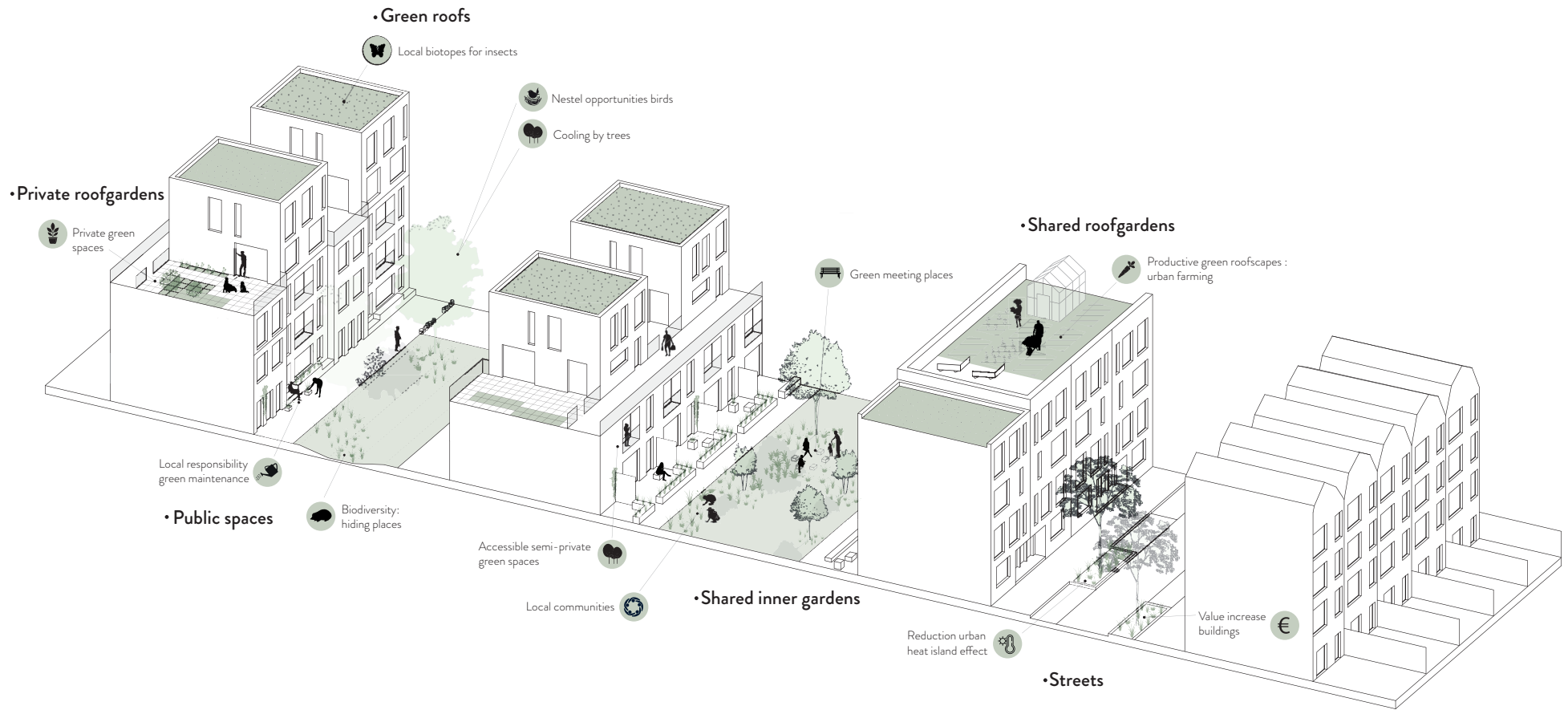


Rethinking Urban Domestic Gardens

Aligning Urban Domestic Gardens to Concrete Urban Demands

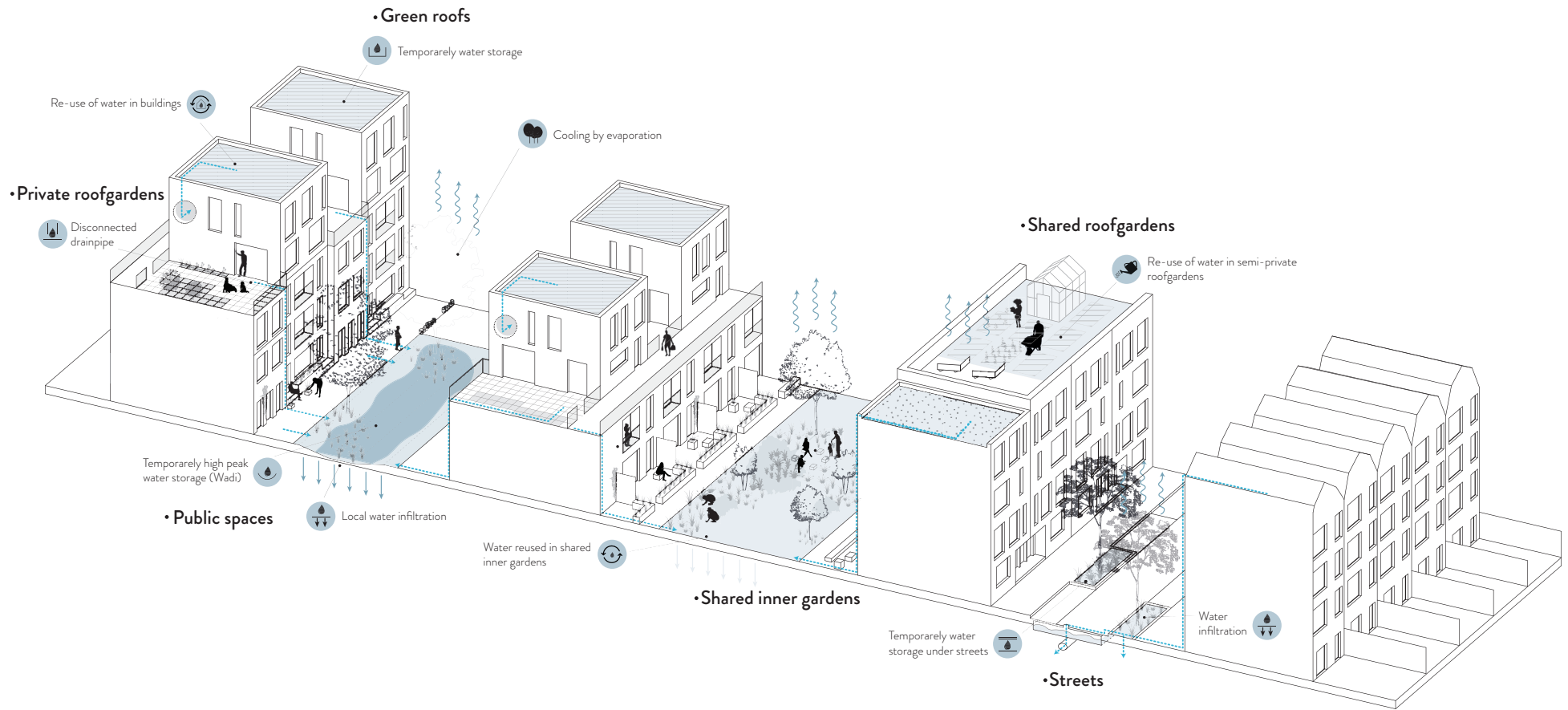


**Tarwewijk,
a look into
the
future**

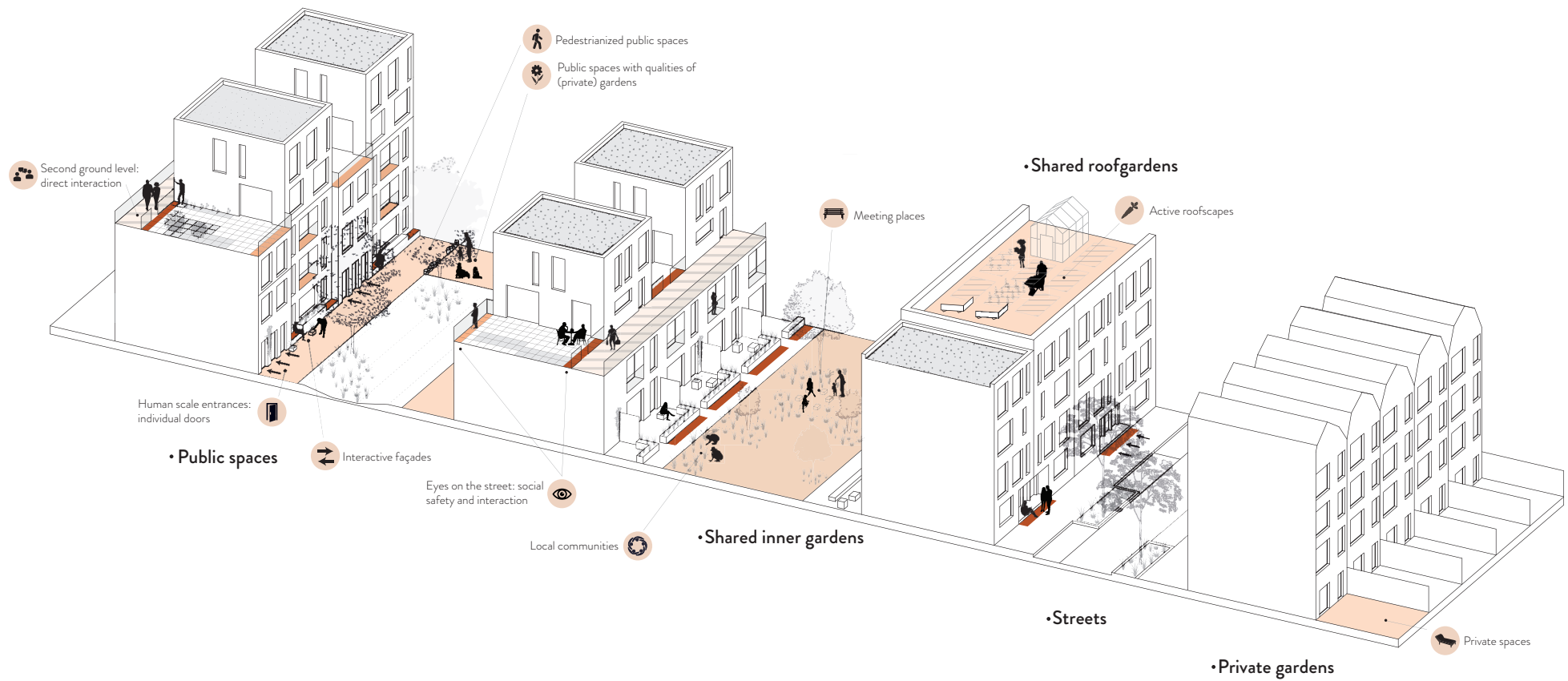


/ 'a Tarwewijk with more valuable green in **different urban layers**'

/ 'a Tarwewijk where green **connects**'



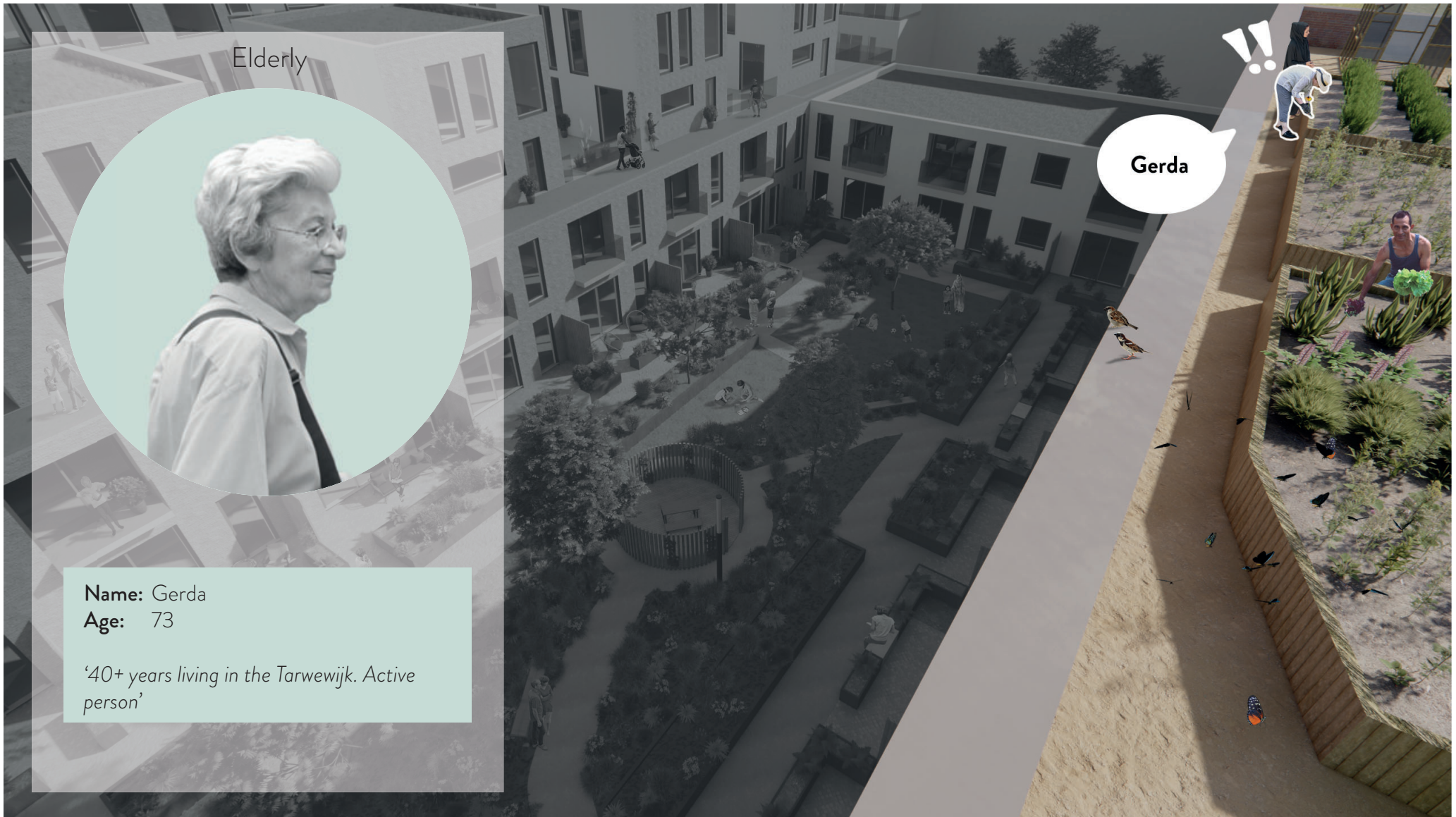
/ 'a climate proof Tarwewijk'



/ 'a Tarwewijk with more **social cohesion**

/ 'a Tarwewijk with a human scale, for the **people**





Elderly

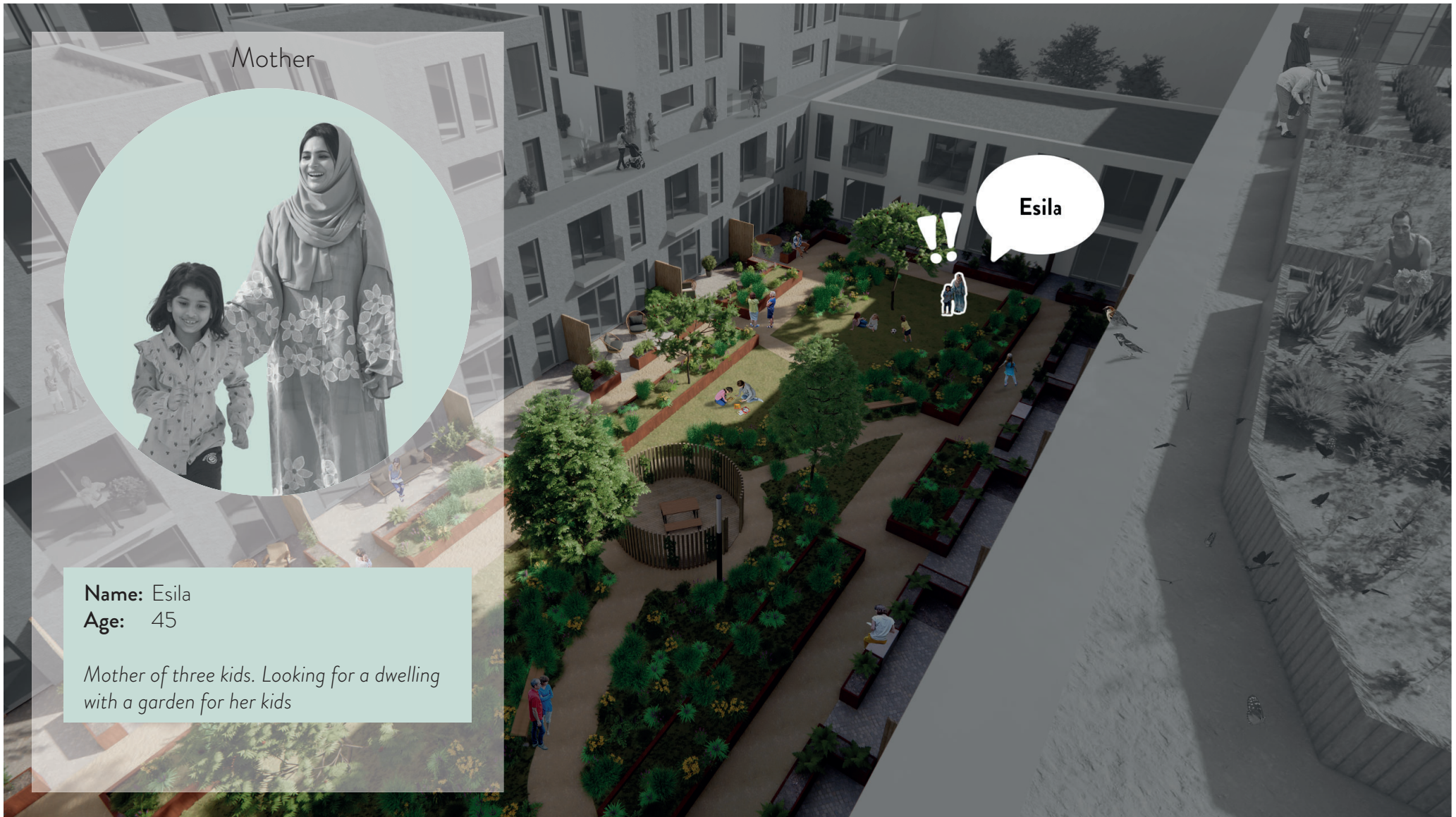


Gerda

Name: Gerda
Age: 73

'40+ years living in the Tarwewijk. Active person'

