No. 25

ENVISIONING NATURE-INTEGRATED URBAN SPACES:

Community and practitioners' workshops outcomes in Jyrkkälä and Halinen neighborhoods.

Urban Biodiversity Parks project publication 2025



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VASO











Cover image © Luma Fonseca Alves University of Turku Department of Geography and Geology 978-952-02-0348-1 (Print) 978-952-02-0349-8 (PDF) Painosalama, Turku 2025

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About the Project

The Urban Biodiversity Project (UBP) is being developed into the Skanssi park site for promoting biodiversity in Turku. In addition to the implementation of the Skanssi park, the project will also implement nature-based solutions that support biodiversity for regenerating residential areas in Halinen and Jyrkkälä and promoting a sense of community.

As part of the UBP project, we organized a series of workshops aimed at collaboratively designing solutions to promote biodiversity in Jyrkkälä and Halinen neighborhoods. The UrbanistAl platform was used to support the co-design process and facilitate community engagement.

Three workshops were held between May and June 2025: one with residents of Jyrkkälä, one with residents of Halinen, and one with Turku urban practitioners.

This report presents a synthesis of the workhops activities and key outputs, aiming to equip urban practitioners with a holistic understanding of visions, needs and preferences of the stakeholders who attended the workshops.



UrbanistAl is a collaborative platform that uses image generative Al to translate abstract ideas and concepts into visual representations. It applies generated designs onto real photographs of urban sites, providing a realistic preview of how proposed changes could look like.

Workshops' objectives

Objective 1

Co-designing nature-based solutions with Jyrkkälä and Halinen residents and Turku urban practitioners

Objective 2

Select the preferred nature-based solutions together with residents and urban practitioners (which solutions and where).

Objective 3

Foster community learning about urban ecological regeneration, biodiversity and stormwater management.

Objective 4

Foster social connections by bringing locals and urban practitioners together to meet and discuss about the environment of the neighborhood.



https://site.urbanistai.com/

WORKSHOP PROFILE



Jyrkkälä housing association clubroom



2 hours 30 minutes duration



10 participants (All Jyrkkälä residents)



40% men and 60% woman



80% older than 65 years



80% retired and 20% employed



100% Finnish speakers



WORKSHOP ACTIVITIES



Participants select the area of the neighborhood that they want to co-design.



Groups are formed and discussions start with the aid of the facilitator.



Groups generate visions with nature-based solutions in UrbanistAI.



Groups reflect on their visions (AI images) from different perspectives.



Participants choose final favorite images.



Participants fill a survey about their experience during the workshop.



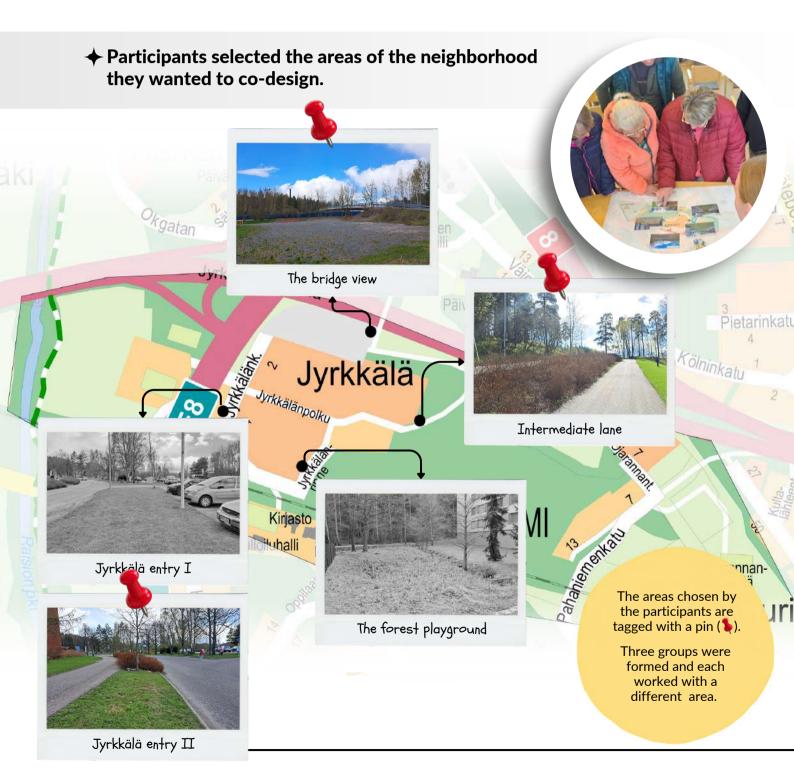
























Jyrkkälä entry II

♦ Groups selected preferred elements and generated visions with UrbanistAl. Here are the main results:

