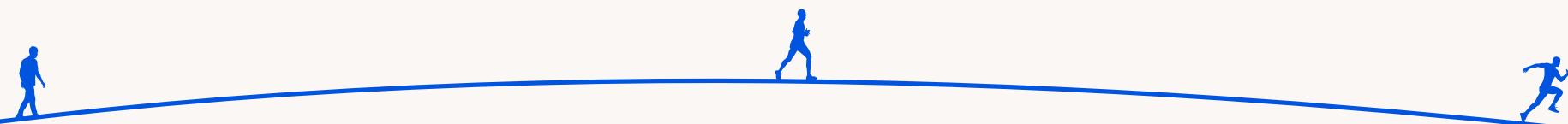


# From Intent to Action

Fostering sustainable behaviours in  
vulnerable neighbourhoods through  
public space design.



JANNINE DE JONG

FACULTY OF ARCHITECTURE AND THE BUILT ENVIRONMENT  
DELFT UNIVERSITY OF TECHNOLOGY

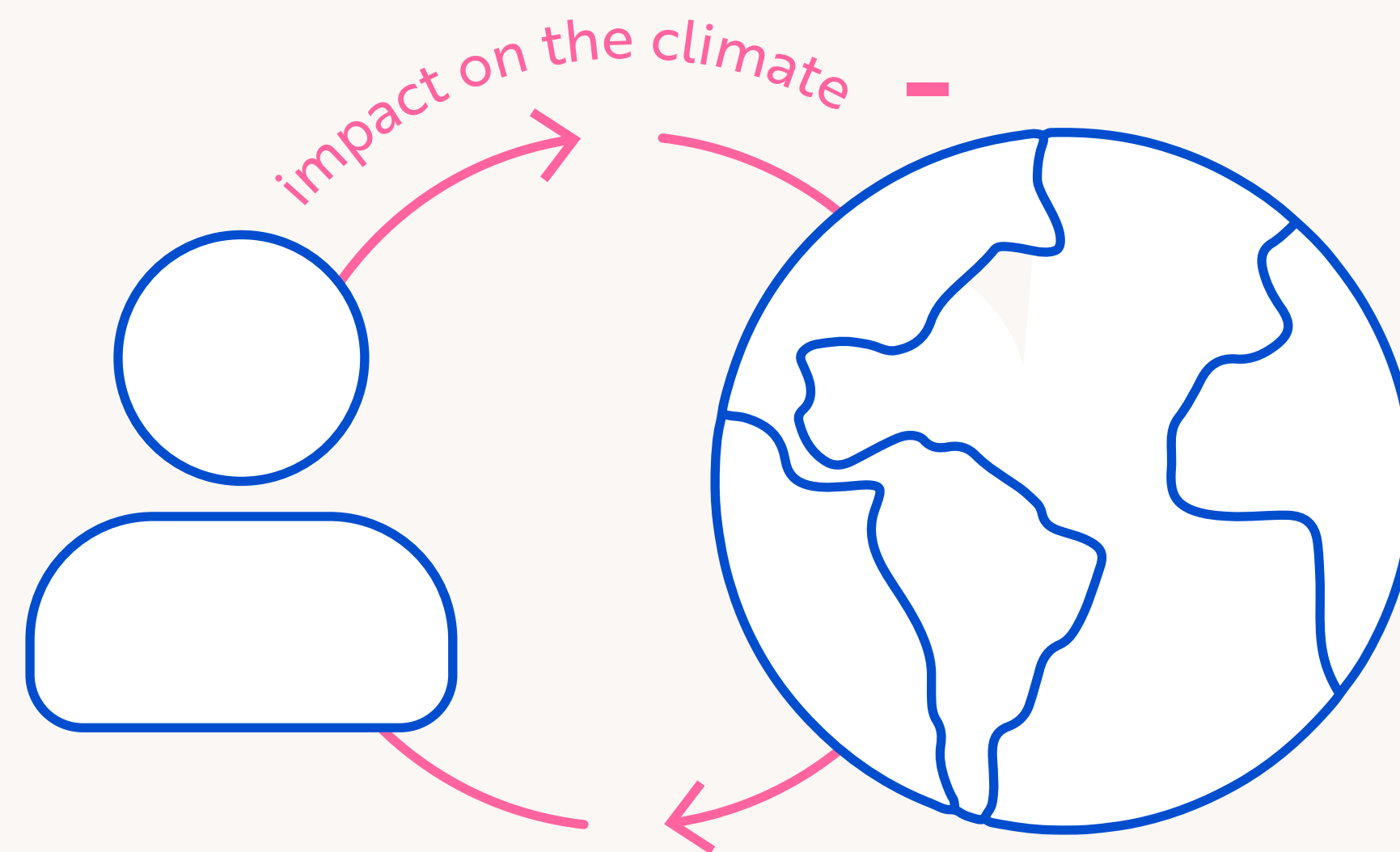
28 JUNE 2023

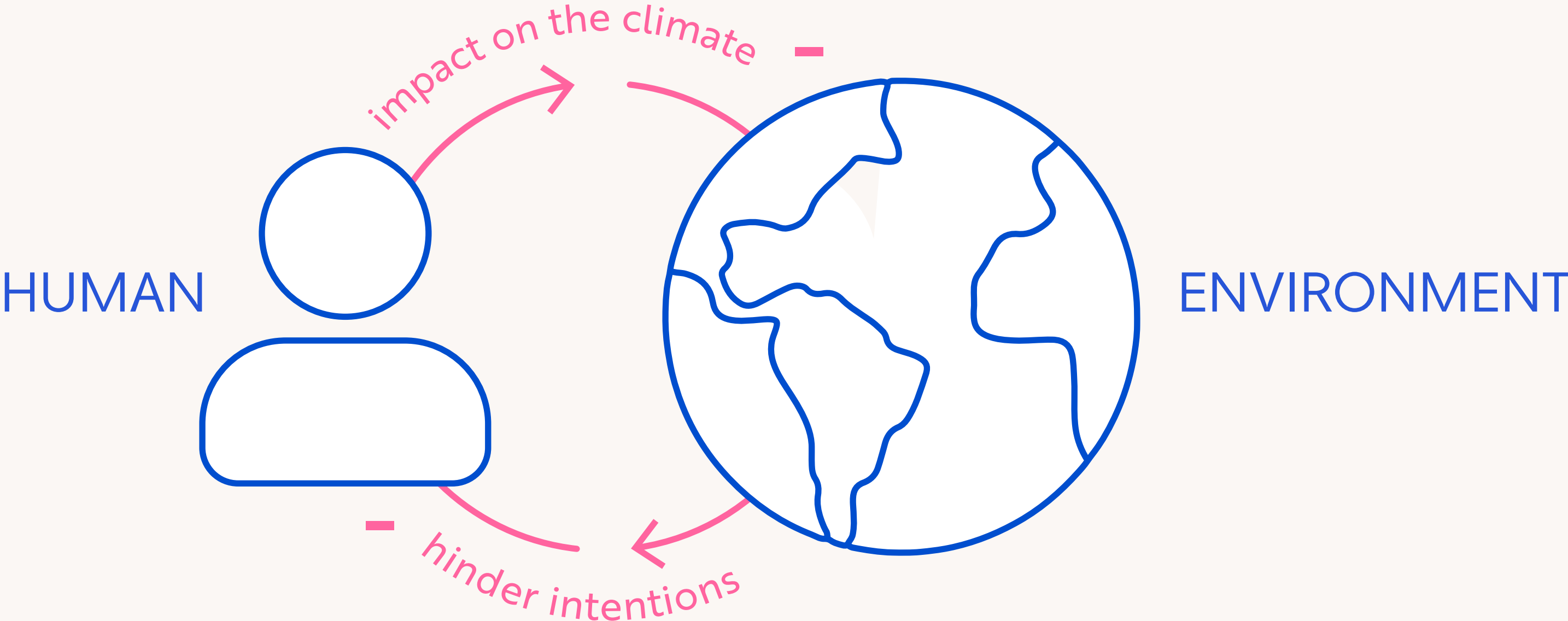
I asked each of you  
to bring something  
from your homes



The climate  
requires us to  
change

► But we are not











Sustainable choices as  
a part of everyday life  
for all groups in society





00 INTRODUCTION  
Content

01 In the mind of the  
environment  
THEORETICAL BACKGROUND

02 Behaviours  
unraveled  
TARGET BEHAVIOURS AND ANALYSIS

03 Beyond  
intentions  
DESIGN

04 Designing for  
change  
CONCLUSION AND LIMITATIONS



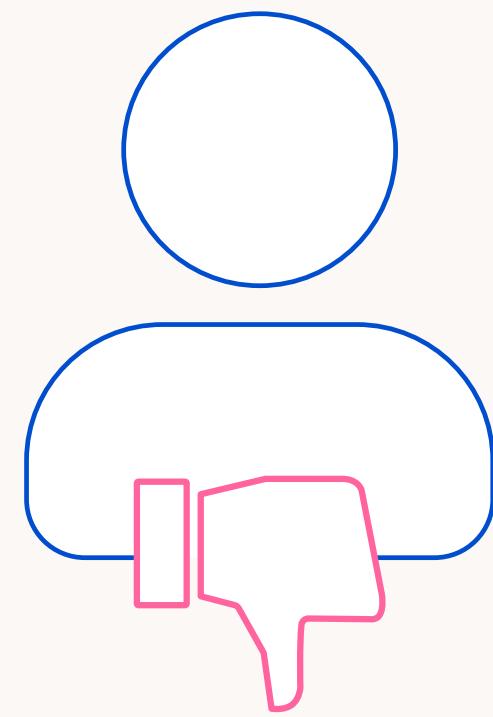
In what way can the design of public space contribute to empower citizens of vulnerable neighbourhoods to perform pro-environmental behaviours?



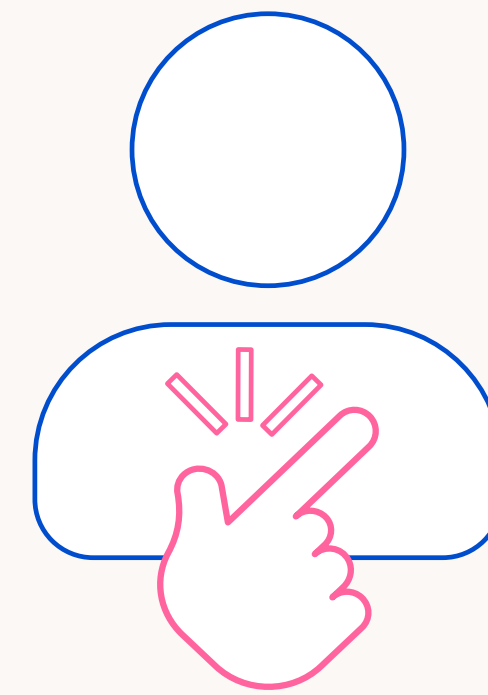
# 01 In the mind of the environment

THEORETICAL BACKGROUND

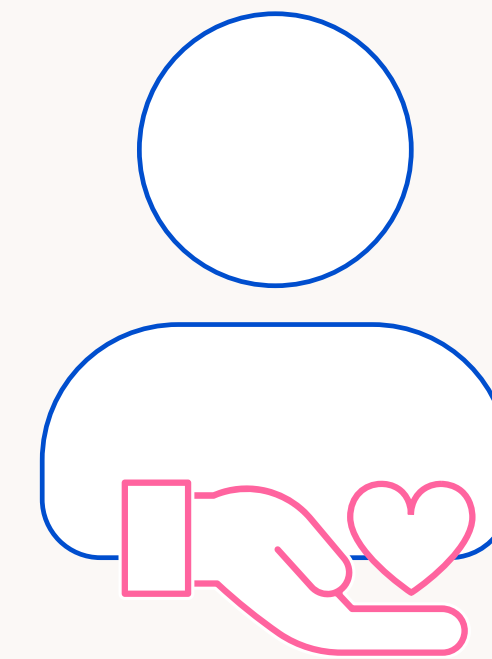
# 'Thinking- mistakes'



Aversion  
to loss

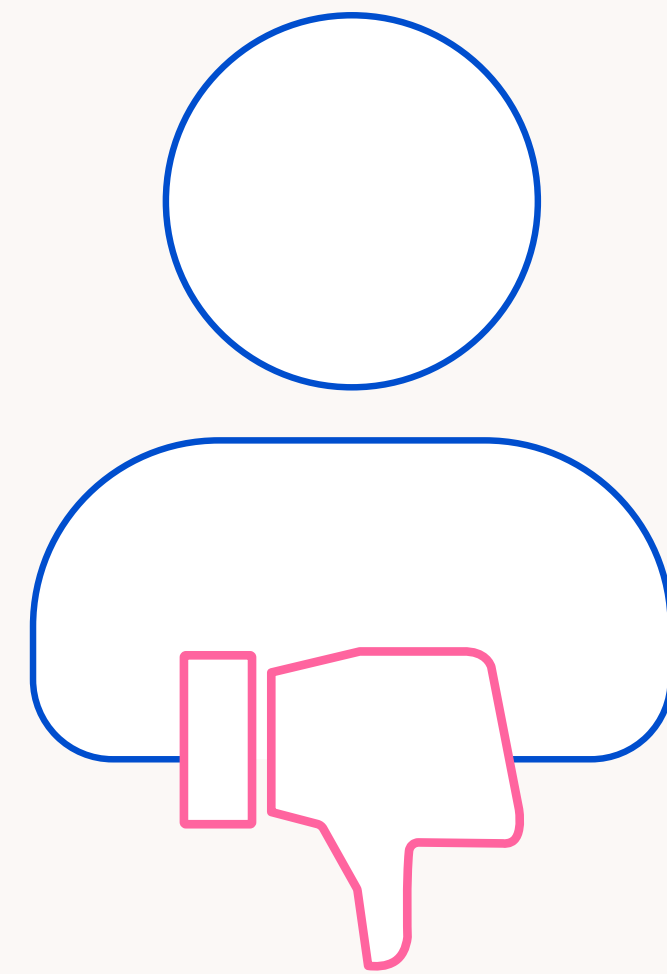


Ease



Self-  
preservation

01 THEORY  
Thinking mistakes



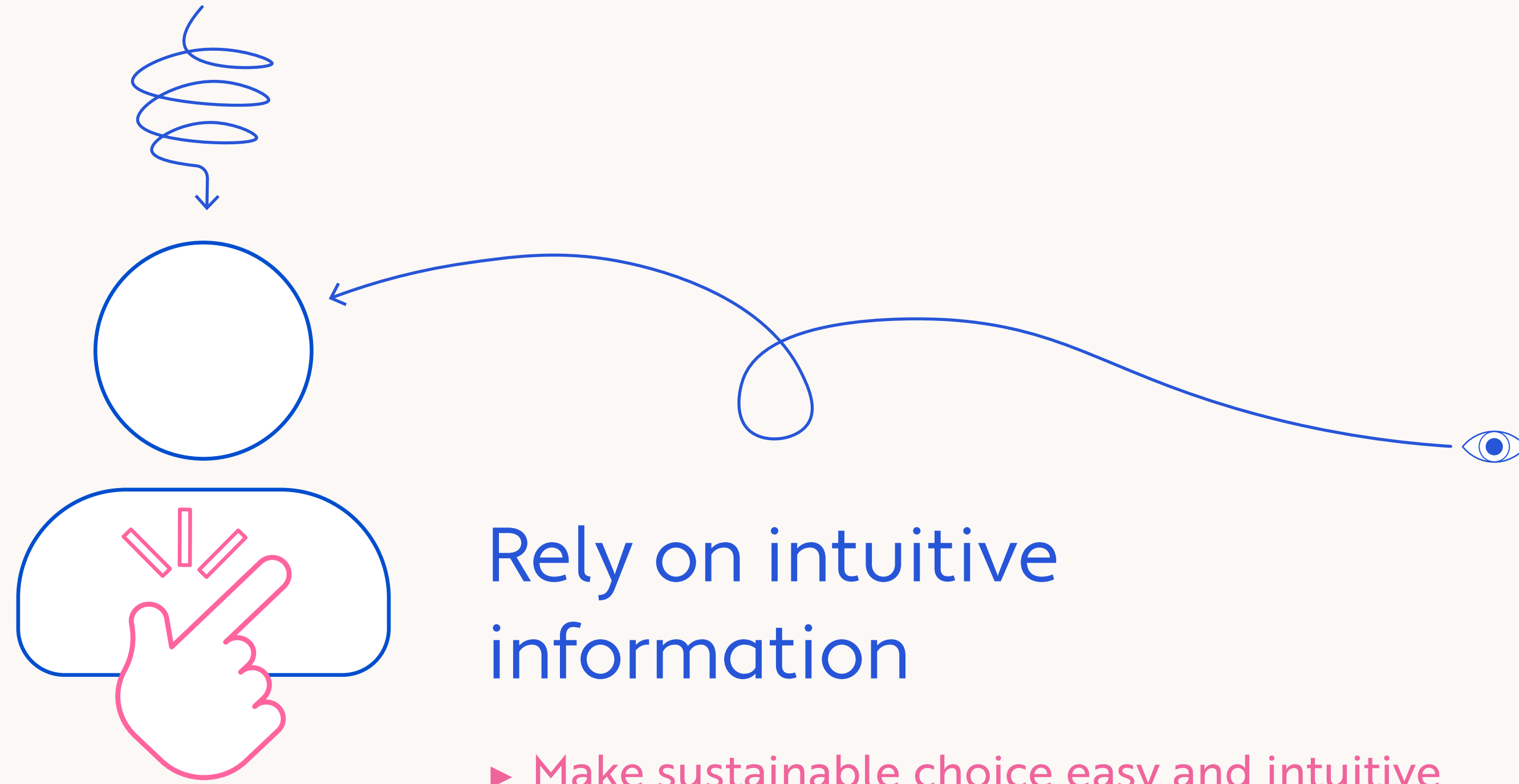
losing something is

1.5-2x

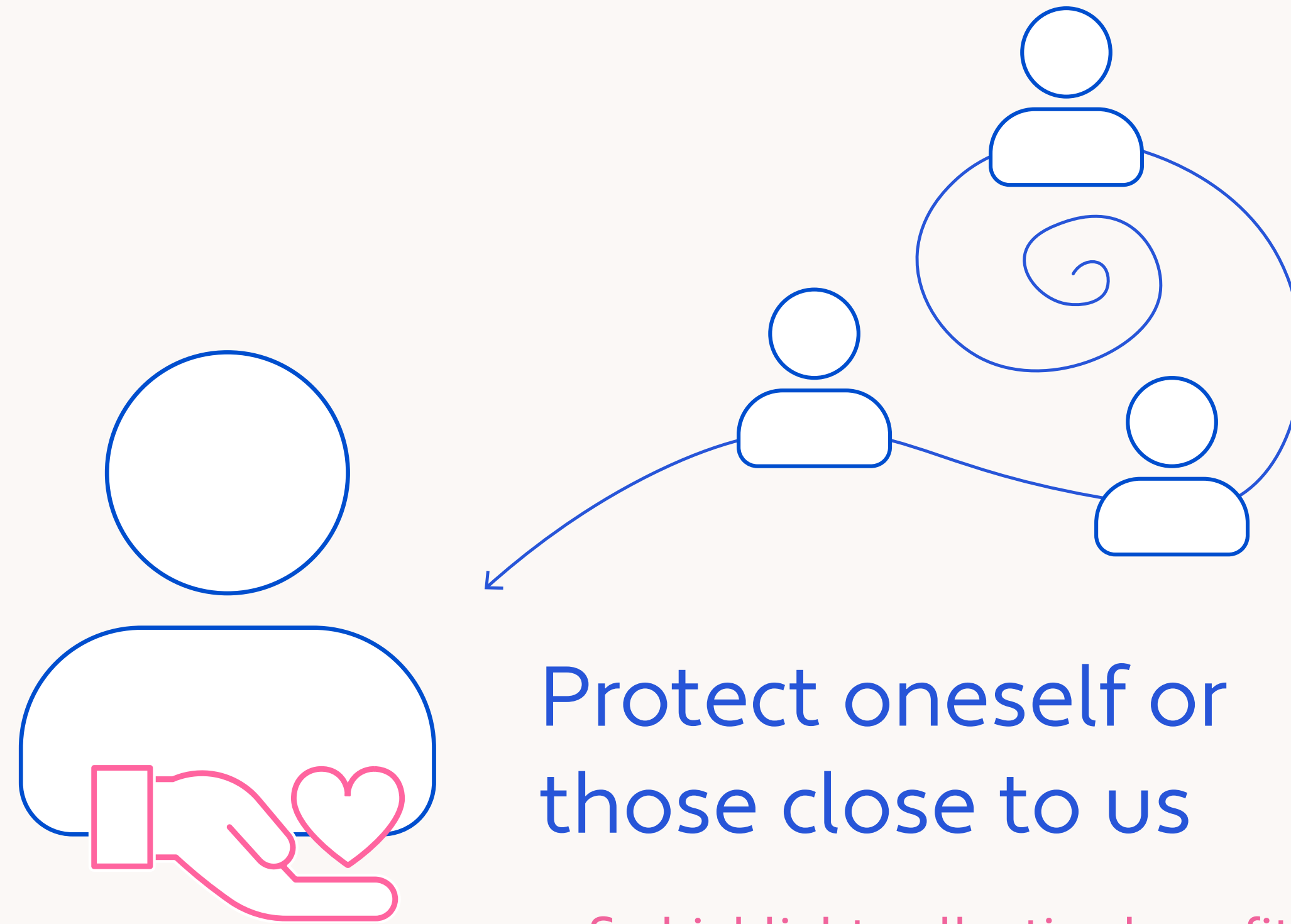
more impactful than gaining something

► So highlight benefits rather than loss

01 THEORY  
Thinking mistakes



01 THEORY  
Thinking mistakes



Protect oneself or  
those close to us

► So highlight collective benefits

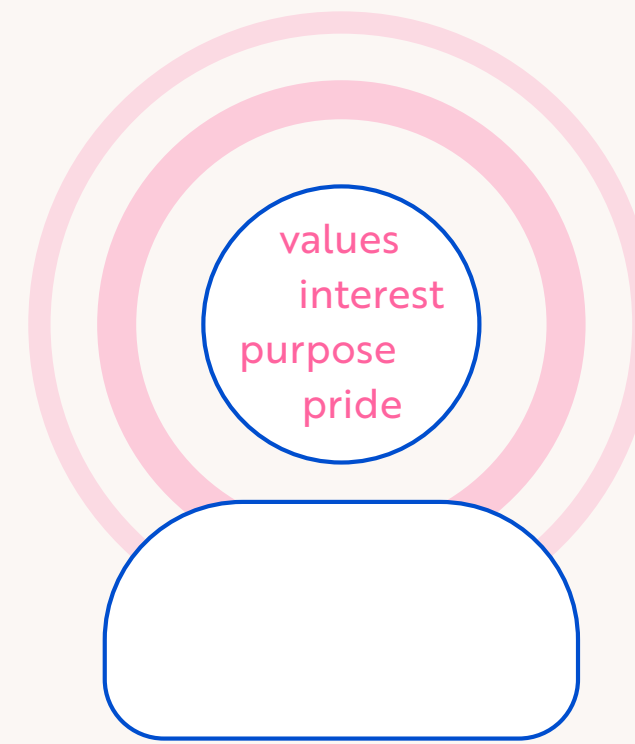
From thinking-  
mistakes to  
tools for change