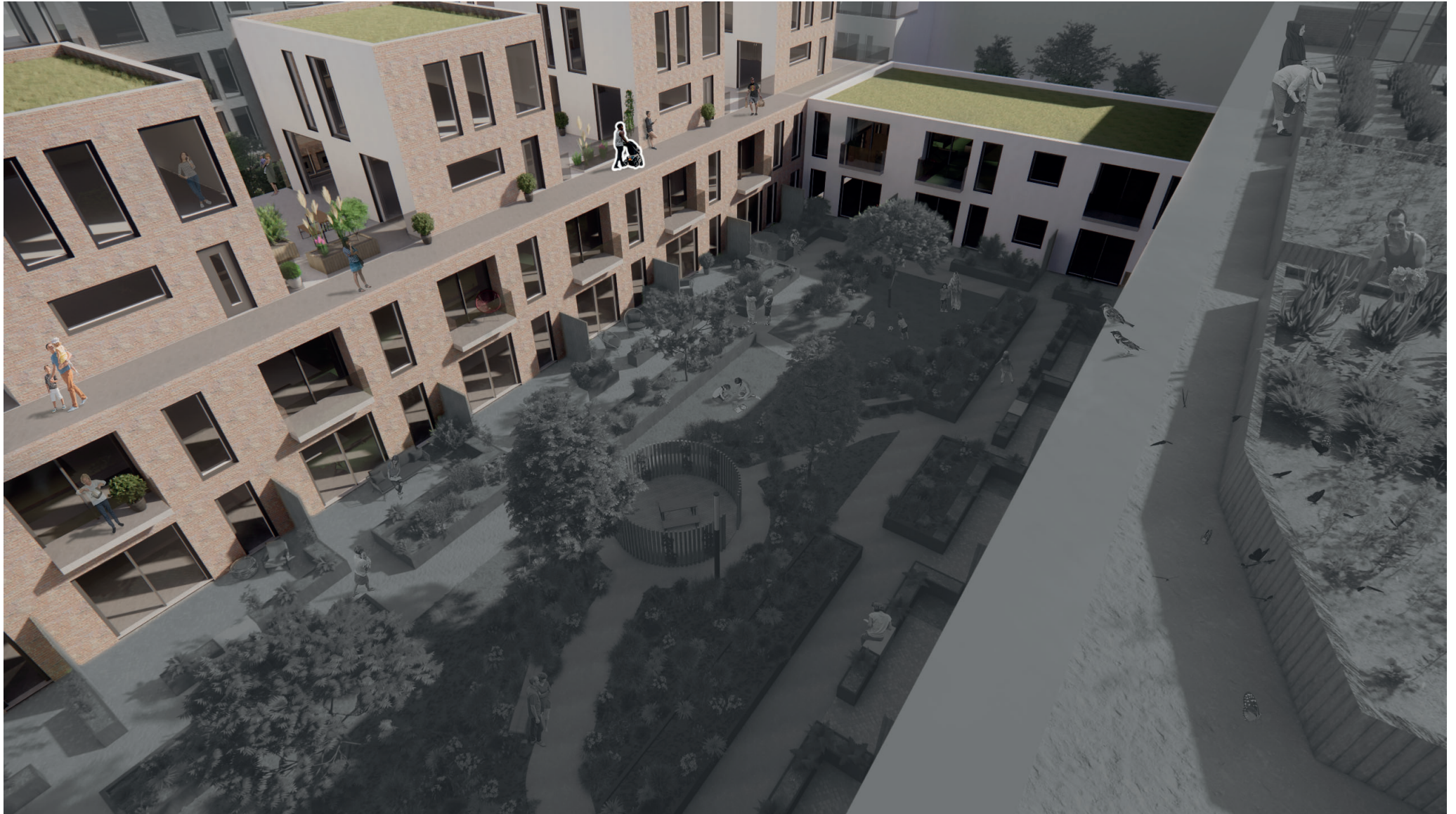




Mother

Name: Esila
Age: 45
Mother of three kids. Looking for a dwelling with a garden for her kids

Esila





Stefano

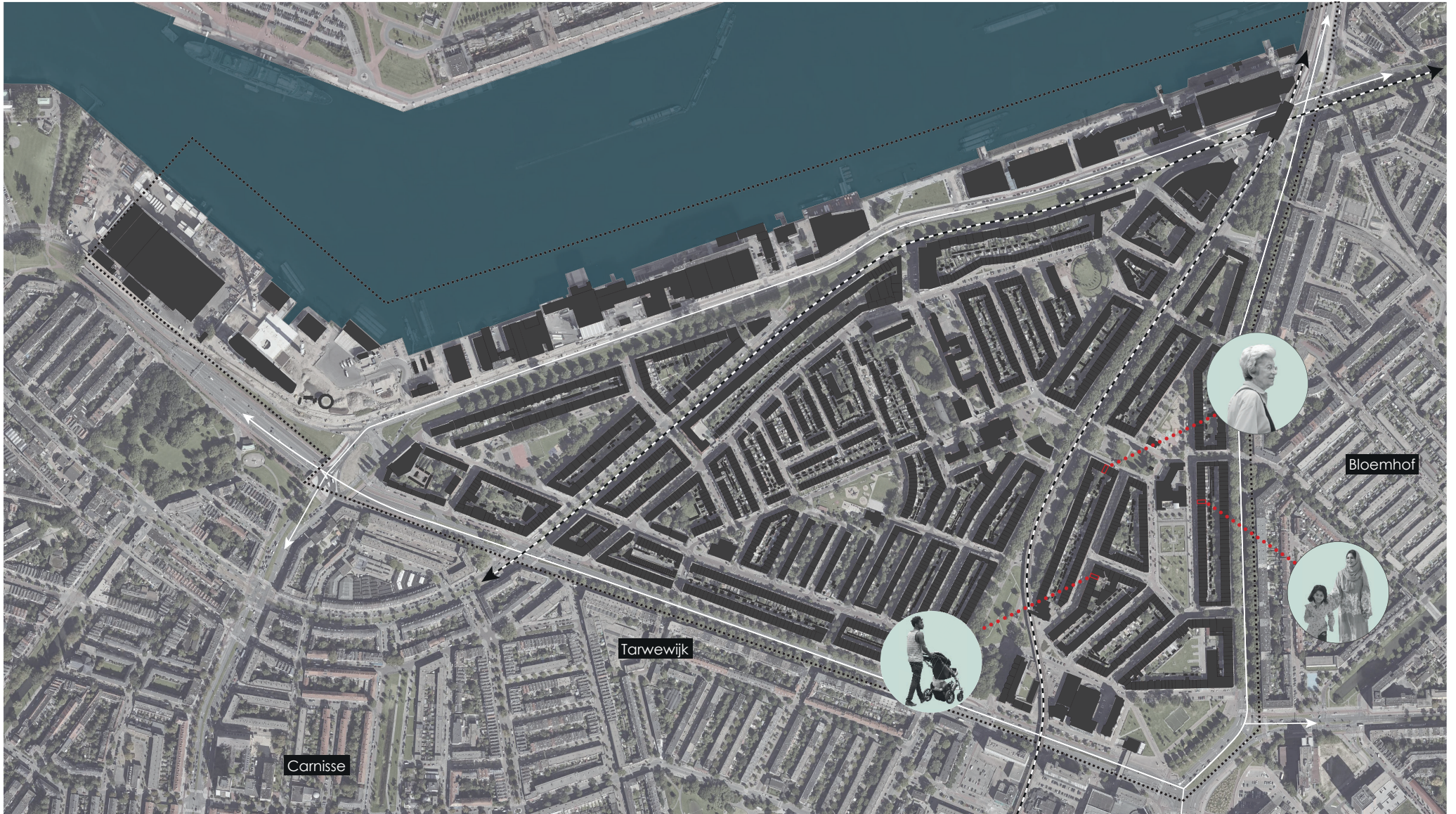


Starter

Name: Stefano
Age: 32
Starter, has a busy life. Likes to walk around with his recently born baby'

**Tarwewijk,
a look into
the
present**







Esila



“I’m disappointed that my neighbour isn’t doing anything with his garden”

1





GREY GARDENS

1322x/2317 grey gardens

51,3% of all gardens

11,3% of total open space

51.320 m² area

8 football fields

Concrete urban demand 1:

Decrease of soil sealing



Urban domestic gardens contribute to negative effects on the living quality of the urban environment

=

Increase of soil sealing of the urban environment through the urbanization of cities in the Netherlands

+

The contribution of urban domestic gardens to soil sealing increases

+

40% of the gardens in Rotterdam are paved, 51% in the Tarwewijk



Gerda

“I'm disappointed that my neighbour isn't doing anything with his garden”

1



“Elderly experience to much heat in the public space”

2



Concrete urban demand 2:

Climate proof urban environment



Mismatch between climate adaptation and the use of urban domestic gardens:
Increased contribution of gardens to the problems

Less green: loss of biodiversity

+

Increased heavy precipitation.
More water related problems (floodings)

+

Increase effects of the Urban Heat Island: warmer in cities

=



Gerda

“I'm disappointed that my neighbour isn't doing anything with his garden”

1

“Elderly experience to much heat in the public space”

2

“Shared gardens would be nice to have, since a lot of people do not own a garden”

3



Concrete urban demand 3:

Densification



Need for 230.000 new dwellings in South-Holland in the existing urban environment

+

More stress on the quality of open areas like public spaces and urban domestic gardens

+

Increased importance of the quality of open spaces like urban domestic gardens for the liveability of the local environment

=

Friction between available space for development of dwellings and space for urban domestic gardens and green

Rediscovering the garden & public spaces

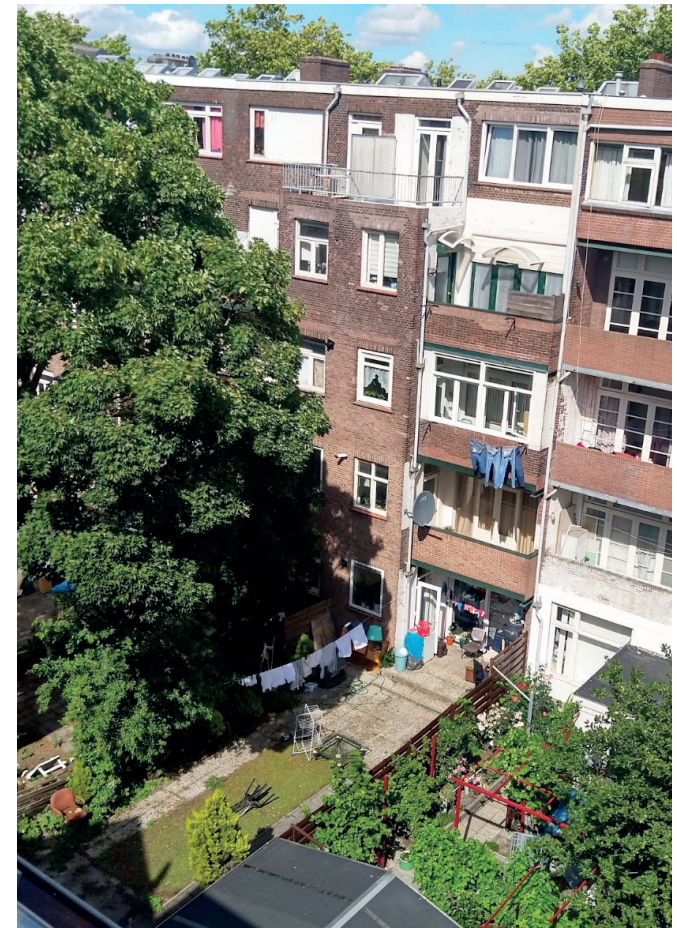
Concrete urban demand 5:

Spatial justice: accessible, qualitative outdoor spaces

Geniet van de zon
in de tuin en op
het balkon!



Geniet van de zon in de
tuin en op het balkon!

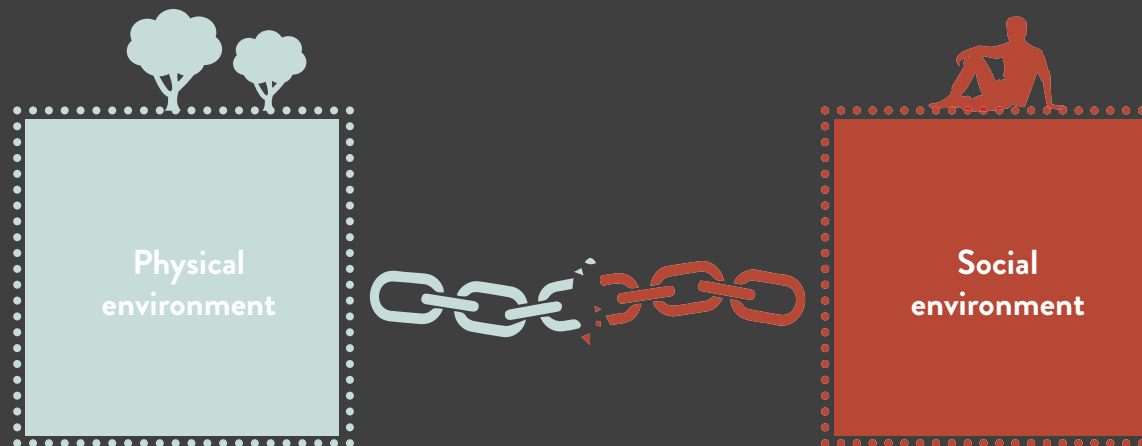


Stefano

“Adults/elderly
have nowhere to go,
there is nothing to
do for them”



Urban environment

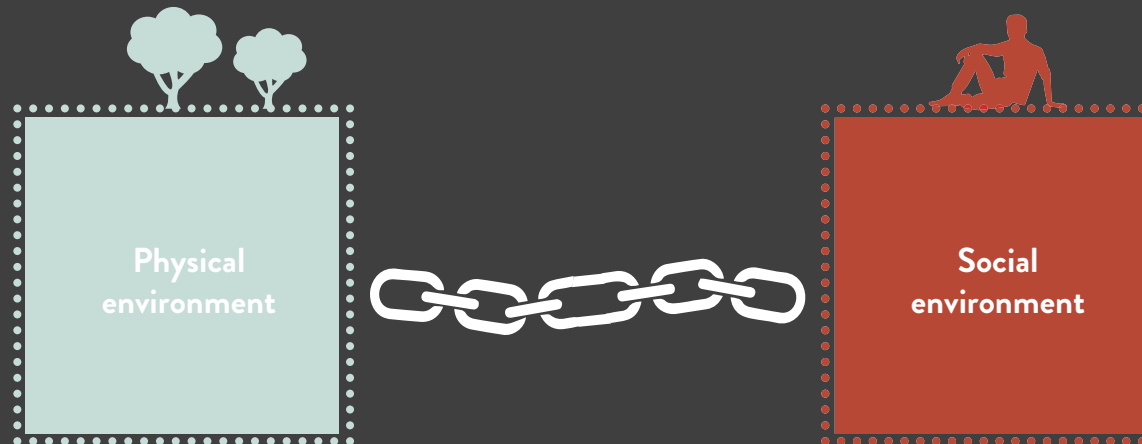


'Physical environment not aligned with needs social environment'

'Social environment not aligned with needs physical environment'

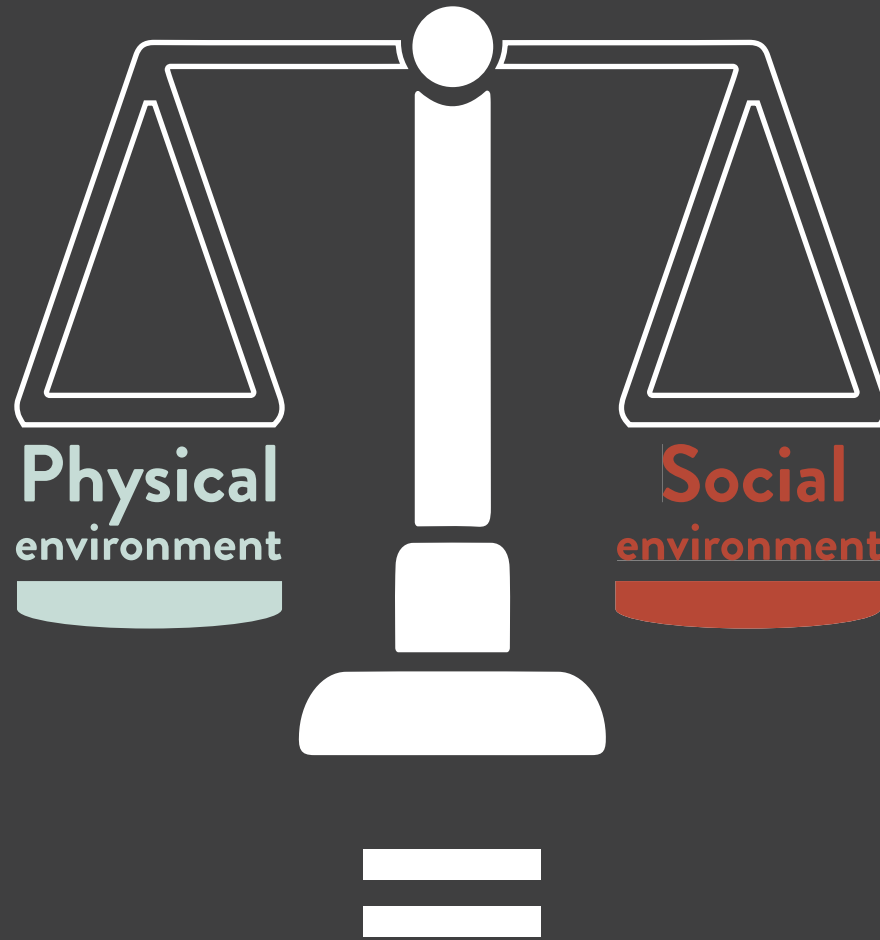
**Reconnect
through
urban domestic
gardens!**

Urban environment



'Physical environment aligned with needs social environment'

'Social environment aligned with needs physical environment'



Liveability

How can **urban domestic gardens** contribute to a more **liveable** urban environment through a **sustainable urban regeneration** of the built environment, in response to **concrete urban demands**?

