



Aalto University
School of Engineering

DOES MAPPING IMPROVE PUBLIC PARTICIPATION?

Exploring the pros and cons of using
PPGIS in urban planning practices

Maarit Kahila, Mapita Oy
Marketta Kyttä, Aalto



The Finnish
Land Use and Building
Act 2000



aims to ensure that everyone has
the chance to participate
in open planning processes



...but in reality

ONLY HANDFUL
OF PEOPLE
PARTICIPATE



TIMING OF
PARTICIPATION
TOO LATE



NON-
INFLUENTIAL
PARTICIPATION



CONCENTRATION
ON RESISTING
CHANGES



COLLECTED
DATA REMAINS
INVISIBLE



DEMANDING
PARTICIPATION
PROCESS



Can we realize
smarter
participation?





Handwritten text on a sign in the background, partially legible as "...out of ..."

Handwritten text on a sign in the background, partially legible as "The only way to ..."

Handwritten text on a sign in the background, partially legible as "..."





Accept all the things
that life gives you.
Be adorable towards
your life. If you can't
argue with the death
don't do it with life.
- (ARZO)

Live
Young!
Be your
Love yourself

- Grab a post-it.
- Write, draw or doodle your story.
- Just make sure it fits on one side.
- Leave your name and number at the back.
- Win Awesome Prizes.

Shit man, admit you
forgot my anniversary. How the
hell did you do that? I'm
sorry, baby, extremely sorry
please.
I'll write to tell you the
rest of my love, forgive me - so
soon. I'll love you
forever. I'll still love you
when you are old. I'll still
love you when you are
dead. I'll still love you
when you are in the ground.
I'll still love you when you
are in the ground.

Who will read
this he will
nod from
Nitya minna

Enjoy your struggle
Because one you
succeed, you are going
to tell the story of
your success till you die.
So, enjoy your struggle.



Life is so awesome.
Just change the
way you see it.
Aditya
Shruti
we are bno-sit

KISS
Keep It
Simple

My friends
may change & die,
but my books
are waiting to talk to us.

JUST DO IT
IT WORKS

Yo! Yo!
Keep Calm,
Be happy, live
happy - Ananya

Yo! Yo!
Keep Calm
& Be Happy!!
- Vedita

I Love
Myself
Stay Hungry
Stay foolish
- by me -

Be single be virgin be
& happy

I am very
proud to be
a...

Please
spread
the message of
gender neutral
all over the
world.

I am not
a B...
Just be
bio fuck you

Live the way
you like!
Just love
yourself

LOL
LOVE OF LOVE

My first
book
& I am
proud

took paste me
yanak hai??
- Thulub

Be single be virgin be
& happy

I love
my
Mother

Destiny
favours the
brave
So, Be Brave!
* @ *

You
(RD)
Ranjana
(KAVU)

When
OUT of
HOUSE,
WANDERFUL
ways

OUR 1st Jaipur Lit Fest!
1. Nehaika
2. Ashwini
3. Ananya

This is what
I wanted to be doing
walking around
talking & doing
stuff.

Live love of
my life

With
all the
members of
group



Digitalization creates new possibilities for using more efficient and enjoyable participation

- Social media platforms
- Gaming
- Online dialogues
- Texting apps
- Videos
- Blogs
- Creative websites
- Electronic polling
- Participatory budgeting
- Virtual meetings



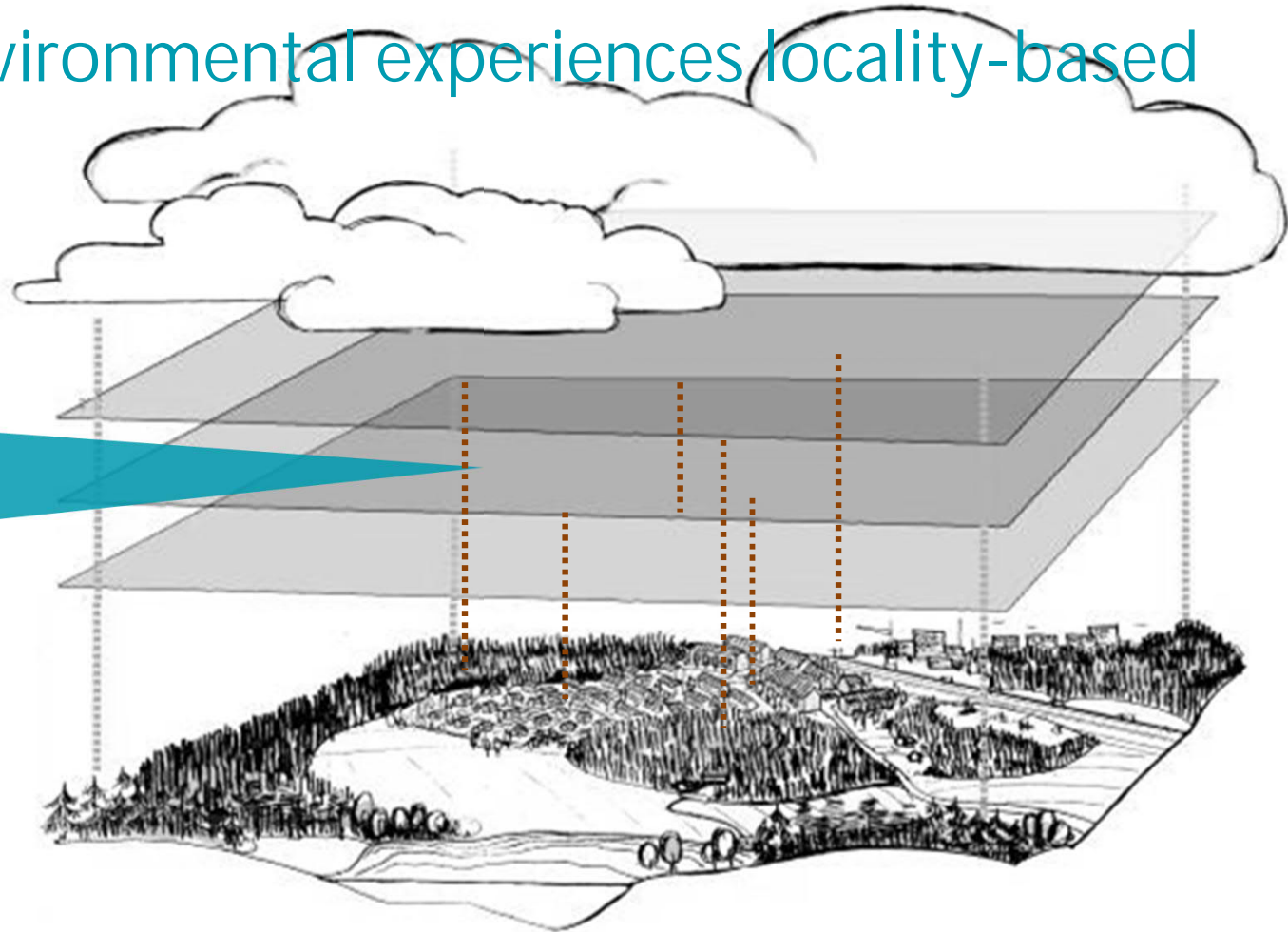
Place-based public engagement – the idea of PPGIS



From 2005 onwards: The 'soft' GIS

Developing a GIS-based method
for studying the environmental experiences locality-based

"This is a good way to map the feelings of people. You have time to think about your answers. I hope to see the results in the future."



adding new 'soft' layers with the help of Internet-based method into the Geographic Information System



Maptionnaire in a nutshell

www.maptionnaire.com



Create questionnaires

Begin your own map-based data collection to simplify the participation workflow.



Engage residents

Reduce barriers to participation and collect constructive feedback that enables you to build trust in your project.



Interpret results

Transform data into tangible insights and develop a deeper understanding of your results.



Make planning smarter

Incorporate data collected using Maptionnaire into your plans and designs for creating livable and lovable environments.



EXAMPLES OF PARTICIPATORY PLANNING PROJECTS

ENVIRONMENTAL PLANNING



TRANSPORTATION PLANNING AND MOBILITY

PARKS AND RECREATION



BUILDING DESIGN



URBAN PLANNING AND DEVELOPMENT



Detailed and park planning, Södra Värtan, Stockholm



Dia

Fram till den 10:e sidor hoppas vi at finns med i detalj

Samrådet omfatt februari och öppe 12-16.

Mer information webbplatsen unde www.stockholm.se

För att komma vid följande sidor tar


Synpunkter som detaljplanen arbet

Om du inte hinne ställe som du avsl

5/8 Utomhusbadet

I norr vidgas kajen till ett torgrum med bassängbad, träbryggor i söderläge och öppen vy mot Lilla Värtan.

Vad är dina önskemål för en sådan plan?




Vad tycker du är viktigt när staden planerar utomhusbadet?

Vad önskar du inte se vid utomhusbadet?

Det du skriver i det här huvudfönstret är det bara du själv som kan se. Synpunkter som du lägger in med kartnålar kan andra läsa och kommentera, men däremot inte koppla till dig.

Utomhusbadet
Klicka här och flytta på nålen

Klicka ovan för att släppa en nål och skriv synpunkter och kommentarer i den ruta som öppnas. Du kan släppa flera nålar och kommentera om du vill.



Tredje visionsbild av utomhusbadet (Illustration)



City of Jyväskylä: Skenario building and presentation



Perceptive evaluations of indoor spaces, Aalto University

Evaluation of the indoor spaces in the renovated Undergraduate Centre

The Undergraduate Centre has undergone a period of significant renovations in recent years.

