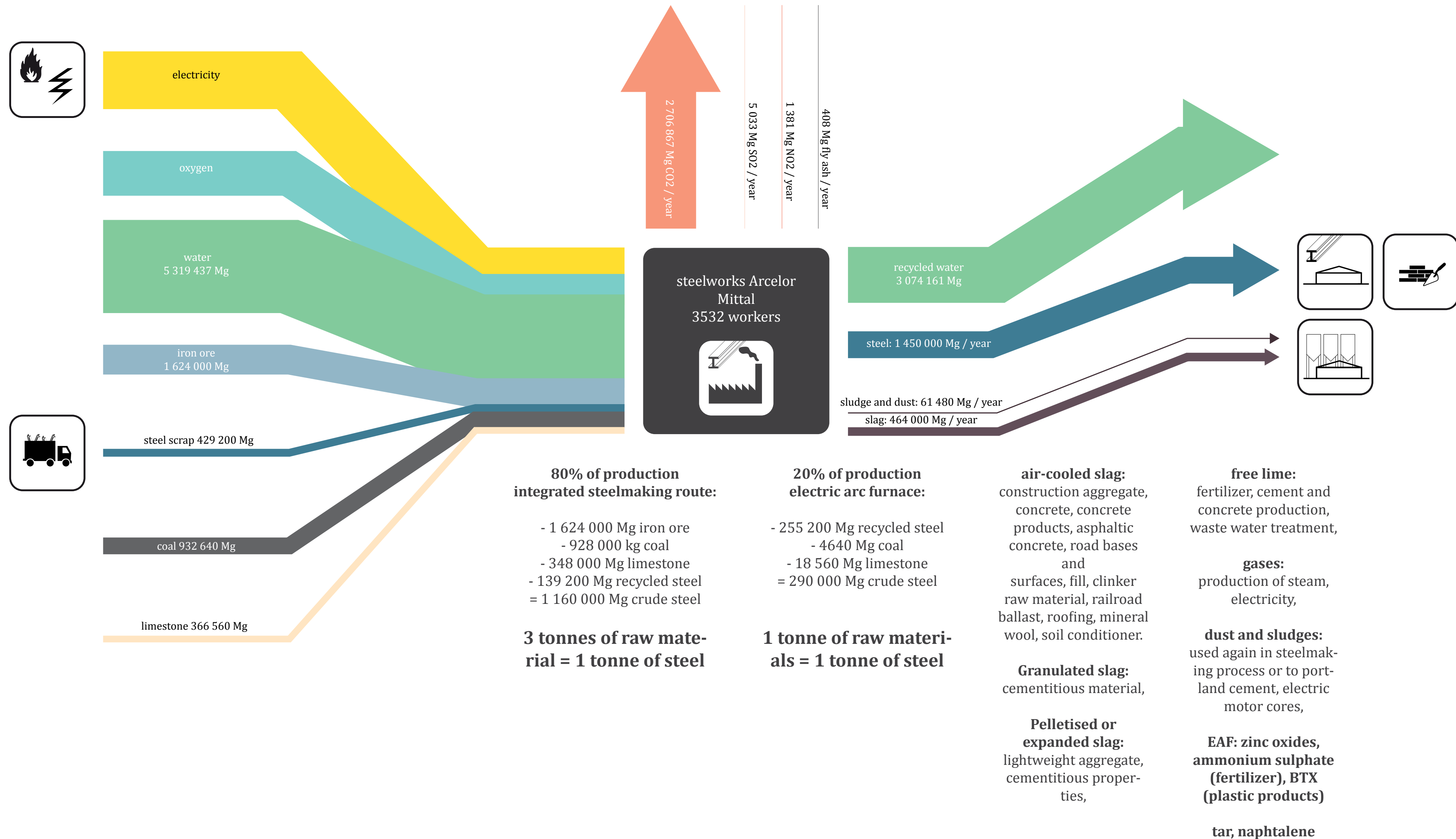


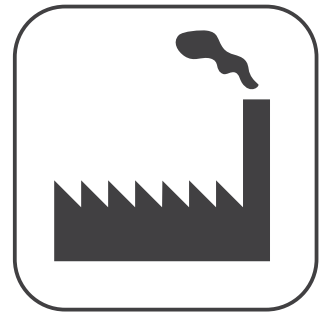
industrial ecology





industrial ecology





industrial ecology

	steelworks	cement plant	chp	local farmers	municipality	households	comarch	sewage treatment plant	metal recycling companies	steel processing industries	construction companies	public infrastructure	incinerator	Philip Morris cigarettes
steelworks		fly ashes and slag provider	electricity for industrial processes	releasing fallow lands for energy crops	more investment with use of steel			water management	facilitating cascade flows of materials	facilitating cascade flows of materials	facilitating cascade flows of materials	leasing steel train and tram tracks	energy exchange, recycled metals	
cement plant	oo		gypsum waste to diversificate production		preferential position in NH development	managing prefab concrete buildings					lifetime responsibility for resources	form of leasing public space surfaces		
chp	o	o		heat for fish farming, horticulture	providing electricity and heat	providing electricity and heat	providing electricity and heat	providing electricity and heat	providing electricity and heat	providing electricity and heat	providing electricity and heat	providing electricity		providing electricity and heat
local farmers	-	-	o		local food promotion (lower taxation), "willow found" program	local food support, nutrients exchange		nutrients back to farmers		leasing components for horticulture		biofuels production	bioenergy production (willow)	biogas production
municipality	o	o	oo	-		planning, management, organization	planning, guidance, tax management		facilitating cascade flows of materials	facilitating cascade flows of materials	facilitating cascade flows of materials, "transect found"	public transport investment		
households	-	o	oo	-	o		fab-labs program support, open-databases, monitoring recycling	water management	better recycling rates	reverse logistics, lease of products	"transect found"	crowdfunding: "shweeb found"	better recycling rates	
comarch	o	-	o	-	o	-		it support for recycling promotion and open databases	it support for recycling promotion and open databases	it support for introducing circular systems	it support for introducing circular systems	it support for crowdfunding programs	it support for recycling promotion and open databases	
sewage treatment plant	o	-	o	-	-	oo						investment in separate infrastructure for rainwater		
metal recycling companies	o	-	o	-	-	o				reverse logistics, cascade flows of materials	reverse logistics, cascade flows of materials	reverse logistics, cascade flows of materials		
steel processing industries	oo	-	o	-	-	-					reverse logistics, cascade flows of materials	reverse logistics, cascade flows of materials		
construction companies	o	o	o	-	-	-				o		reverse logistics, cascade flows of materials		
public infrastructure	-	o	o	-	o	-				o			free waste from public spaces and dustbins	
incinerator	-	-	-	-	-	o								waste collection
Philip Morris cigarettes	-	-	o	-	-	-								

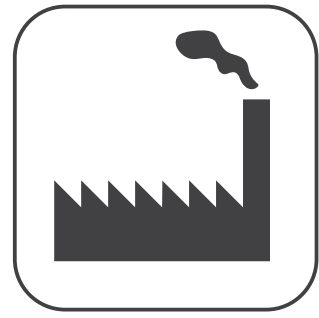
oo existing industrial symbiosis - high level of cooperation

o industrial connections based on producer - consumer relation

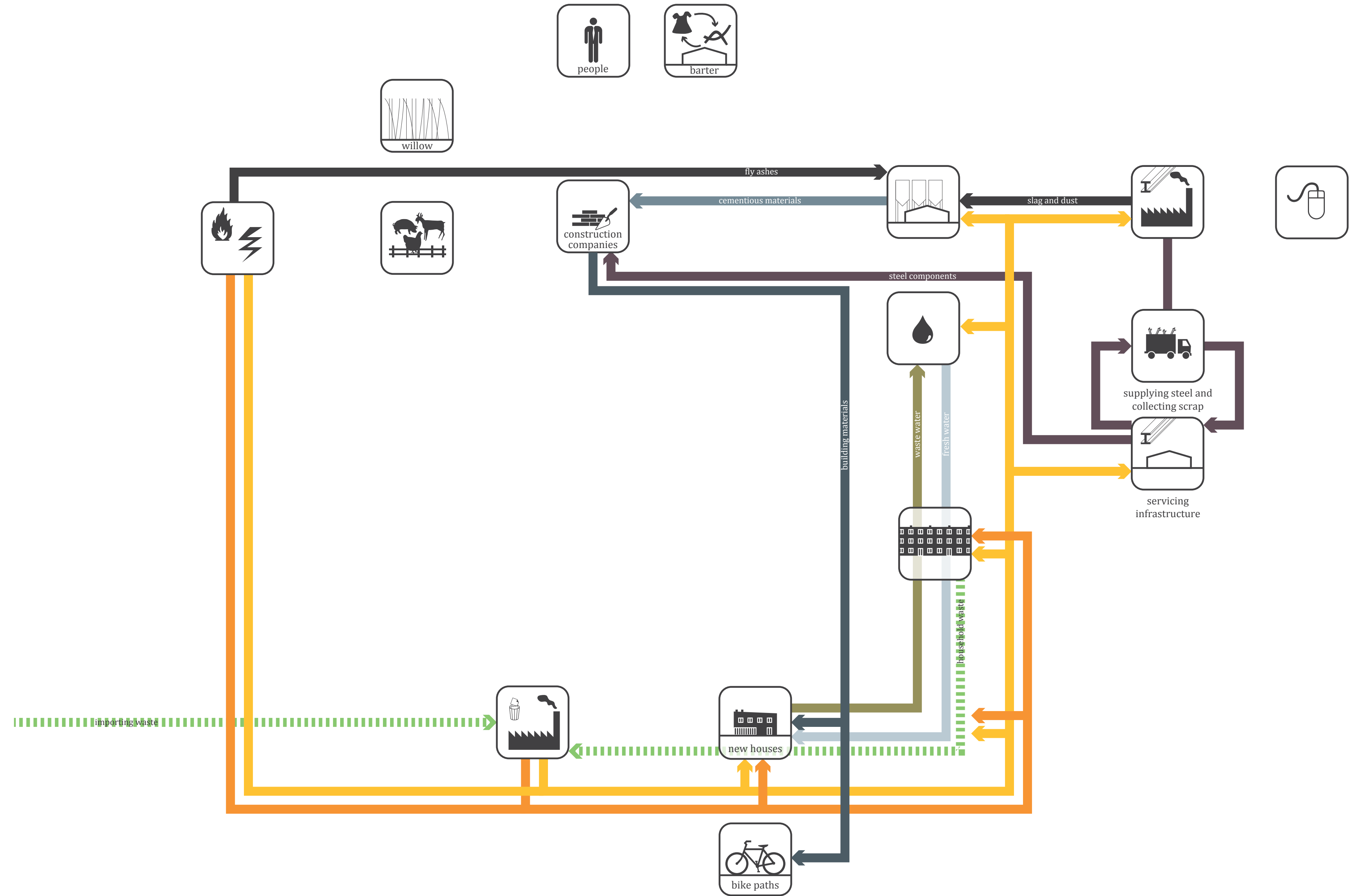
- possible area to establish industrial link

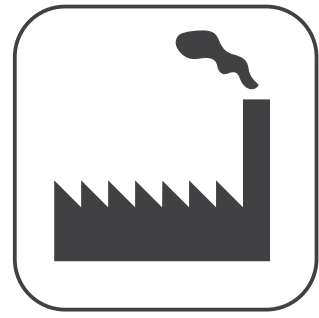
- non-existing relations

design proposals

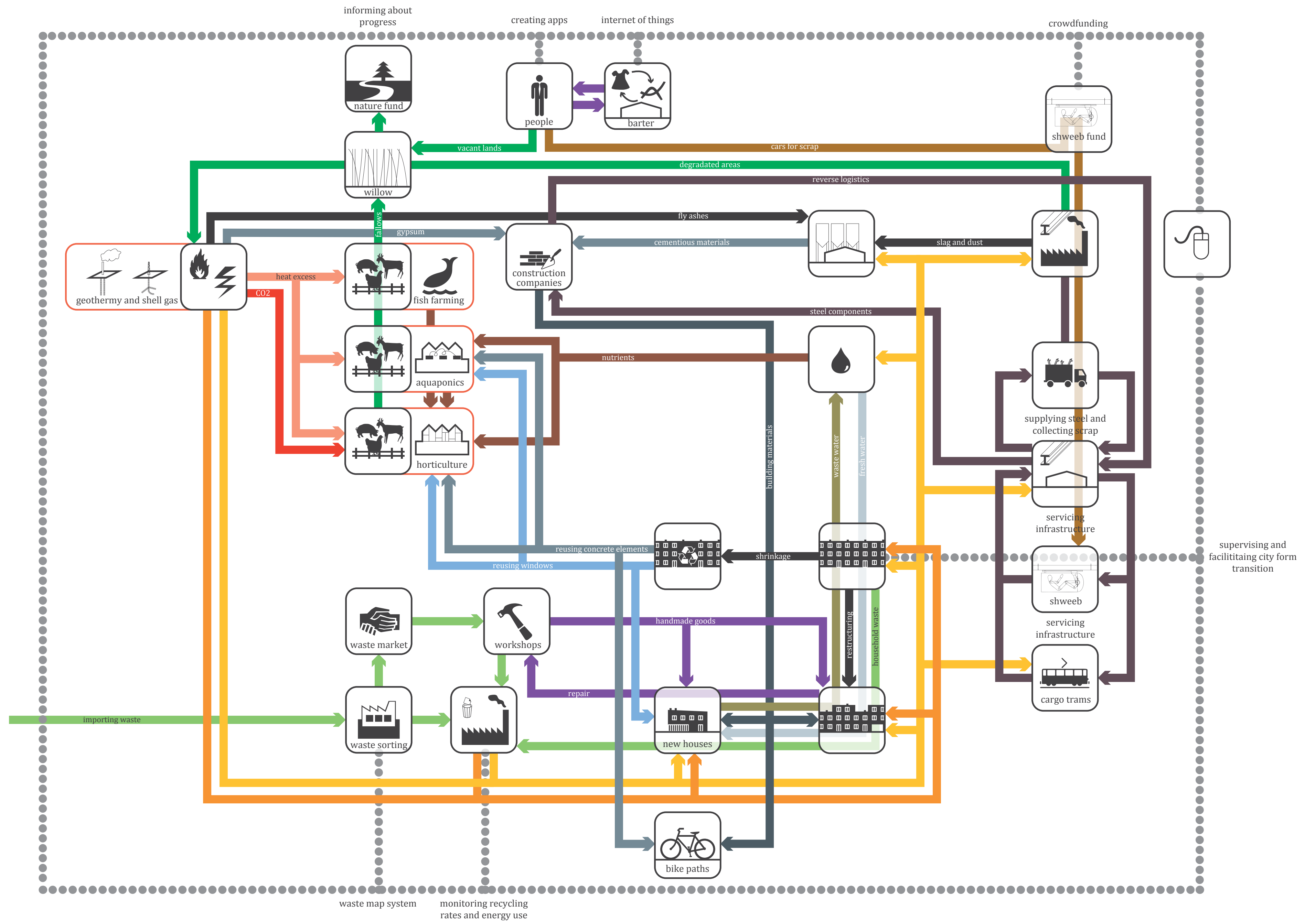


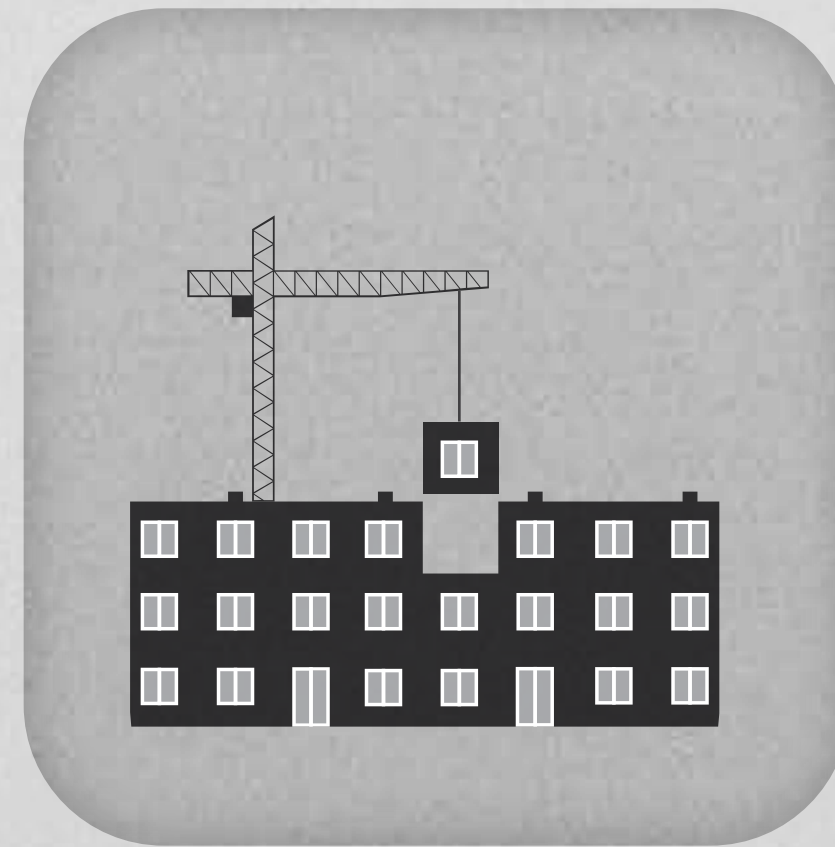
industrial ecology



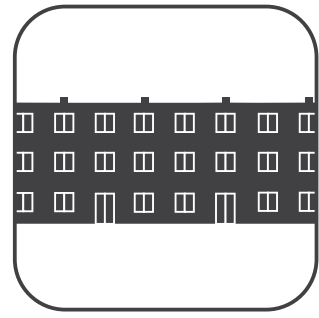


industrial ecology





**URBAN
MINING**



urban mining

Tabl. 17. Stany ludności, przyrosty/ubytki i zmiany stanów w latach 2013-2050^a

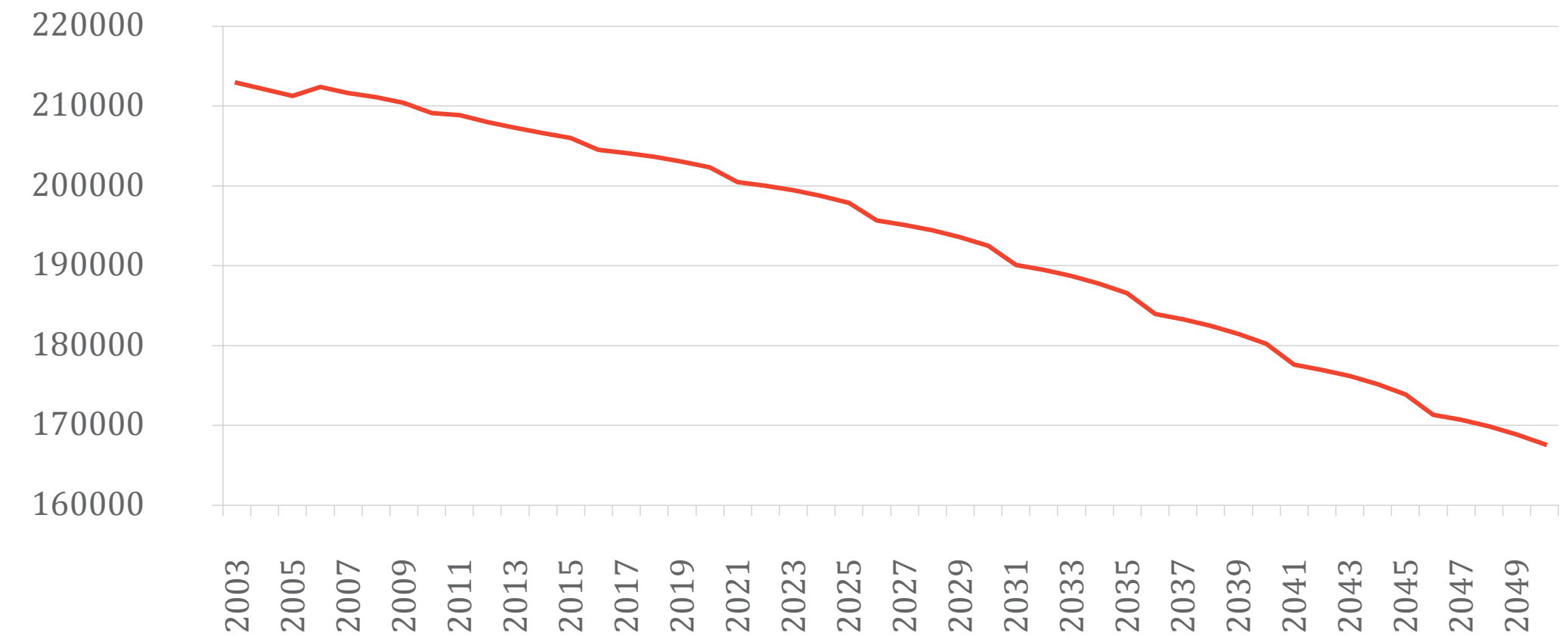
Table 17. Population size, increases/decreases and changes in 2013-2050^a

Wyszczególnienie	2013	2014	2015	2020	2025	2030	2035	2040	2045	2050
	Ludność na 31 XII (w tys.)									
Ogółem	38495,7	38461,8	38419	38137,8	37741,5	37185,1	36476,8	35668,2	34817,4	33950,6
Miasta	23271,8	23202,5	23129,5	22716,6	22216,3	21618,4	20945,4	20234,5	19522,2	18825,8
Wieś	15223,9	15259,2	15289,5	15421,2	15525,1	15566,7	15531,4	15433,7	15295,2	15124,8
	Zmiana w stosunku do okresu poprzedniego w %									
Ogółem	x	-0,1	-0,1	-0,7	-1,0	-1,5	-1,9	-2,2	-2,4	-2,5
Miasta	x	-0,3	-0,3	-1,8	-2,2	-2,7	-3,1	-3,4	-3,5	-3,6
Wieś	x	0,2	0,2	0,9	0,7	0,3	-0,2	-0,6	-0,9	-1,1
	Przyrost/ubytek ludności w stosunku do okresu poprzedniego (w tys.)									
Ogółem	x	-33,9	-42,7	-281,2	-396,3	-556,4	-708,3	-808,6	-850,9	-866,8
Miasta	x	-69,3	-73	-412,9	-500,3	-598	-673	-710,9	-712,3	-696,4
Wieś	x	35,3	30,3	131,7	103,9	41,6	-35,3	-97,7	-138,5	-170,4
	Zmiany w stosunku do 2013 r. (2013=100)									
Ogółem	100	99,9	99,8	99,1	98	96,6	94,8	92,7	90,4	88,2
Miasta	100	99,7	99,4	97,6	95,5	92,9	90	86,9	83,9	80,9
Wieś	100	100,2	100,4	101,3	102	102,3	102	101,4	100,5	99,3

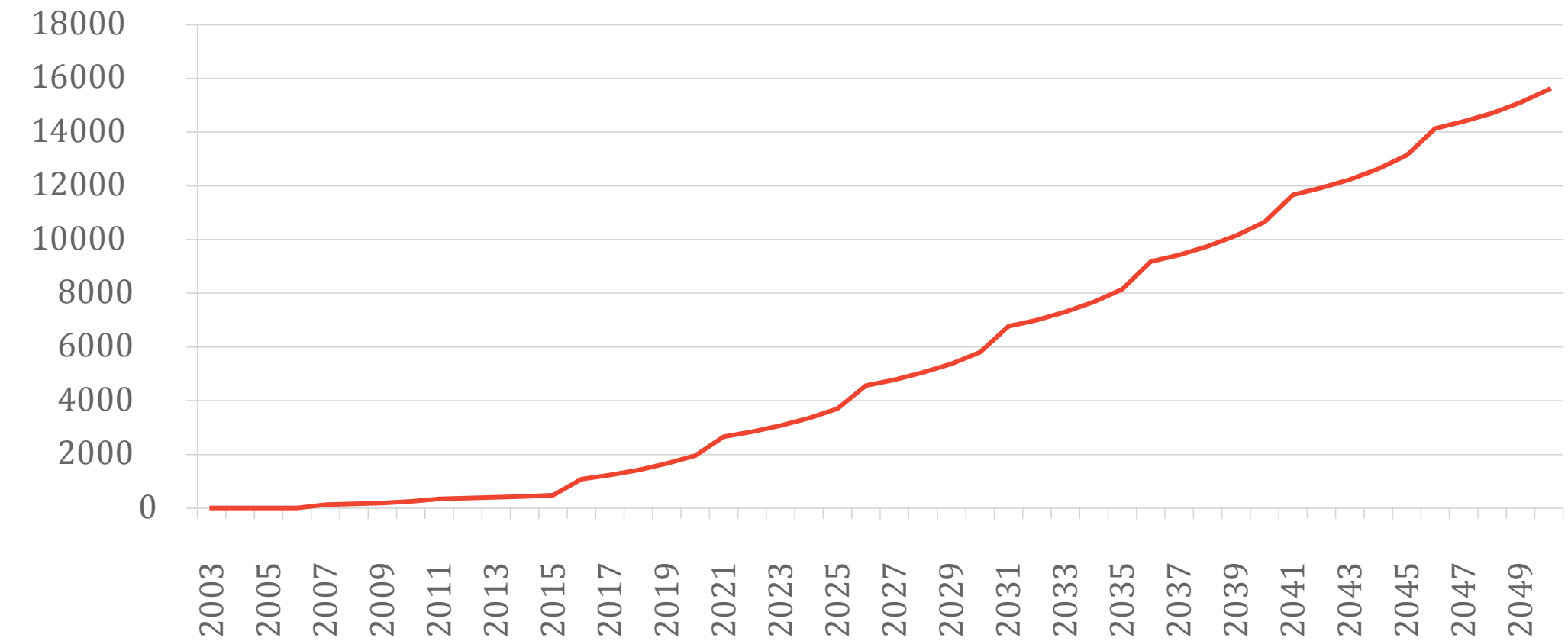
^a Dane rzeczywiste; actual data

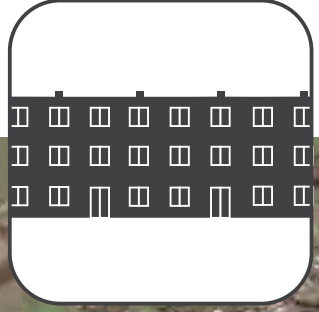
depopulation
up to 20 %!

inhabitants in NH



vacant apartments in NH





urban mining

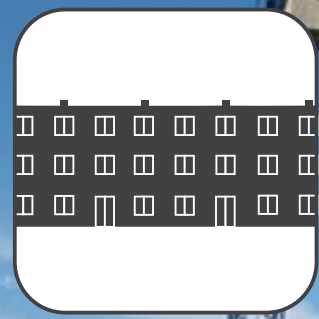
15780 apartments

1 km



2000 voet 500 m

© 2015 DigitalGlobe © 2015 Microsoft Corporation



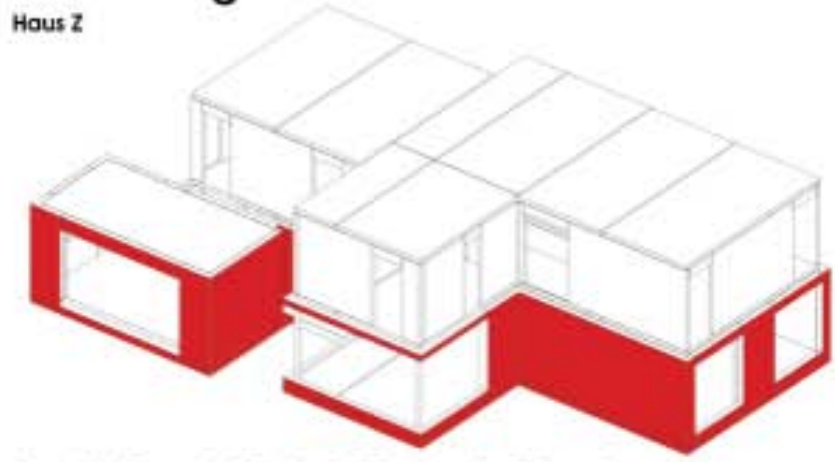
urban mining



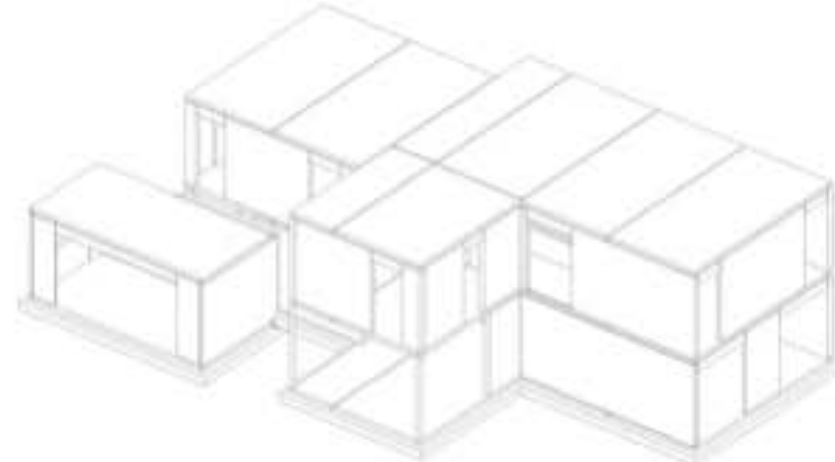
Conclus Architektbüro, recycled plattenbau houses



Remontage
Haus Z



Isometrie Gesamtgebäude mit Dämmung im Erdgeschoss



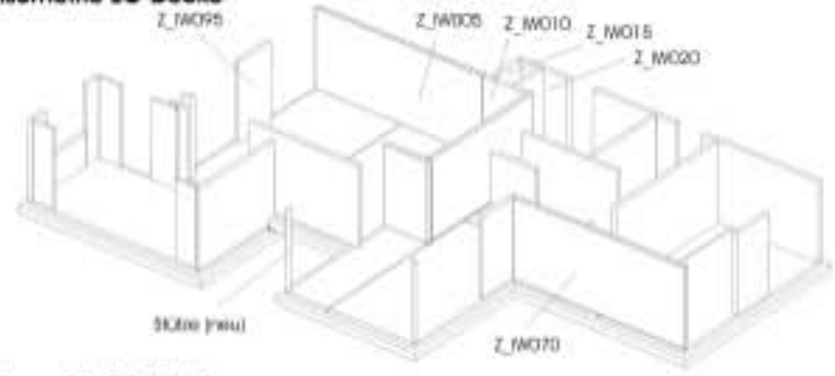
Isometrie Gesamtgebäude als Rohbau



Isometrie OG-Wände



Isometrie EG-Decke

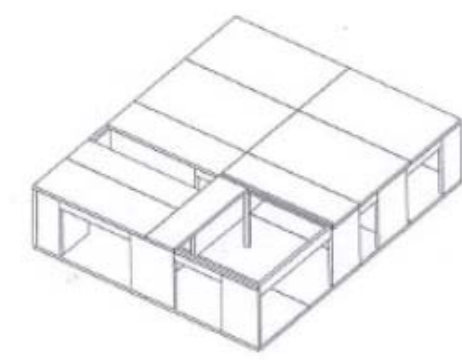


Isometrie EG-Wände



Isometrie Gesamtgebäude mit Dämmung im Erdgeschoss

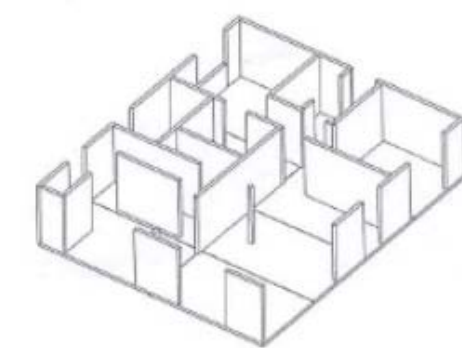
Schema der Montage des Haupthauses in Schildow



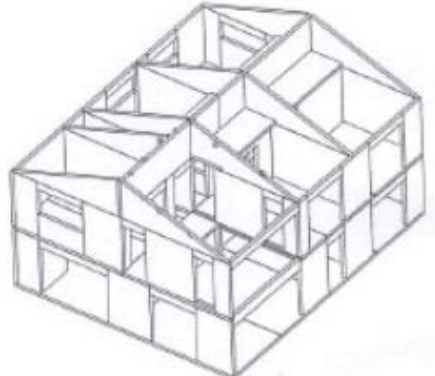
Erdgeschossdecken



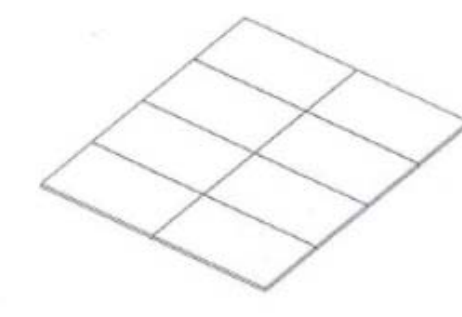
Dachdecken



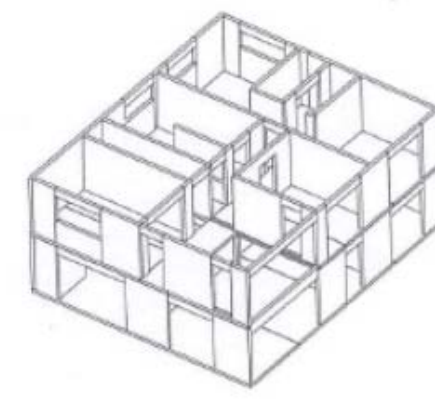
Wände 1. OG



Drempelwände



Bodenplatte



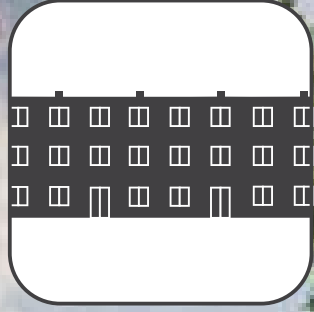
Wände 1. OG

Rohbau, Haupthaus in Schildow



30-40% cheaper structural frame
savings in energy
transport efficient up to 100 km

Si
Südseite



urban mining

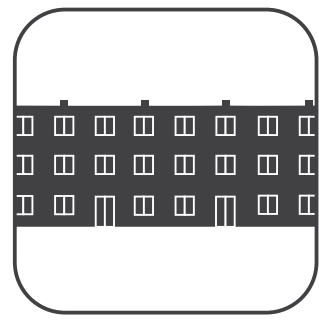


Nick Olsen, Lilia Horowitz, \$500 house



greenhouses made of recycled windows





urban mining

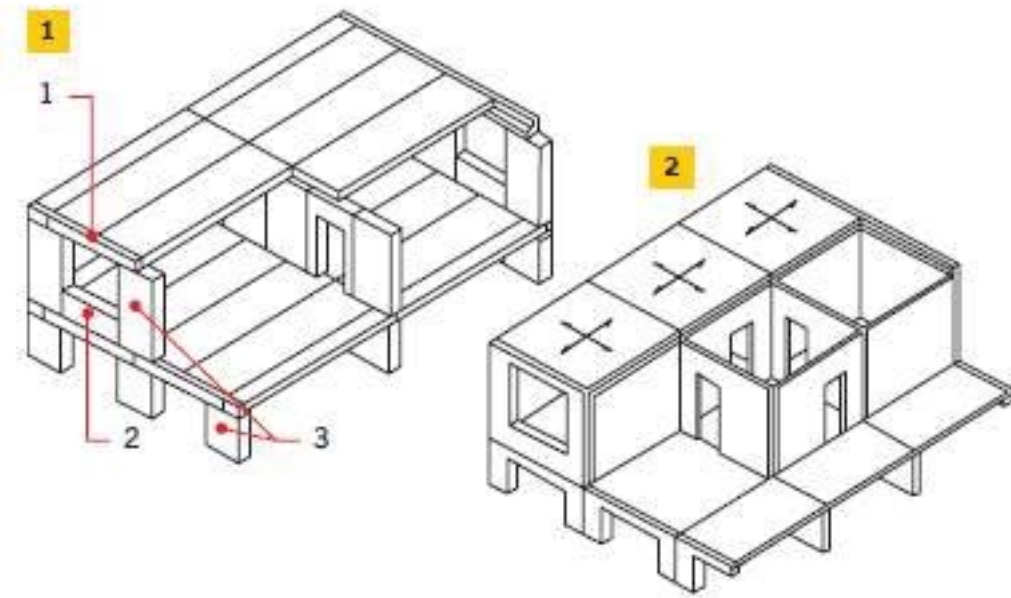


fig. multiblock (1) and multiplate systems (2)

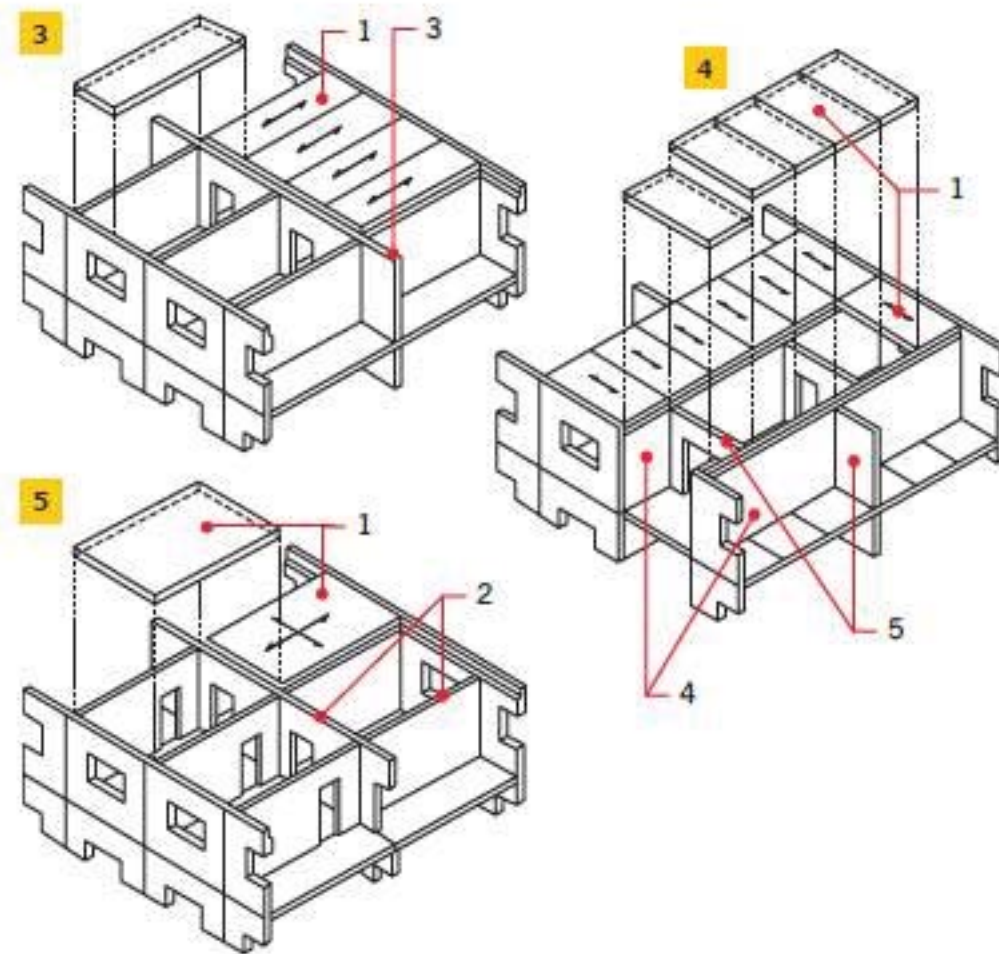


fig. construction schemes (3) transversal, (4) longitudinal, (5) cross

internal concrete walls, 150 mm

pvc windows, double glazed

external loadbearing walls, 200 mm

hollow-core slabs, 220mm

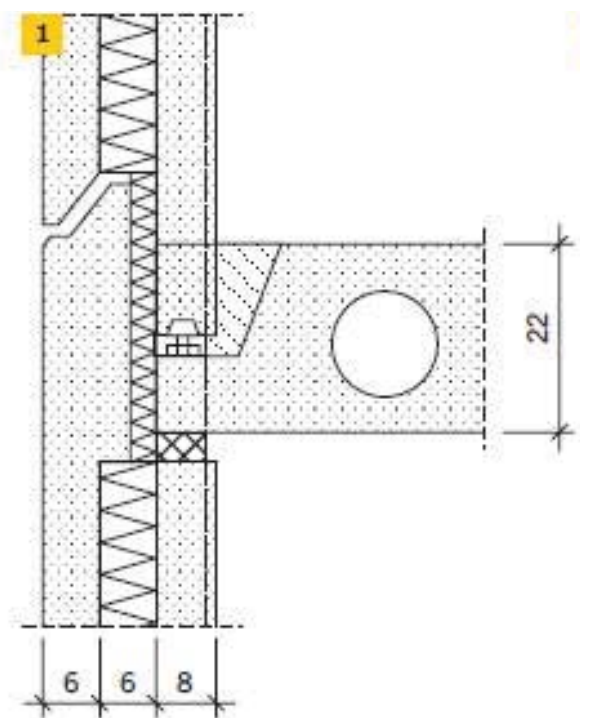
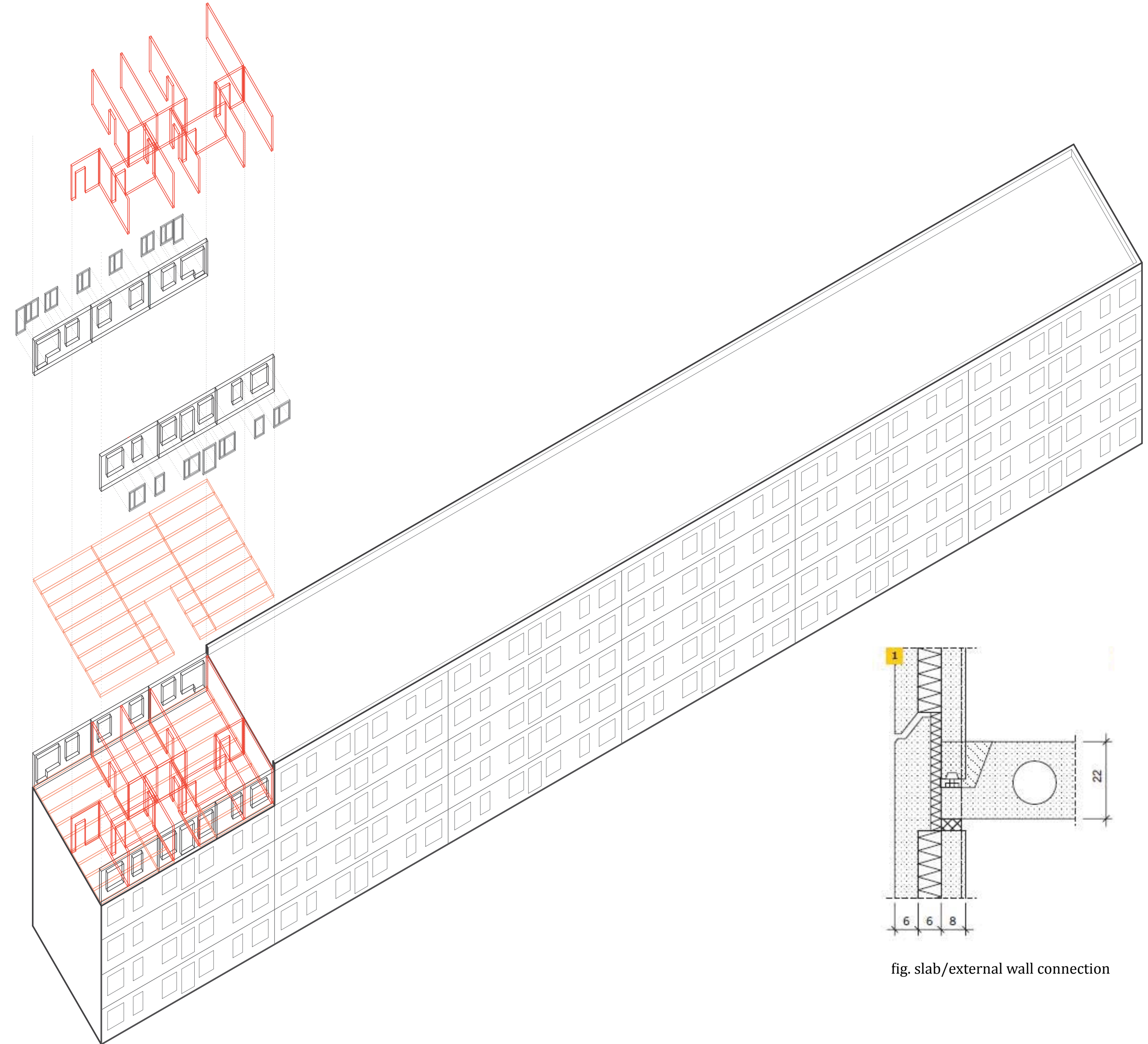
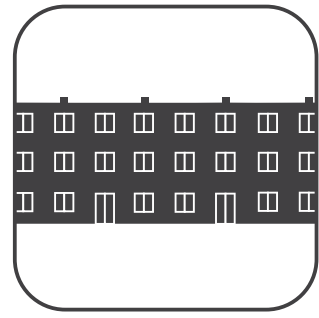
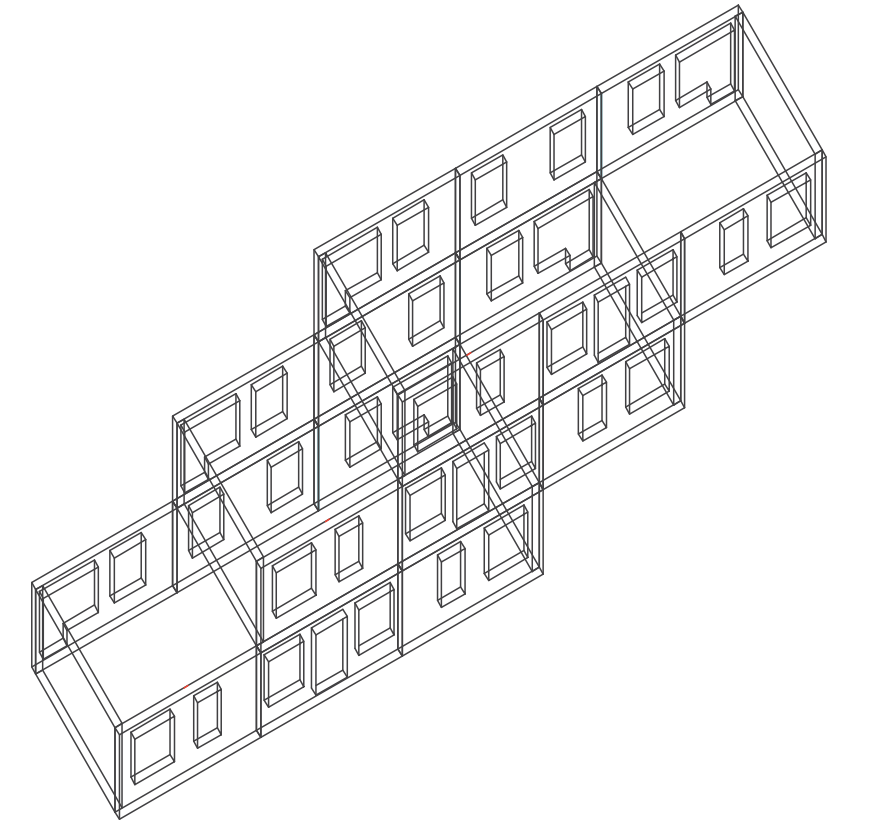
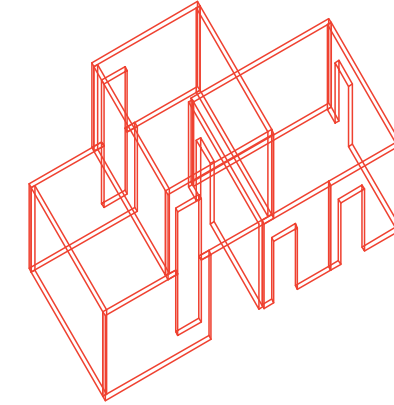
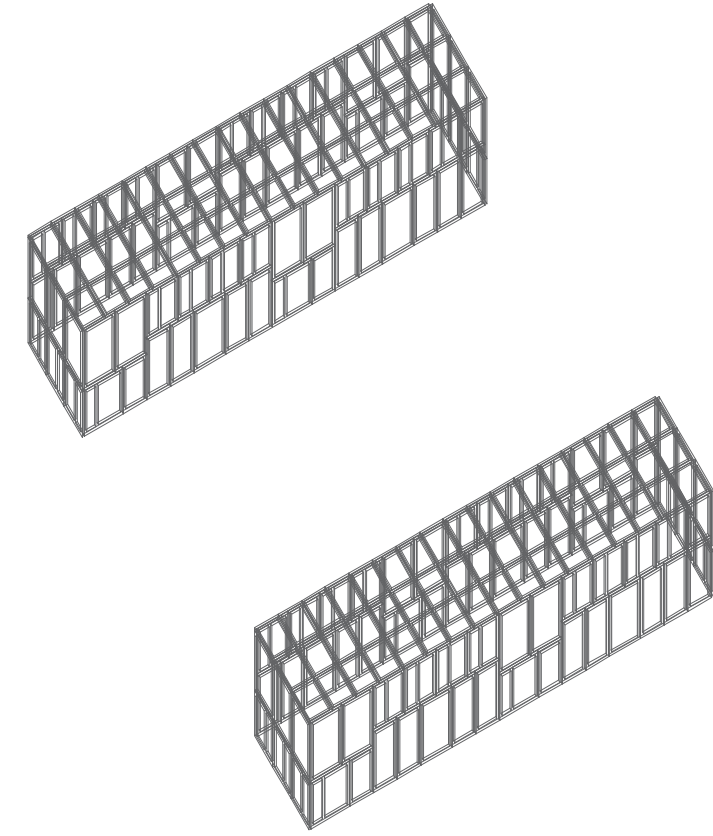
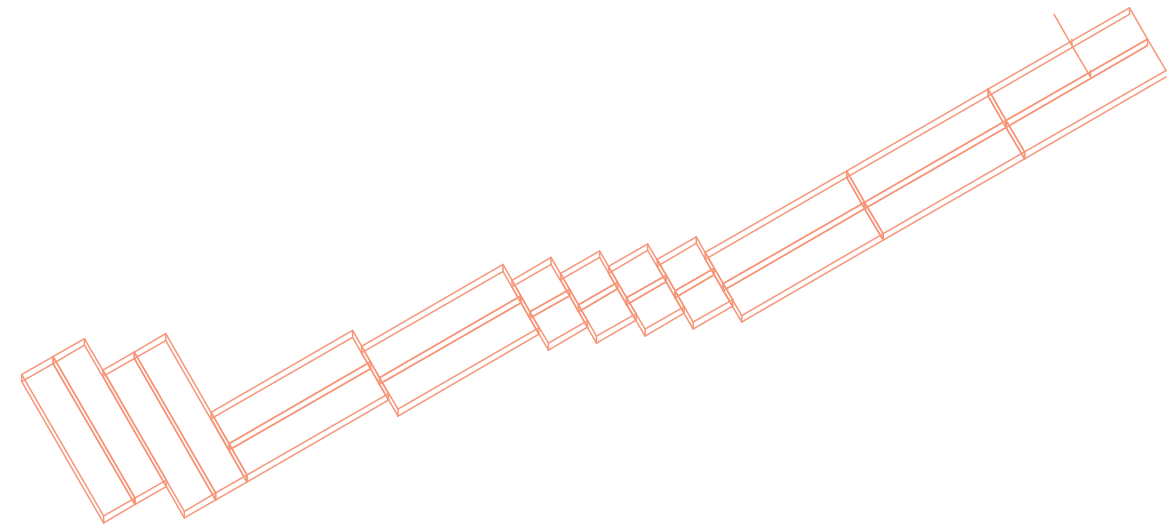


fig. slab/external wall connection



urban mining



bicycle paths from upcycled slabs (2,4m width)

aquaponic farms and horticulture

concrete partition walls (2,8 m height)
(for small constructions)

reshaped urban tissue

2015	8 345 m	2 254 sqm.	48 924 sqm	17 970 sqm.
2016				
2017				
2018				
2019				
2020	66 387 m	17 931 sqm.	195 000 sqm.	142 959 sqm.
2021				
2022				
2023				
2024				
2025	120 065 m	34 049 sqm.	370 297 sqm.	271 467 sqm.
2026				
2027				
2028				
2029				
2030	197 699 m	53 397 sqm.	580 709 sqm.	425 724 sqm.
2031				
2032				
2033				
2034				
2035	277 745 m	75 016 sqm.	815 836 sqm.	598 095 sqm.
2036				
2037				
2038				
2039				
2040	362 800 m	97 989 sqm.	1 065 666 sqm.	781 251 sqm.
2041				
2042				
2043				
2044				
2045	447 376 m	120 832 sqm.	1 314 102 sqm.	963 378 sqm.
2046				
2047				
2048				
2049				
2050	531 306 m	143 502 sqm.	1 560 630 sqm.	1 144 113 sqm.