Kasvillisuus / Green Infrastructure



ruohoniitty







Pensaat/shrubs





Matala ruoho/ Pienilatvaiset puut/ Low rise grass Small canopy tree

Kukkaniitty/





Large canopy tree

Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats











Kelopuu/ Deadwood

Kuollut pensasaita/ Dead hedge

Oleskelupaikat / Amenities

Kivikasa/

Piled rocks











Penkki/Bench Istumasaareke/



Puukannot istuimina/ Wood stumps as seats

kulkeminen / Active mobility





Open soil pathway





Puuhakepolku/ Puunkannoista muodostettu

Oppiminen ja kulttuuri / Educational and Cultural







Tapahtumalaatta/ Event plaque

















Jyrkkälä entry II

♦ Groups reflected on the generated visions from different perspectives and selected their final favorites. Here are the main results:



Revealed preferences

- Preference for natural colorful elements;
- Preference for elements that are suitable for narrow intermediate lanes in real life;
- Prioritize a landscape where they can walk, admire and observe nature and what is around them;

 walk, admire and observe nature and what is around them;
 - Strong preference for aesthetically pleasing elements.





i Beyond the image...

Deadwood was chosen but AI failed to generate.

The landscape chosen as favorite among the others is tagged with a star ()











Jyrkkälä Intermediate lane Vision 1



Jyrkkälä Intermediate lane

Jyrkkälä Intermediate lane Vision 2

Jyrkkälä Intermediate lane

♦ Groups selected preferred elements and generated visions with UrbanistAl. Here are the main results:

Kasvillisuus / Green Infrastructure



Kukkaniitty/

Flower meadow



Pensaat/shrubs



Low rise grass



Pienilatvaiset puut/ Small canopy tree

Grass meadow/ ruohoniitty





Large canopy tree

Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats









Hyönteishotelli/

Linnunpönttö/ Bird house

Kivikasa/ Piled rocks

Kelopuu/

Kuollut pensasaita/ Dead hedge

Oleskelupaikat / Amenities



Penkki/Bench

Istumasaareke/

Seating Island







Piknikpöytä/

Puukannot istuimina/ Wood stumps as seats

kulkeminen / Active mobility









Sorapolku/

Avomaanpolku/ Open soil pathway

Puuhakepolku/ Puunkannoista muodostettu

Oppiminen ja kulttuuri / Educational and Cultural



Opastekyltti/

Educational sign

Jaettu kiriahvllv/

Shared bookshelf

Tapahtumalaatta/

Jyrkkälä Intermediate lane

(i) Beyond the image...

Participants wish they

would have placed an educational sign in all

the images.













Jyrkkälä Intermediate lane Vision 2





Jyrkkälä Intermediate lane

♦ Groups reflected on the generated visions from different perspectives and selected their final favorites. Here are the main results:



Revealed preferences

- Seating areas or stones as seating spots was suggested as a place to rest while walking, to avoid fatigue;
- Strong preference for aesthetically pleasing elements;
- Educational potential of natural elements is appreciated and informative signs are wanted, suited to different ages;
- Activities residents wish to do in the landscape: Walking, litter picking, watching nature develop, sitting on rocks, picnicking, watching butterflies and insects on wildflowers





would have placed an educational sign in all the images.













The Bridge View

♦ Groups selected preferred elements and generated visions with UrbanistAl. Here are the main results:

Kasvillisuus / Green Infrastructure



Kukkaniitty/







Low rise grass



Pienilatvaiset puut/ Small canopy tree







Large canopy tree

Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats



Hyönteishotelli/ Insect hotel Linnunpönttö/ Bird house









Kuollut pensasaita/ Dead hedge

Oleskelupaikat / Amenities

Piled rocks



Penkki/Bench

Istumasaareke/

Seating Island







Pölkkypuu/ Wood logs

Puukannot istuimina/ Wood stumps as seats

kulkeminen / Active mobility



Sorapolku/

Gravel pathway









Puuhakepolku/ Puunkannoista muodostettu

Oppiminen ja kulttuuri / Educational and Cultural

Shared bookshelf



Educational sign

Opastekyltti/ Jaettu kiriahvllv/



Tapahtumalaatta/ Event plaque





fireplace.