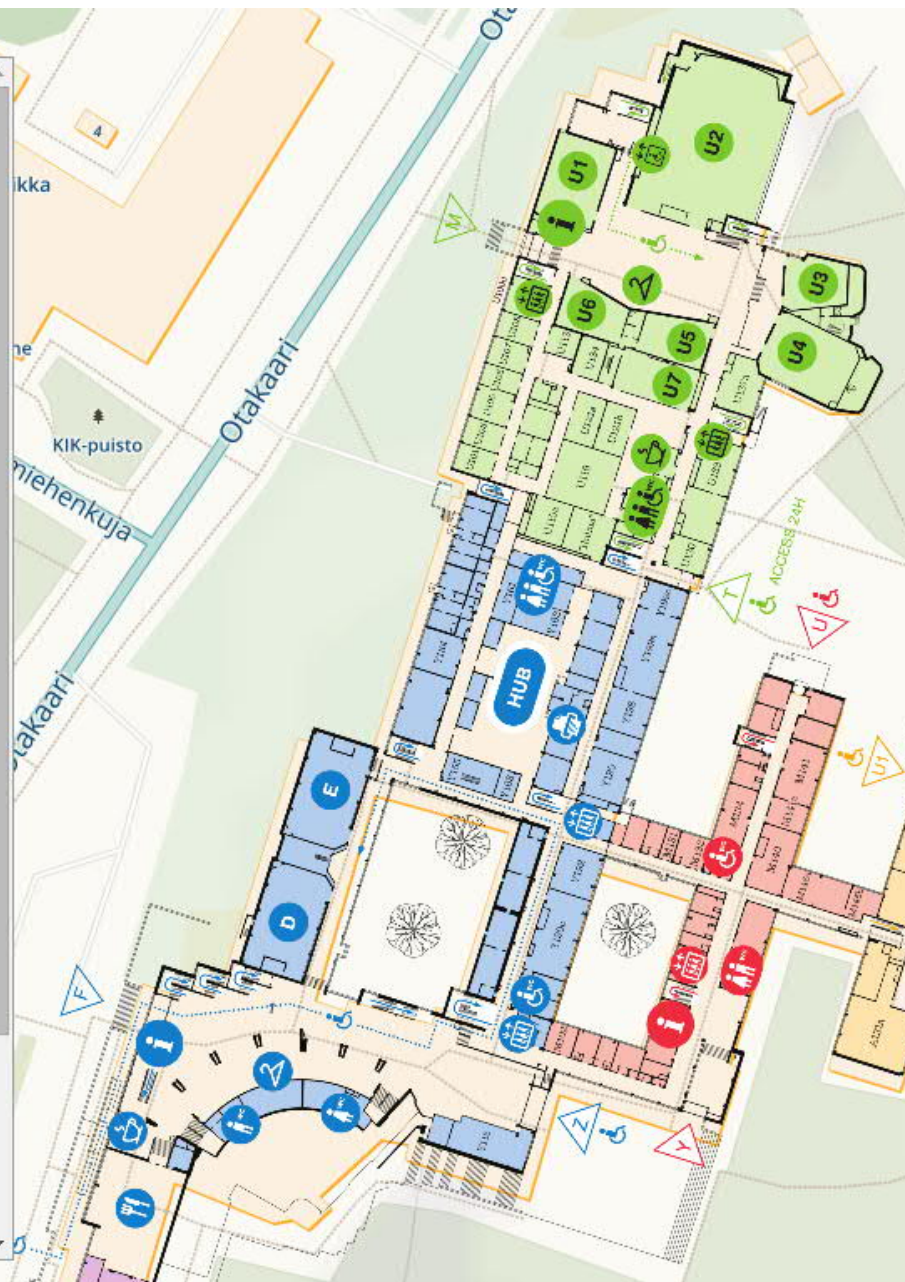
How did we succeed? Which places do you enjoy, and where could we have done better? Please indicate the places that you find either pleasant or unpleasant. Do this by clicking on the button and placing the marker in the correct place above the floor plan.

You can change the floor level of the floor plans with the buttons in the upper-right corner.

Pleasant place in Undergraduate Centre
e.g. appearance, functionality, social climate, atmosphere of the space



Unpleasant place in Undergraduate Centre
e.g. appearance, functionality, social climate, atmosphere of the space



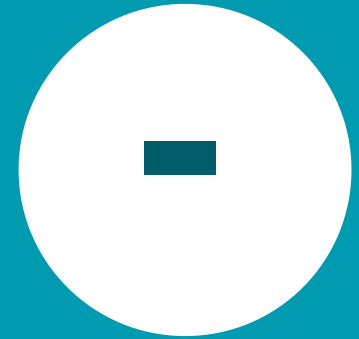
Critical reflection of PPGIS as a participatory planning tool

203 real-life
Maptionnaire
projects





The PROS and CONS



of using PPGIS as
a crowdsourcing tool
in urban planning



PROS

1. Extensive participation



2. High quality and usable knowledge



3. Foster collaborative, influential participation



CONS

1. Problems regarding digitalization



2. Problems regarding data quality



3. Ineffective planning practices



**Extensive
participation?**



Crowdsourced citizen insight creates good-quality data



PPGIS fosters individual participation

	Individual participation	Collective participation
Diversity of opinion	Each person should have the opportunity to share their private information	The private information of different persons' is filtered through groups aims
Independence	Peoples' opinions are not determined by those around them	Peoples' opinions form part of the joint understanding of the group
Decentralisation	People are able to specialize and draw on local knowledge	Combines and acknowledges local knowledge from different sources
Aggregation	Some mechanisms exist for turning private judgements into public judgement	Effective mechanisms for turning private judgements into public judgement

Kahila-Tani, M. (2016) *Reshaping the planning process using local experiences: Utilising PPGIS in participatory urban planning*. Aalto University publication series, 223.