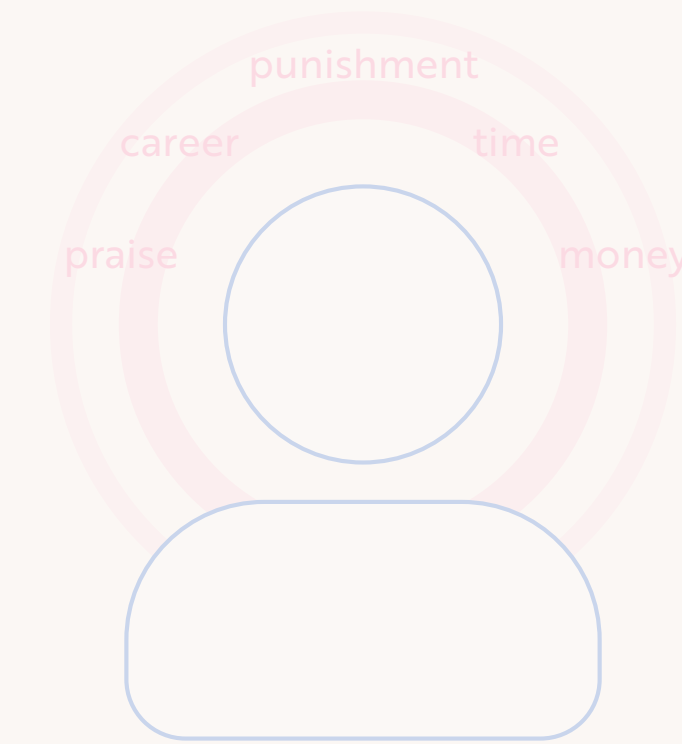
# Motivating behaviours

Through values and abilities



## Intrinsic motivation

The behaviour makes you feel good

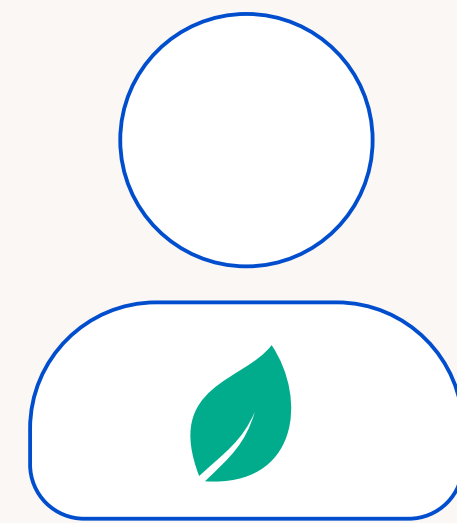


## Extrinsic motivation

The result of the behaviour makes you feel good

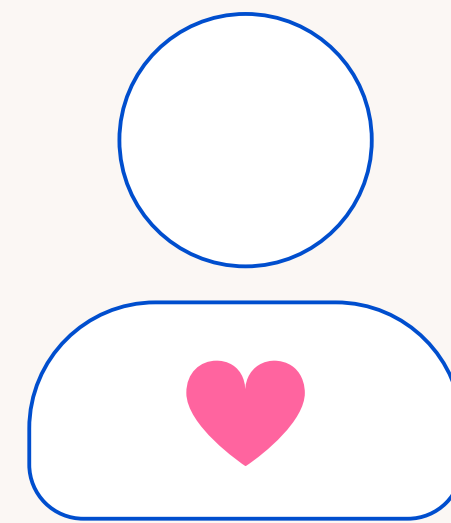
## Values as motivators

Four types of  
motivators



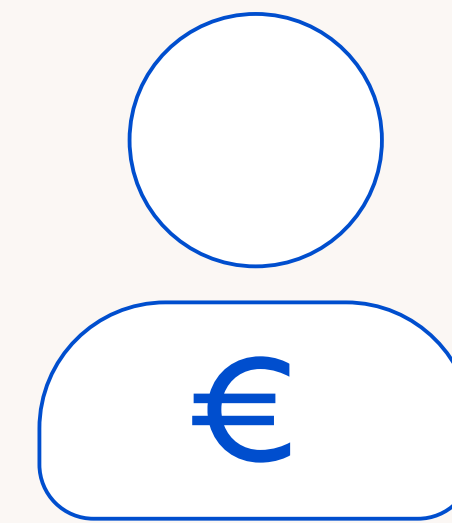
### Biospheric

Caring for  
nature and the  
environment



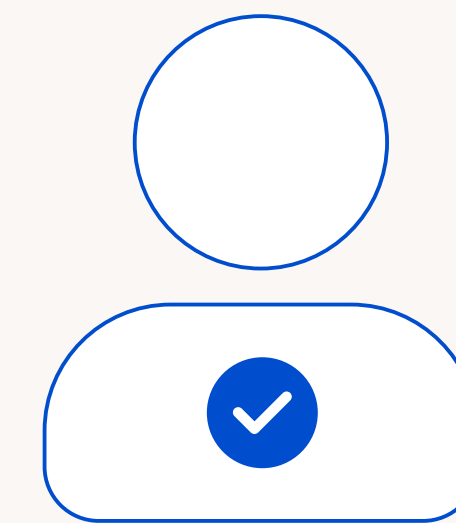
### Altruistic

Well-being  
of others



### Egoistic

Gaining of  
resources like  
status, money  
or time

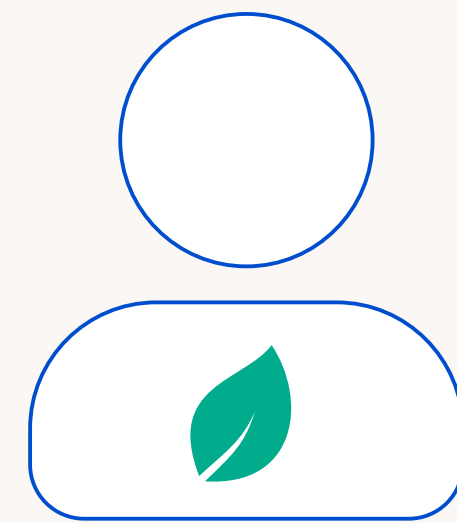


### Hedonic

Good feelings  
and low efforts

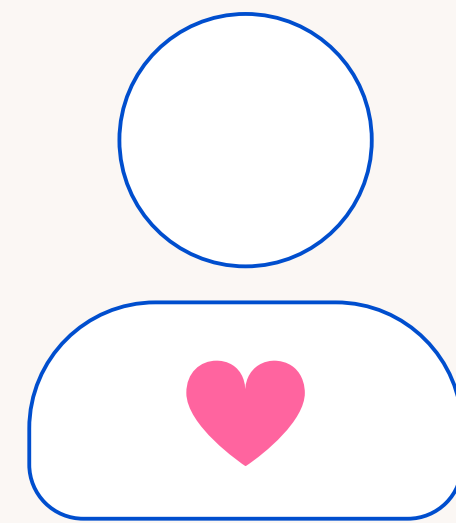
## Values as motivators

Four types of  
motivators



### Biospheric

Caring for  
nature and the  
environment



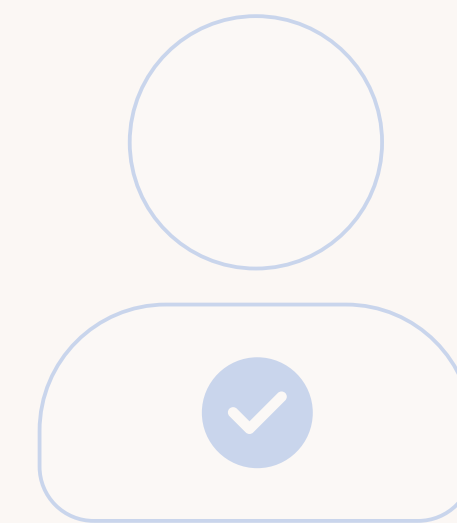
### Altruistic

Well-being  
of others



### Egoistic

Gaining of  
resources like  
status, money  
or time



### Hedonic

Good feelings  
and low efforts

# 01 THEORY

## Intrinsic motivation

### Nurturing values

Values as motivation

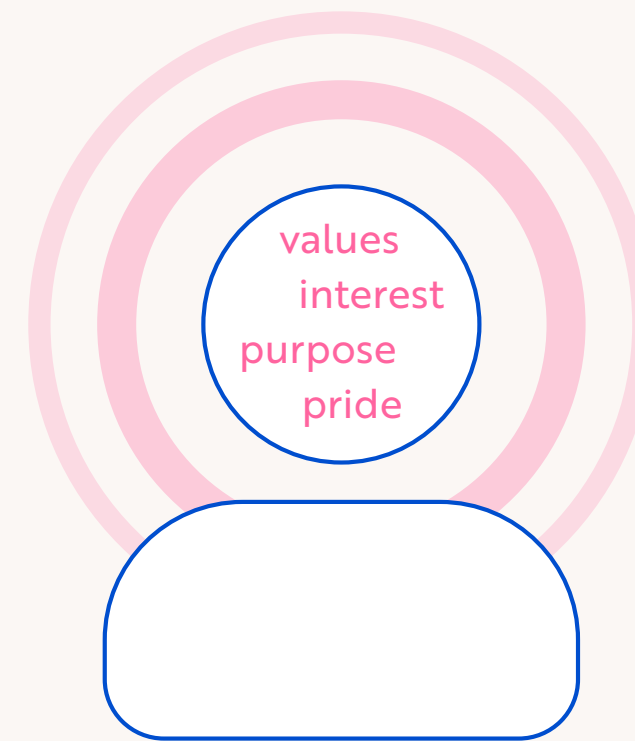
- ▶ Social learning
- ▶ Knowledge provision
- ▶ Symbolic exposure

▶ Natural playground  
'de Vlinder',  
Rotterdam



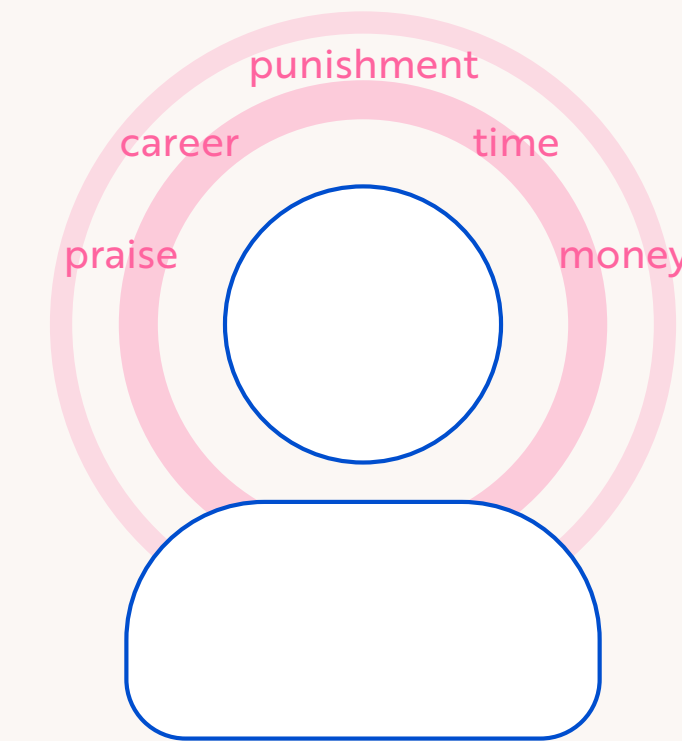
# Motivating behaviours

Through values and context



## Intrinsic motivation

The behaviour makes you feel good



## Extrinsic motivation

The result of the behaviour makes you feel good

01 THEORY  
Extrinsic motivation

## Facilitating behaviours

Context as motivation

- ▶ Availability of services
- ▶ Quality of services

▶ [Renovated metro van der Madeweg Amsterdam](#)



01 THEORY  
Extrinsic motivation

## Neighbourhood pride

Context as motivation

- ▶ Ownership
- ▶ Positive aesthetics
- ▶ Positive norms

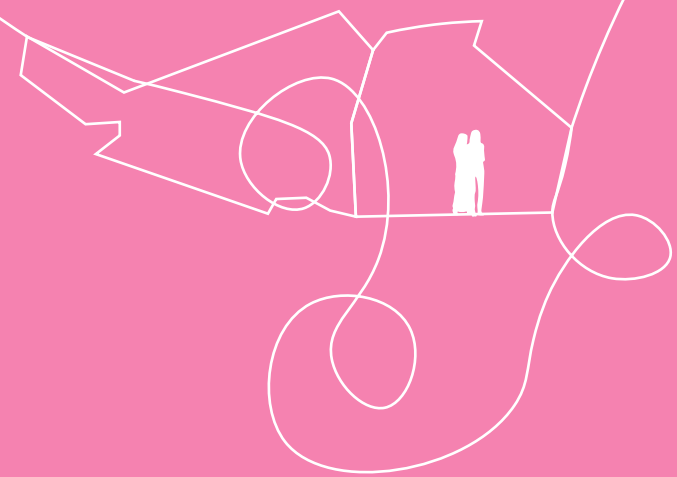
▶ [Buurtklimaatje Carnisse, Rotterdam](#)



02

# Behaviours unraveled

TARGET BEHAVIOURS  
AND ANALYSIS



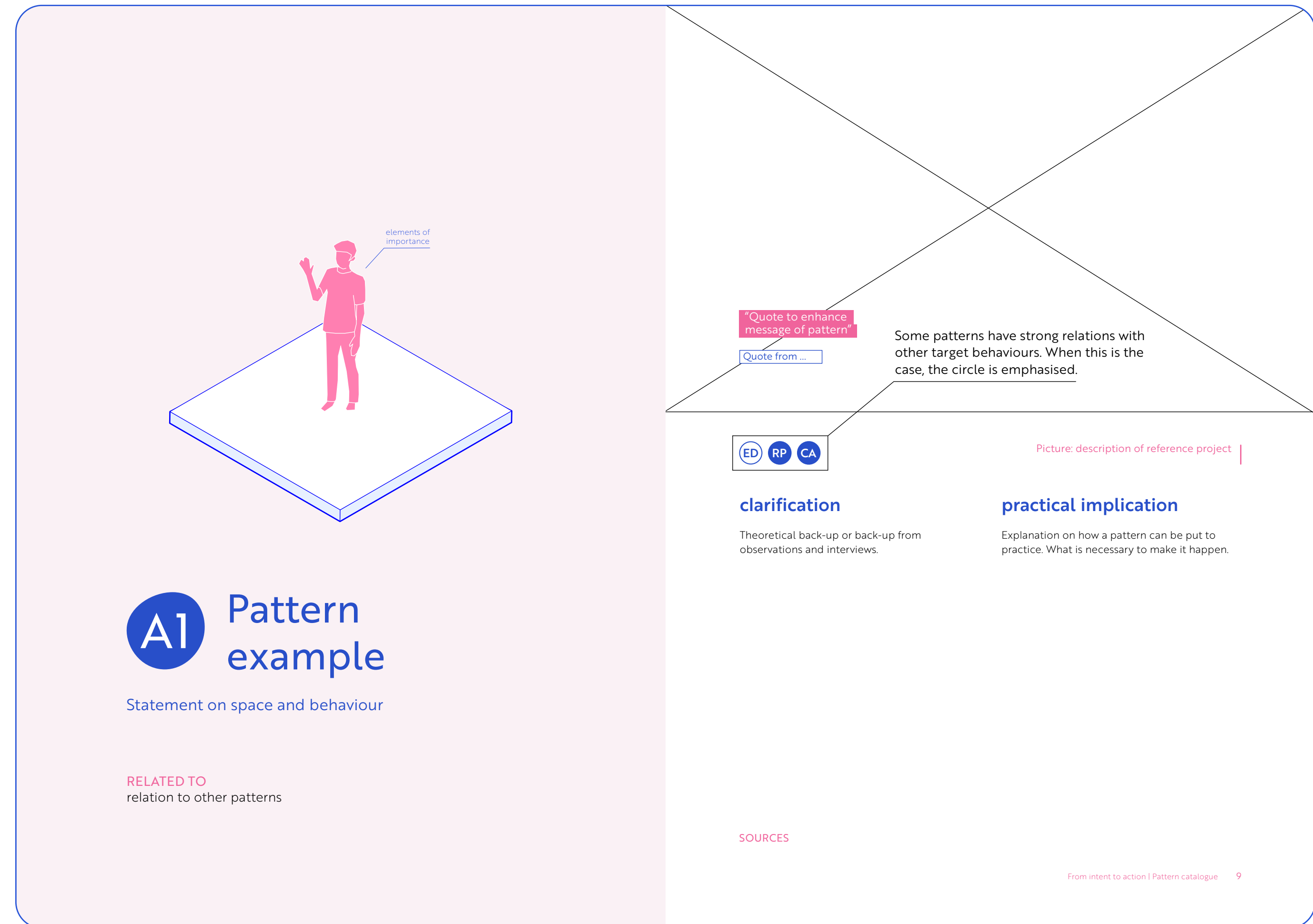


# From knowledge to patterns



# The Pattern Language

Framework and communication tool to share common design concepts, based on theory and observations.

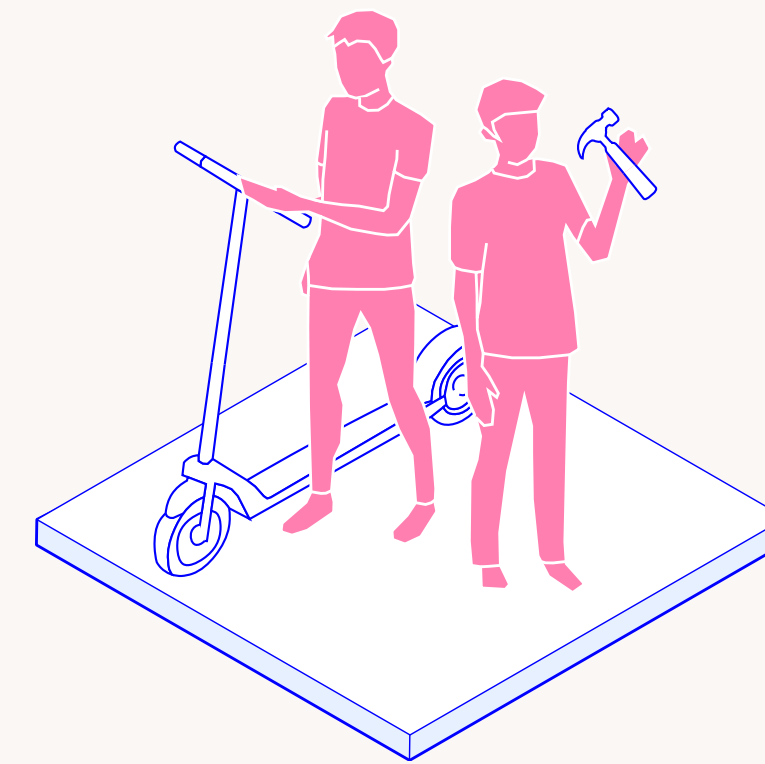


## Behaviours in public space

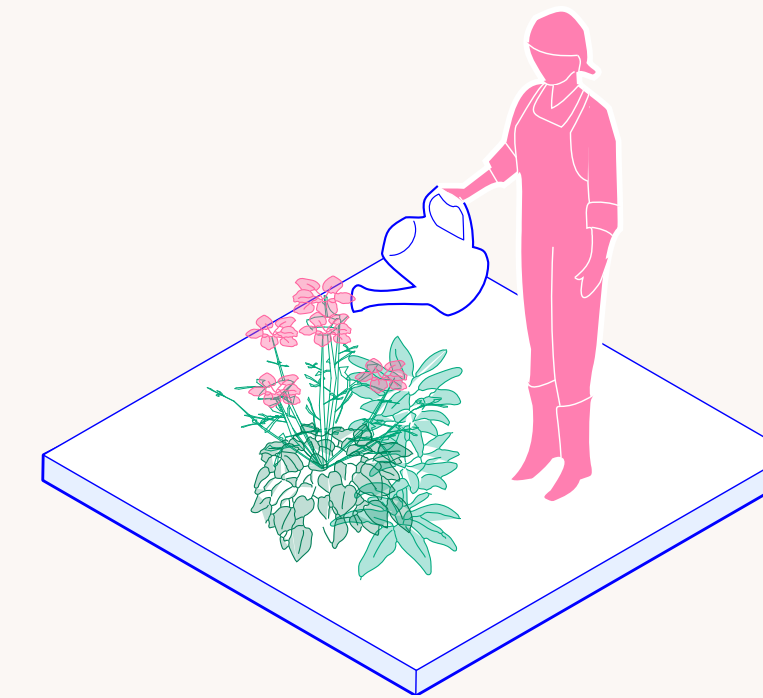
Benefits the environment, enhances its quality, or minimises harm



Community Awareness

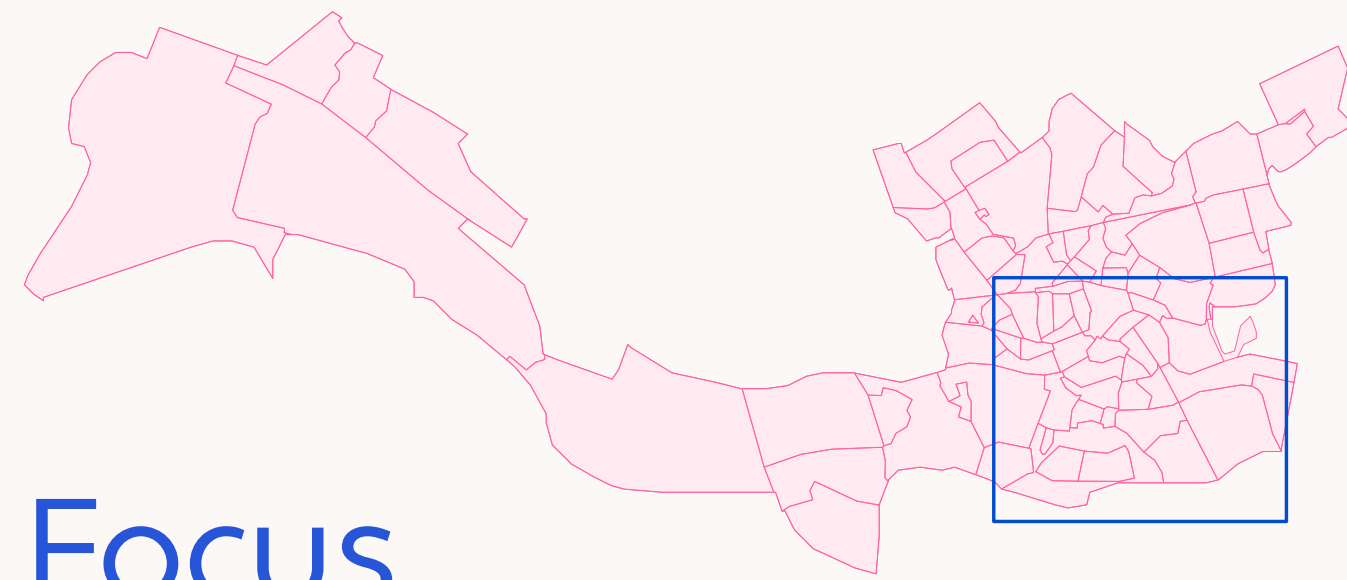


Everyday Decisions



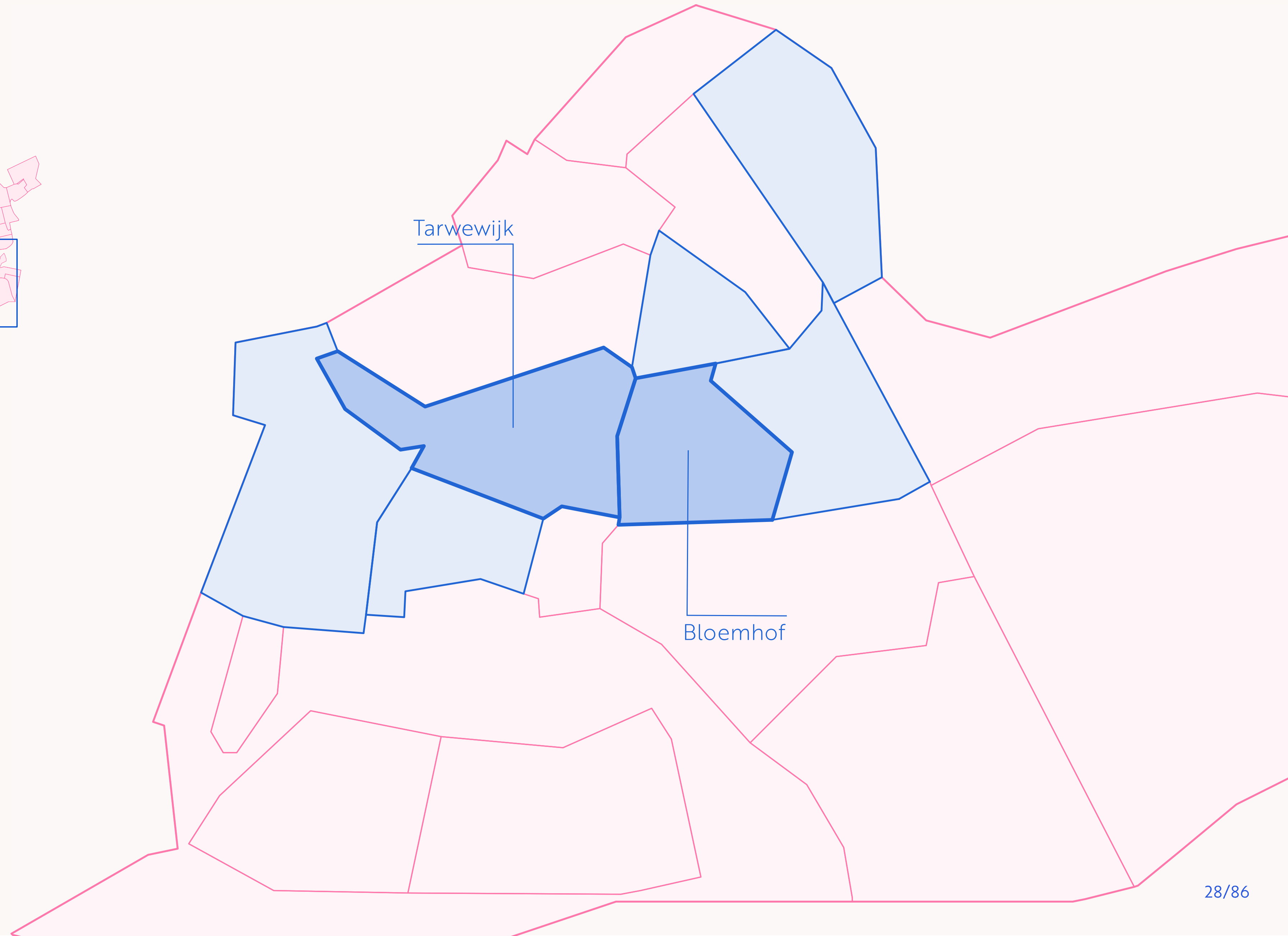
Recovery and Protection

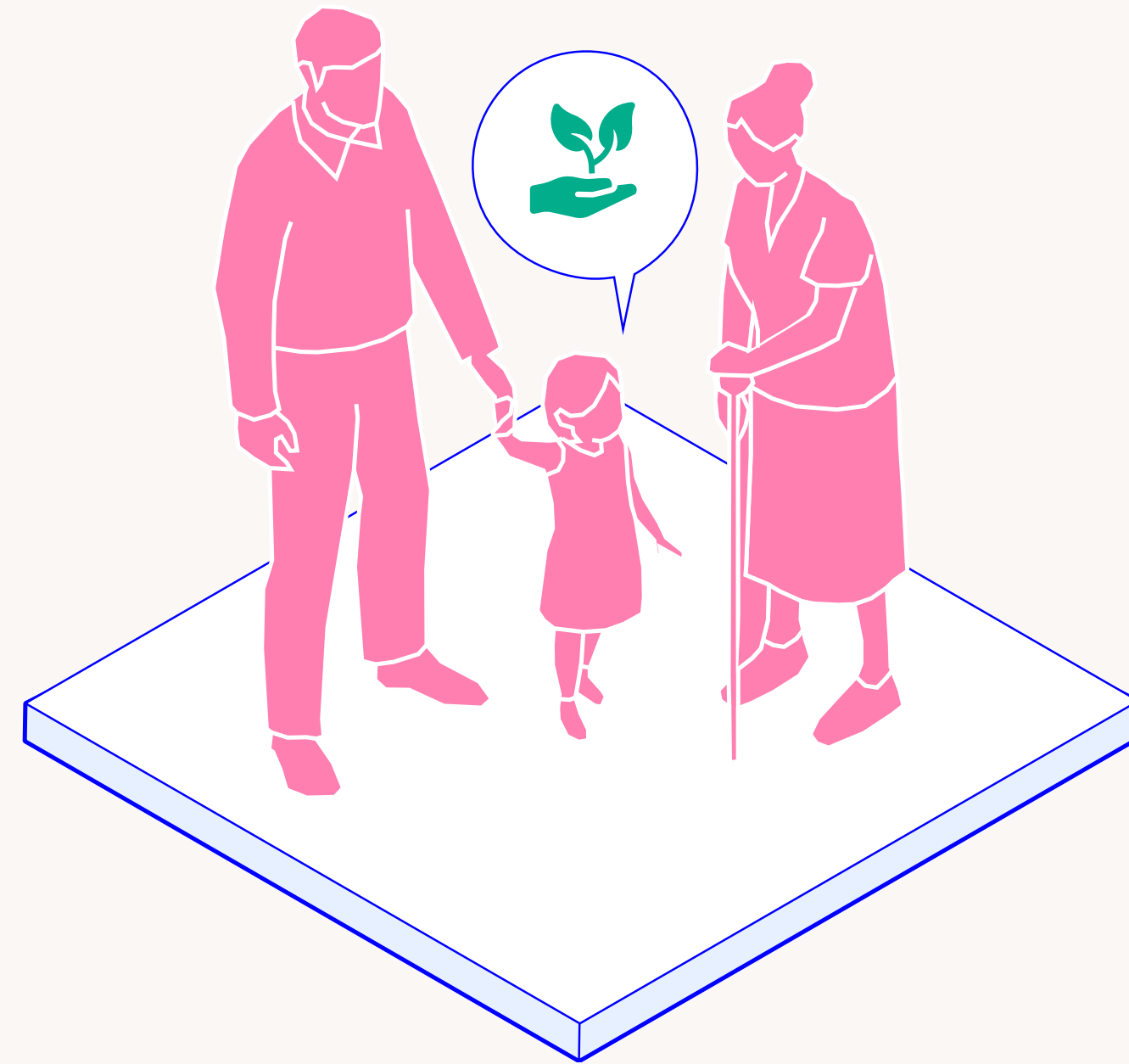
02 TARGET BEHAVIOURS AND ANALYSIS  
Bloemhof and Tarwewijk