The Bridge View

♦ Groups reflected on the generated visions from different perspectives and selected their final favorites. Here are the main results:







Revealed preferences

- Need for areas for kids to play;
- Priority given to practical and usable landscapes, as well as landscapes with an educational meaning (teach children about bees and other insects) and aesthetically pleasing:
- Activities residents wish to do in the landscape: Organize a mid-summer party, walking, sit around relaxing and listening to the nature, observe the seasons changing, enjoy cherry trees and eat the cherries:
- for aesthetically Strong preference pleasing landscapes.

(i) Beyond the image...

Participants wish they would have placed an educational sign in all the images.

Discussion of possibility to







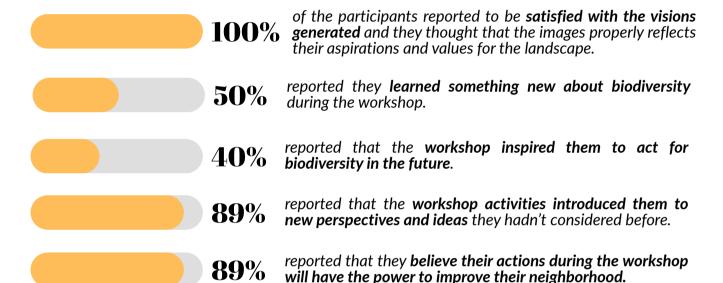




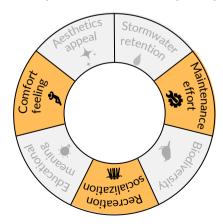




◆ Participants filled a survey individually about their experience during the workshop. Here are the main results:



Most important indicators for participants:



Participants want to keep acting for urban nature in the future by:

"Removing invasive species"

"Participating in restoration plans"

"Cleaning the environment"

WORKSHOP PROFILE



Halinen school



2 hours 30 minutes duration



5 participants (All Halinen residents)



40% men and 60% woman



Age range 36-65 years old



60% employed and 40% out of work



100% Finnish speakers



WORKSHOP ACTIVITIES



Participants select the area on the neighborhood that they want to co-design.



Groups are formed and discussions start with the aid of the facilitator.



Groups generate visions with nature-based solutions in UrbanistAI.



Groups reflect on the visions (AI images) from different perspectives.



Participants choose final favorite images.



Participants fill a survey about their experience during the workshop.



