the green roofs project
for amsterdam (westelijke eilanden)

1- *If you want to build a ship, don't drum up the men to gather wood, dividethe work, and give orders. Instead, teach them to yearn for the vast and endless sea.* (Antoine de Saint Expúry)

whatwhat what

2- What

Encouragement of green roofs construction in the cities, specifically in Amsterdam (Holland), where the study has been focused on a particular neighborhood of it, Westelijke Eilanden.

The highest goal of the project is to improve biodiversity in the urban contexts, either in the public space, private, or the roofs. But as the ground floor is overloaded in the cities, it is wise to start being aware of the unused space in the top of the buildings and take advantage of it for this purpose. That is why the activities and actions planned are related not only to green roofs, but to every type of green space in general.

Due to the high level of mix of cultures and backgrounds in the study neighborhood, the following policy is based, in its totality, in the discoverment, promotion and developement of the current green initiatives, mostly private ones (bottom-up) as the way to make individuals feel they have the control over their cities and make them eager to keep the green practice on and spread it, instead of waiting for someone from above to decide.

howhow howhow

3- How

Through a four options policy (engagement, encouragement, exemplification and enablement).

The policy ensures the creation of a closed loop that involves a complex social network, from the most general context to the most particular, and viceversa.

This project has focused on four scales (S1 The City, S2 The Neighborhood, S3 The block, S4 The roof). Each one works in sinergy with the other ones, feeding them in their specific needs.

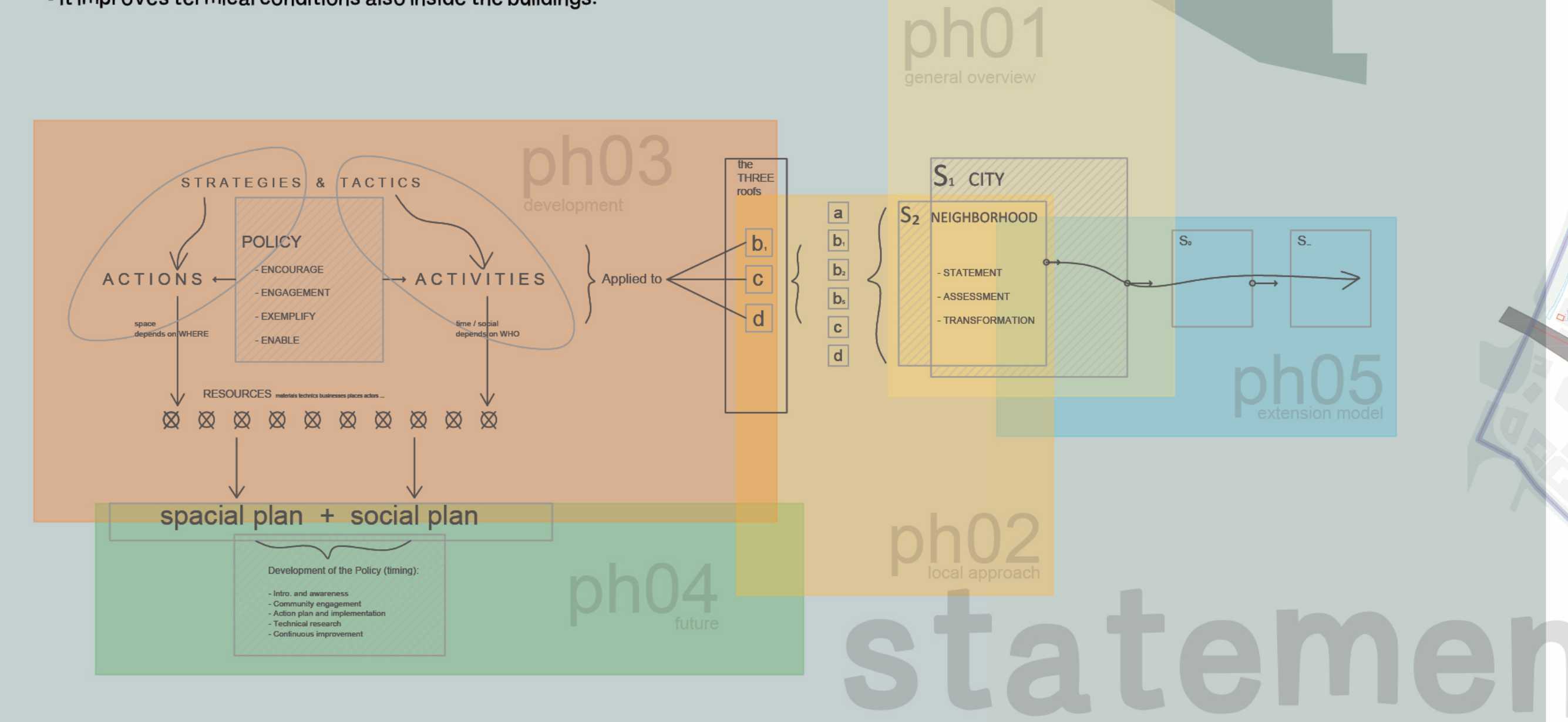
The result is meant to be an empowerment of the existing communities by both, social and spatial measures:
- The spatial transformation comes from a serie of STRATEGIES (strategy: instrument of power that occupies space and it is used to control) applied to the different types of green spaces (WHERE), which are mostly defined by the public-private realm (public, semi-public, semi-private, private -for an individual, private -for a community), having a serie of ACTIONS as the outcome.
- The social transformation comes from a serie of TACTICS (tactic: citizen's instrument, play out in time, used to protest) that, depending on the type of citizen who wants to act (WHO -Municipality, Private businesses, NGO's...), the tactics become a serie of ACTIVITIES that could be listed on a schedule or social agenda.