# Focus neighbourhoods

Hyperdiverse and low socioeconomic status



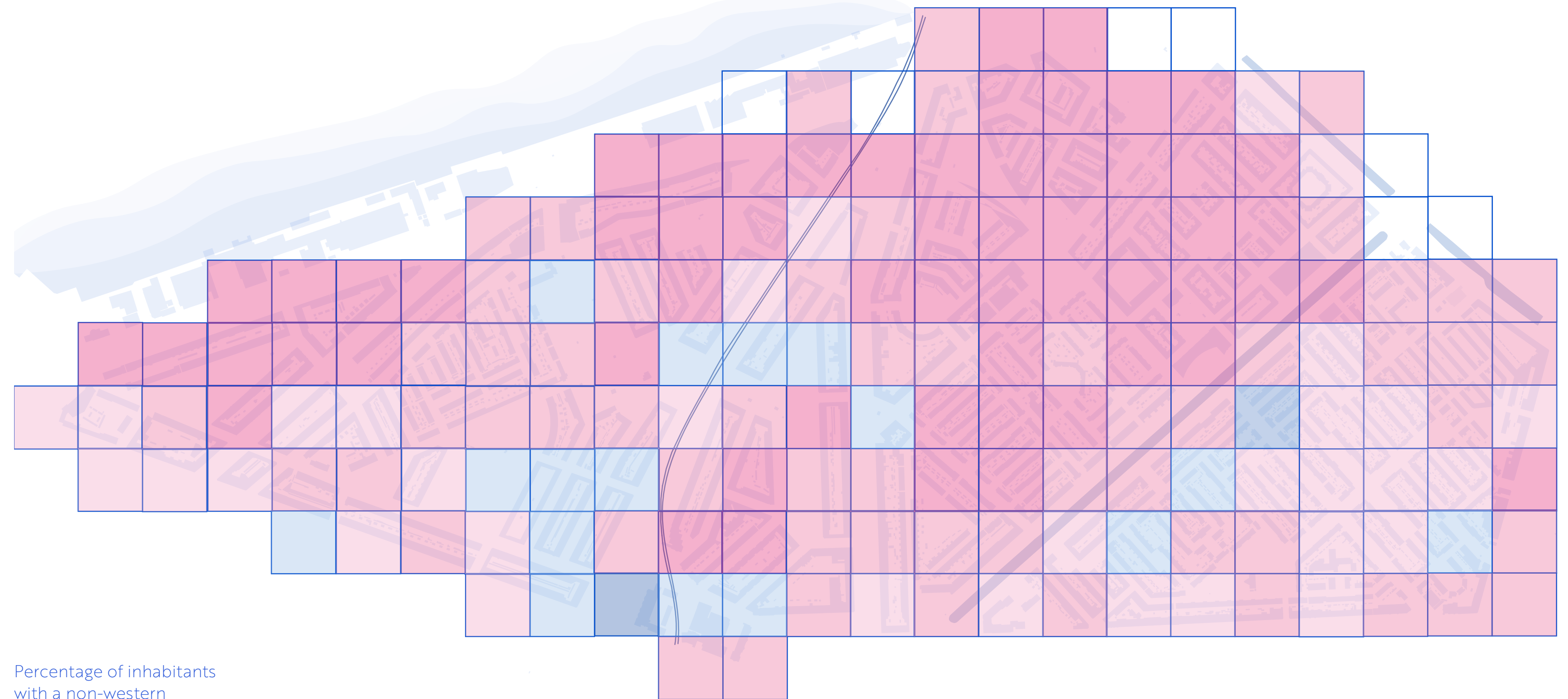


# Green mindsets and collective action

SOCIAL BEHAVIOURS

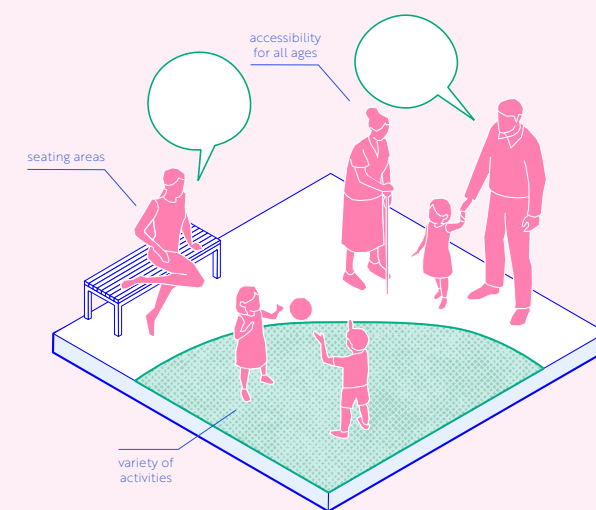
## Diverse neighbourhoods

Limited integration and fragmented social interactions



# Promote social interactions and learning

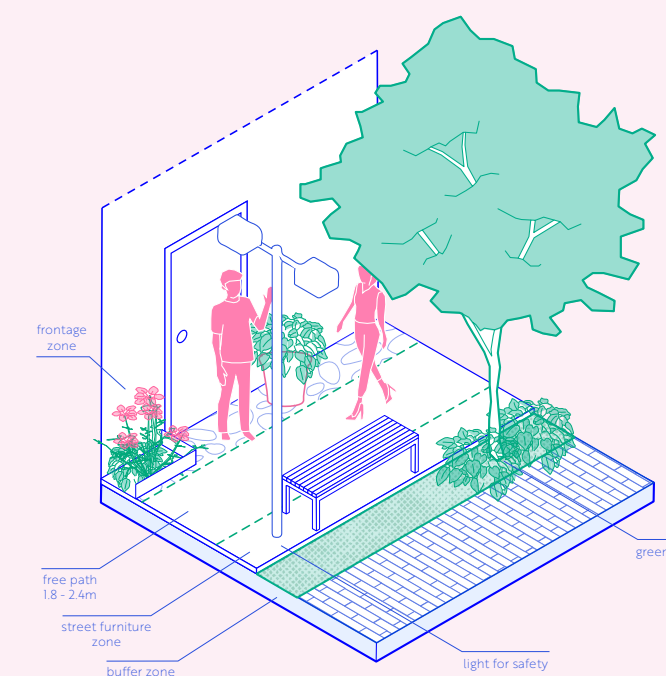
Diversity in spaces and encouraging spontaneous interactions



## C7 A playful gathering place

(School)playgrounds serve as a vital social space that promotes social learning among generations.

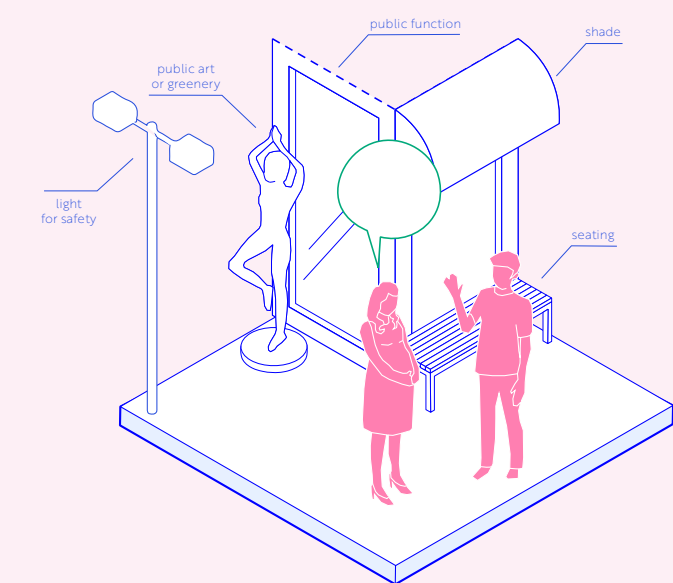
RELATED TO  
C2, R4



## C5 The social life of sidewalks

Sidewalks serve a crucial role in fostering community networks by providing a space for people to interact and engage with each other.

RELATED TO  
C2, C6, E1, E4, E9, E8, E12, R3, R6, R8



## C6 Intersection interaction

Streetcorners are points of action and interaction within neighbourhoods and therefore enhance community cohesion.

RELATED TO  
C2, C3, C5, E1, E9, E8, R3, R6, R8

## Comfortable gathering spaces

Bringing neighbourhood living rooms back



► [BLEND Bloemhof social cafe](#)



## 02 TARGET BEHAVIOURS AND ANALYSIS

### Community awareness

# Safety concerns influences social behaviour

Crime, vandalism, but also  
cultural preferences

► [Millinpark and  
playground association  
Tarwewijk](#)



## Degrees of openness and enclosure

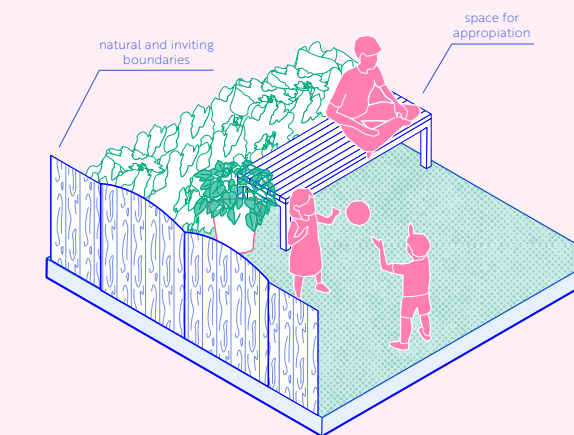
Positive aesthetics in the form of welcoming fences and gates



### C2 Social variety

Inclusive public space that embraces cultural diversity and invites for active use is characterised by different degrees of openness and enclosure.

RELATED TO  
C3, C4, C5, C6, C7, R2, R3, R5, R6, R7, R8



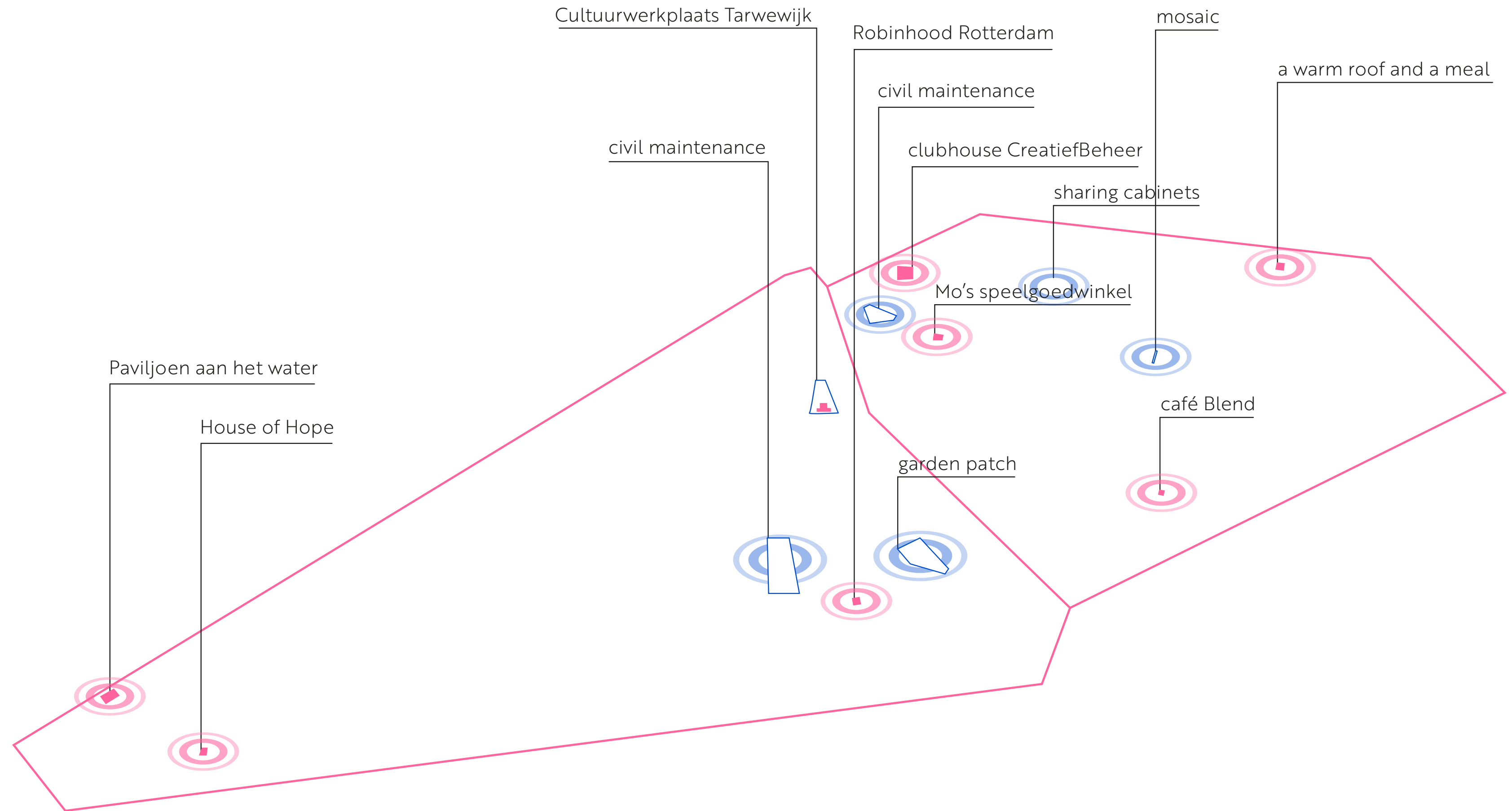
### C3 Vibrant enclosures

Enclosed spaces serve as valuable social areas, offering a secure and comfortable environment for pro-environmental community activities.

RELATED TO  
C2, C4, C6, R3, R5, R7

## Local initiatives emerging

Willingness for social interaction and green initiatives



# Right support and collaborations

Catalysts for social action



**C1** Connecting key players

Sustainability values in a neighbourhood can become meaningful for a larger group through collective action.

RELATED TO  
E5, E9, E10, R3, R5, R7, R8



► Neighbourhood collaboration  
Carnisse



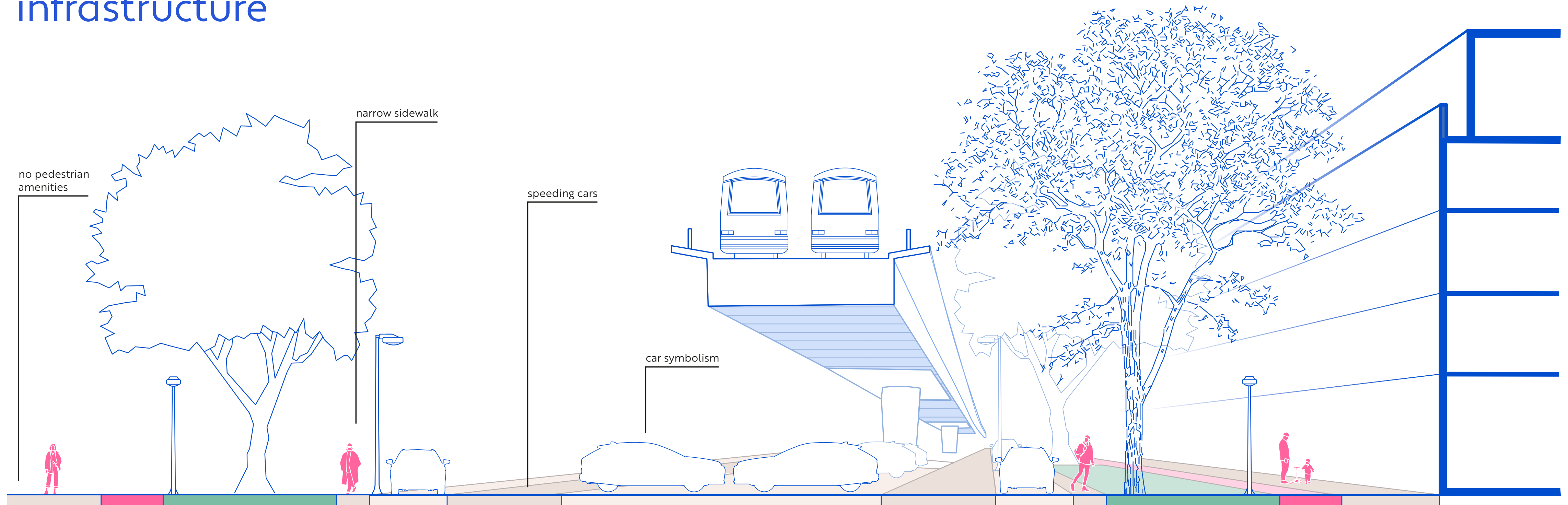
Through communal use of public space by people of all backgrounds, we can imagine **a dynamic and engaged community that supports each other** on the journey towards more sustainable lifestyles.



# Mobility choices and green consumerism

CONSUMPTION BEHAVIOURS

# Car-centric infrastructure



# Reprioritising pedestrians and cyclists

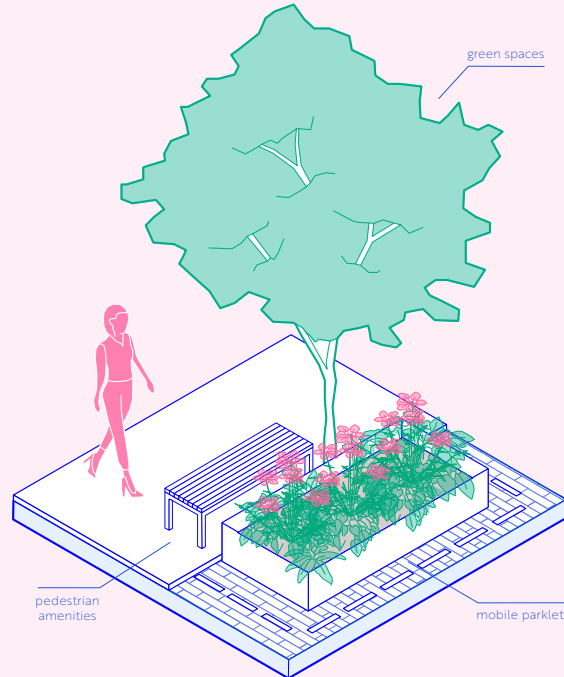
Promote sustainability and improve accessibility



**E1** Walking matters

Visibly prioritising pedestrians and cyclists in street design is an effective way to increase the likelihood of people choosing sustainable modes of transportation.

RELATED TO  
CS, C6, E3, E4, E5, E12, R8



**E4** Removing the car out of car park

By decreasing the reliance on cars in a neighbourhood, new opportunities for community spaces emerge.

RELATED TO  
CS, E1, E2, R1, R2, R3, R5, R6



# High quality alternatives to car ownership

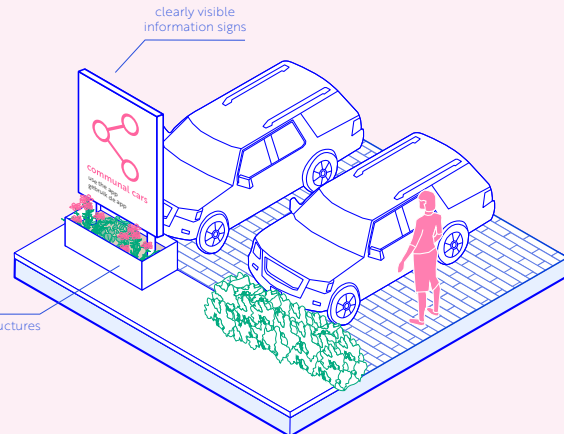
Improving public transport infrastructure and introduce shared mobility



**E3 Joyful journey**

A well-designed and maintained public transport station will have a positive impact on people's perception of public transport usage.