40€ /m (21 240 000 € of market price)

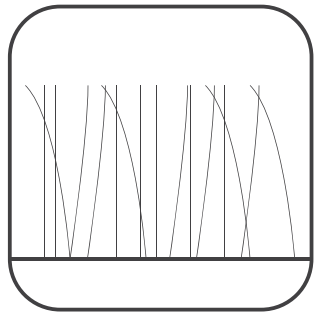
14,3 ha (49 000 000 € of market price)
(10 994 568 €/year revenue)

10 € /sqm.
(15 606 300€ of material price)







15 € /sqm.
(17 161 695€ of material price)

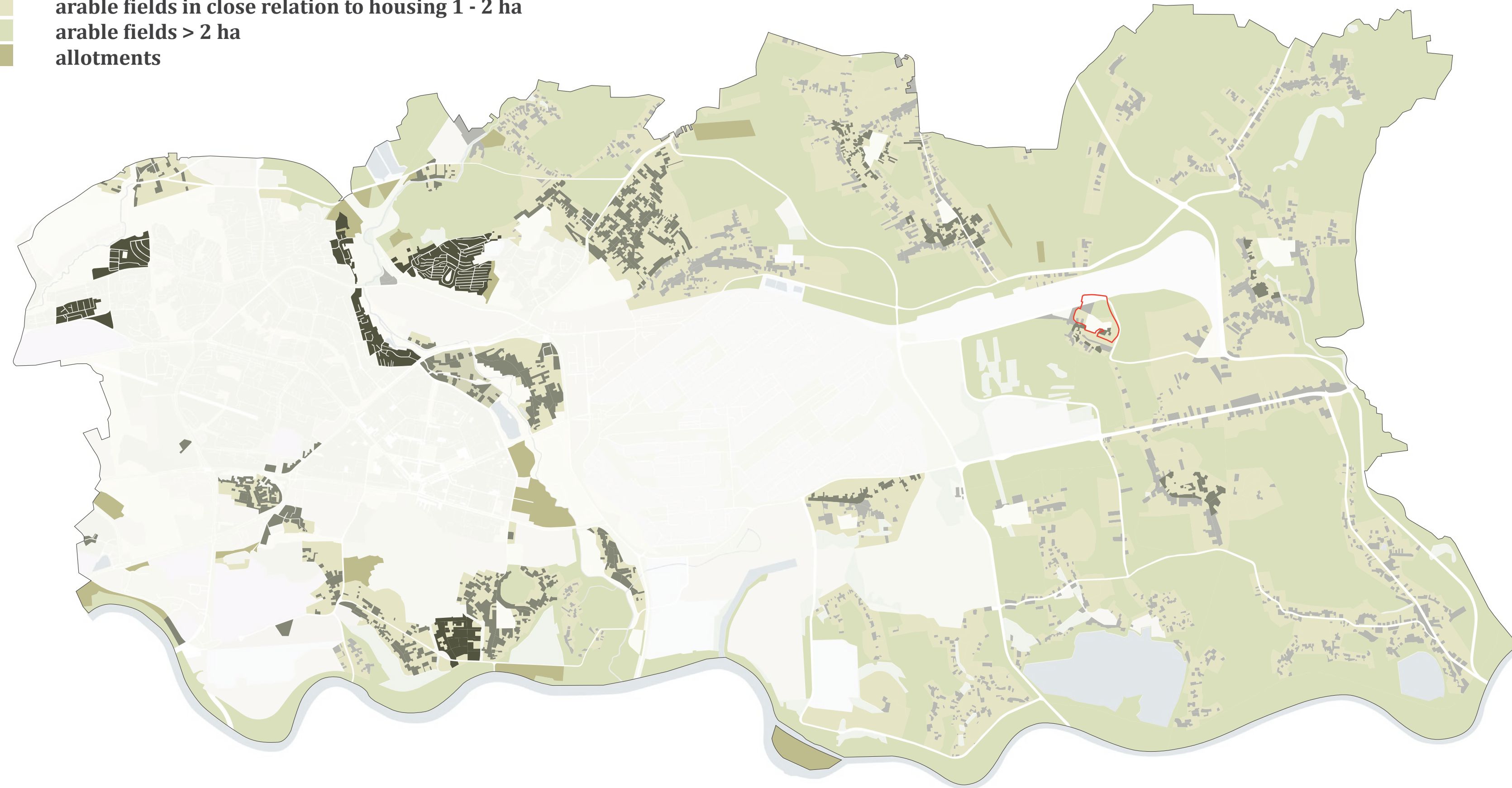


**PRODUCTIVE
COUNTRYSIDE**



productive countryside

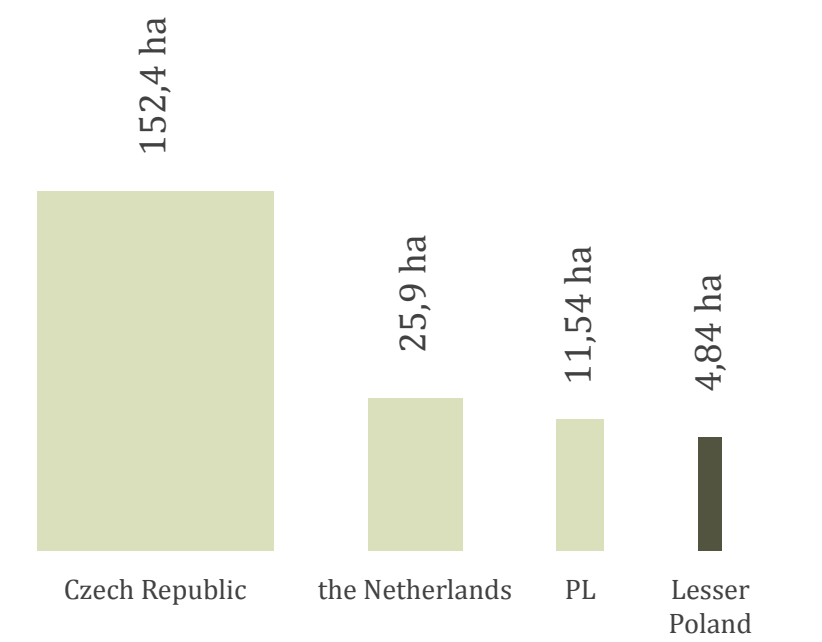
-  residential areas with small gardens < 0,05 ha
-  residential areas with middle size gardens or small agricultural production 0,05 ha < 0,25 ha
-  housing with agricultural equipment 0,25 ha < 1 ha
-  arable fields in close relation to housing 1 - 2 ha
-  arable fields > 2 ha
-  allotments



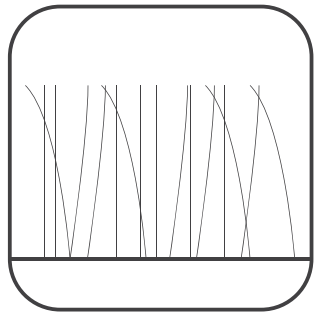
-  Classes I-III
-  Class IV
-  Forests



soil bonitation (source: Lesser Poland Voivodship)



average size of farm (source: ec.europa.eu)



productive countryside



infrastructure leftovers



neglected public spaces



post-industrial areas



industrial unused areas



pre-development areas



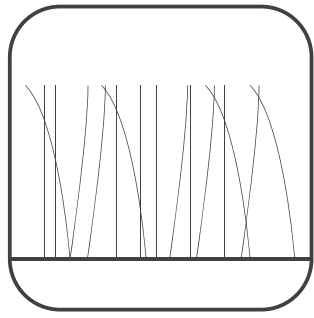
post-railway areas



river floodplains

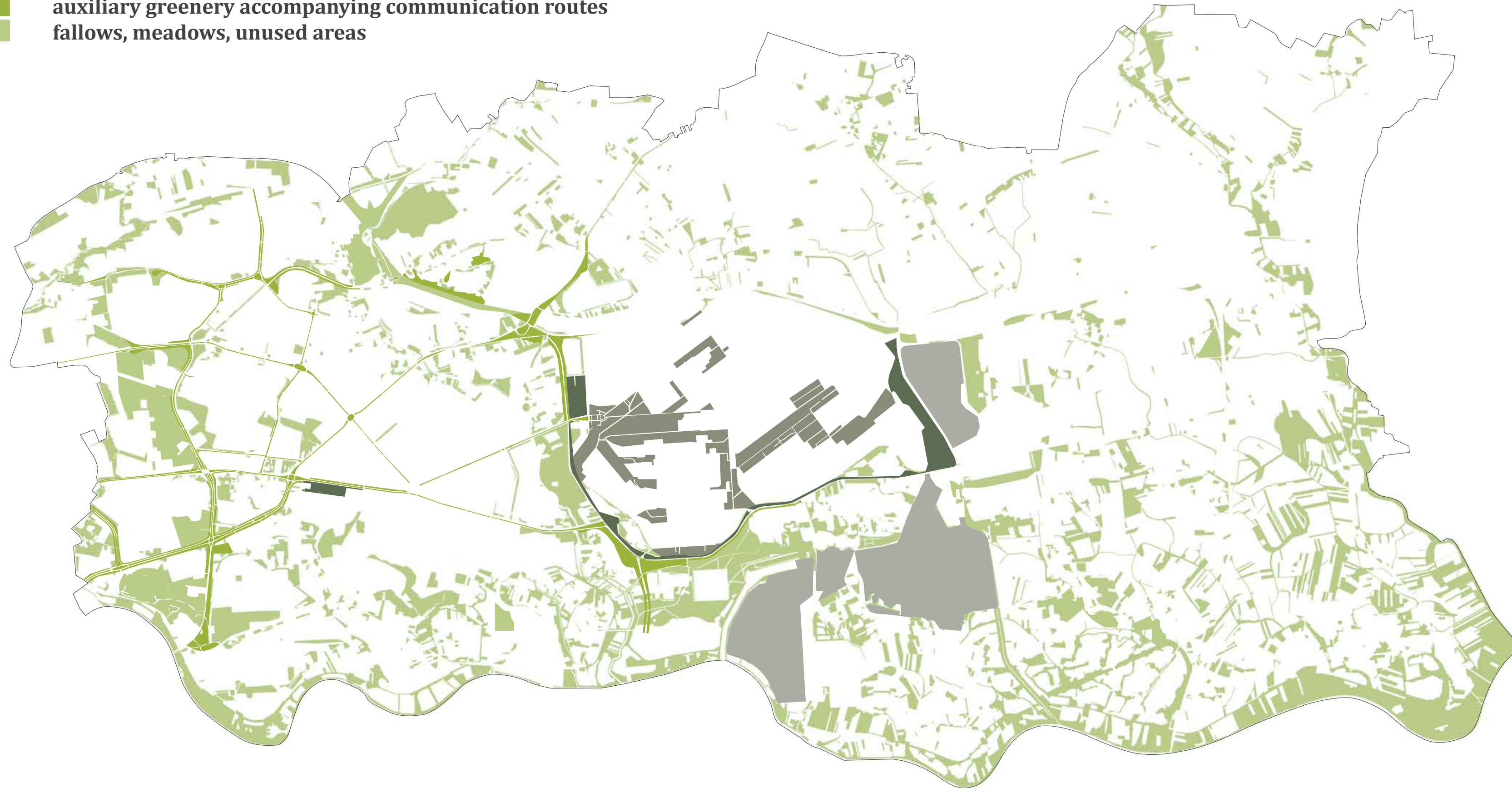


industrial unused areas

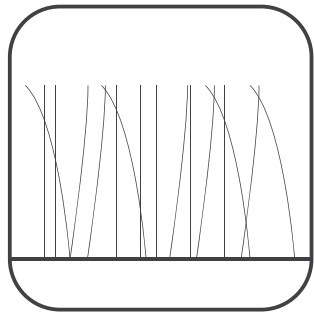


productive countryside

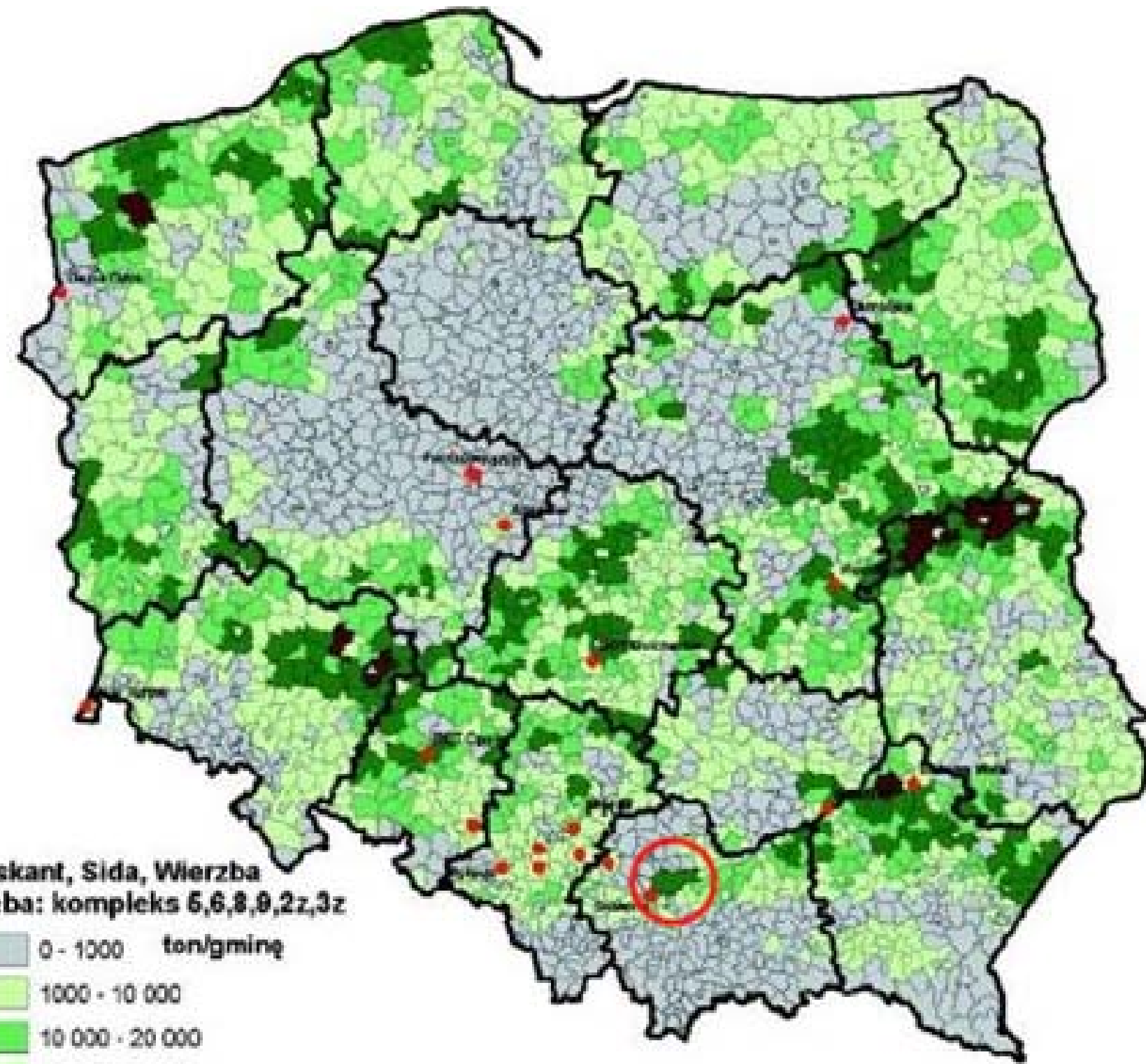
- isolating greenery for industry
- Arcelor Mittal areas foreseen for release
- postindustrial neglected areas
- auxiliary greenery accompanying communication routes
- fallows, meadows, unused areas



total area:	11 079 ha
fallows approximate:	12%: 1 300 ha
postindustrial areas:	8%: 900 ha
	<hr/>
	2 200 ha



productive countryside



art and hobby



"living" constructions



land cleaning capabilities



willow (energetic)



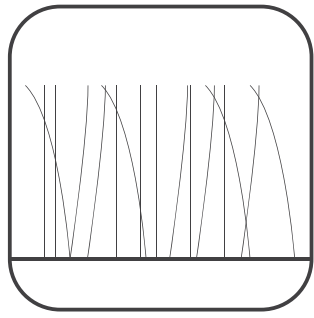
biomass - 1 ha/1 year = 20 Mg = 10 Mg of coal = 113 GJ



furniture industry



small architecture



productive countryside



Parks
Cemeteries (approx. 68 ha)
Allotments (159,73 ha)
Nature Monuments



Dłubnia Valley
around Dłubnia River with natural ecosystems



Planty Mistrzejowickie
9,82 ha; estate "Mistrzejowice"



Division 303 Park
4,29 ha; estate "Division 303"



Łąki Nowohuckie
protected area "Natura 2000"



Planty Bieńczyckie
16,82 ha; Bieńczyce estate



Polish Aviators Park
59,14 ha; with sport event arena and park of sciences



Rose Alley
most important, pedestrian urban axis in Nowa Huta



Fort Batowice
1885 - for artillery (pre-renovated), 7,1 ha



Ruszcza
gothic church from 1420; 7ha



Krzesławice
Jan Matejko Mansion; with garden 4ha



Fort Mistrzejowice
1897 - Kraków Stronghold Line (devastated)



Pleszów Garden
św. Wincenty classicist church from 1809; 14,8 ha



Łuczanowice Park
Mansion of evangelical community from 1902; 5,48 ha



Fort Zesławice
1896 (devastated)



Góra Kościelnicka
All Saints Church; wooden architecture



Wadów Park
neo-renaissance architecture from 1874; 2,33 ha



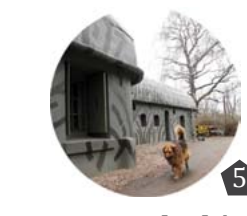
Fort Krzesławice
1886 - for the purposes of local house of culture (renovated)



Krzesławice
Increase of Cross Church; wooden architecture



Kościelniki
palace and park from 1708; 7 ha



Fort Grębałów
1897 - riding school (renovated)



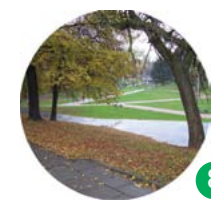
Mogiła
Cisterian Abbey established 1226; 5,5 ha



Ruszcza
neoclassical palace and park



Sport Airport Pobiednik Wielki
active aeroclub



Green Canyon Park
8,70 ha; estate "Na Stoku"



Swedish Square
2,33ha; estate "Szklane Domy"



Millenium Park
11,29 ha; on "Millenium Estate"



Town Hall Square
2,20 ha; never build Town Hall



Cherry Orchard
2,73 ha; estate Kolorowe



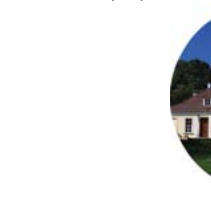
Żeromski Park
3,07 ha; next to hospital




Wanda's Mound
VIIIth century worship object



Fort Mogiła
1896 (devastated)



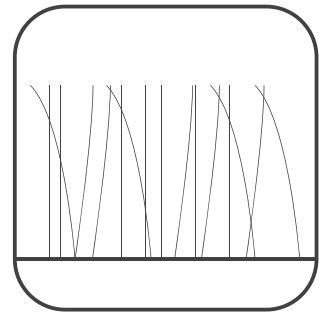
Branice Park
late renaissance fortified mansion from 1603 and classicist mansion from XIX; 6 ha



$2\ 200\ \text{ha} \times 113\ \text{GJ} = 248\ 600\ \text{GJ}$
 $2\ 200\ \text{ha} \times 450\ \text{€} = 990\ 000\ \text{€} / \text{year}$

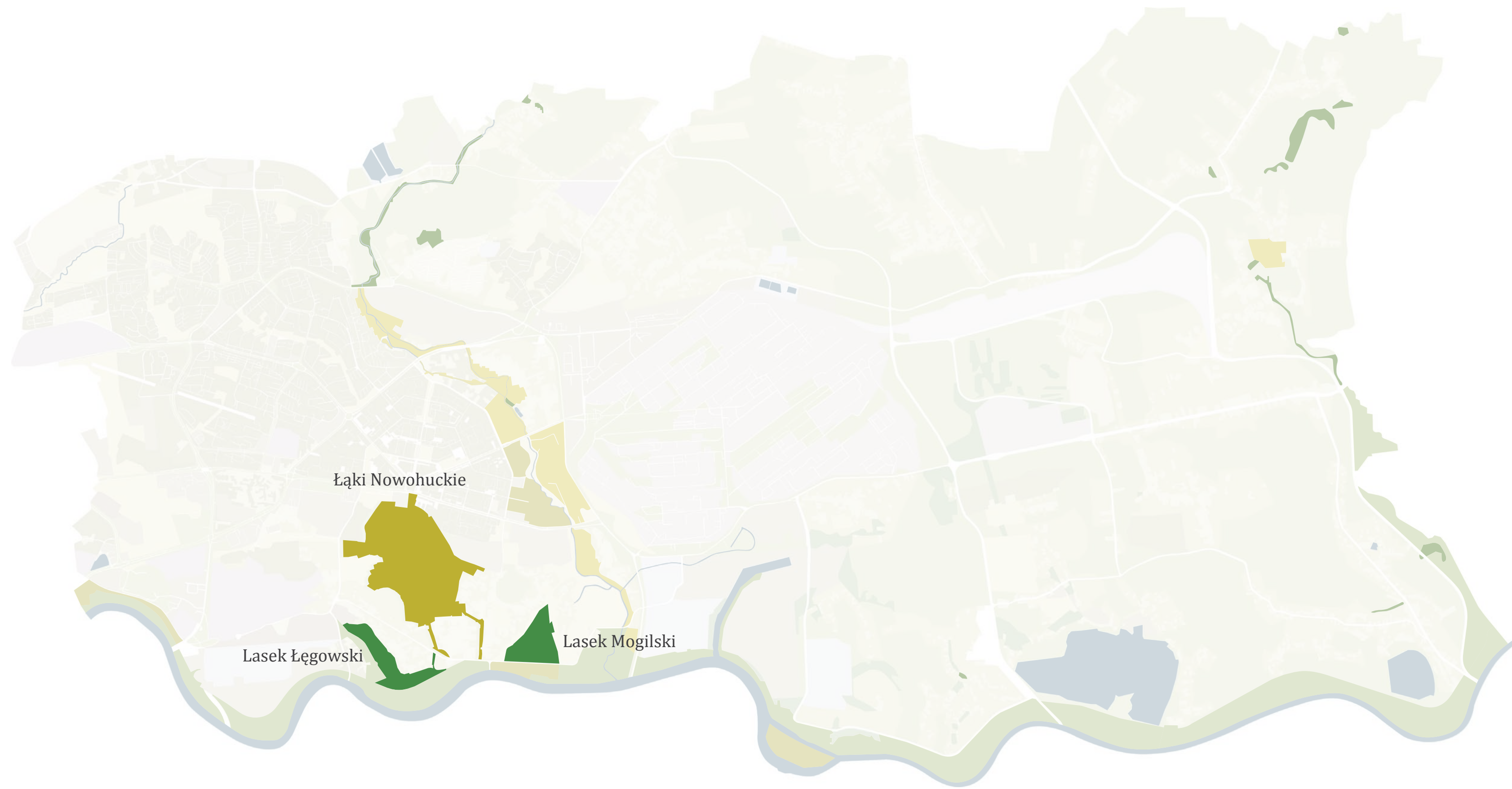


**RESTORING
NATURE**



productive countryside





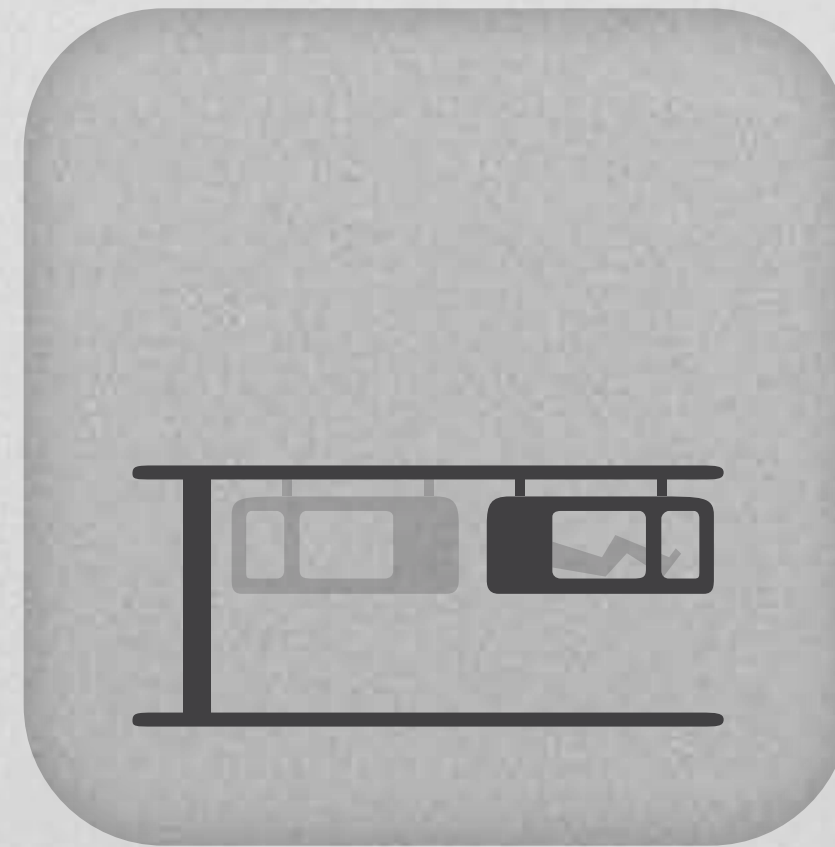




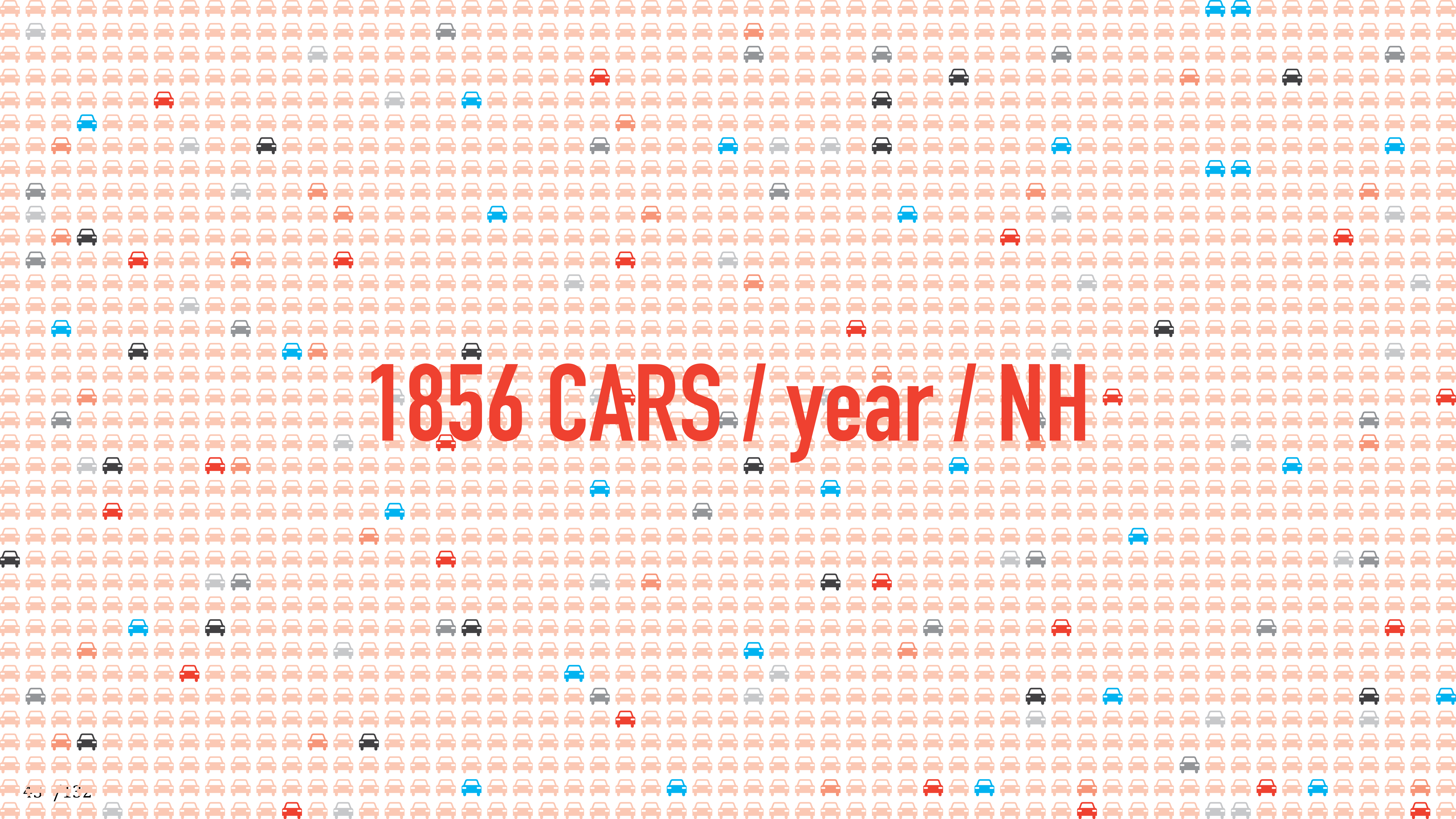
dąb szypułkowy (*Quercus robur*) / oak tree
jesion (*Fraxinus excelsior*) / ash tree
olsza czarna (*Alnus glutinosa*) / black alder
bez czarny (*Sambucus nigra*) / elderberry
dereń świda (*Cornus sanguinea*) / dogwood
trzmielina pospolita (*Euonymus europaeus*) / common spindle
rośliny ruderalne / ruderal species
rajgras wyniosły (*Arrhenatherum elatius*) / false oat-grass
kupkówka pospolita (*Dactylis glomerata*) / orchard grass
kostrzewa łąkowa (*Festuca pratensis*) / meadow fescue
wiechlina łąkowa (*Poa pratensis*) / smooth meadow-grass
trzcina (*Phragmites australis*) / reed
czerechka zwyczajna (*Padus avium*) / bird cherries
ziarnopłon wiosenny (*Ficaria verna*) / lesser celandine
plizymeryk kadzierzawy (*Plagiomnium undulatum*)
kolóska lykowlaty (*Brachythecium rutabulum*)
miodunka ęma (*Pumonia obscura*) / unspotted lungwort
kostrzewa olbrzymia (*Festuca gigantea*) / giant fescue
wyczytnie łąkowy (*Alpecurus pratensis*) / meadow foxtail
konieczna łąkowa (*Trifolium pratense*) / red clover
wyka ptasia (*Vicia cracca*) / cow vetch
grozek łąkowy (*Lathyrus pratensis*) / meadow vetchling
mniszek lekarski (*Taraxacum officinale*) / common dandelion
złocieniec właściwy (*Leucanthemum vulgare*) / oxeye daisy
turzyca rzadkokłosa (*Carex ramota*) / sedge
pokrzywa (*Urtica dioica*) / nettle
kuklik pospolity (*Geum urbanum*) / wood avens
podagrycznik pospolity (*Aegopodium podagraria*) / ground elder
trznadel (*Emberiza citrinella*) / yellowhammer
kos (*Turdus merula*) / common blackbird
chaber łąkowy (*Centaurea jacea*) / brownray knapweed
ostrożek łąkowy (*Cirsium rivulare*) / thistle
rdzest węzłownik (*Polygonum bistorta*) / bistort
krwiciąg lekarski (*Sanguisorba officinalis*) / great burnet
szwarz z kosaćcem złotym (*Iridetum pseudoacori*) / yellow flag
kozłek lekarski (*Valeriana officinalis*) / valerian
rudzik (*Erithacus rubecula*) / european robin
wilga (*Oriolus oriolus*) / black-naped oriole
dzieciol duży (*Dendrocopos major*) / great spotted woodpecker
grzywacz (*Columba palumbus*) / wood pigeon
wiosniak (*Alcedo atropurpurea*) / common kingfisher
dąb szypułkowy (*Quercus robur*) / oak tree
jesion (*Fraxinus excelsior*) / ash tree
topola czarna (*Populus nigra*) / black poplar
kalka krwista (*Dactylorhiza incarnata*) / early marsh-orchid
wiązówka błotna (*Filipendula ulmaria*) / meadowsweet
pałka szerokolistna (*Typheta latifoliae*) / broad truncheons
trzciniak (*Acrocephalus arundinaceus*) / great reed warbler
trzciniaczek (*Acrocephalus scirpaceus*) / reed warbler
rokitniczka (*Acrocephalus schoenobaenus*) / sedge warbler
osika (*Populus tremula*) / aspen tree
bez czarny (*Sambucus nigra*) / elderberry
dereń świda (*Cornus sanguinea*) / dogwood
trzmielina pospolita (*Euonymus europaeus*) / common spindle
czerechka zwyczajna (*Padus avium*) / bird cherries
leszczyna pospolita (*Corylus avellana*) / filberts
kozówka (*Acrocephalus palustris*) / marsh warbler
świerszczak (*Locustella naevia*) / common grasshopper warbler
brzęczka (*Locustella luscinioides*) / savi's warbler
strumieniówka (*Locustella fluviatilis*) / river warbler
pokrzewka cierniówka (*Sylvia communis*) / common whitethroat
potrzos (*Emberiza schoeniclus*) / common reed bunting
ziarnopłon wiosenny (*Ficaria verna*) / lesser celandine
zawilec gajowy (*Anemone nemorosa*) / anemone
miodunka ęma (*Pumonia obscura*) / unspotted lungwort
czyściec leśny (*Stachys sylvatica*) / hedge woundwort
czartwa pospolita (*Circaea lutetiana*) / enchanter's-nightshade
kłosownica leśna (*Brachypodium sylvaticum*) / false brome
derkacz (*Crex crex*) / corn crake
gąsior (*Lanius collurio*) / red-backed shrike
bączek (*Isoptychus minutus*) / little bittner
błotniak stawowy (*Circus aeruginosus*) / western marsh harrier
szpak (*Sturnus vulgaris*) / common starling
sroka (*Pica pica*)
kostrzewa olbrzymia (*Festuca gigantea*) / giant fescue
pokrzywa (*Urtica dioica*) / nettle
podagrycznik pospolity (*Aegopodium podagraria*) / ground elder
dzieciol zielonawy (*Picus canus*) / grey-headed woodpecker
dzieciol zielony (*Picus viridis*) / green woodpecker
grzyby / mushrooms
jaskółka (*Hirundinida*) / swallow
kwiczoł (*Turdus pilaris*) / fieldfare
czerwonoczyk fioletek (*Lycena helle*) / violet copper
czerwonoczyk nieparek (*Lycena dispar*) / large copper
moderaszek telejus (*Macalinea teleius*) / scarce large blue
mchy / mosses
gawron (*Corvus frugilegus*) / rook
kawka (*Corvus monedula*) / jackdaw







**TRANSPORT
REVOLUTION**

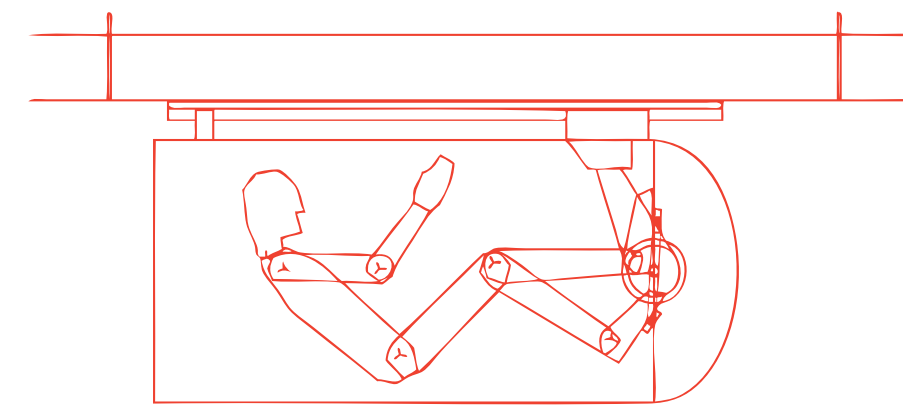
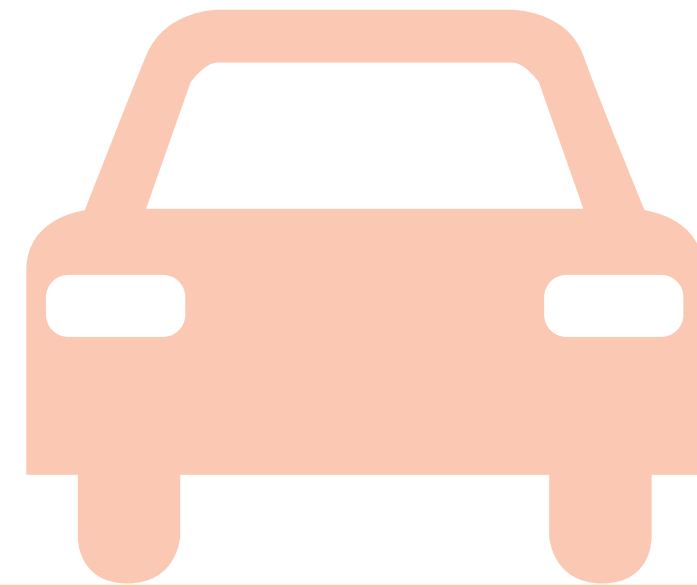


1856 CARS / year / NH

43 / 132



SHWEEB: human powered monorail



electric car

speed: up to 220 km/h
speed in cities: 50 km/h...
CO2 emission: 250g/km + 18g/km
energy needed to move 1 km (35km/h):
836 357 J

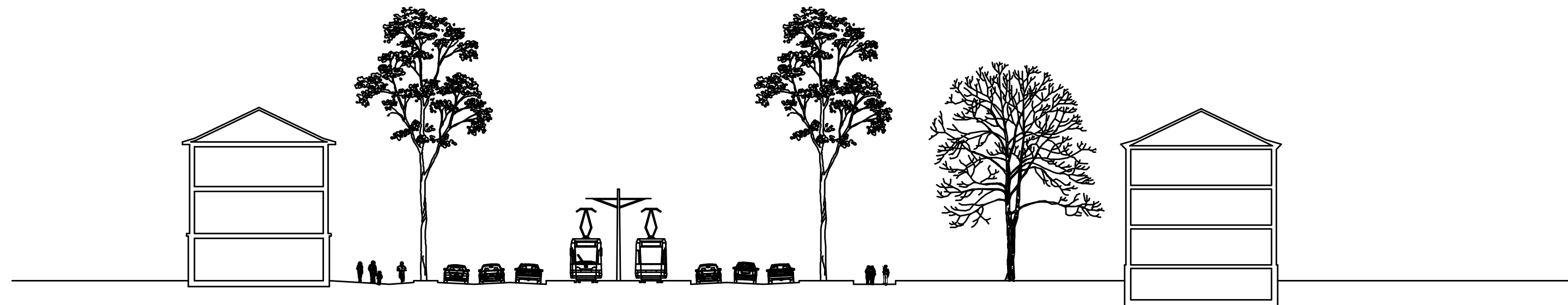
average: 1 Mg of steel
+ costful road infrastructure
1856 Mg (yearly recycled cars in NH)

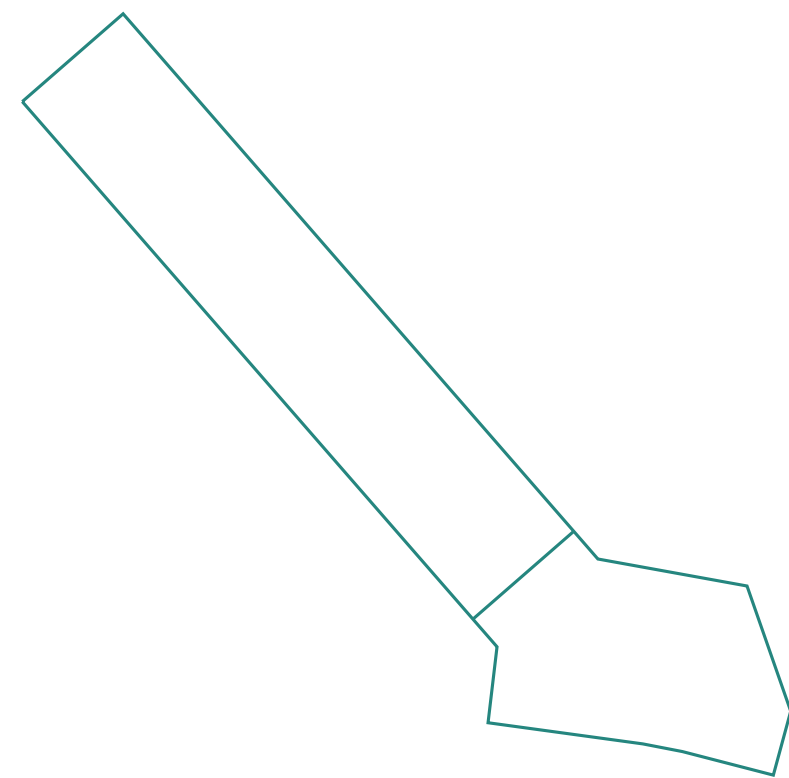
shweeb

speed: up to 70km/h
speed in cities: 50 km/h
CO2 emission: 18g/km (driver only)
energy needed to move 1 km (35km/h):
10 285 J