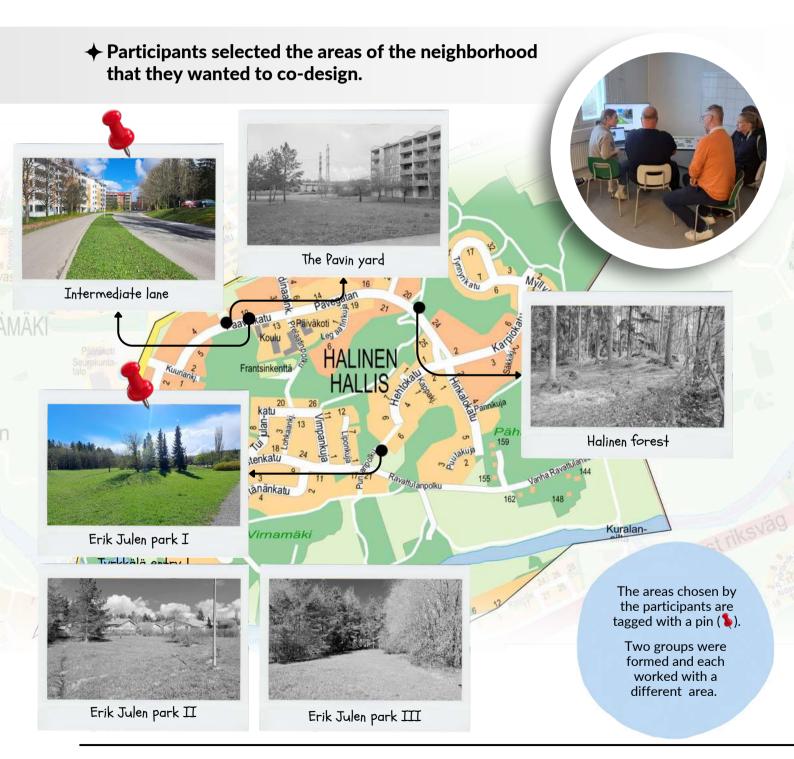
























Erik Julen Park I

♦ Groups selected preferred elements and generated visions with UrbanistAl. Here are the main results:

Kasvillisuus / Green Infrastructure









Kukkaniitty/

Pensaat/shrubs

Matala ruoho/ Low rise grass

Pienilatvaiset puut/ Small canopy tree





Suurilatvaiset puut/ Large canopy tree

Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats



Insect hotel

Linnunpönttö/ Bird house Hyönteishotelli/









Kelopuu/ Deadwood Piled rocks

Kuollut pensasaita/ Dead hedge

Oleskelupaikat / Amenities



Penkki/Bench

Istumasaareke/







Pölkkypuu/ Wood logs

Puukannot istuimina/ Wood stumps as seats

kulkeminen / Active mobility







Wood chips trail

Puuhakepolku/ Puunkannoista muodostettu tasapainopolku

Oppiminen ja kulttuuri / Educational and Cultural



Open soil pathway

Jaettu kirjahylly/ Shared bookshelf









desired but there was not time to generate it. Trees to provide shade were desired close to seating spaces

shading











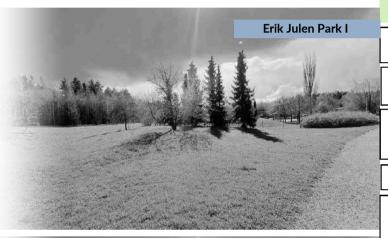
Erik Julen Park I Vision 2





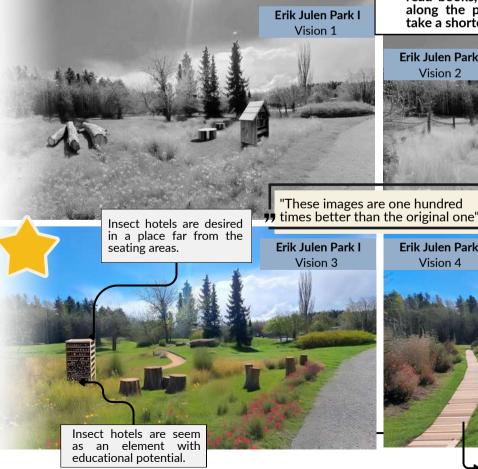
Erik Julen Park I

♦ Groups reflected on the generated visions from different perspectives and selected their final favorites. Here are the main results:



Revealed preferences

- Strong emphasis on elements for socialization and recreation for the kids and families of the neighborhood;
- Elements that invite to spend more time on the area, such as bookshelves, was appreciated;
- Aesthetics, comfort feeling, educational meaning and potential to recreation and socialization stands out as the main criteria of choosing a favorite landscape;
- Preference for neat, tidy and colorful flowers;
- Activities: Watch plants and insects, balance and sit on benches and relax, picnics, look at lizards on rocks, play, read books, relax next to the wildfflowers, walk slowly along the path and admire the surrounding landscape take a shortcut into the forest with the path.





Trails are desired to make

walking more purposeful and to serve as a shortcut to the

forest.













Halinen Intermediate lane

♦ Groups selected preferred elements and generated visions with UrbanistAl. Here are the main results:

Kasvillisuus / Green Infrastructure



Kukkaniitty/



Pensaat/shrubs



Low rise grass



Pienilatvaiset puut/ Small canopy tree

Grass meadow/ ruohoniitty





Large canopy tree

Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats



Hyönteishotelli/



Linnunpönttö/ Bird house



Kivikasa/ Piled rocks



Kelopuu/



Kuollut pensasaita/ Dead hedge

Oleskelupaikat / Amenities



Penkki/Bench

Istumasaareke/







the images.