The regular acomplishment of these activities ans actions in time, will lead towards a better knowledge and higher practice of green roofs. This is ensured by a developement guide for both, short (up to 12 months) and long (up to two years) term.
1- Introduction & awareness
2- Community engagement
3- Action plan and implementation
4- Technical research
5- Continuous improvement

whywhywhywhy

4- Why

- City is not just for humans, but also for plants and animals. We need each other.
- To preserve endangered especies and to stimulate biodiversity.
- It helps to health and well-being.
- It stimulates an improvement of the air quality (constant renovation).
- It avoids concentration heat points in the cities due to pollution, as the roof heat emitions are lower.
- It helps water storage in the buildings.
- It improves termical conditions also inside the buildings.



statement

s1 city

S. family
35, 35, 10 years old.
Family living in Amsterdam. They build a green roof in their roof one year ago.

M.
35 years old.
Pro urban green citizen. Work as a volunteer in green initiatives in a local squat.

G.
40 years old.
Urban talks and other events related curator.

P.
42 years old.
Artist and resident at Westelijke Eilanden.

A.
28 years old.
Urban planner at the Municipality. Specialist in laws and regulations.

J.
42 years old.
Active citizen in her neighborhood. Now she works as curator for the Green Roof's project.

R.
50 years old.
Urban planner and pro green citizen.

- Look, a party for children tomorrow
- They are gathering regularly to discuss about green roofs
- Oh! we should present de intiative here in one of the talks
- I heard there's a subsidie...?
- Is permission needed?
- Yes, half of the price off
- No permission if the roof won't be walkable...
- Hi.. oh! yes, sure, I will be there
- Hi M., would you like to come to give a workshop in our annual meeting...?
- Great! thanks, I will include you in the program
- I can help you to spread the word at the art meeting
- There are people about to start a experimental green wall...
- Oh, I think I want to take part
- yes. And if you have a proposal we will make the presentation there
- ...so, 40e per m²?

s2 neighborhood

L.
45 years old.
Owner of the local farm for children.

D.
37 years old.
Technic at a green roof's construction business.

E.
25 years old.
Primary children teacher. Science and environment. Now she teaches to 20 children.

L&L.
40 - 35 years old.
Active citizen in her neighborhood. They have proposed many green initiatives.

- Is there already updated info about the annual meeting? ... Oh! I will attend this workshop
- Today, children, we are gonna learn what a green wall is
- Yes, I 'd love too keep meeting all of us regularly, maybe in your social center...
- We as well. We need help with our green roof proposal for our building
- Just taking some bricks off from the ground we can have a great green wall
- Well done, people!
- I feel ready to build it on my roof
- I am planning new activities at the farm
- So much fun!

s3 block

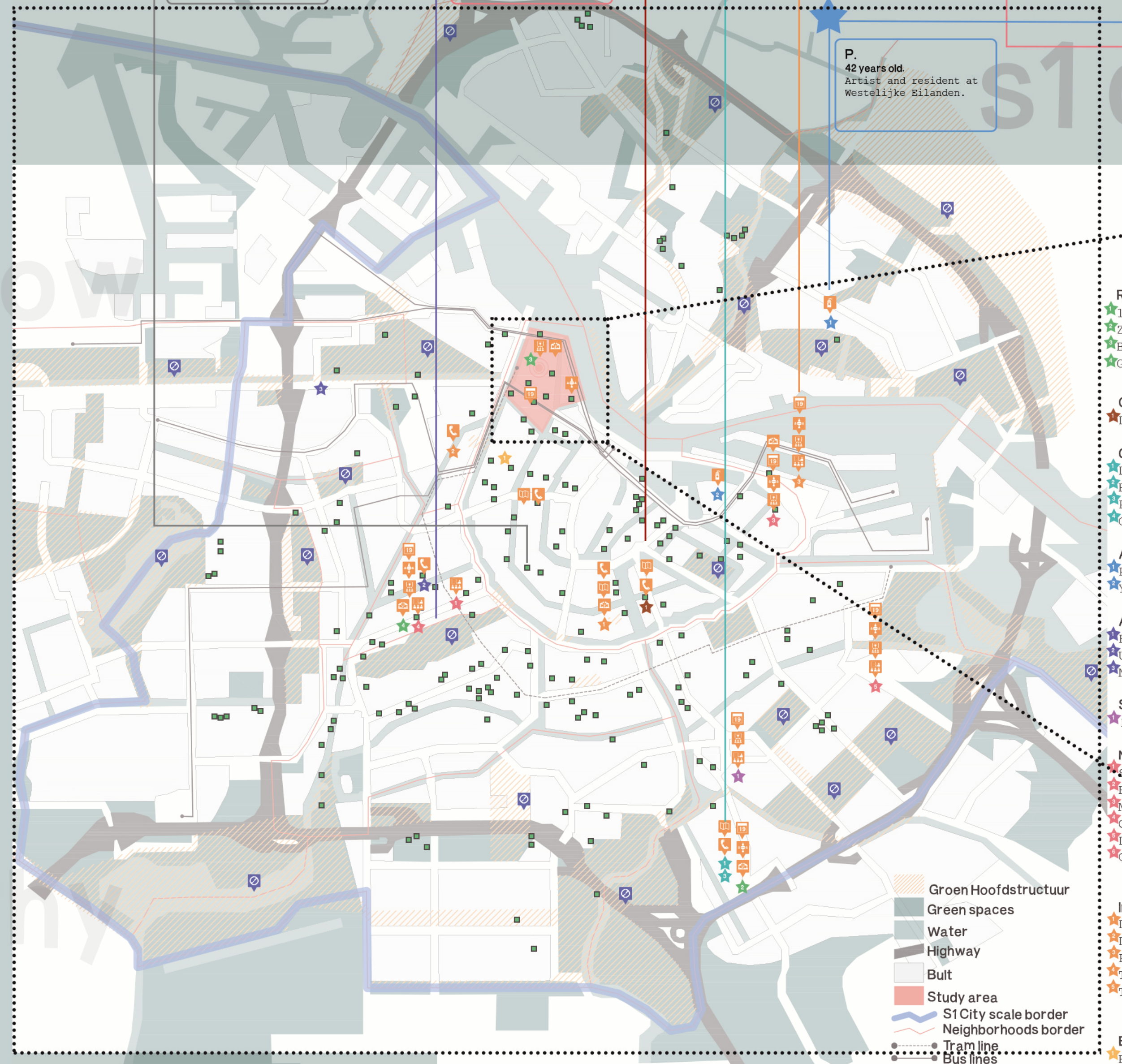
J.
7 years old.
Primary student. Good at drawing and maths.