**Value
urban
domestic
gardens?**

Environmental values



Microclimate value
Restorative value

Cooling of the urban environment
Natural replenishment groundwater

Decreasing urban floods

Increasing biodiversity

Increasing privacy (front gardens)

Barrier effect

Contributory value

Place attachment

Social cohesion (increased contact neighbours)



Gerda

...

“Elderly experience
to much heat in the
public space”

Environmental values



Microclimate value
Restorative value

Cooling of the urban environment
Natural replenishment groundwater
Decreasing urban floods
Increasing biodiversity
Increasing privacy (front gardens)
Barrier effect

Contributory value

Place attachment
Social cohesion (increased contact neighbours)

User values



Place for passive activities

Place to be passive
Sitting and relaxing
Watching and feeding wildlife and birds
Sunbathing
Drying laundry

Place for active activities

Exersising pets
Green maintance/gardening
Playing with friends/children
Entertaining friends/family
Eating picnicking outside

Restorative values

Place of peace and quietness

Increasing mental health
Increasing physical health

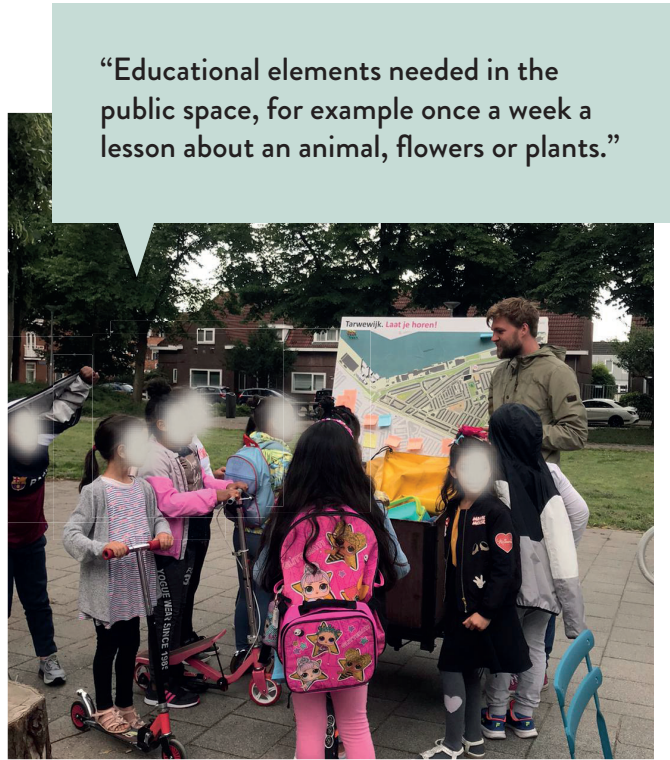
Social well-being

Representative value

Selling point to others

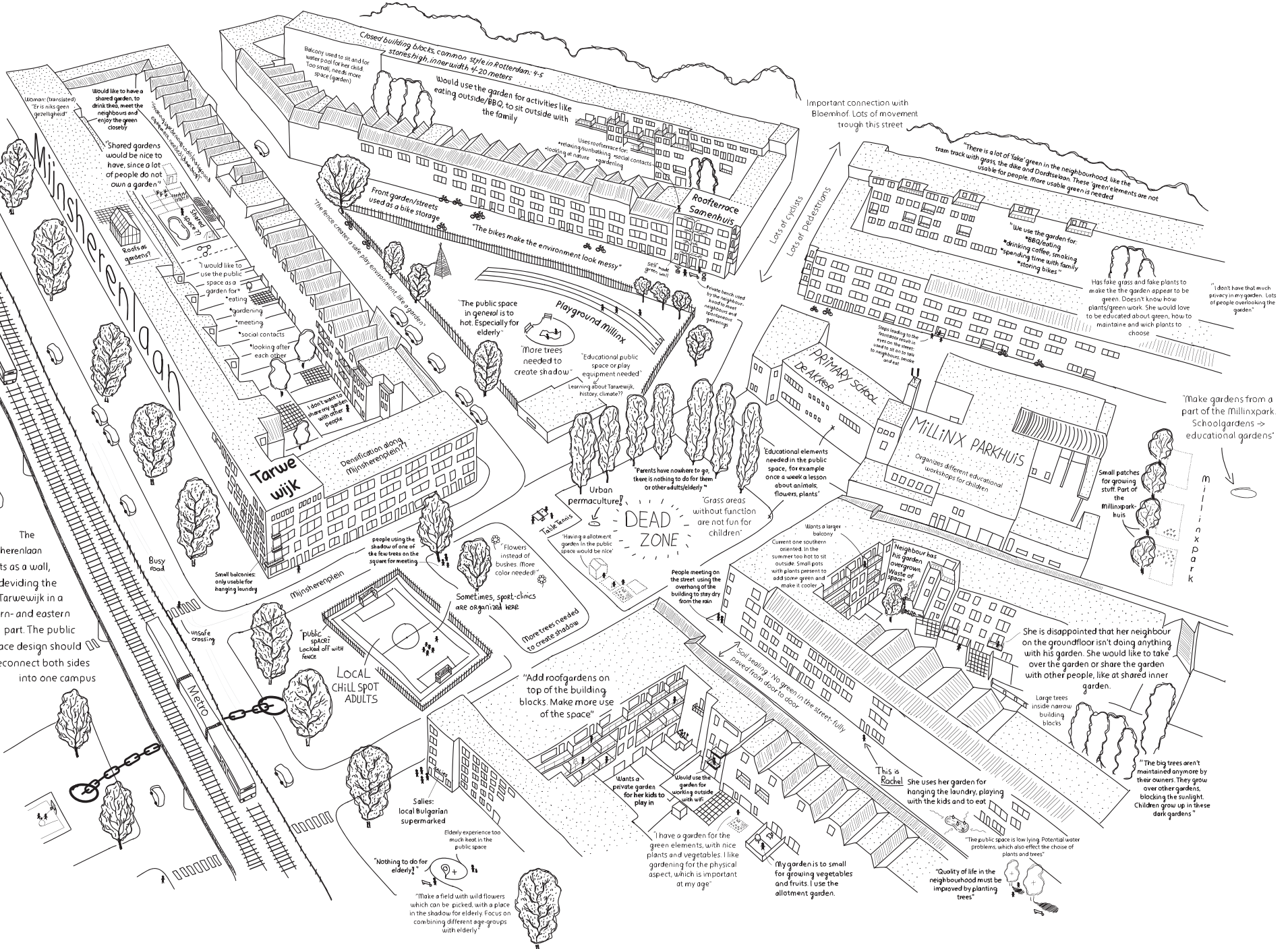


"I have a garden for the green elements, with nice plants and vegetables. I like gardening for the physical aspect, which is important at my age."



Metro to Rotterdam Cs

The Mijnsheerlaan acts as a wall, dividing the Tarwewijk in a western- and eastern part. The public space design should reconnect both sides into one campus



Woman (transient) "Eris niks geen gezelligheid"
"Would like to have a shared garden, to drink tea, meet the neighbours and enjoy the green closely"
"Shared gardens would be nice to have, since a lot of people do not own a garden"

Closest building blocks, common style in Rotterdam, 4-5 stories high, inner width 4-20 meters
"Would use the garden for activities like eating outside/BBQ, to sit outside with the family"
"Uses roof terrace for relaxing/sunbathing, social contacts, looking at nature, gardening"
"Front garden/streets used as a bike storage"
"The bikes make the environment look messy"

Roof terrace Samenhuus
"Important connection with Bliedhof. Lots of movement through this street"
"There is a lot of fake green in the neighbourhood like the tram track with grass, the dike and Dordse Sloot. These green elements are not usable for people, more usable green is needed"
"We use the garden for BBQ/eating, drinking coffee, smoking, spending time with family, storing bikes"
"Has fake grass and fake plants to make the garden appear to be green. Doesn't know how plants/green work. She would love to be educated about green, how to maintain and which plants to choose"
"I don't have that much privacy in my garden. Lots of people overlooking the garden"

Roof terrace Samenhuus
"The public space in general is hot. Especially for elderly"
"More trees needed to create shadow"
"Educational public space or play equipment needed"
"Learning about Tarwewijk, history, climate?"
"Private benches used by the neighbours. And I have next neighbours and neighbours' generosity"

DEAD ZONE
"Parents have nowhere to go, there is nothing to do for them or other adults/elderly"
"Grass areas without function are not fun for children"
"Educational elements needed in the public space, for example once a week a lesson about animals, flowers, plants"
"Wants a larger balcony"
"Current one is southern oriented in the summer too hot to sit outside. Small pots with plants present to add some green and make it cooler"

Roof terrace Samenhuus
"I would like to use the public space as a garden for eating, gardening, meeting, social contacts, looking after each other"
"I don't want to have my garden with other people"

Denification along Mijnsheerplein
"people using the shadow of one of the few trees on the squares for meeting"
"Flowers instead of bushes. More color needed!"
"Sometimes, sport-clinics are organized here"
"More trees needed to create shadow"

DEAD ZONE
"Having a allotment garden in the public space would be nice"
"Table tennis"
"Urban permaculture!"
"Wants a private garden for her kids to play in"

DEAD ZONE
"Soil sealing. No green in the street, fully paved from door to door"
"Neighbour has his garden overgrown. Waste of space"
"She is disappointed that her neighbour on the ground floor isn't doing anything with his garden. She would like to take over the garden or share the garden with other people, like at shared inner garden."

DEAD ZONE
"Large trees inside narrow building blocks"
"The big trees aren't maintained anymore by their owners. They grow over other gardens, blocking the sunlight. Children grow up in these dark gardens"

Busy road
"Unsafe crossing"

LOCAL CHILL SPOT ADULTS
"Public space: Locked off with fence"

DEAD ZONE
"Add roofgardens on top of the building blocks. Make more use of the space"

DEAD ZONE
"This is Rachel. She uses her garden for hanging the laundry, playing with the kids and to eat"

DEAD ZONE
"Quality of life in the neighbourhood must be improved by planting trees"

Small balconies only usable for hanging laundry
"Sales: local Bulgarian supermarket"

DEAD ZONE
"Elderly experience too much heat in the public space"

DEAD ZONE
"I have a garden for the green elements, with nice plants and vegetables. I like gardening for the physical aspect, which is important at my age"

DEAD ZONE
"My garden is too small for growing vegetables and fruits. I use the allotment garden."

DEAD ZONE
"The public space is low lying. Potential water problems, which also affect the choice of plants and trees"

DEAD ZONE
"Nothing to do for elderly!"
"Take a field with wild flowers which can be picked with a place in the shadow for elderly. Focus on combining different age groups with elderly"

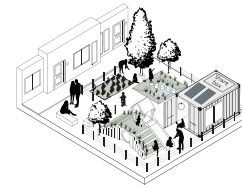
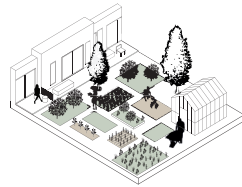
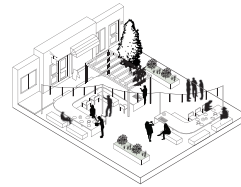
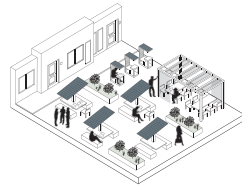
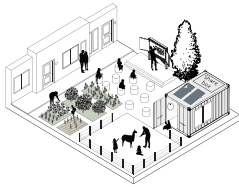
DEAD ZONE
"Make a field with wild flowers which can be picked with a place in the shadow for elderly. Focus on combining different age groups with elderly"

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DEAD ZONE
"Make a field with wild flowers which can be picked with a place in the shadow for elderly. Focus on combining different age groups with elderly"

Design Principles



Learning

Working

Eating

Playing

Meeting

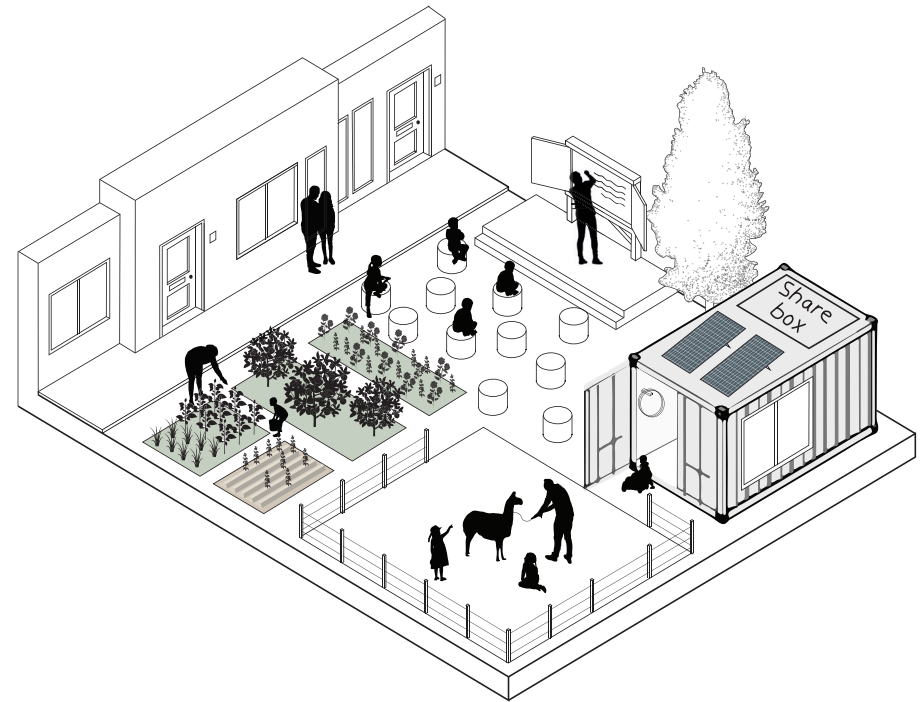
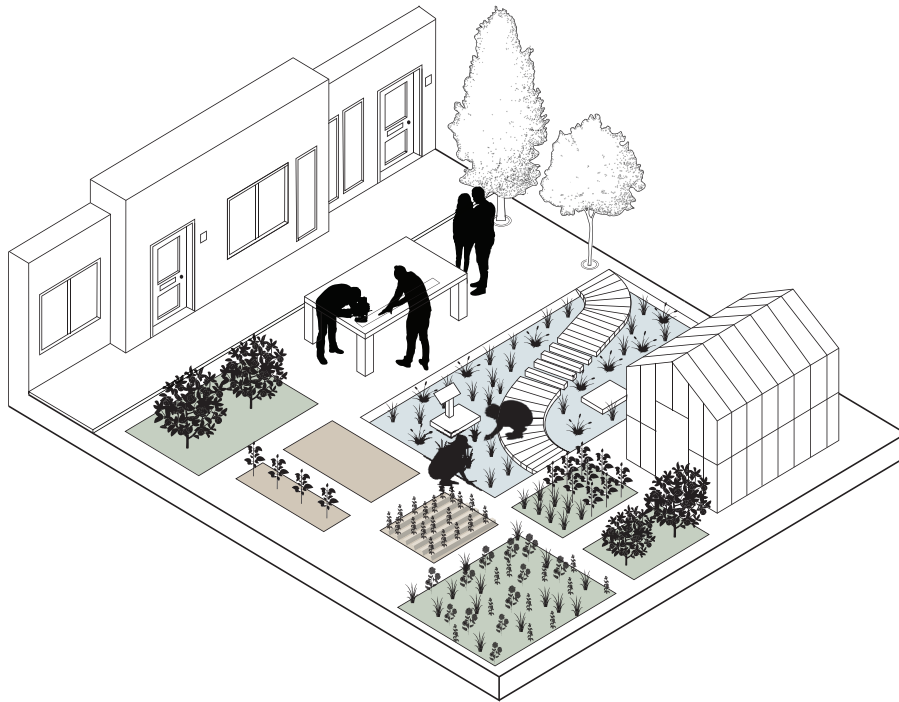