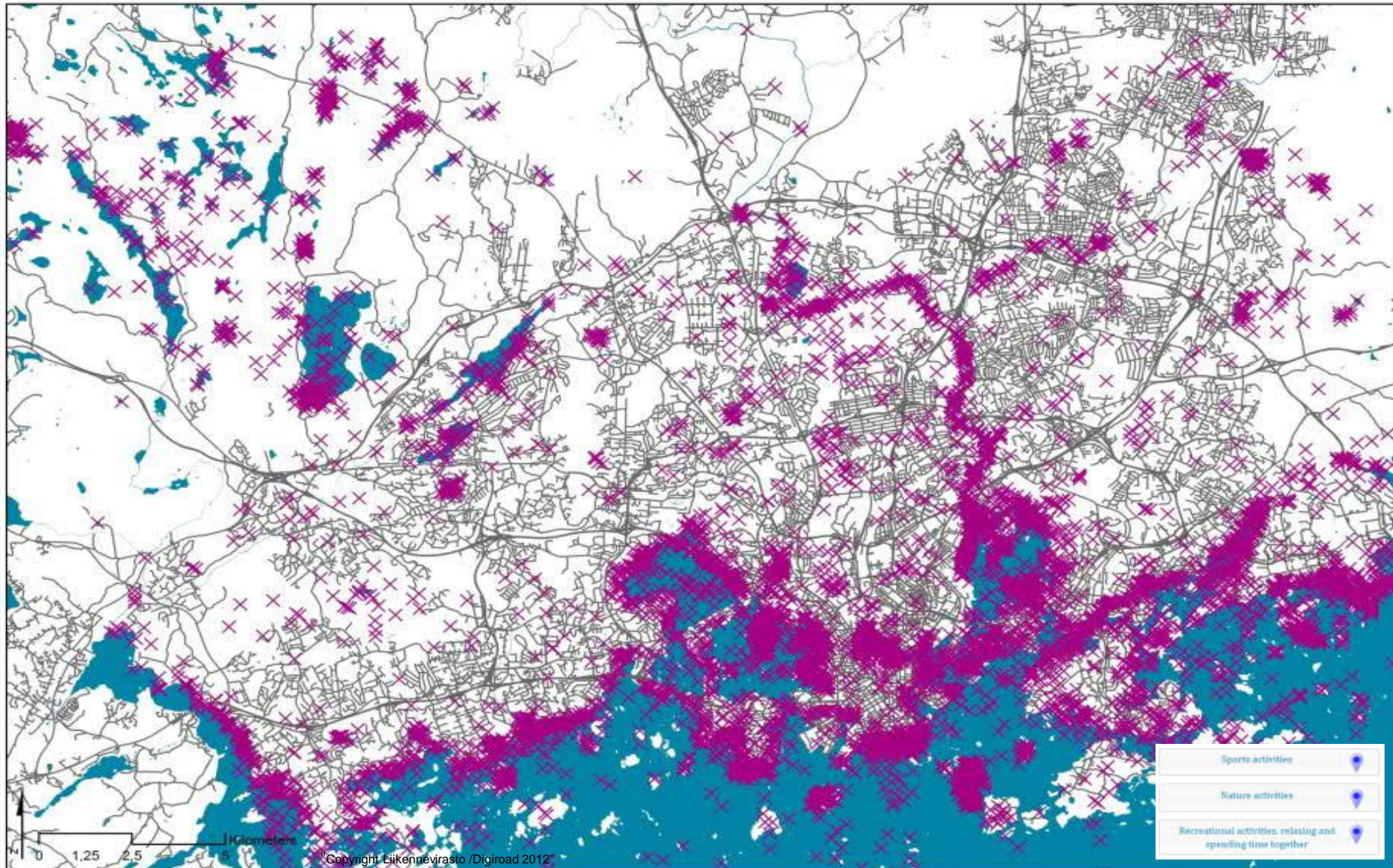


Inclusiveness: Wider & representative groups of people can be reached

By the water-survey in Helsinki metropolitan area

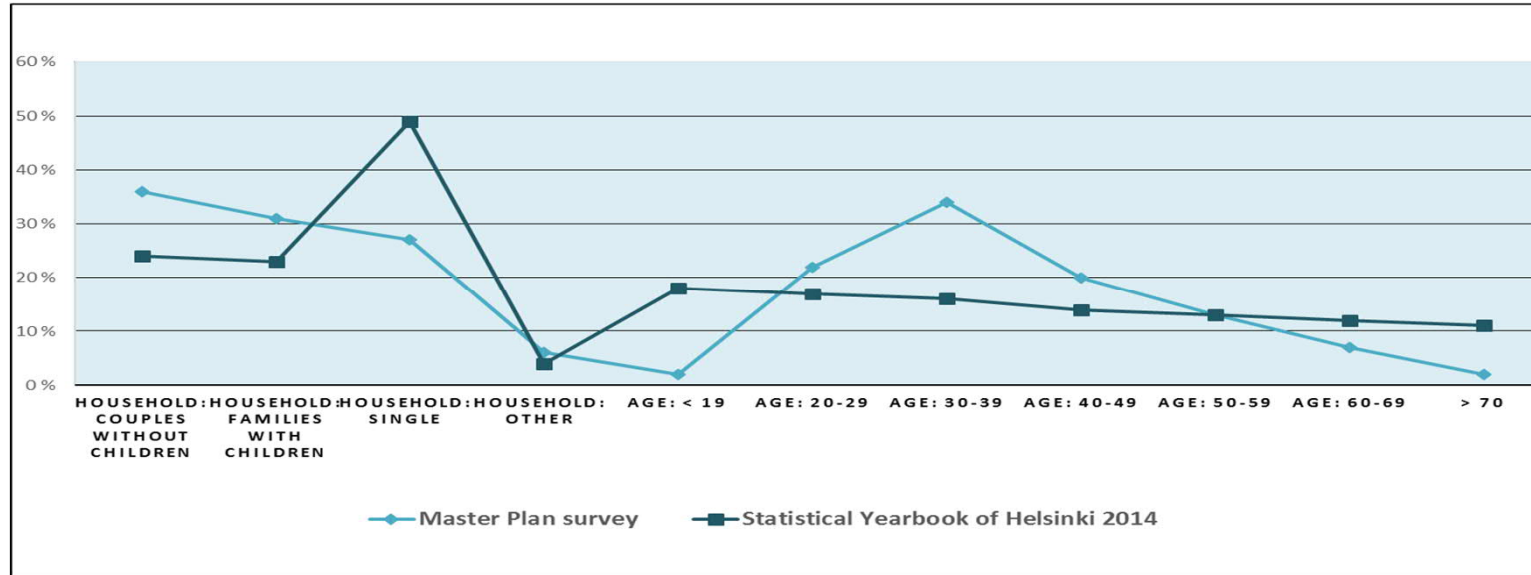
2121 respondents

Over 26 000 place markings

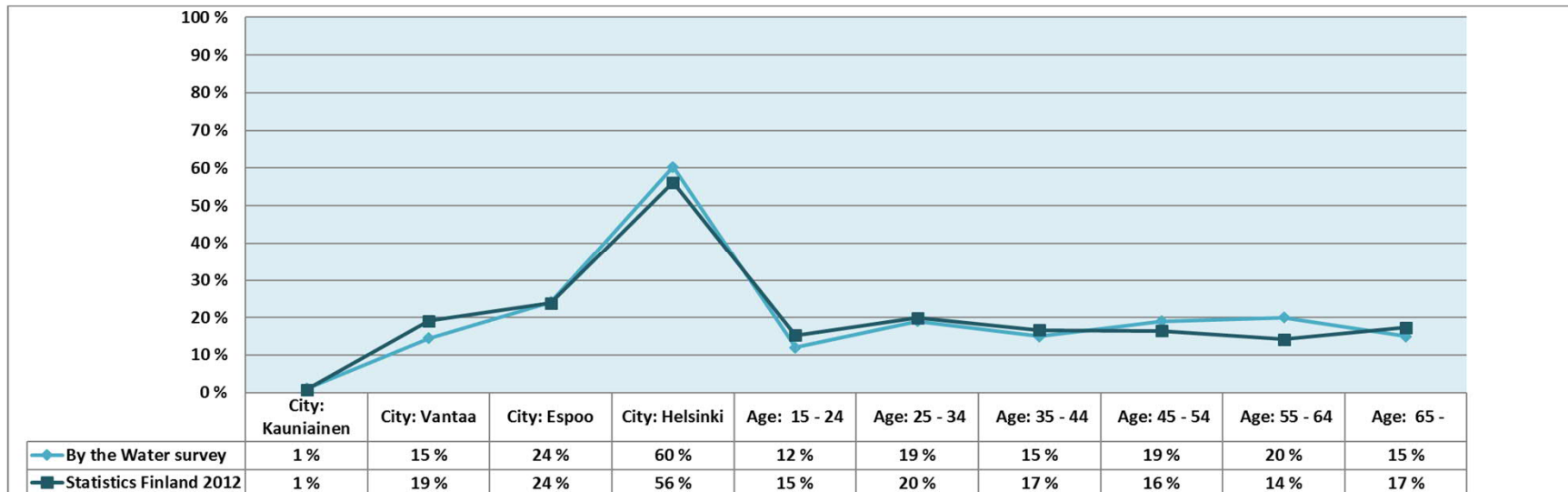


How about representativeness?

Case Helsinki Master Plan



Case By the water survey



Inclusiveness: New resident groups can be reached



⤴ Công Viên và những Nơi Giải Trí

Công Viên và những Nơi Giải Trí (sân banh, vườn, công trường, v.v.) tạo cơ hội để chúng ta chơi, tập thể thao, nghỉ ngơi, và quây quần.

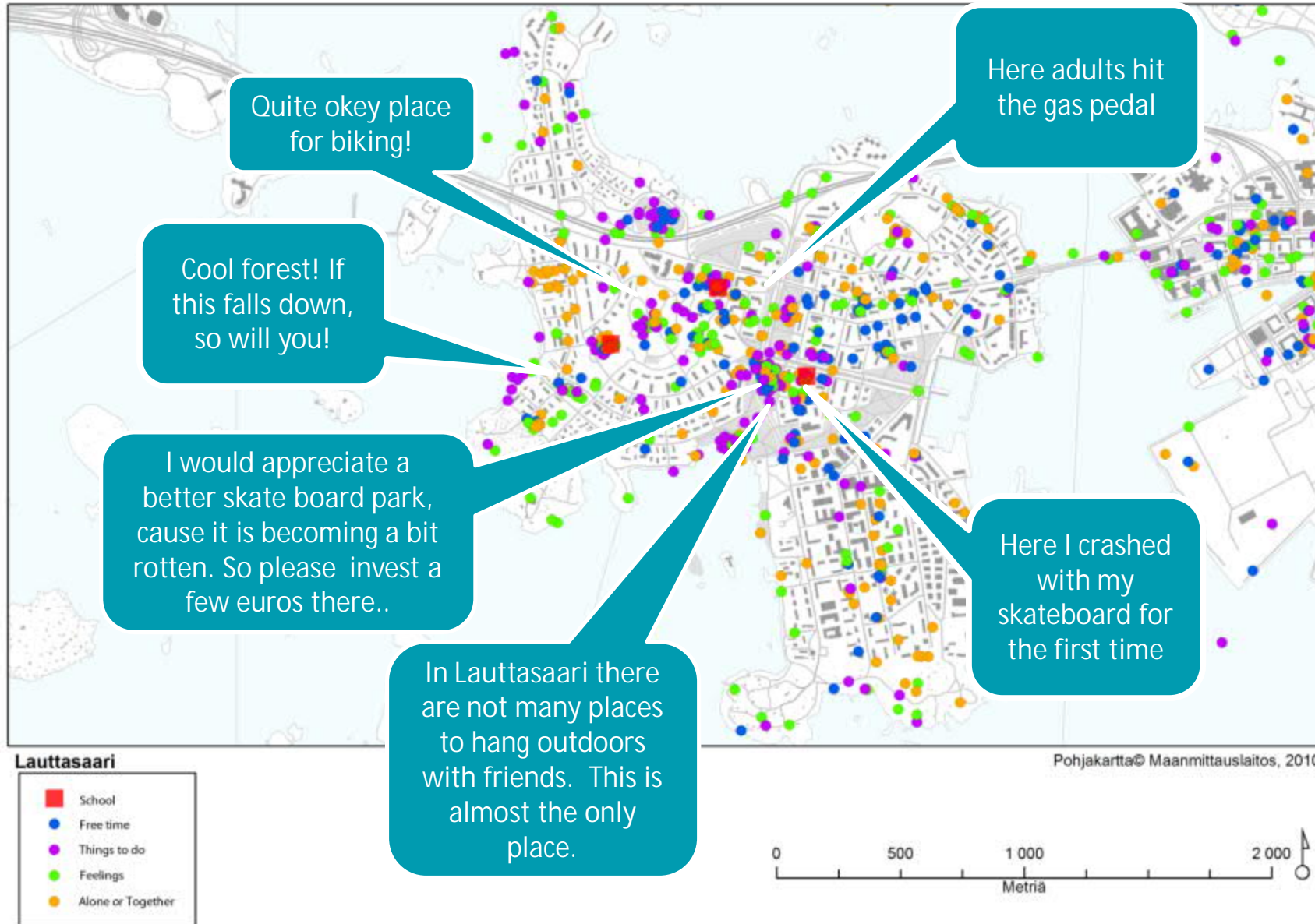
Xin dùng đinh ghim màu hồng này để định vị trí những công viên, hay nơi giải trí ưa thích nhất của quý vị. Xin dùng đinh ghim màu xanh để định vị trí những công viên, hay nơi giải trí mà quý vị thường thăm viếng nhiều nhất.

Những công viên, hay nơi giải trí ưa thích nhất 

Những công viên, hay cơ sở giải trí thường lưu viếng nhất 



... even children and young people



Kids out-survey in Helsinki

1100 respondents



Digital divide and Technology stress



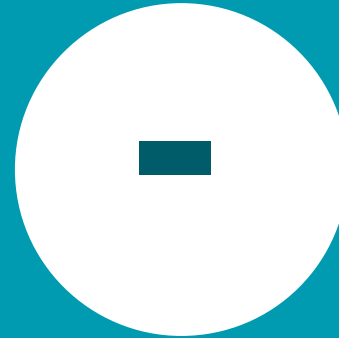
Gottwald, S. Laatikainen, T. Kyttä, M. (2016) Exploring the usability of PPGIS among older adults: challenges and opportunities. International Journal of Geographical Information Science, 1-18.