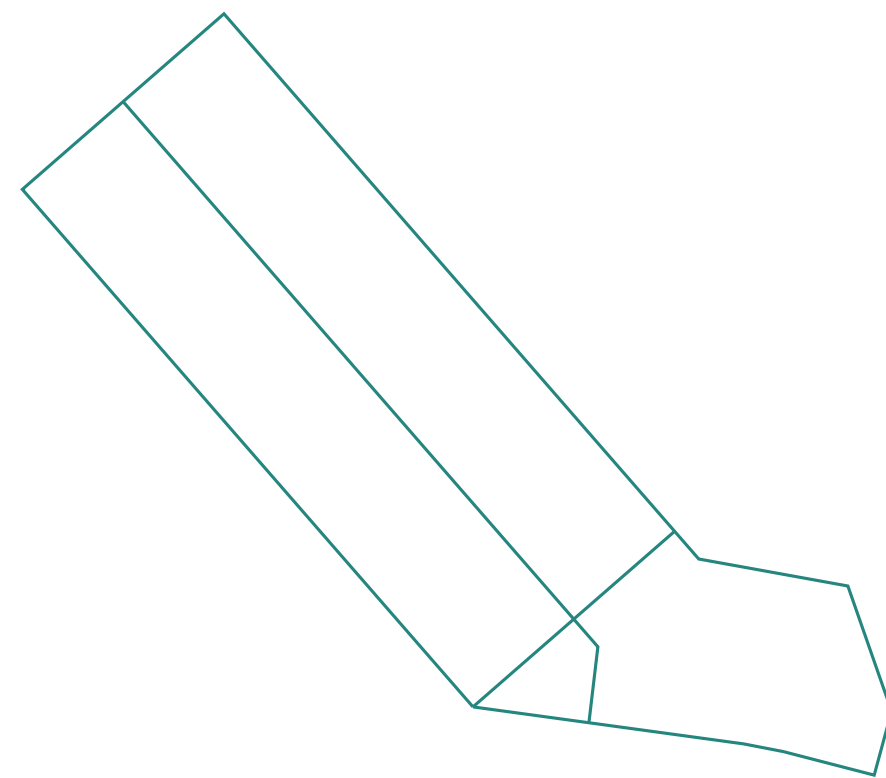
15 times less CO2 in transport
81 times less energy consumed

1 Mg of steel = 5,71 m of shweeb
1856 Mg of steel = 10 597 m of shweeb per year

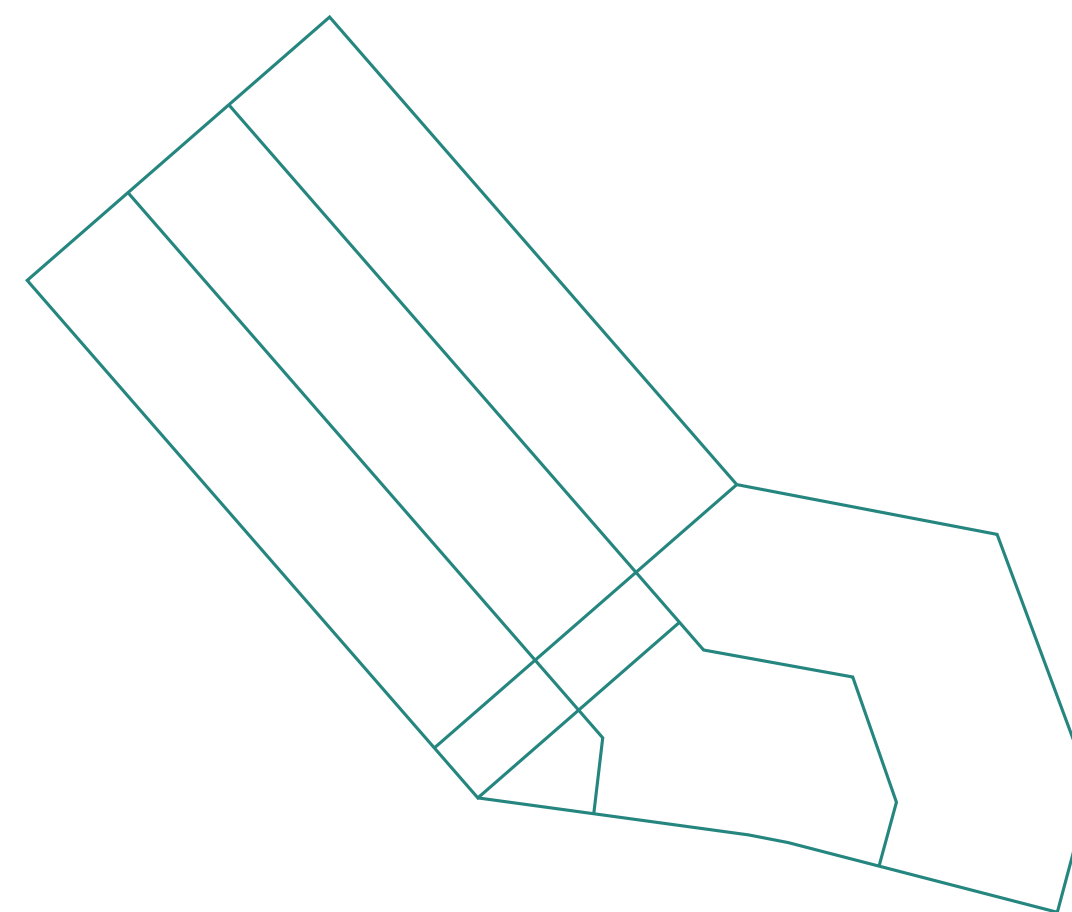




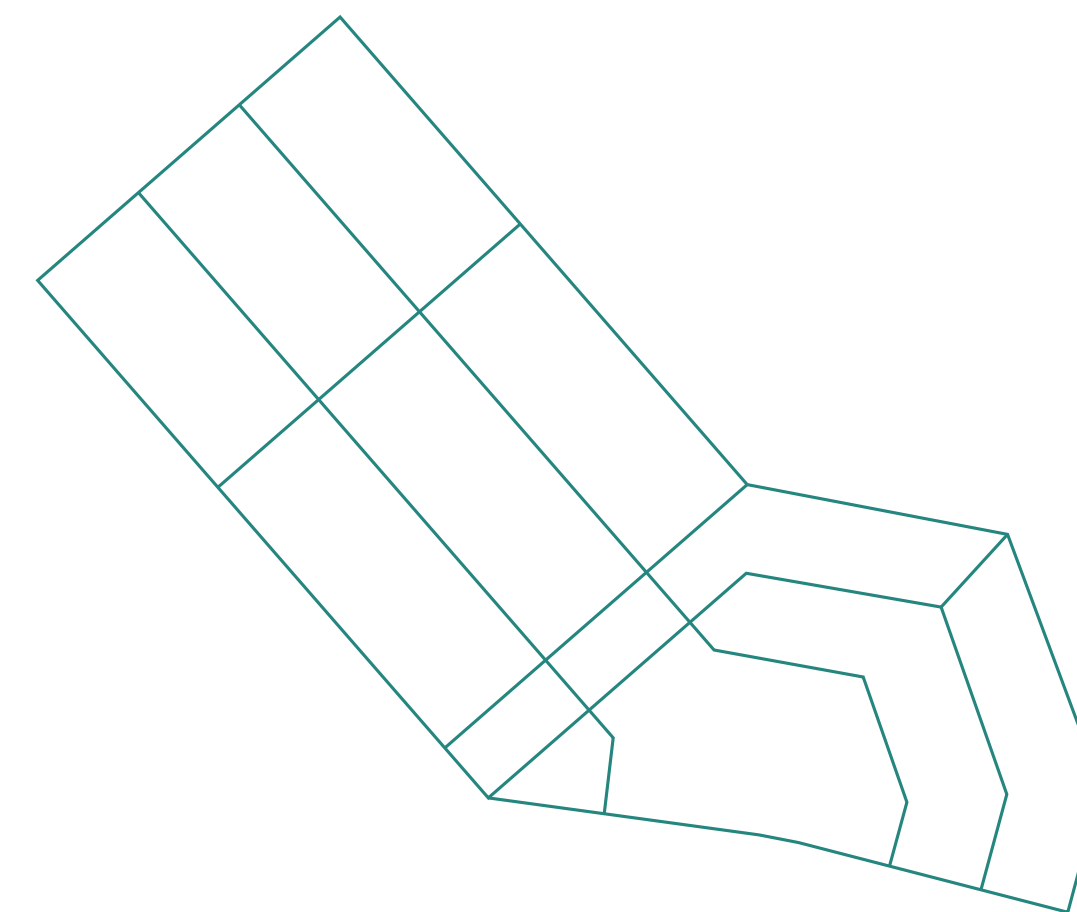
2016



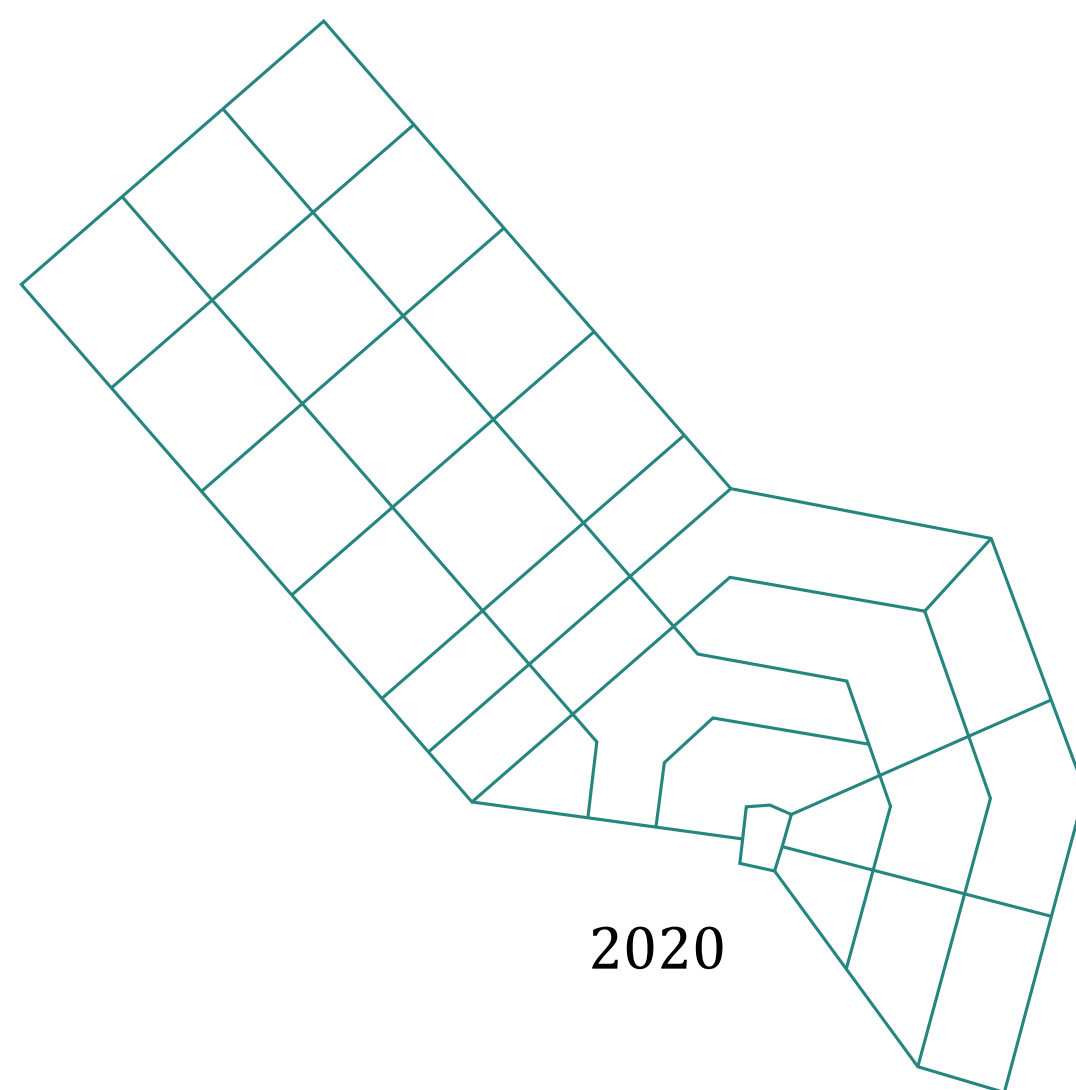
2017



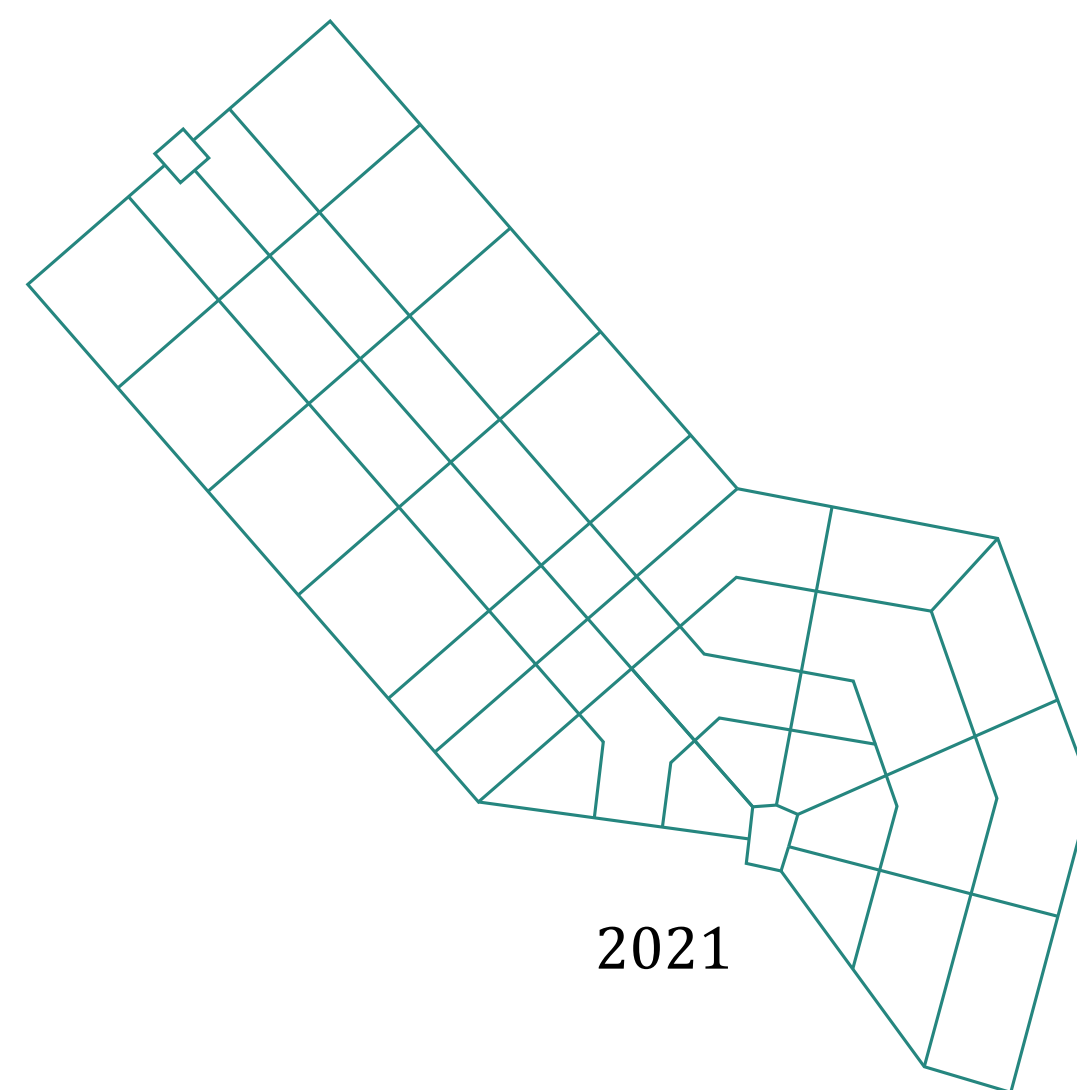
2018



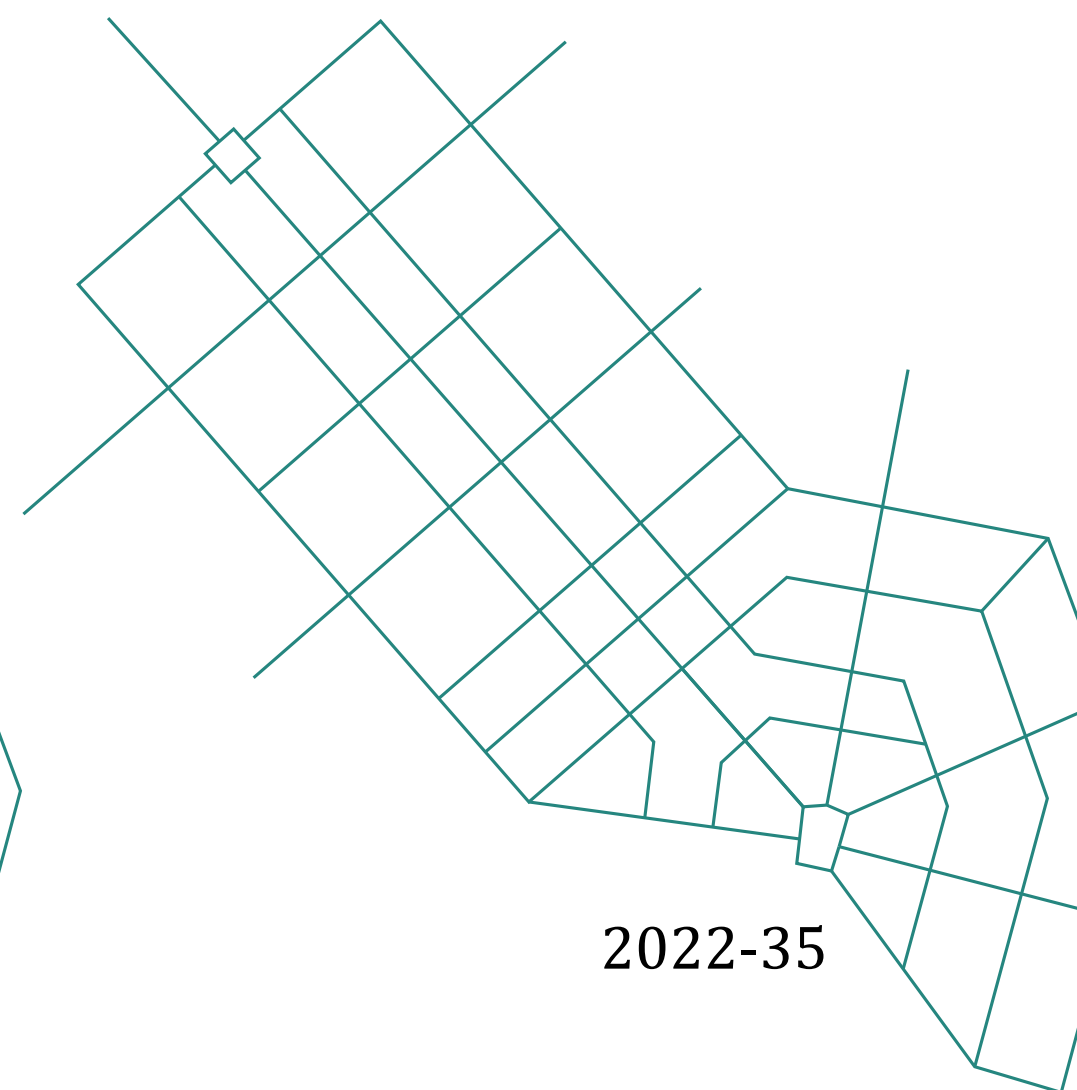
2019



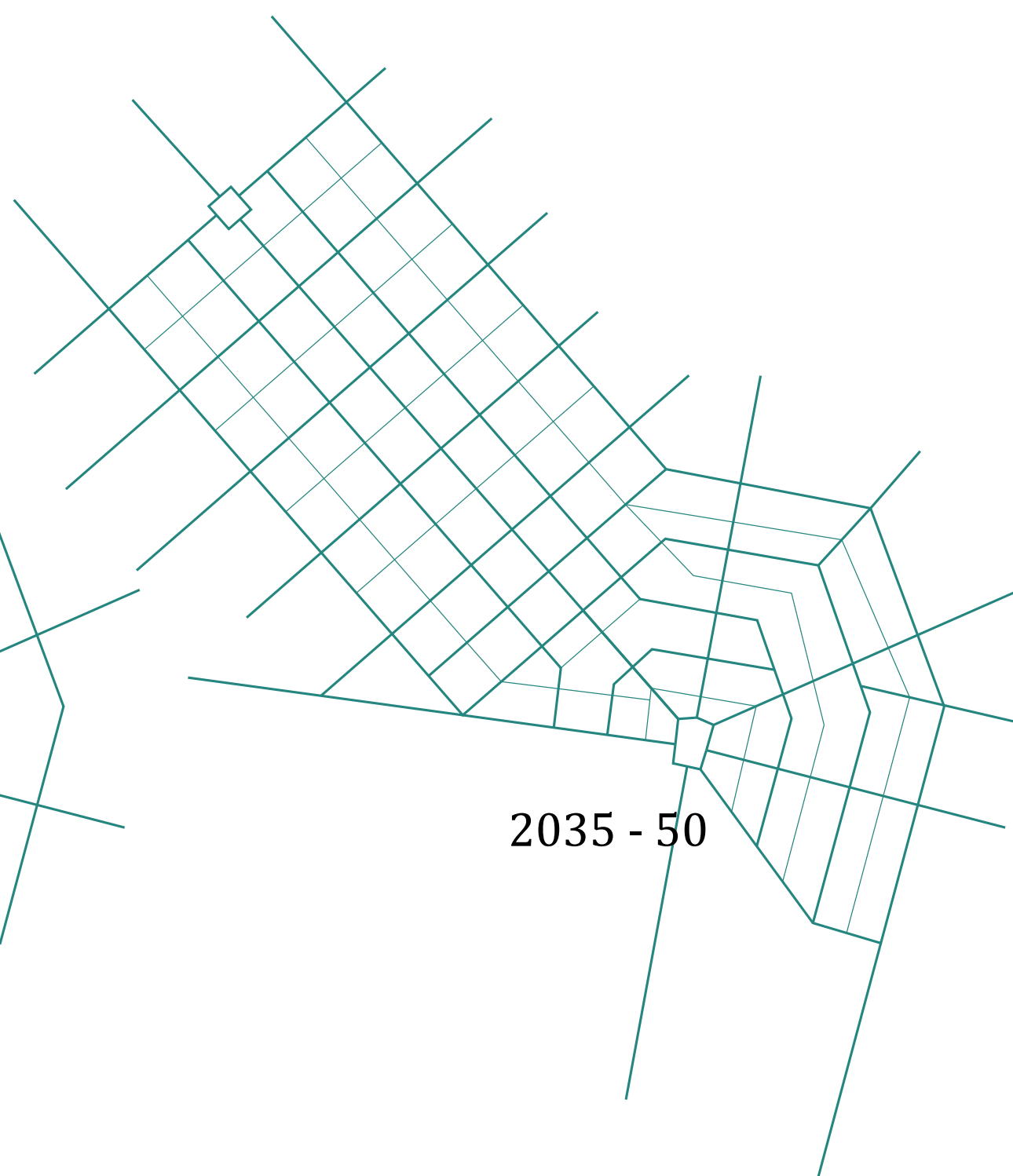
2020



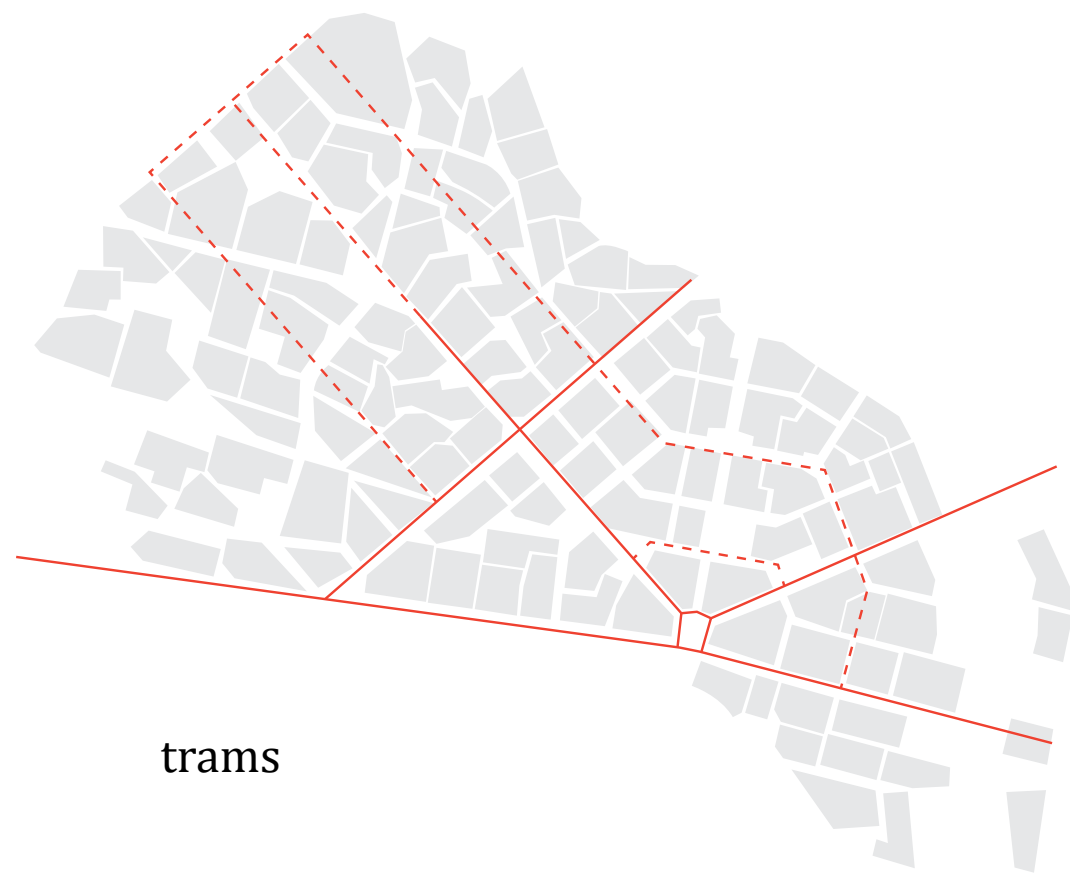
2021



2022-35



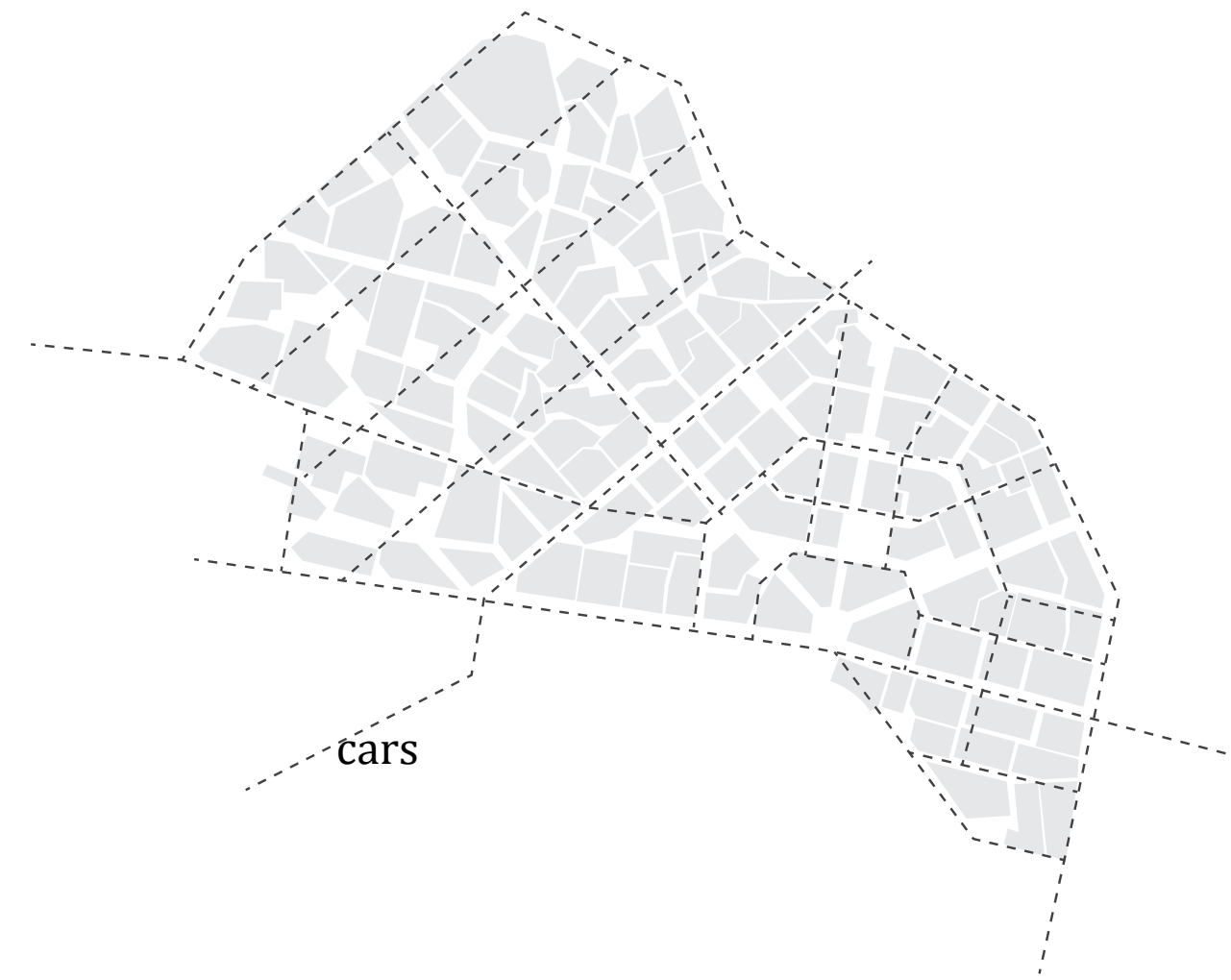
2035 - 50



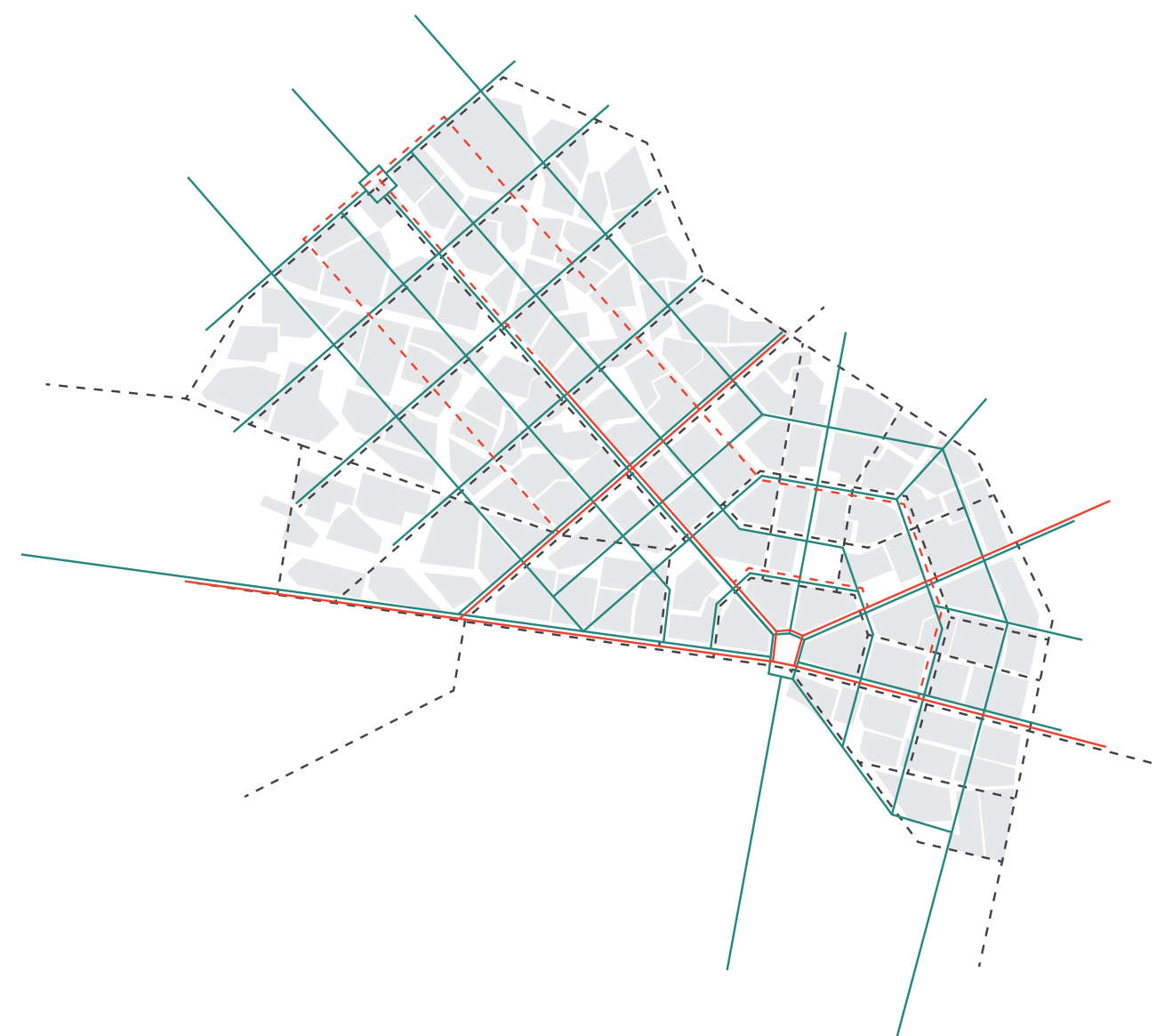
trams

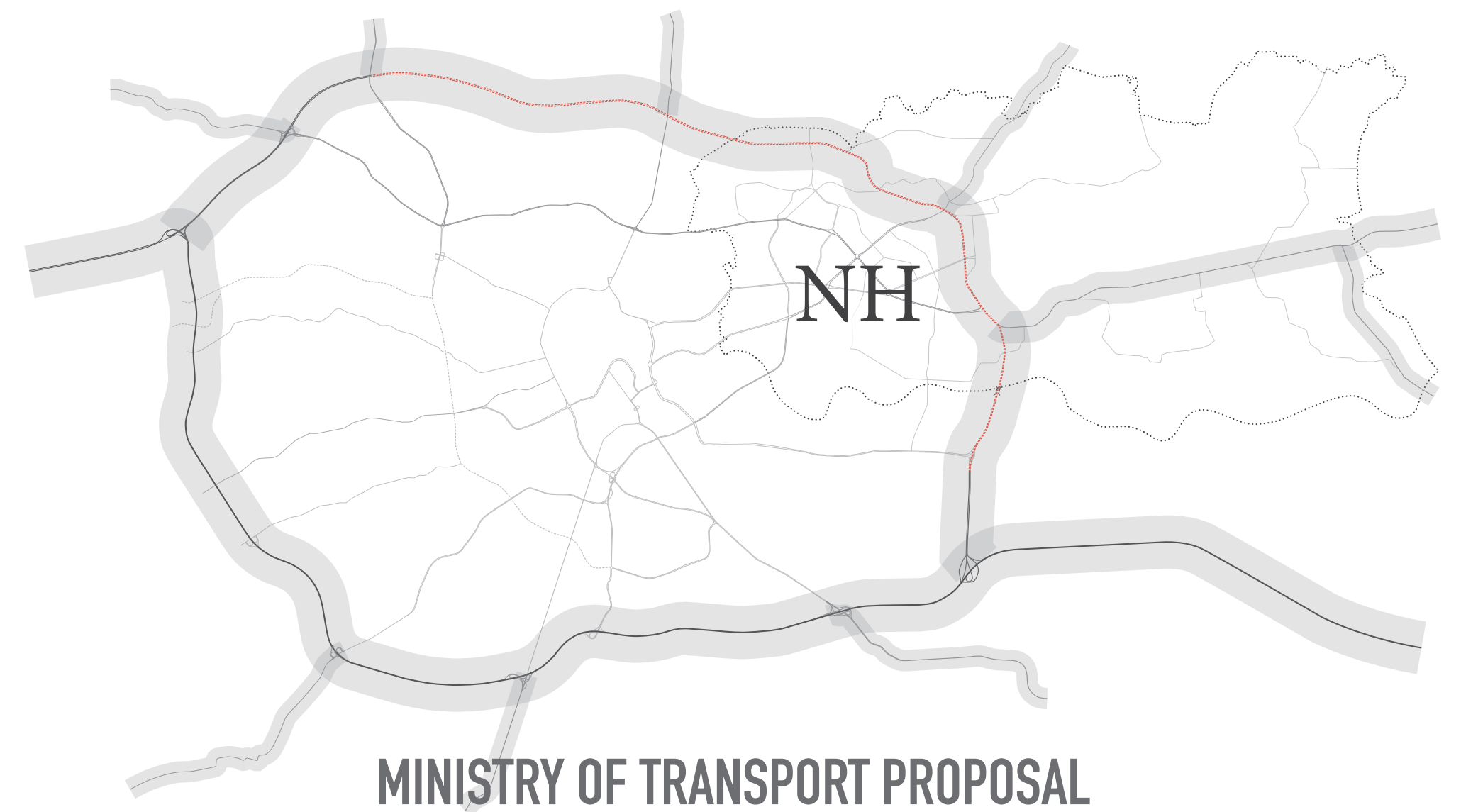


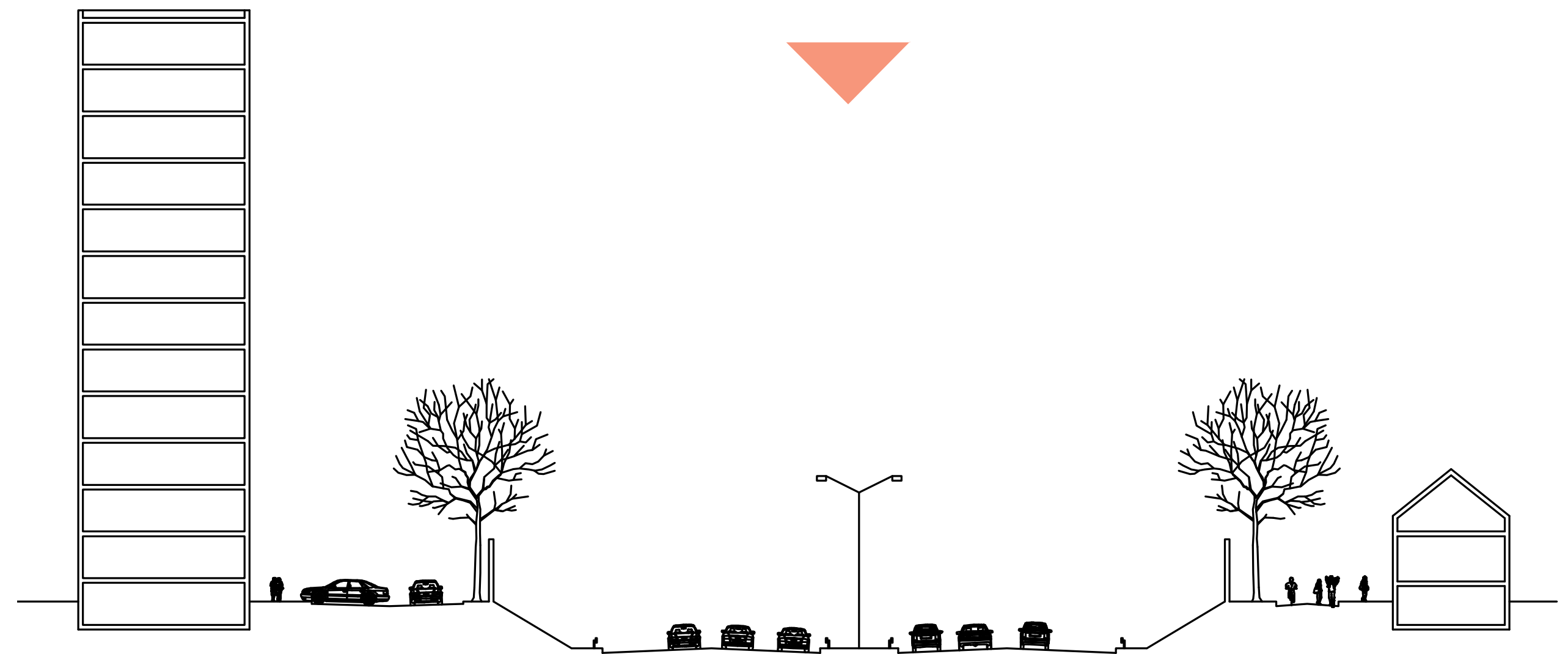
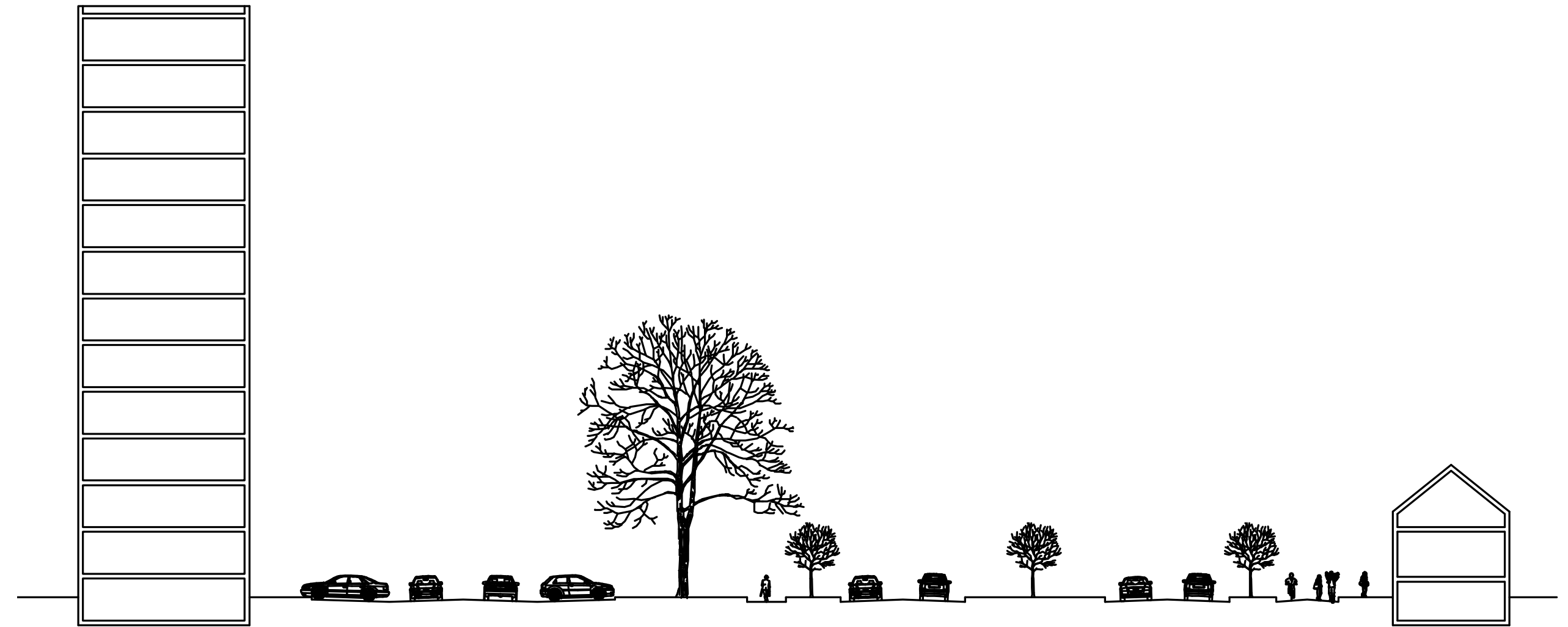
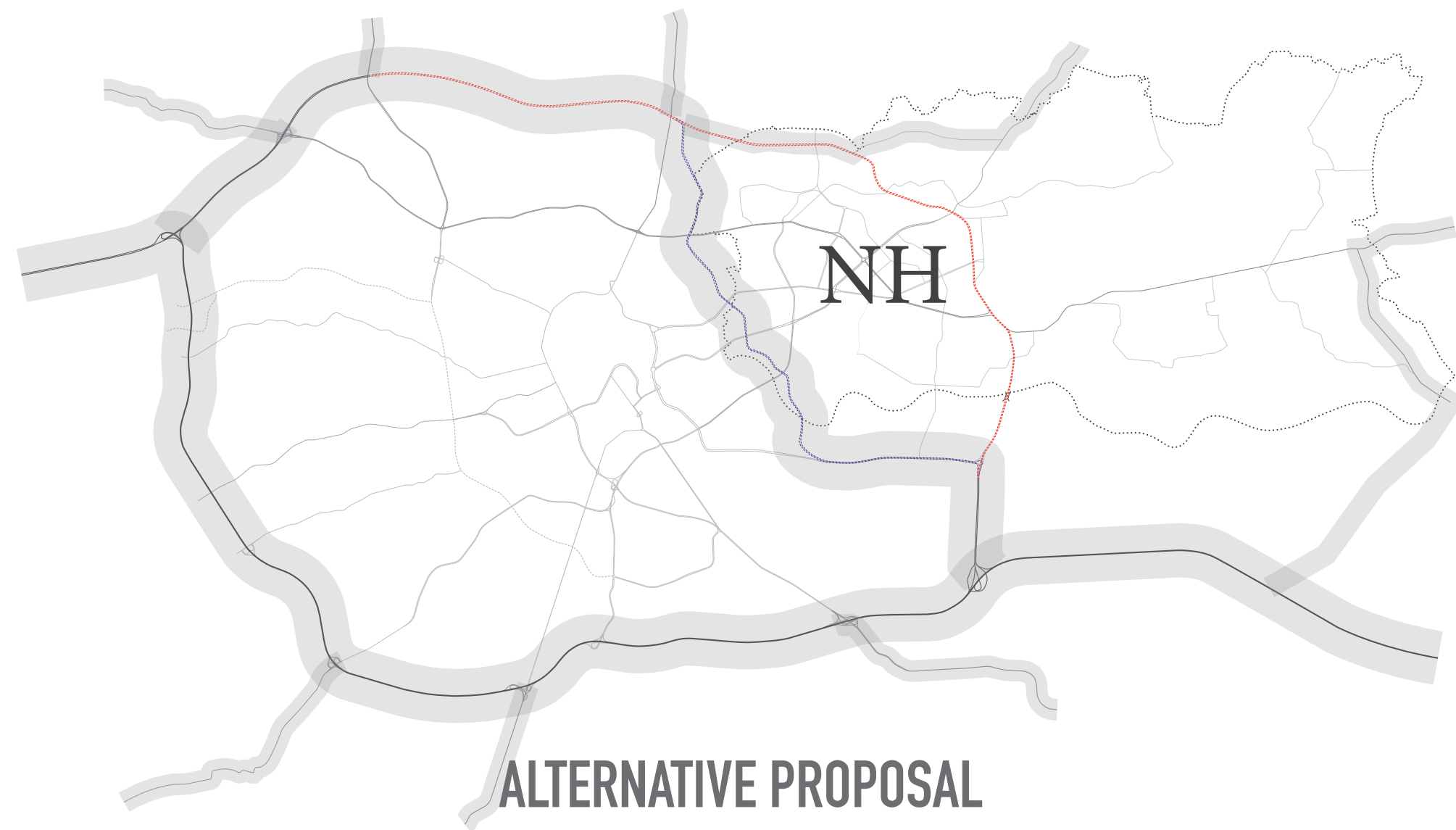
shweeb