Pölkkypuu/ Wood logs

Puukannot istuimina/ Wood stumps as seats

kulkeminen / Active mobility







Avomaanpolku/



Puuhakepolku/ Puunkannoista muodostettu

Oppiminen ja kulttuuri / Educational and Cultural



Opastekyltti/ Jaettu kiriahvllv/ Educational sign Shared bookshelf



Tapahtumalaatta/



Intermediate lane Vision 2 $(m{i})$ Beyond the image. After reflecting on the educational meaning of the landscapes, Participants wish they would have placed an educational sign in all Intermediate lane















Halinen Intermediate lane

♦ Groups reflected on the generated visions from different perspectives and selected their final favorites. Here are the main results:



Revealed preferences

- Prioritize practical solutions that are feasible, safe, not costy and easy to maintain;
- Don't want tall grass invading the road, neither insect hotels close to road as a safety measure;
- Don't want seating areas close to traffic as a safety measure;
- The potential to recreation and socialization of the landscape is irrelevant to them, as they think this aspect is not important for this type of landscape
- Activities: Walking the dog, identifying birds, identifying plant species.













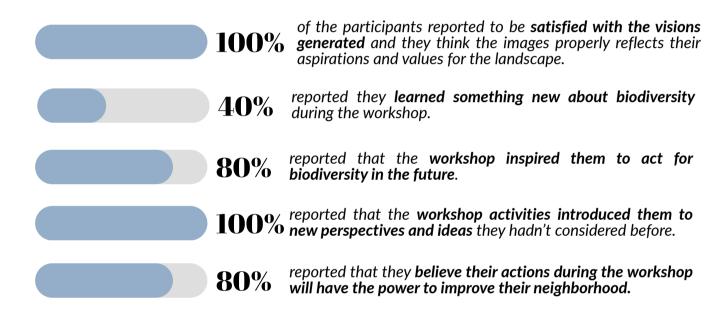




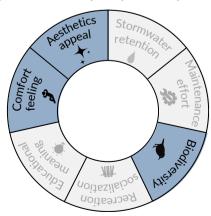




◆ Participants filled a survey individually about their experience during the workshop. Here are the main results:



Most important landscape aspects for participants:



Participants want to keep acting for urban nature in the future by...

"Participating in events about introducing nature to the city"

Participants reported that their gained knowledge was...

"To know that such tools to envision landscapes existed and that it is a great way to spread environmental awareness and provide opportunities to make a difference."

WORKSHOP PROFILE



Kaasulaitoksen salissa, Eerikinkatu 34



2 hours duration



15 participants



33% men and 67% woman



Age range between 21-65 years old



93% employed and 7% university students



93% Finnish speakers and 7% Swedish speakers



WORKSHOP ACTIVITIES



Mixed-expertise groups are allocated to work on the areas chosen by residents in the community workshops.



Groups start discussion and generate visions with nature-based solutions in UrbanistAI.



Groups reflect on their own images and those created by residents from different perspectives.



Participants choose final favorite images.



Participants create together a "vision to practice" reflection board.



Participants fill a survey about their experience during the workshop.



























Jyrkkälä Intermediate lane

Jyrkkälä Intermediate lane

♦ Groups selected preferred elements and generated visions in UrbanistAl. Here are the main results:

Kasvillisuus / Green Infrastructure



ruohoniitty







Kukkaniitty/ Flower meadow

Matala ruoho/ Low rise grass

Pienilatvaiset puut/ Small canopy tree



Large canopy tree



Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats



Hyönteishotelli/



Linnunpönttö/ Bird house



Piled rocks





llut pensasaita/ Dead hedge

Oleskelupaikat / Amenities



Istumasaareke/ Penkki/Bench



Eväsretkipöytä/ Picnic Table



Puukannot istuimina/ Wood stumps as seats

kulkeminen / Active mobility



Sorapolku/



Avomaanpolku/ Open soil pathway





Puuhakepolku/ Puunkannoista muodostettu

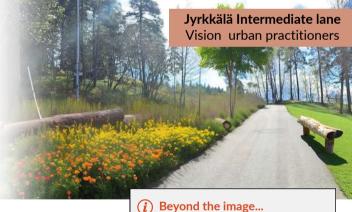
Oppiminen ja kulttuuri / Educational and Cultural



Opastekyltti/ Educational sign



Tapahtumalaatta/



Participants wish they would have placed a bookshelf in the images, but they ran out of time.