M. P.
55, 30 years old.
Active citizens in their neighborhoos wiling to collaborate in Green Roof initiatives.

- We should experimentate first
- I leave the information here for you
- I like the idea of funding it in community, after all, we all are going to enjoy it...
- Nice! It's easier than I thought...
- Mum, why can we have a green wall? It's easy to do, the teacher explained it to us...
- Thanks! see you
- Yes, you can build it by yourselves, but I will be there as well to help you
- Hello! I didn't know you were living here too!
- Hi! I don't live in this block, but in that one. But as I also see it from mine and I can have a piece of land here I want to help

s4 roof

- First, we have to draw these lines on the floor...
- ...you should plant these seeds here...
- Children, today we have a visit to a green roof of the neighborhood
- Don't throw the appel seeds away dear.. we will plant them in the roof



Relevant nitiatives
- 1 hectare daknatuur (de Groene Grachten)
- Zuid park
- Bird's boxes
- Go green (OT301)

City
- DRO

Green Roof's specialists
- DakDokters
- Rooffood Amsterdam - GrowDownTown
- Polderpak
- Greenlung

Artists
- Paul Smulders
- Yarnbombing Amsterdam!

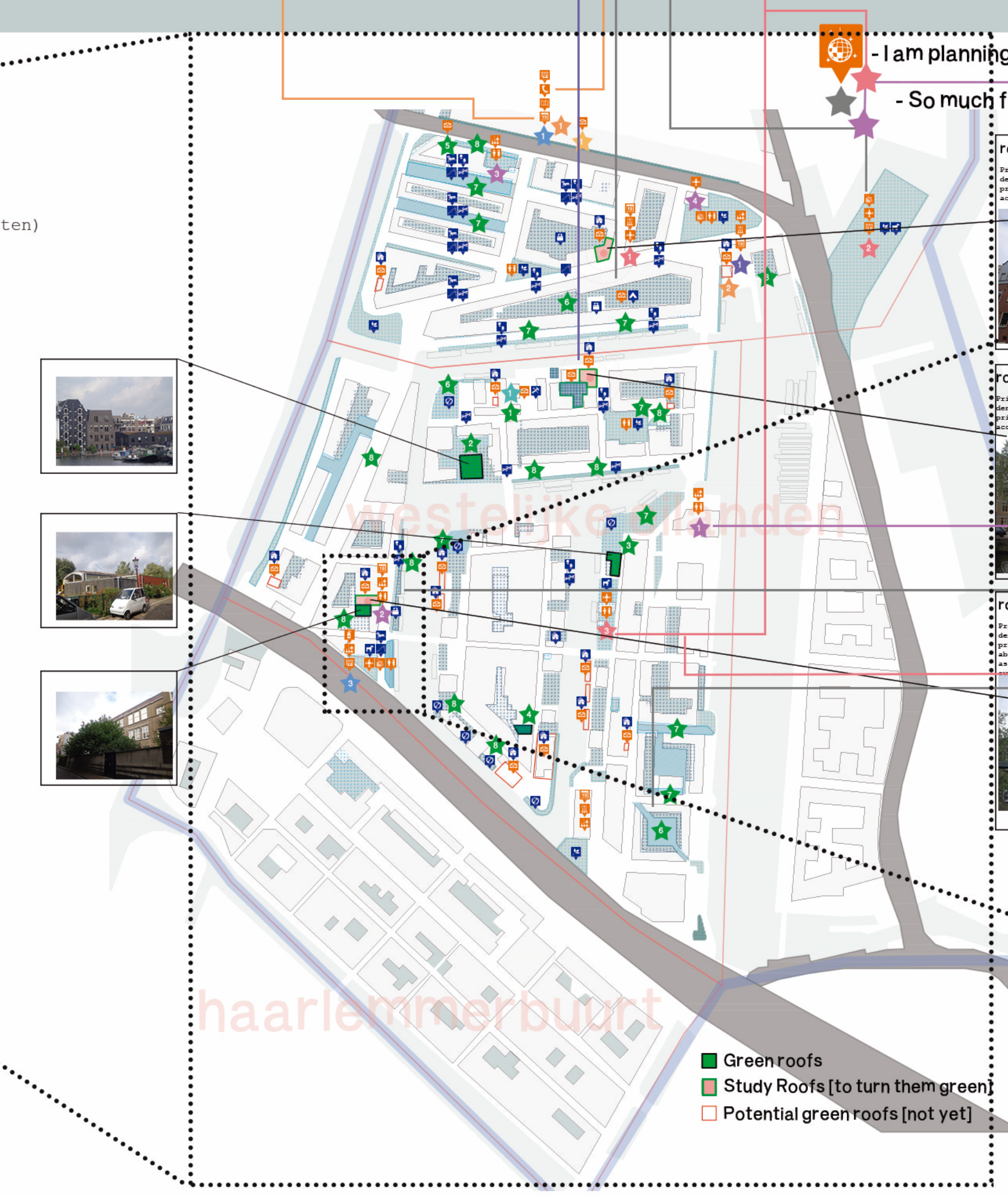
Archtiects and Urban planners
- Fava's
- Urbanos
- NLarch

Students
- HvA

Non profit associations and cultural centers
- Strawberry Earth
- Reclaim de Seeds
- Mediamatic
- OT301
- De Valreep
- CityPlot

Information and activation sources
- De Groene Grachten
- De Gezonde Stad
- Pakhuis de Zwijger
- TransitionTownsNL
- The pop up city