cars







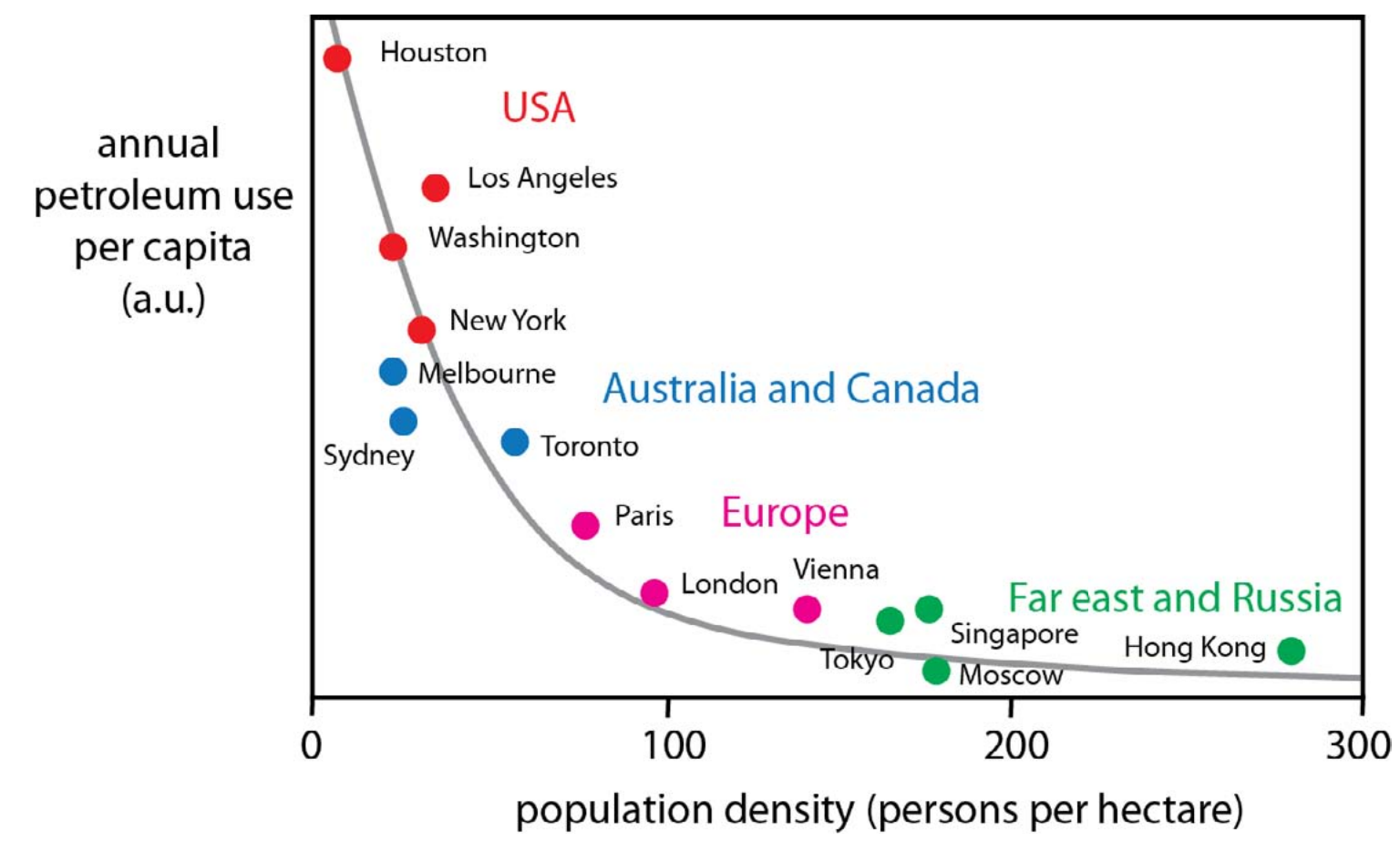
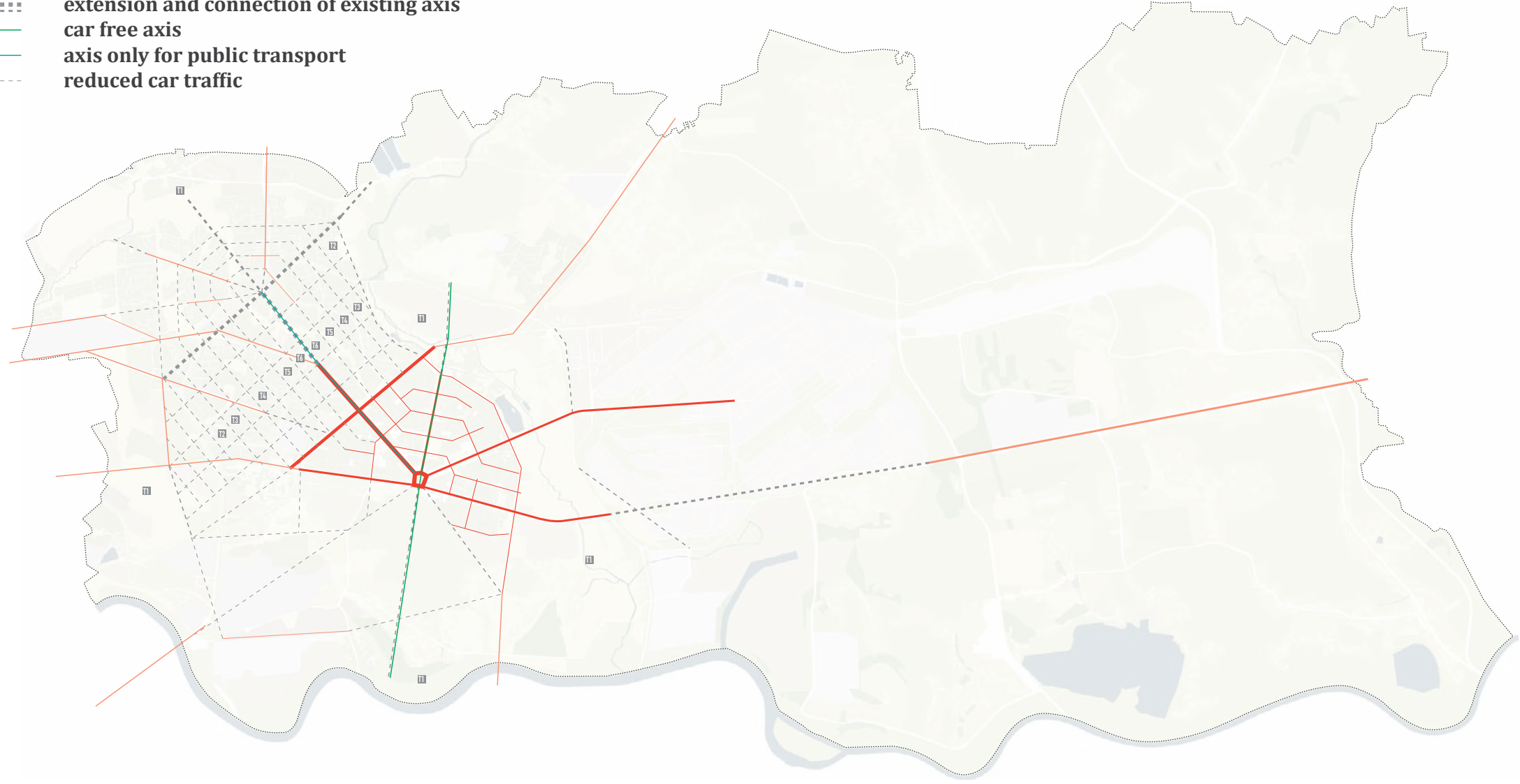
Spatial form analysis

- urban tissue: gradient from clear urban blocks to undefined negative urban space
- urban tissue: dispersed habitation, industry areas
- landmarks: industrial chimneys, high-rise housing, horizontal landmarks
- border: railway
- border: River
- forests or rows of tree
- main streets

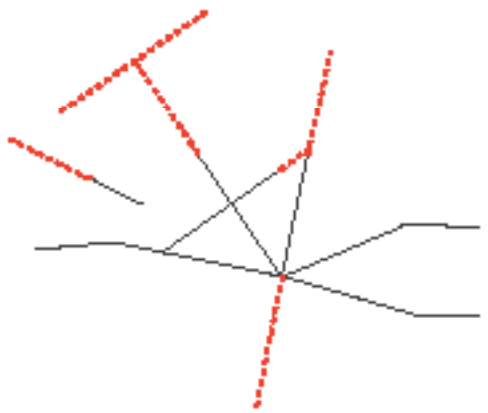


Proposed ordering form of the city

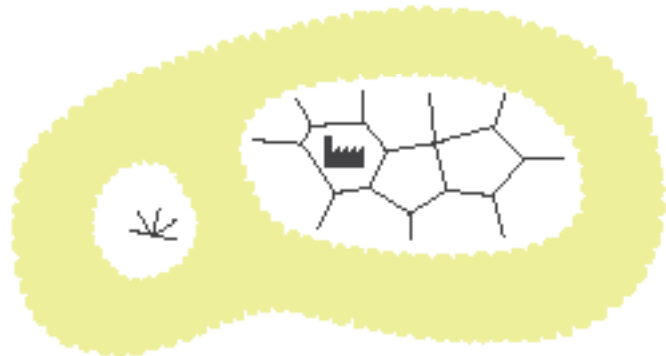
- social realistic axis included in proposed form
- other social realistic roads with important forming role
- existing road infrastructure incorporated into new form
- extension and connection of existing axis
- car free axis
- axis only for public transport
- reduced car traffic



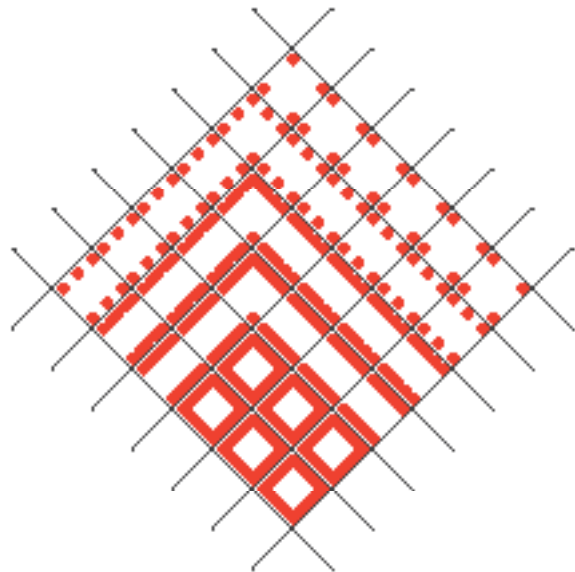
GUIDEPLAN ELEMENTS



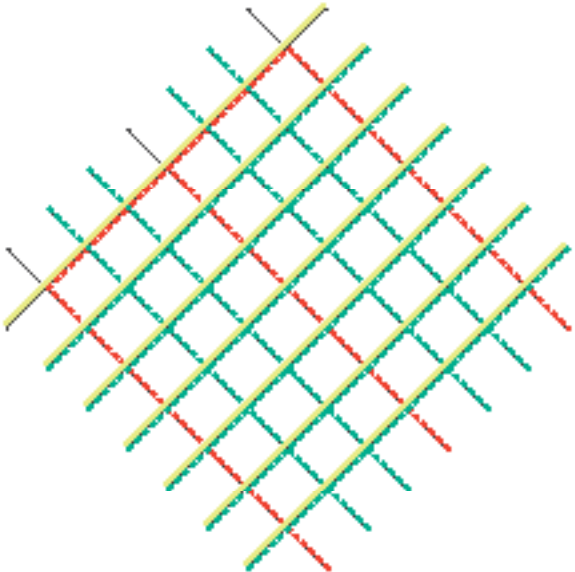
urban ordering



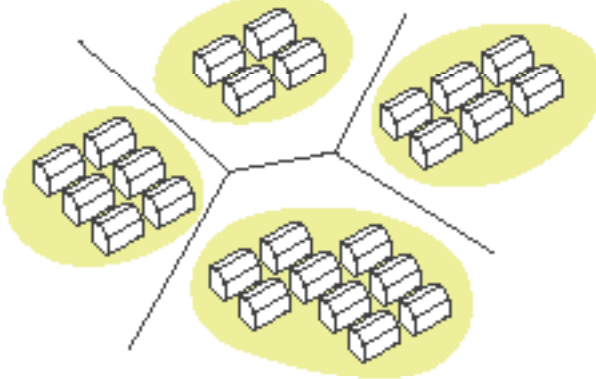
green borders



transect grid



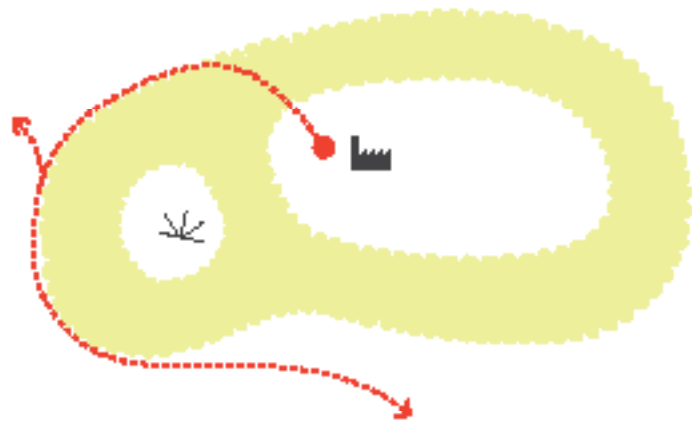
transport revolution



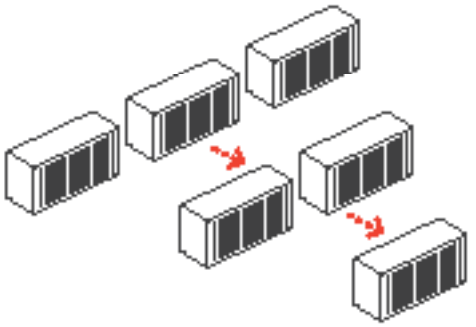
village centers



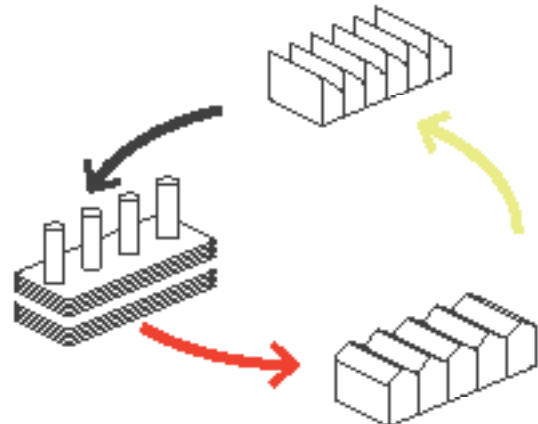
dynamic riverscape



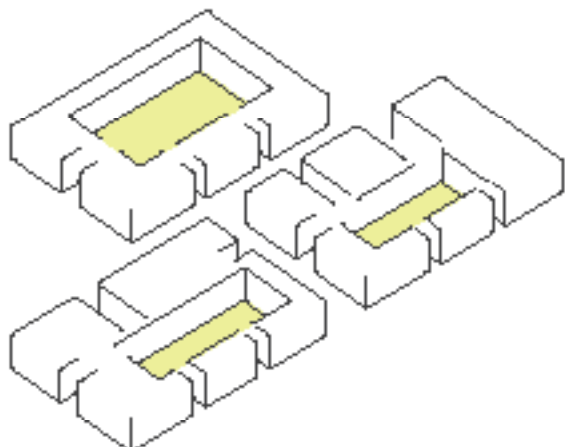
transit



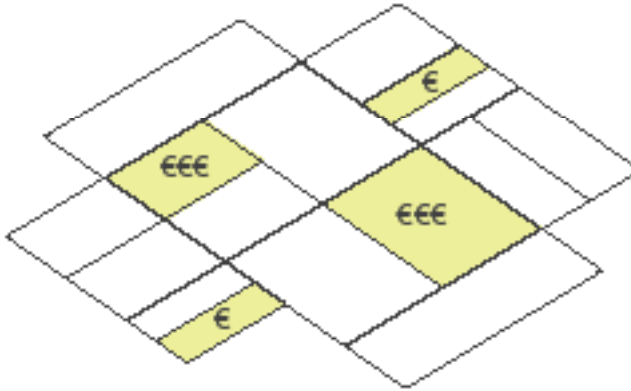
urban mining



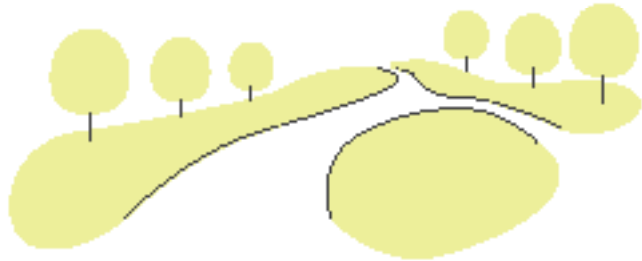
industrial ecology



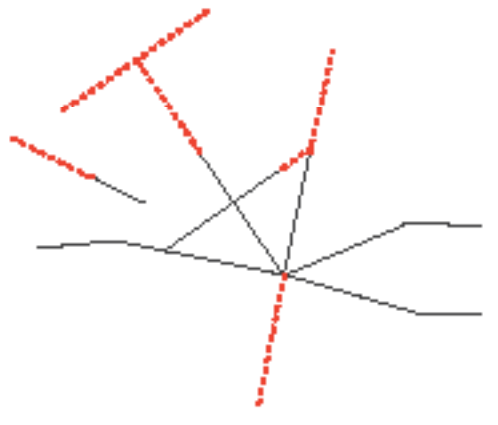
urban units



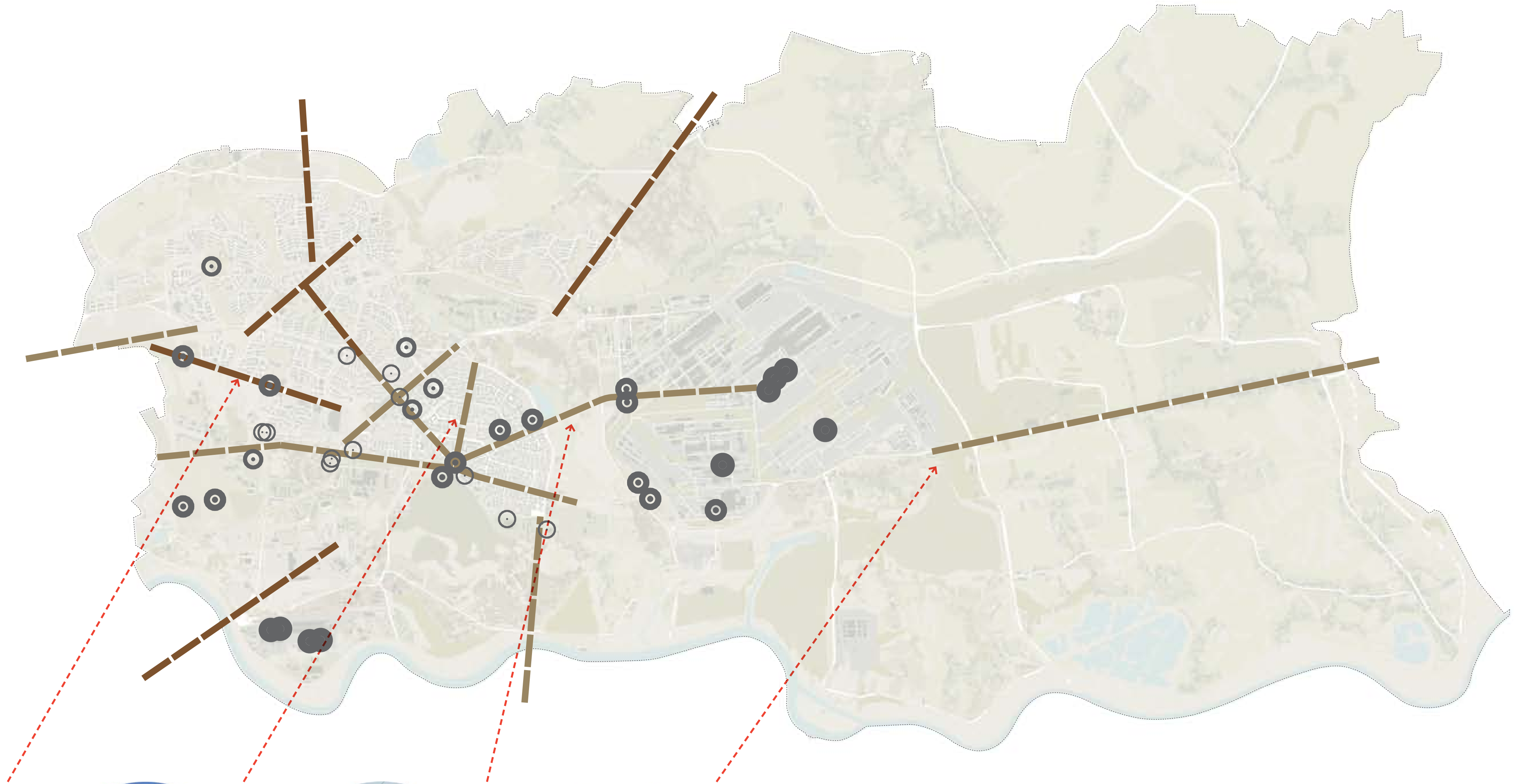
fallows to willow

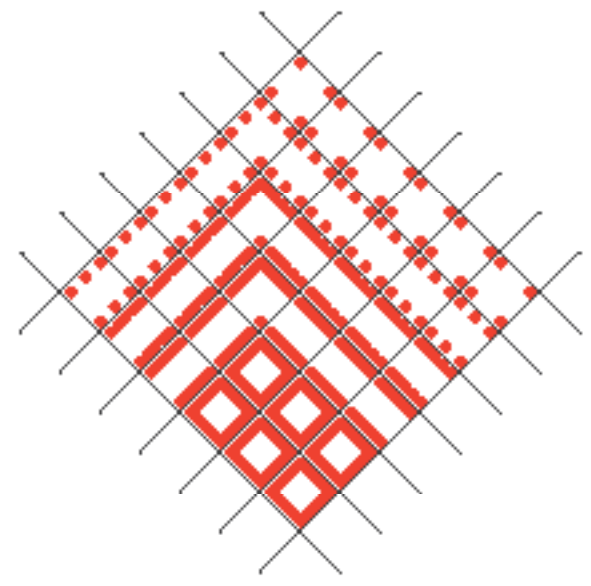


tourism

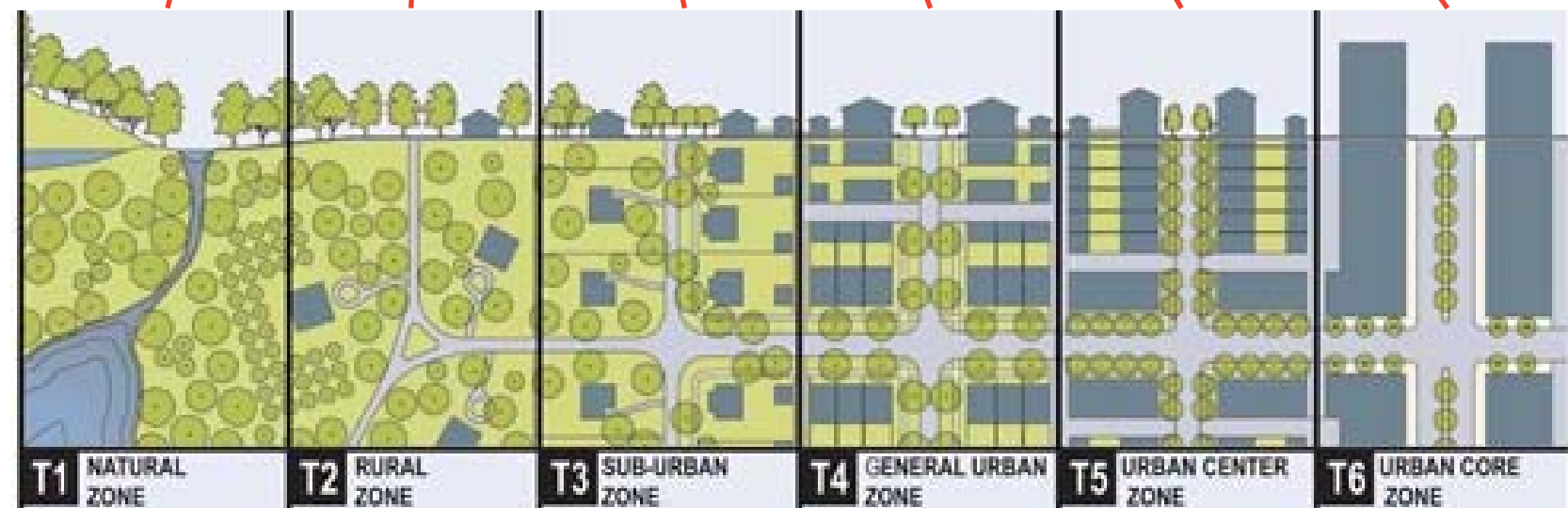
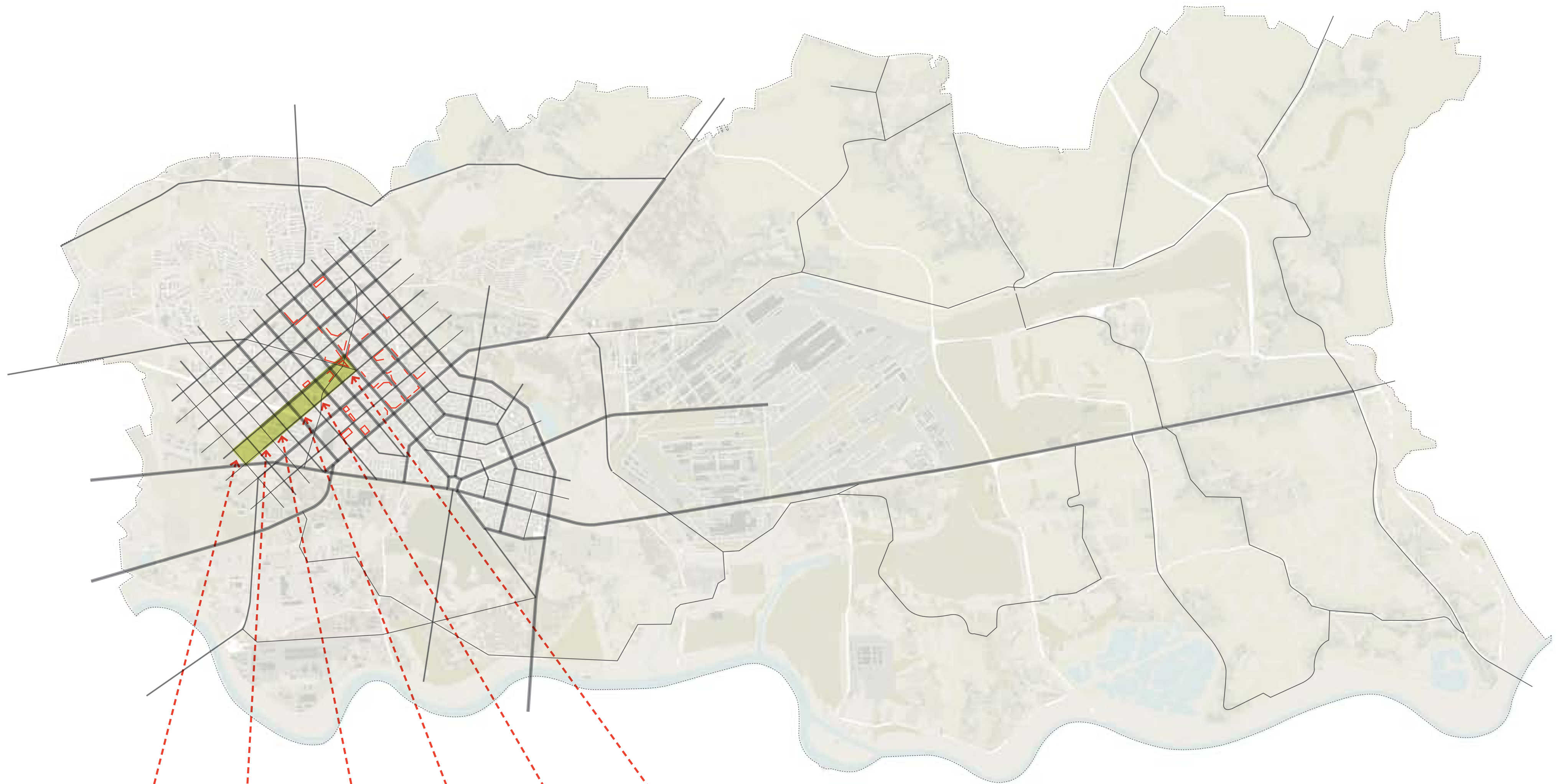


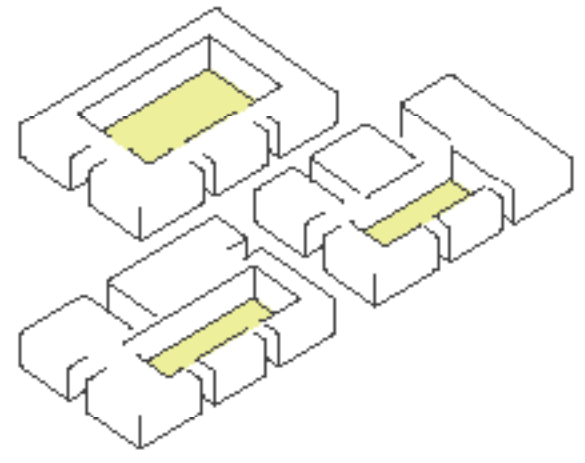
urban ordering



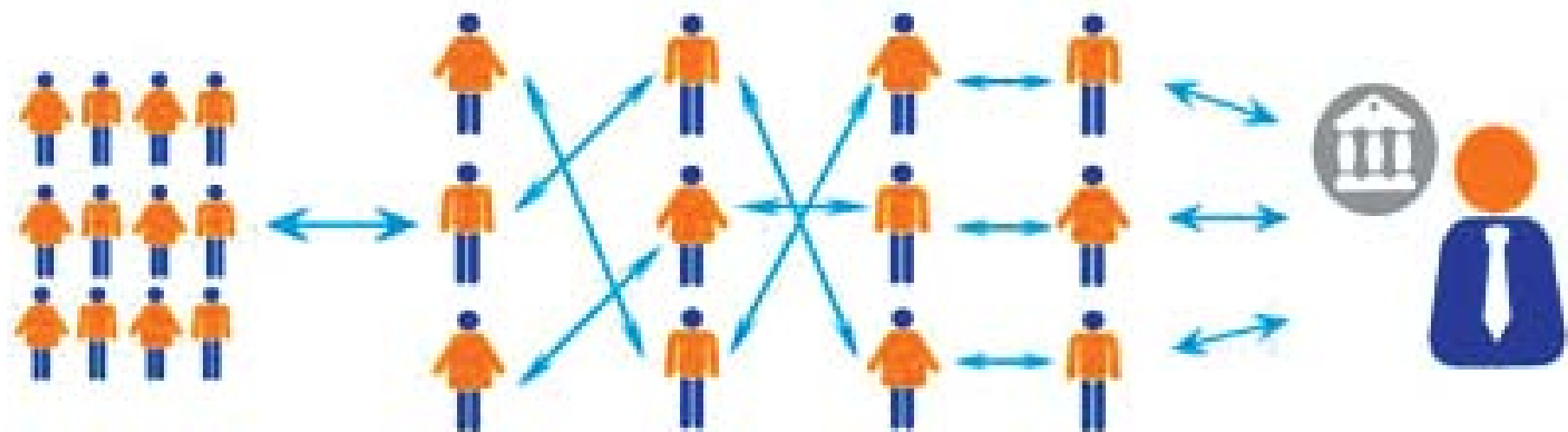


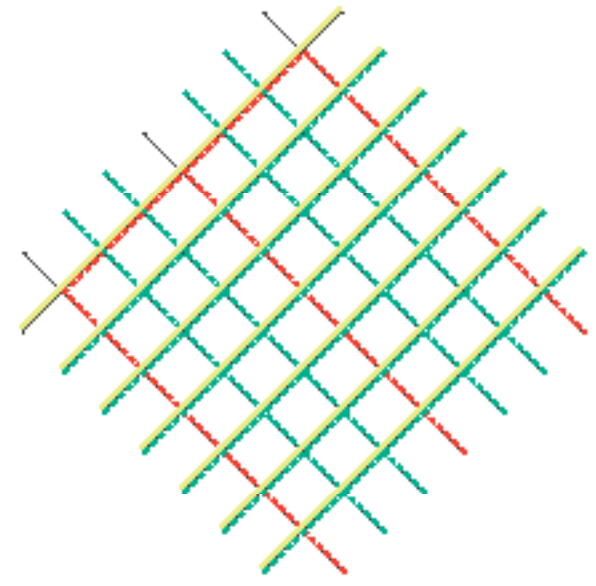
transect grid



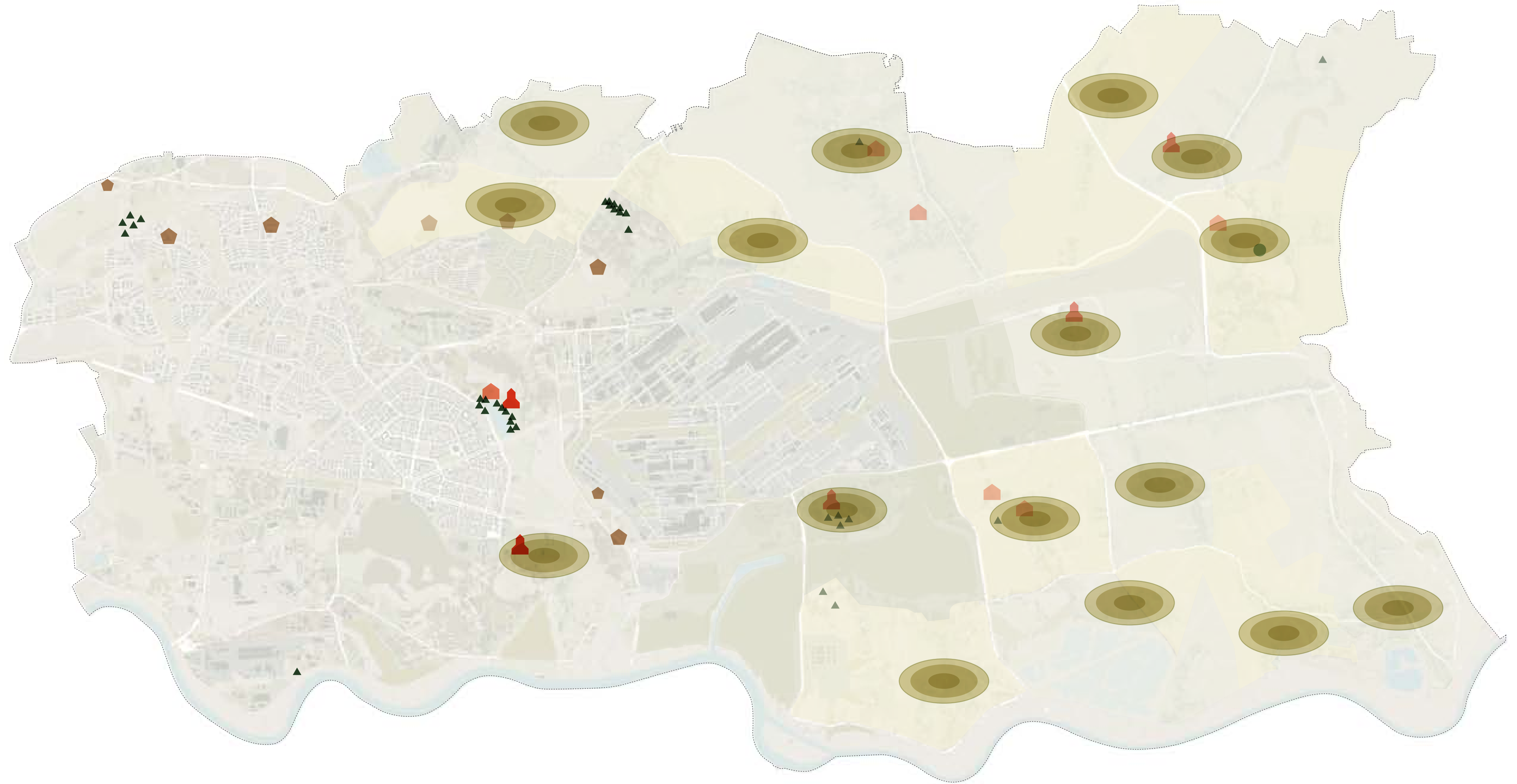


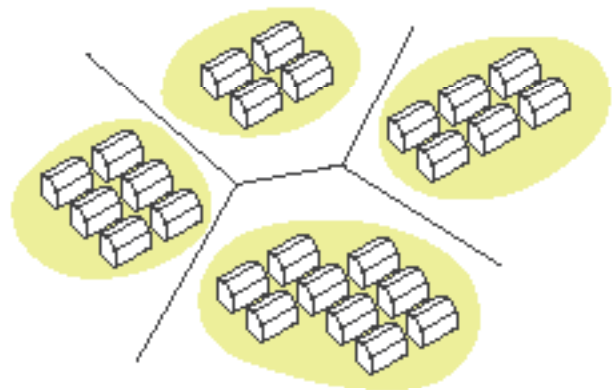
urban units



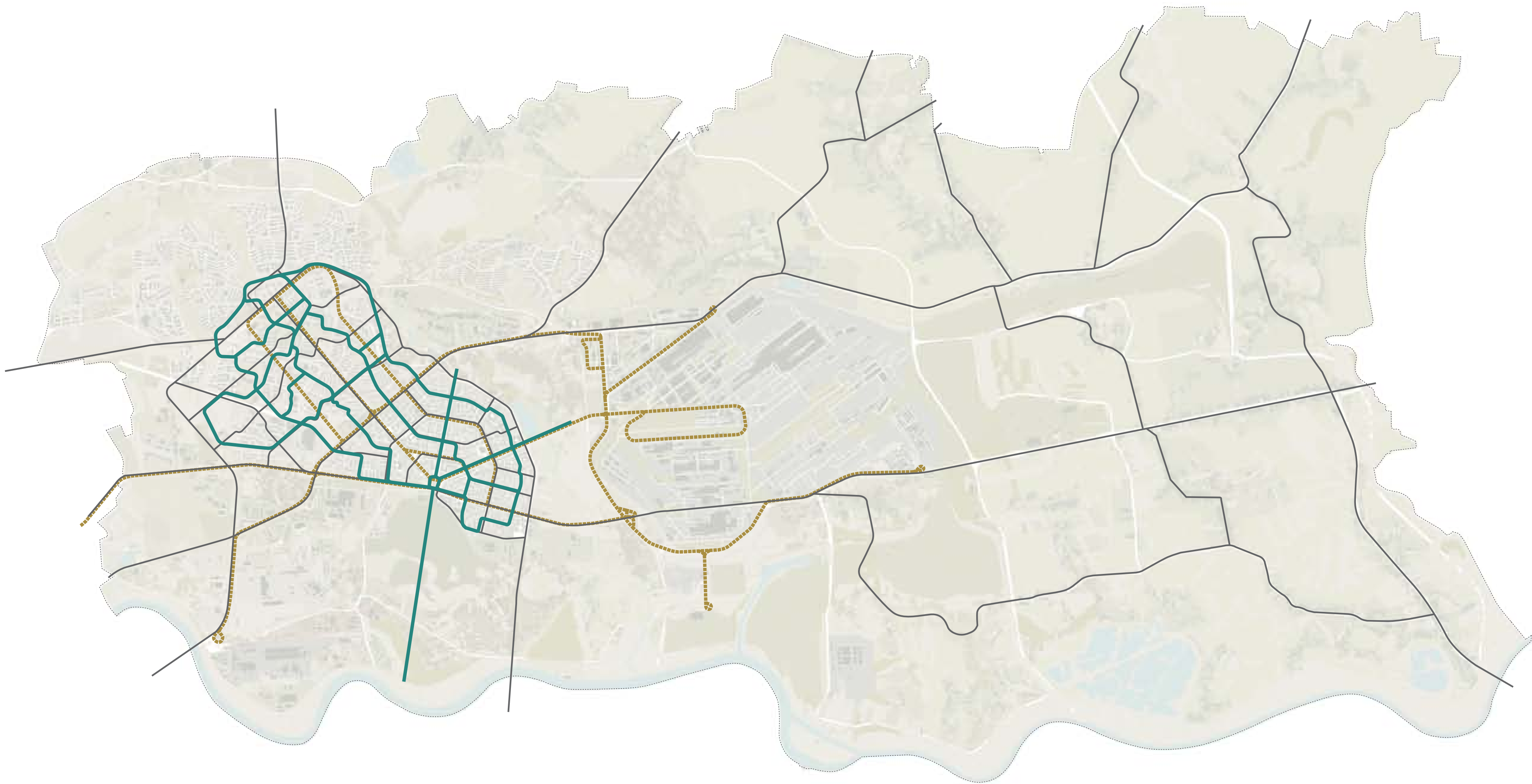


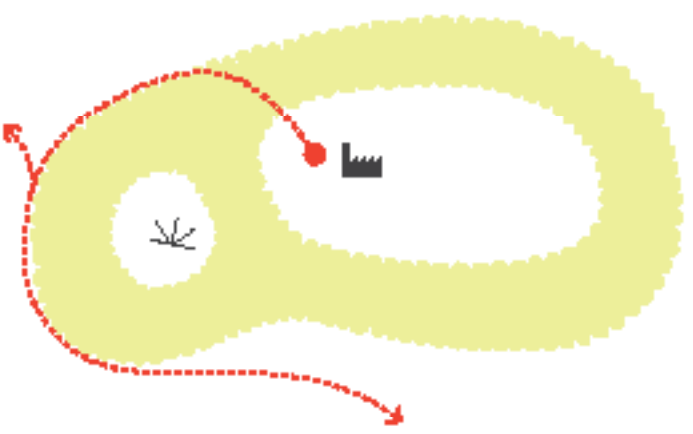
transport revolution



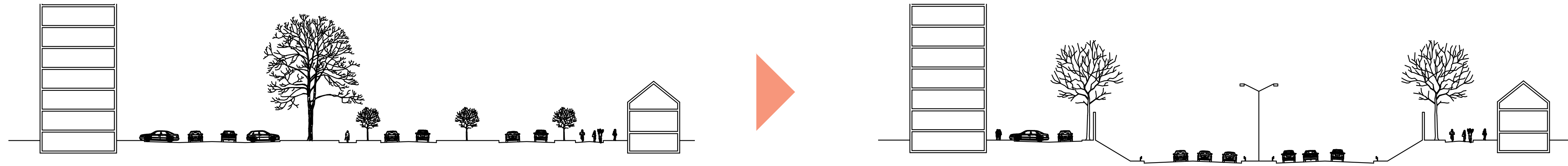
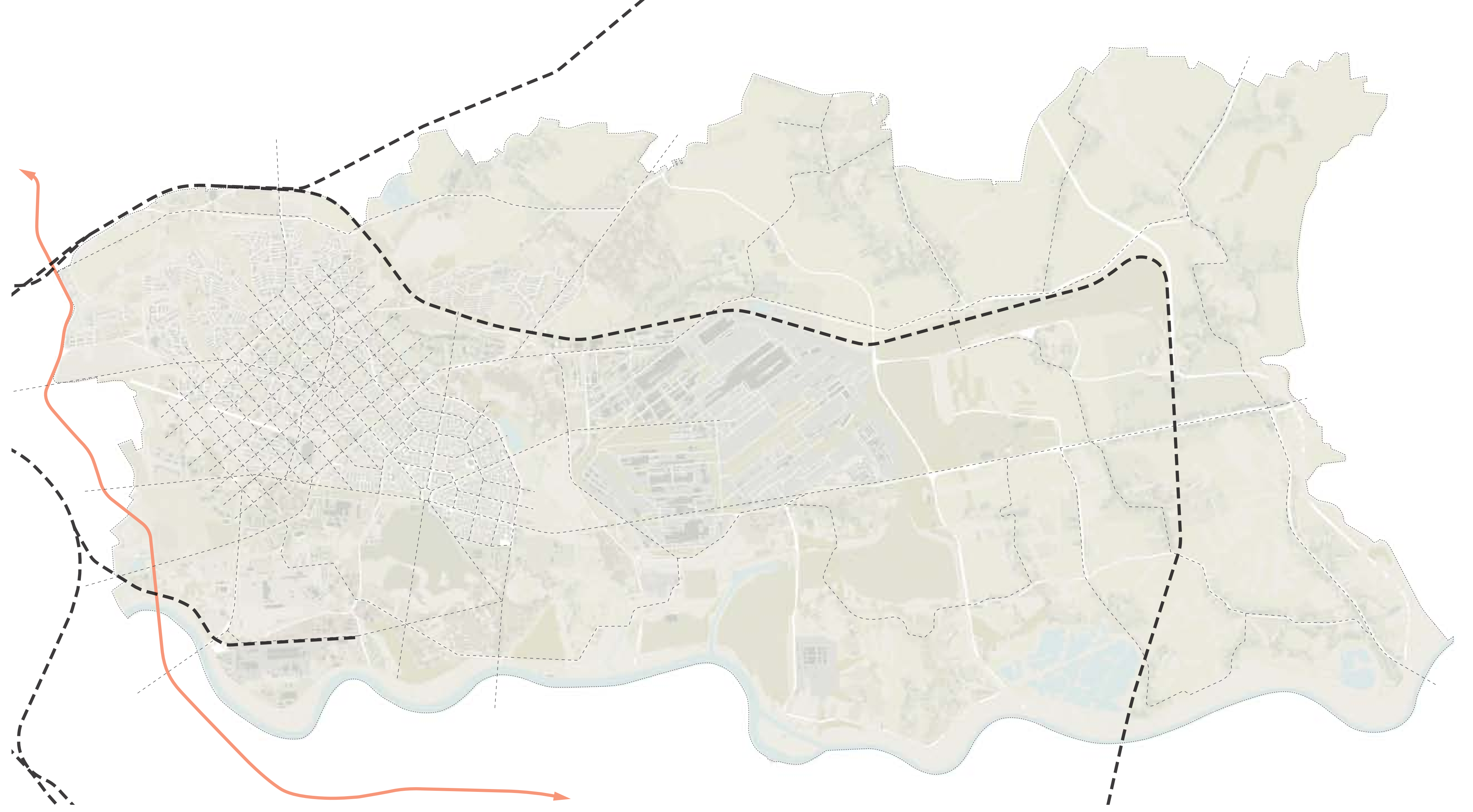