PPGIS & the extensive public participation



- Relatively high number of participants can be reached with reasonable effort
- Reaching new resident groups
- Fostering individual participation
- Reveals residents' conflicting viewpoints of the planning topic



- Digital divide
- Technical challenges
- Data manipulation
- Anonymity
- Challenges related to data collection strategies
- Technology stress & information overflow
- Poor geographical and socio-economic representativeness
- How to involve also other stakeholders like
- Biased results can be a potential danger



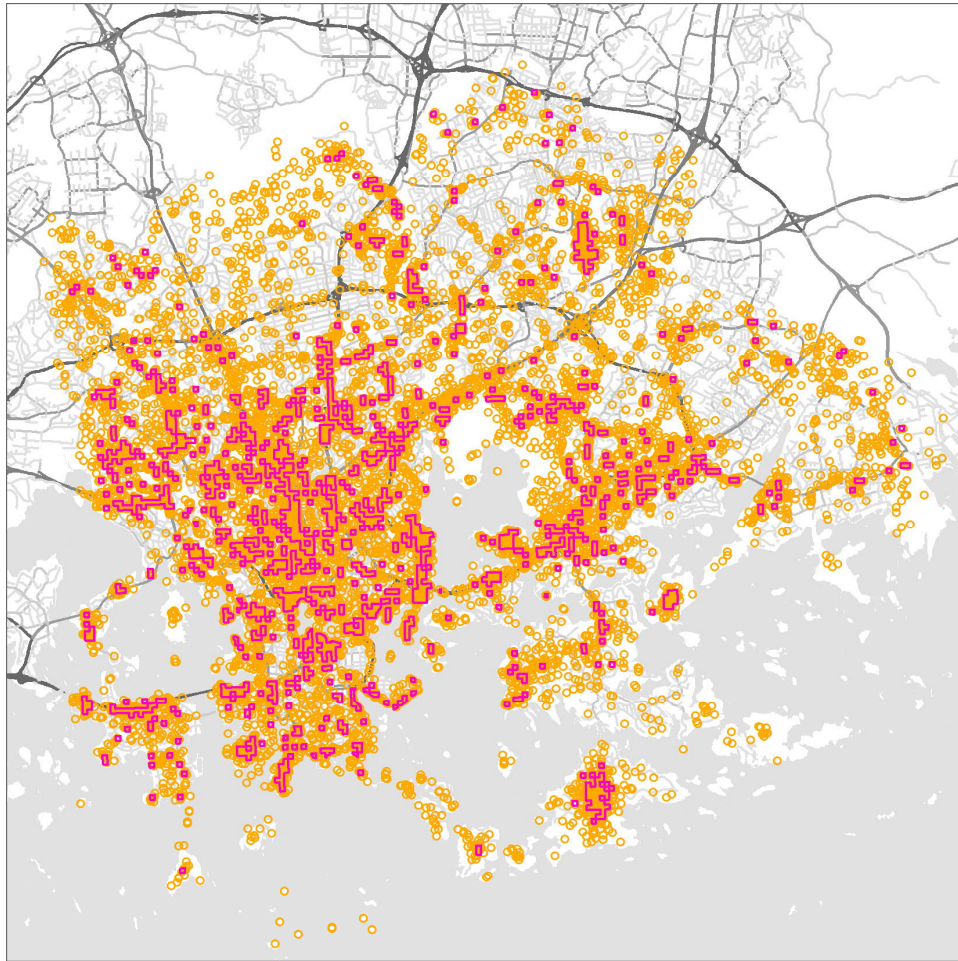
*The markers on the map emphasize well the insight from the residents, for example the city boulevards and the conflict areas emerge clearly.
(Planner 2)*

High quality and usable knowledge

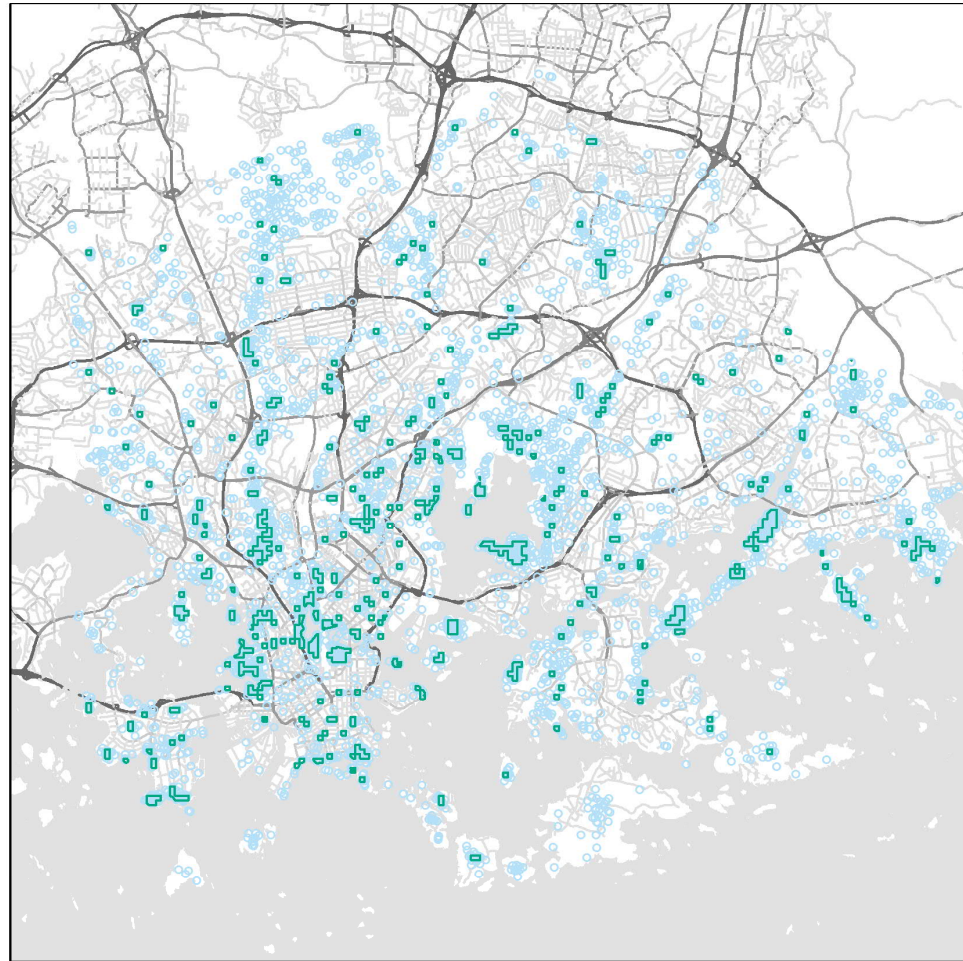


New type of knowledge in a visible format

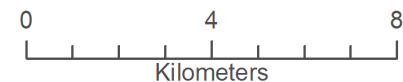
Case Helsinki Master plan: Locations of the new building sites & green areas that should be protected