Businesses and entrepeneurs
- Biologisch markt



roof 03 Barenszstraat

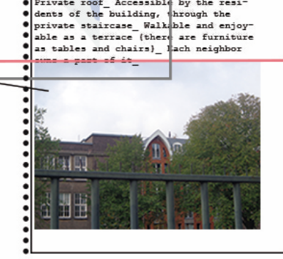
Private roof_ Accessible by the residents of the building, through the private staircase_ Non walkable, just access for minimun mantenaince_

roof 02 Zoutkeetsgracht

Private roof_ Accessible by the residents of the building, through the private staircase_ Non walkable, just access for minimun mantenaince_

roof 01 Nieuwe Teertuinen

Private roof_ Accessible by the residents of the building, through the private staircase_ Walkable and enjoyable as a terrace (there are furniture as tables and chairs)_ Each neighbor owns a part of it_



Relevant nitiatives
- Bird's boxes
- Realengracht Green Roof
- Prinseneiland 36 Green Roof
- Bickersgracht Green Roof
- Green Wall

Other relevant green individual initiatives
- Community garden
- Private initiatives in the public space
- Private garden

Local industry groups
- Scheepswerf Bierenbroodspot_ www.bierenbroodspot.nl/

Artists
- Het Veem_ http://www.veem.nl/
- Kunsteilanden / OAWE (open ateliers)_ http://www.kunsteilandenamsterdam.nl/ and http://www.oawe.nl/
- Tussen de bogen studios

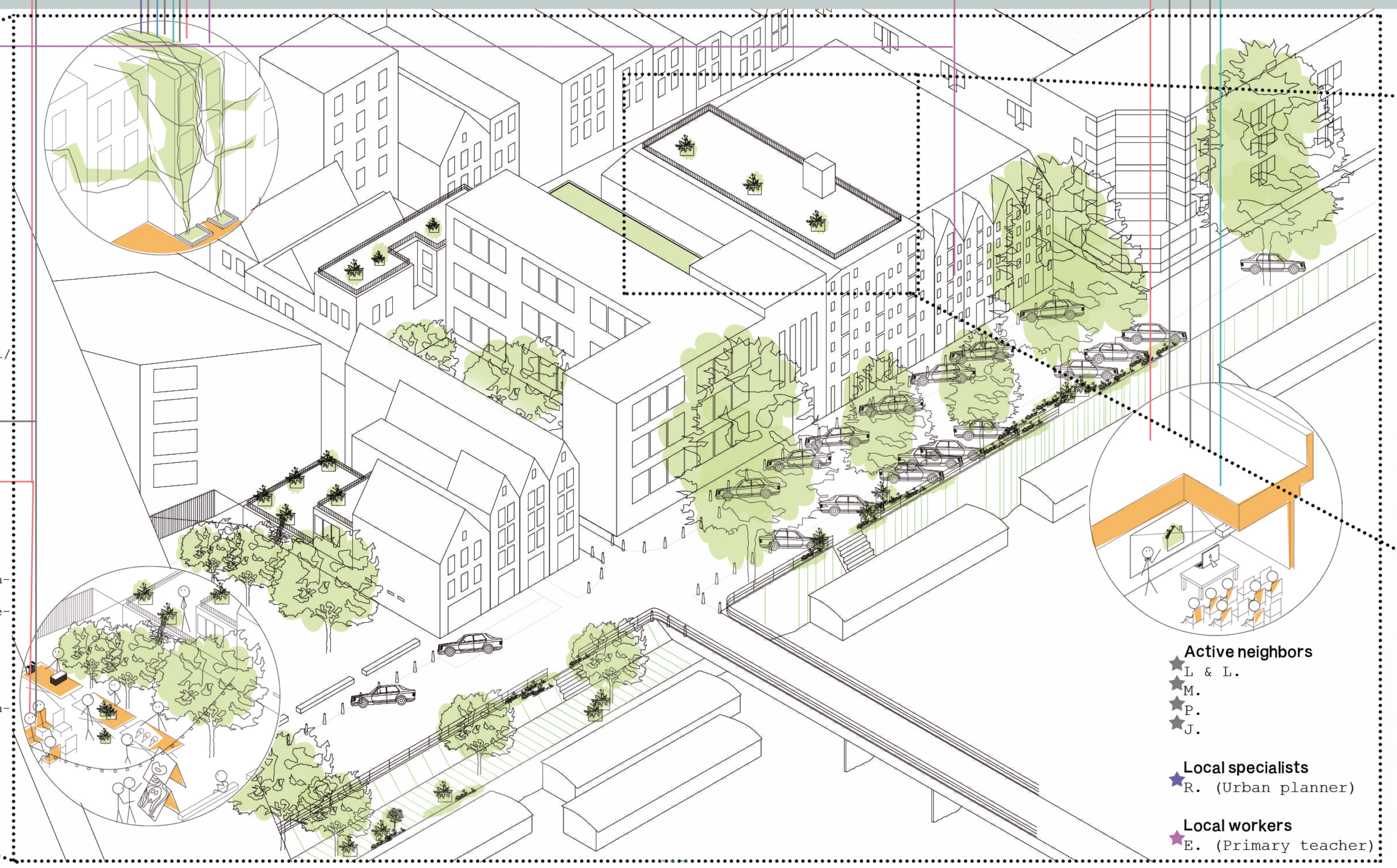
Architects and Urban planners
- Architectengroep

Young /old / special collectives
- Montessori_ http://www.deeilanden.net/
- De kleine Prins_ http://ijsterkkinderopvang.nl/kinderdagverblijven/locaties/de-kleineprins
- Brede school de Zeeheld_ http://www.bredeschoolzeeheldenbuurt.nl/
- Ex-drunk pople center

Non-profit organizations and cultural/social centers
- Neighborhood social center
- Stichting het stenen hoofd_ http://www.stenenhoofd.nl/
- Farm for children_ http://www.dedierencapel.nl/