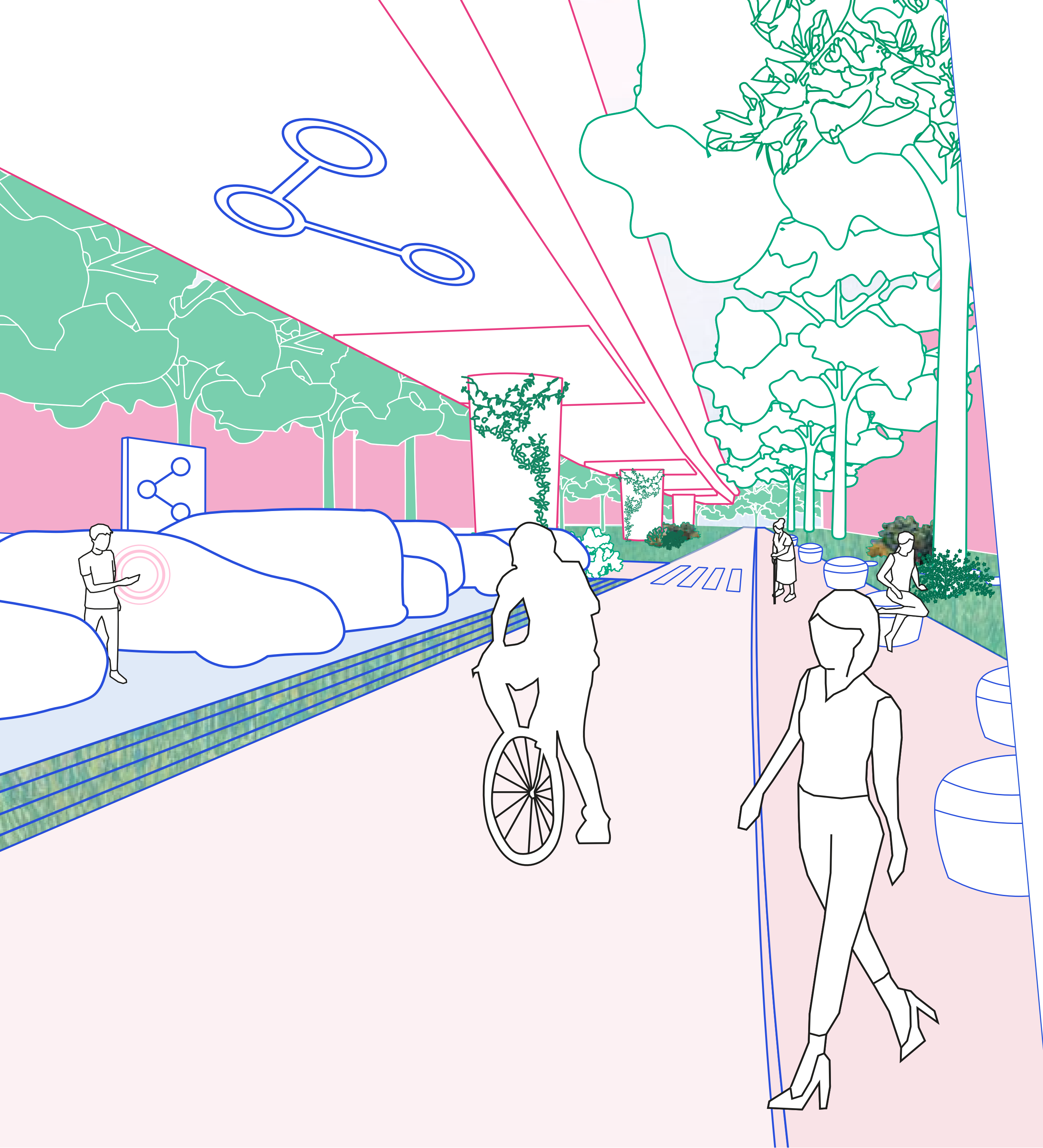
RELATED TO  
E1, E5



**E2 Collaborative commuting**

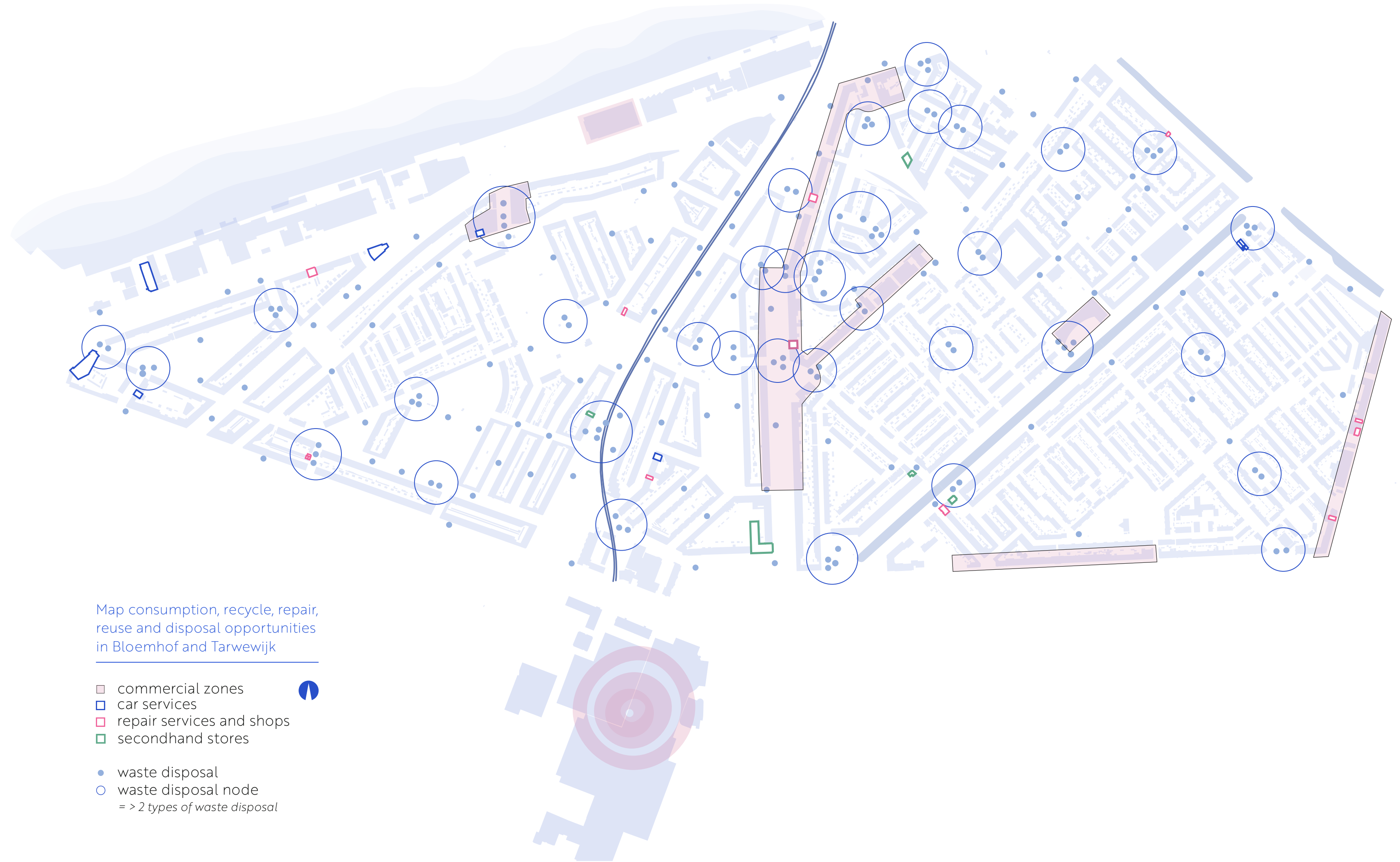
By turning existing parking lots in vulnerable neighbourhoods into testing grounds for shared mobility, sustainable mobility behaviours can become more widespread.

RELATED TO  
E5, E11



The mobility design breathes new life in the streets, **creating a more balanced and better connected streetscape**, in which sharing of space with the car does not mean being overpowered by it.

# Consumption behaviours



02 TARGET BEHAVIOURS AND ANALYSIS  
Everyday decisions

# Littering as a significant problem

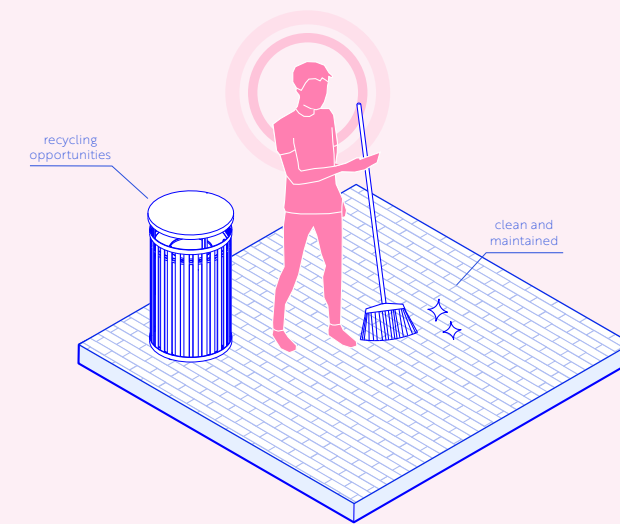
Environment communicates social norms

► [Littering and recycling facilities Tarwewijk](#)



## Engage to keep neighbourhood clean

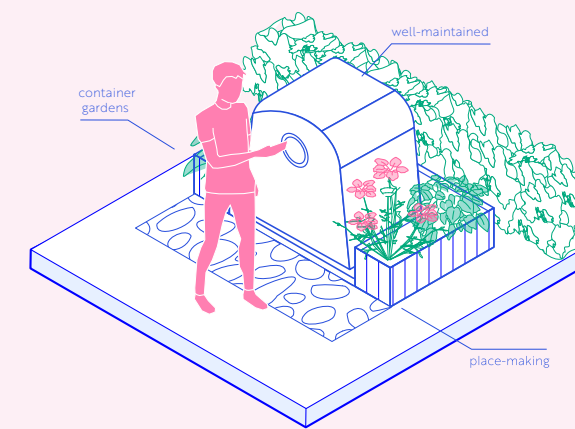
Aesthetics and functionality; and context-specific solutions



### E5 Clean streets, green mind

People feel attached to well-maintained environments, leading to both safety and pro-environmental behaviours.

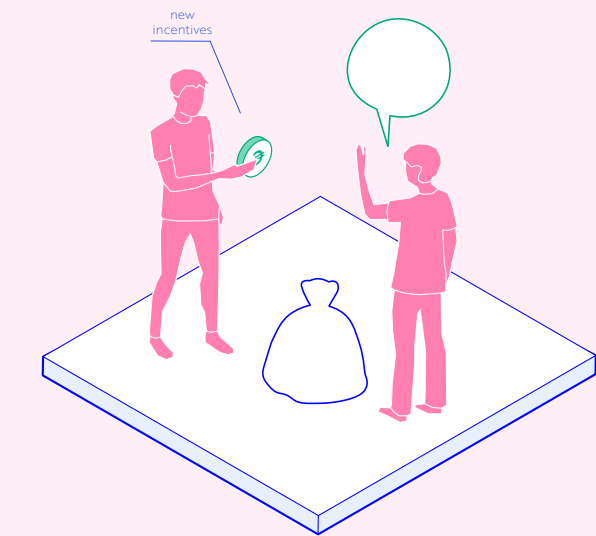
RELATED TO  
C1, E1, E3, E6, E7, E8, R2



### E7 Happy recycling!

An attractive design of recycling containers and its surroundings helps to reduce littering.

RELATED TO  
E5, E6, R1, R3



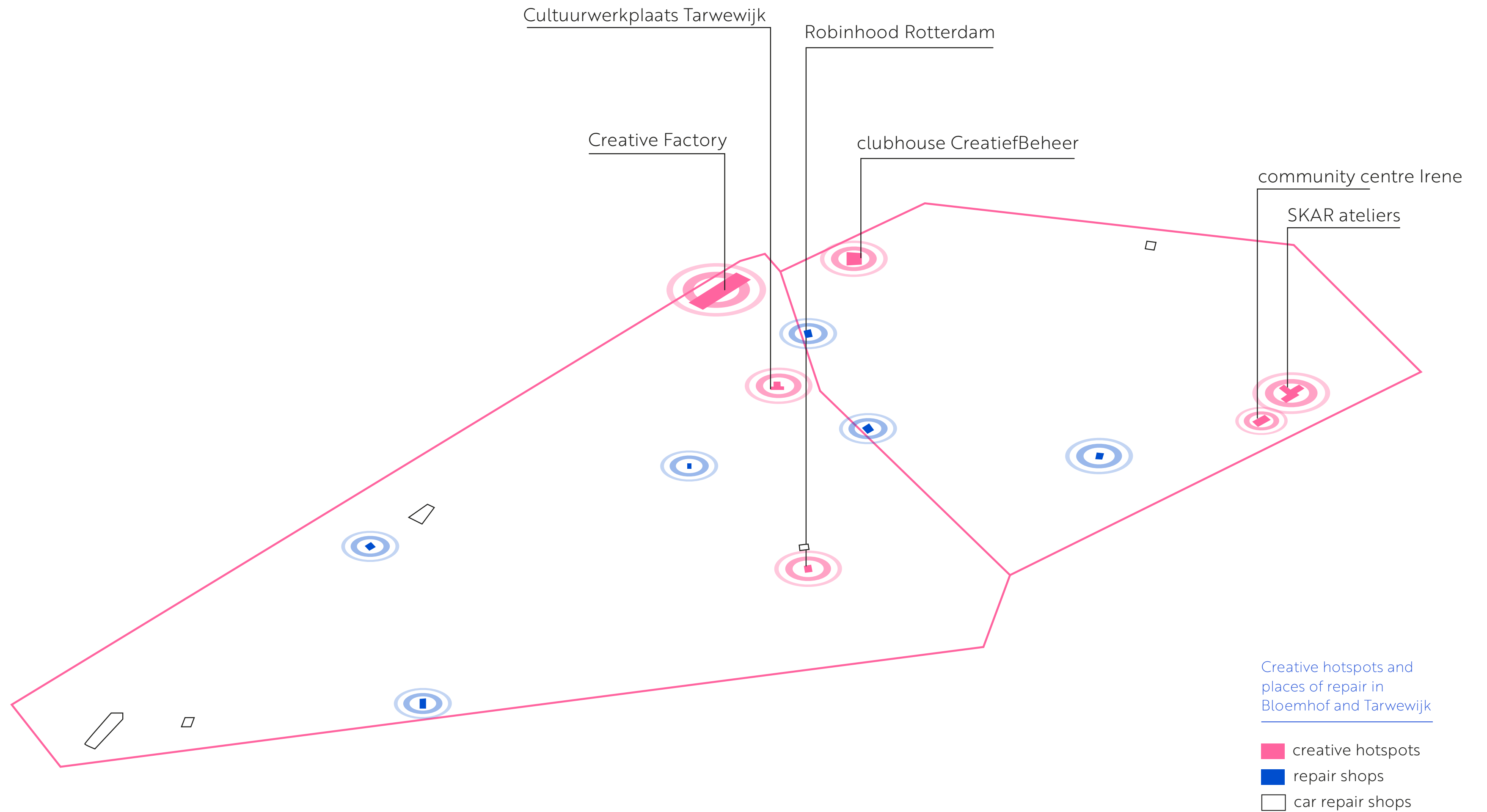
### E6 Socialising waste

Socio-economic conditions influence waste behaviours.

RELATED TO  
E5, E7, E8

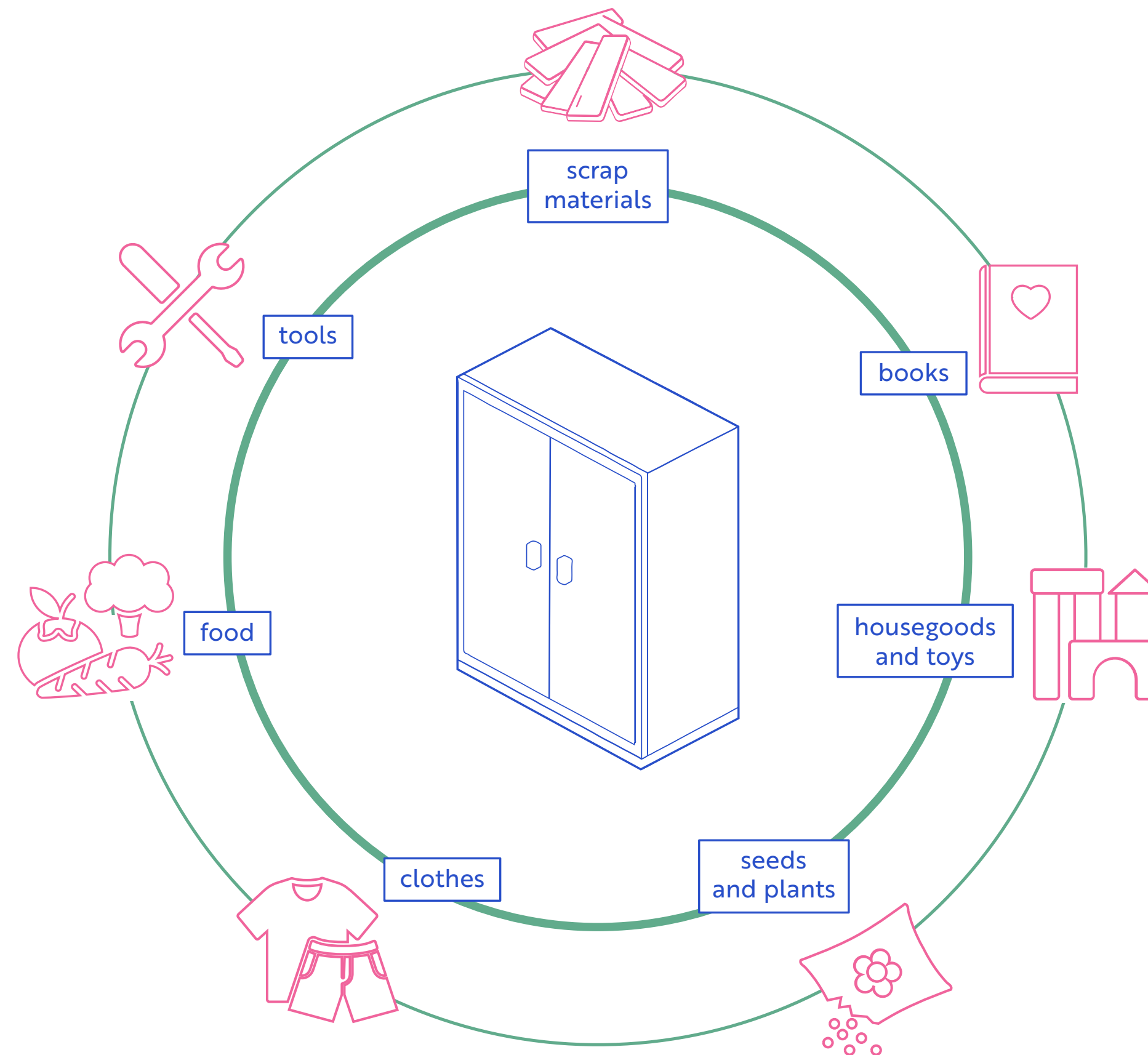
## Creative and skilled population

Reduce waste through repurposing and repairing



# Platforms for sharing goods and tools

Network of cabinets



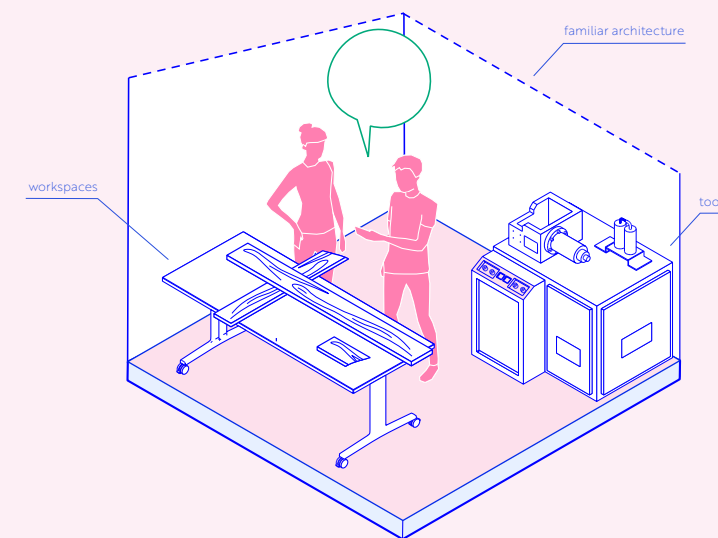
**E8** Sharing = caring

Street libraries at the corners of the street promote sustainable consumption and by visually creating opportunities for the practice of sharing.

RELATED TO  
C1, C5, C6, E8, R6

## Neighbourhood workshops

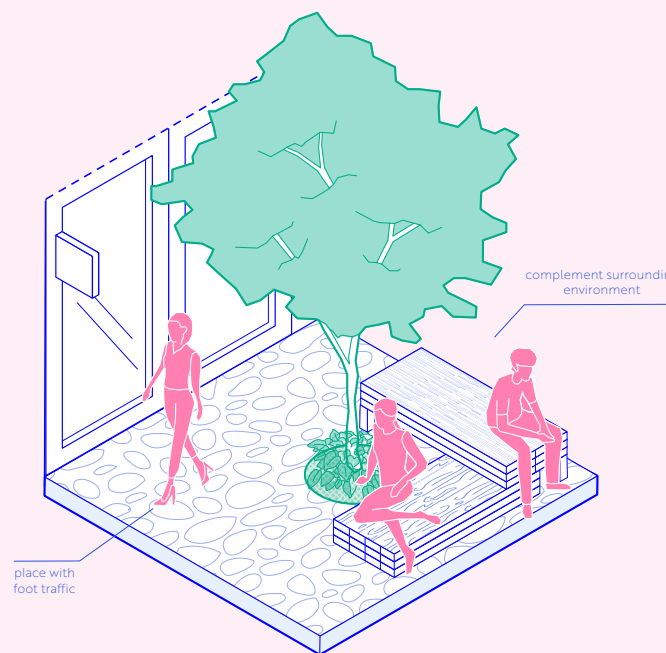
Provision of space, tools and opportunities for neighbourhood pride



### E10 Revival of the apprentice

Opening neighbourhood workshops can generate social and environmental value by the promotion of sharing and repairing actions within a community.

RELATED TO  
C1, E11, E12, R5



### E12 The new green aesthetic

Recycled furniture displays in commercial zones promote pro-environmental behaviour by showcasing waste materials' potential for stylish and functional use.

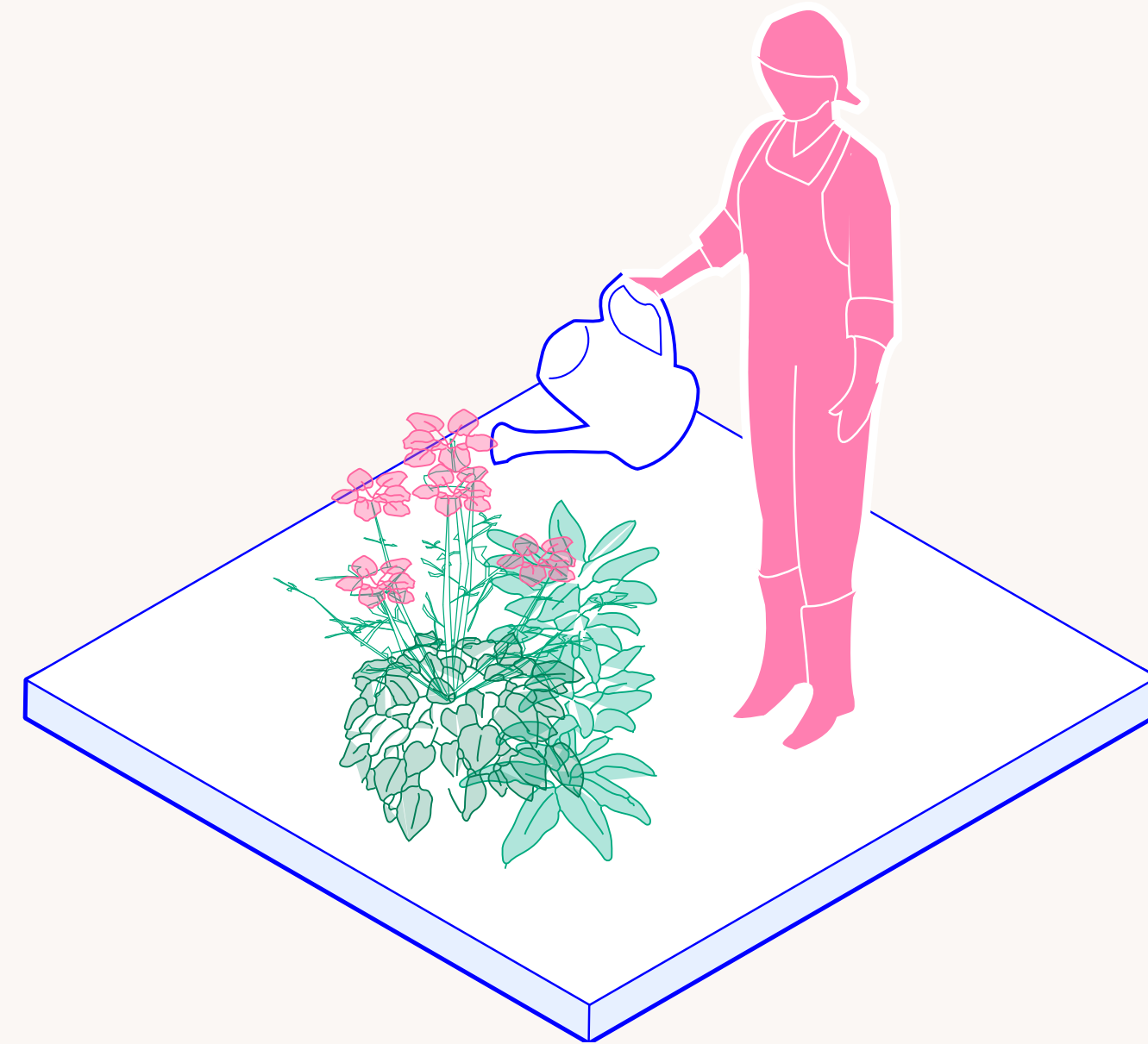
RELATED TO  
C5, E1, E10, E11, R1, R6







New life can be brought to old objects, repurposing materials and **harnessing the skills and resources of local communities.** Together, waste can be minimised and resources maximised.



Enhance  
ecological  
structures  
and nature-  
relatedness

STEWARDSHIP BEHAVIOURS



## Lack of (functional) green spaces

Desire for green  
community facilities  
near home



## Symbolic and perceptual nature

Symbolic presence nature and diverse perceptions of natural aesthetics



**R1** Green exposure to devotion

Through natural design, social norms can be created and deeper connections between human and nature can be fostered.

RELATED TO  
E4, E7, E12, R2, R3, R4, R7, R8



**R2** Embracing (bio-) diversity

Nature in diverse neighbourhoods has to be well-maintained to ensure appreciation.