- New building sites
- ▭ Clusters for new building site input

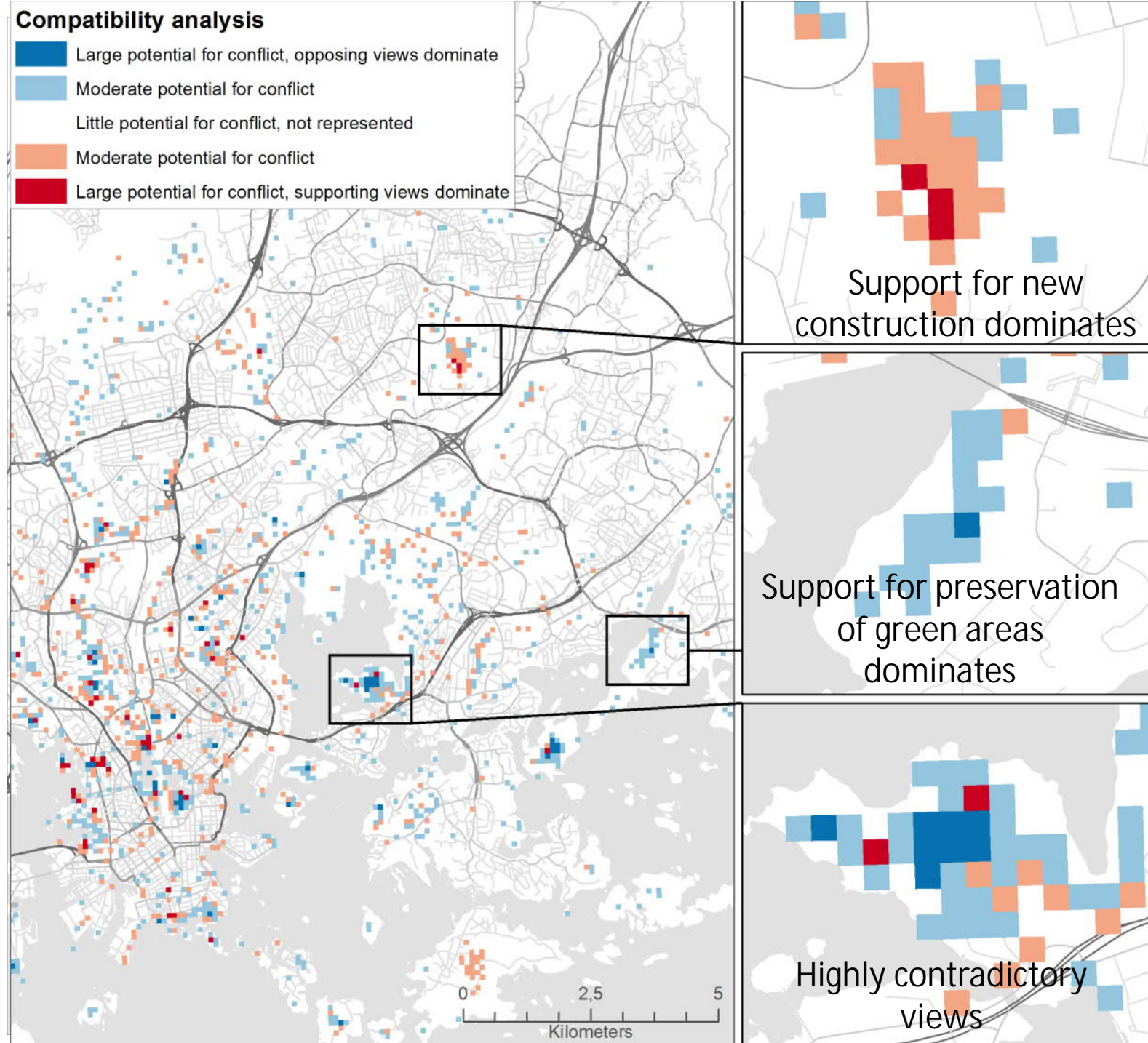


- Important green areas
- ▭ Clusters for important green area input

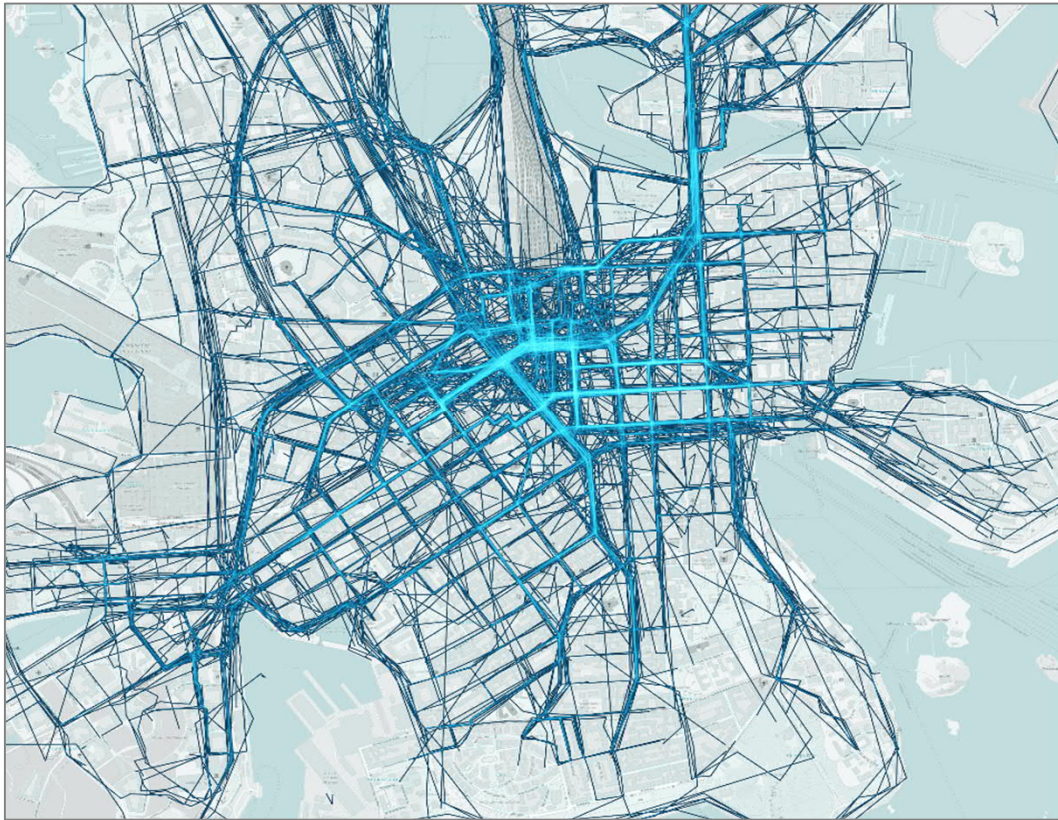


Reveals residents' conflicting viewpoints of the planning topic

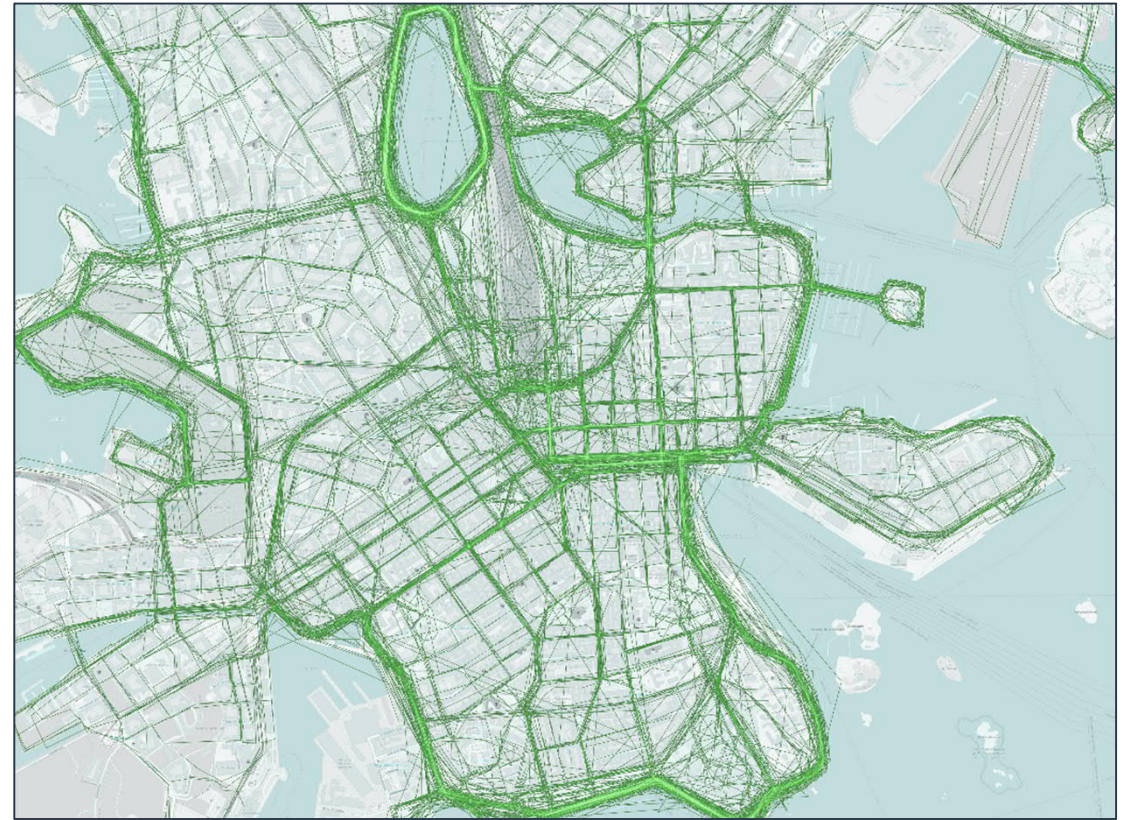
Case Helsinki Master Plan: Compatibility-analysis



How to design walkable cities? - Relevant insights for the planning topic



Everyday routes (n 2178) City of Helsinki



Recreational routes (n 1428) City of Helsinki



Online tools for the analysis and reporting – or you can use the of tools of your choice

- Pleasant place in the ELEC building
- Unpleasant place in the ELEC building
- Pleasant place in Undergraduate Centre
- Unpleasant place in Undergraduate Centre
- Jewel of the campus
- Dreariest place
- Well maintained place
- Poorly maintained place
- My most important route across the campus