Information and activation sources
- Het Veem_ http://www.veem.nl/
- Social bars

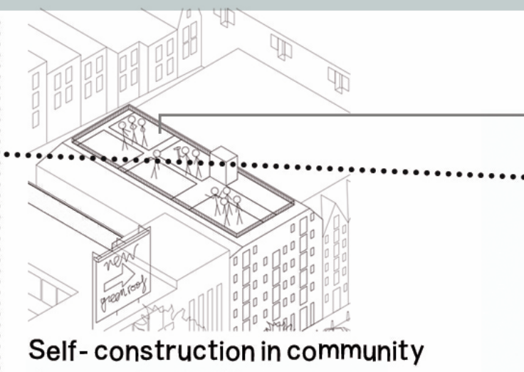
Businesses and entrepeneurs
- BAK restaurant_ http://www.bakrestaurant.nl/



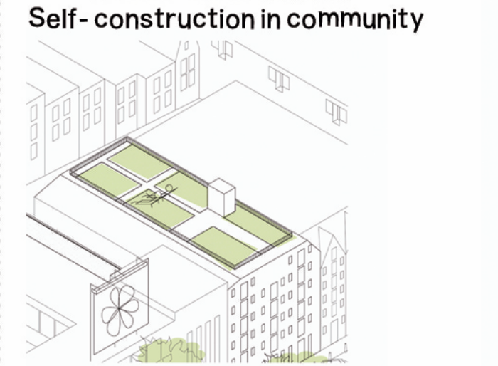
Active neighbors
- L & L.
- M.
- P.
- J.

Local specialists
- R. (Urban planner)

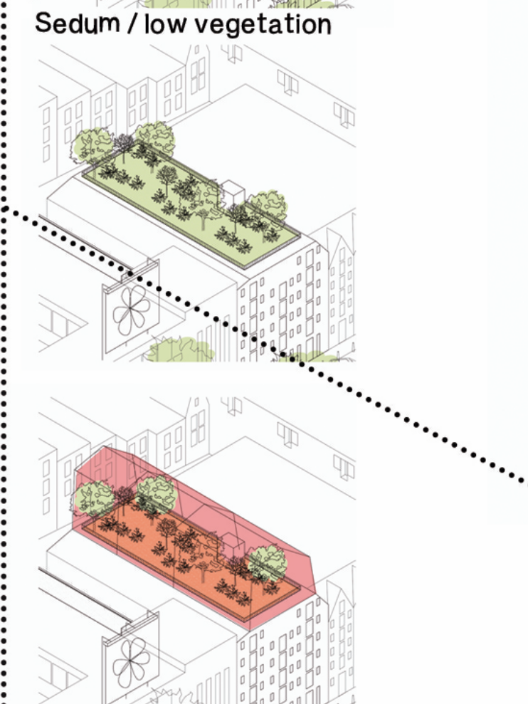
Local workers
- E. (Primary teacher)



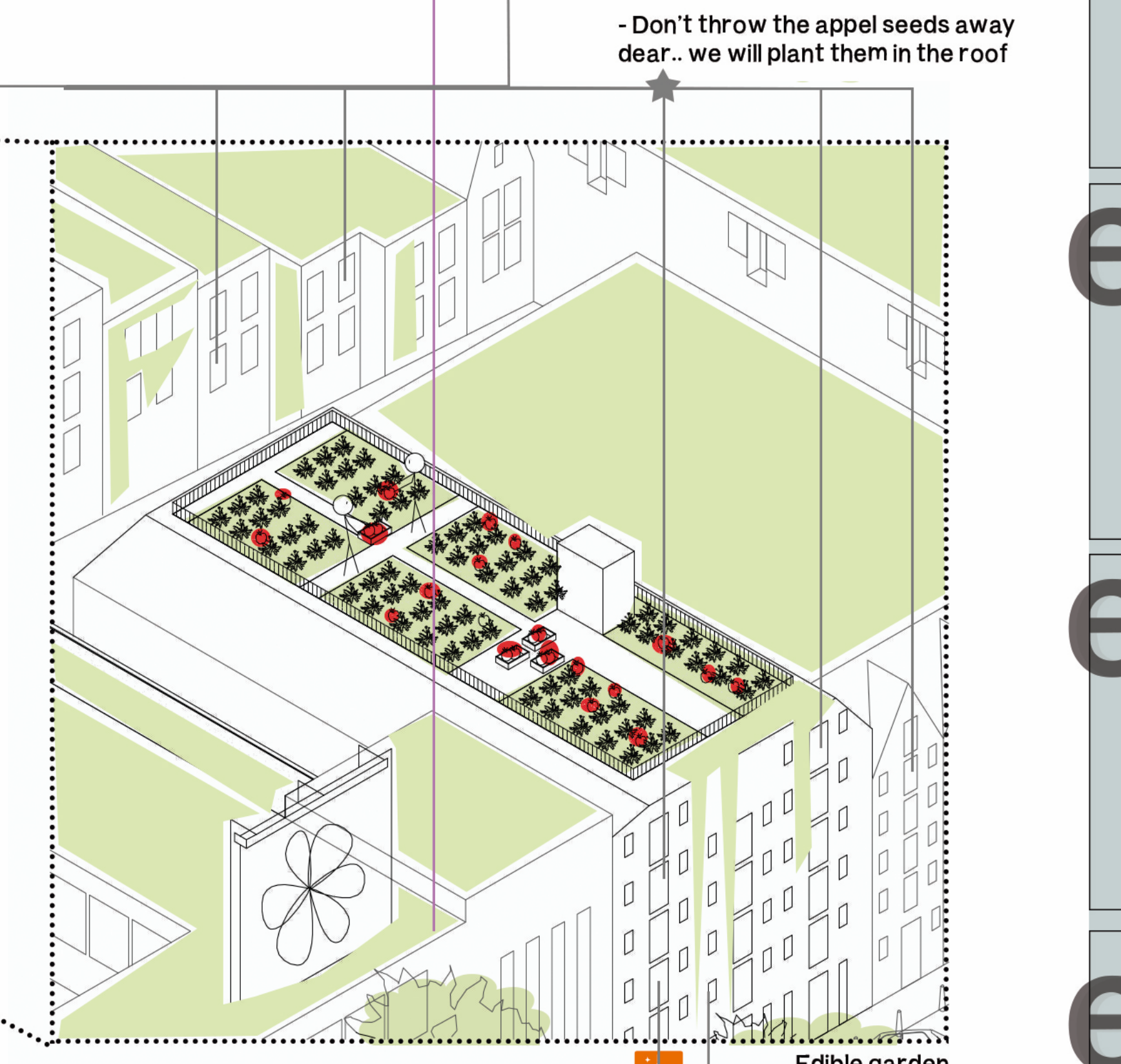
Self- construction in community



Sedum / low vegetation



Botanical green house



Edible garden

- Can't wait for the anniversary of the green roof... it uses to be an awesome party
- Yes! I am gonna invite some friends in Amsterdam