Jyrkkälä Intermediate lane

♦ Groups reflect on their own visions and those created by residents from different perspectives and choose final favorites. Here are the main results:

participants.



Revealed preferences

- Prioritization of aesthetically pleasing, easy maintenance and practical landscape, as the intermediate lane is very long;
- Colorful Meadows and a place to sit are immediately wanted;
- Beauty is achieved through wildflower meadows and trees and practicality is achieved through deadwood benches;
- Deadwood is chosen to border the wildflower meadows:
- Priority aspects for choosing favorite landscapes: diversity, color, bench, utilization of decaying wood, promotion of biodiversity, harmony, educational sign and controlled carelessness.

















Jyrkkälä - The bridge view

♦ Groups selected preferred elements and generated visions in UrbanistAl. Here are the main results:

Kasvillisuus / Green Infrastructure





Flower meadow







Low rise grass



Pienilatvaiset puut/ Small canopy tree

ruohoniitty





Large canopy tree

Puurykelmä/

Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats









Hyönteishotelli/

Linnunpönttö/ Bird house

Kivikasa/ Piled rocks

Kelopuu/ Deadwood

llut pensasaita/ Dead hedge

Oleskelupaikat / Amenities



Penkki/Bench



Seating Island







Pölkkypuu/ Wood logs

Puukannot istuimina/ Wood stumps as seats

kulkeminen / Active mobility



Sorapolku/

Gravel pathway







Wood chips trail

Puuhakepolku/ Puunkannoista muodostettu tasapainopolku

Oppiminen ja kulttuuri / Educational and Cultural







Tapahtumalaatta/





(i) Beyond the image...

Shrubs wanted to be added, but it was not well generated by the AI;

Wanted balance path around the picnic table but it was not well generated by the AI.







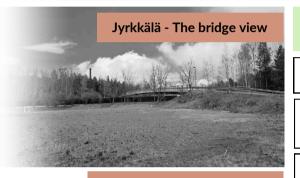






Jyrkkälä - The bridge view

→ Groups reflect on their own visions and those created by residents from different perspectives and choose final favorites. Here are the main results:

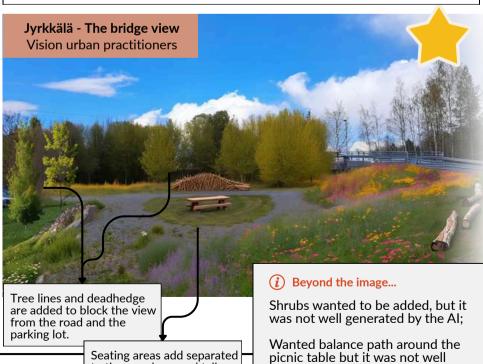


Jyrkkälä - The bridge view Visions from residents



Revealed preferences

- Prioritize a space that is accessible for the passersby;
- Preference for the landscape that includes a mix of natural with social and recreational elements;
- Wish for a landscape with varied habitats for biodiversity to thrive;
- Landscapes with short grasses are not wanted, as it increase the maintenance effort;
- Favorite the landscapes that performs excellently in aesthetics and has higher opportunities for biodiversity to thrive, even if these landscapes have higher maintenance needs.



to the meadows and tall

grass so people are dot derranged by bugs.

23

generated by the AI.













Halinen - Erik Julen Park

♦ Groups selected preferred elements and generated visions in UrbanistAl. Here are the main results:

Kasvillisuus / Green Infrastructure

Pensaat/shrubs





Kukkaniitty/

Flower meadow







Low rise grass



Pienilatvaiset puut/ Small canopy tree

Grass meadow/ ruohoniitty







Large canopy tree

Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats



Hyönteishotelli/ Linnunpönttö/ Bird house









llut pensasaita/ Dead hedge

Oleskelupaikat / Amenities

Piled rocks











Penkki/Bench

Istumasaareke/

Eväsretkipöytä/ Picnic Table

Puukannot istuimina/ Wood stumps as seats

kulkeminen / Active mobility



Sorapolku/



Open soil pathway





Puuhakepolku/ Puunkannoista muodostettu

Oppiminen ja kulttuuri / Educational and Cultural







Tapahtumalaatta/ Event plaque

Halinen - Erik Julen Park



(i) Beyond the image...