Esila



“I have fake grass and plants to make the garden appear to be green, because I don’t know how plants/green work. I would love to be educated about green”

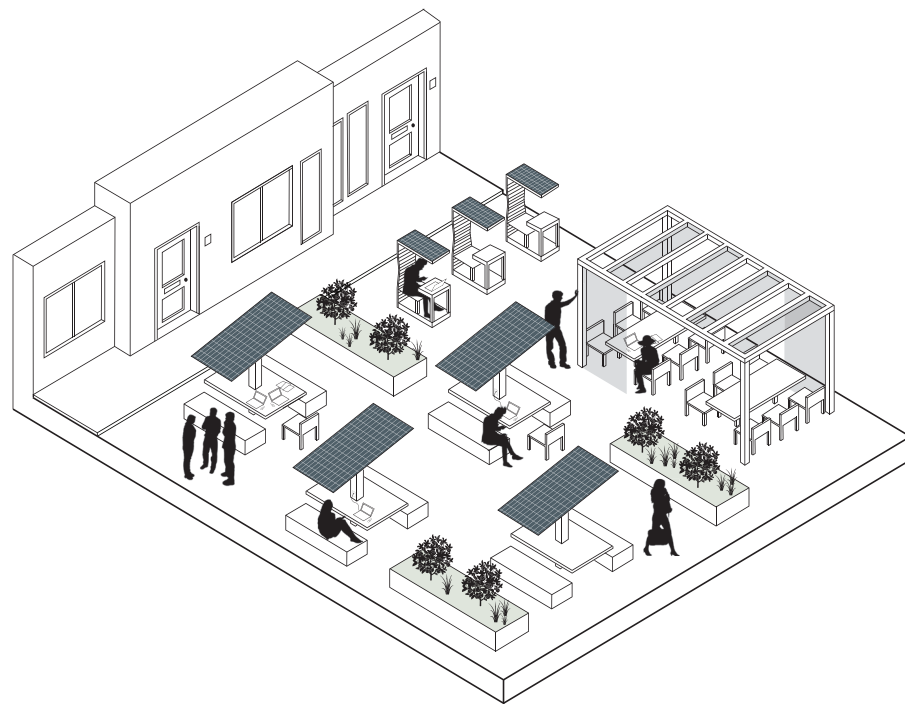
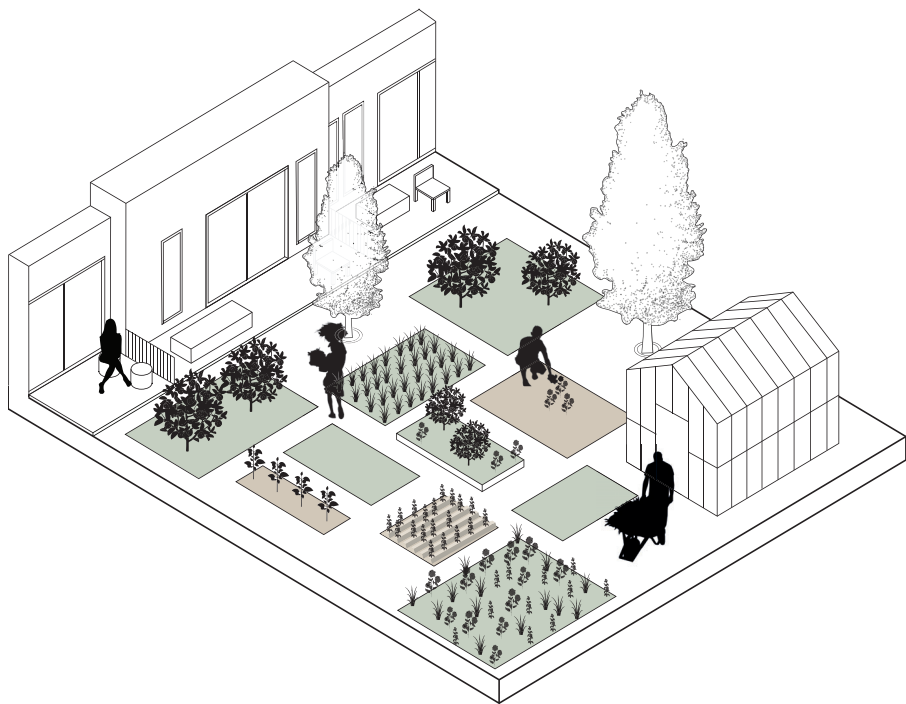




Stefano



“I would use a garden to work outside with WIFI”



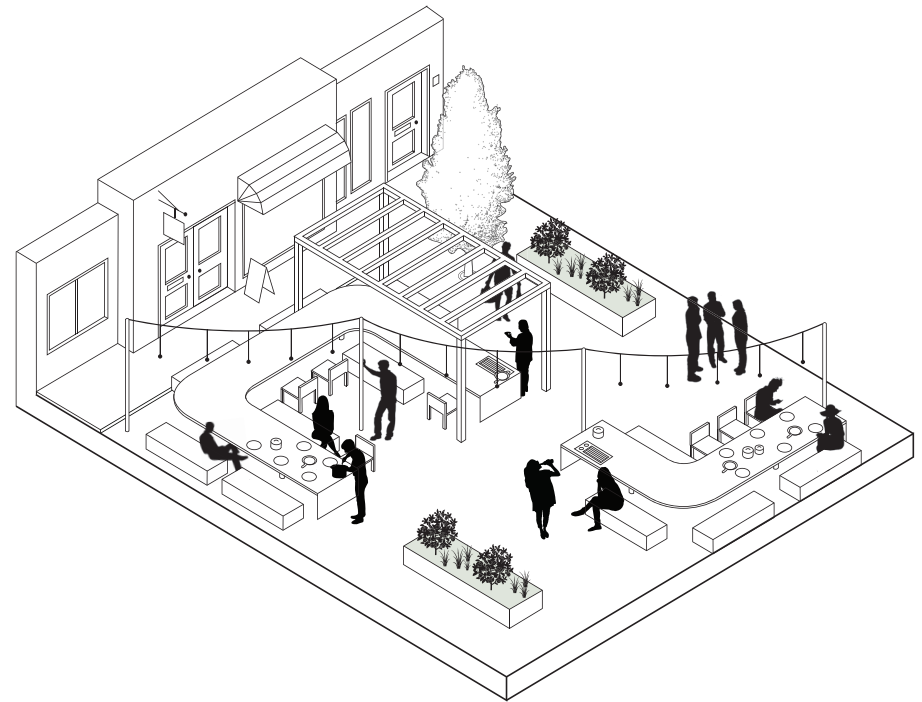
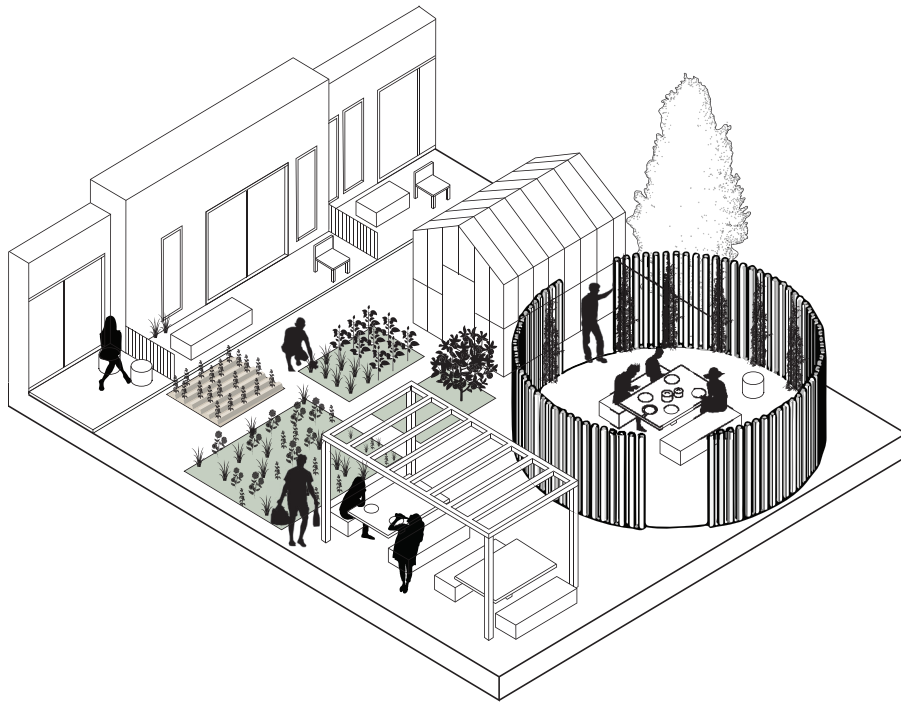




Stefano



“I would use the public space as a garden for eating, meeting, social contacts, looking after each other”



Eating

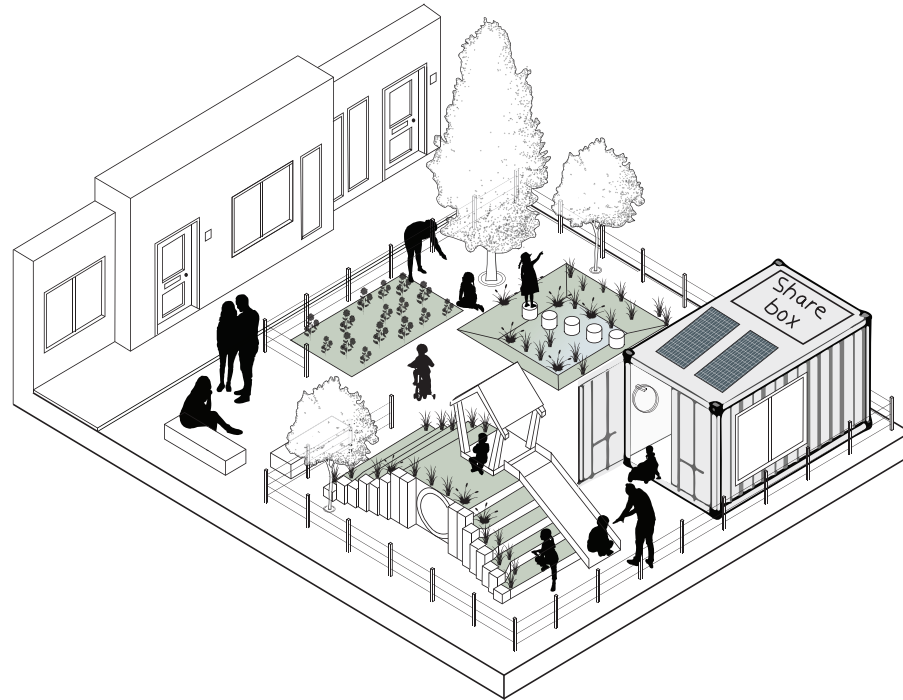


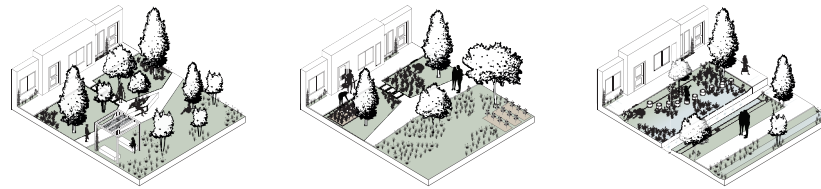


Esila



“I want a private garden for my kids to play in”