assessment

green spaces I
- public
- private
- semi - public
- semi - private

-**Real green**: lot of green / space designed for green (normally, plants and trees are plant in the earth).
-**Partly green**: few green / space designed for green
-**Potentially green**: lot of green / space NOT designed for green.

green spaces II
- real green
- partly green
- potentially green

function of the green spaces
- access
- gardening
- undefined leisure

history
- monuments

functions
- commercial
- undefined leisure / playgrounds
- educative / artistic

resources

Resources are all that physical locations where is possible to find persons, associations, business, etc. that can have a big influence and participation in the project, as well as the interventions would mean an empowerment for them.

- **Accessibility**: How well connected, accessible and inclusive is.
- **Biodiversity**: Overall quantity of green space, its distribution spatially and the different types of green space. Support of eco-networks. How good for fauna is.
- **Use**: How well addresses the varied functions, needs and aspirations of its users and other stakeholders.

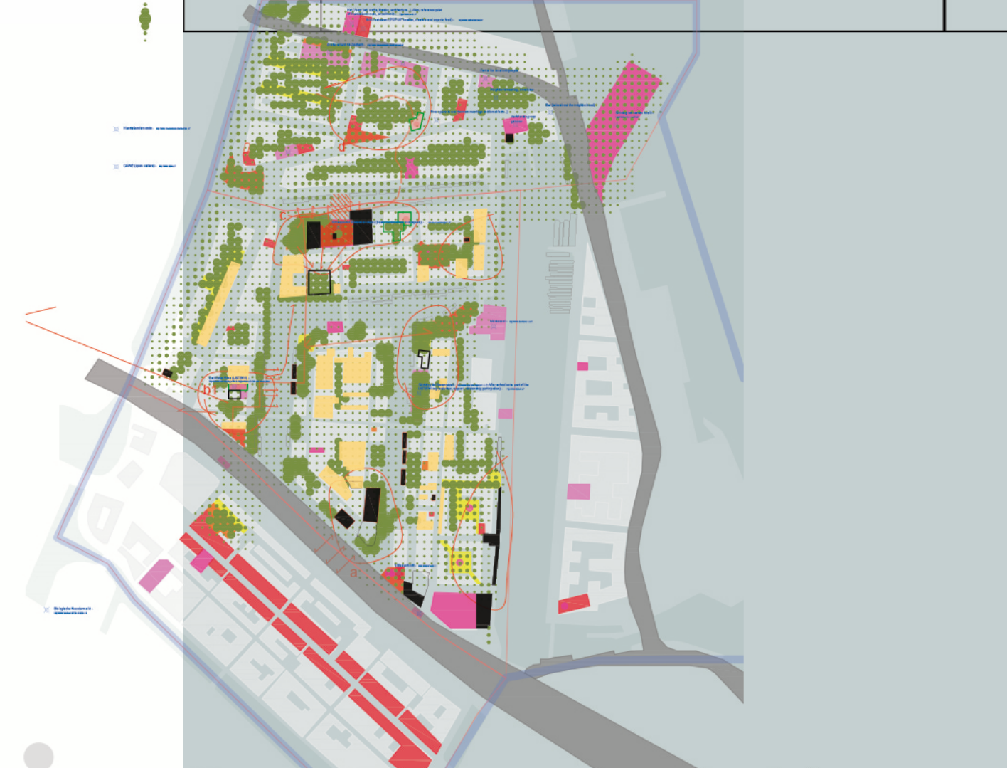
green quality rate
- public accessibility
- private accessibility
- biodiversity
- public function
- private function

green quality rate
- biodiversity

green quality rate
- accesibility (public, private)

green quality rate
- function (public, private)

conclusions



conclusions
- main areas to connect
- main areas to act in
- opportunity spaces

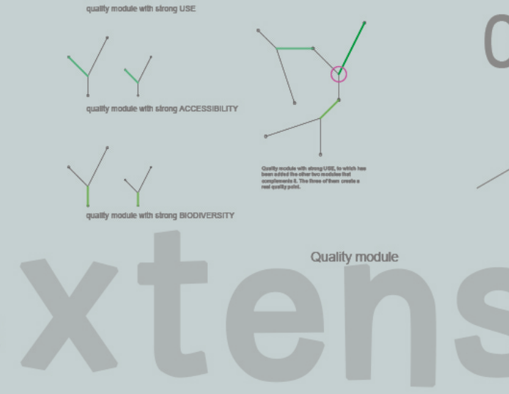
policy

	social	spatial
engagement [get other people involved] Create public discusion Work with local networks	agenda thinktank coworking spreading	Mix it up children domestic semi-indoor free animals
encouragement [incentives and discentives to inseure the target people respond] Provide rebates on local fees Encourage private initiative and neighbor cooperation	festival workshop presentation	Corridors route coworking preserve planting construction
exemplification [Demostrating shared responsability and leading by example] Demostration sites and green roofs on public buildings	demo	Workshops Temporary interventions green roof
enablement [Influence existing systemsand the capability of individuals to act. Educating and training] Ensure local laws are not a barrier Provide information and support	support info	Space for experimentation Better access access