Participants wanted to add seating islands but they didn't like the results generated by the AI







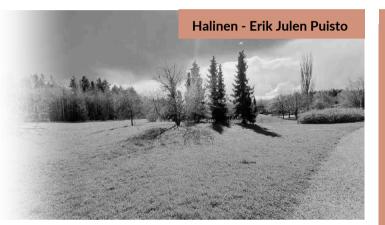






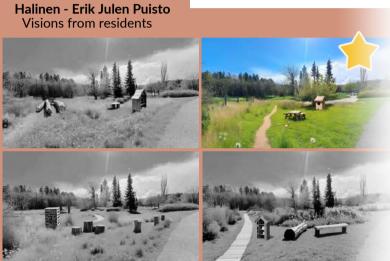
Halinen - Erik Julen Park

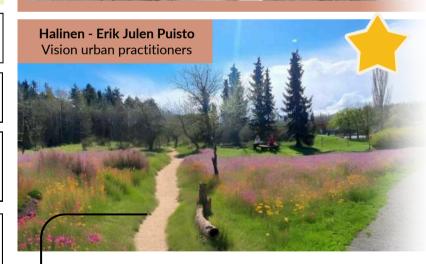
♦ Groups reflect on their own visions and those created by residents from different perspectives and choose final favorites. Here are the main results:



Revealed preferences

- A landscape that is both interesting for nature and people;
- Focus on biodiverse and visual appealing landscapes with functional elements;
- Preference for organic natural elements and seating spaces that blends well with the natural feeling;
- Presence of seating spaces and biodiverse vegetation were a decisive factor for choosing favorite images.





Path in the middle of the landscape to give easier access to the meadows.

Short vegetation in the borders of the path so people don't have to worry with ticks

(i) Beyond the image...

Participants wanted to add seating islands but they didn't like the results generated by the Al













Halinen - Intermediate lane

♦ Groups started discussion and generated visions with nature-based solutions and other elements in UrbanistAI. Here are the main results:

Kasvillisuus / Green Infrastructure



ruohoniitty





Low rise grass



Small canopy tree

Matala ruoho/ Pienilatvaiset puut/

Pensaat/shrubs Flower meadow



Large canopy tree

Luonnon monimuotoisuuselementtejä / Biodiversity microhabitats







Kivikasa/

Piled rocks





llut pensasaita/

Oleskelupaikat / Amenities









Penkki/Bench Istumasaareke/







kulkeminen / Active mobility



Sorapolku/







Puuhakepolku/ Puunkannoista muodostettu

Oppiminen ja kulttuuri / Educational and Cultural

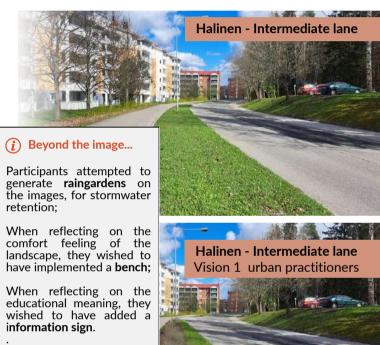


Educational sign

Shared bookshelf



Tapahtumalaatta/

















Halinen - Intermediate lane

♦ Groups reflect on their own visions and those created by residents from different perspectives and choose final favorites. Here are the main results:

should be bigger represented on

Halinen - Intermediate

Vision 2 urban practitioners

image).



Revealed preferences

- Preference towards measures to improve water retention and filtration (Raingardens for water storage and infiltration and stones for filtration):
- Prioritize short vegetation, due to safety for the road;
- Don't prioritize having trees because the area is narrow and may have pipes underground;
- Focus on diversity of vegetation layers and visual appealing landscape, prioritizing more natural elements;
- Water retention and biodiversity are the clear priority, even if the maintenance effort was considered higher in the favourite images















◆ Practitioners created together a "From vision to practice - what can we learn" reflection board. Here are their main considerations:

Inspiration and value recognition

How the landscapes envisioned during the workshops inspire you and what meaningful values you see on them?