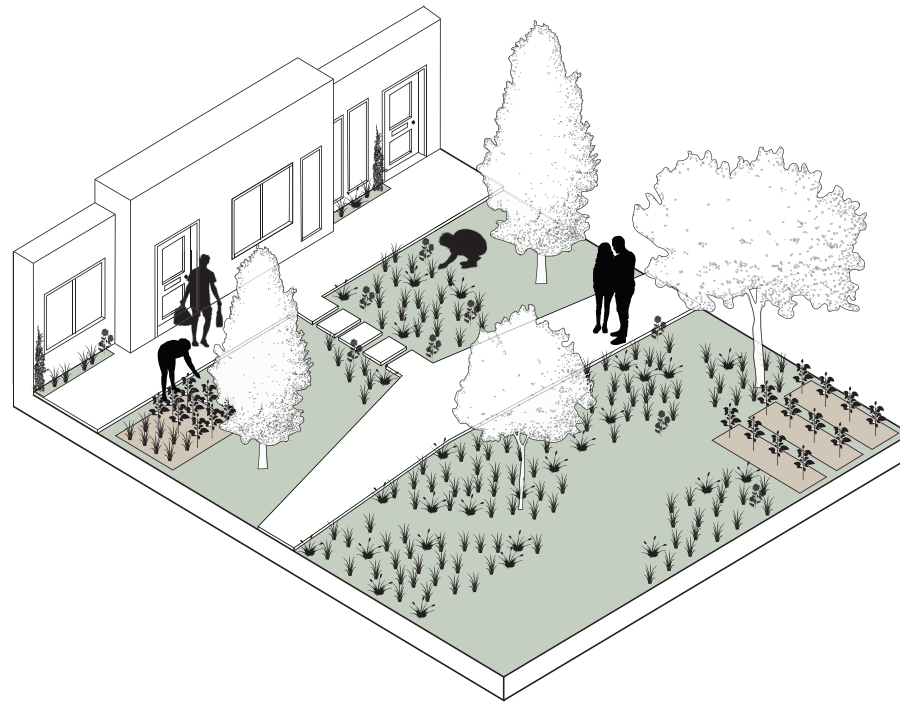


Greening

Cooling

Infiltrating



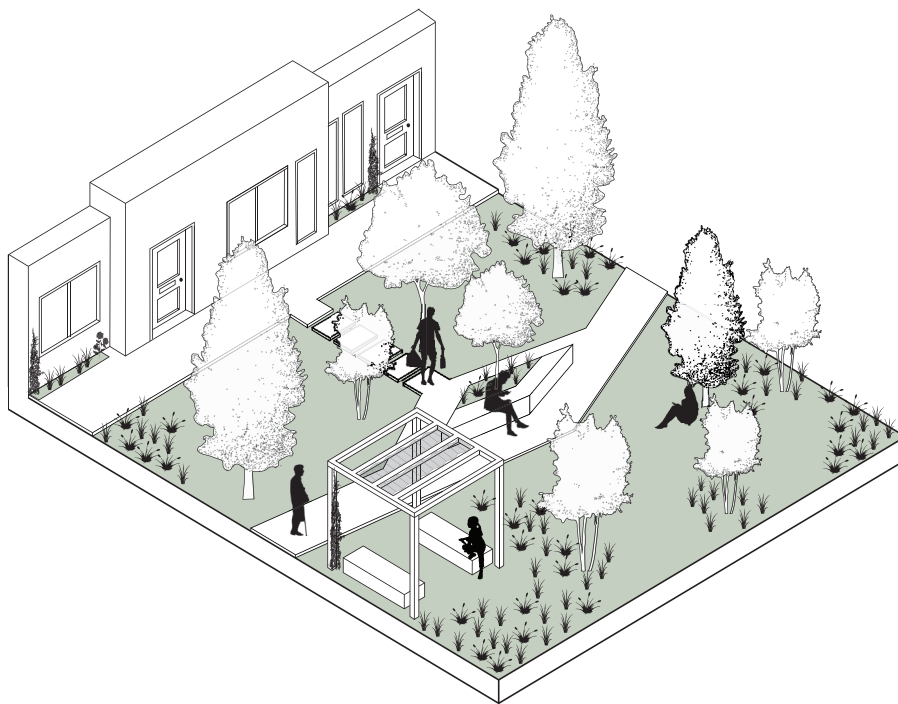




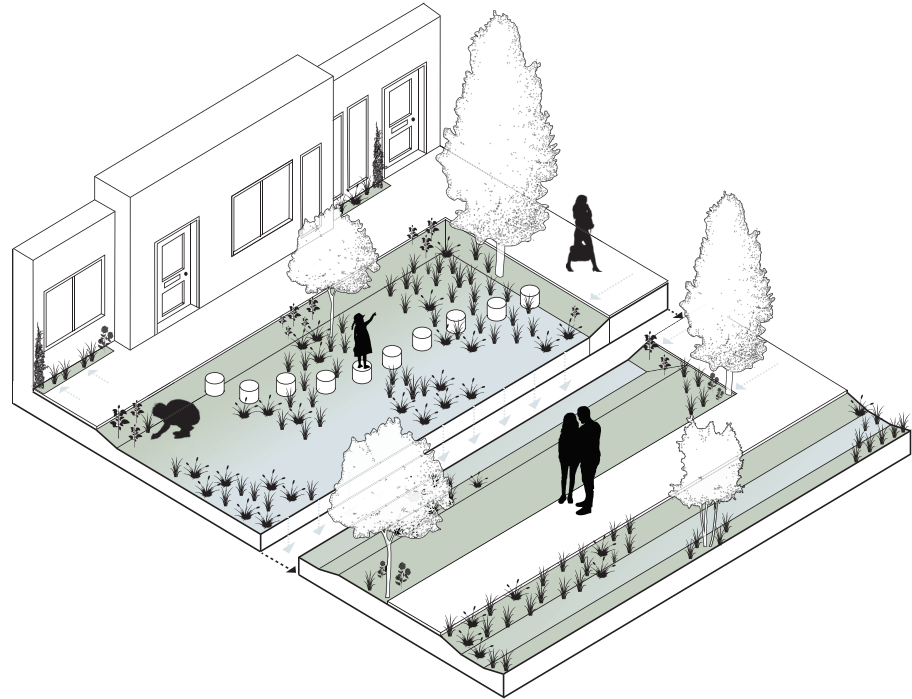
Gerda



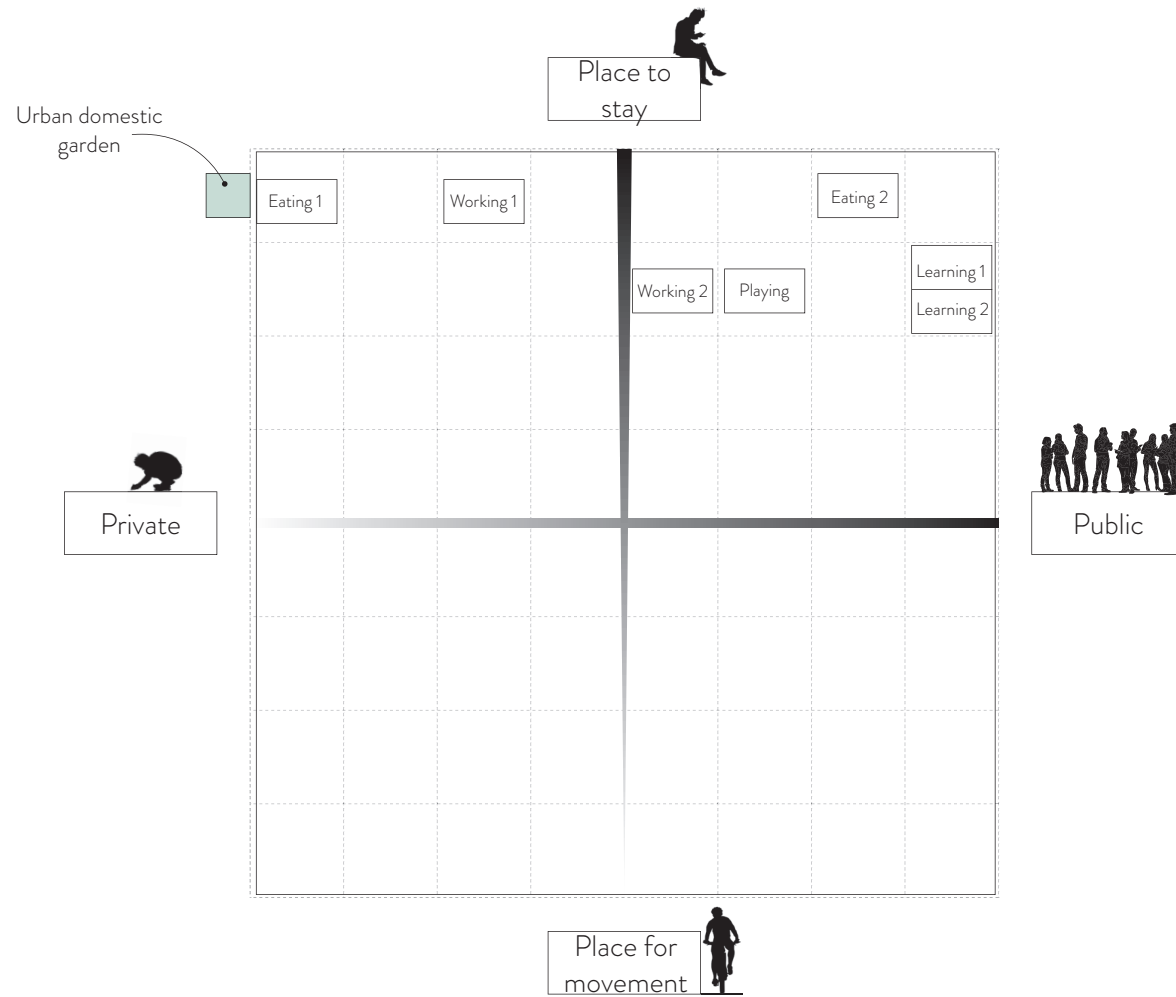
Quality of life in the neighbourhood must be improved by planting trees. Its too hot'



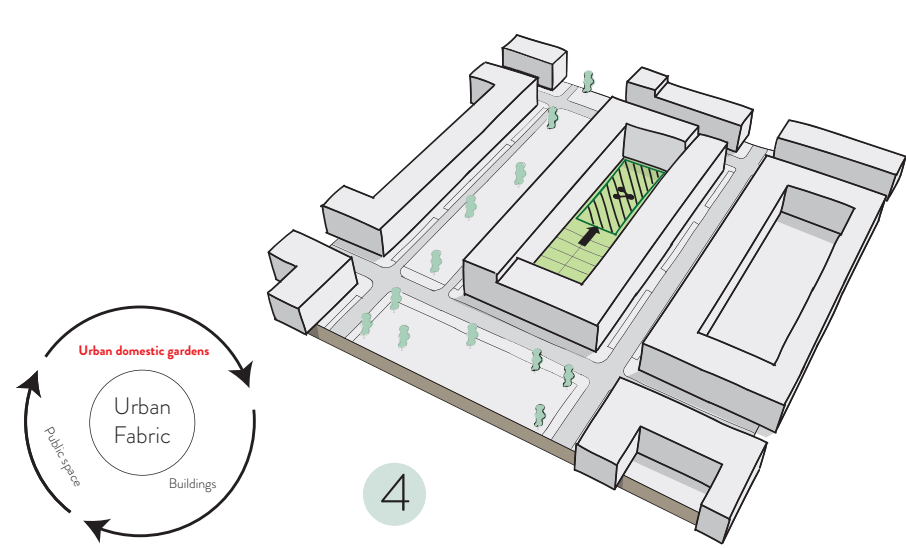
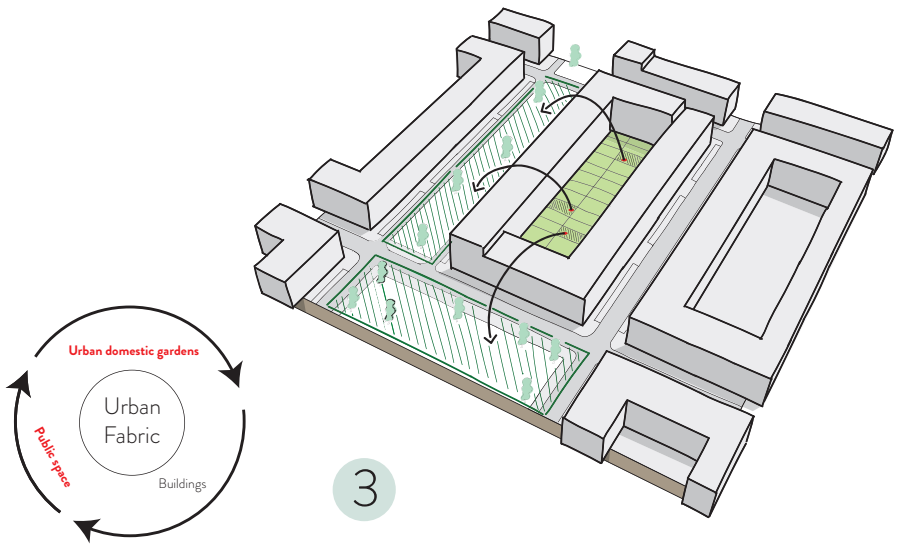
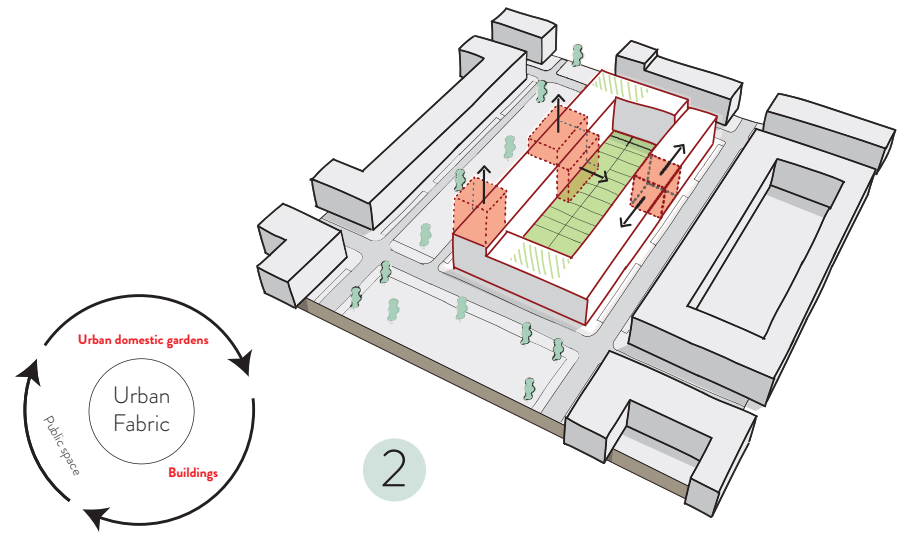
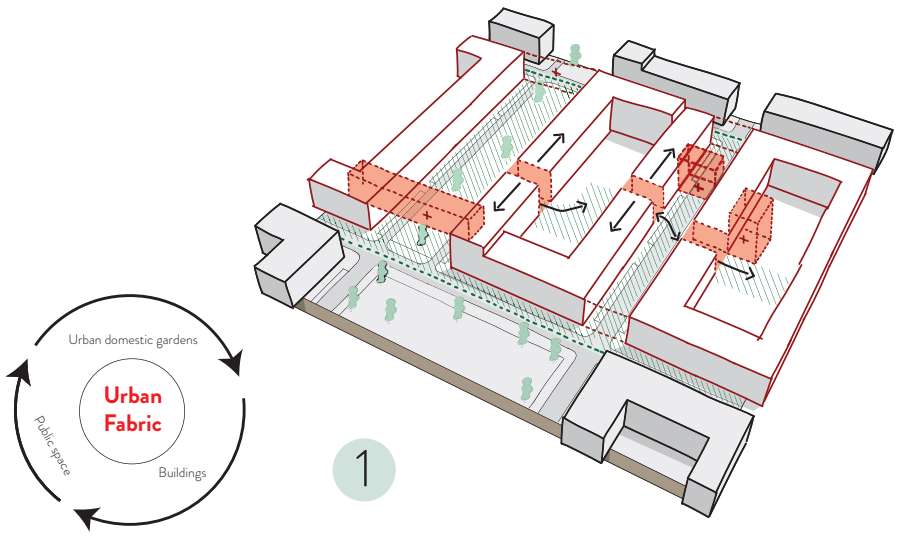
Cooling