0 / 4257

Other filters

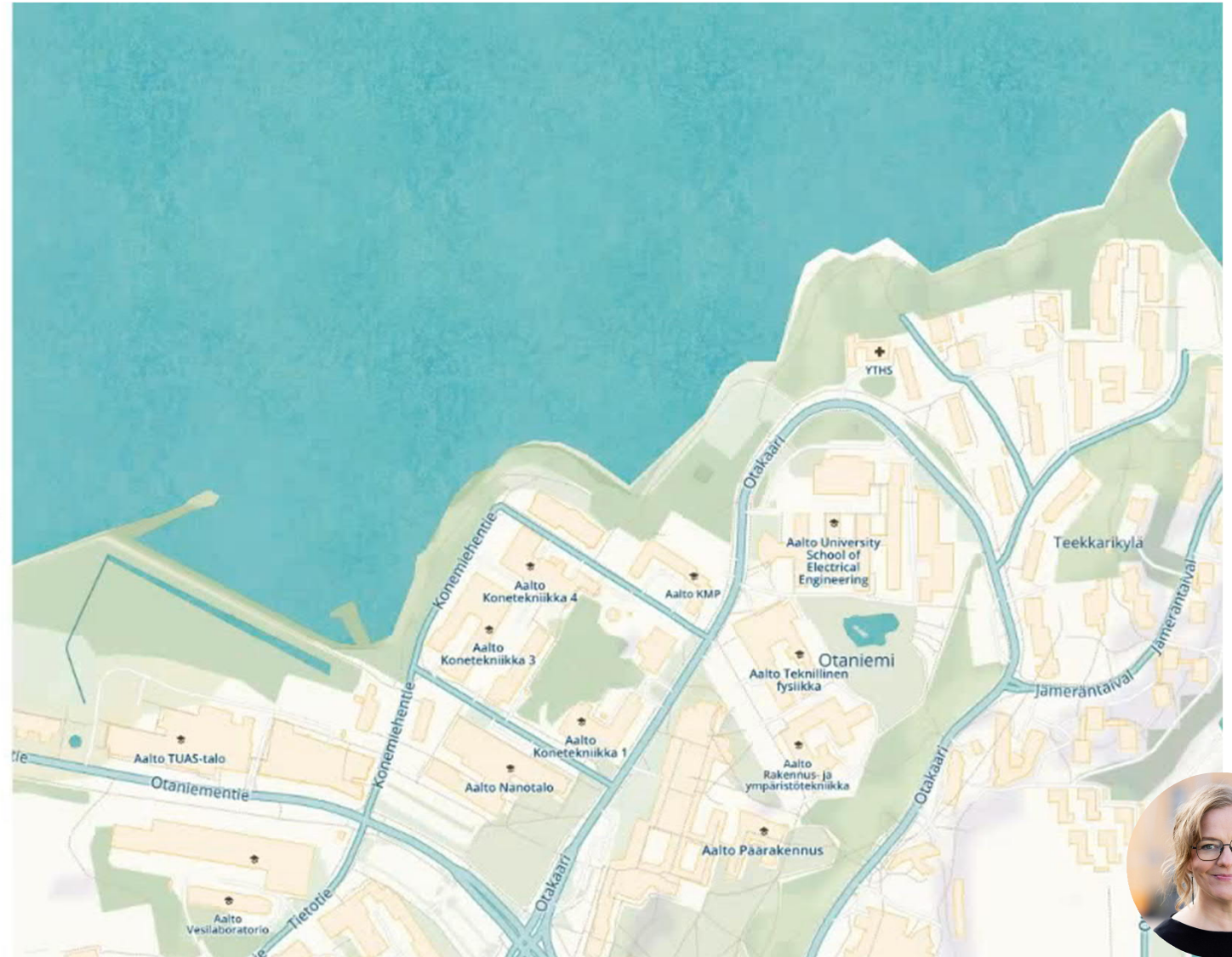
Separate features

Point radius
5

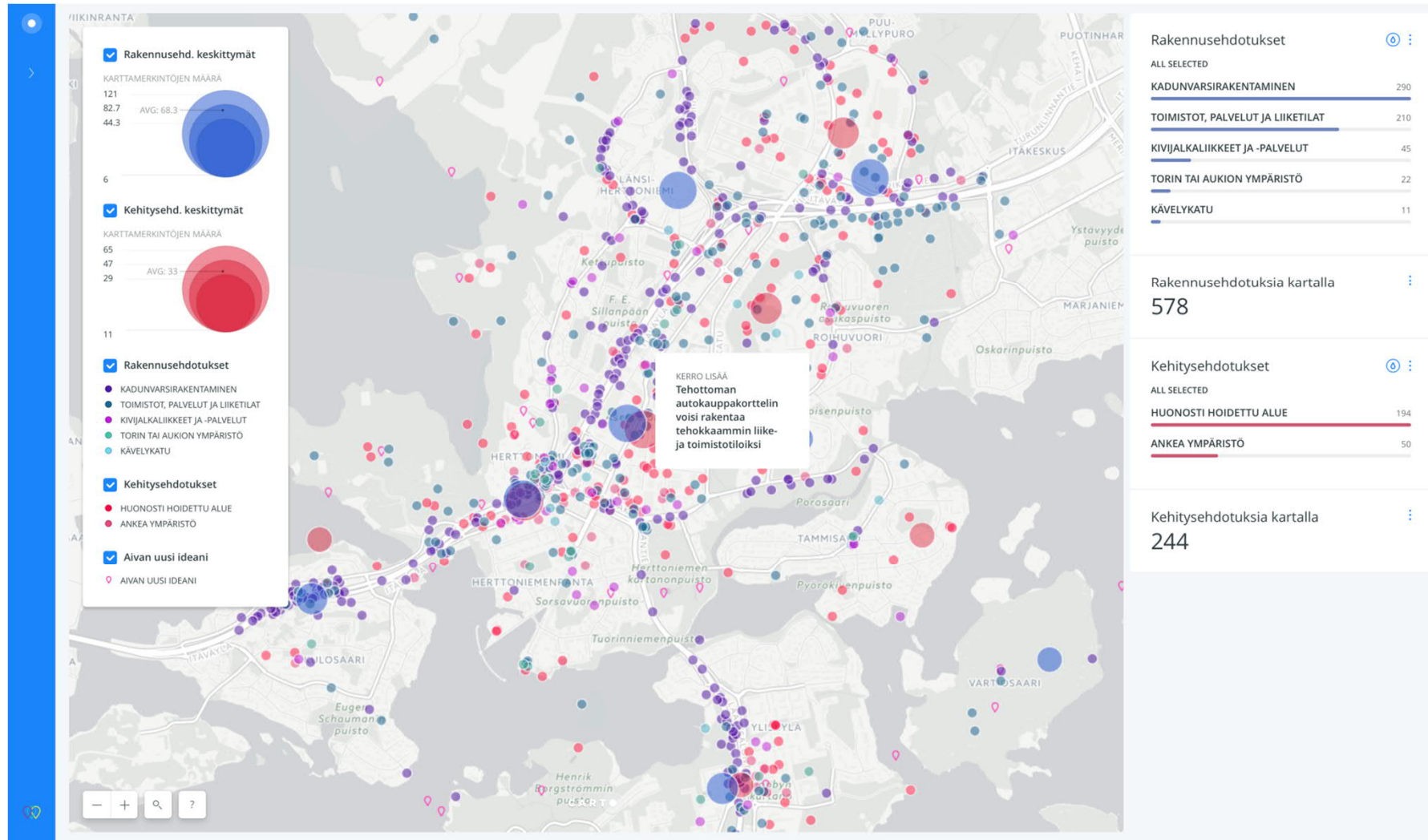
Line width
2

Opacity
0,45

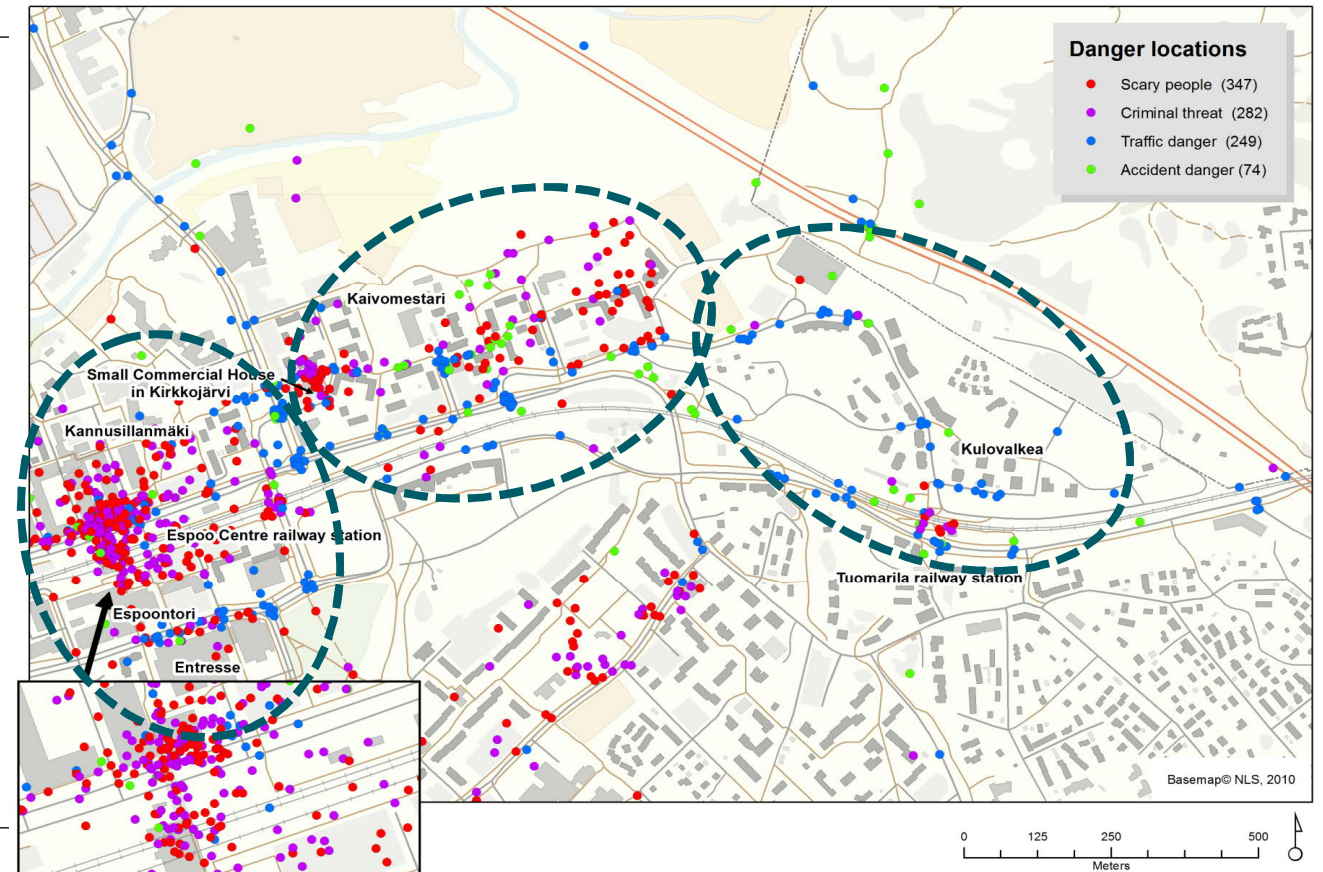
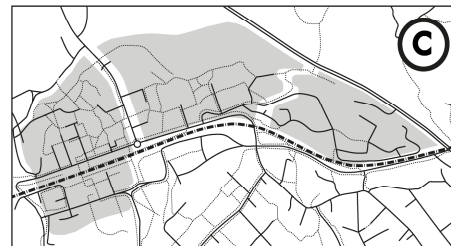
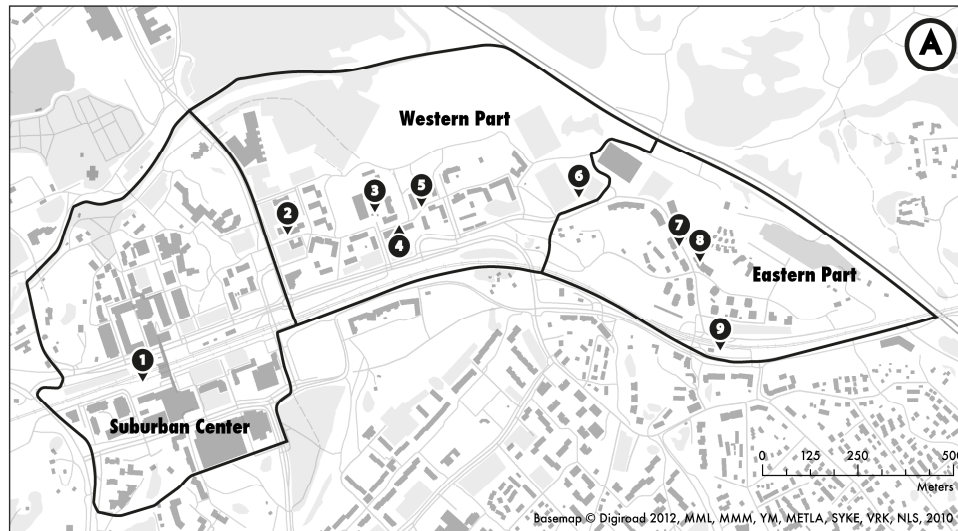
Browse popup responses



Carto-integration – you can create easily interactive visualizations



The analysis of planning solutions in relation to PPGIS data



Kyttä, M. Kuoppa, J. Hirvonen, J. Ahmadi, E. & Tzoulas, T. (2013) Perceived safety of the retrofit neighborhood: a place-based approach. Urban Design International, 4, 1-18.