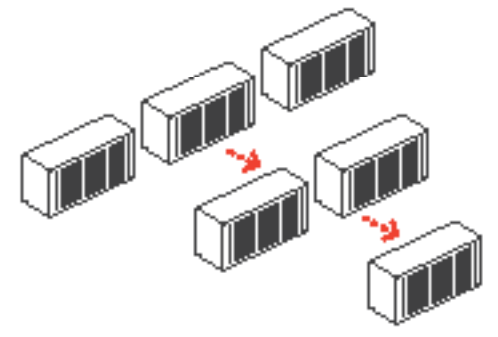
village centers



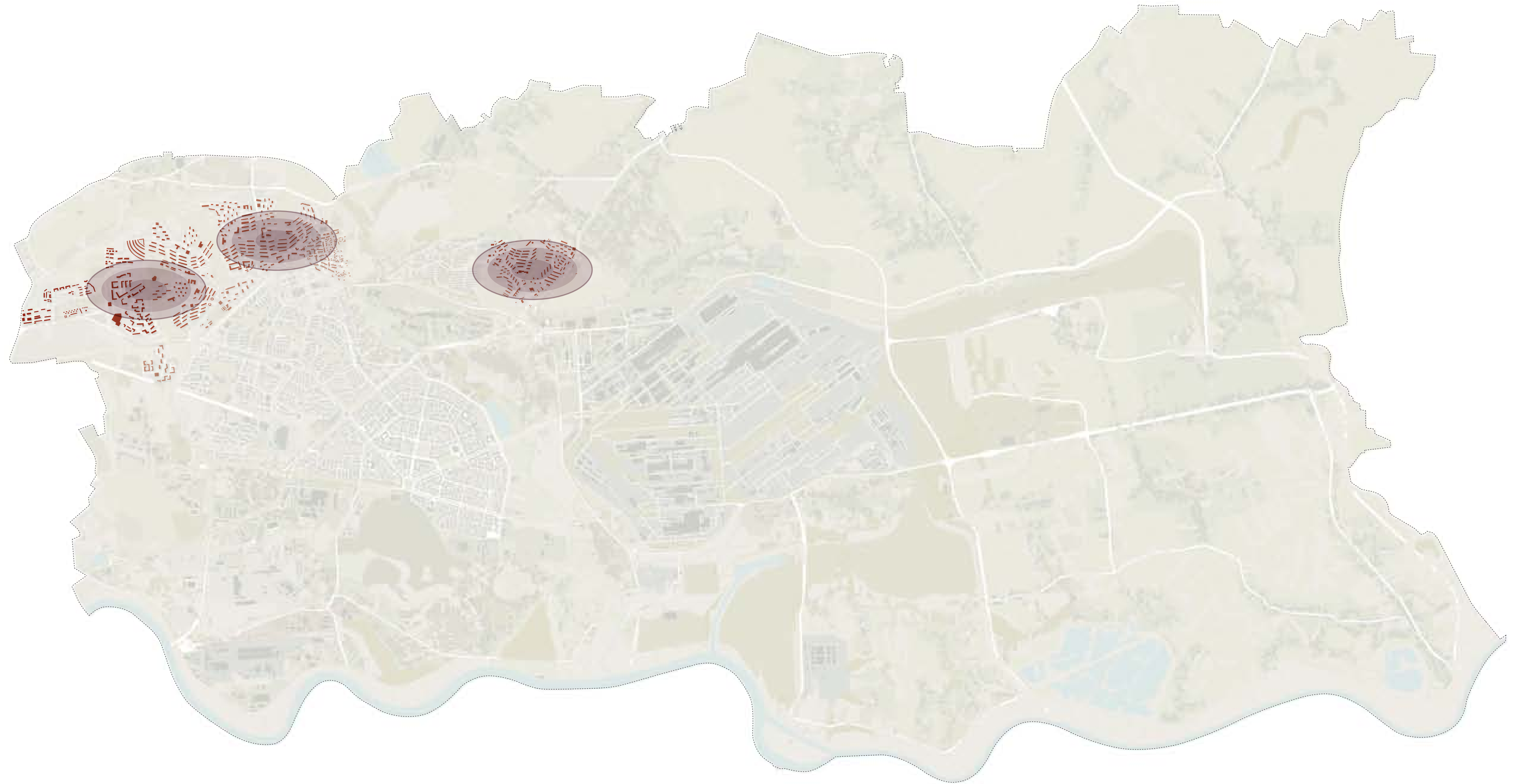


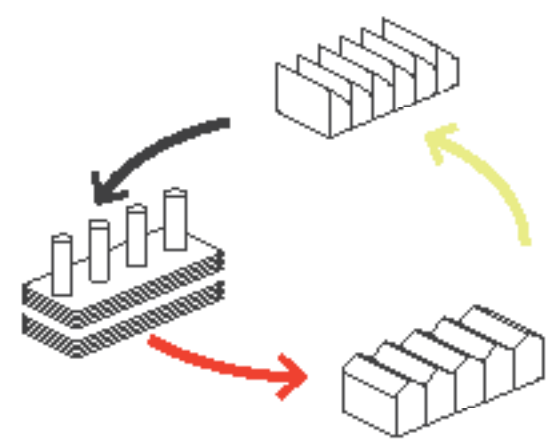
transit



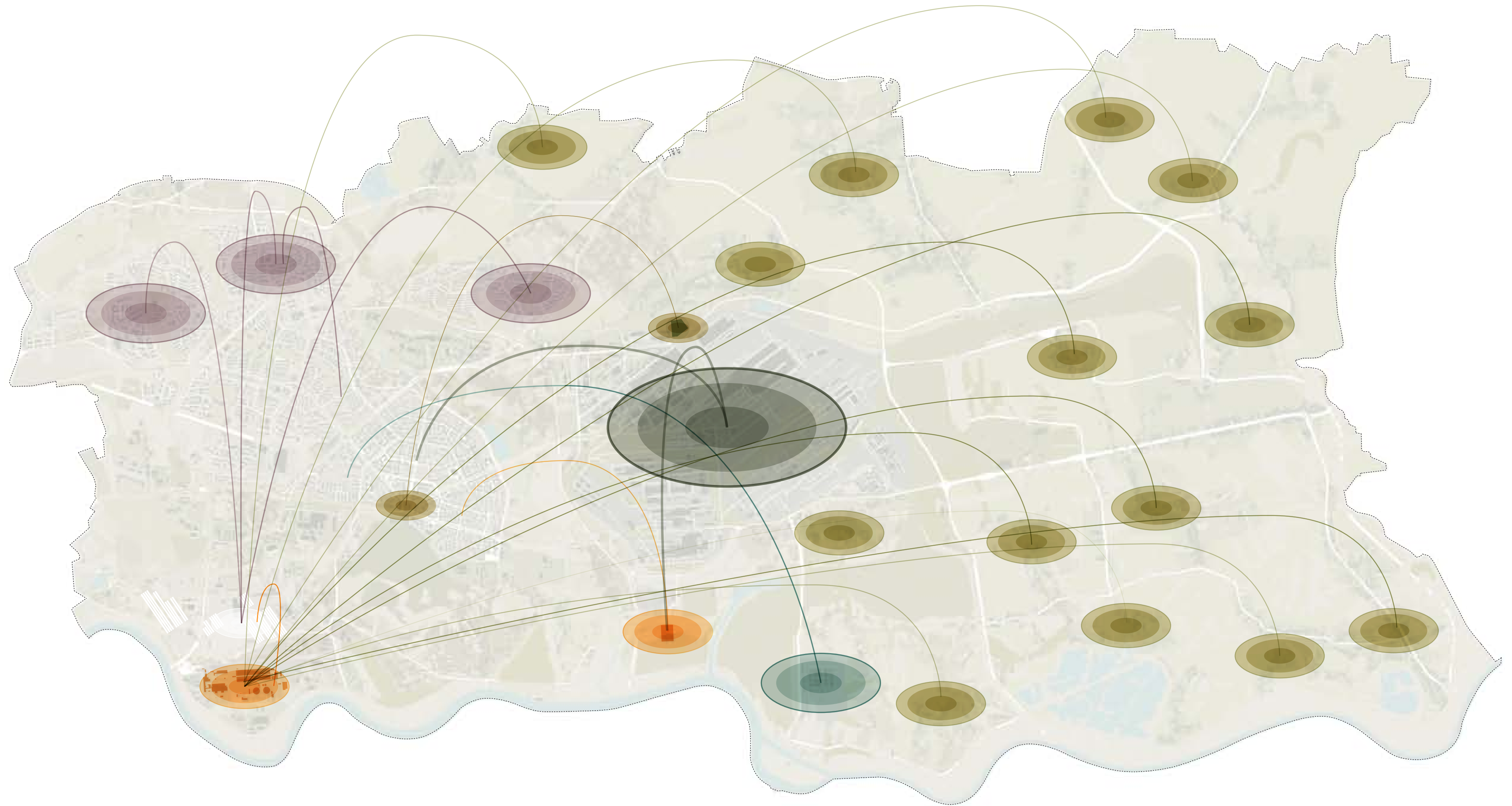


urban mining



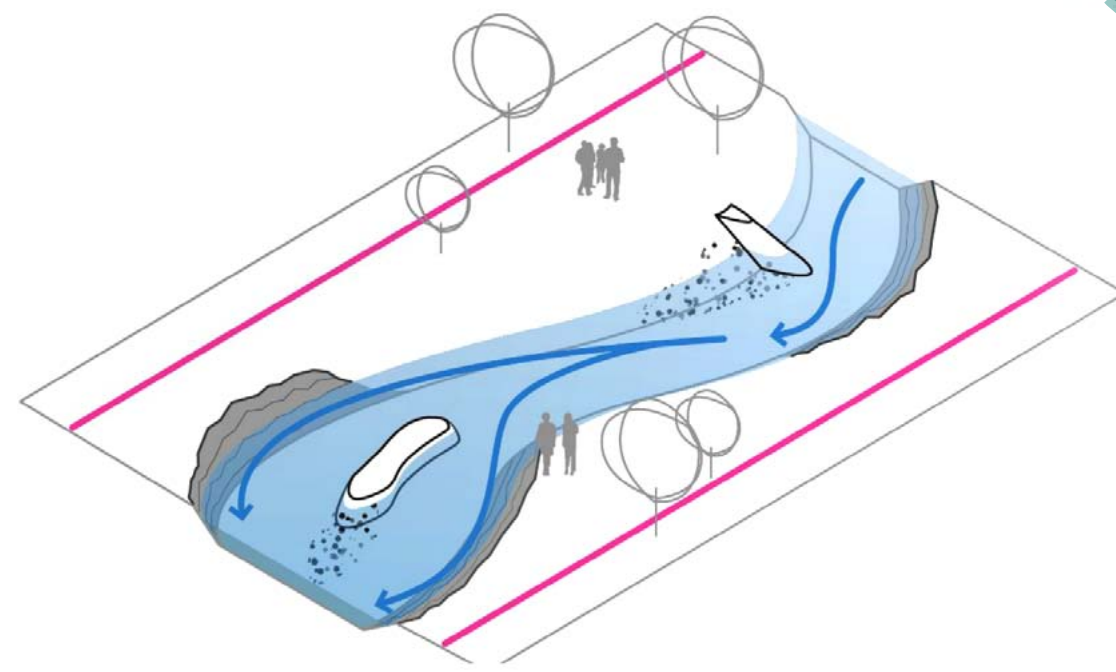
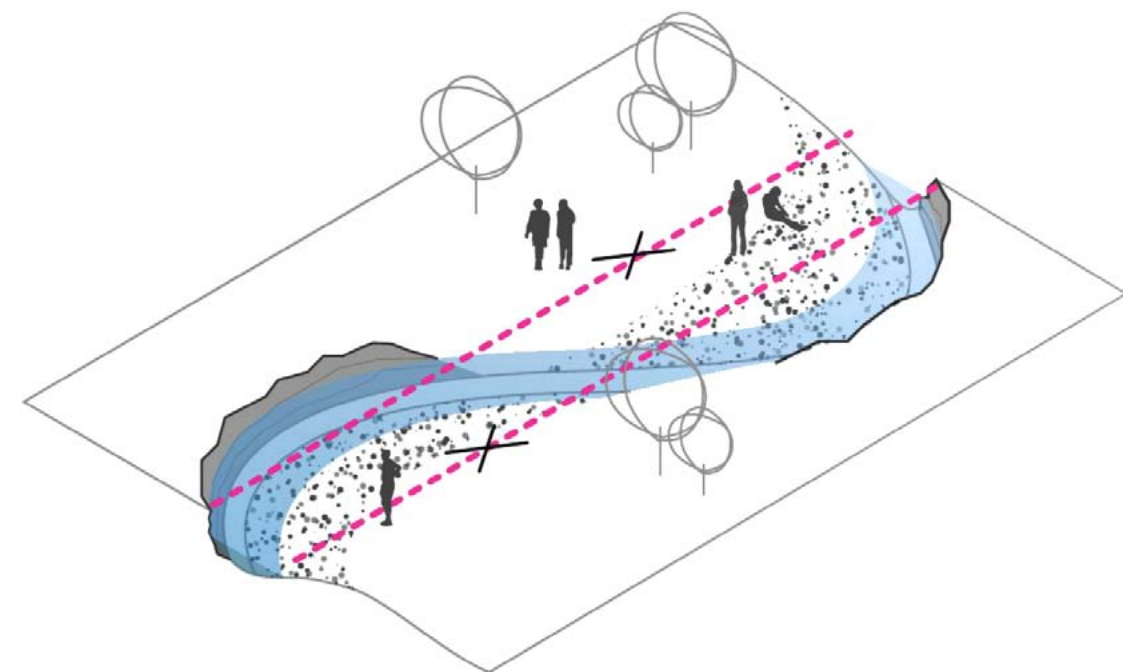
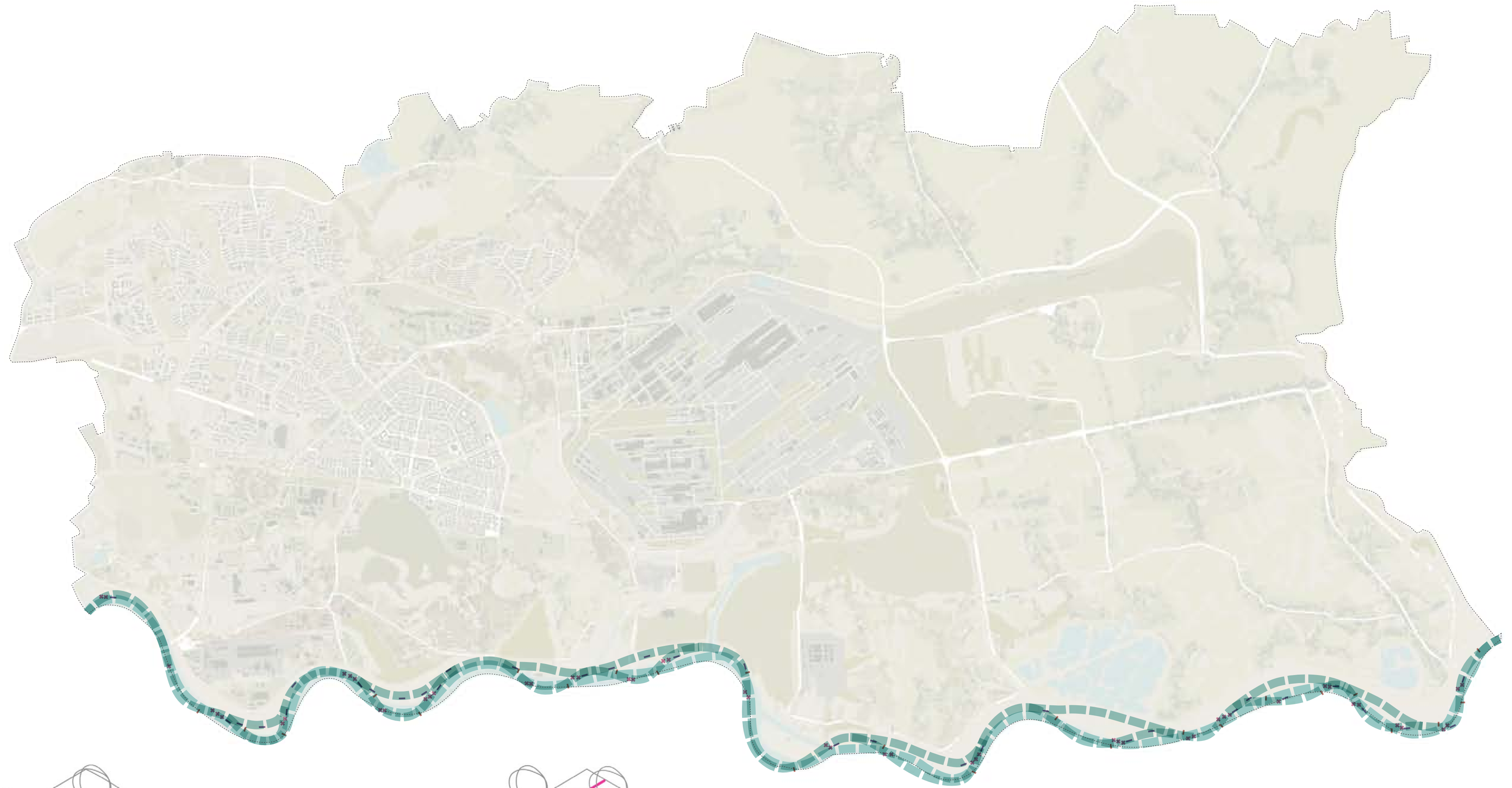


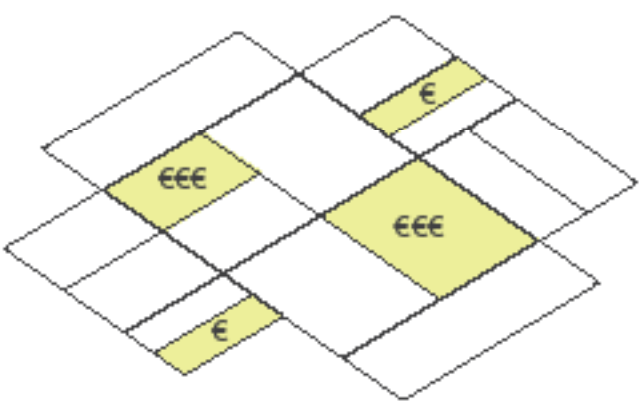
industrial ecology



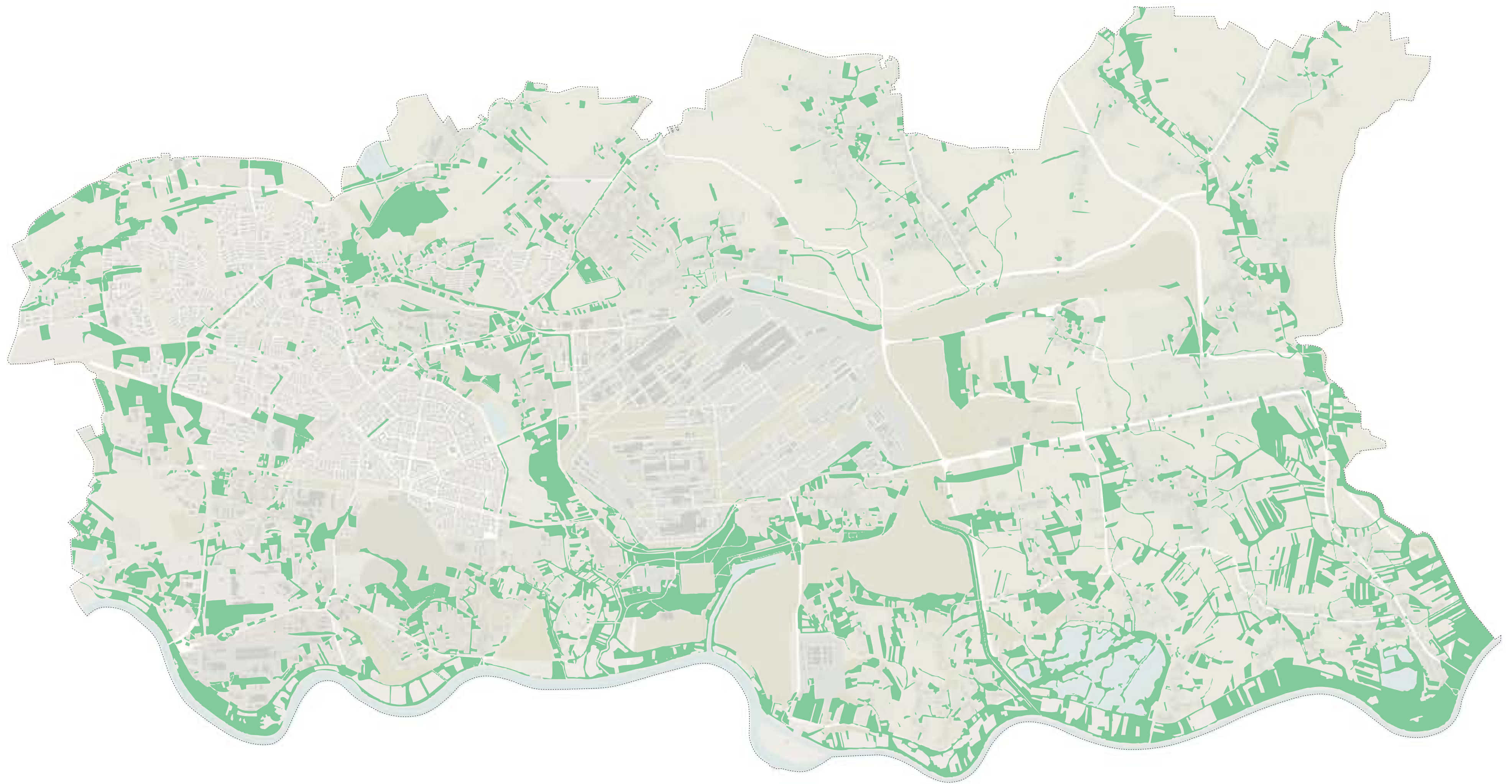


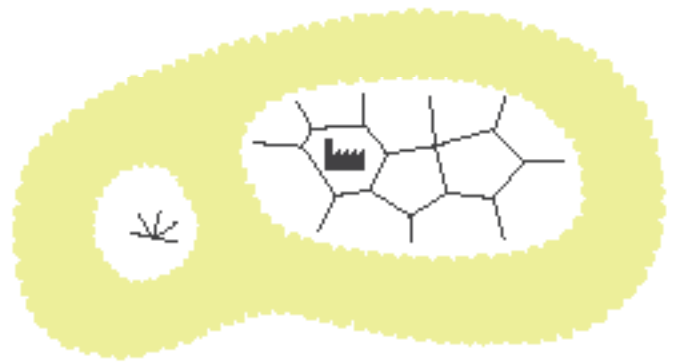
dynamic riverscape





fallows to willow



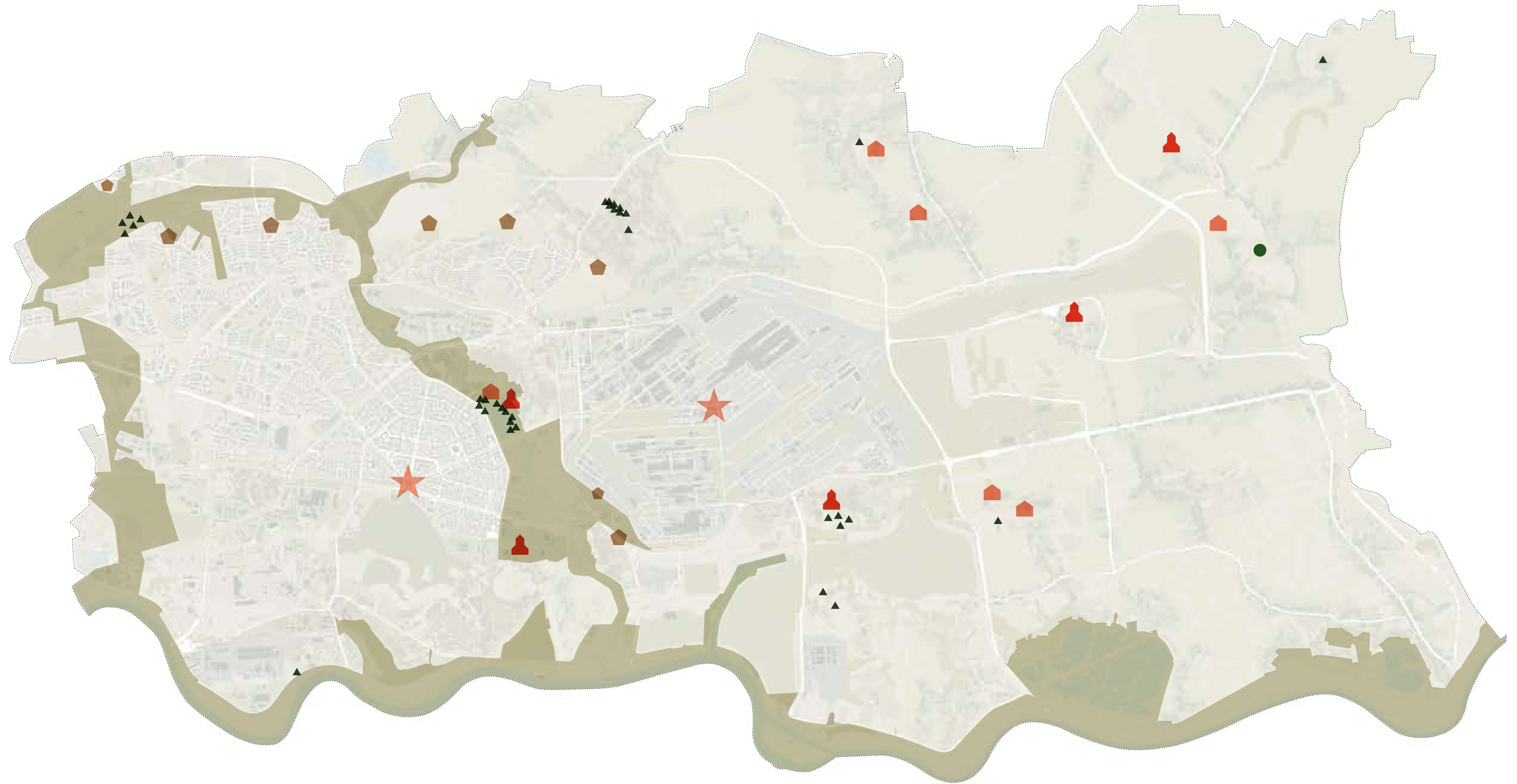


green borders

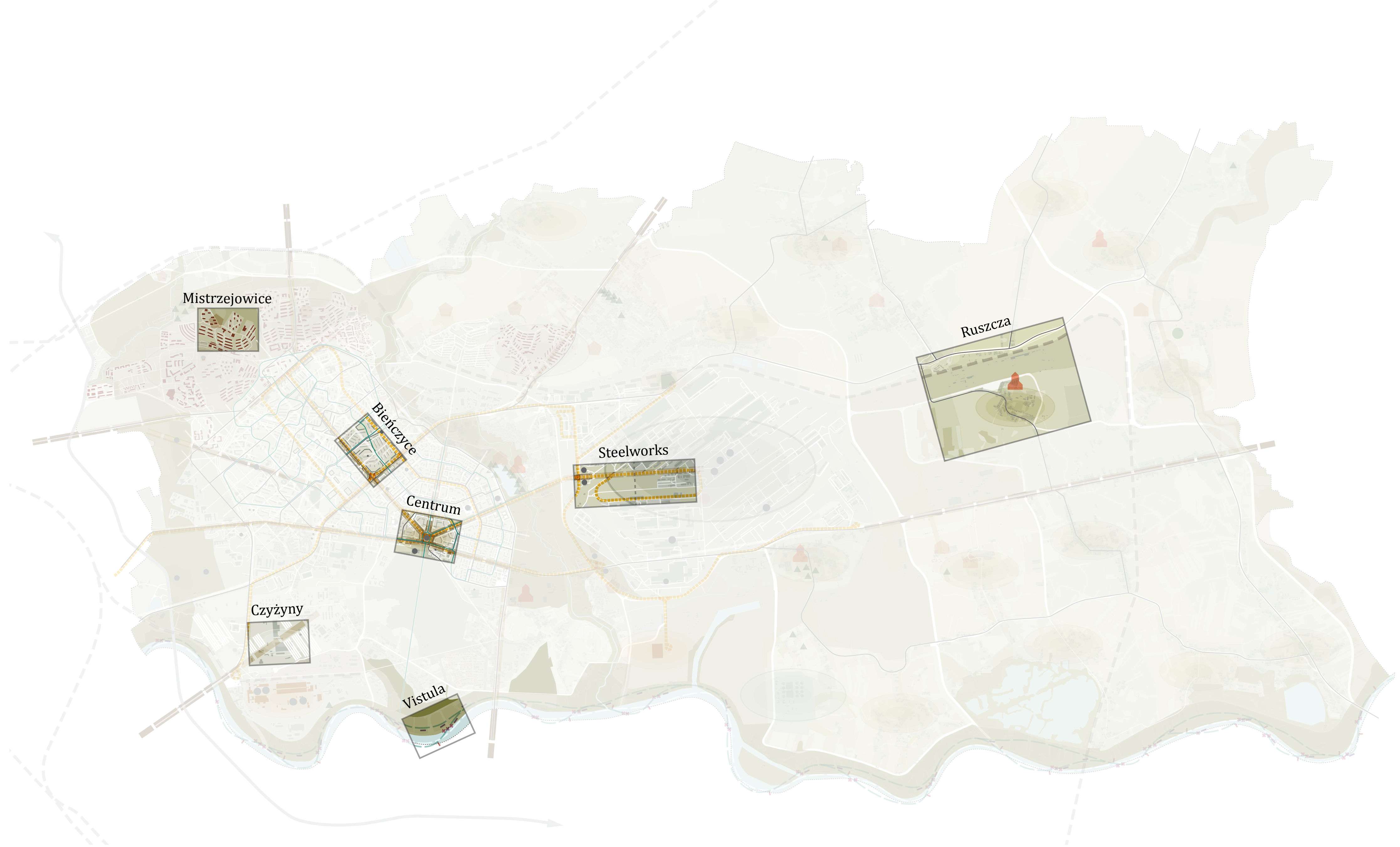




tourism

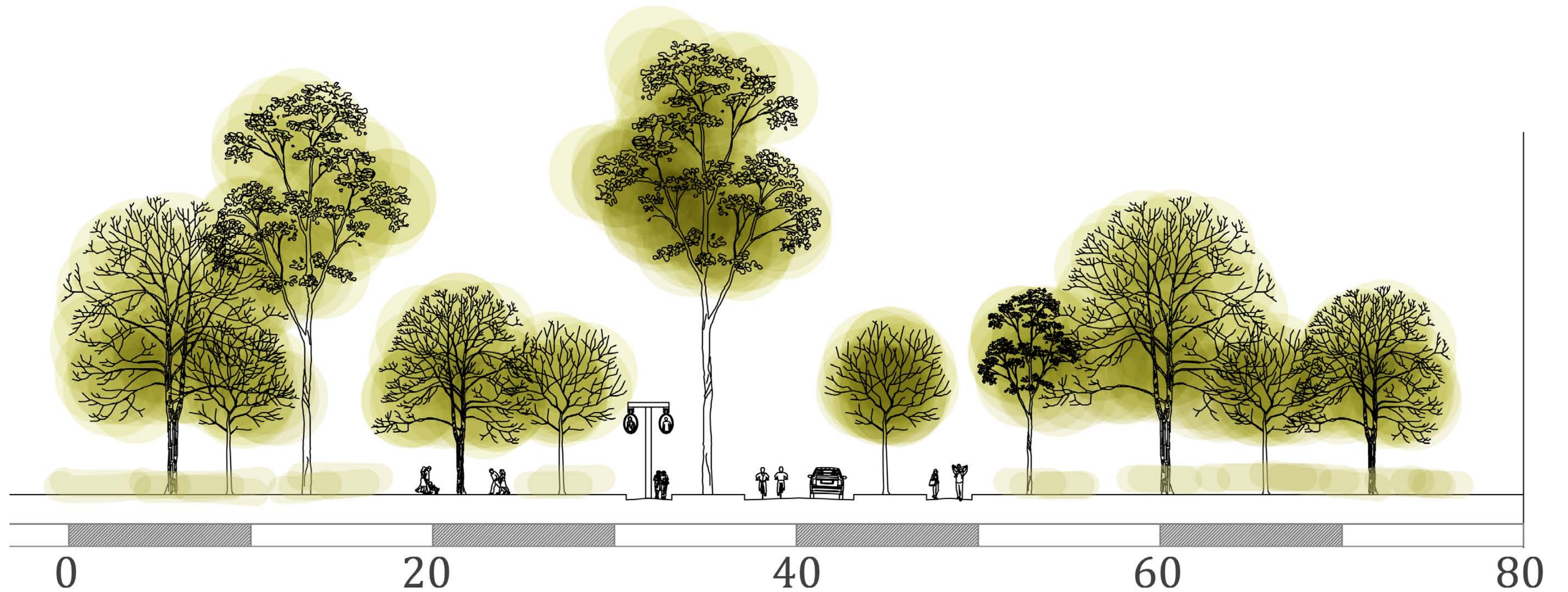
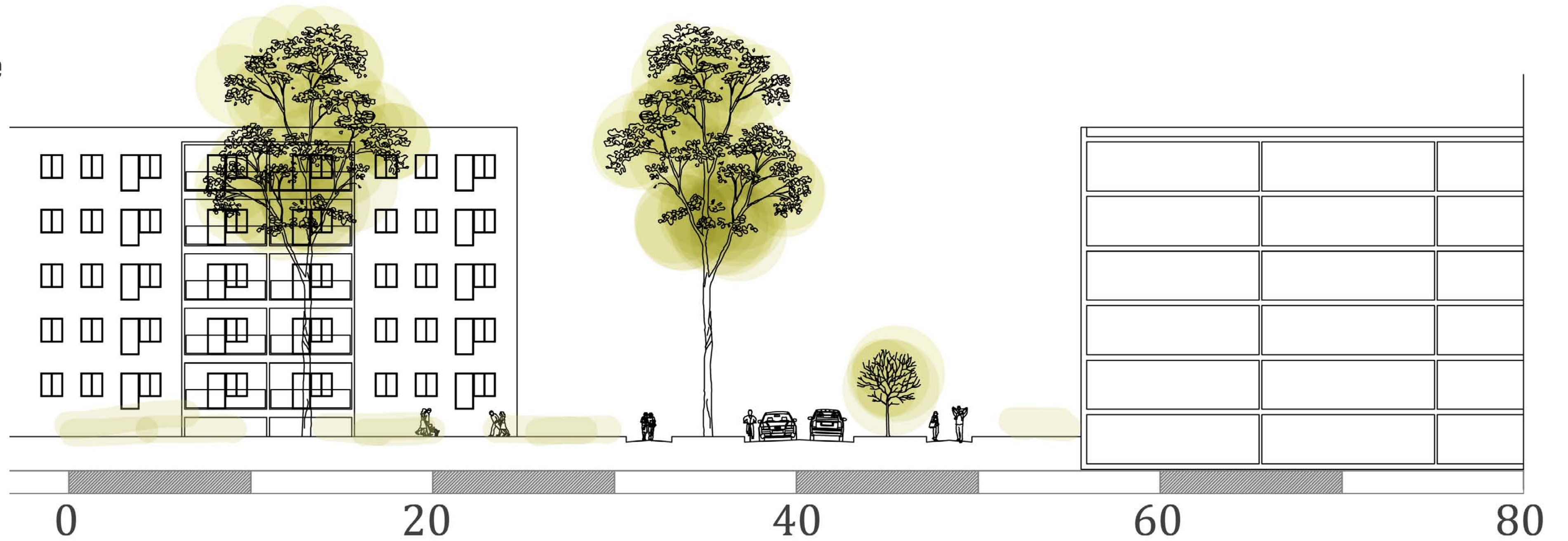