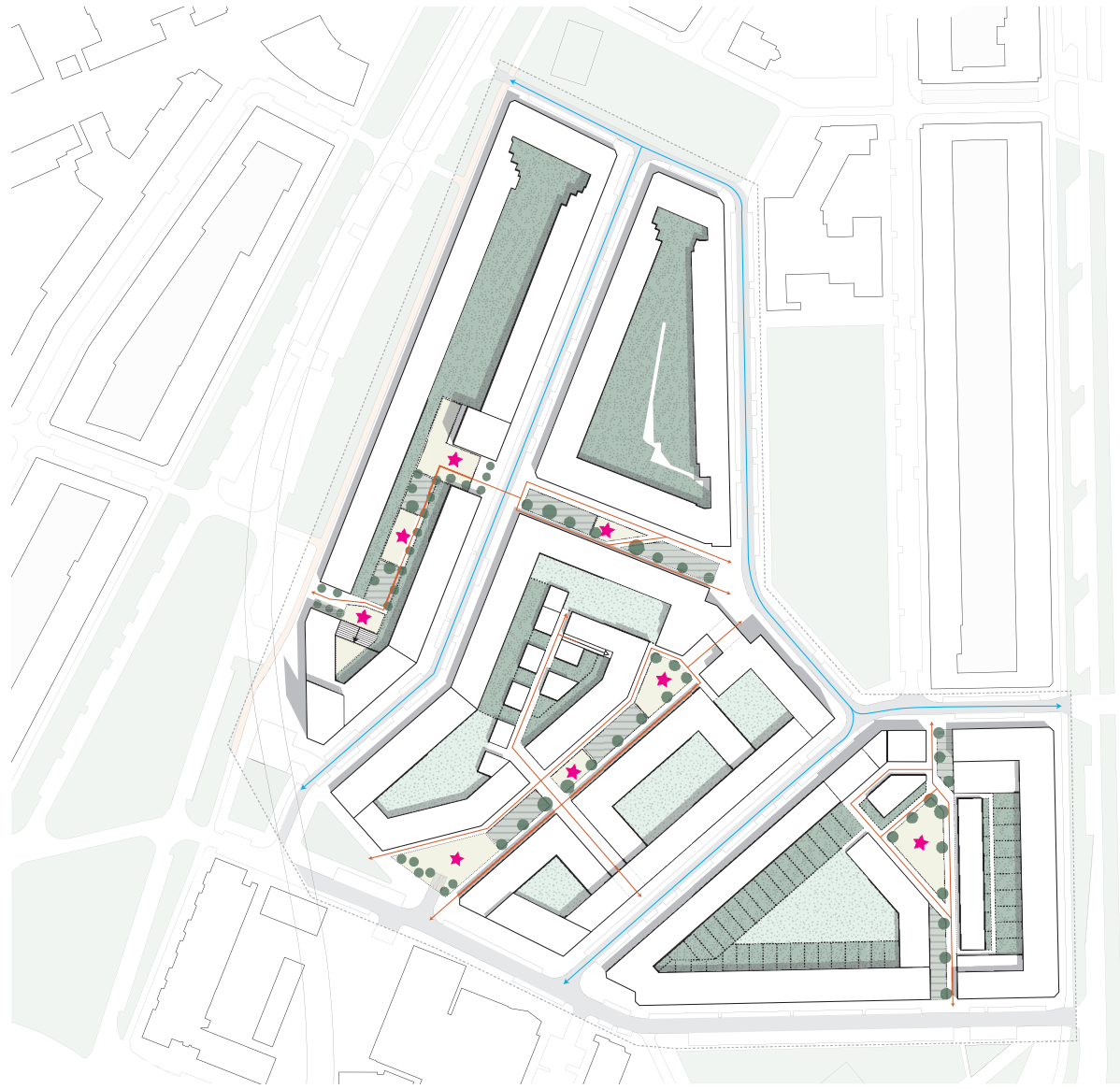


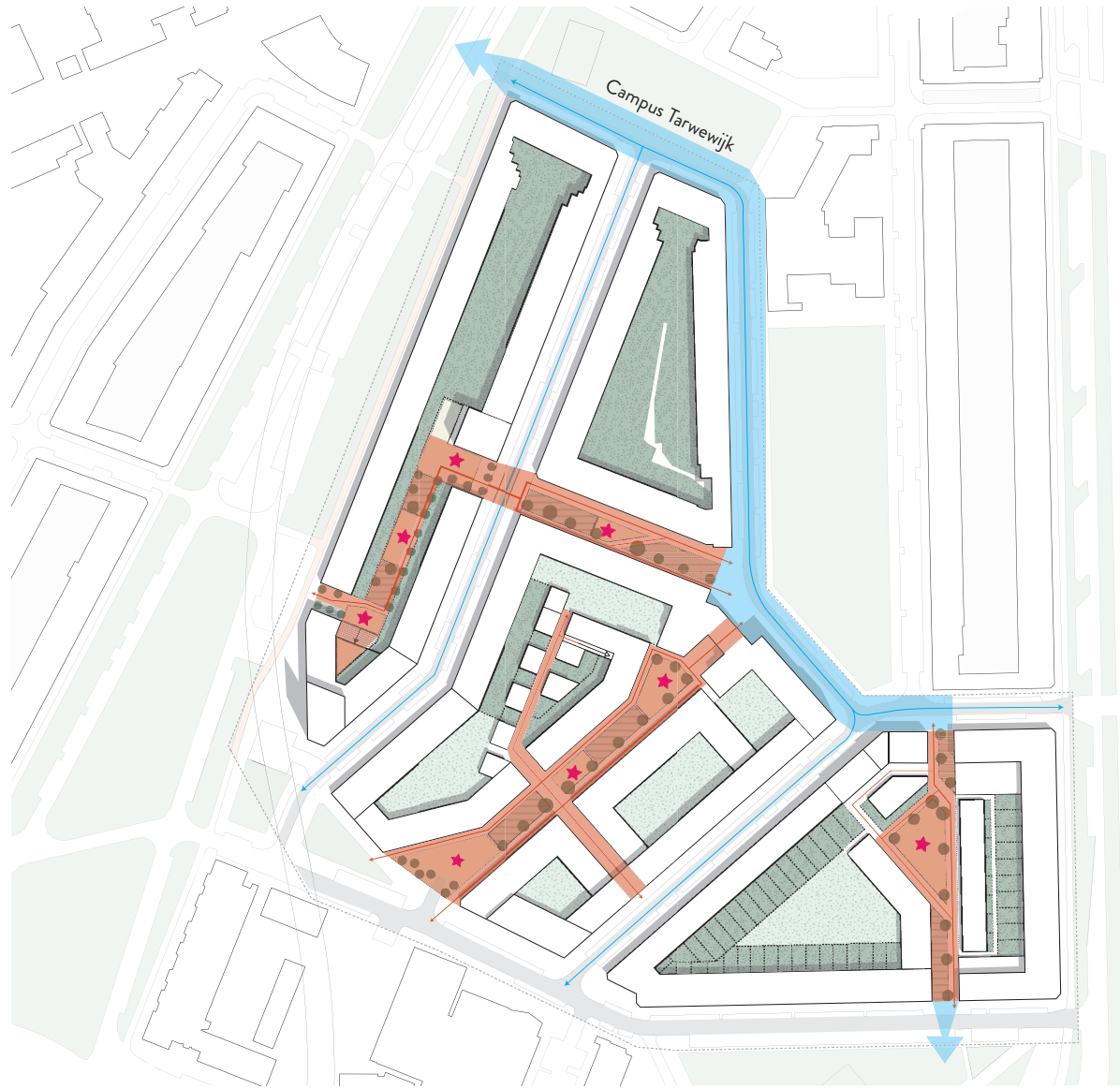








Activating the potential of urban domestic gardens

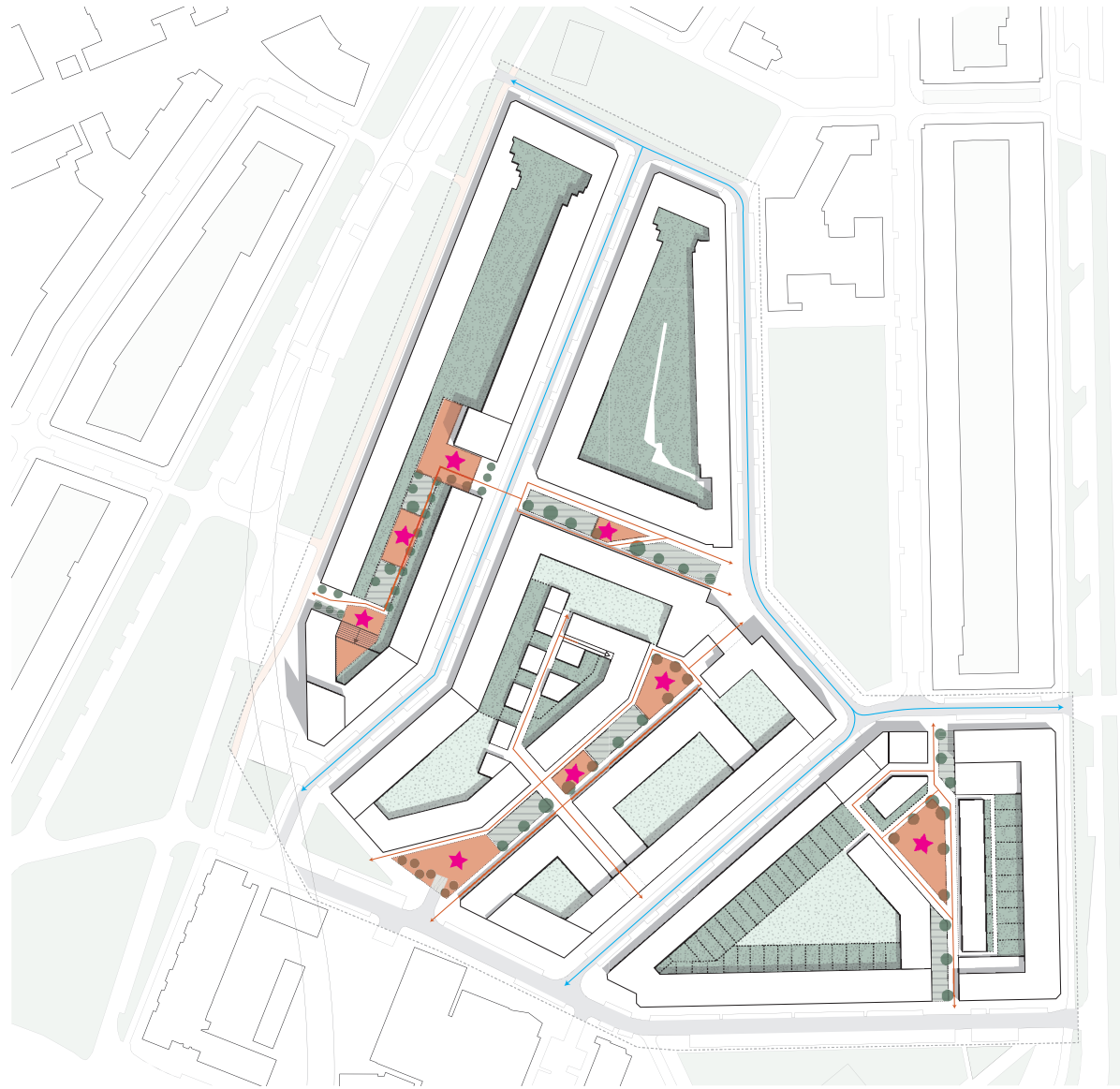















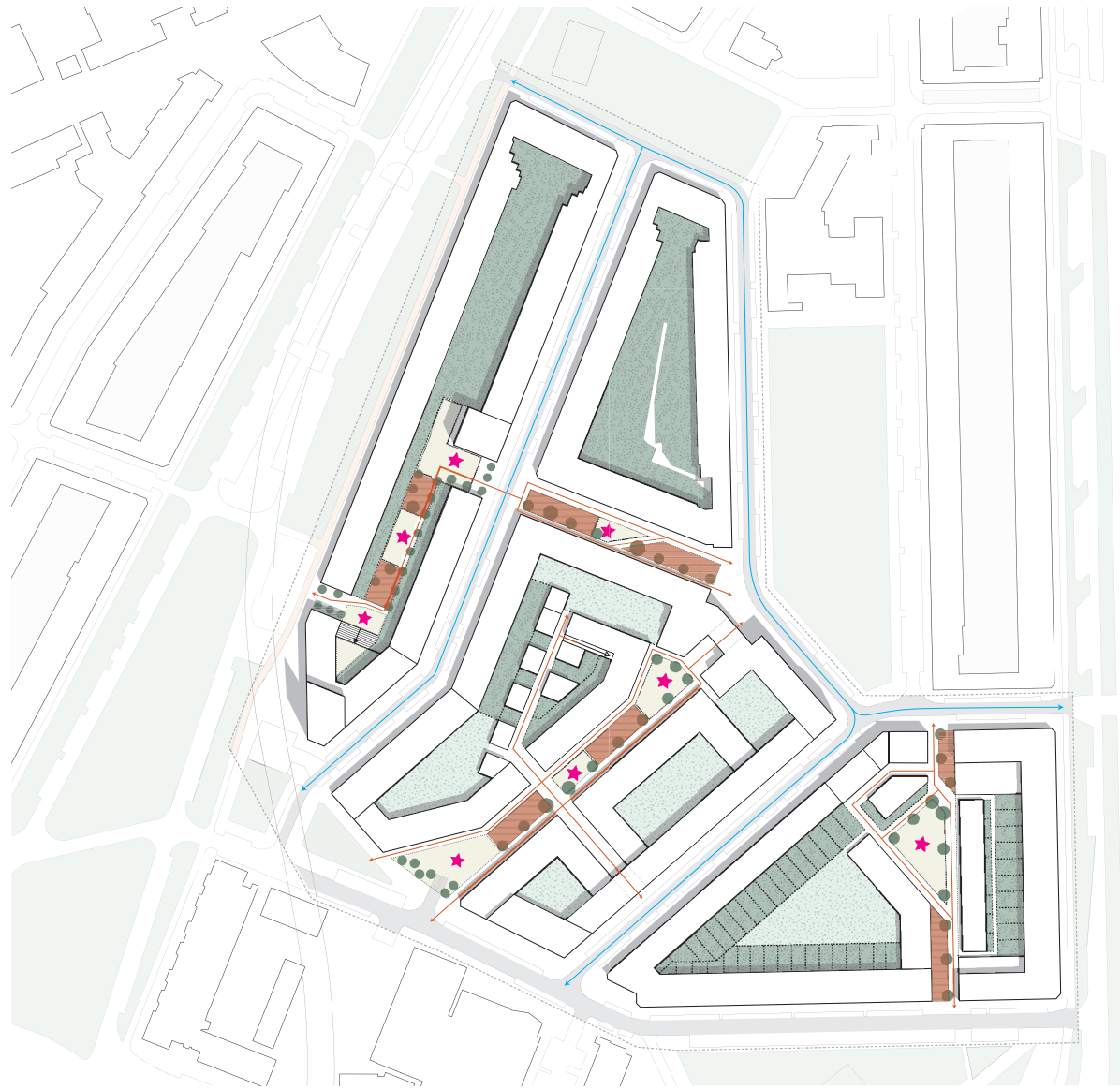
-  Smaller courtyards
-  Mixed buildform
-  More individual entrances
-  Second groundfloor
-  Using the roofscapes
-  Pedestrianized public spaces










-  Smaller courtyards
-  Mixed buildform
-  More individual entrances
-  Second groundfloor
-  Using the roofscapes
-  Pedestrianized public spaces

-  **L**earning **P**laying
- W**orking **M**eeting
- E**ating





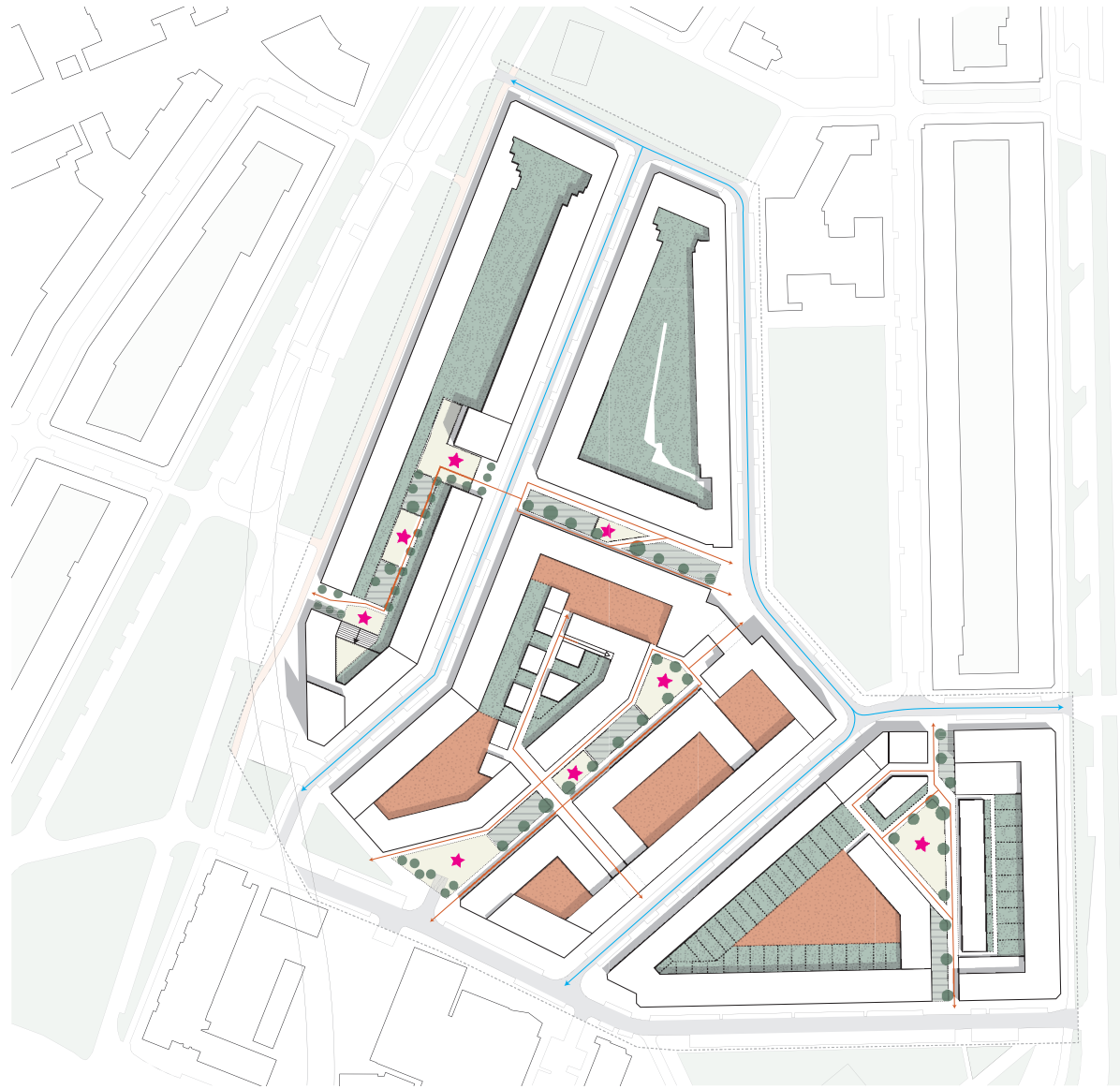
-  Smaller courtyards
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-  **L**earning **P**laying
- W**orking **M**eeting
- E**ating





-  **G**reening **I**nfiltrating
- C**ooling







-  Smaller courtyards
-  Mixed buildform
-  More individual entrances
-  Second groundfloor
-  Using the roofscapes
-  Pedestrianized public spaces


Learning **P**laying
Working **M**eeting


 Social environment

Eating

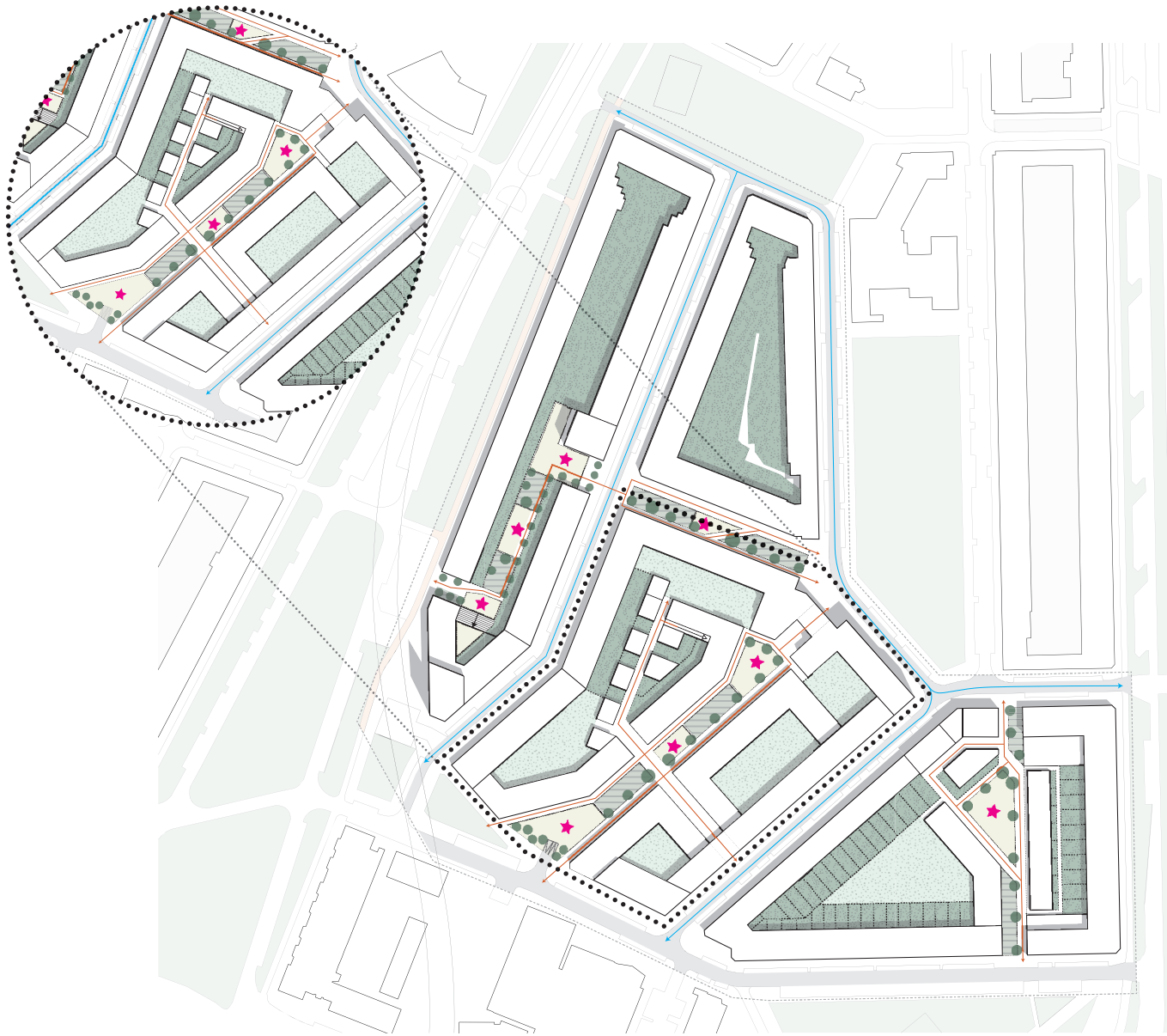
 **G**reening **I**nfiltrating


 Physical environment


 Private gardens
 Shared gardens


 Social environment


 Physical environment



-  Smaller courtyards
-  Mixed buildform
-  More individual entrances
-  Second groundfloor
-  Using the roofscapes
-  Pedestrianized public spaces