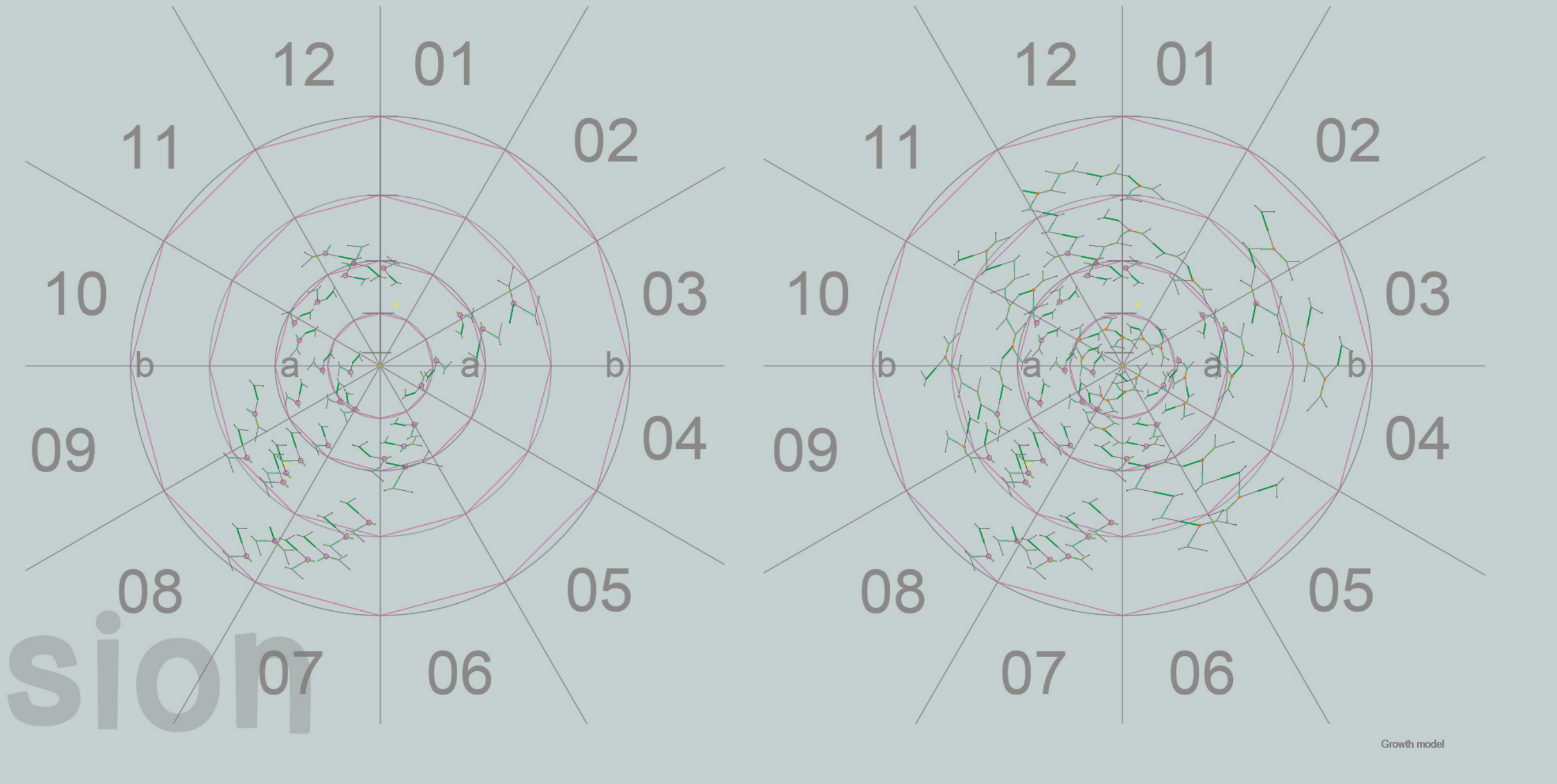
extension

The **extension model** intention is to present a method to plan green areas, both in a quantitative (or spatially) way and qualitative. Where the green areas should be, where and how they should spread in to get a balanced distribution through an area? As well as what kind of green area (which function, which kind of access, connection with the surround, etc.) we need in a specific point in order to have a quality green space (A+B+U).

That is: What are the rules that join everything and make it possible to spread?



Quality module



Growth model

refe ren ces

- Inspiring works in Spain

- Alicante:

- "Trasvase de aguas" (Miriam Aguilar Marín). Alicante, 2008. "In urbe" local competition. [http://www.alicantevivo.org/2008/07/in-urbe-2008.html]. Example of urban-art installation.

- Hort comunitari Carolines [http://facebook.com/hortcarolines]. Example of urban garden and self-sufficient community.

- Ábrete Séneca [http://abreteseneca.tumblr.com/]. Platform to connect citizens-urban professionals-municipality, claiming for a better and lively use of the public spaces in the city. – One of the latest activities was a short tales contest, based on the book "Las ciudades invisibles" (Italo Calvino), with the subject: "shared spaces".

- Otros:

- PKMN [Pac-Man] arquitectura. Madrid [http://www.pkmn.es/]. Examples of social engagement from architecture.
  - From Olympic Games to Urban Games (Salt Lake Urban competition), 2013
  - Ciudad Crea Ciudad
  - Las Azoteas del Sur

- El campo de cebada. Madrid [http://elcampodecebada.org/]. Example of self-sufficiency and revitalization of a forgotten space, by its neighbors.

- Ecosistema urbano [http://ecosistemaurbano.com/portfolio/-cat/placemaking/]: La noche de los niños (Madrid). The city as a playground (Madrid). Temporary beach on the Moon square (Madrid). Parkeing (Madrid). Examples of demonstrations/experimentation for revitalizing problematic areas.

- Basurama: Autobarrios San Cristóbal (Madrid) [http://basurama.org/proyecto/tipo/accion/autobarrios-sancristobal]. Example of community involvement.

- El ranchito (Matadero, Madrid) [http://elranchitomadrid.wordpress.com/2013/11/26/nos-plantamos-en-un-invernadero-mamut-entre-dalias/]–> "Nos plantamos" Project (Madrid). Example of community involvement strategies/experimentation for a green wall.