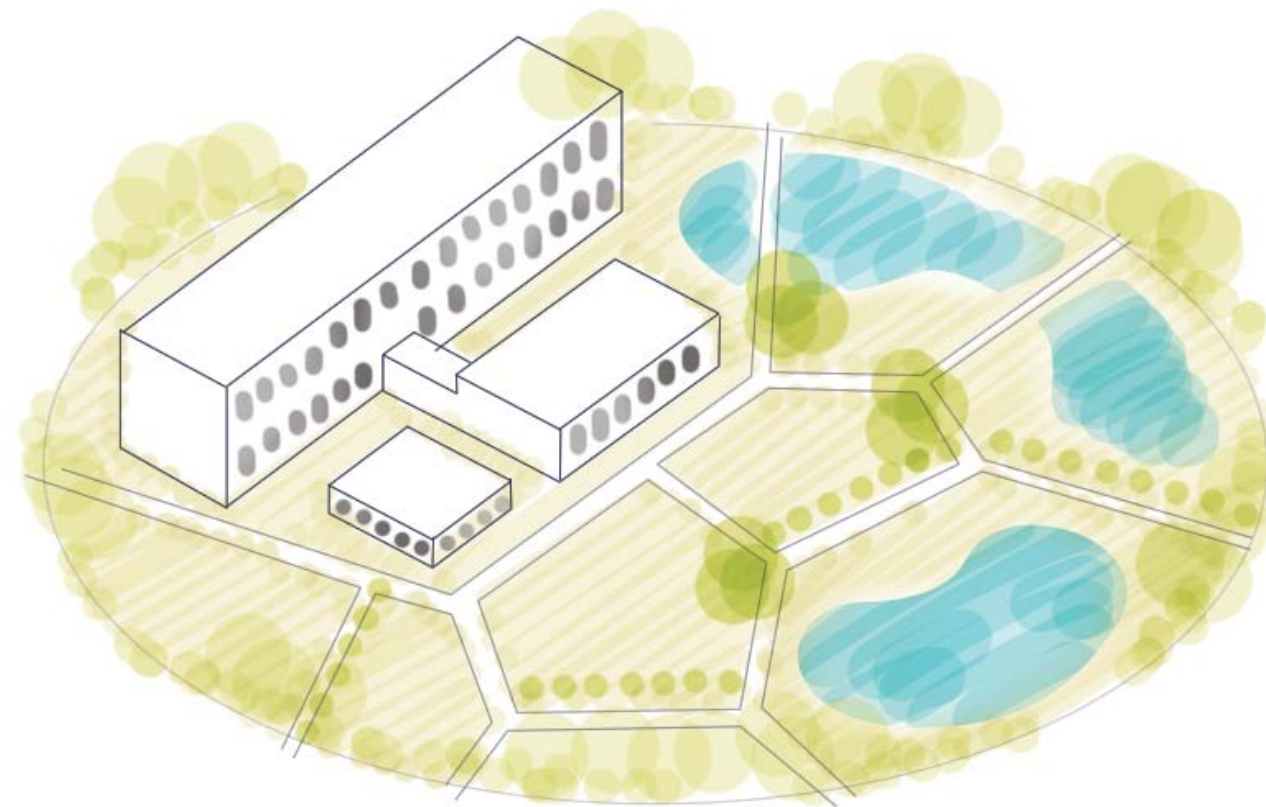
1

test site: Mistrzejowice

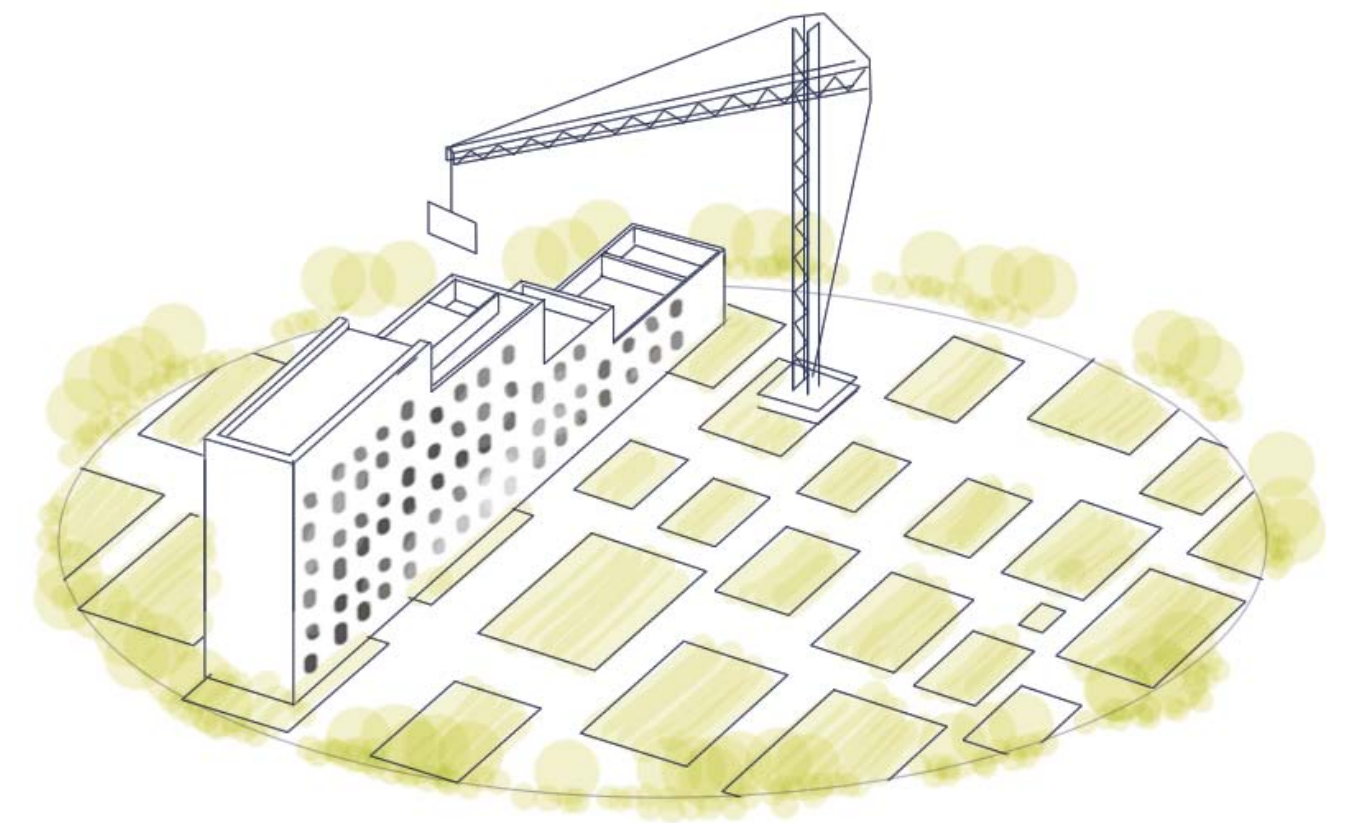


1

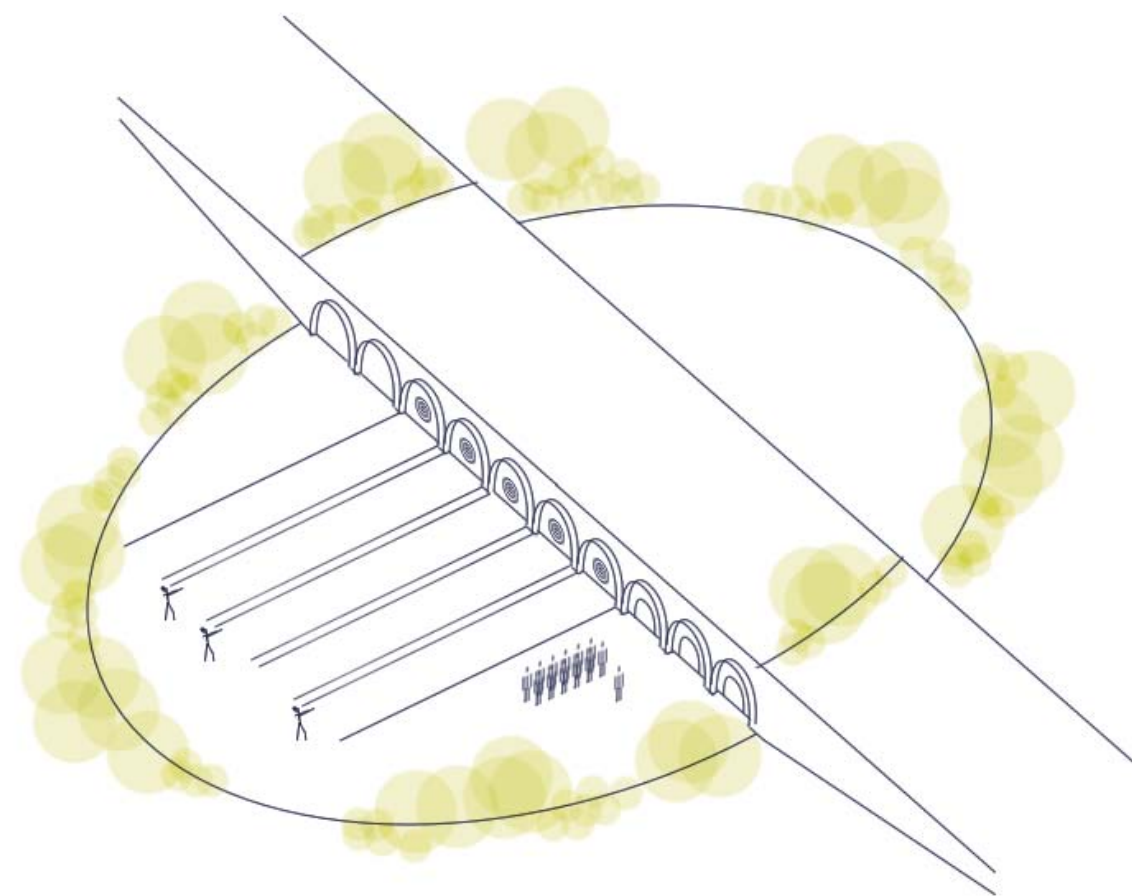
test site: Mistrzejowice



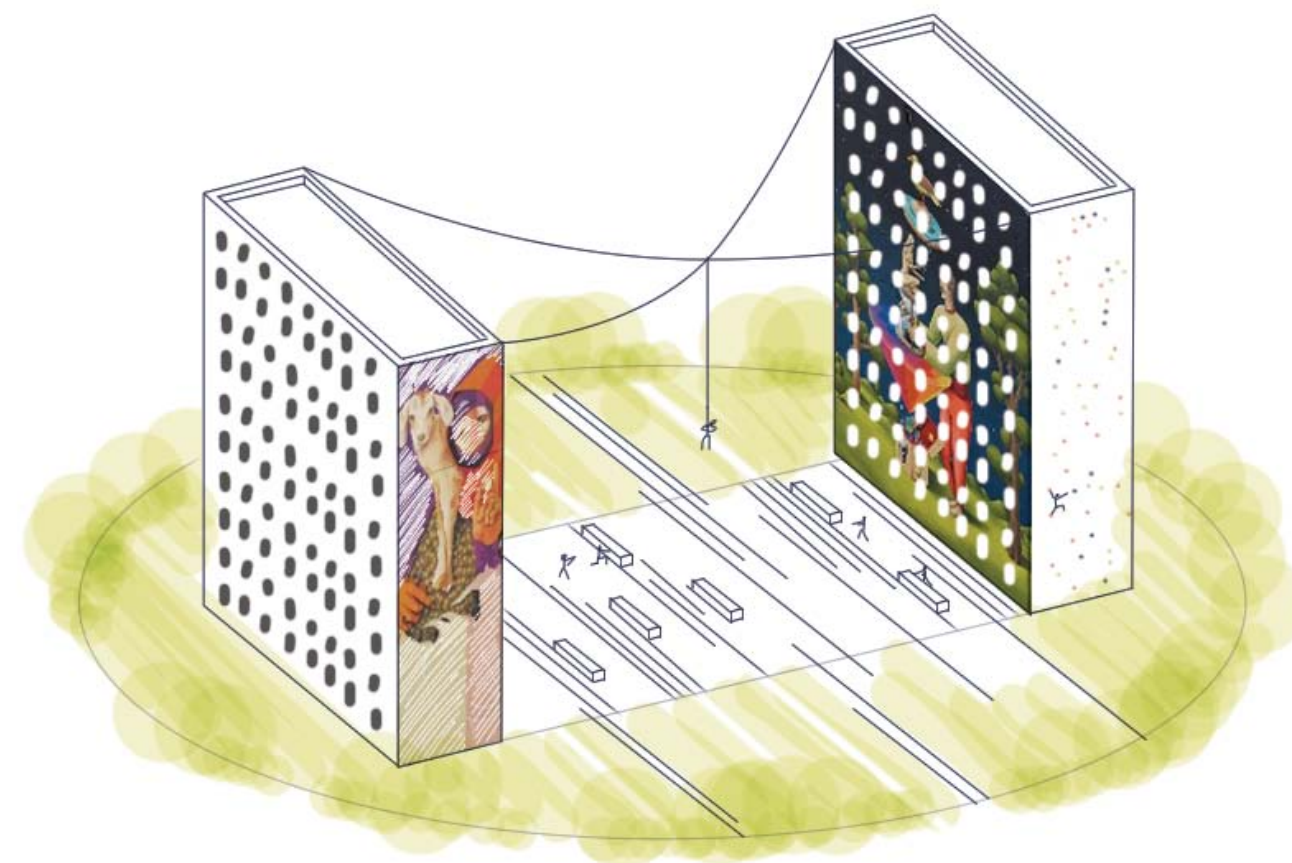
spa & wellness



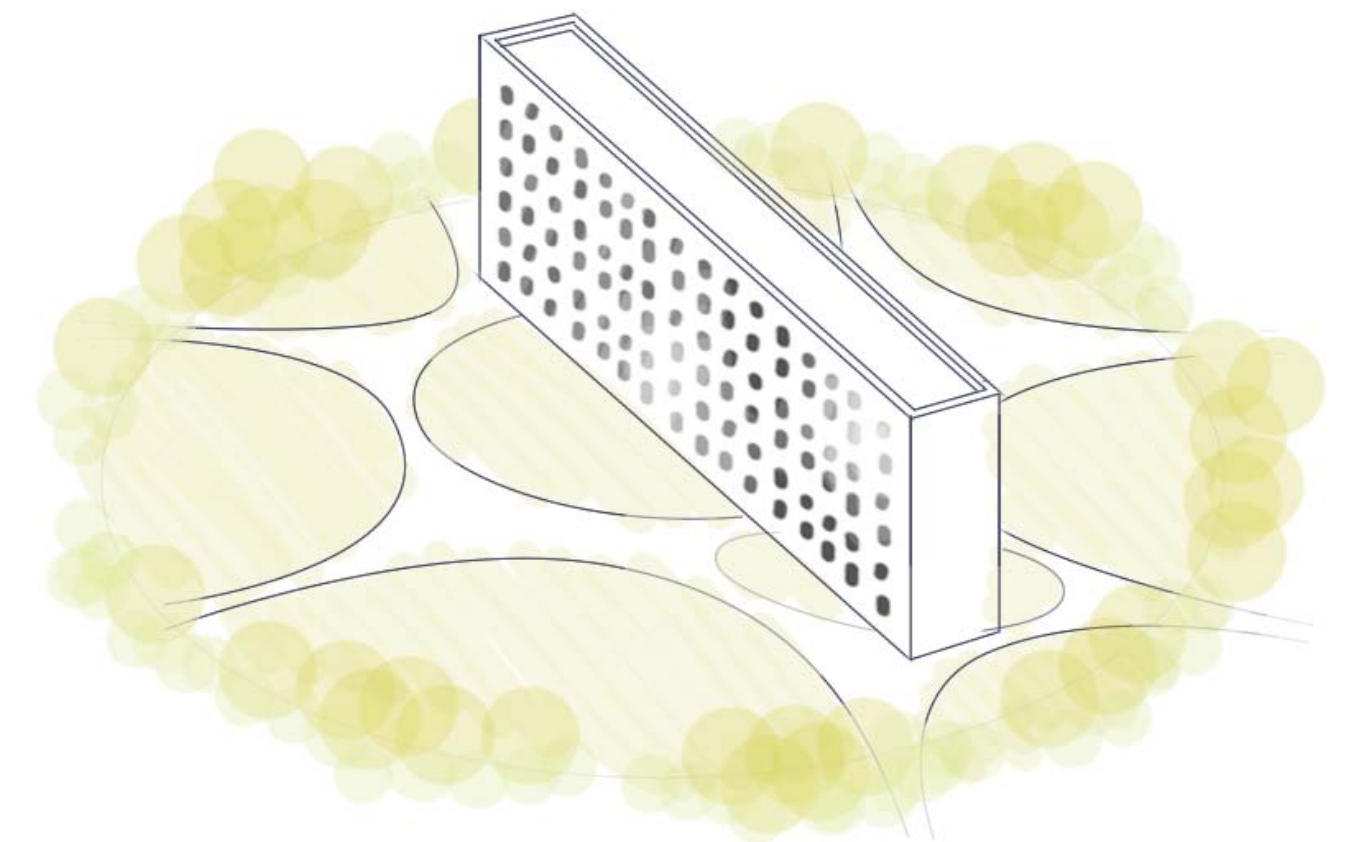
museum of prefab concrete



scouting center



paintball park



rehab center

1

test site: Mistrzejowice
2016



1

test site: Mistrzejowice
2020



1

test site: Mistrzejowice
2025



1

test site: Mistrzejowice
2030



1

test site: Mistrzejowice
2035



1

test site: Mistrzejowice
2040



1

test site: Mistrzejowice
2045



1

test site: Mistrzejowice
2050



2

test site: Steelworks
2016

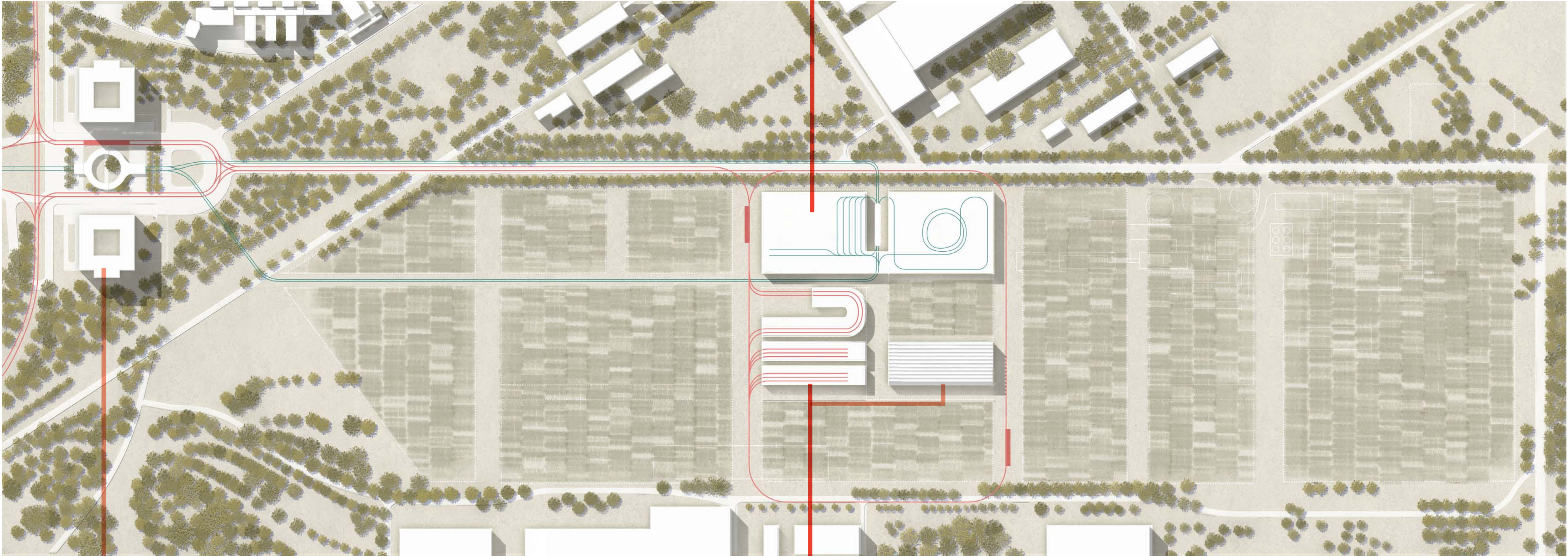
willow cultivation



2

test site: Steelworks
2020

shweeb factory



magistrat nowohucki

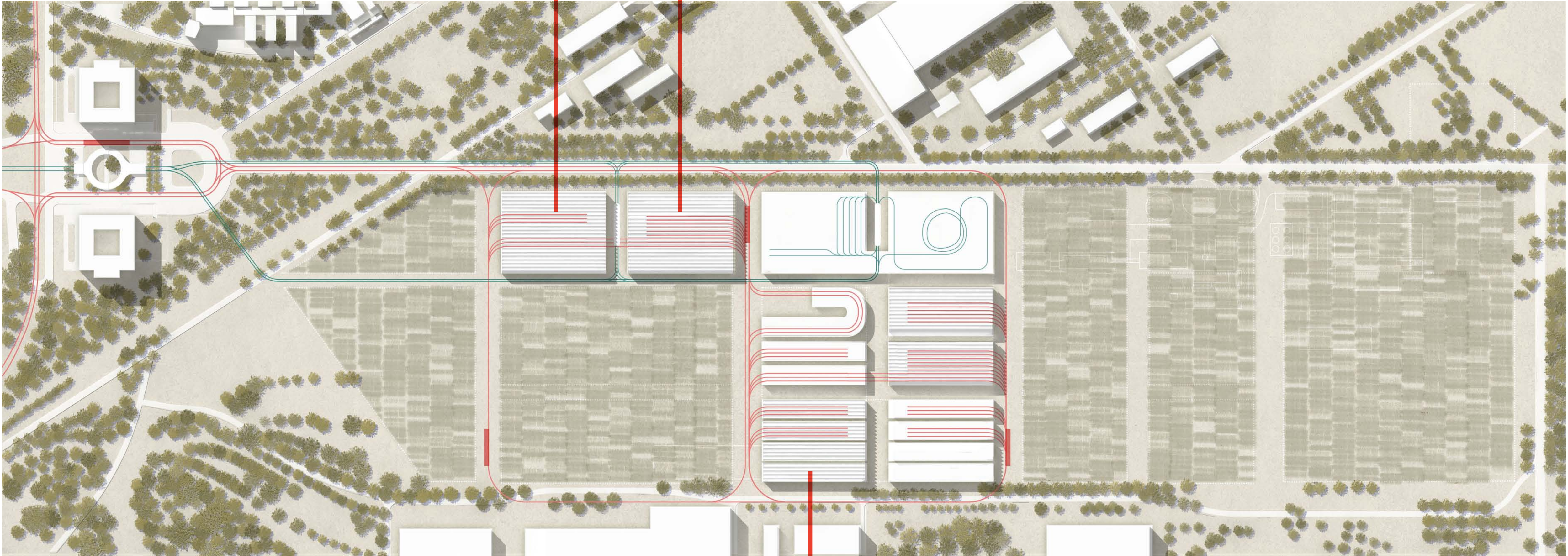
cargo trams factory

2

test site: Steelworks
2025

cars dismantling

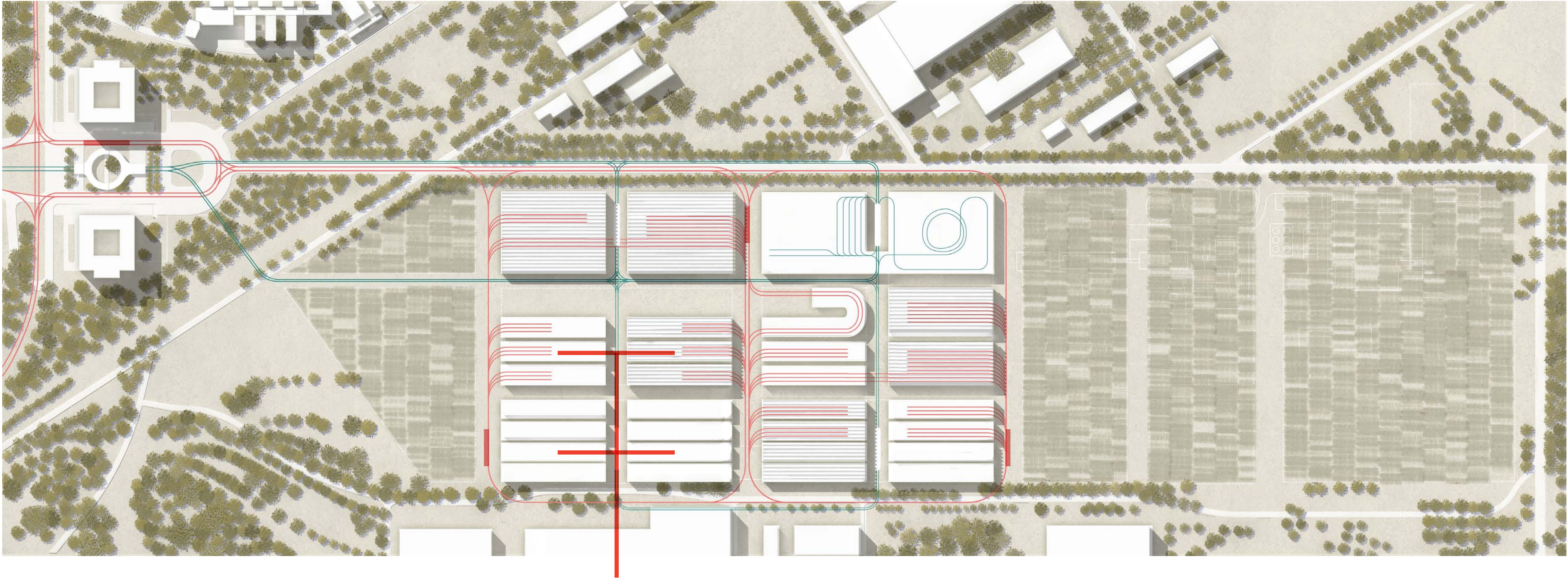
prefab concrete recovery



shweeb and tram infrastructure

2

test site: Steelworks
2030

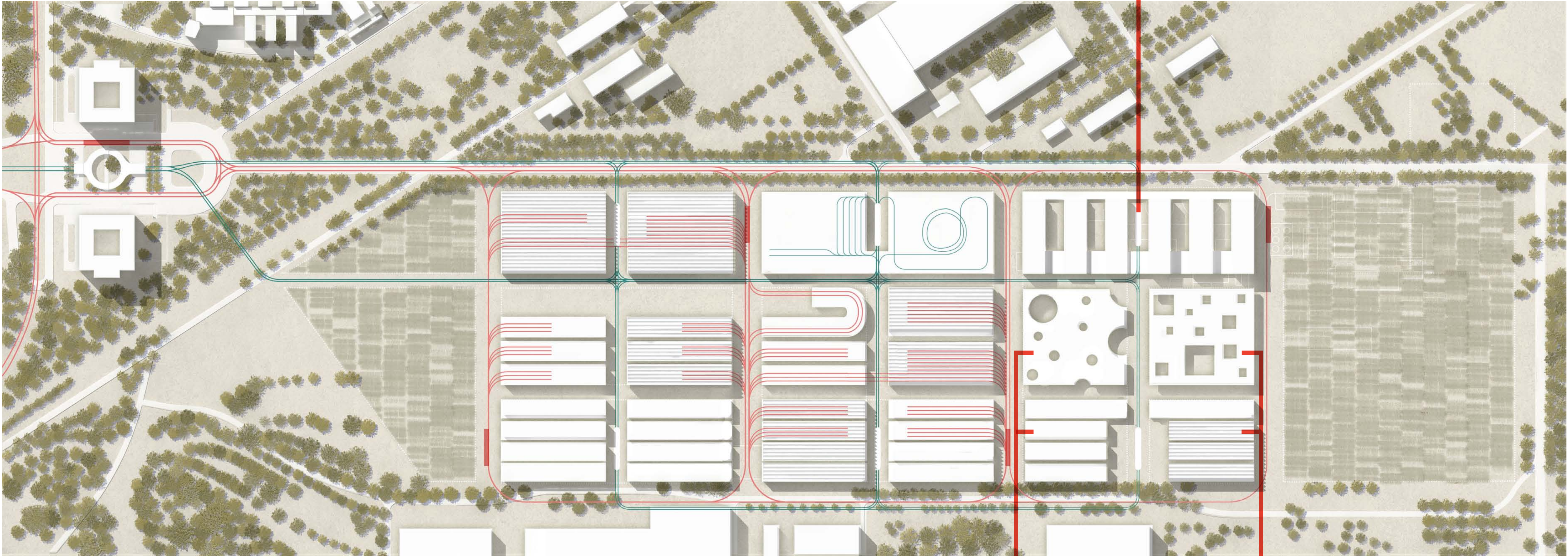


windows recovery, horticulture labs

2

test site: Steelworks
2035

NH transport
planning offices



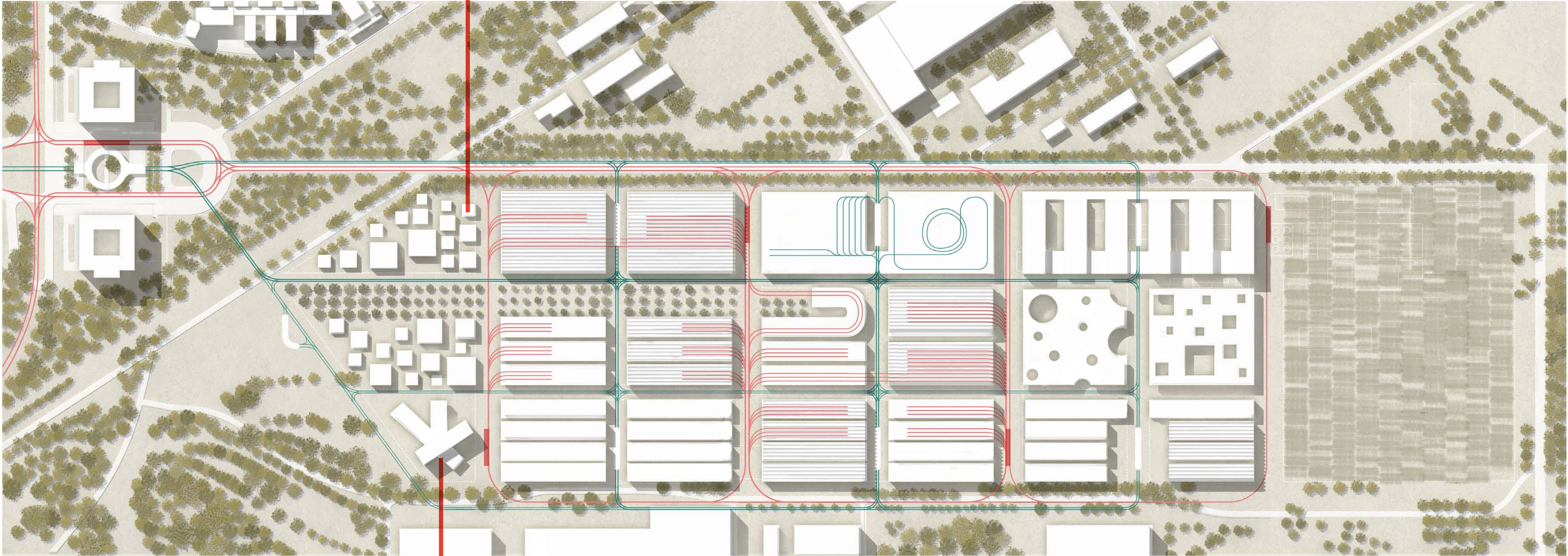
public transport
design and labs

CNC Workshops
ICT and automation labs

2

test site: Steelworks
2040

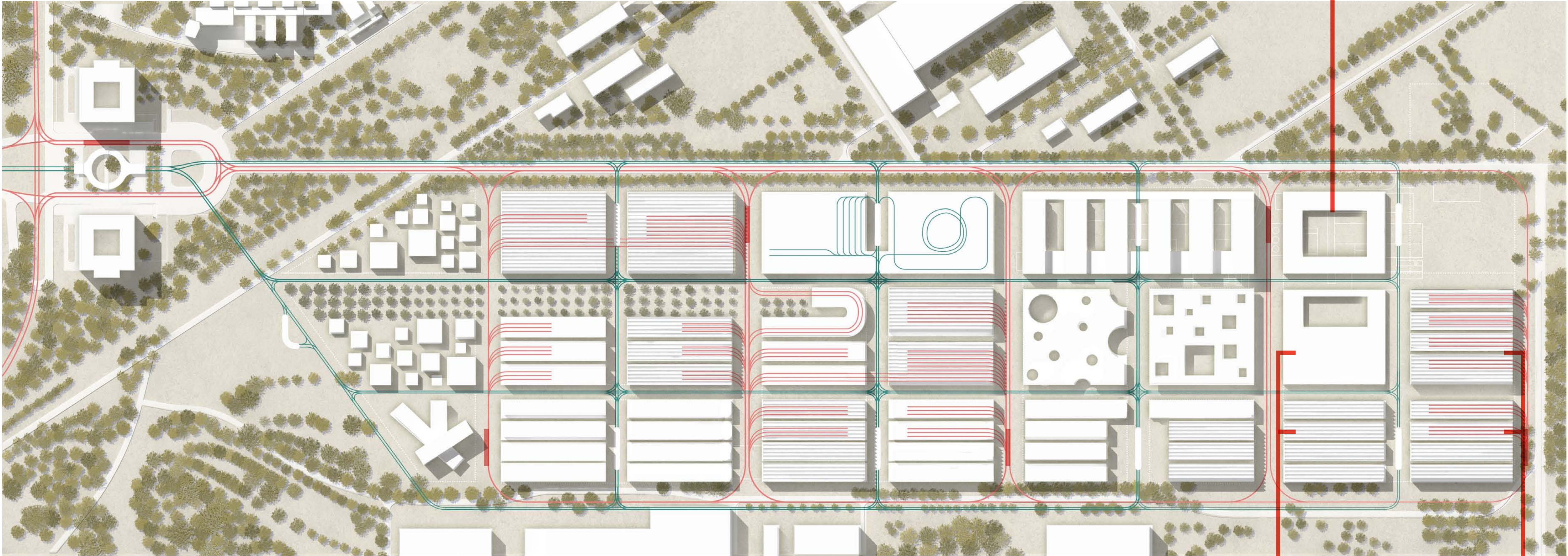
startups
and service area



economic
university labs

2

test site: Steelworks
2045



office space



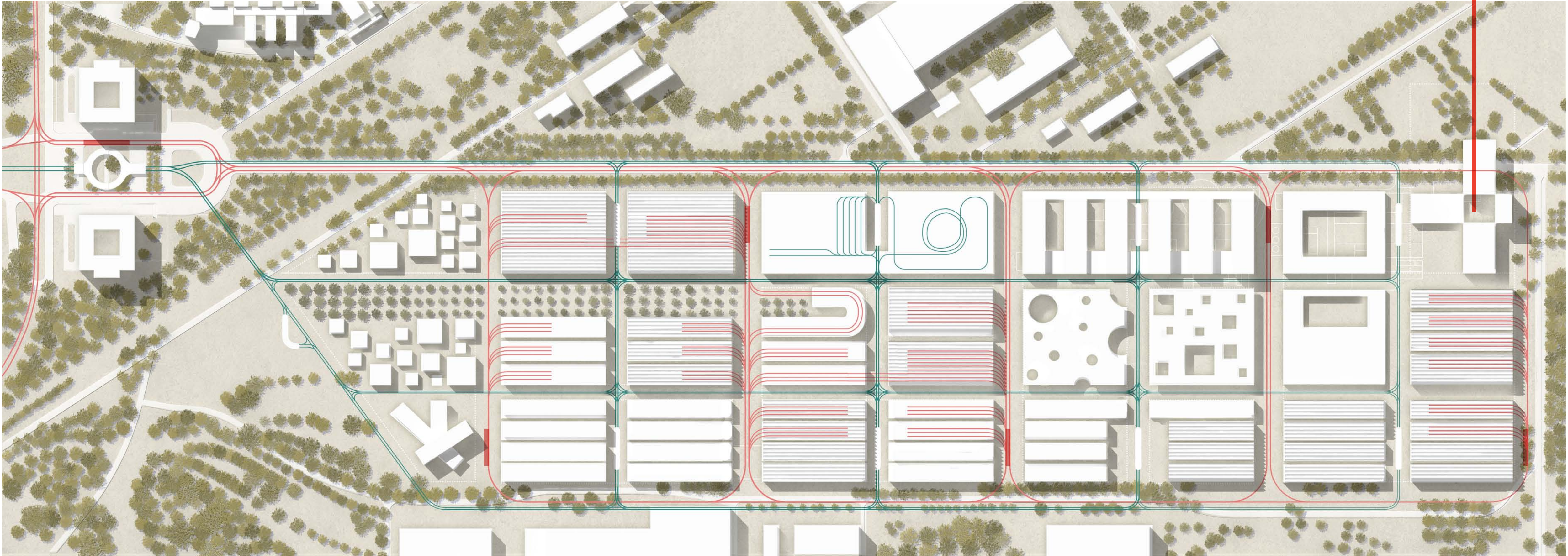
steel design

steel research

2

test site: Steelworks
2050

museum of steel



3

test site: Czyzyny
2016



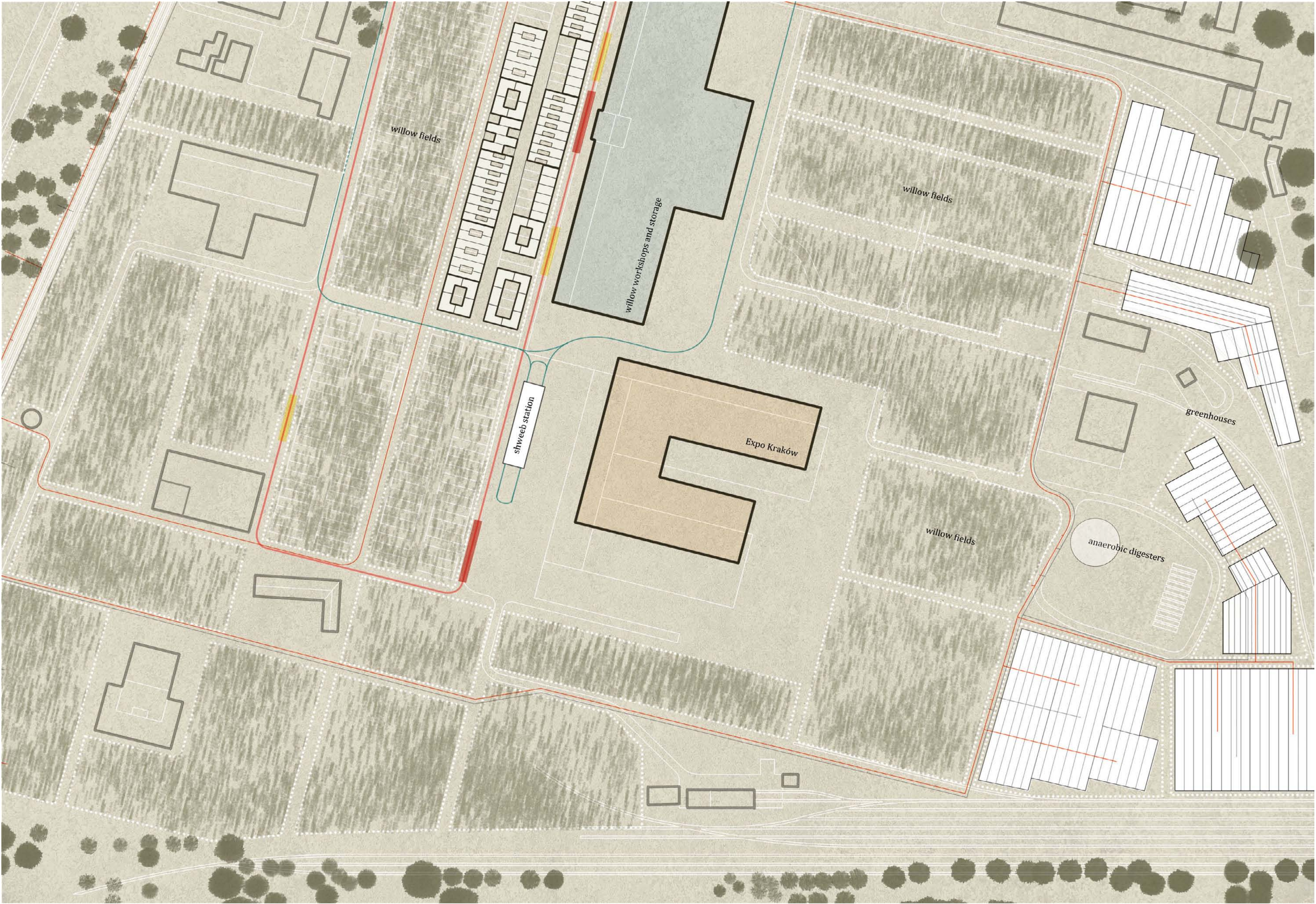
3

test site: Czyzyny
2020



3

test site: Czyzyny
2025



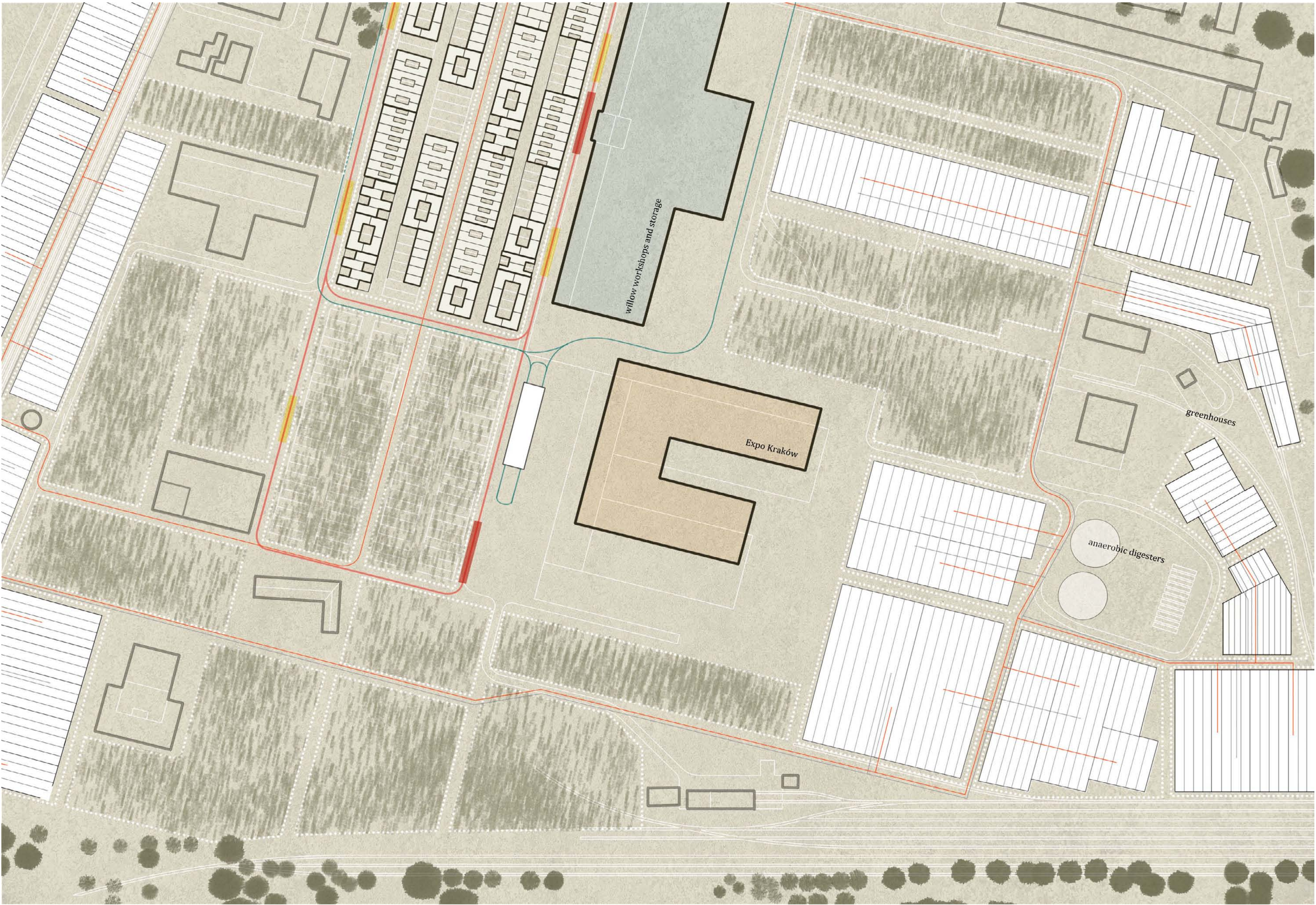
3

test site: Czyzyny
2030



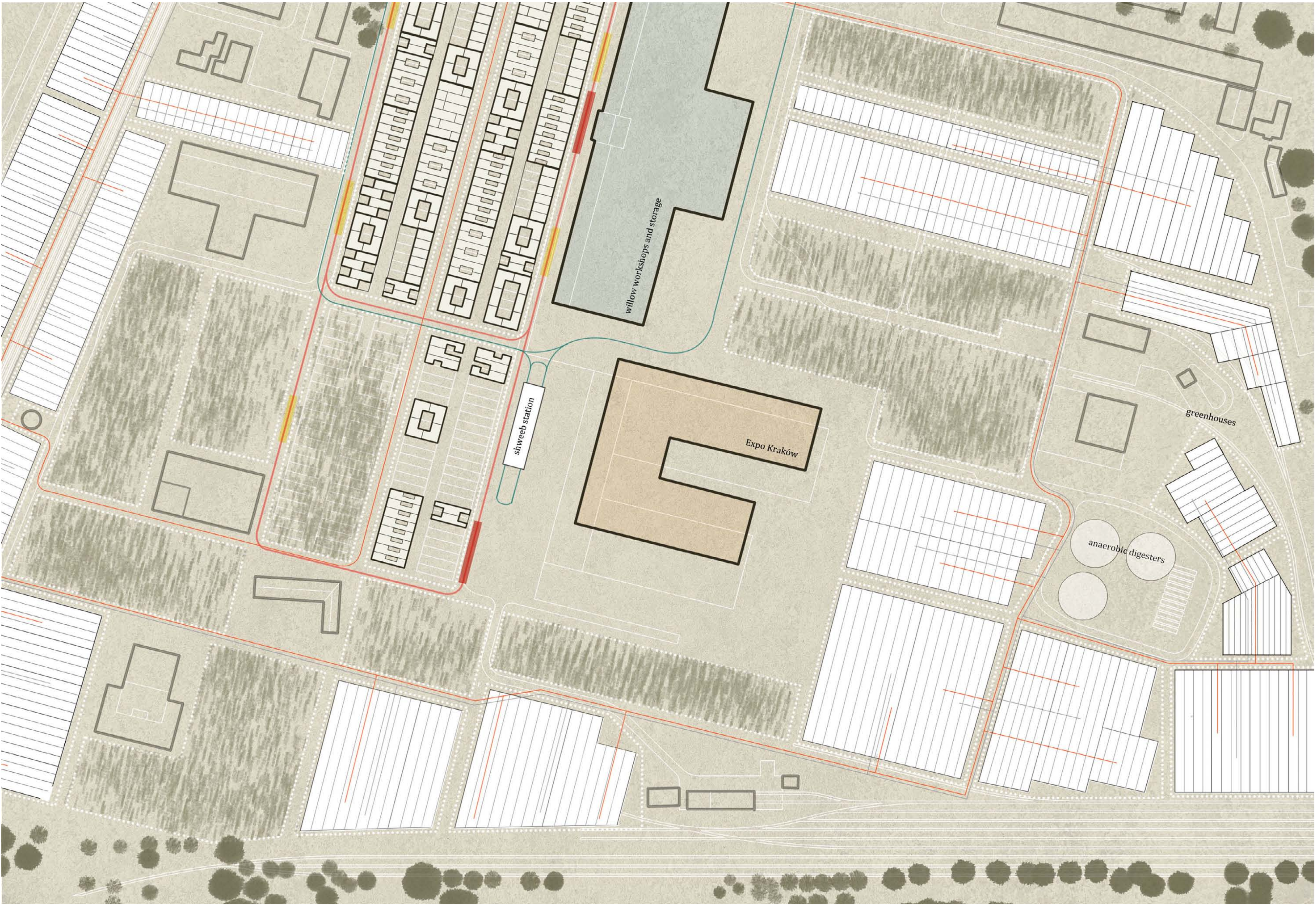
3

test site: Czyzyny
2035



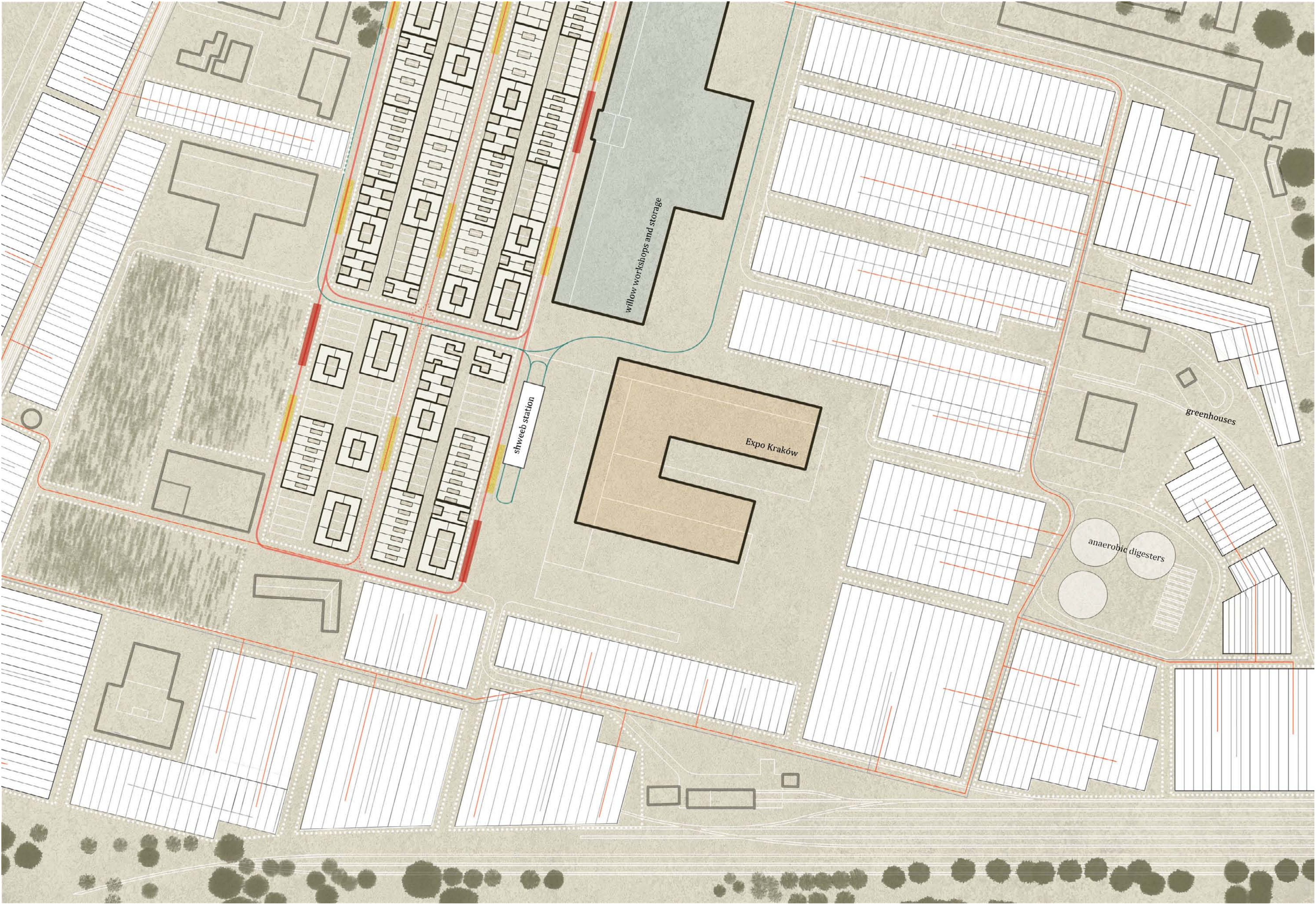
3

test site: Czyzyny
2040



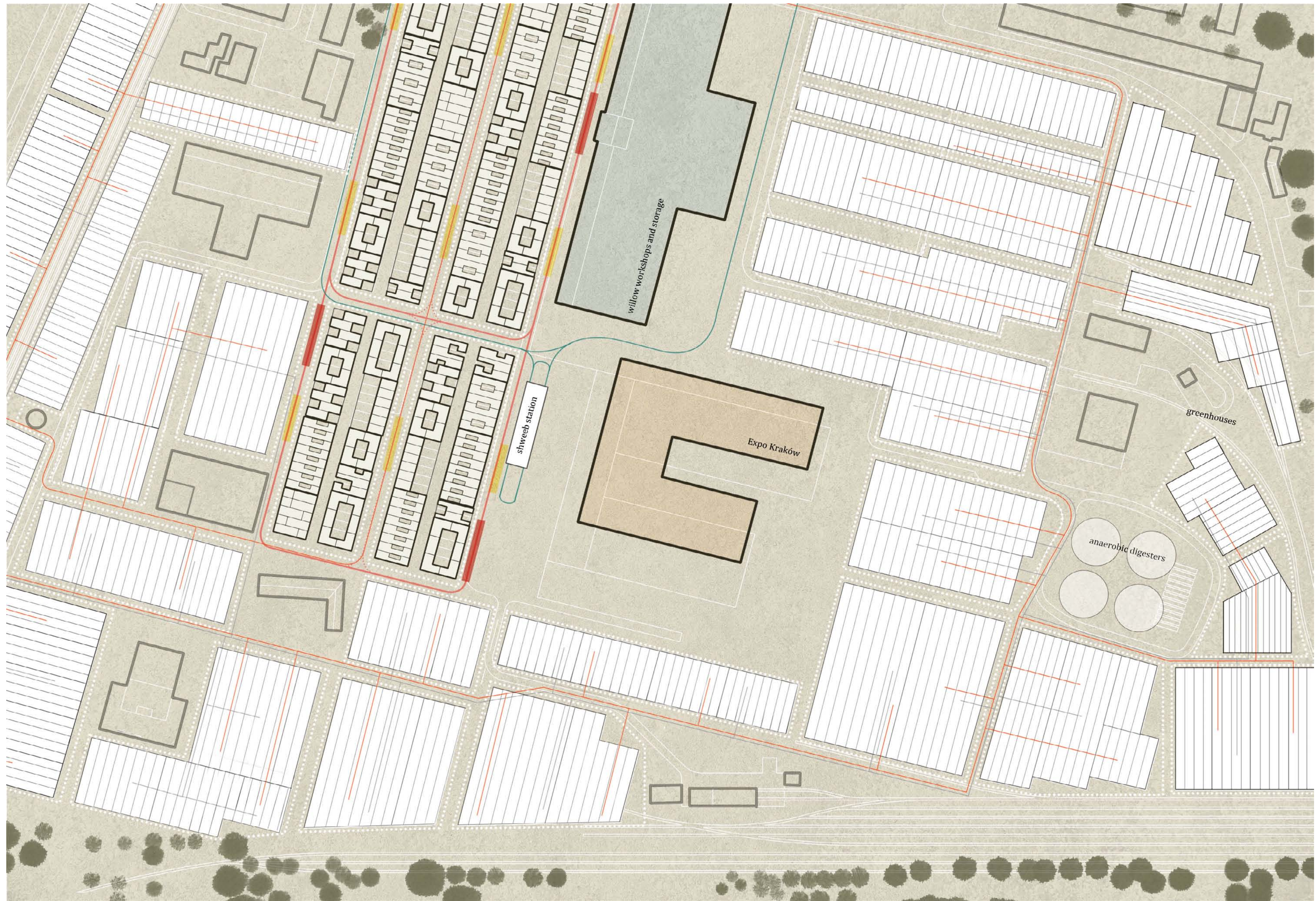
3

test site: Czyzyny
2045




3

test site: Czyzyny
2050



























4

test site: Centrum A-D


1800 


WASTE/YEAR

organic waste	122 616		
→ paper	74 311		
→ plastics	52 020		
→ wrapping	14 868		
→ wood	7 430		
→ textile	3 715		
→ e-waste	3 715		
→ green waste	7 430		
→ metal	18 576		
→ glass	29 729		
→ mineral	37 159		