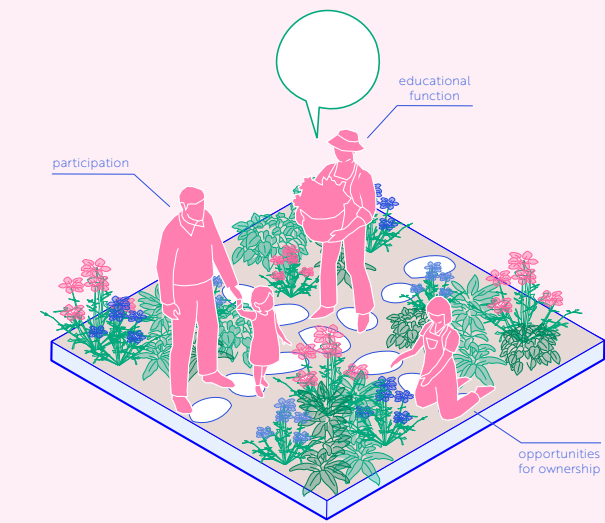
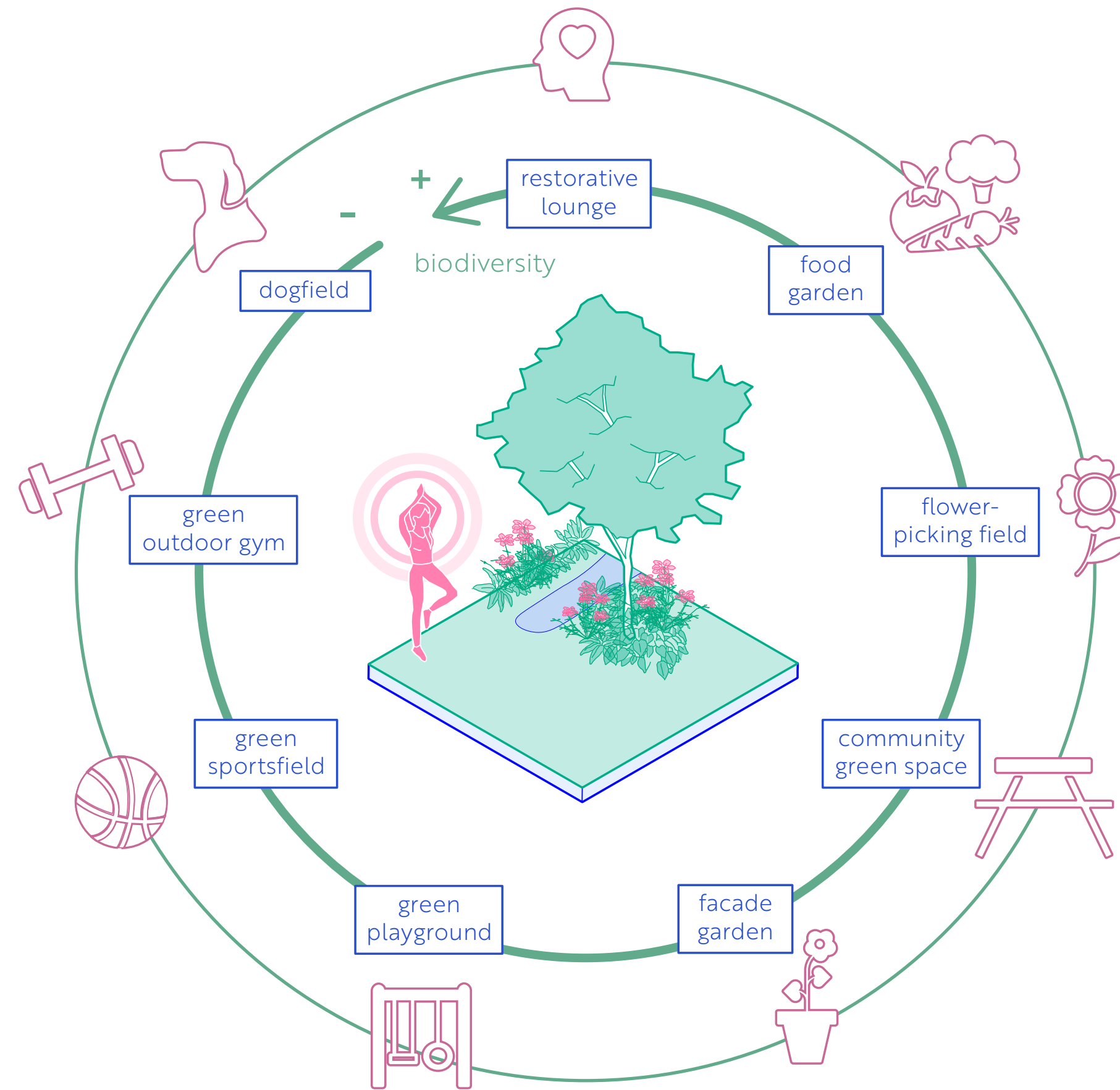
RELATED TO  
C2, E4, E5, R1, R3, R4, R7, R8

► Maintained biodiversity  
Kokerstraat



## Interactive green spaces

Natural representation through activities and natural materials



### R3 Green spaces to green places

Interactive community-related green spaces fosters an environmentally conscious and engaged community in diverse neighbourhoods.

RELATED TO  
C1, C2, C3, C5, C6, E4, E7, R1, R2, R4, R5, R6, R7, R8

# Stimulate feelings of ownership

Foster neighbourhood pride and a sense of commitment to sustainability

**R6 Inhabiting the inbetween**

People will take better care of their environment when they are allowed to take ownership of the zones inbetween the public and the private.

RELATED TO  
C2, C5, C6, E4, E9, E12, R3, R7

**R7 Engage, connect, protect**

Courtyard community gardens promote participation in ecological activities and reduces crime through a stronger relationship between people and nature.

RELATED TO  
C1, C2, C3, R1, R2, R3, R5, R6

**R5 Capital for change**

Empowering stewardship actions in vulnerable neighbourhoods requires capital investment across financial, institutional, and physical domains.

RELATED TO  
C1, C2, C3, E4, E10, E11, R3, R7, R8

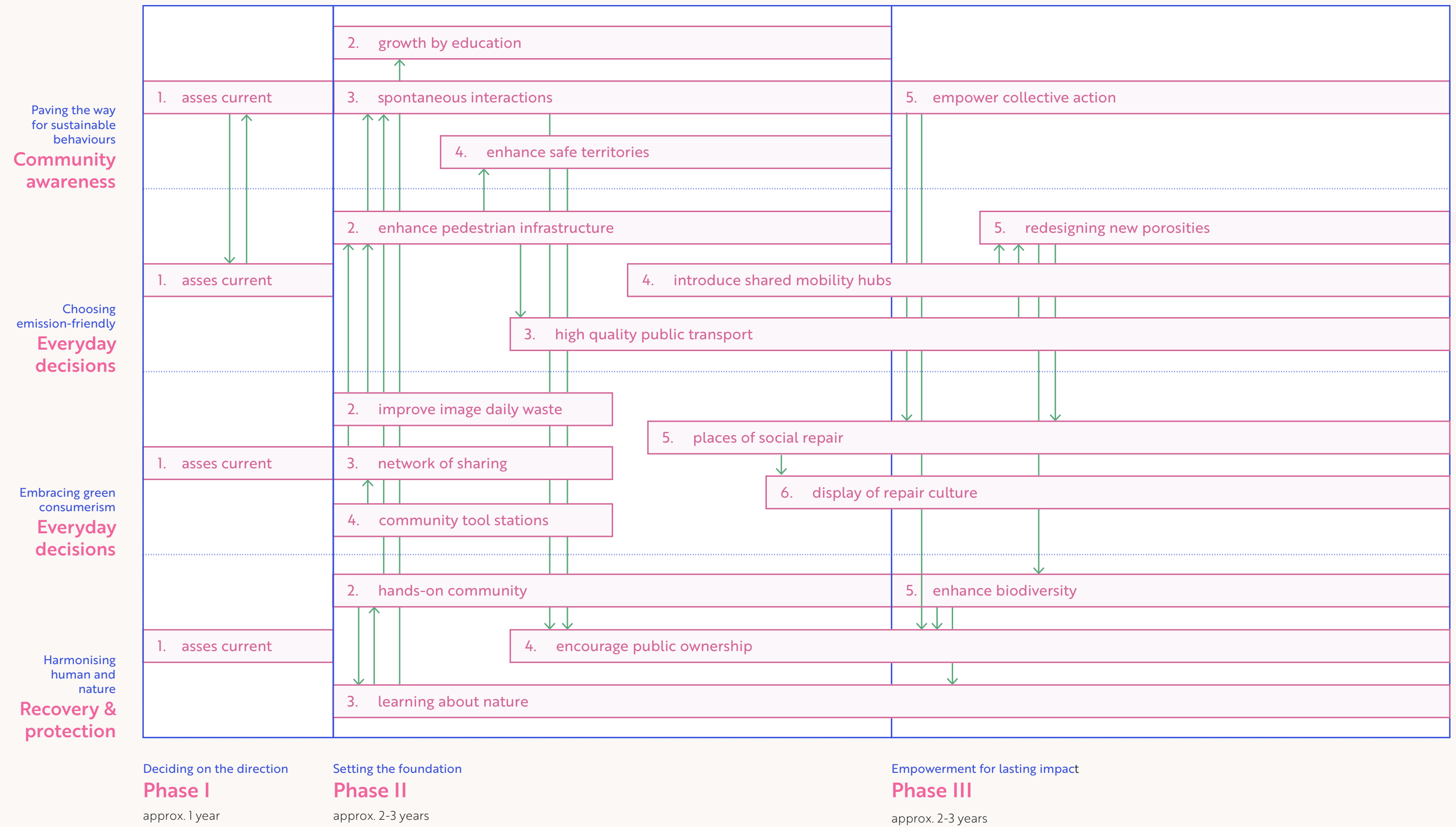


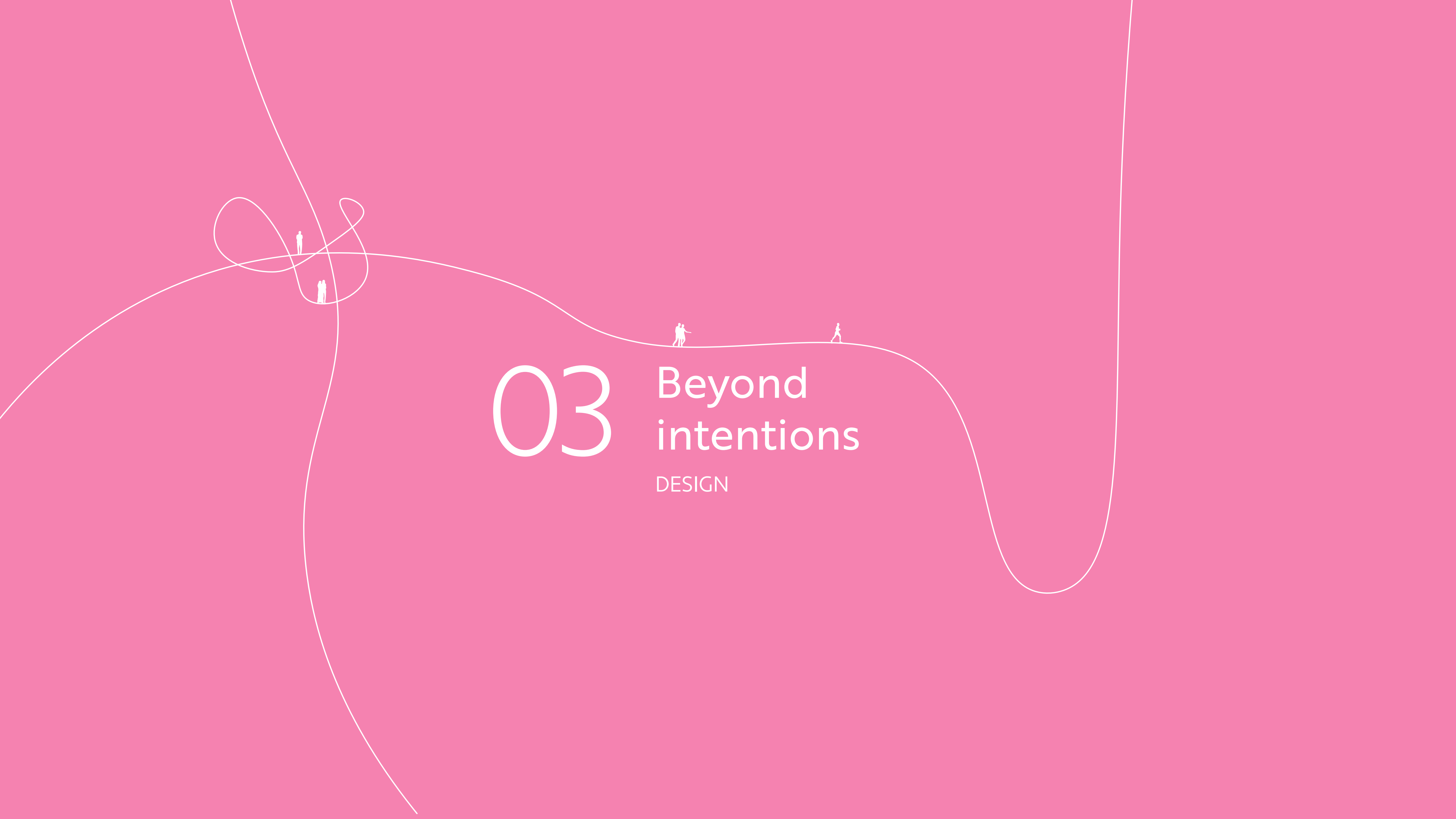
The seamless integration of nature into community infrastructures will foster a **deeper connection between people and the natural world**. This integration goes beyond aesthetics; it cultivates a sense of pride and deep connection to close surroundings.



# Behaviours closely interconnected

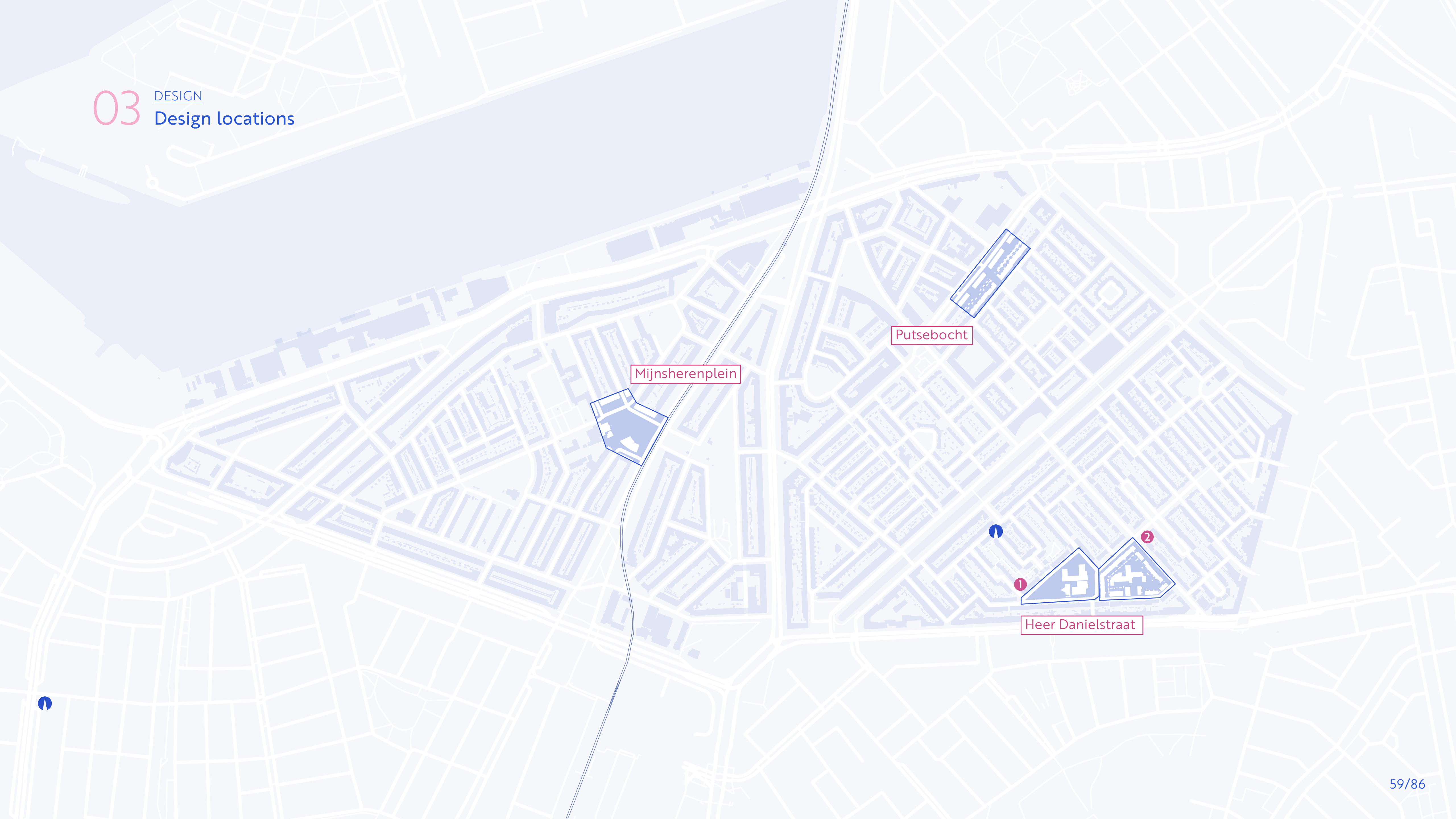
Taking an approach  
to integrate them





03 Beyond  
intentions  
DESIGN

03 DESIGN  
Design locations



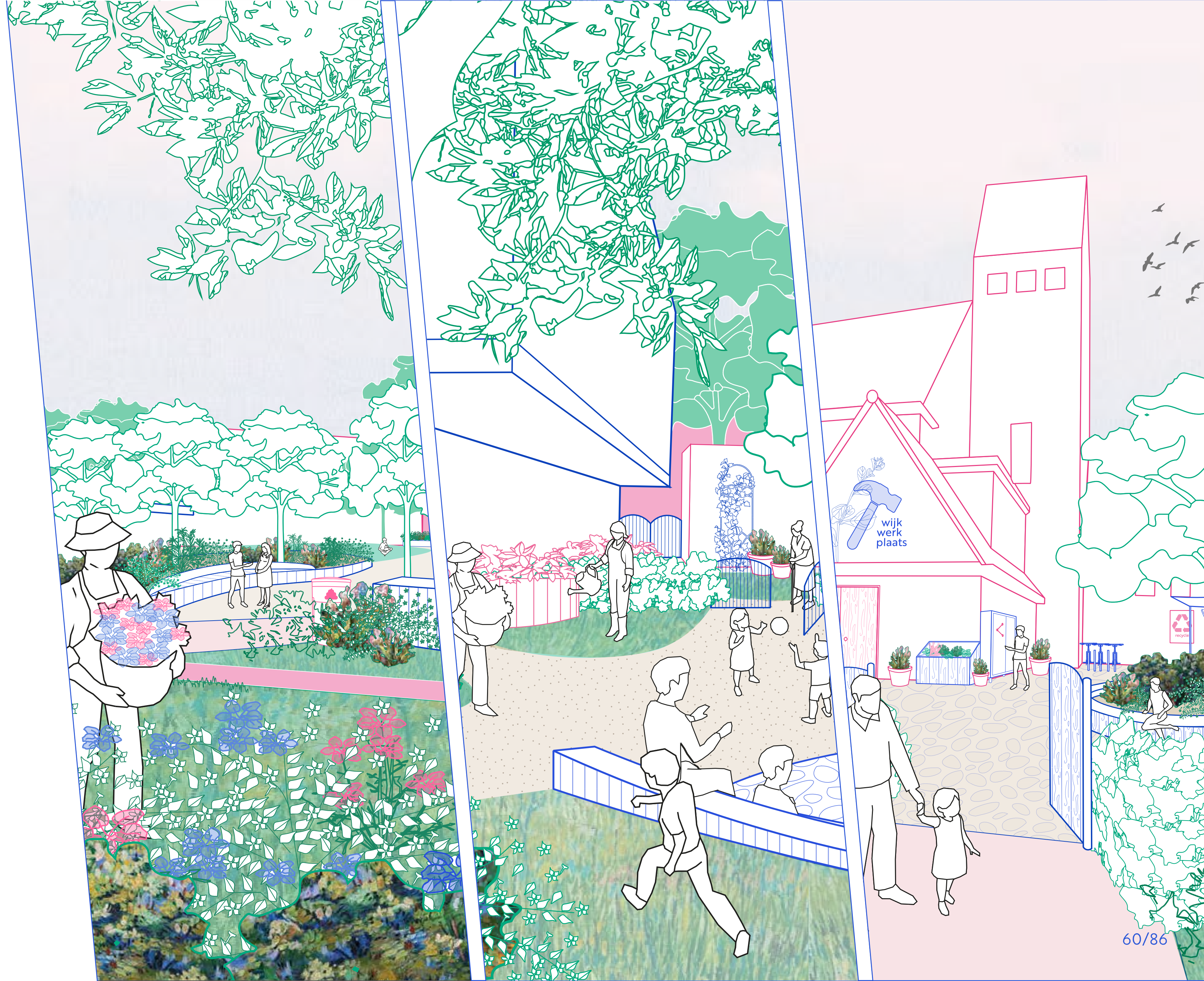
Mijnsherenplein

Putsebocht

Heer Danielstraat

02 Target behaviours and analysis  
Behaviour change

Each location  
highlights a  
different behaviour



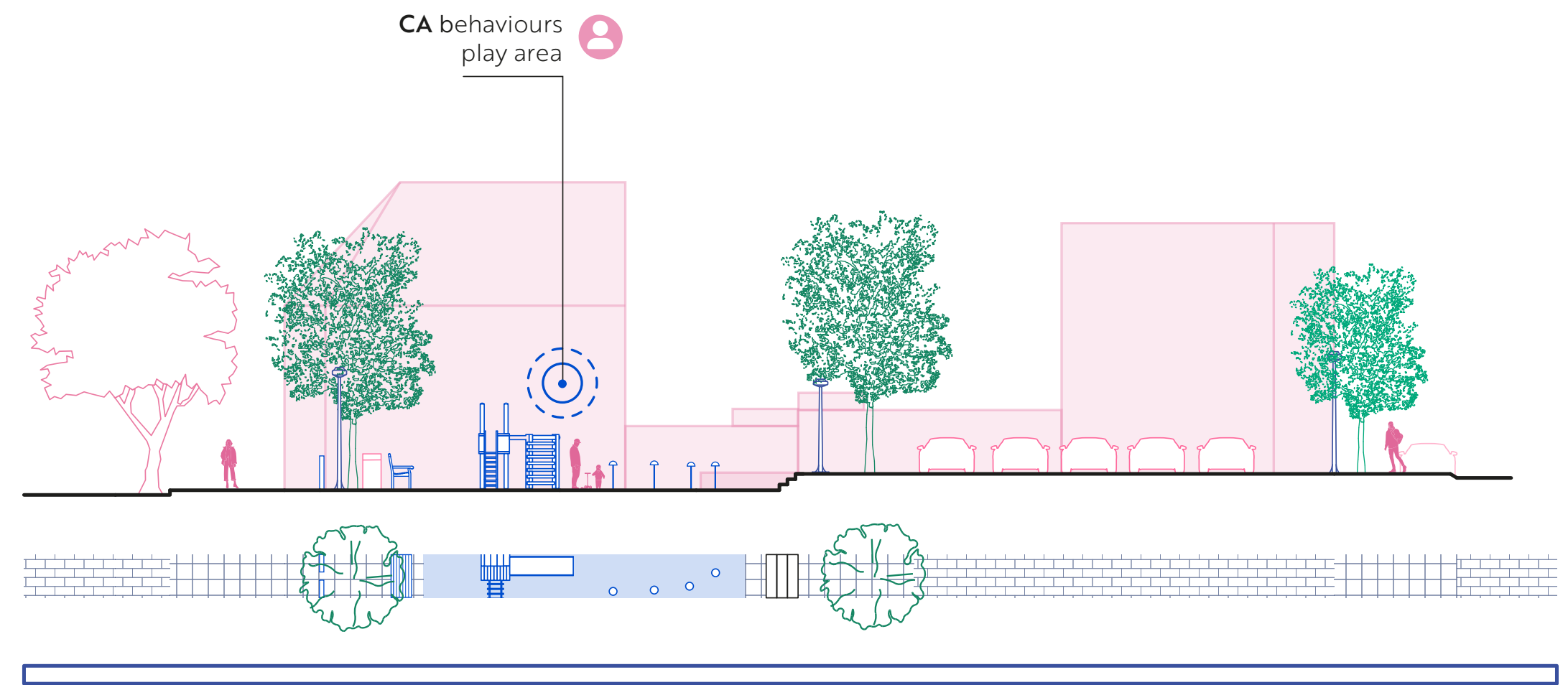
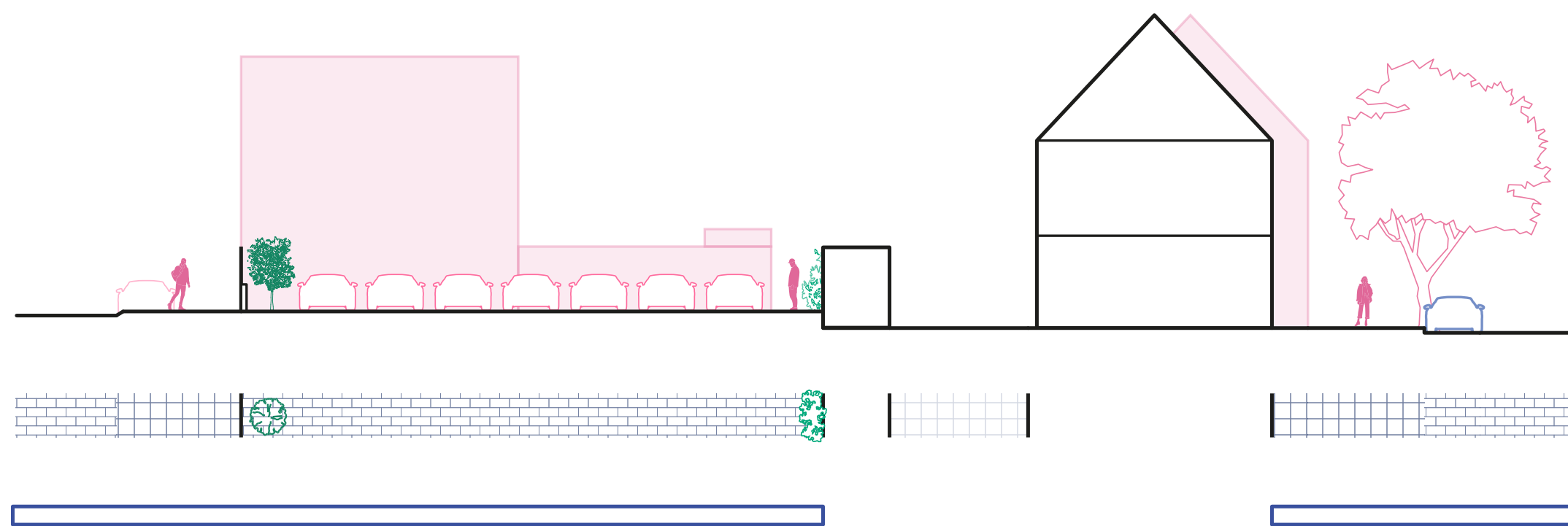
# The Putsebocht: an engaged community