- Colors of the visions were seem as inspiring ""Everything is more beautiful with colors";
- Some ideas were inspiring. e.g: "Hollow logs can be good for attracting species";
- The fact that the citizens own ideas will be implement may be inspiring for them;
- Visualization aggregates value and bring realism to participatory workshops;
- Generating different options fast is seem as an advantage.

Viability and feasability

What elements and design intentions could actually be implemented or adapted to real word practice?

- Deadwood in the intermediate lanes are seem as feasible to be implemented;
- Solutions visualized in the intermediate lane have potential to be implemented;
- Forest networks can benefit from extra trees;
- It is good and beneficial that the tool limited the amount of options to be chosen by the workshops partiicpants.

Challenges and limitations

What potential challenges and barriers do you see on these visions that could hinder adaptation to real-world practice?

- The stones in the intermediate lane are too close to the road, which can bring safety issues";
- In one of the visions a bench is in a private property, not in the side of the city land";
- With the house company you can't discuss the upkeeping of the city property";
- The images produced by the AI were not realistic. However, even if the vision is unrealistic, expert can edit the image;
- Experts need to analyse where they can realistically make changes in terms of land, budget, ownership...
- Tailoring the AI tool to show realistic outputs may require a lot of work.

Other thoughts?

What else comes to your mind when you see these visions?

- Microforest a playforest for kids, could have been considered as well;
- Can everyone see a forest from their window?
- The still imperfect side of the AI makes it more human to the citizens;
- Does the AI tool bring more value to co-design the physical space if compared to the physical cards with the elements?:
- Al-generated images may not fully match citizens' expectations, yet participation in ideating solutions can still foster a sense of involvement and being heard."













◆ Participants filled a survey individually about their experience during the workshop. Here are the main results:

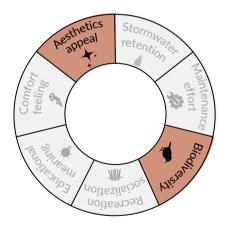


believe citizens participation and collaboration during the planning phase of urban spaces integrated to nature are essential for achieving sustainable and well adapted interventions.



 $oldsymbol{100\%}$ believe the outputs generated by citizens d neighborhood workshops offer valuable insights inspiration for urban practitioners and decision-makers when planning interventions in these areas

Most important landscape aspects for participants: Participants want to keep acting for urban nature in the future by promoting the following events...



"Community meadow management day"

"Counting species and conversational nature walks"

"Biodiversity festivals"

"Reconciling the different uses of recreational areas, taking into account the promotion of biodiversity"

"Invasive species volunteer work"

"Activities with minority linguistic groups"

Participants reported that their gained knowledge was...

"Exploring the potential of artificial intelligence and the possibilities of use as a planning tool"

"Maintainance-related and environmental aspects"

"The fact that Nature-based solutions can be seen a visual appealing elements"

"The functionality of the generative AI tool as well as its limitations - knowing these limitations help the experts to interprete the images before making real plans"

"The potential of the urban environment to promote biodiversity"

"Networking and meeting new people from the organization"

Final considerations

The visions generated with UrbanistAI by the groups of residents and practitioners along with their discussions throughout the workshops revealed aspirations and visions for the codesigned landscapes in Halinen and Jyrkkälä neighborhoods. These outputs provided an indication of the present stakeholders' preferred NBS and urban amenities elements, spatial organization and desired functions for the spaces. However, given the limited number of participants and the demographic profile represented (primarily elderly Finnish speakers), the revealed preferences may not fully reflect the aspirations of the neighborhood community as a whole. This highlights the need for a careful analysis of the visions generated by the stakeholders responsible for implementing neighborhood interventions, ensuring that the perspectives and needs of underrepresented groups, such as youth and immigrants, are also taken into account.

Mostly workshops' participants kept actively engaged and focused throughout the process of creating visions with the Al. However, we noticed that participants tended to keep on their visions only those elements that the Al was able to represent well and found visually satisfying. Poor and/or unrealistic outputs would often cause disappointment or frustration, triggering participants to shift their focus to options that the Al represented more accurately. Thus, importance of not "trusting blindly" and relying solely on the visible outputs of the co-design process with the Al. Equal emphasis should be placed on the underlying conversations and on critical aspects that the Al may have overlooked when generating the participants' visions.

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