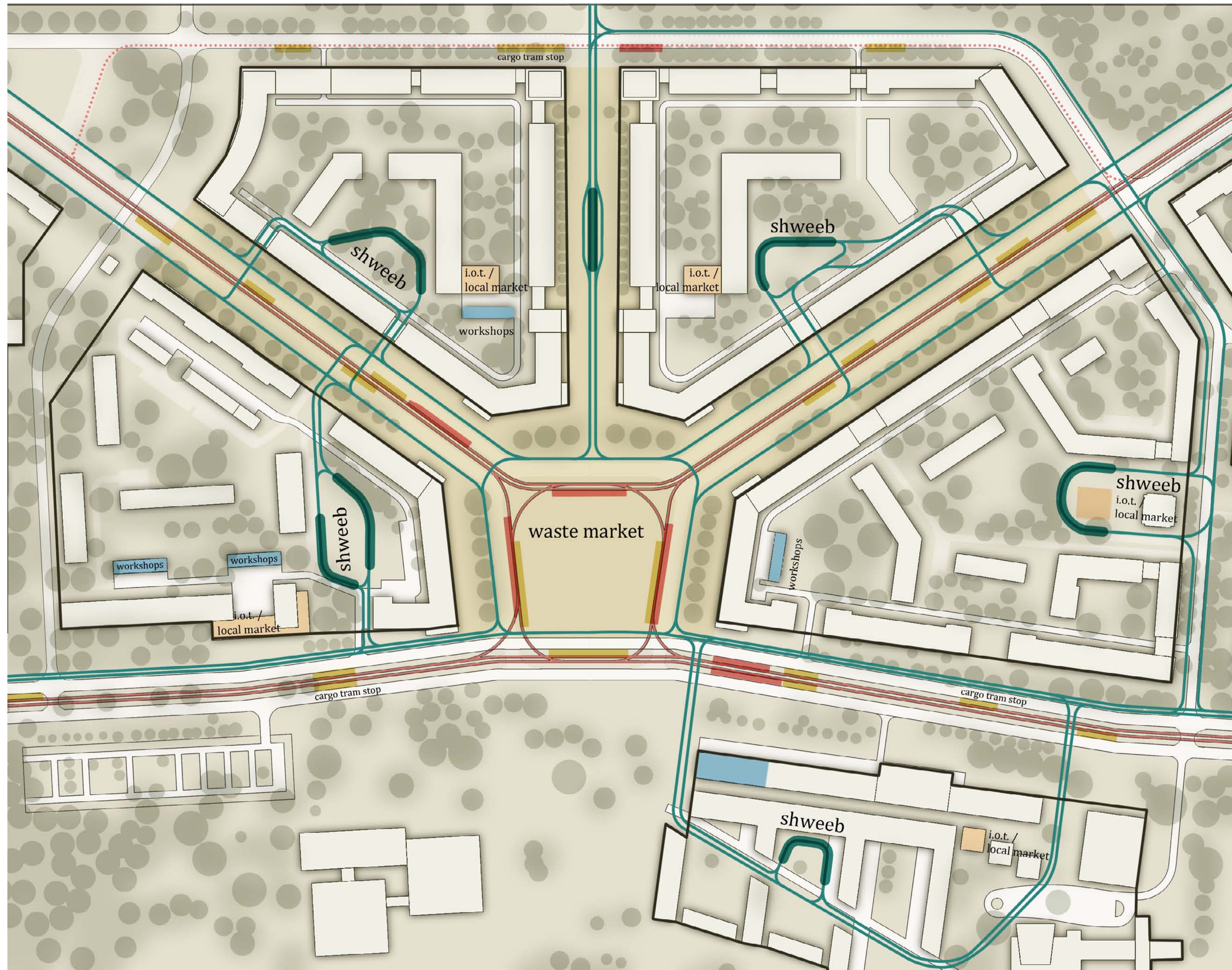
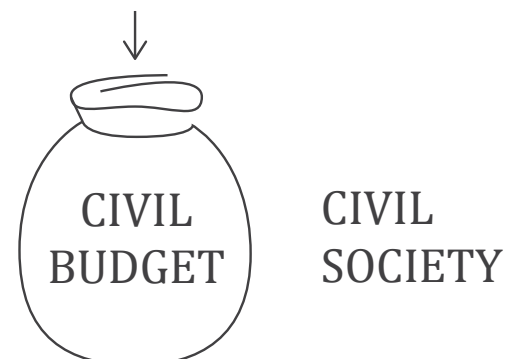
compostable	130 046	
combustible	282 390	
recyclable	234 093	

TOTAL	371 569	
GOAL	100 %	RECYCLING
CURRENT	40 %	

	6592 GJ	NEEDED
	678 GJ	SAVED
	27 110 €	SAVED

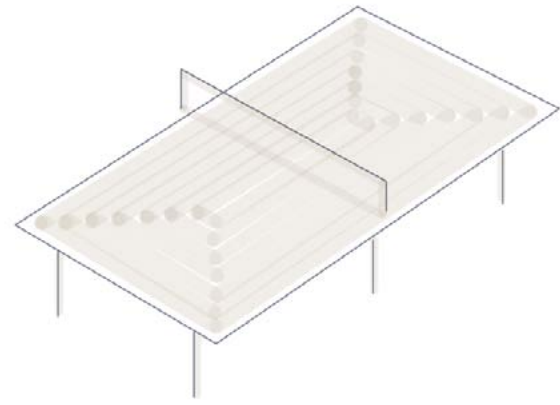
	19 782 GJ	NEEDED
	1 296 GJ	SAVED
	16 120 €	SAVED

TOTAL	43 310 €	SAVED
-------	----------	-------

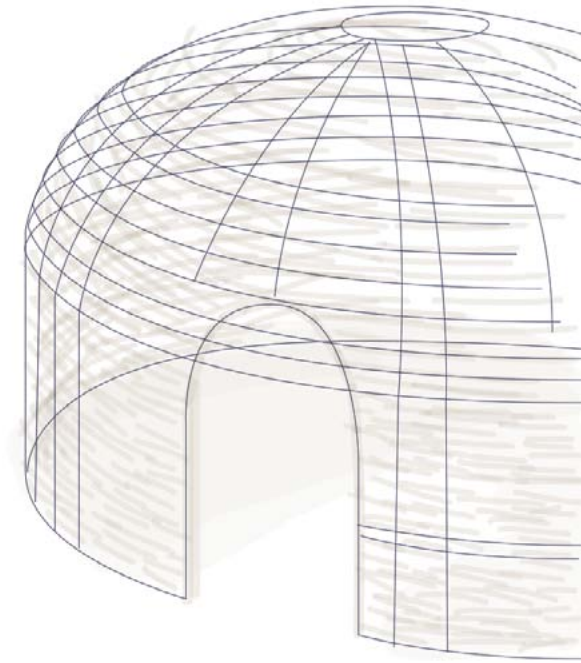


4

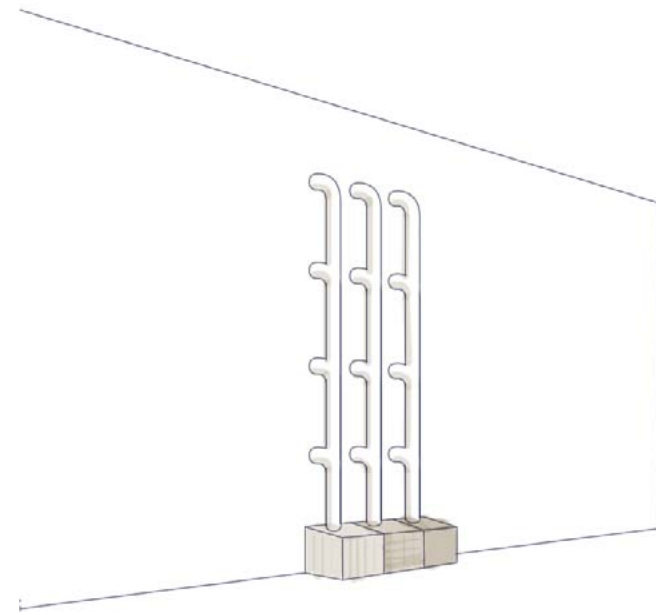
test site: Centrum A-D



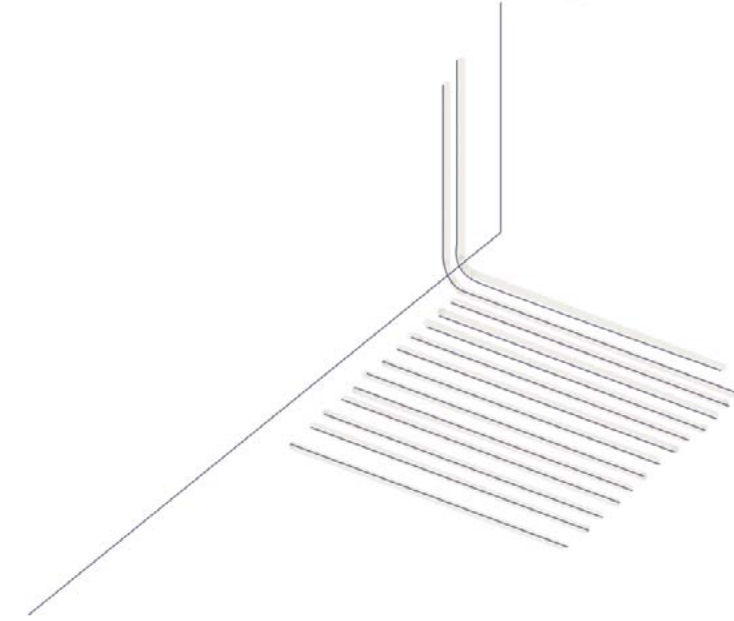
Sport facilities



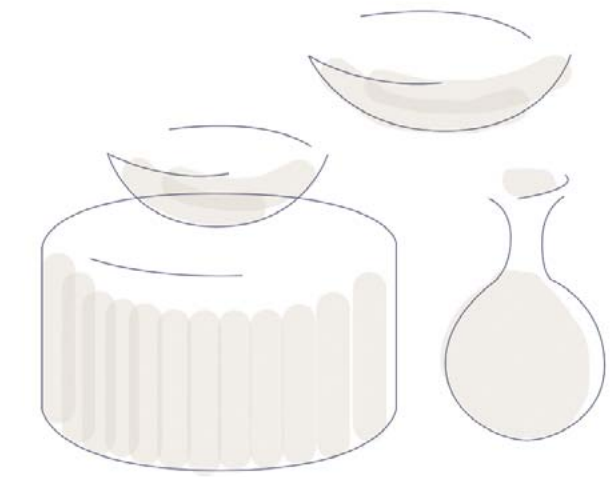
Grill arbor



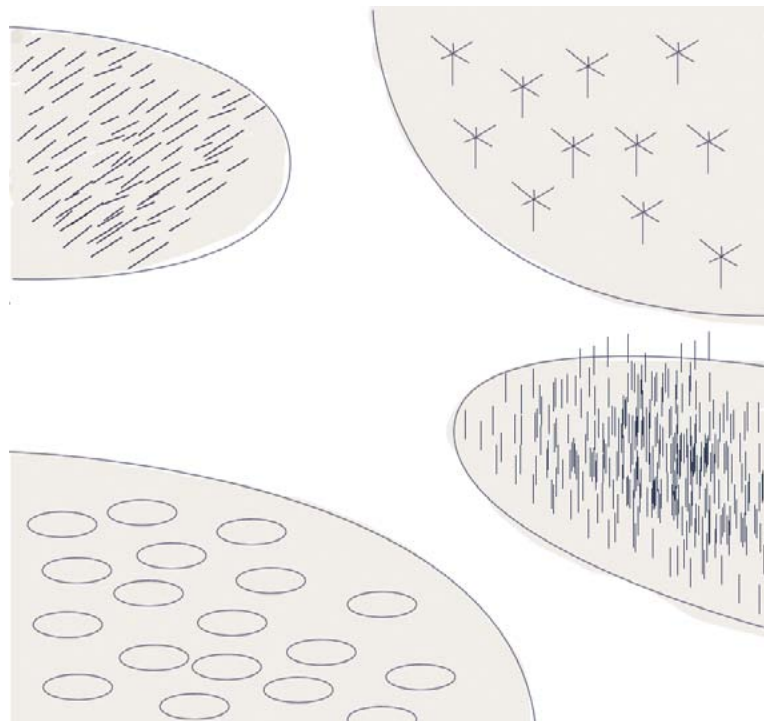
Garbage shafts



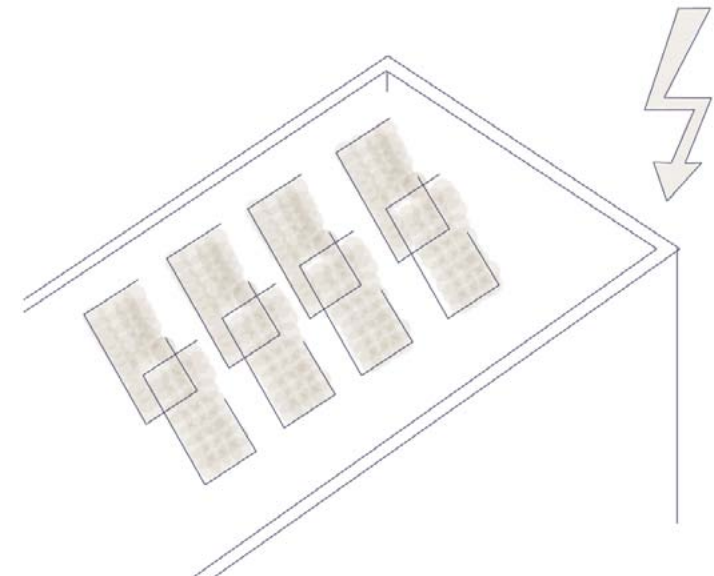
Heating pump



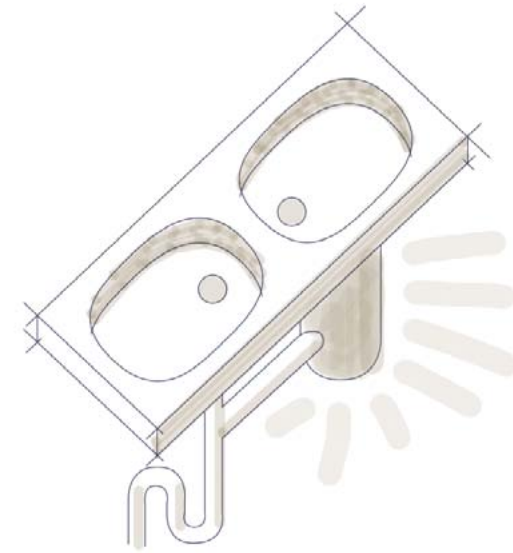
Pottery equipment



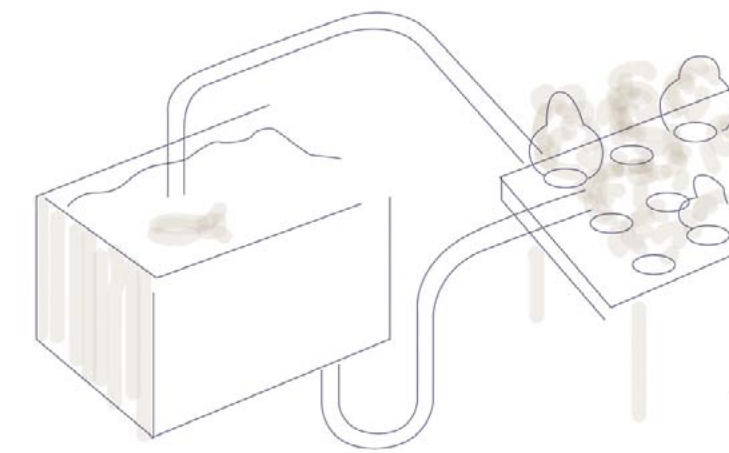
Flower beds



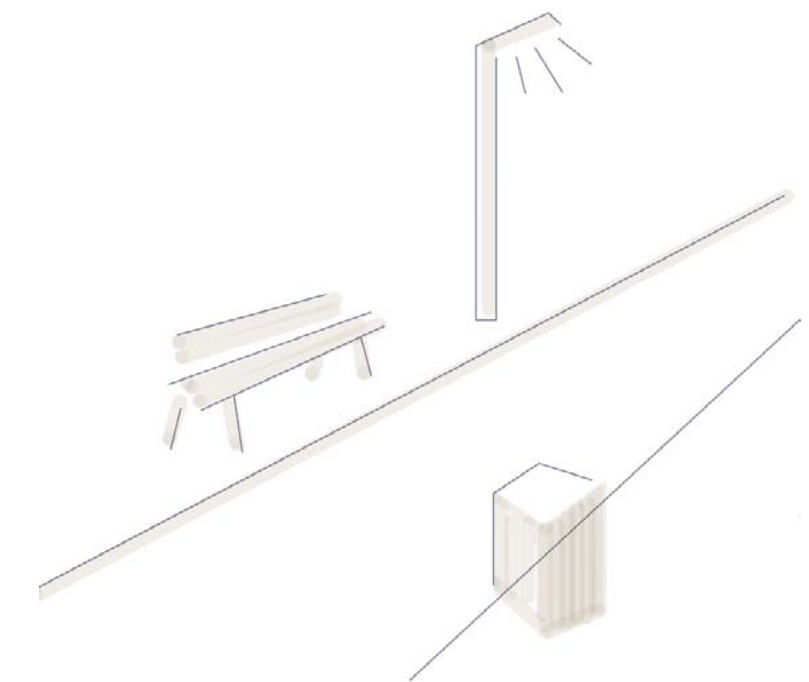
Photovoltaic panels



Garbutrators



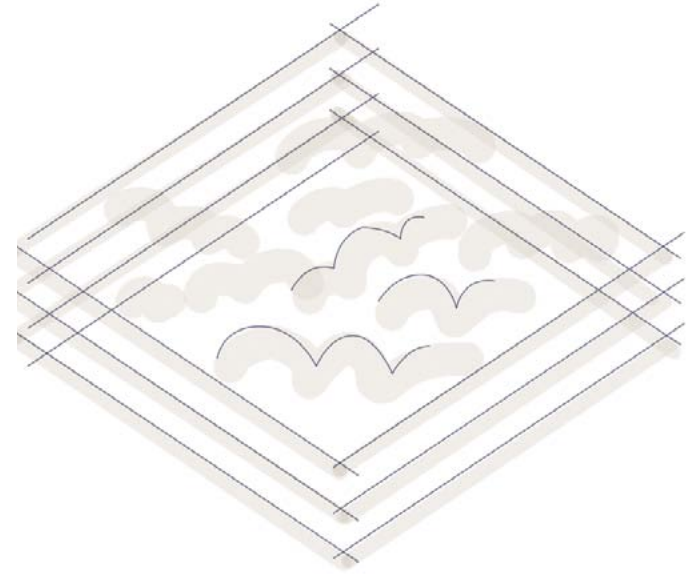
Aquaponic farm



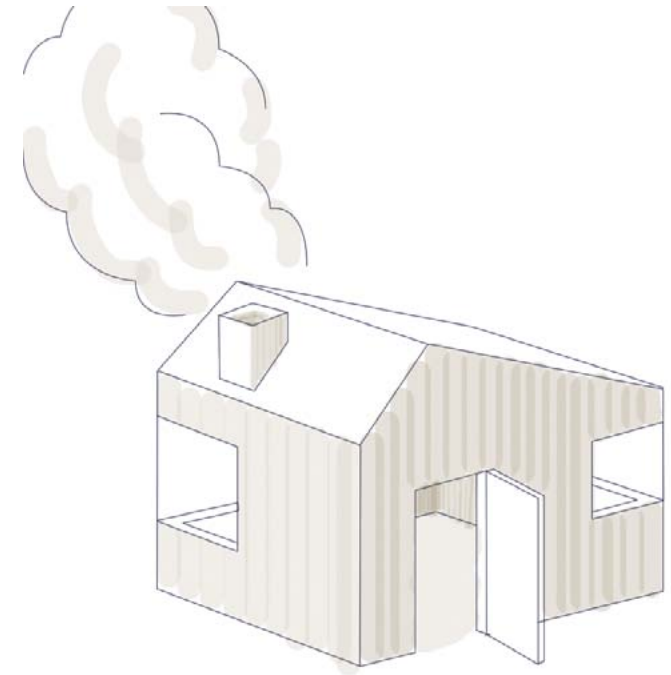
Street furniture

4

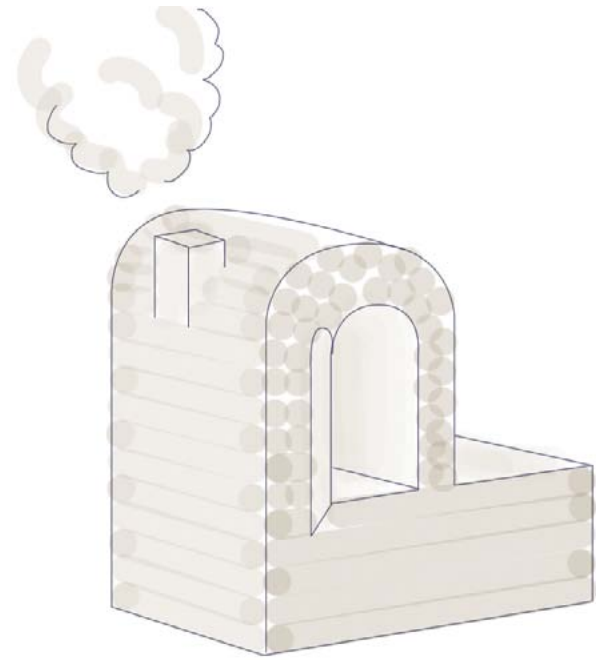
test site: Centrum A-D



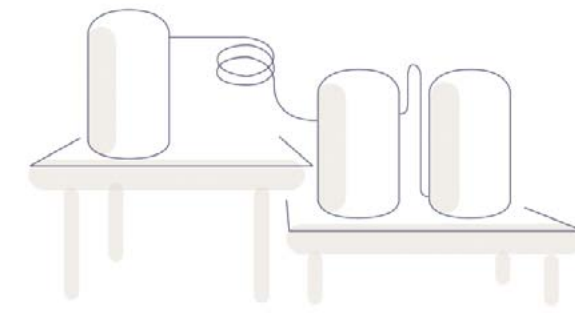
Composter



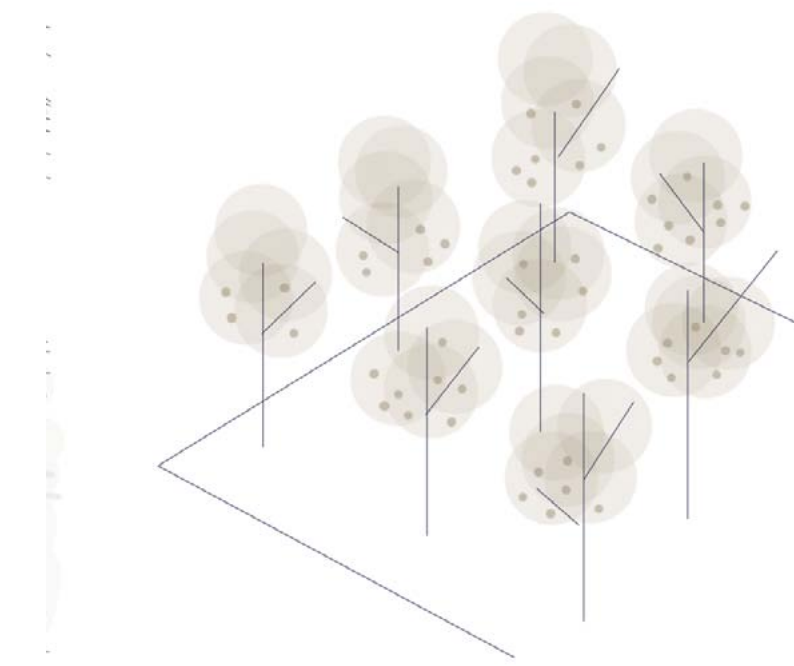
Bread ovens



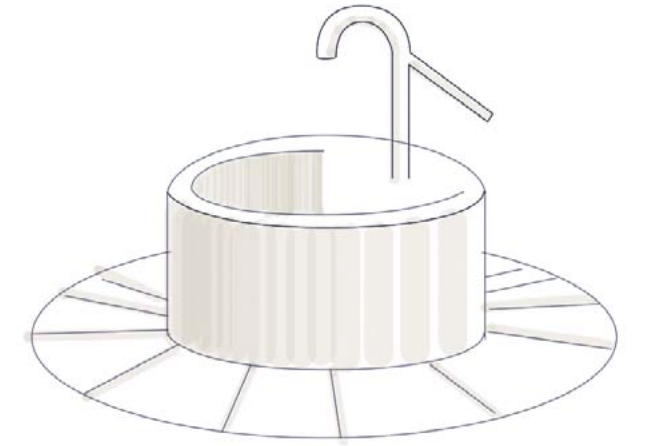
Smokehouse



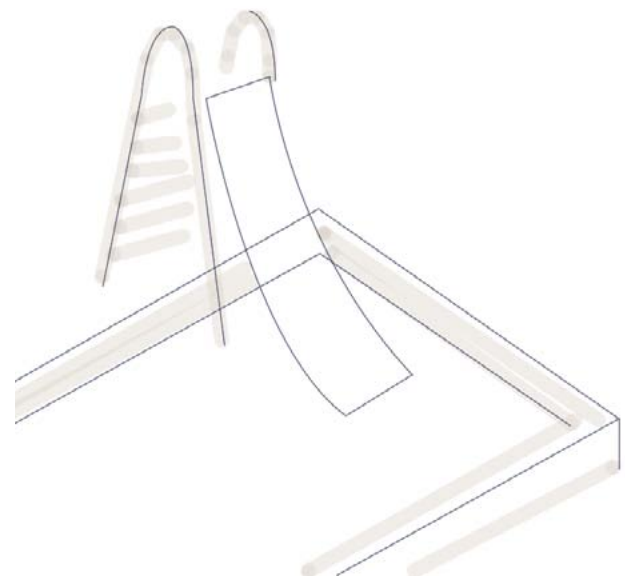
Local beer production



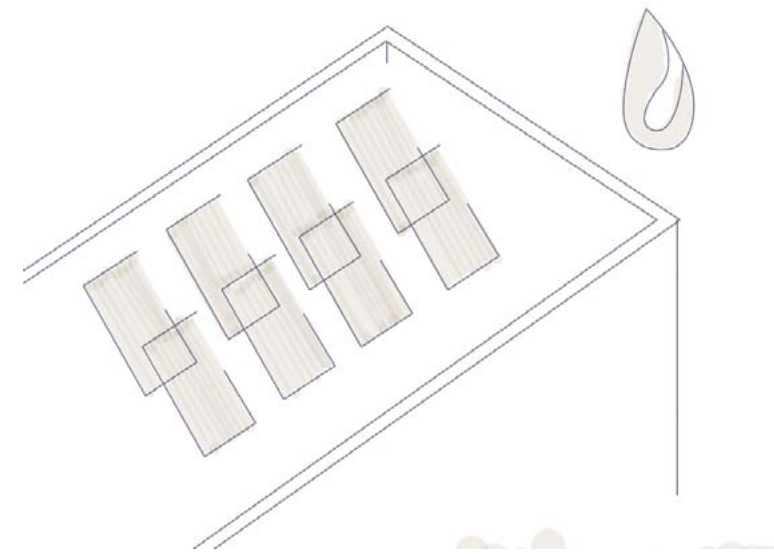
Fruit trees



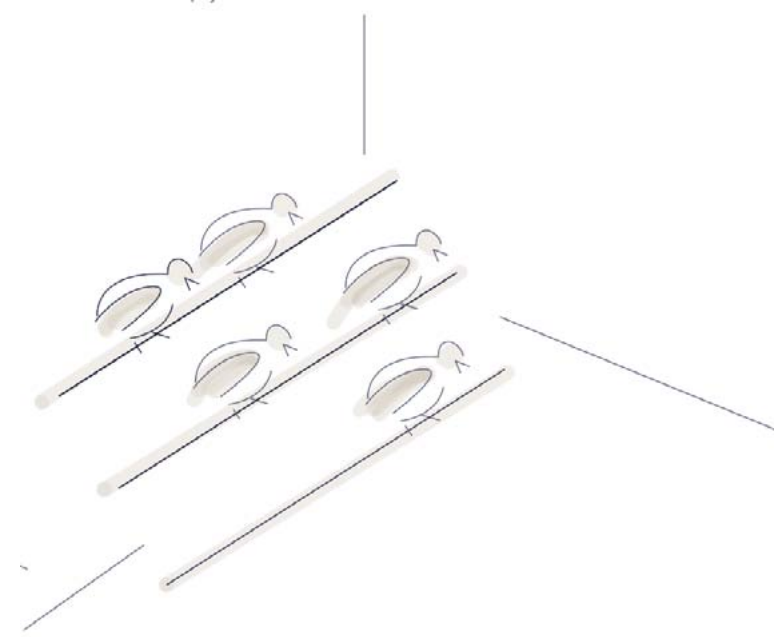
Abysynian well



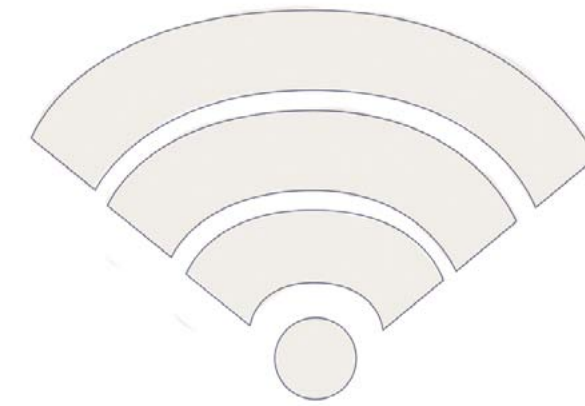
Playground



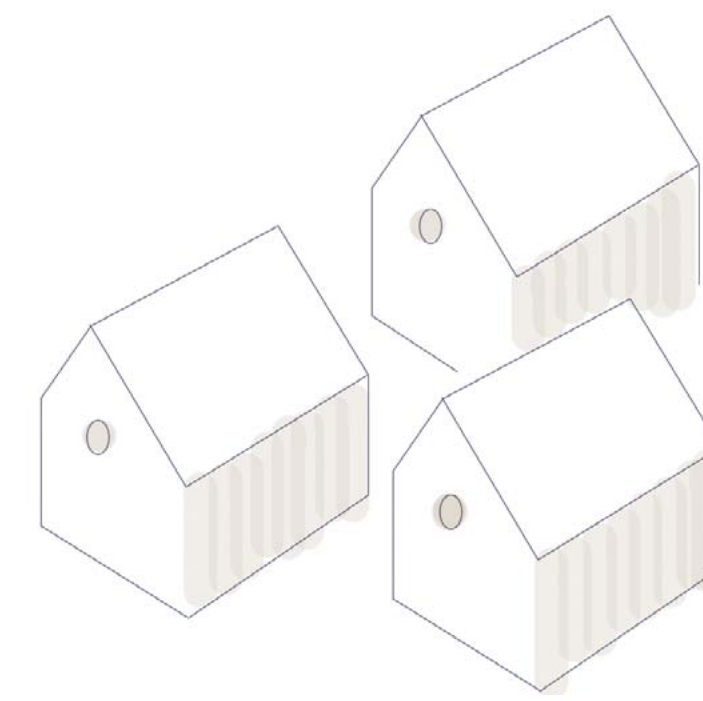
Solar panels



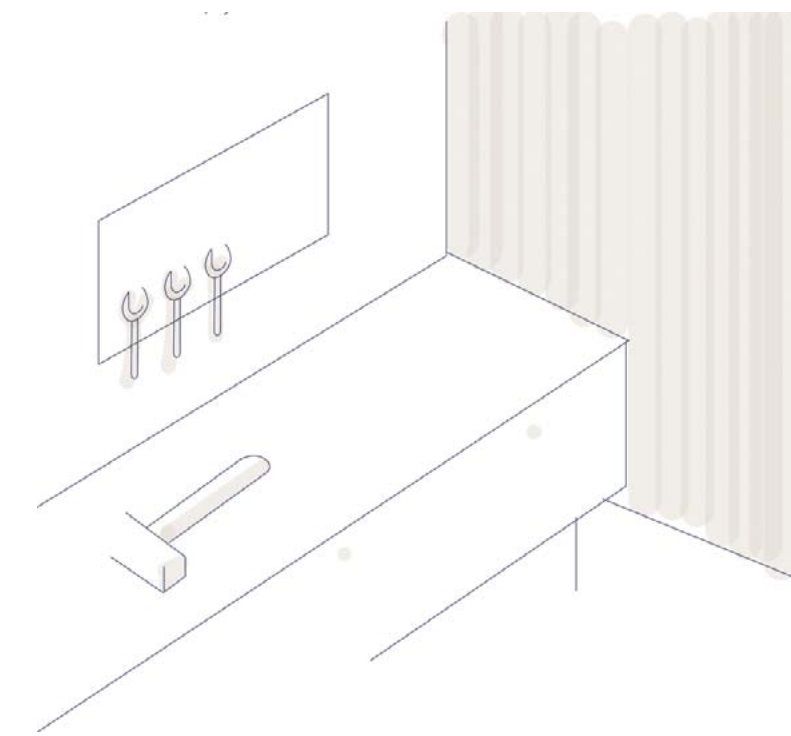
Chicken coops



wi-fi



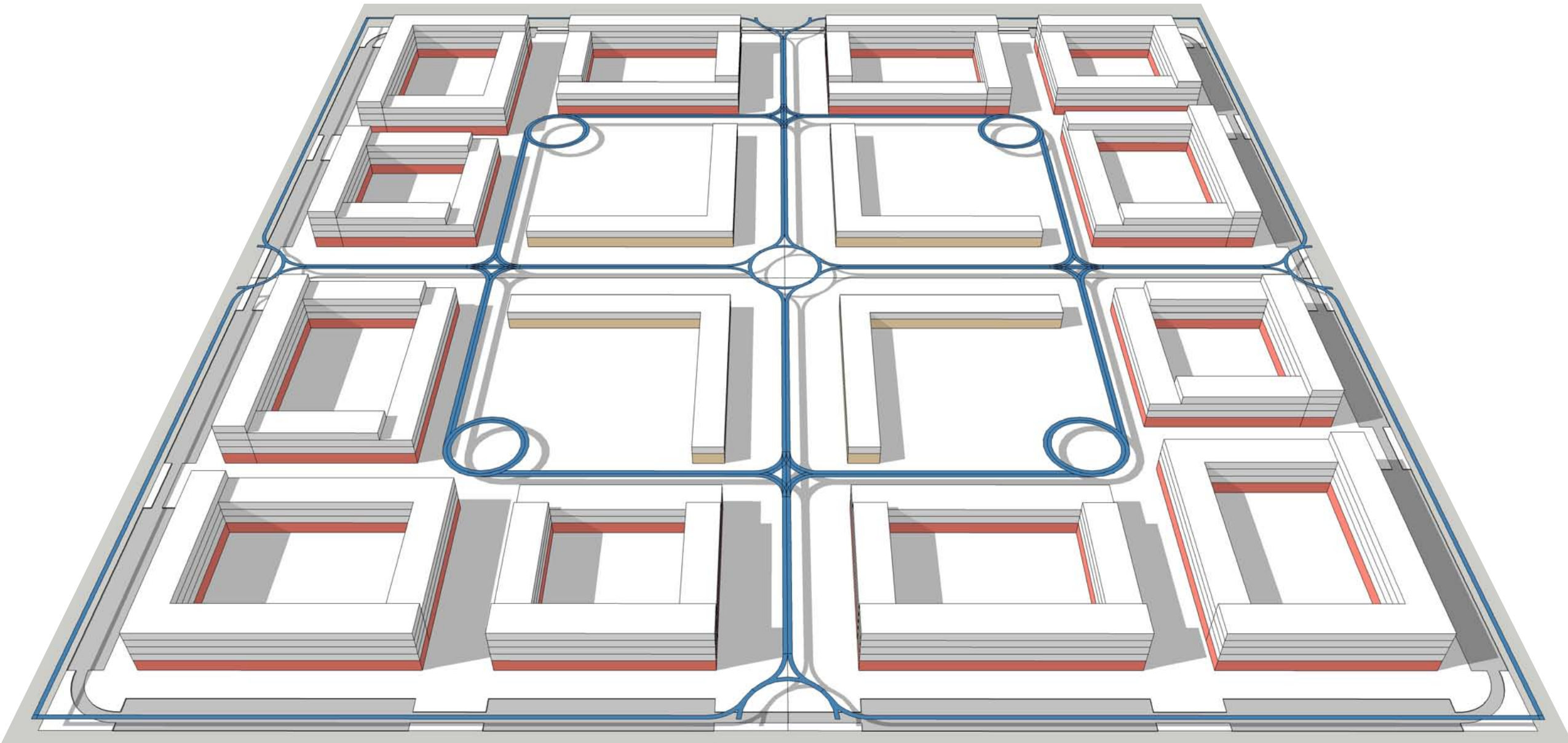
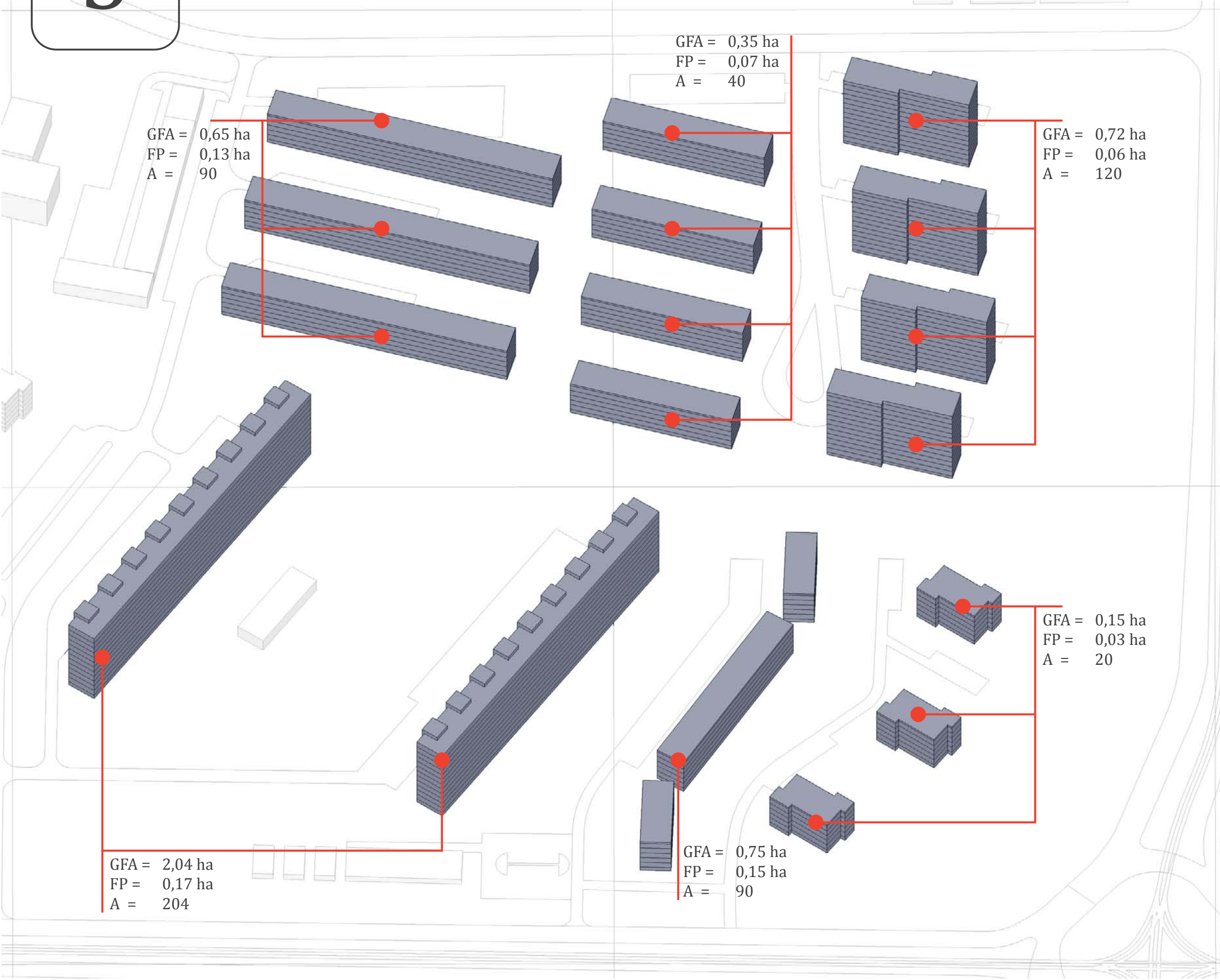
bee - hives



Workshop tools

5

test site: Biencyce



FAR = 0,596
 DU = 75,28
 POP = 188,2

} high cost of transport
 high cost of maintenance
 high cost of infrastructure
 low amount of services
 low liveability
 great amount of greenery

GFA = GROSS FLOOR AREA
 FP = FOOTPRINT
 A = APARTMENTS
 FAR = FLOOR AREA RATIO
 DU = DWELLING UNITS /ha
 POP = POPULATION / ha