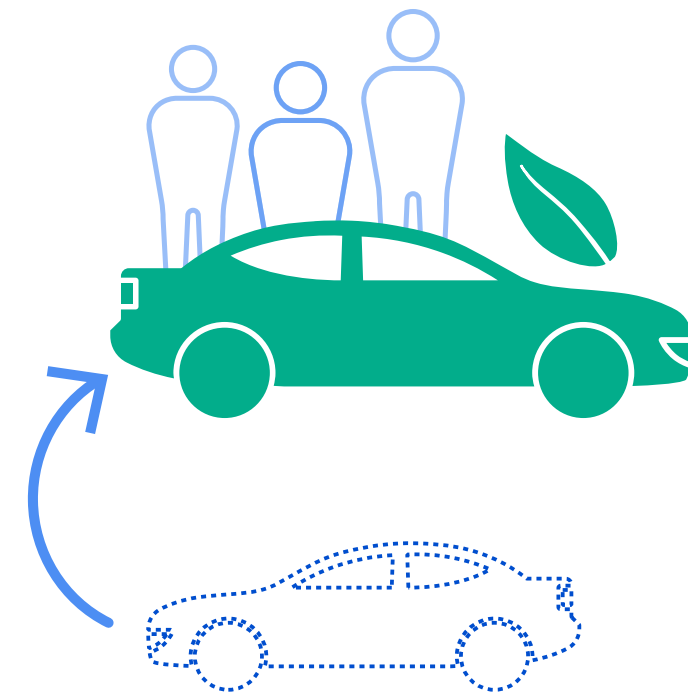
Between the  
Putsebocht and  
the Asterstraat,  
a series of  
public spaces  
exist



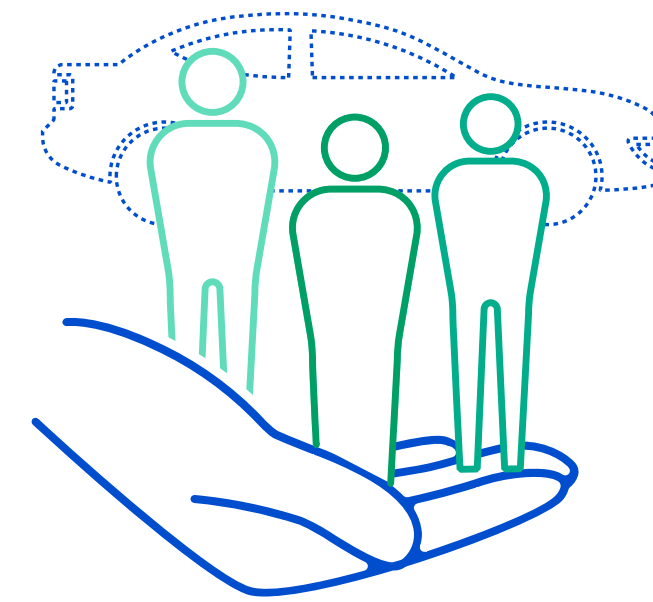
# Little space for community interactions and nature



## 3 design goals



▶ Reduce car dependency and promote sustainable mobility



▶ Parking spaces into community spaces



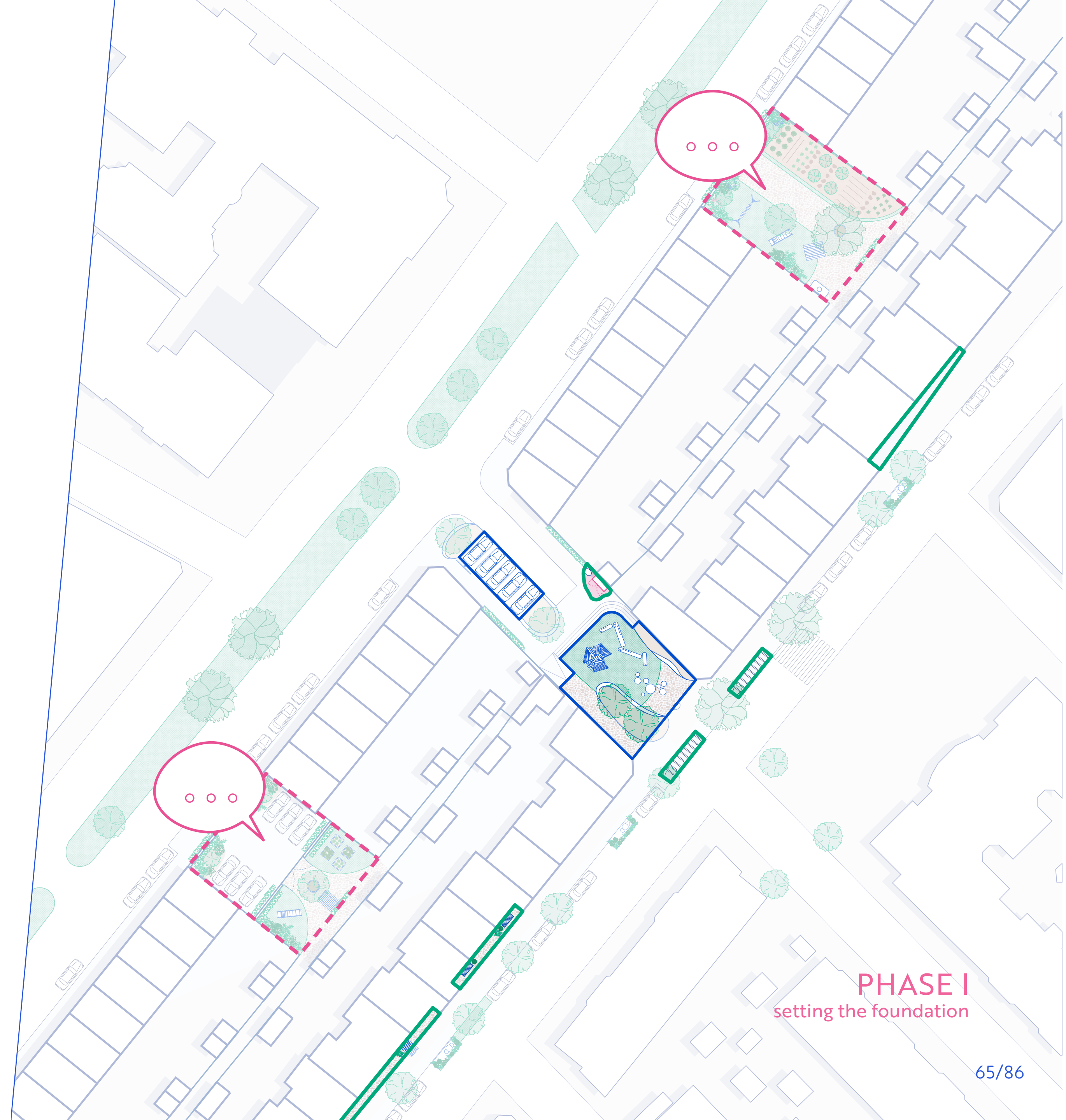
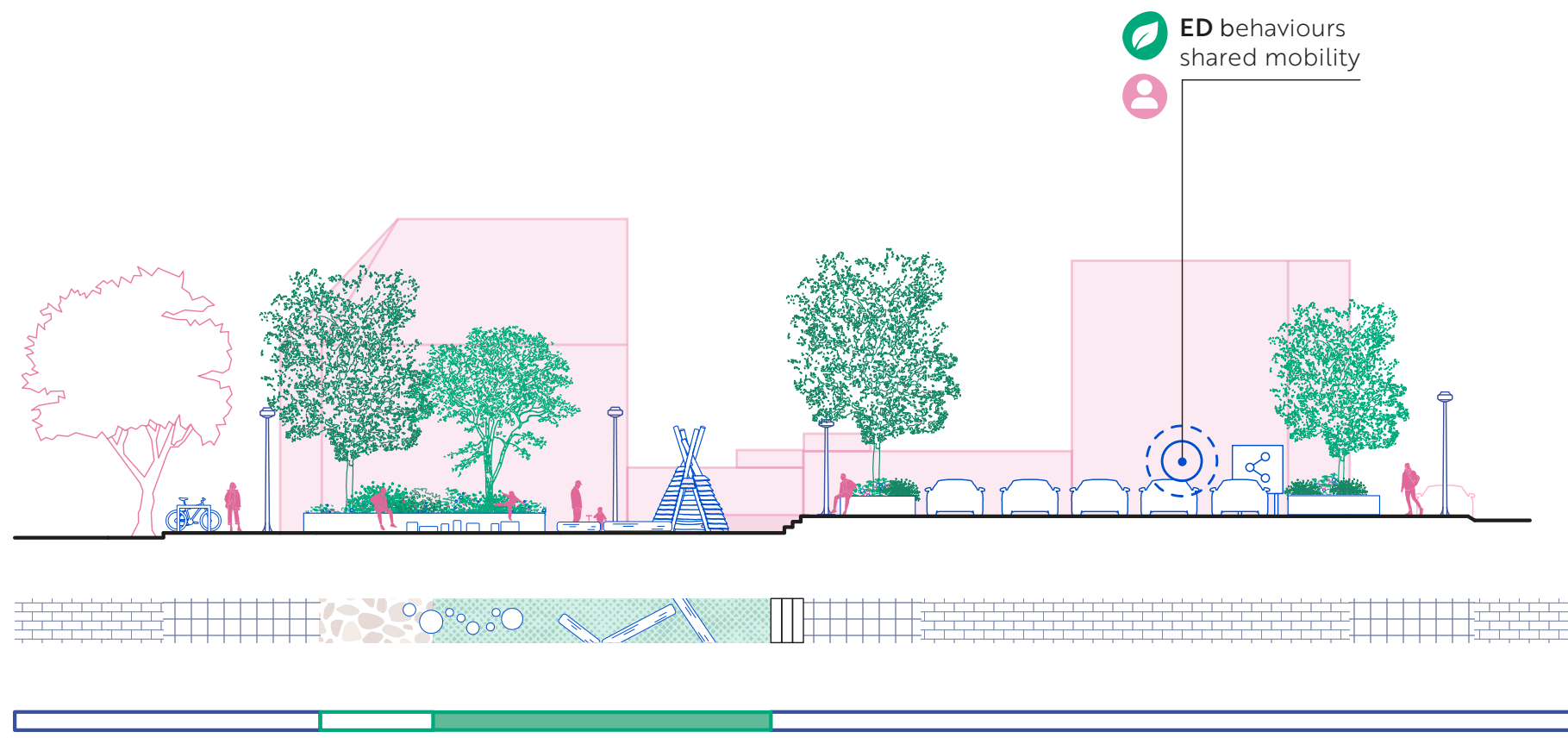
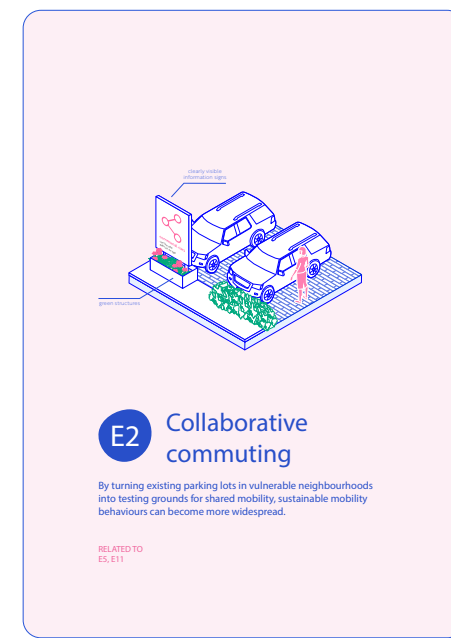
▶ Enhance community and appreciation of place



# 03 DESIGN Interventions

## Shared mobility testing ground

Visible and accessible for use

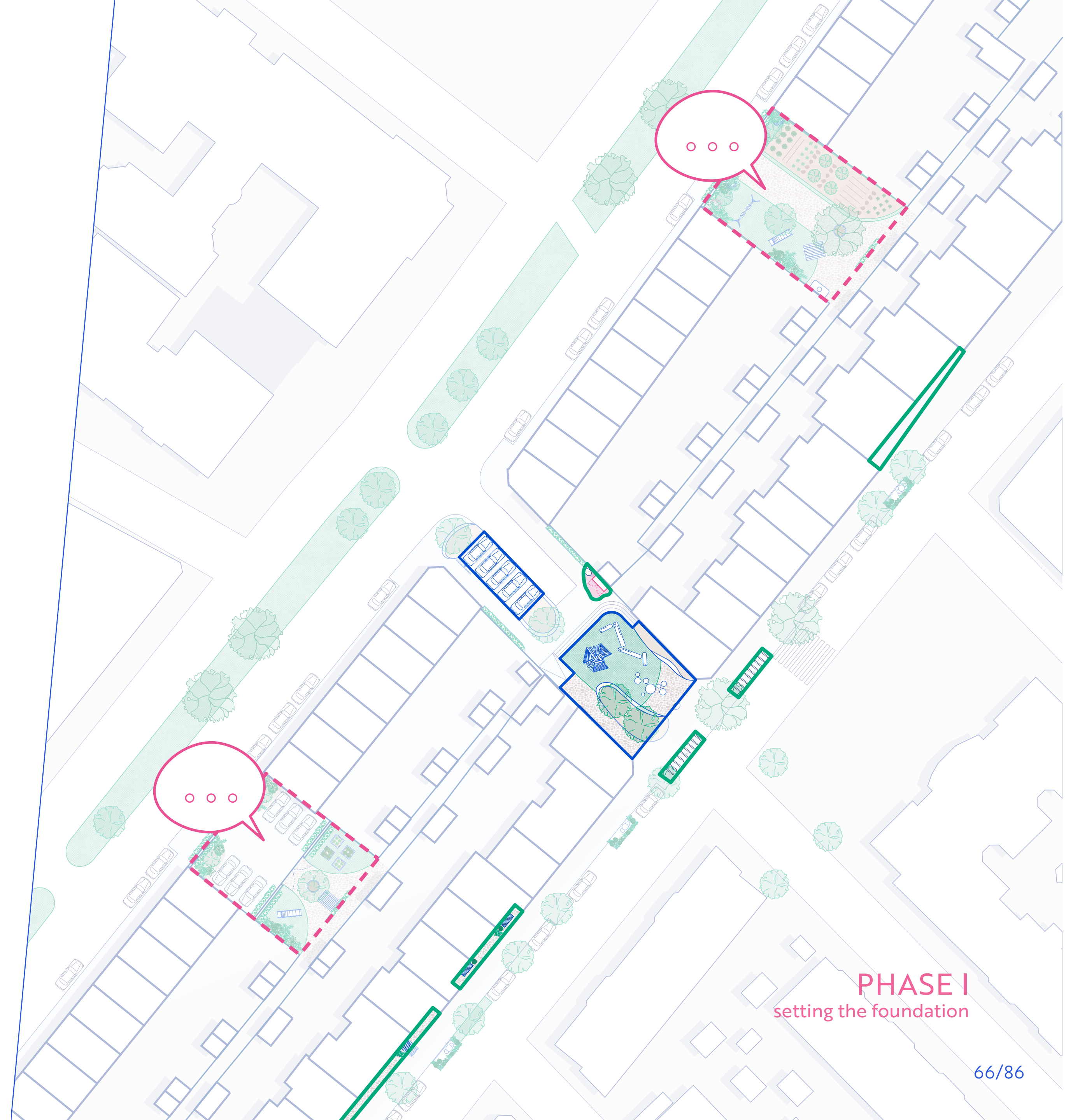
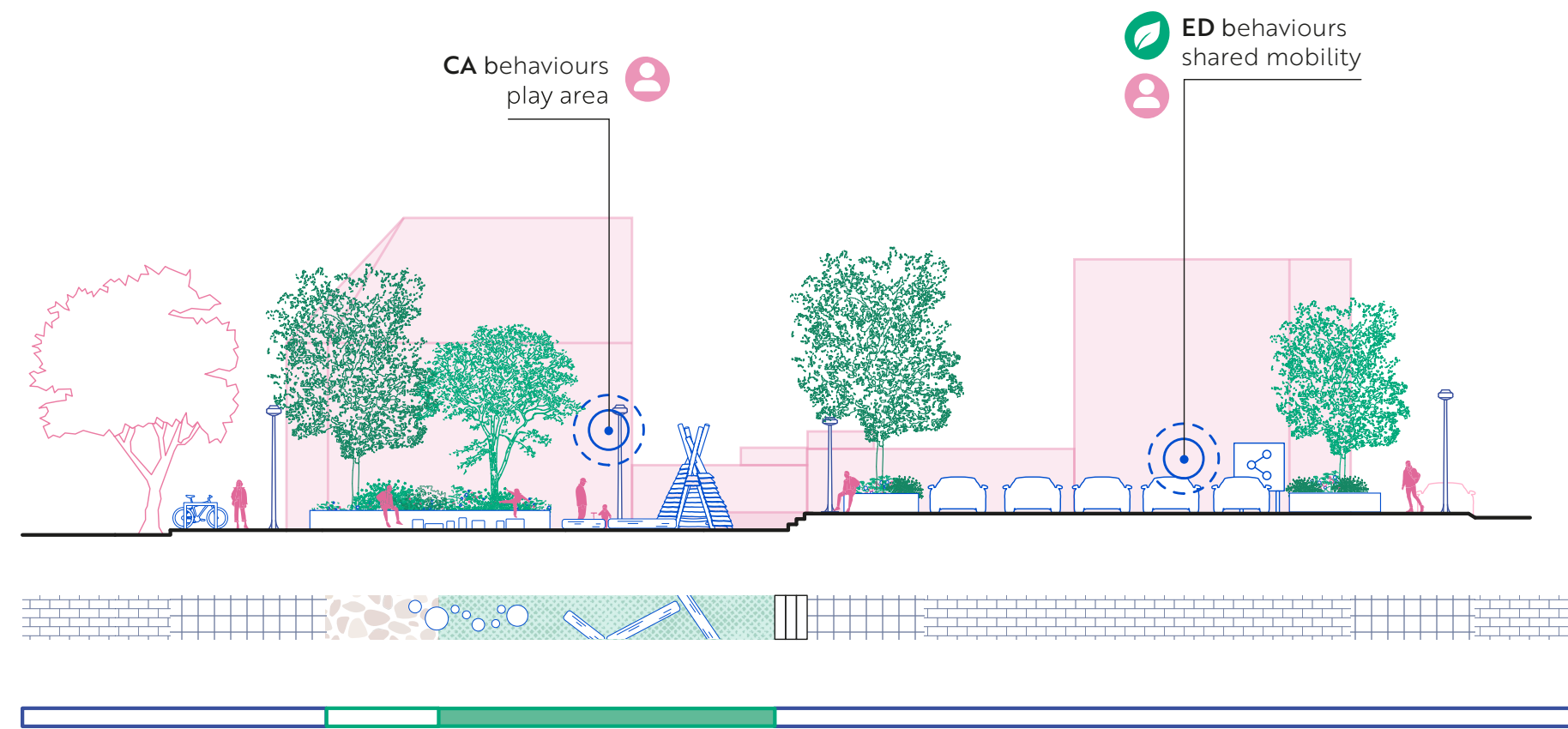


PHASE I  
setting the foundation

# 03 DESIGN Interventions

## Transformation of the playground

Depaving and natural materials

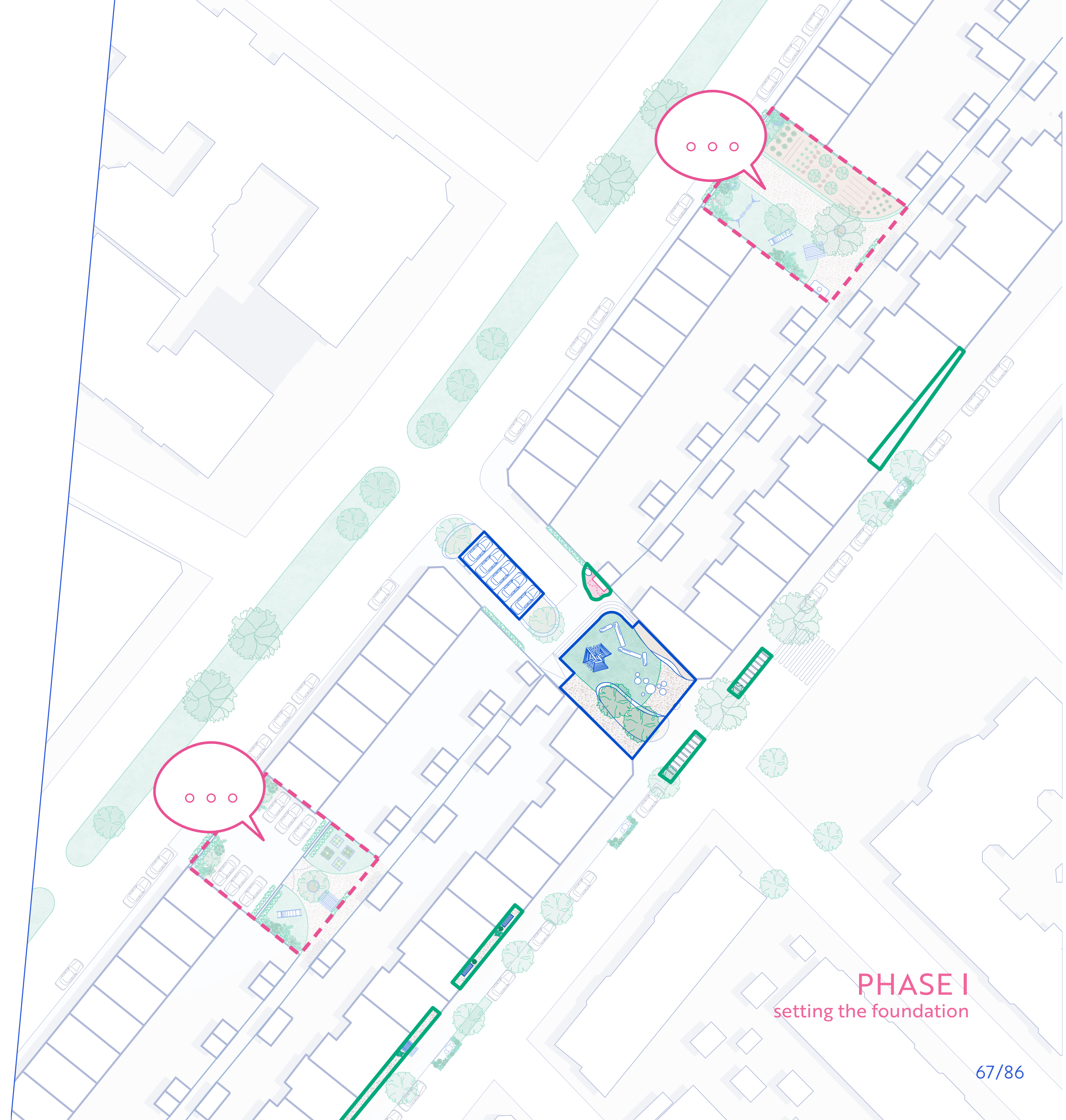
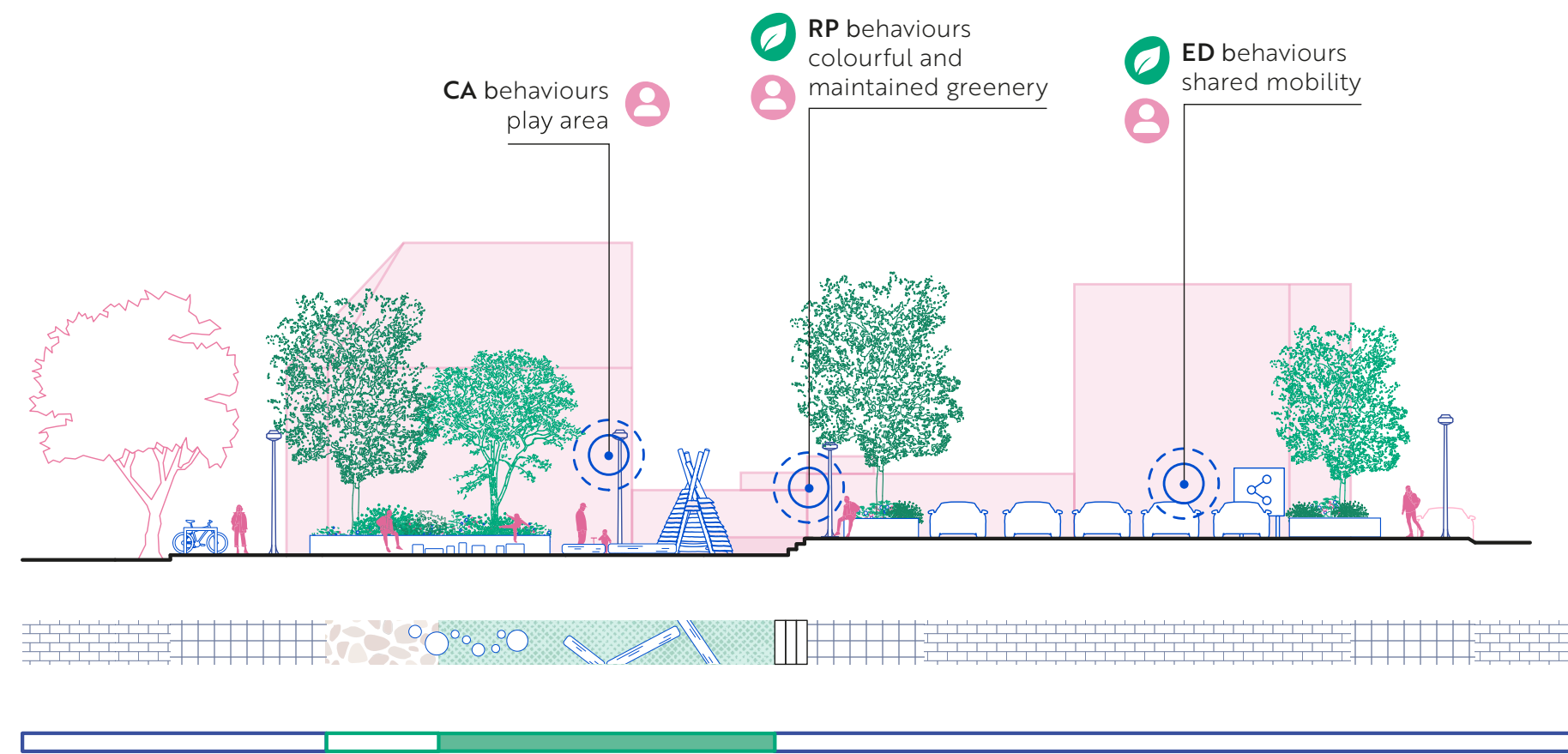