Cherry picking – Idea competition winner in Vaasa: Mansikka ja Variksenjalka

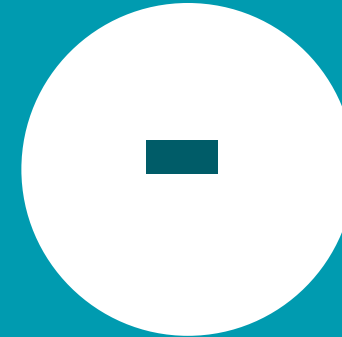


PPGIS &

high quality and versatile knowledge



- Localized information related to planning situations
- High-quality, versatile data
- Allow the collection of positive feedback
- Place-based data can be integrated to existing systems
- Knowledge from participants can be more equally recognised parallel to other more formal data sets
- Results easier to process and analyse using various approaches
- Data can be processed further in deliberative processes among the residents and other stakeholders
- Getting answers to certain topics relevant in the planning process

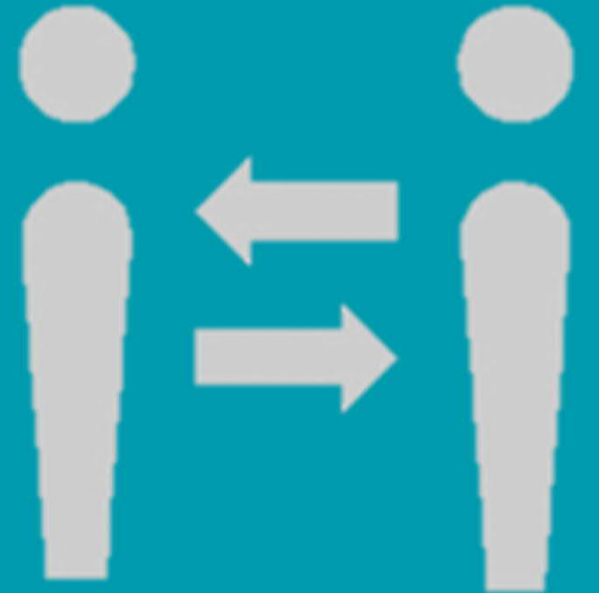


- Methodological challenges
- Potential of cherry picking - misuse of data to support e.g. the existing presumptions
- Potentially lack of transparency
- More influential participation is needed - can PPGIS really help?
- Frustration of participants if nothing changes
- Illusion of influentiaity - democracy does not always work in politics

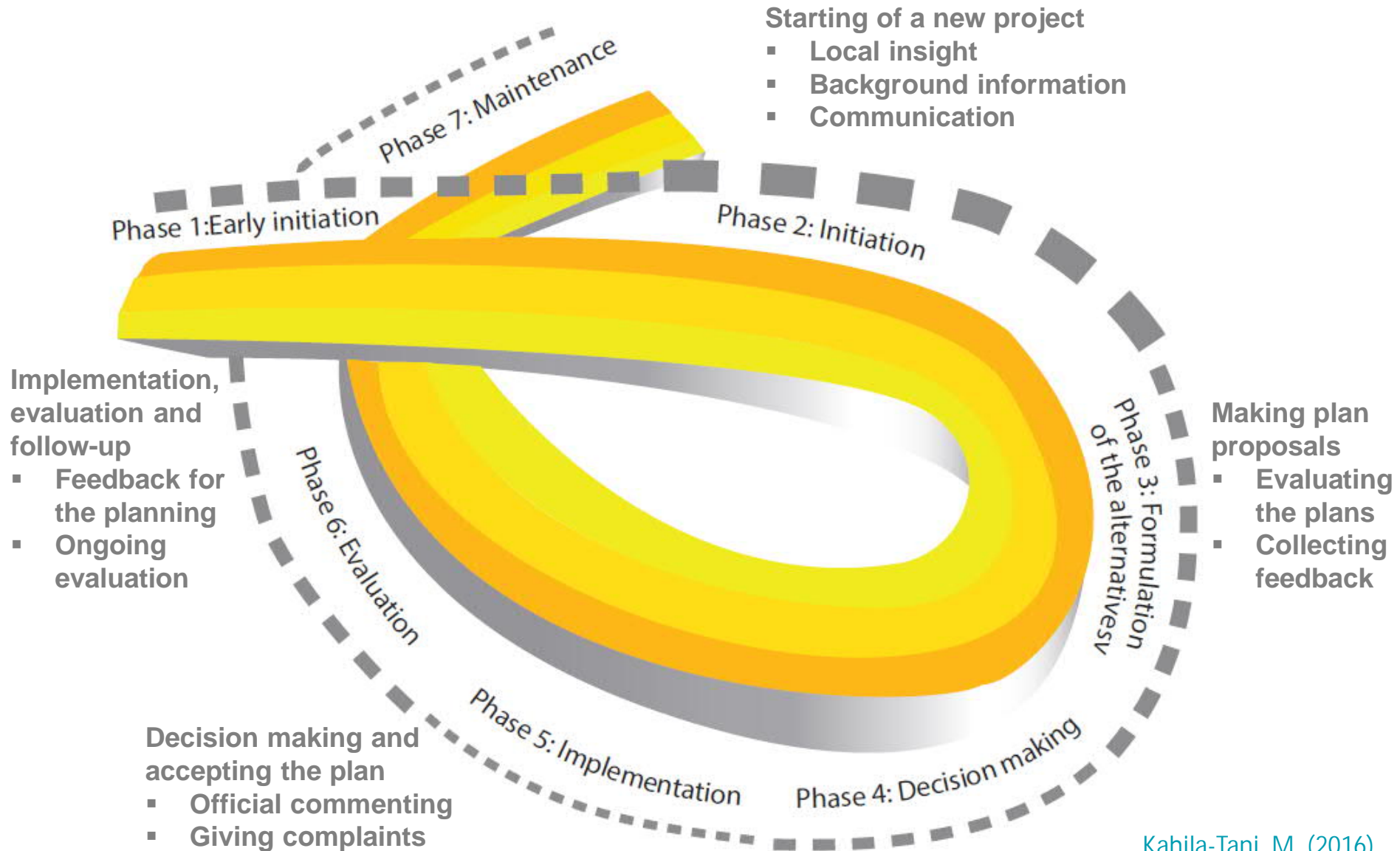


It is essential that we have been able to offer a participation channel also for those residents who would be otherwise difficult to persuade to other participation venues or workshops. Now the challenge is to prove the influence of the survey. (Planner 4)

Effective practises of public participation



Public participation support system (PPSS)



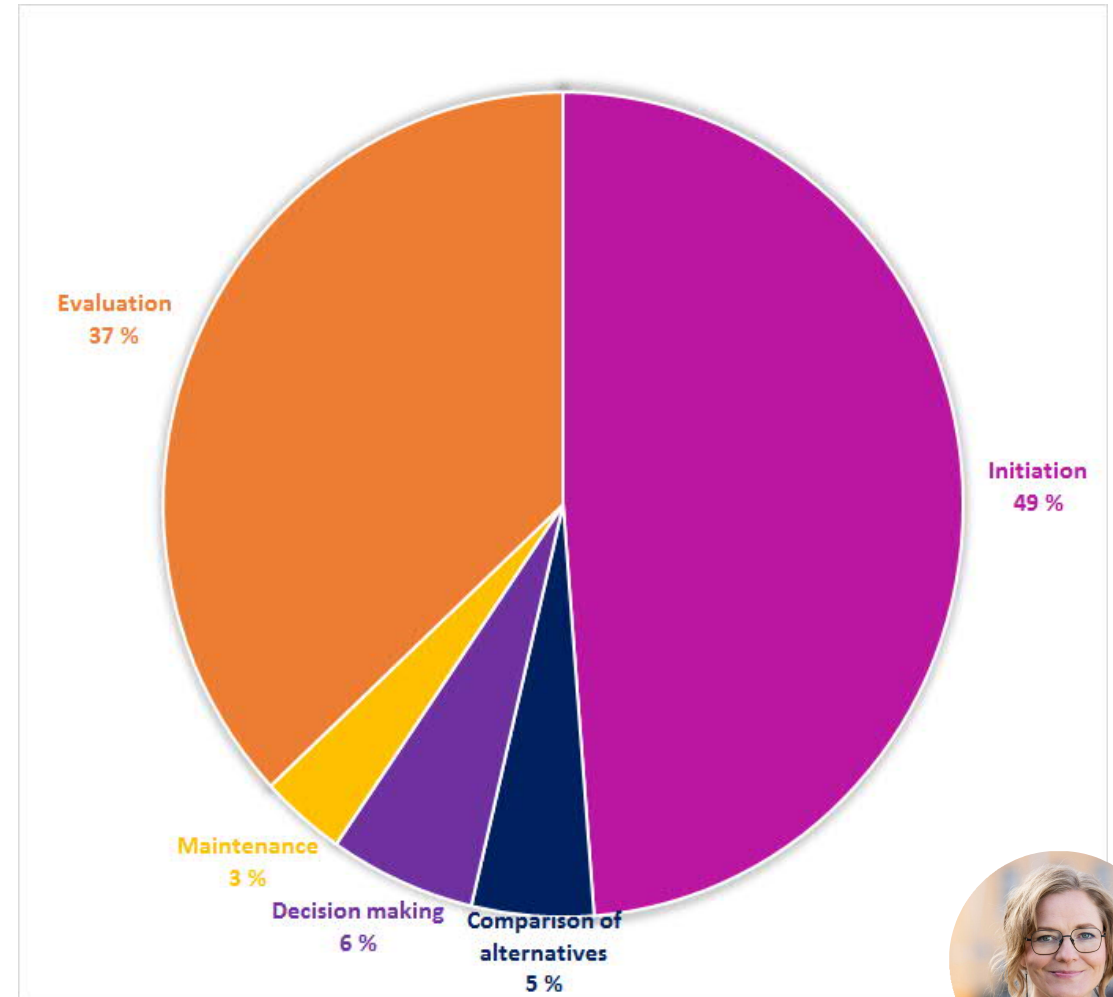
Kahila-Tani, M. (2016)