5

test site: Biencyce
2016



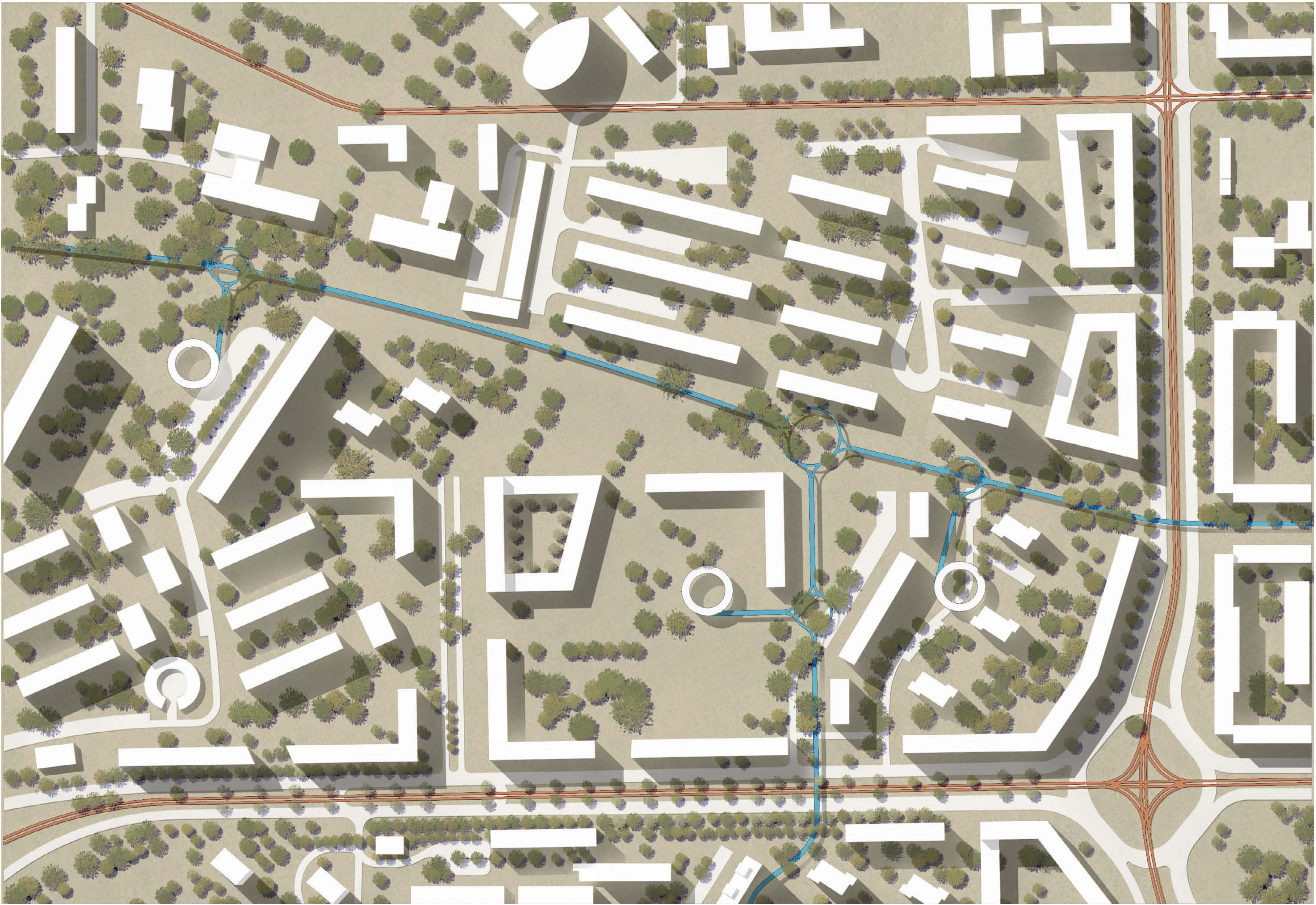
5

test site: Biencyce
2020



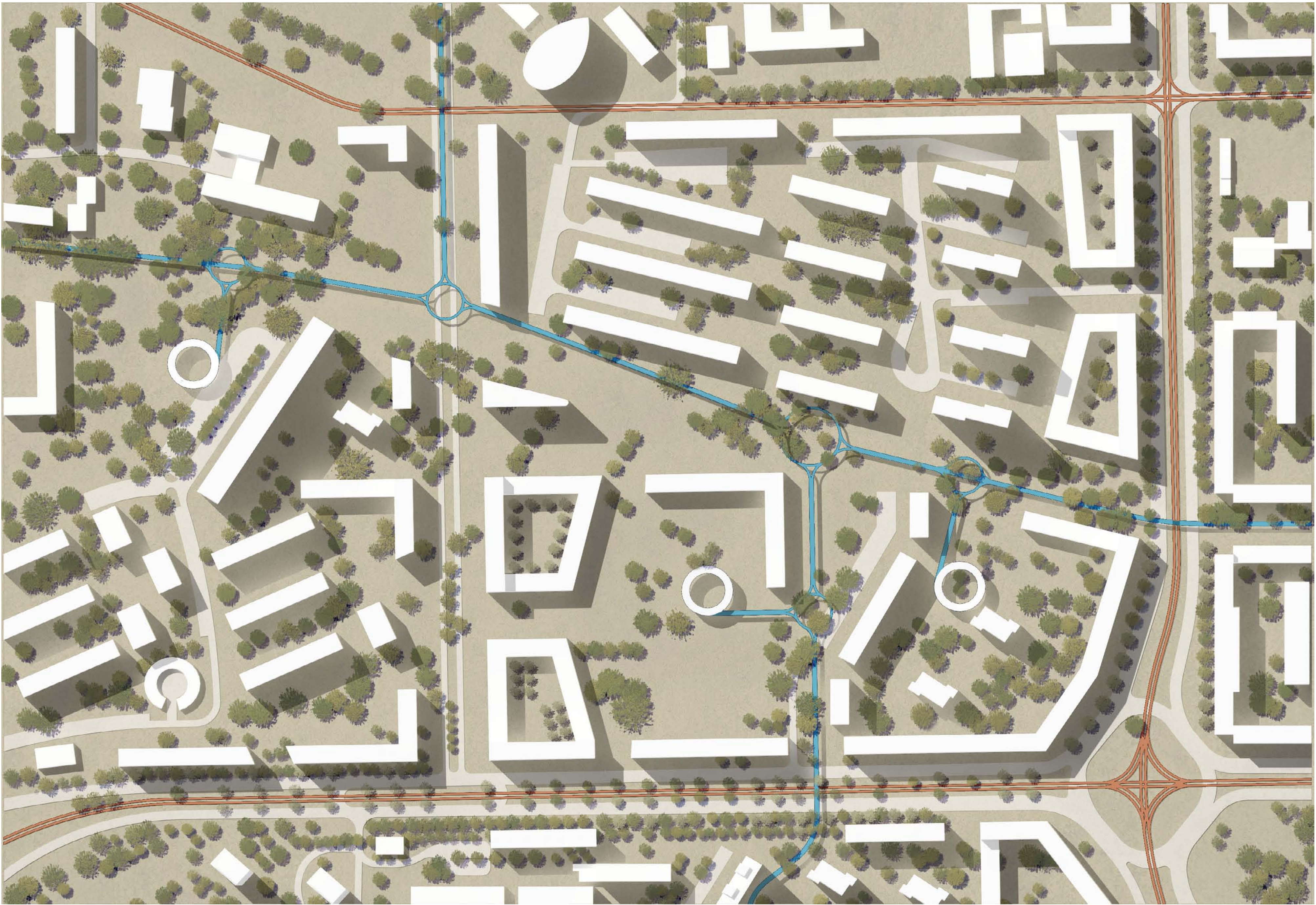
5

test site: Biencyce
2025



5

test site: Biencyce
2030



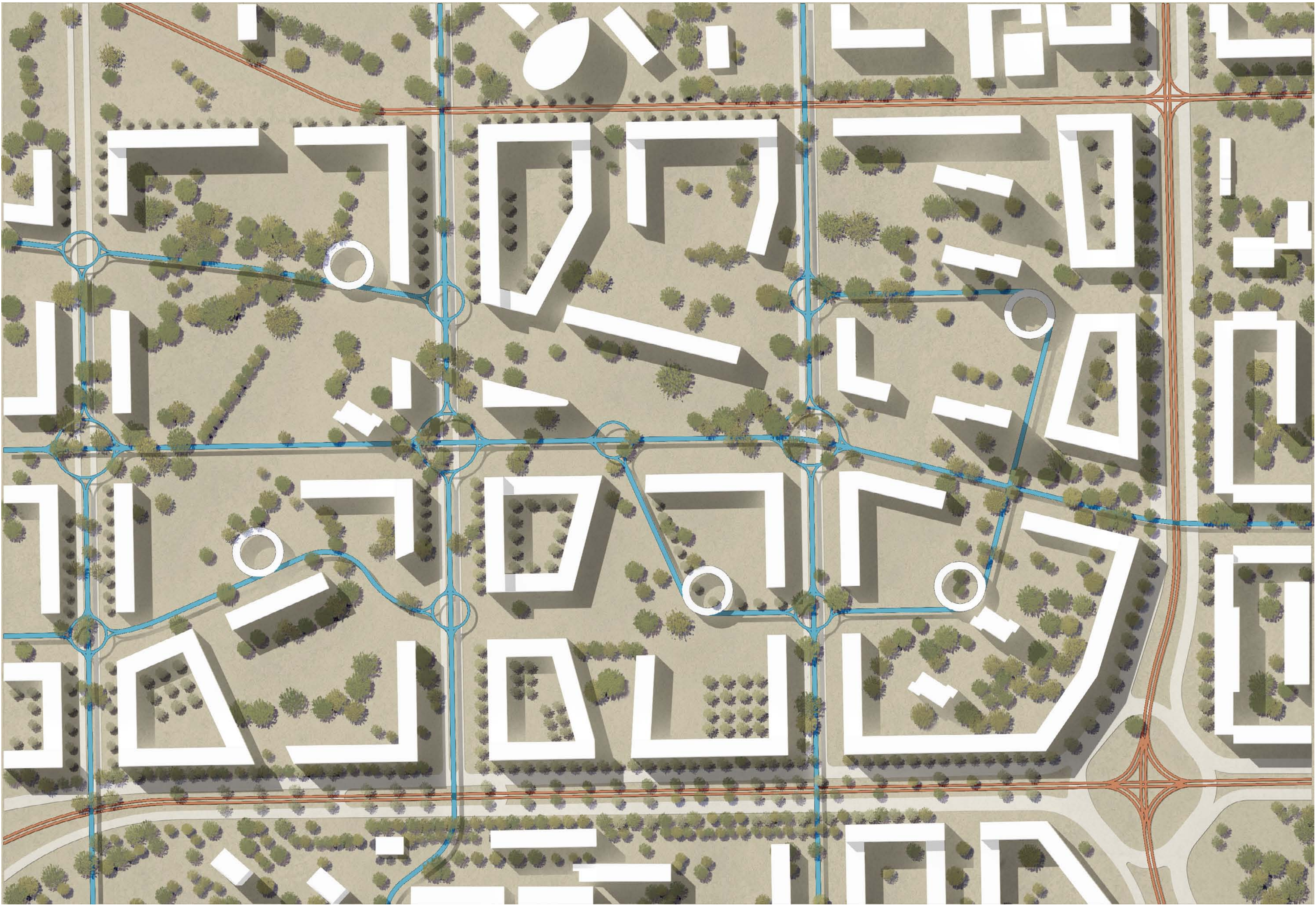
5

test site: Biencyce
2035



5

test site: Biencyce
2040



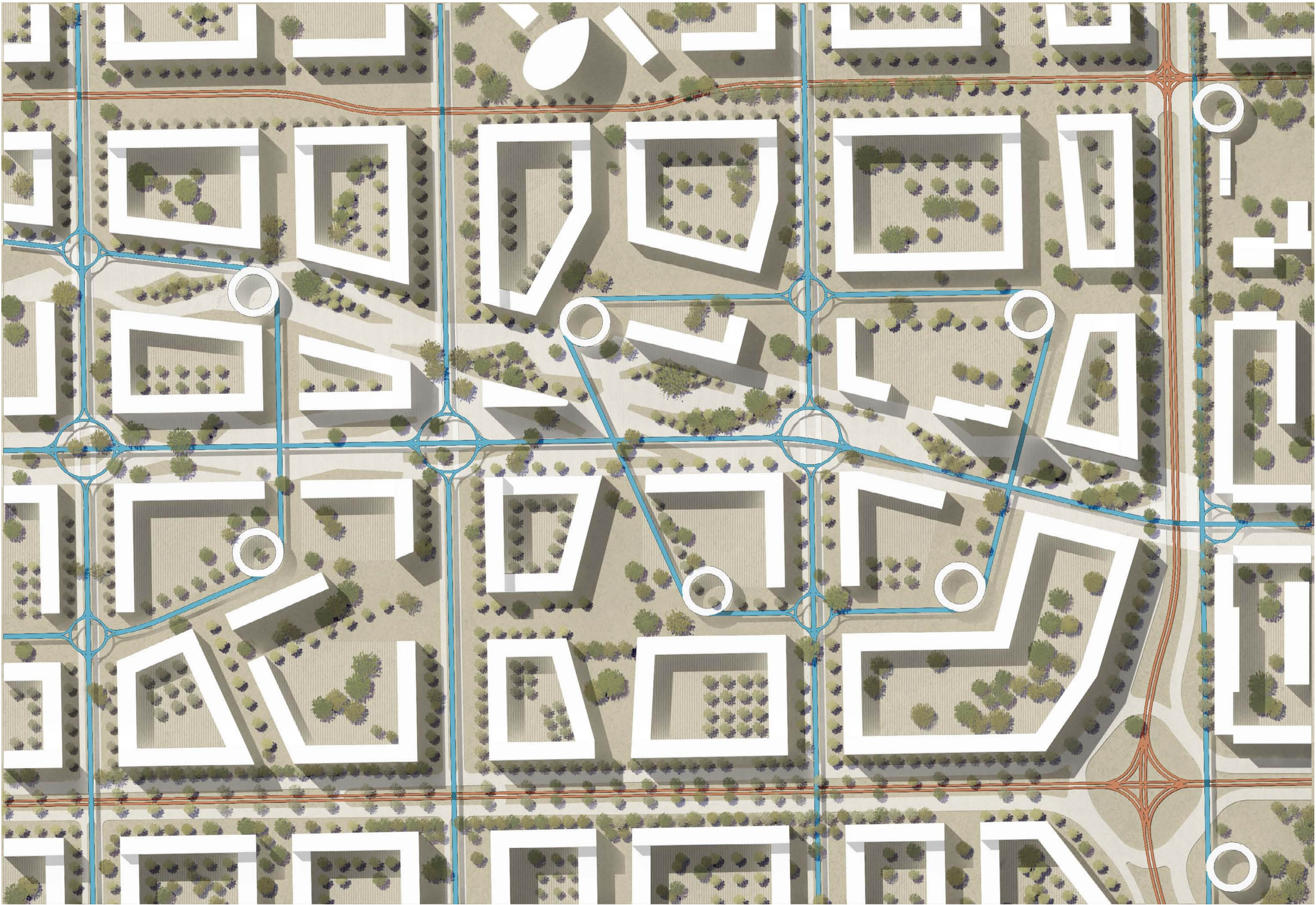
5

test site: Biencyce
2045



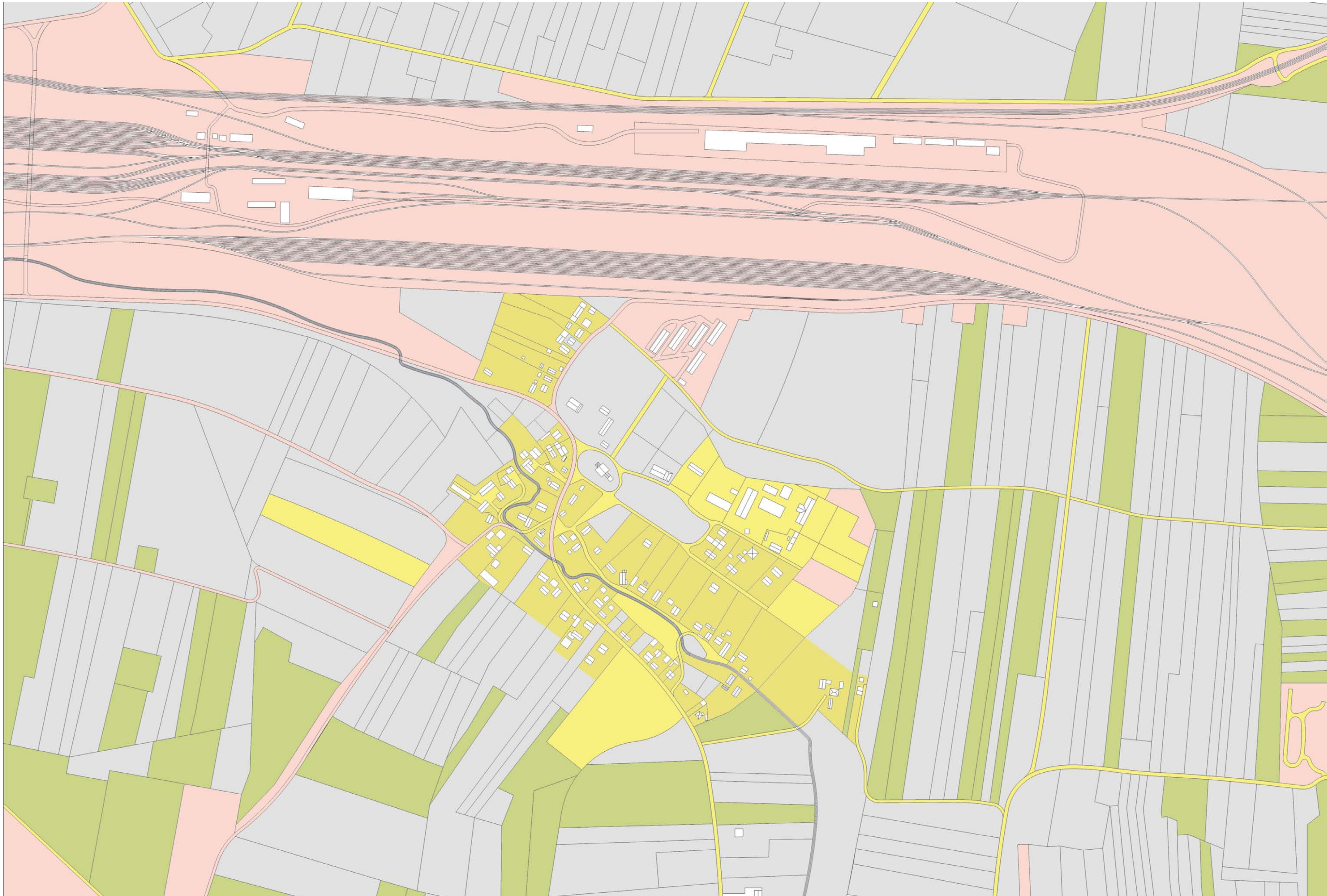
5

test site: Biencyce
2050



6

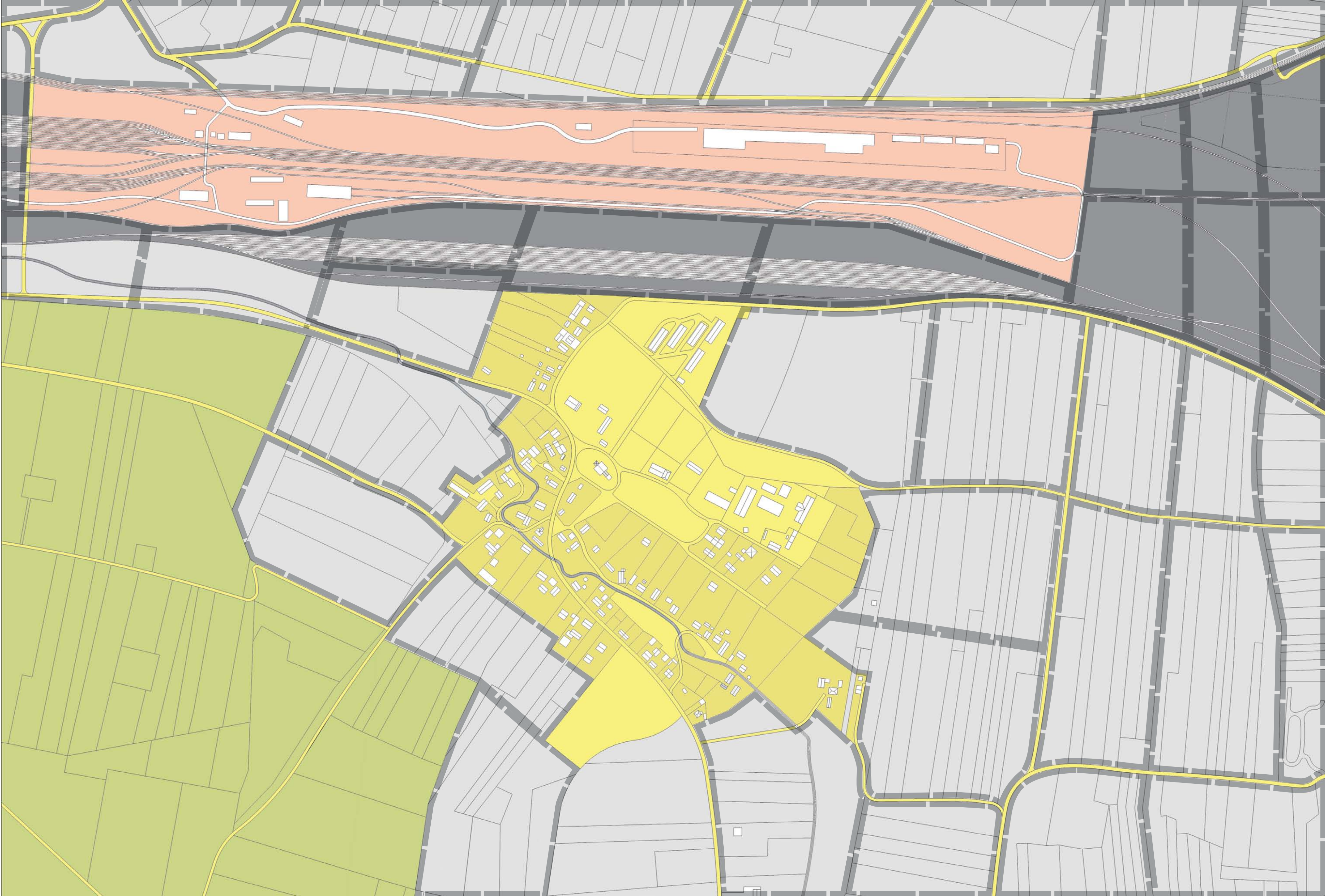
test site: Ruszcza



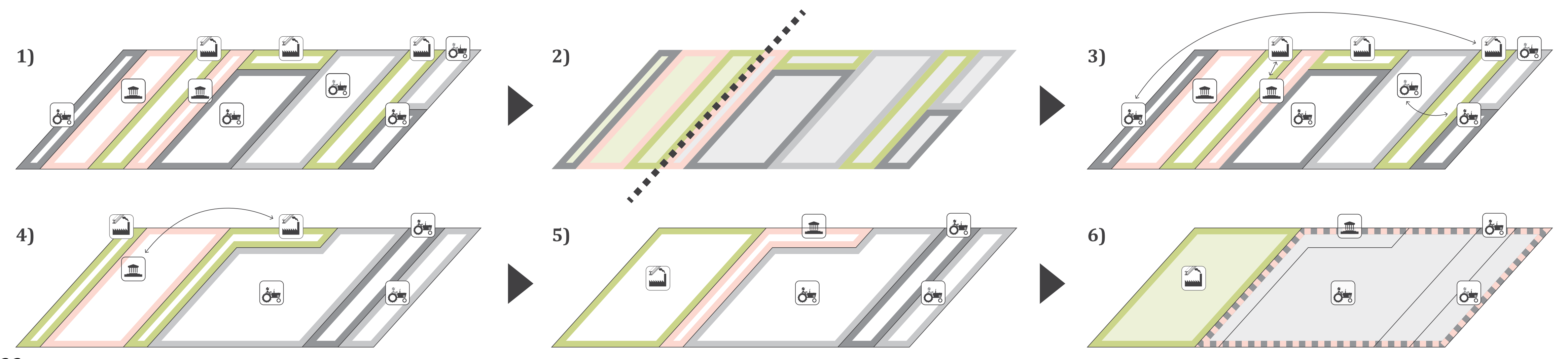
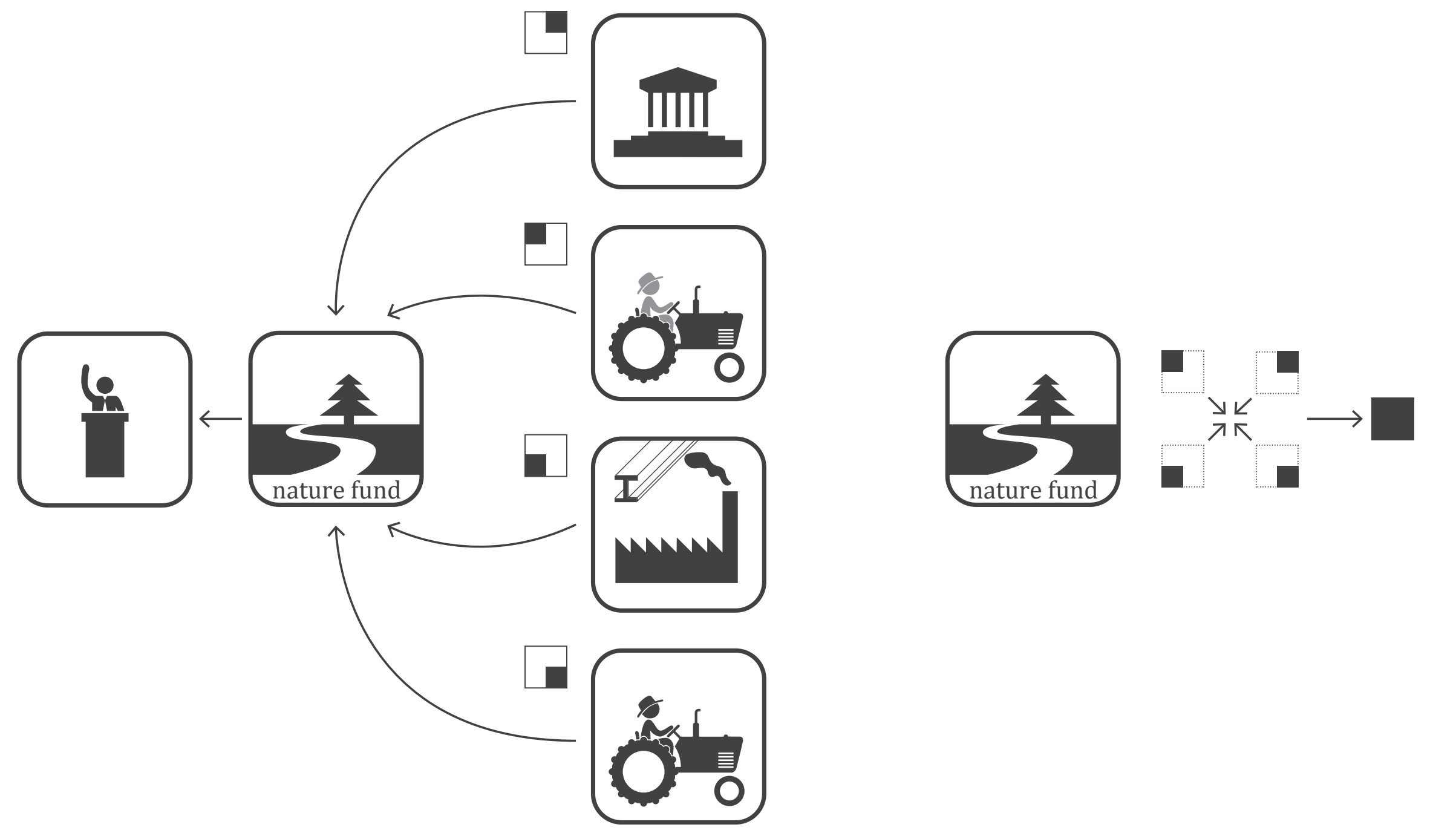
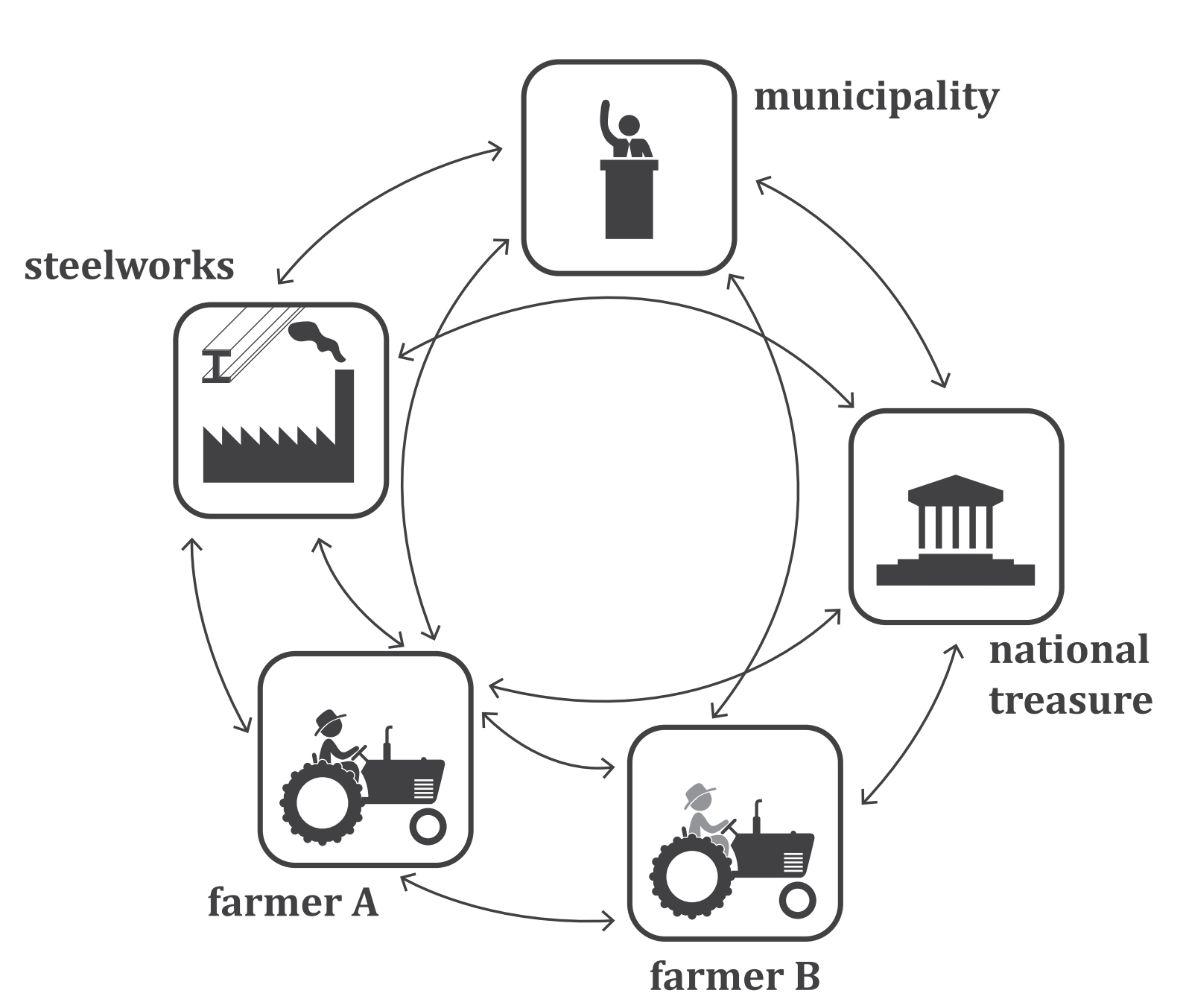
- Arcelor Mittal
- National Treasure
- Private Ownership
- Municipality

6

test site: Ruszcza



- New Farms
- Arcelor Mittal
- National Treasure
- Private Ownership
- Municipality



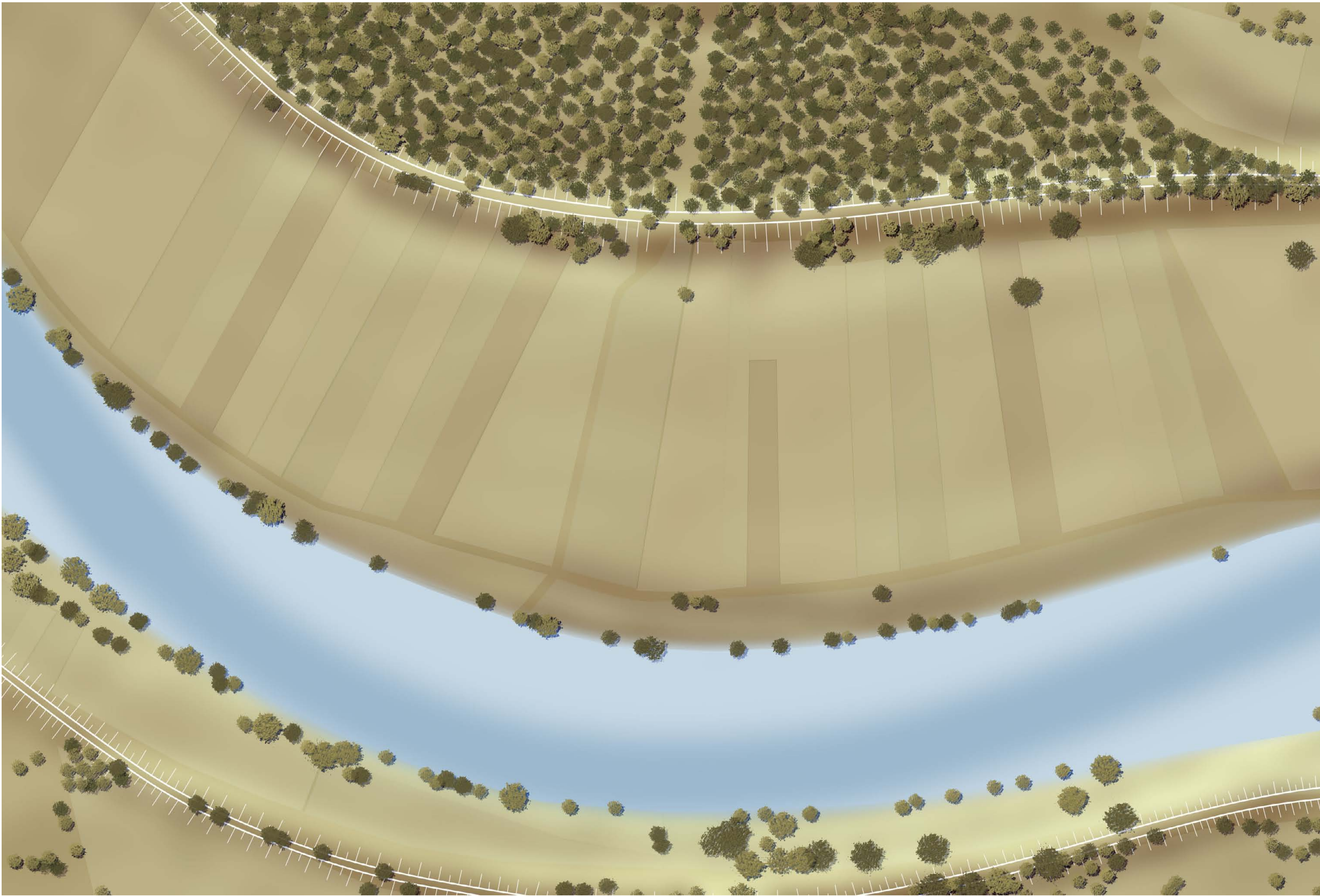
6

test site: Ruszczka



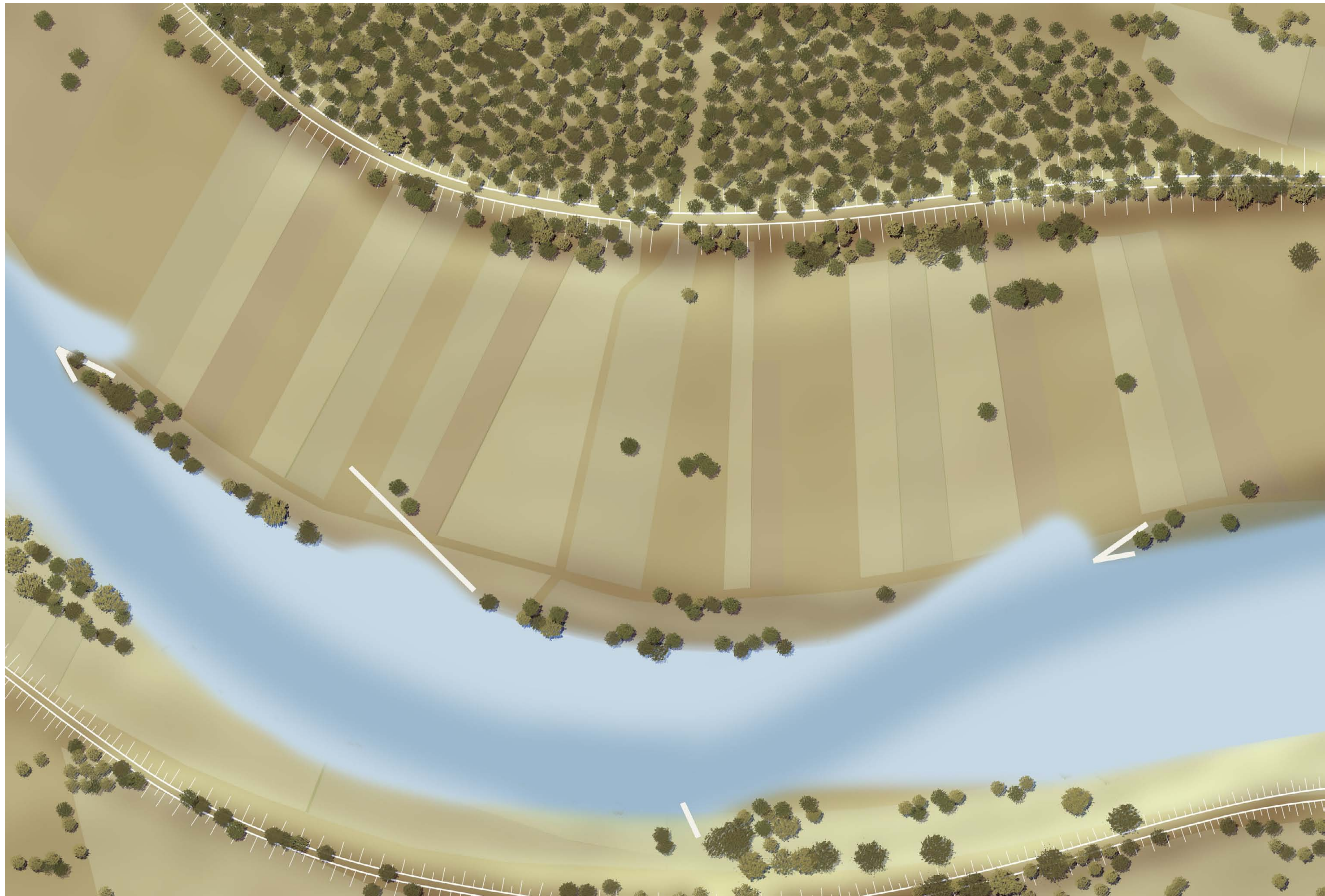
7

test site:
Vistula Valley
2015



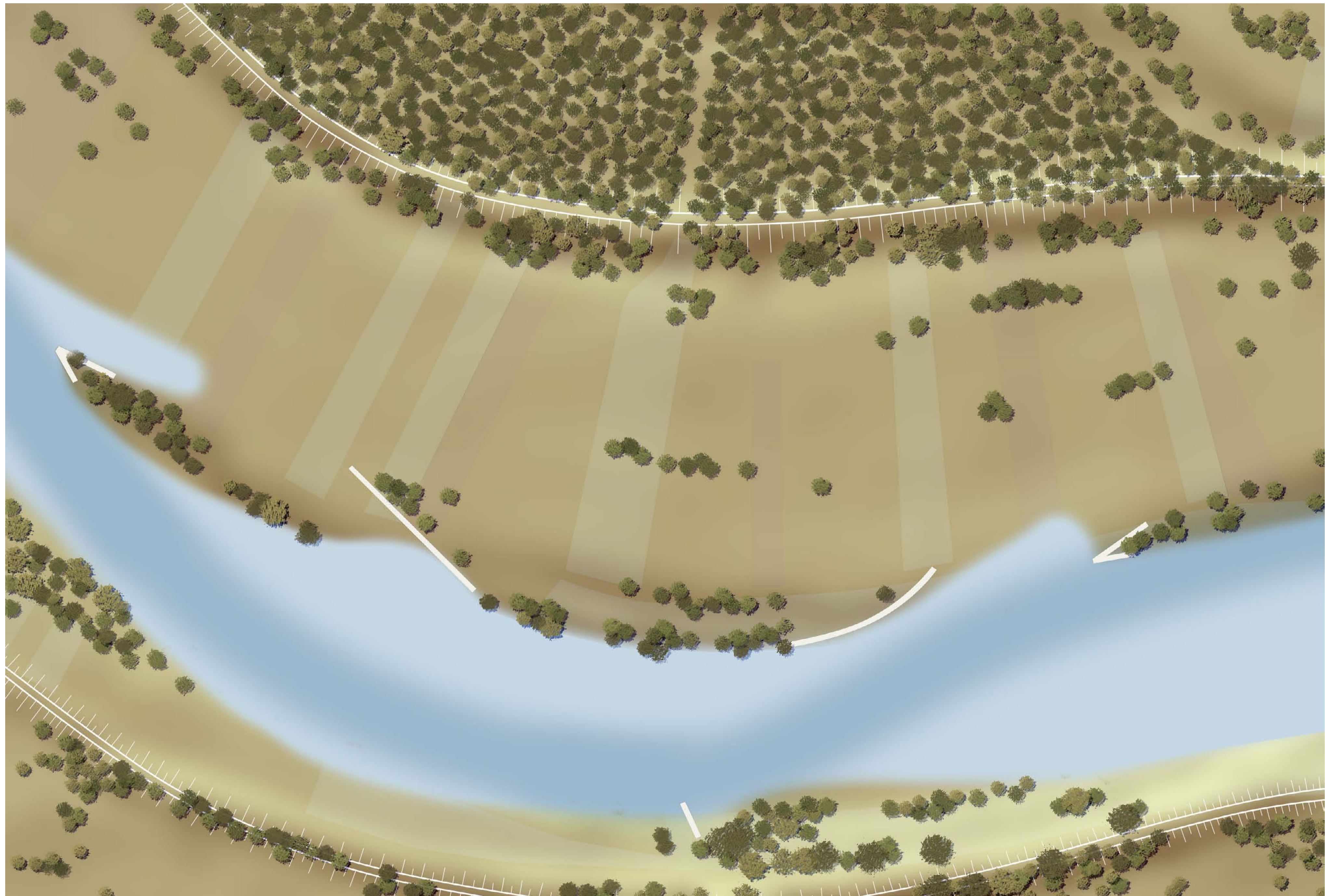
7

test site:
Vistula Valley
2020



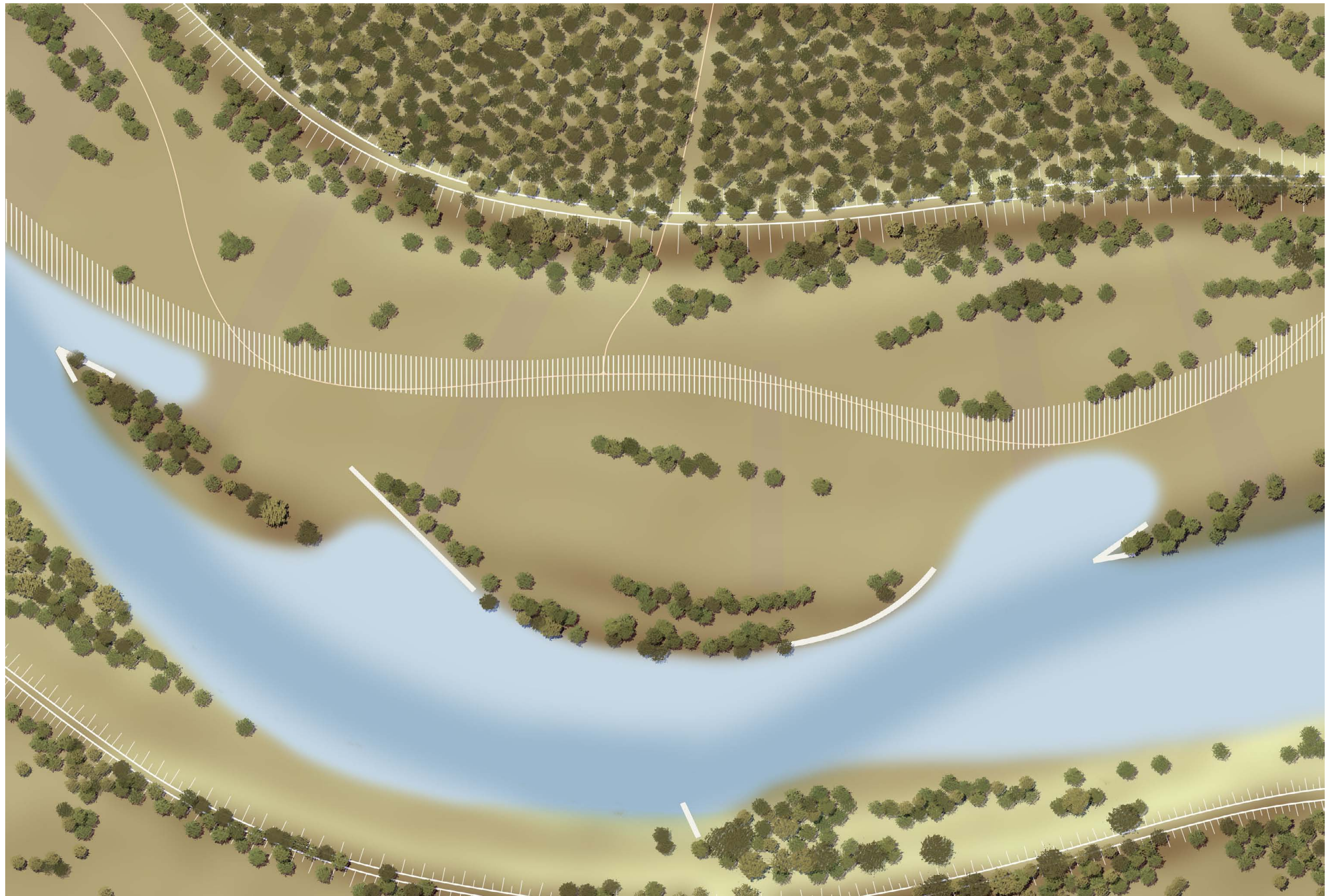
7

test site:
Vistula Valley
2025



7

test site:
Vistula Valley
2030



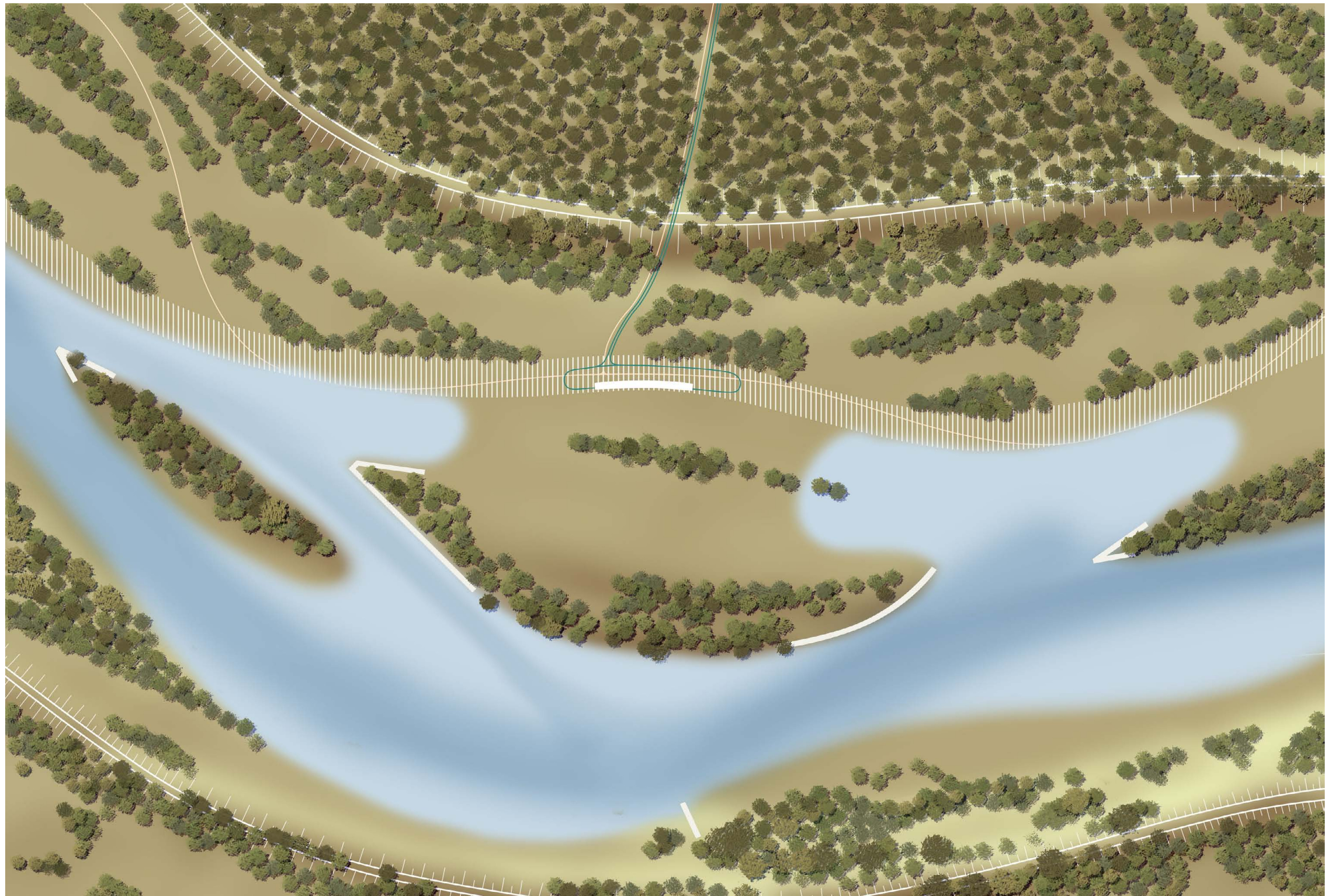
7

test site:
Vistula Valley
2035



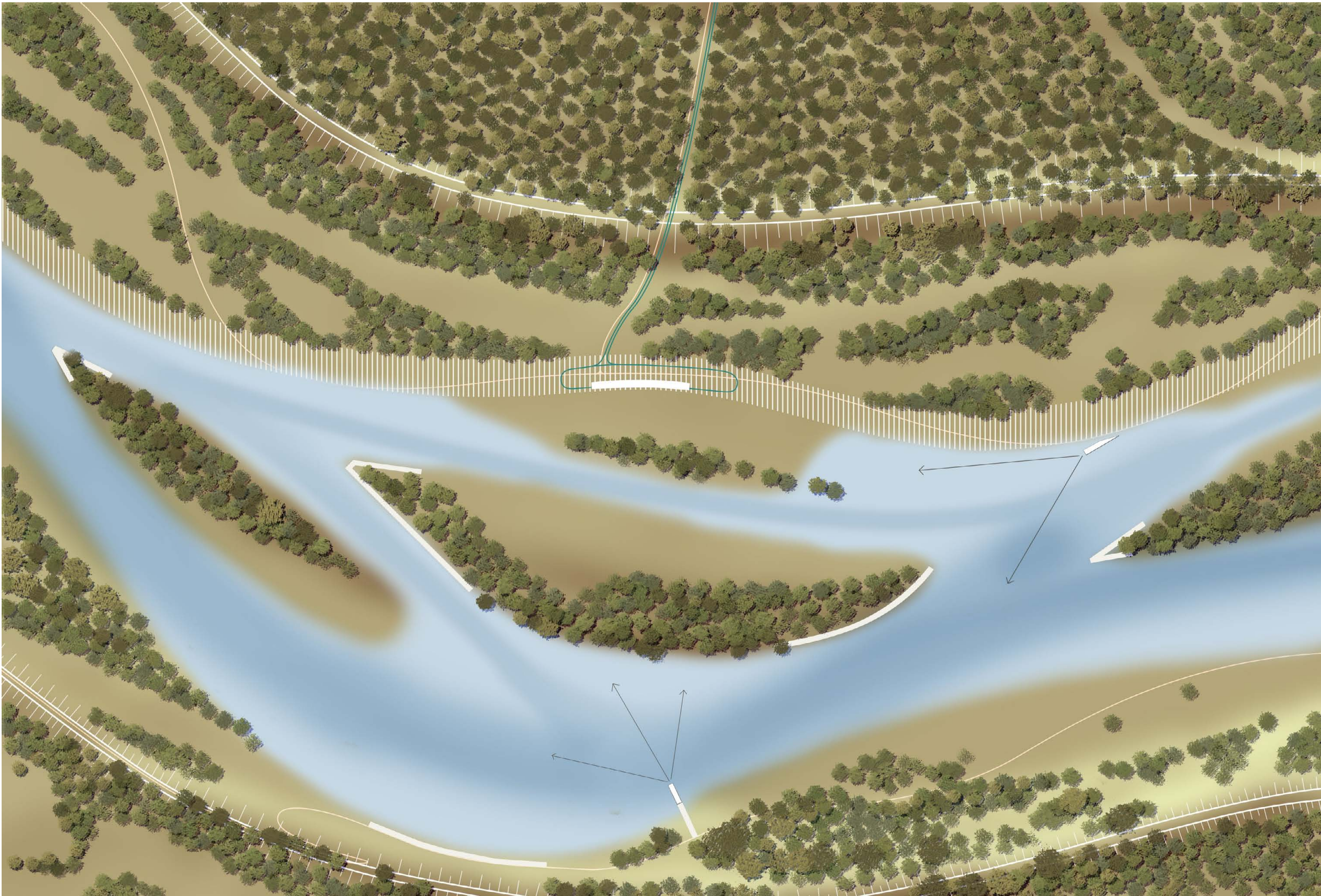
7

test site:
Vistula Valley
2040



7

test site:
Vistula Valley
2045



7

test site:
Vistula Valley
2050



THANK YOU