-  **L**earning **P**laying
- W**orking **M**eeting
- E**ating

-  **G**reening **I**nfiltrating
- C**ooling



-  Private gardens
-  Shared gardens

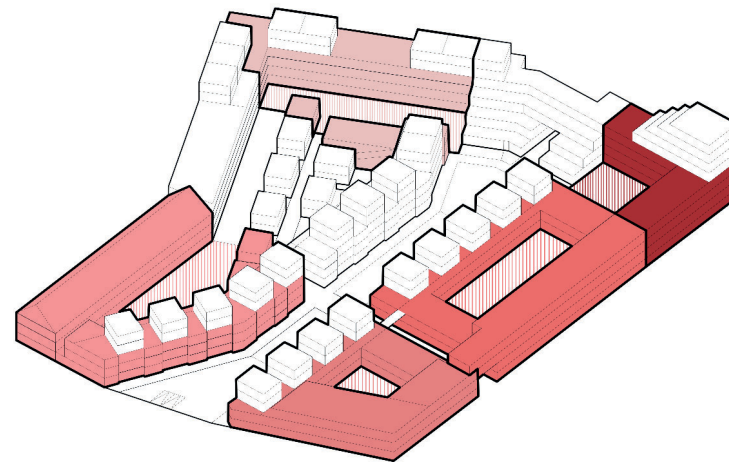
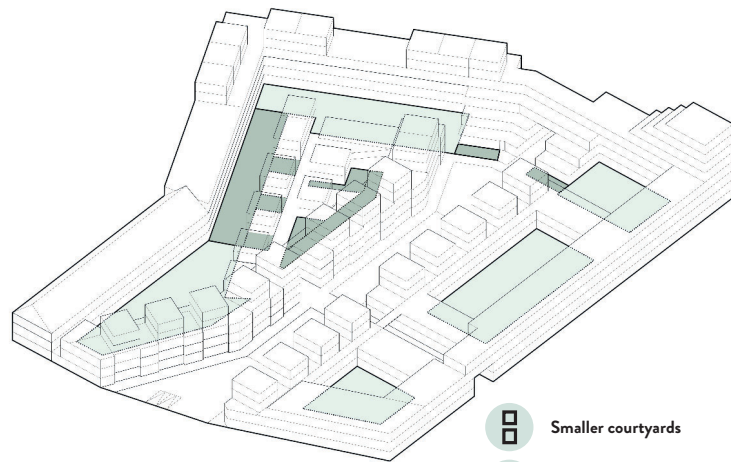


Fig. 207 Regeneration plan block 1. By author





“I don’t want to share my garden with other people”



Legend

■ Private gardens

■ Shared gardens

■ Smaller courtyards

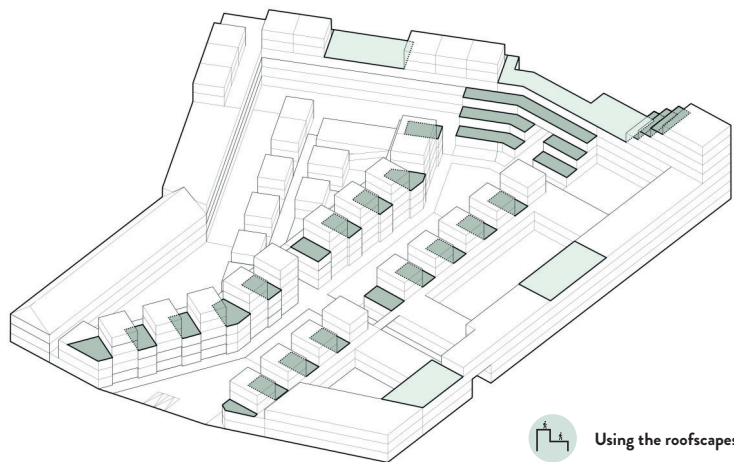
■ Mixed buildform




Gerda





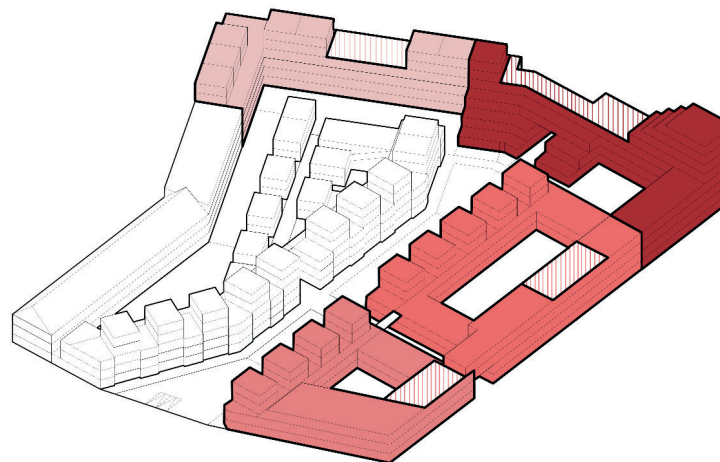
“Add roofgardens on top of the building blocks. Make more use of the space”



 Using the roofscapes

Legend

-  Private roofgardens
-  Semi-private roofgardens

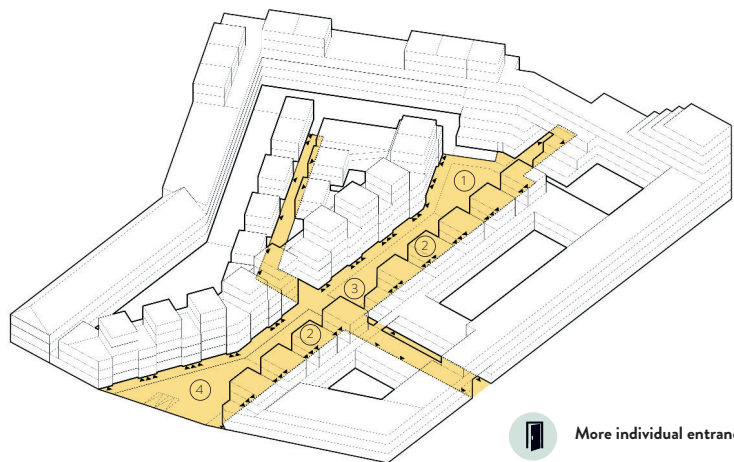






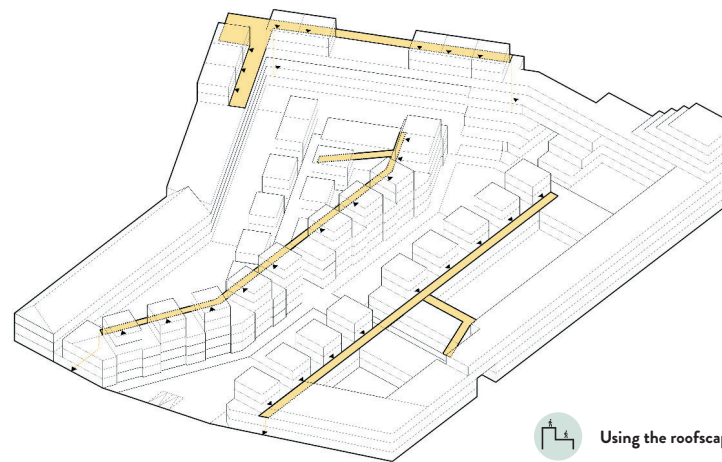
Esila



“Having an allotment garden in the public space would be nice”



-  More individual entrances
-  Pedestrianized public spaces



-  Using the roofscapes
-  More individual entrances
-  Pedestrianized public spaces
-  Second ground floor

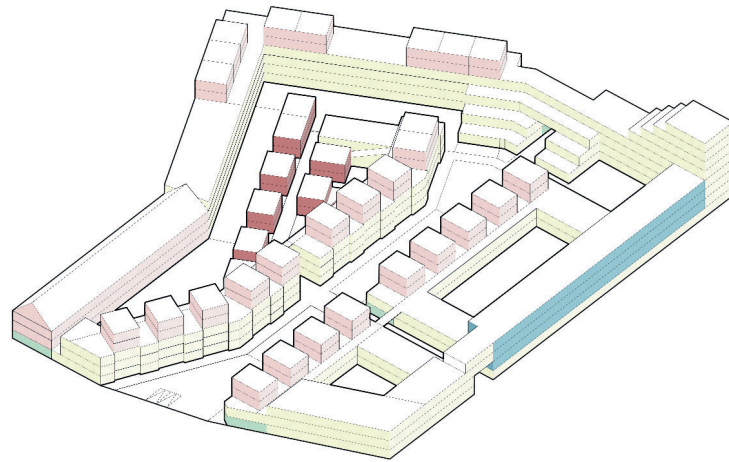
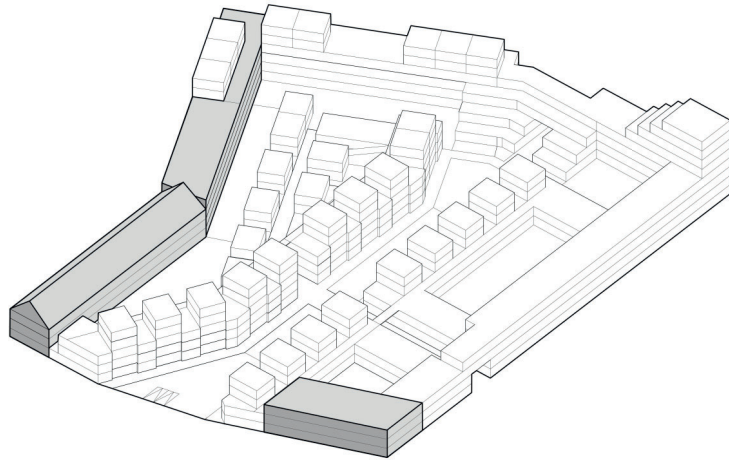
New qualities public space:

① **E**ating 2 + **P**laying

③ **P**laying

② **G**reening + **C**ooling + **I**nfiltrating

④ **W**orking 1



 Mixed buildform

Legend

-  Apartments
-  Maisonettes
-  Single-family dwellings
-  Urban villas
-  Commercial

Typology in numbers:

Housing:

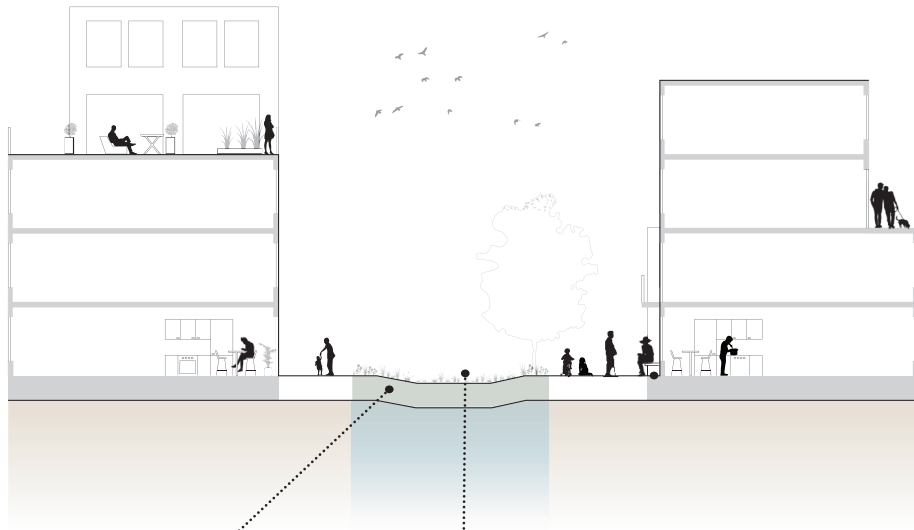
-160 dwellings (demolished):	12.140 m ²
+244 dwellings:	22.790 m ²

+84 dwellings	+10.650 m ²

Commercial functions:

-595 m ²	
+410 m ²	

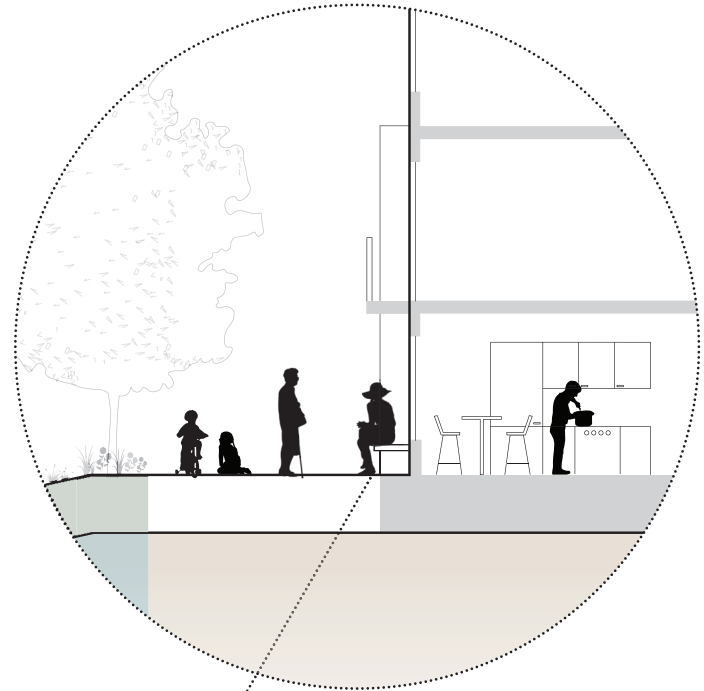
-98 m ²	



The **wadi** is used for temporary storage of stormwater during heavy rainstorms to infiltrate naturally into the ground. When not in use for water storage, it is an open green space.



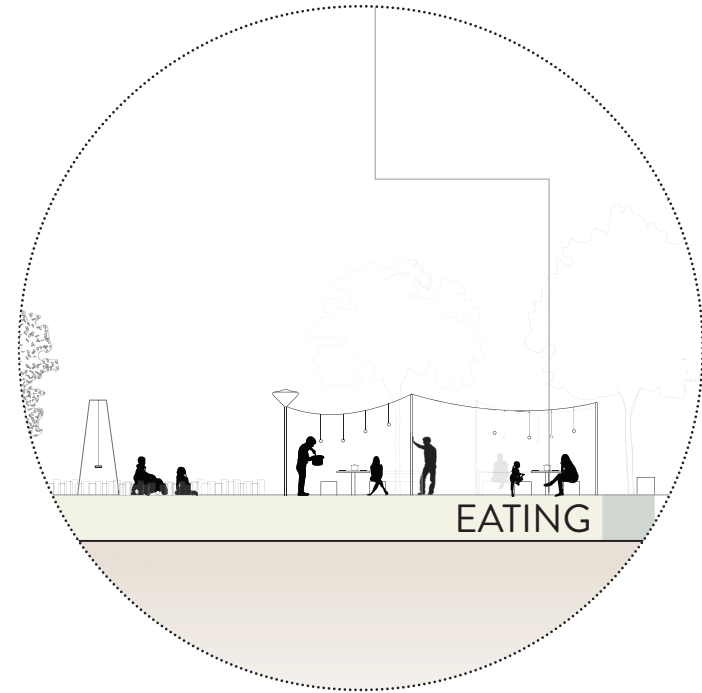
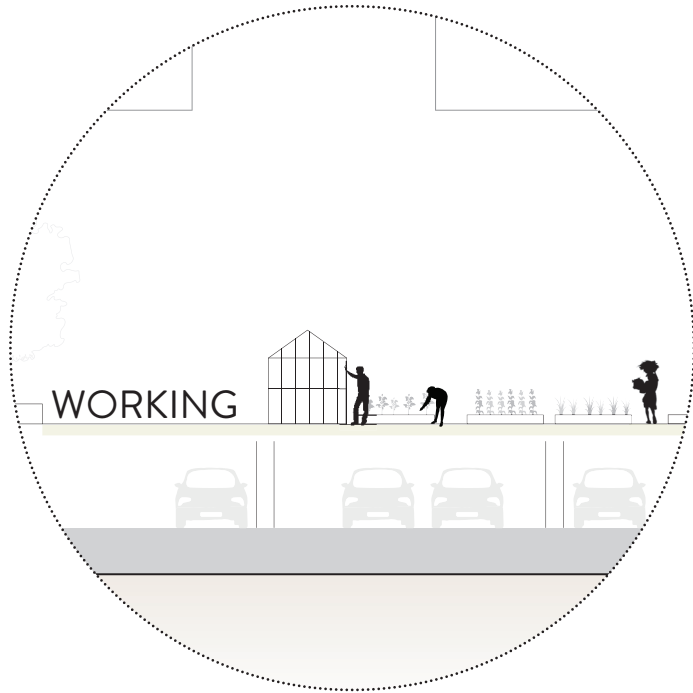
Adding **longer grasses** to the wadi will have a positive influence on the maintenance cost, biodiversity and the physical appearance. By alternating with normal grass, it is also usable for sitting and playing.