PHASE I  
setting the foundation

# 03 DESIGN Interventions

## Integration of greenery

Biodiversity and opportunities for lingering

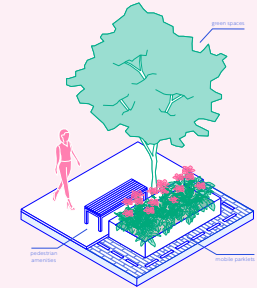


PHASE I  
setting the foundation

03 DESIGN Interventions

# Phasing out parking for community

Half courtyard turned into community space



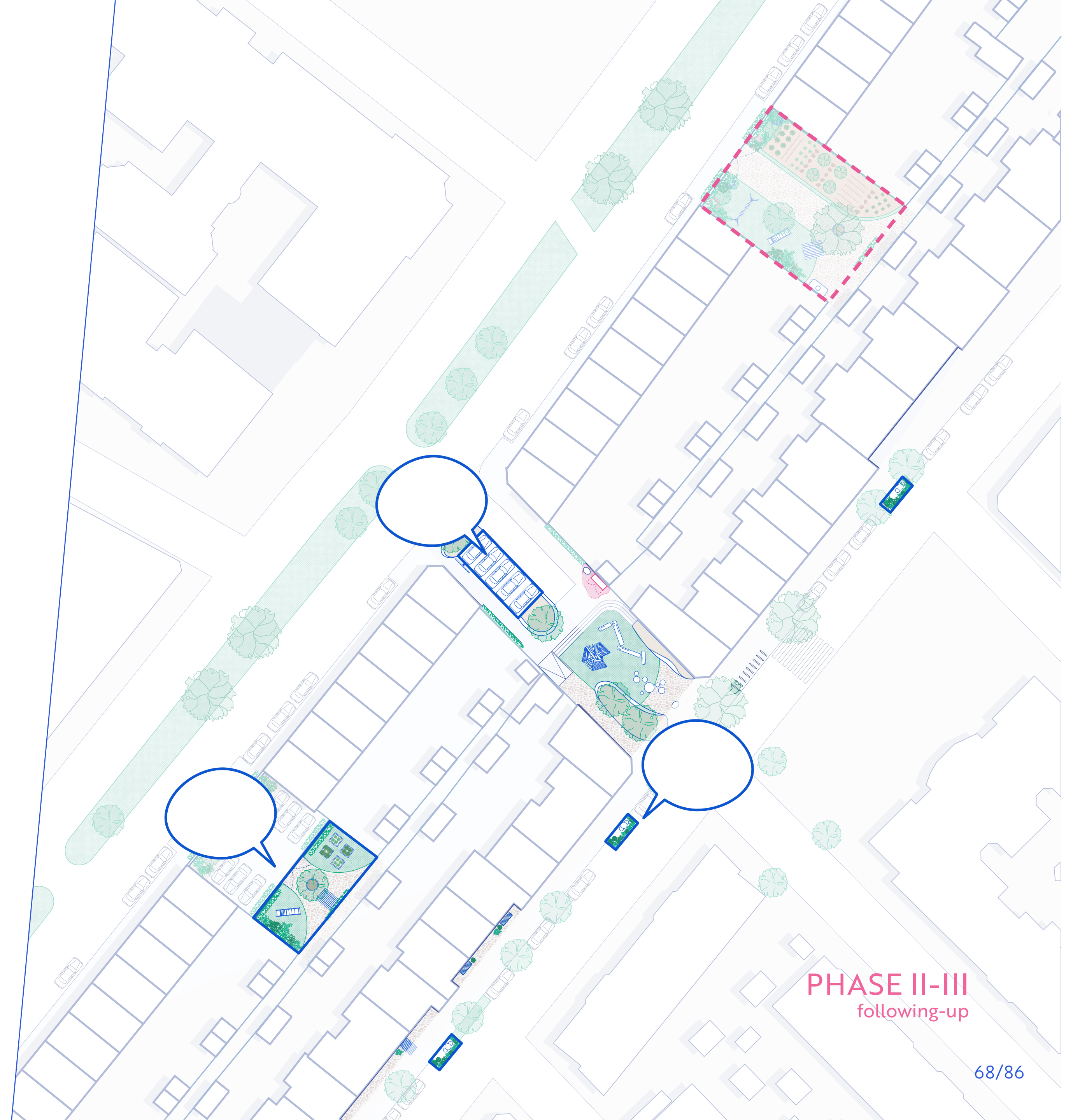
**E4** Removing the car out of car park  
By decreasing the reliance on cars in a neighbourhood, new opportunities for community spaces emerge.

RELATED TO: C1, C2, C3, R1, R2, R3, R4, R5, R6



**R7** Engage, connect, protect  
Courtyard community gardens promote participation in ecological activities and reduce crime through a stronger relationship between people and nature.

RELATED TO: C1, C2, C3, R1, R2, R3, R4, R5, R6

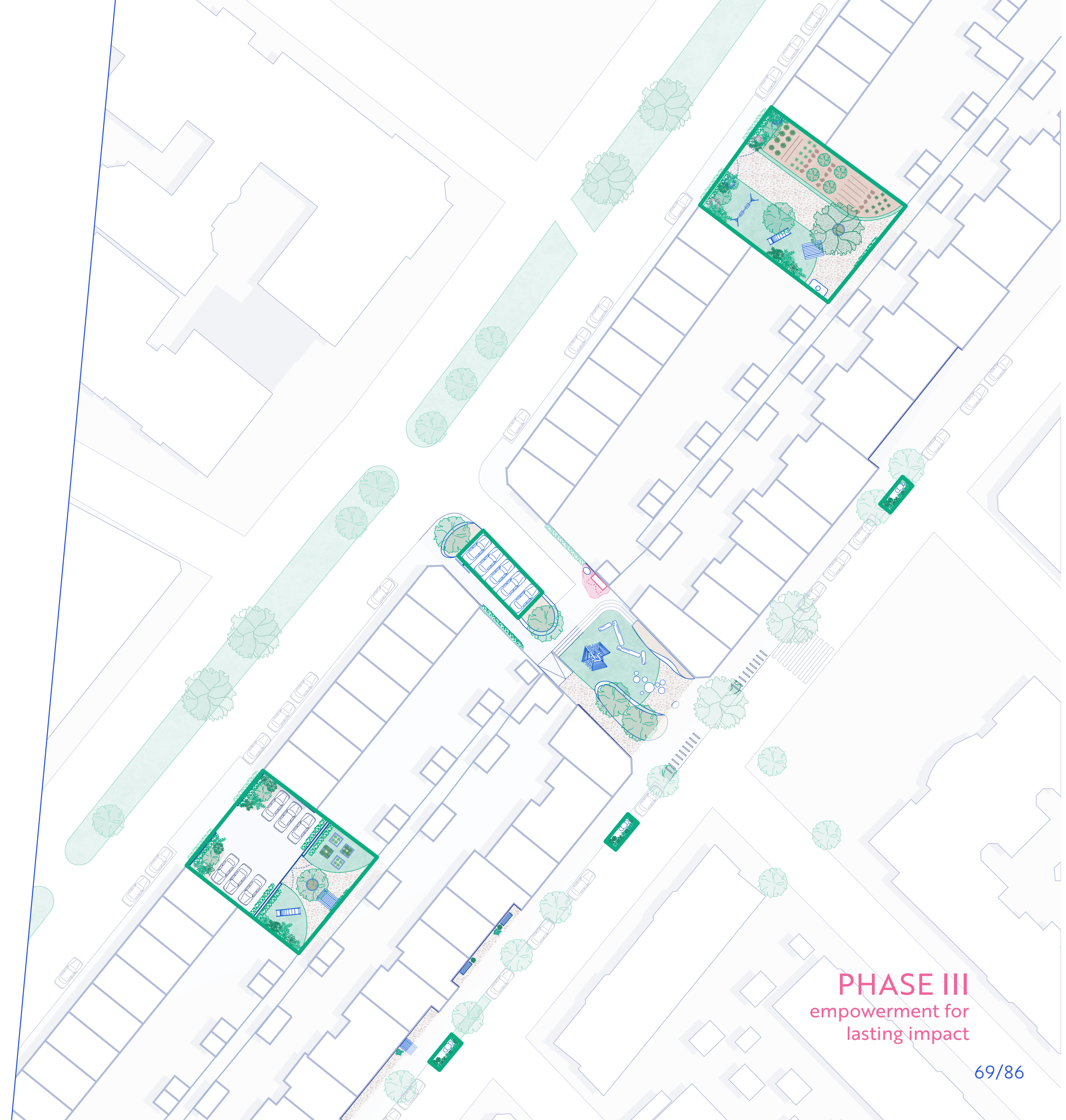
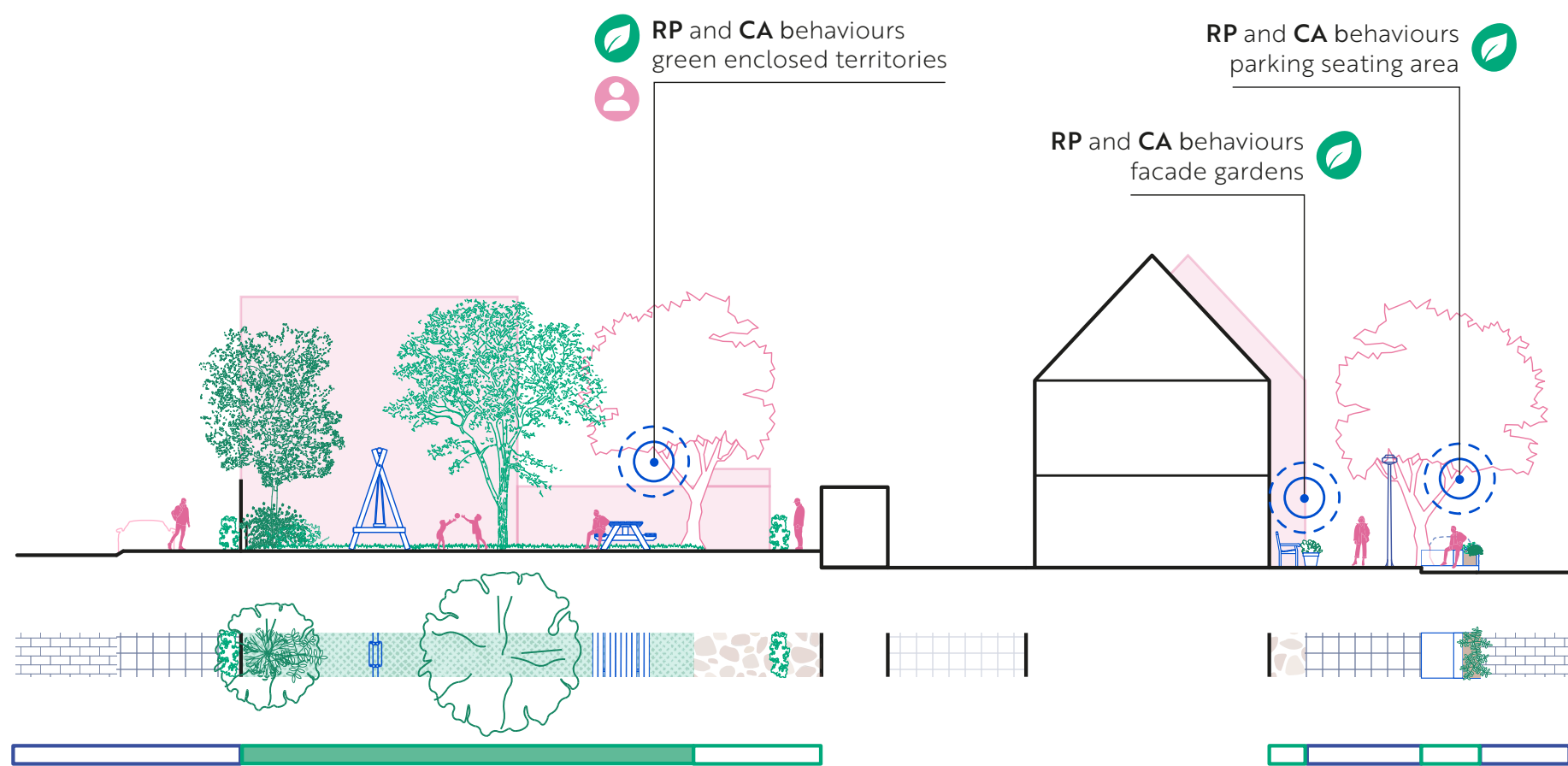


PHASE II-III  
following-up

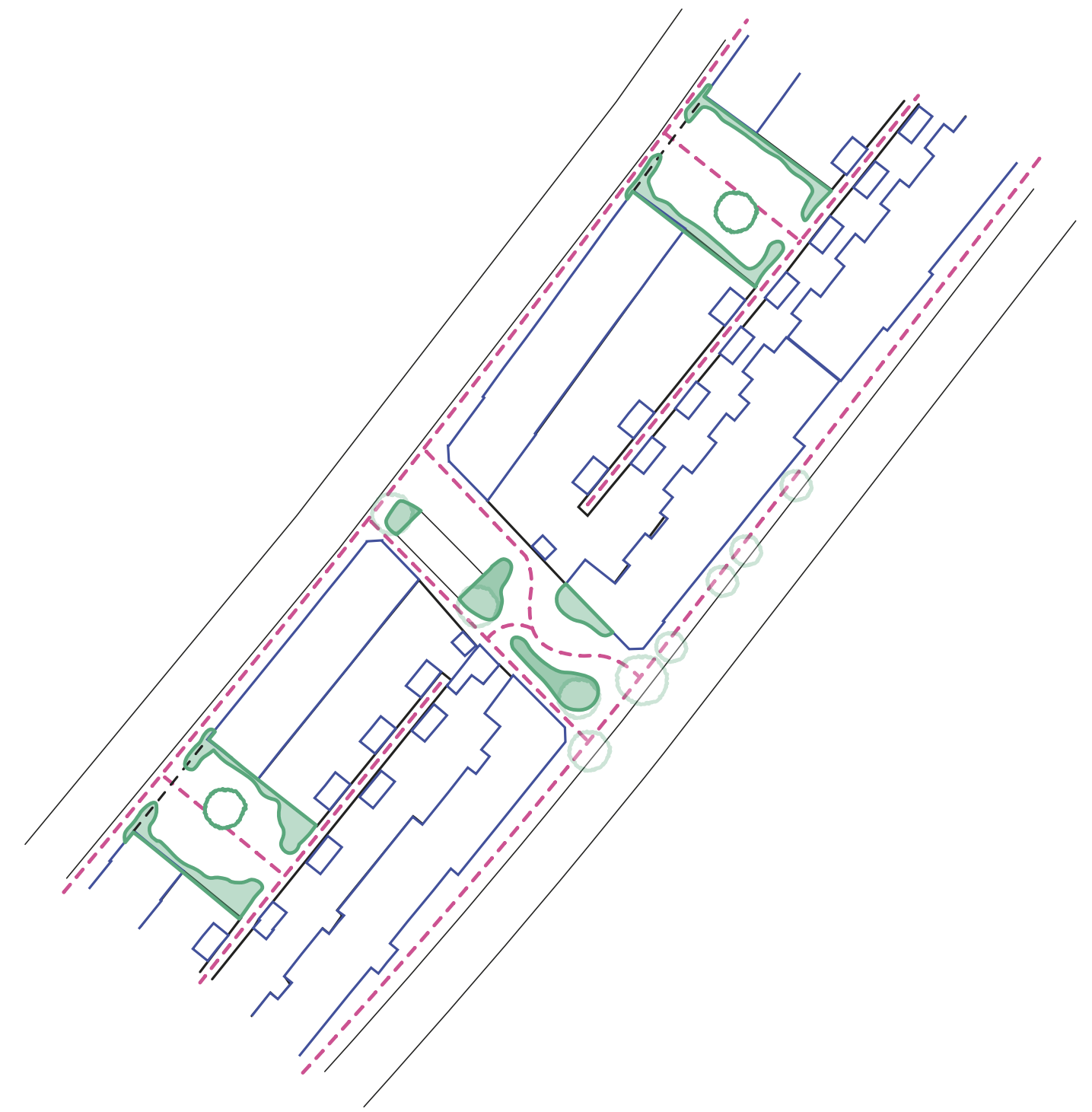
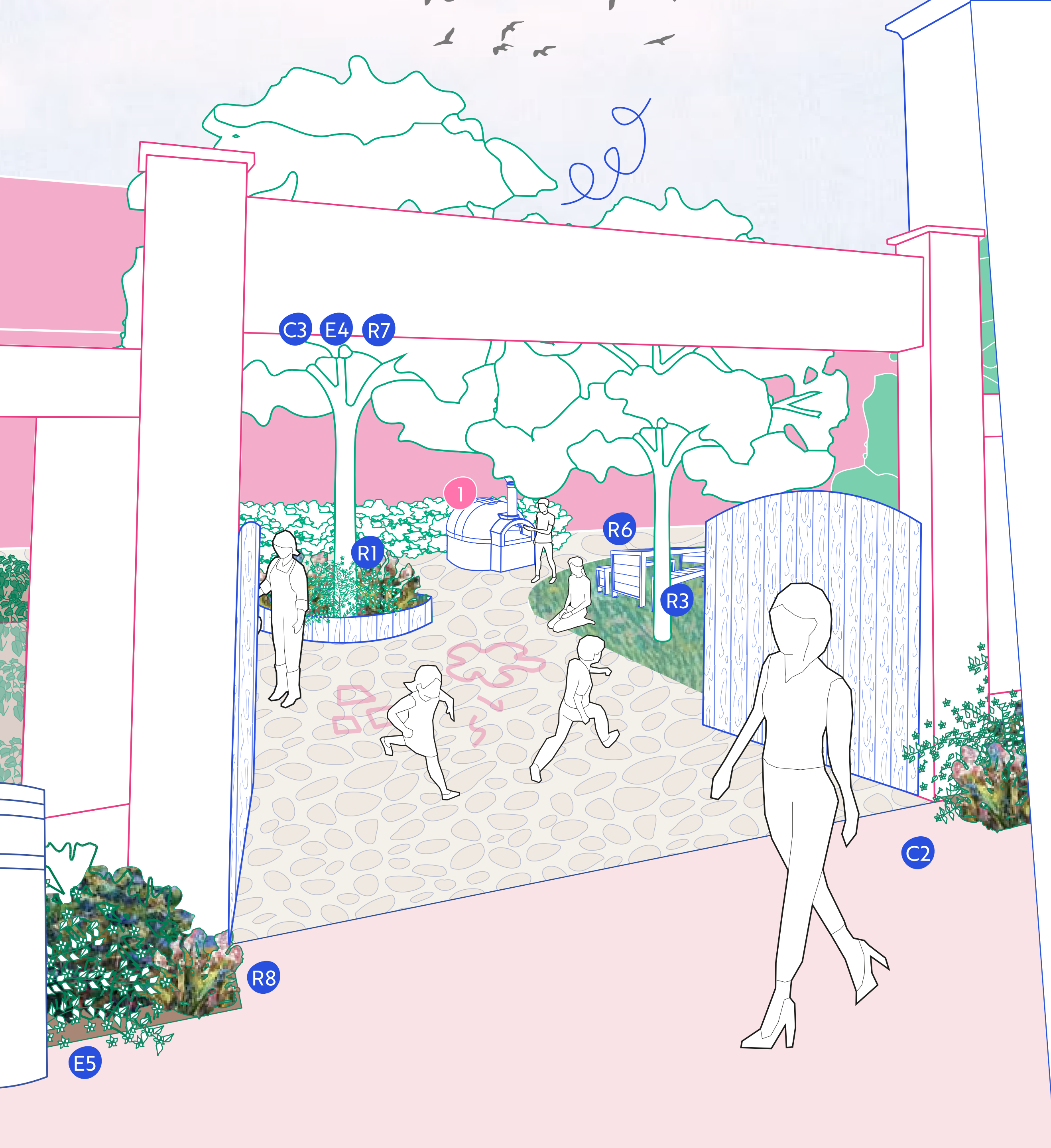
03 DESIGN Interventions

# Smooth and engaged transition

Ownership promoted throughout the transformation



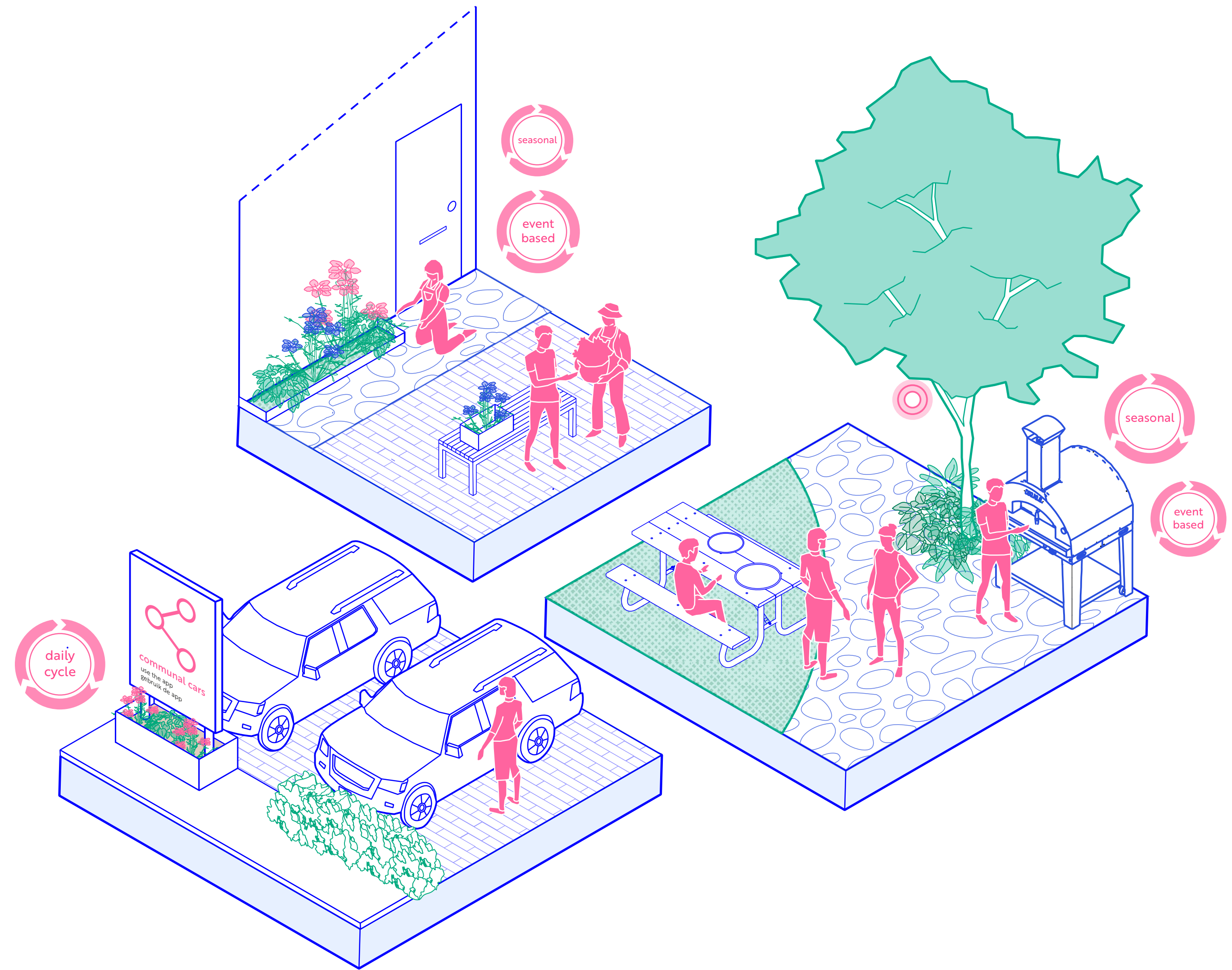
**PHASE III**  
empowerment for  
lasting impact



# 03 DESIGN Interventions

## Adaptability and flexibility

Continuously expressing sustainable values and uses



So what makes  
these interventions  
specific for vulnerable  
neighbourhoods?