- Huerta Bizarra (Murcia) [http://huertabizarra.org/] Example of social urbanism about the inclusion of traditional orchards in the urban cities of today, taking their benefits out for the everyday contemporary life.

- Agronautas [http://www.eldiario.es/norte/euskadi/Agronautas-busca-nuevas-realidades-urbanas_0_216628485.html] Example of promotion of sustainable practices in urban contexts.

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- Urbanism
  - Tactical urbanism (Strong Towns) - http://www.strongtowns.org
  - Urbanismo Táctico (Be City) - http://becity.info/
  - Urbanismo Táctico. Acción e inteligencia colectiva en la ciudad (Hybrid Days) - http://es.hybrid-days.com/
  - Urbanismo Emergente o "Tactical Urbanism" (La Ciudad Viva) - http://www.laciudadviva.org/
  - Placemaking (Networked Urbanism) - http://networkedurbanism.com/posts/tag/placemaking/
  - Placemaking (Projects for Public Spaces) - http://www.pps.org/wp-content/uploads/2013/01/2013_PLC-Themes-Agendas.pdf
  - Guidelines to build participatory and inclusive societies (Ecosistema Urbano) - http://ecosistemaurbano.org
  - Acupuntura Urbana (Jaime Lerner)
  - WEAK! (Illegal architecture) - http://casagrandetext.blogspot.nl/

- General articles
  - Green Roofs (National Geographic) - http://ngm.nationalgeographic.com/2009/05/green-roofs/klinkenborg-text
  - Five awesome Green Roof projects (Epoch Times) - http://www.theepochtimes.com/n3/259323-5-awesome-green-roof-projects/
  - Biomimicry (Ask Nature) - http://www.asknature.org/
  - Biomimicry and restorative urban design (Seed for the City) - http://seedforthecity.wordpress.com/2011/02/16/biomimicry-and-restorative-urban-design/
  - Amsterdam: Urban acupunture creates new life in the suburbs (Dac & Cities) - http://www.dac.dk/en/dac-cities/sustainable-cities/
  - Why green roofs never work (Salon magazine) - http://www.salon.com/2013/05/18/whats_the_matter_with_new_yorks_green_roofs_partner/
  - Introduction: Green Roofs and Biodiversity (Urban Habitats) - http://www.urbanhabitats.org/v04n01/introduction.html
  - Green Roofs as habitat for birds (Medwell Journals) - http://www.medwelljournals.com/fulltext/?doi=jaa.2010.2041.2052
  - Green roofs don't work unless you plant them with diverse, local plants (Grist) - http://grist.org/list/green-roofs-dont-work-unless-you-plant-them-with-diverse-local-plants/
  - Urban Ecology (Biotope City) - http://www.biotope-city.net/articles/urbanecology
  - Beyond Green - http://www.beyondgreen.co.uk/live/selected-projects/sustainability-in-print-media-and-publishing/
  - Flora & Fauna of Amsterdam (Gemeente Amsterdam) - http://www.amsterdam.nl/toerisme-vrije-tijd/groen-natuur/ecologie/flora-fauna/fauna/

- Holland / Amsterdam
- Organizations
  - DRO (Gemeente Amsterdam) - http://www.amsterdam.nl/gemeente/organisatie-diensten/dienst-ruimtelijke/
  - Information about Green Roofs (Gemeente Amsterdam) - www.amsterdam.nl/toerisme-vrije-tijd/groen-natuur/groene_daken/
  - Sustainable center (Gemeente Amsterdam) - http://www.centrum.amsterdam.nl/wonen-en/milieu/
  - De Groene Grachten - http://www.degroenegrachten.nl/
  - De Gezonde Stad - http://www.degezondestad.org/
  - Green Business Club - http://www.greenbusinessclub.nl/nl/home
  - Transition Towns Nederland - http://transitiontowns.nl/
  - Pakhuis de Zwijger - http://www.dezwijger.nl/83823/nl/talk-of-the-town-55-stadsdeel-centrum
  - Reclaim the seeds - http://www.reclaimtheseeds.nl/index.php/english-home
  - Amsterdam Green Roof Initiative (Letter) - http://www.amsterdamgreenroofinitiative.com/Onderneem.html/

- Construction businesses and non-profit initiatives
  - GrowDownTown - http://www.degroentenuitamsterdam.nl/ and http://www.growndowntown.coop/index.php?lang=nl
  - Dak Dokters - http://dakdokters.nl/groendak/voordelen/
  - City Plot - http://nederlands.cityplot.org/links/
  - Green Lung - http://www.greenlung.nl/

- Westelijke Eilanden
  - Bestemmingsplannen Westelijke Eilanden - http://www.centrum.amsterdam.nl/bestuur_raad_en/publicaties/bestemmingsplannen/westelijke_eilanden/
  - Bickerseiland (History) - http://www.theobakker.net/pdf/bickerseiland.pdf
  - Project for Zeeheldenbuurt - http://www.west.amsterdam.nl/projecten/stedelijke/zeeheldenbuurt/

- Maps
  - General expansion plan Amsterdam - http://stadsarchief.amsterdam.nl/english/amsterdam_treasures/maps/general_expansion_plan/index.en.html
  - Neighborhoods of Amsterdam - http://nl.wikipedia.org/wiki/Buurten_en_wijken_in_Amsterdam
  - Solar map Amsterdam - http://www.zonatlas.nl/amsterdam/ontdek-de-zonatlas/
  - Buildings in Amsterdam by year of construction - http://dev.citysdk.waag.org/buildings/#52.3795,4.8933,14
  - History maps of Amsterdam - http://cf.uba.uva.nl/nl/collecties/kaarten/chrnadam.html
  - Spatial planning Amsterdam - http://www.ruimtelijkeplannen.nl/

- Urban planning examples
  - Growing Green Guide (I.M.A.P.) - http://imap.vic.gov.au/index.php?page=growing-green-guide-for-melbourne-2
  - Greenspace Quality (Scotland) - http://www.greenspacescotland.org.uk/quality-guide.aspx