Incorporating **private benches** into the facade of the apartment can help stimulate the use of the front side, with more social contact possibilities. The pedestrianized street strengthens this.







The **central glasshouse** in the allotment garden can be used to store materials and equipment, for sharing with other gardeners to stimulate social contact.



Working in the **allotment garden** can help improve the physical and mental condition of the residents, while it is also a meeting place for social contact between people.



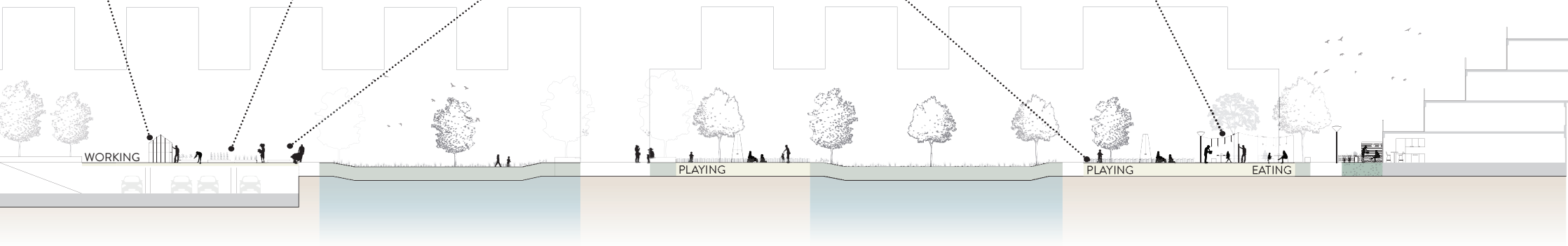
Allotment gardens give **people ownership of the public space**, being responsible for the maintenance. Local organisations can help stimulate this process further.

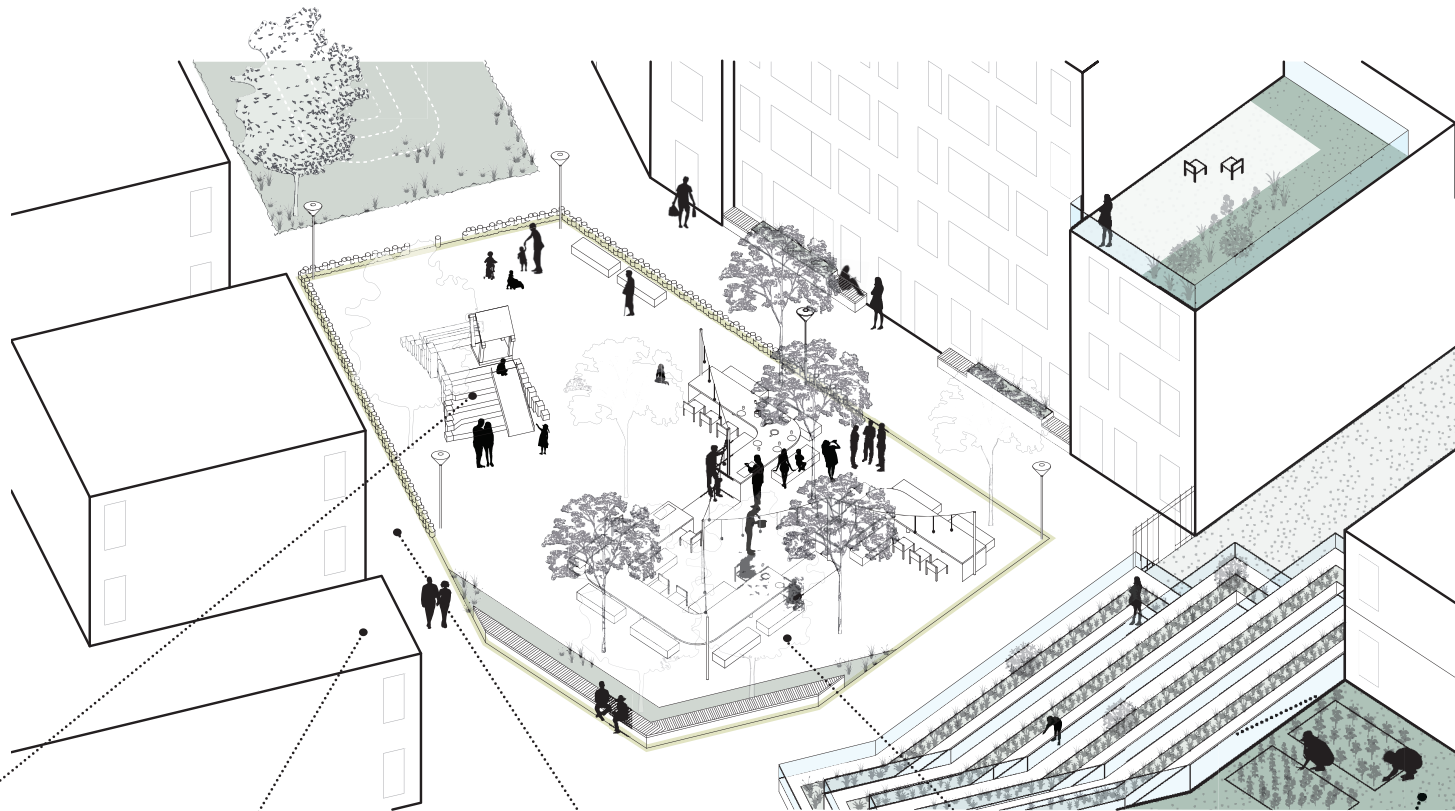


Surrounding the **playing area**, focused on younger children (0-6), natural fencing keeps them in sight of their parents, preventing them from wandering around away from the playground.



Outdoor eating area focused on bringing larger audiences of the local community together through cooking and eating together, an important quality in many cultures of the people in the neighbourhood.





Safe playground inside the building block, away from fast traffic.



Social safety from the private gardens and balconies overlooking the playground



Public pathway along the playground increases social contact between kids, parents and passers-by.

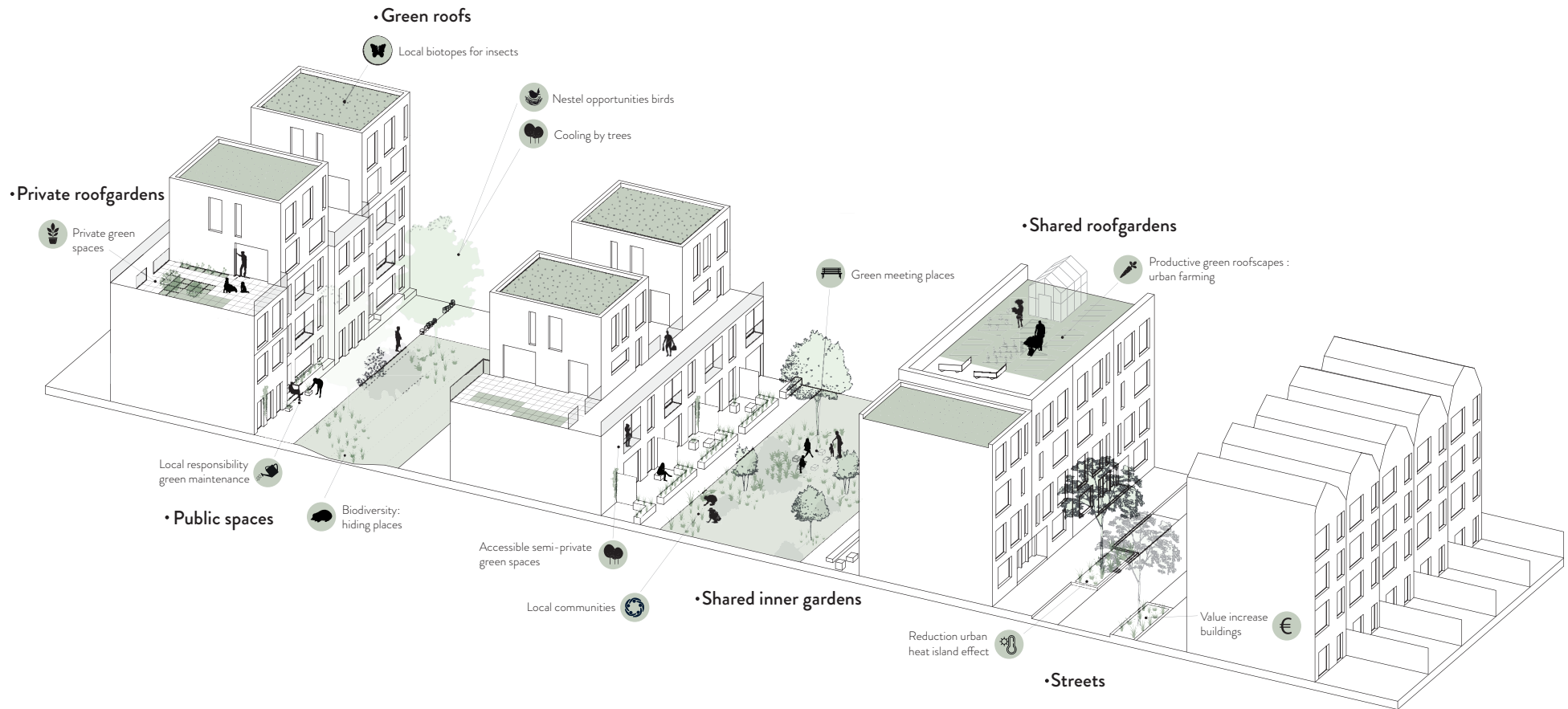


Combining **trees** with a larger and thicker canopy together with **seating areas** help to make the seating area along the square cooler, increasing the potential use of it.



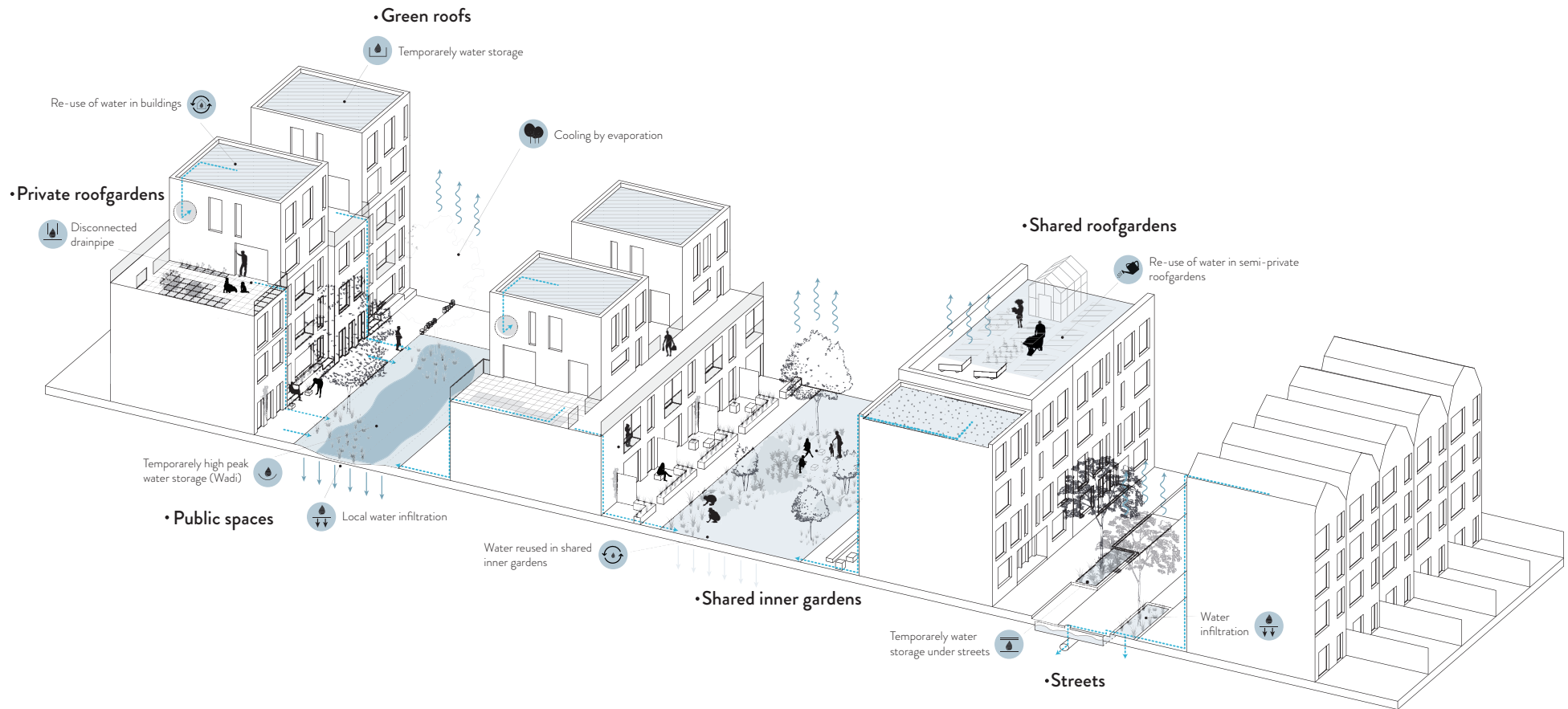
Green roofs are used for water storage and cooling of the environment, or as an active roof, with **semi-private roof garden**, usable by a specific block as an allotment garden for growing local fruits and vegetables.



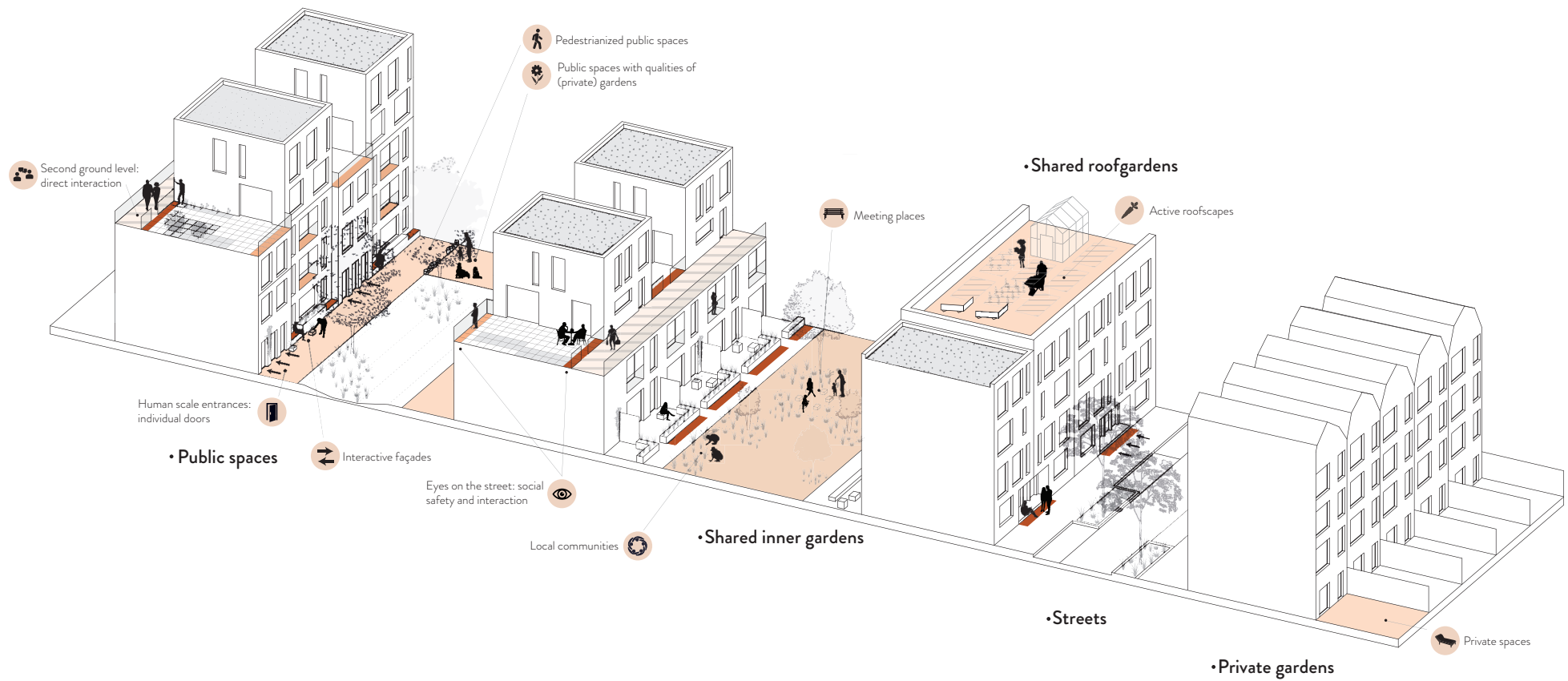


/ 'a Tarwewijk with more valuable green in **different urban layers**'

/ 'a Tarwewijk where green **connects**'



/ 'a climate proof Tarwewijk'



Social environment

/ 'a Tarwewijk with more **social cohesion**

/ 'a Tarwewijk with a human scale, for the **people**



Thank you!