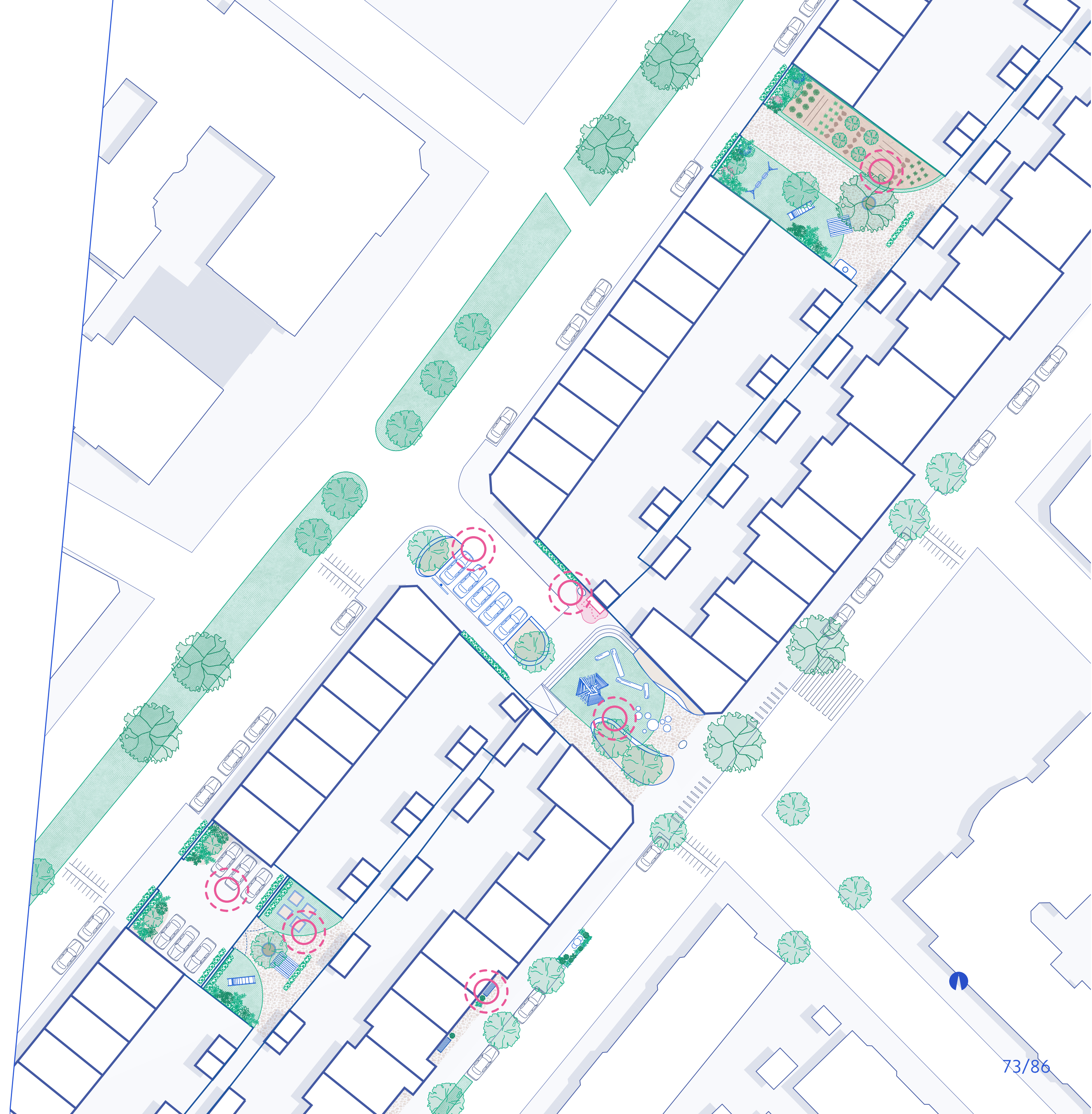




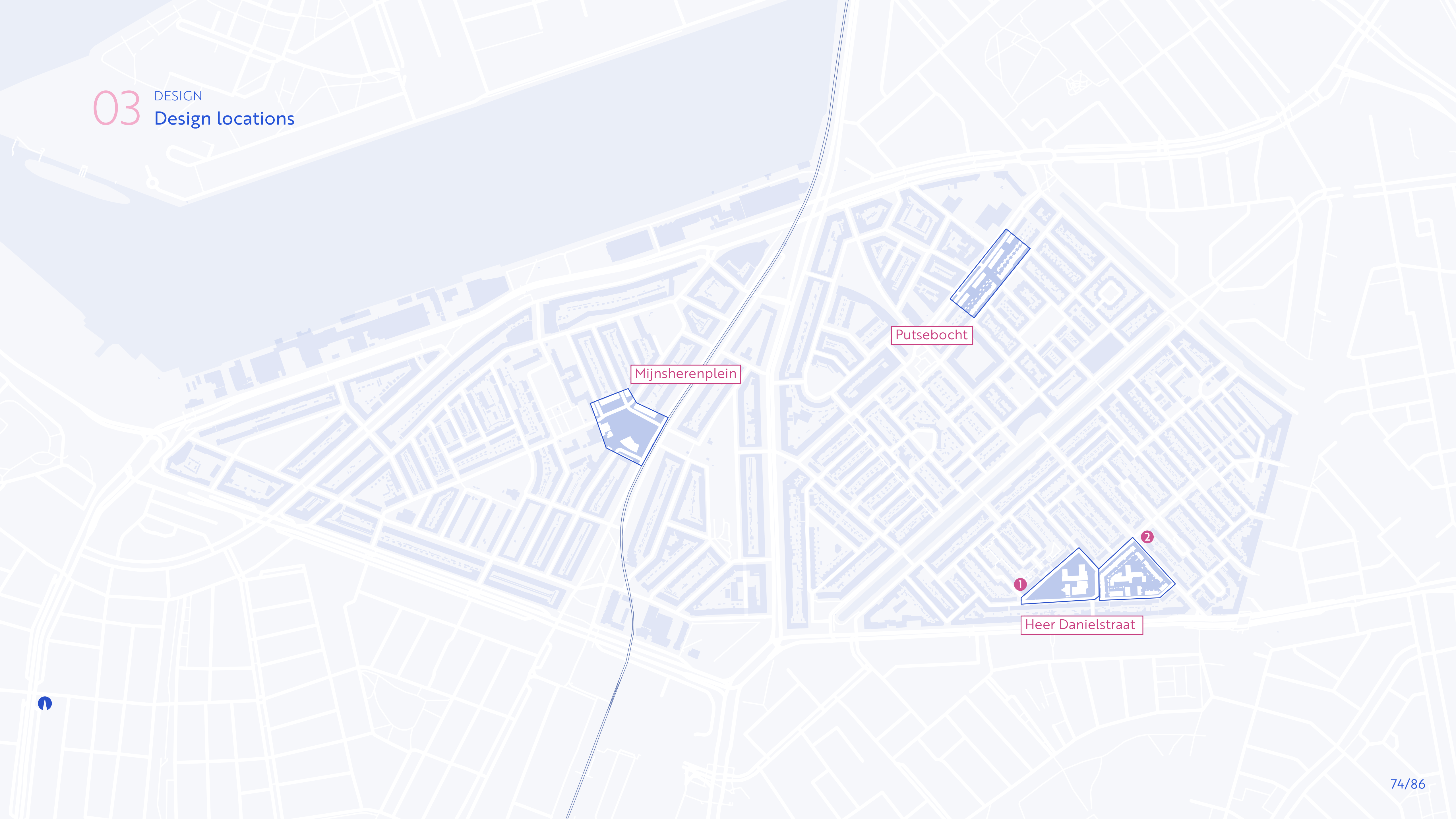
03 DESIGN Interventions

# Design that appeals to values, but above all to people's abilities

Small-scale, hands-on approach, where affordability and safety are prioritised.

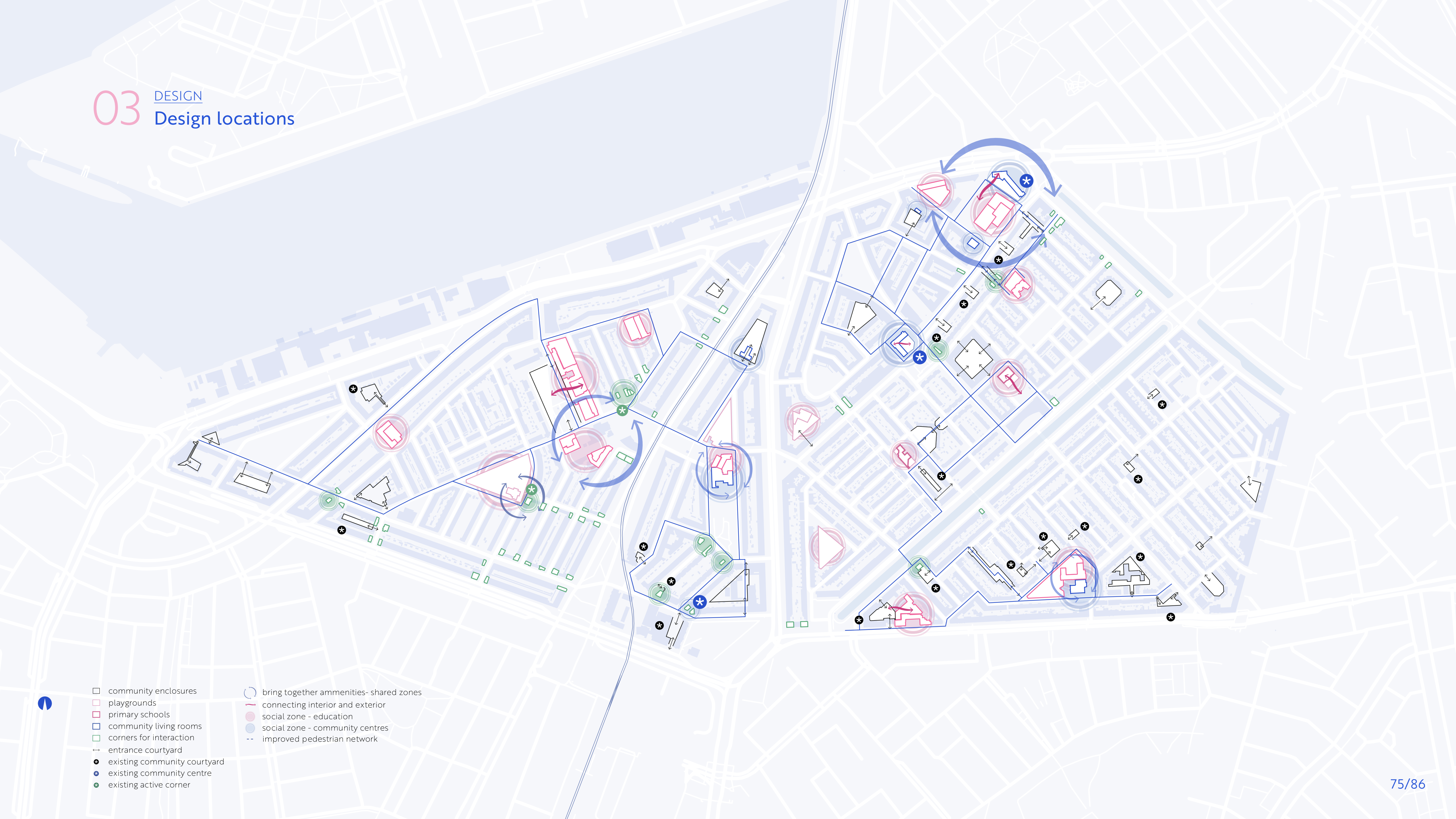


03 DESIGN  
Design locations



# 03 DESIGN













## Design locations



- community enclosures
- playgrounds
- primary schools
- community living rooms
- corners for interaction
- ↔ entrance courtyard
- existing community courtyard
- ⊕ existing community centre
- ⊕ existing active corner
- bring together amenities- shared zones
- connecting interior and exterior
- social zone - education
- social zone - community centres
- - improved pedestrian network

# 03 DESIGN

## Design locations

-  parking lots to public space
-  shared mobility parking
-  traffic calming
-  traffic calming - more space pedestrians
-  pedestrian street
-  block entrance car
-  existing pedestrian street
-  existing block entrance car
-  connecting public space
-  attractive public transport station
-  shared mobility zone
-  redirecting traffic

# 03 DESIGN










## Design locations



- tool distribution and sharing cabinets
- corner street libraries
- showcase recycled street furniture
- bulky waste collection site
- sharing and repairing hub
- multifunctional zone - social cohesion and tools
- multifunctional zone - sharing and repairing
- sharing visibility
- upgraded existing disposal zones
- new disposal zones

# 03 DESIGN

## Design locations

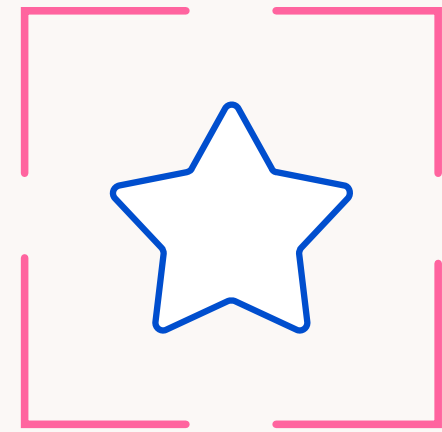
-  courtyard - secluded space
-  taking ownership of courtyard
-  playground
-  existing front gardens
-  invest in general quality
-  acupuncture greening - for community
-  make more green + give interactive value
-  give interactive value
-  opportunity for ownership by local community



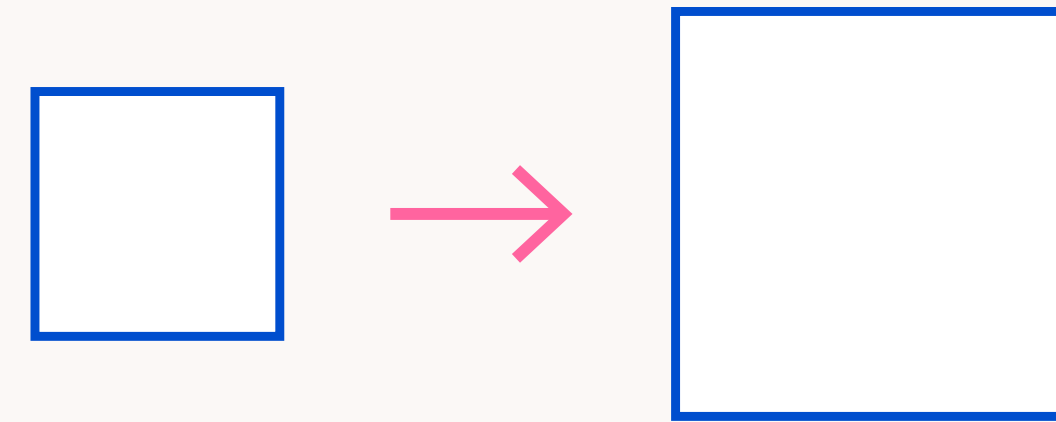
04

# Designing for change

CONCLUSION AND LIMITATIONS



Prioritise existing strengths of the community

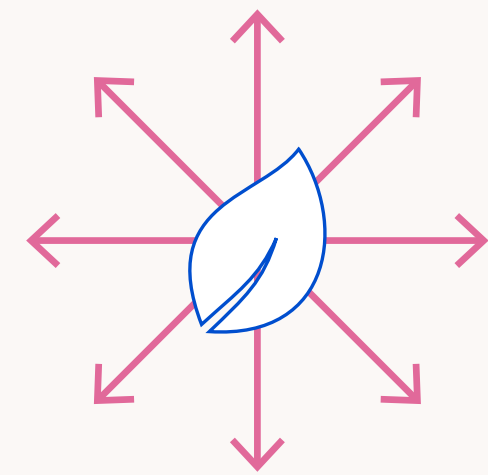


Small interventions to significantly improve everyday comfort and enjoyment.

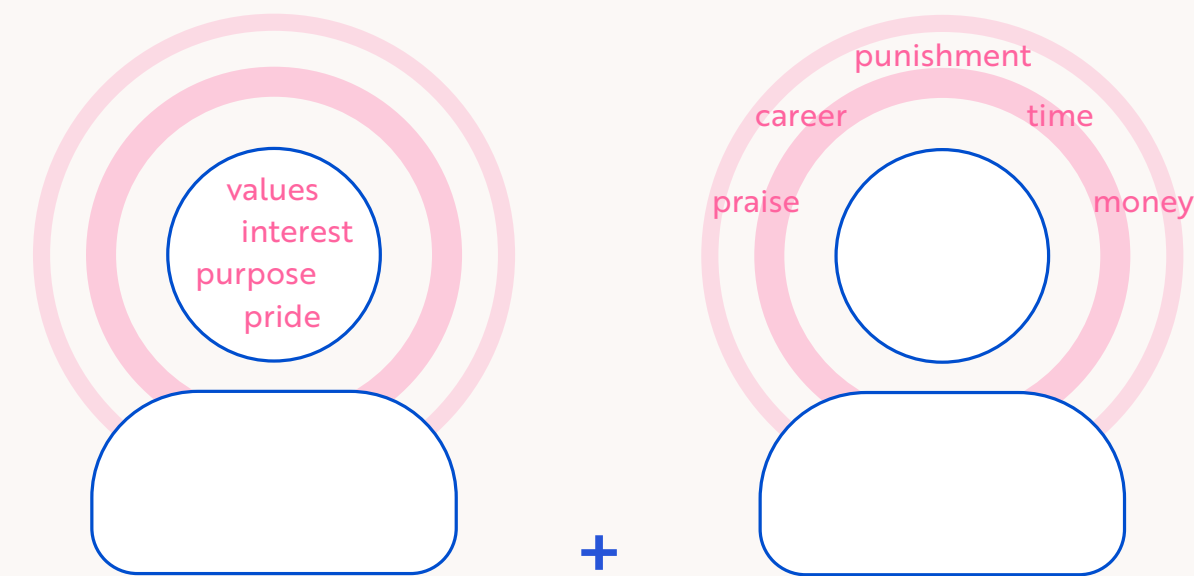


# 04 CONCLUSION AND LIMITATIONS

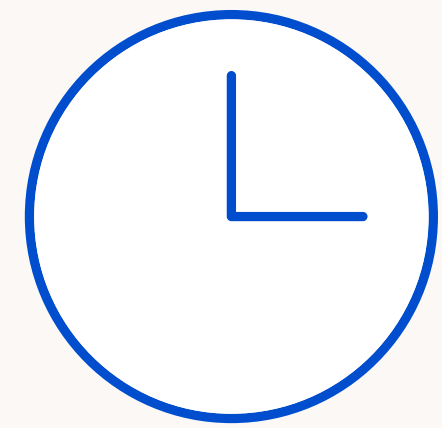
## Conclusion



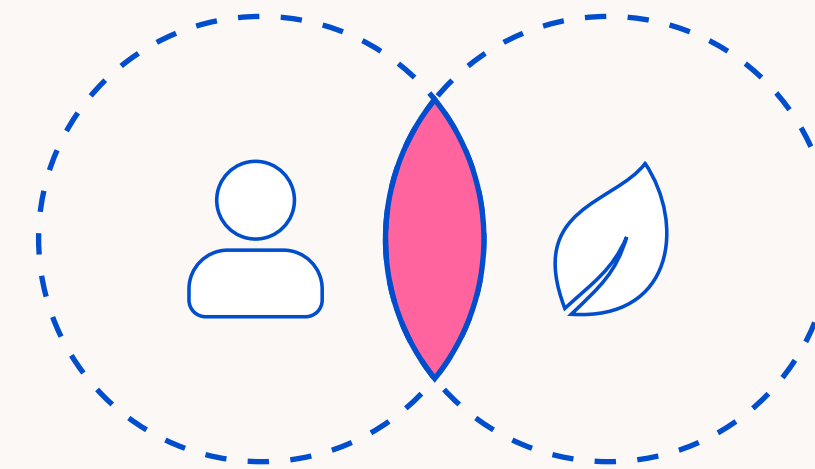
Not a single type of behaviour, nor is there a single motivation that drives it.



04 CONCLUSION AND LIMITATIONS  
Conclusion

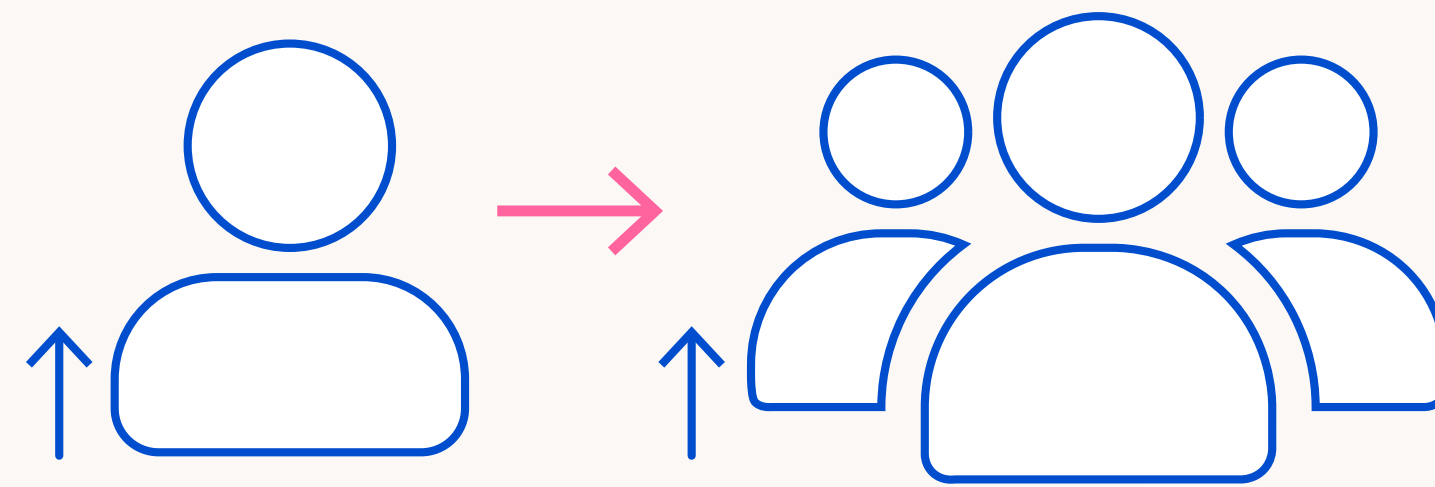


Taking a long-term approach



Promoting environmental balance and social equity

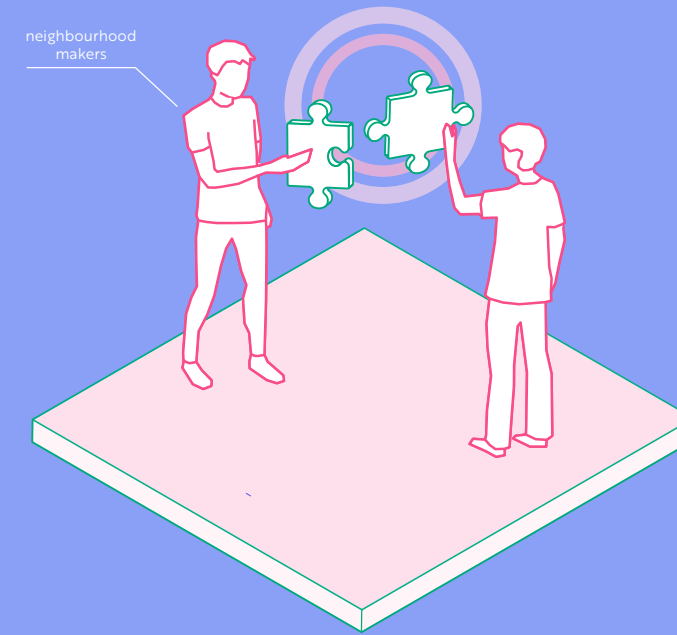
# 04 CONCLUSION AND LIMITATIONS Limitations



A truly sustainable society can only be achieved through a fundamental shift in the way we approach social issues.

# 04 CONCLUSION AND LIMITATIONS

## Limitations



### 1 Dare to experiment

Socio-spatial experiments are important for creating a vibrant and sustainable community.

RELATED TO  
all



Thank you