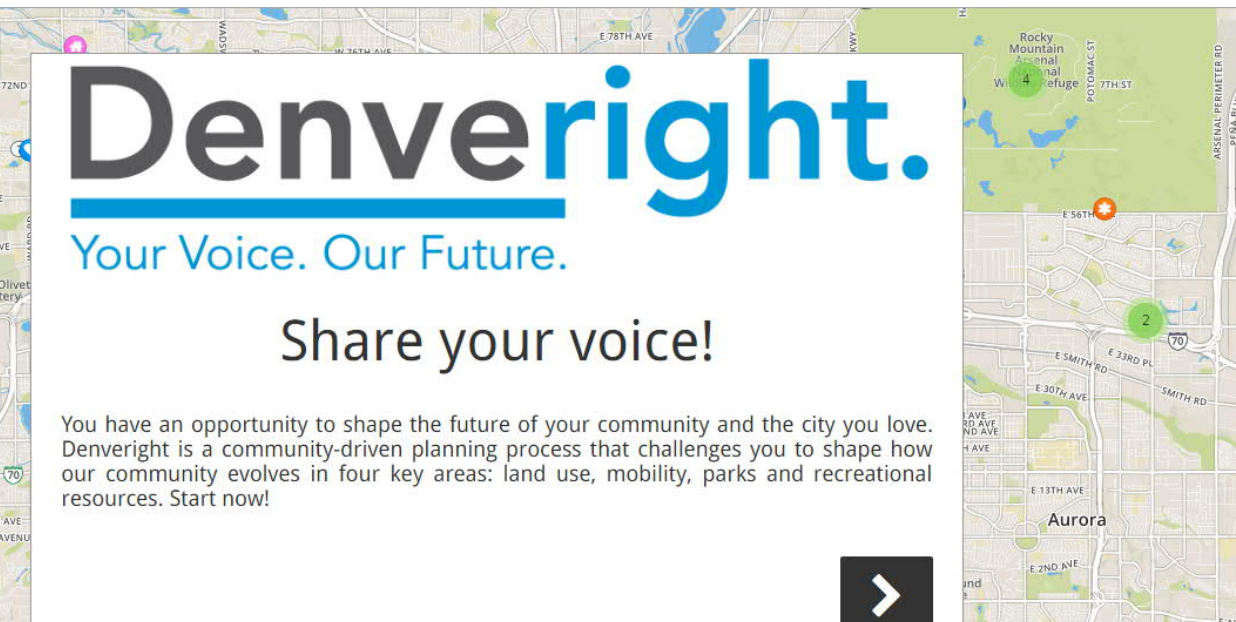
In which phases of the planning process?

Real life planning cases 2013-2017, n= 203

- Initiation
- Comparison of alternatives
- Decision making
- Maintenance
- Evaluation

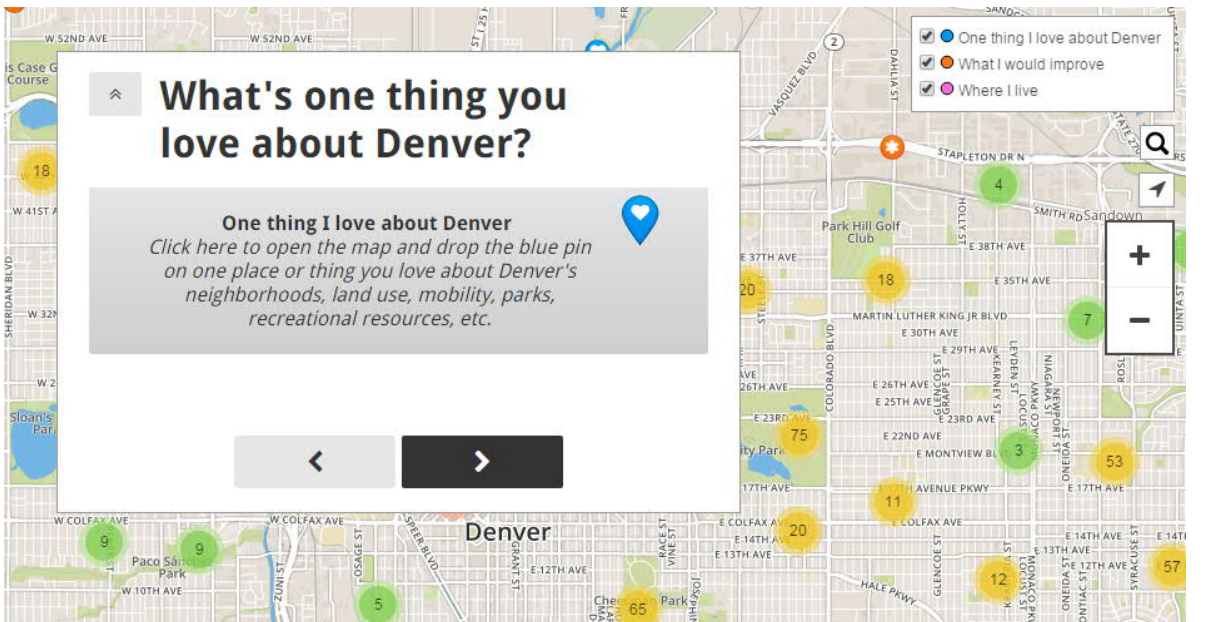


Discussing the best places -community strategy building



Denverright.
Your Voice. Our Future.
Share your voice!

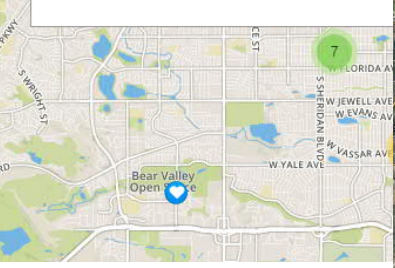
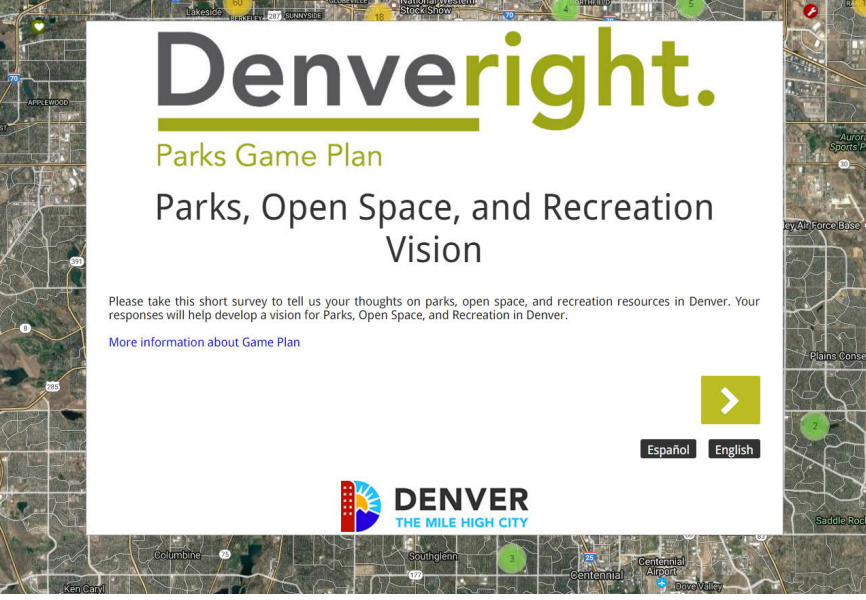
You have an opportunity to shape the future of your community and the city you love. Denverright is a community-driven planning process that challenges you to shape how our community evolves in four key areas: land use, mobility, parks and recreational resources. Start now!



What's one thing you love about Denver?

One thing I love about Denver
Click here to open the map and drop the blue pin on one place or thing you love about Denver's neighborhoods, land use, mobility, parks, recreational resources, etc.

- One thing I love about Denver
- What I would improve
- Where I live

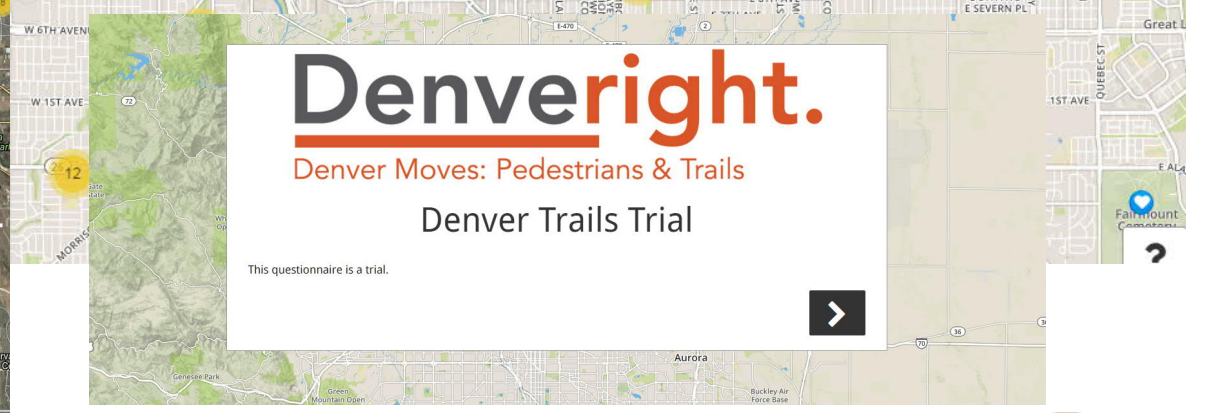
Denverright.
Parks Game Plan
Parks, Open Space, and Recreation Vision

Please take this short survey to tell us your thoughts on parks, open space, and recreation resources in Denver. Your responses will help develop a vision for Parks, Open Space, and Recreation in Denver.

[More information about Game Plan](#)

Spanish English

DENVER
THE MILE HIGH CITY



Denverright.
Denver Moves: Pedestrians & Trails
Denver Trails Trial

This questionnaire is a trial.



Participative transportation planning

Have your say
to improve
transportation

The purpose of this 15 minute survey is to gather feedback on the part of the road network we work on the map. The thick red lines show the NZ Transport Agency is keen to improve on SH1 and also the places and features that are important to you. Your response will help the NZ Transport Agency make improvements to this section of SH1 in the next few months. Two key points before you start the survey:

- you are free to withdraw from the survey at any time
- your answers will be stored securely and used for the purposes of this project

NZ TRANSPORT AGENCY
WAKA KOTAHĪ

3/13 Street Right-of-Way Allocation

Please assign points to potential elements you would like to see on the street right-of-way along Winchester Boulevard. There are a total of 100 points to divide between the various elements. Higher priority elements should receive more points than lower priorities. For example, if you think a protected bike lane is more important to you, then assign 20 points to each.



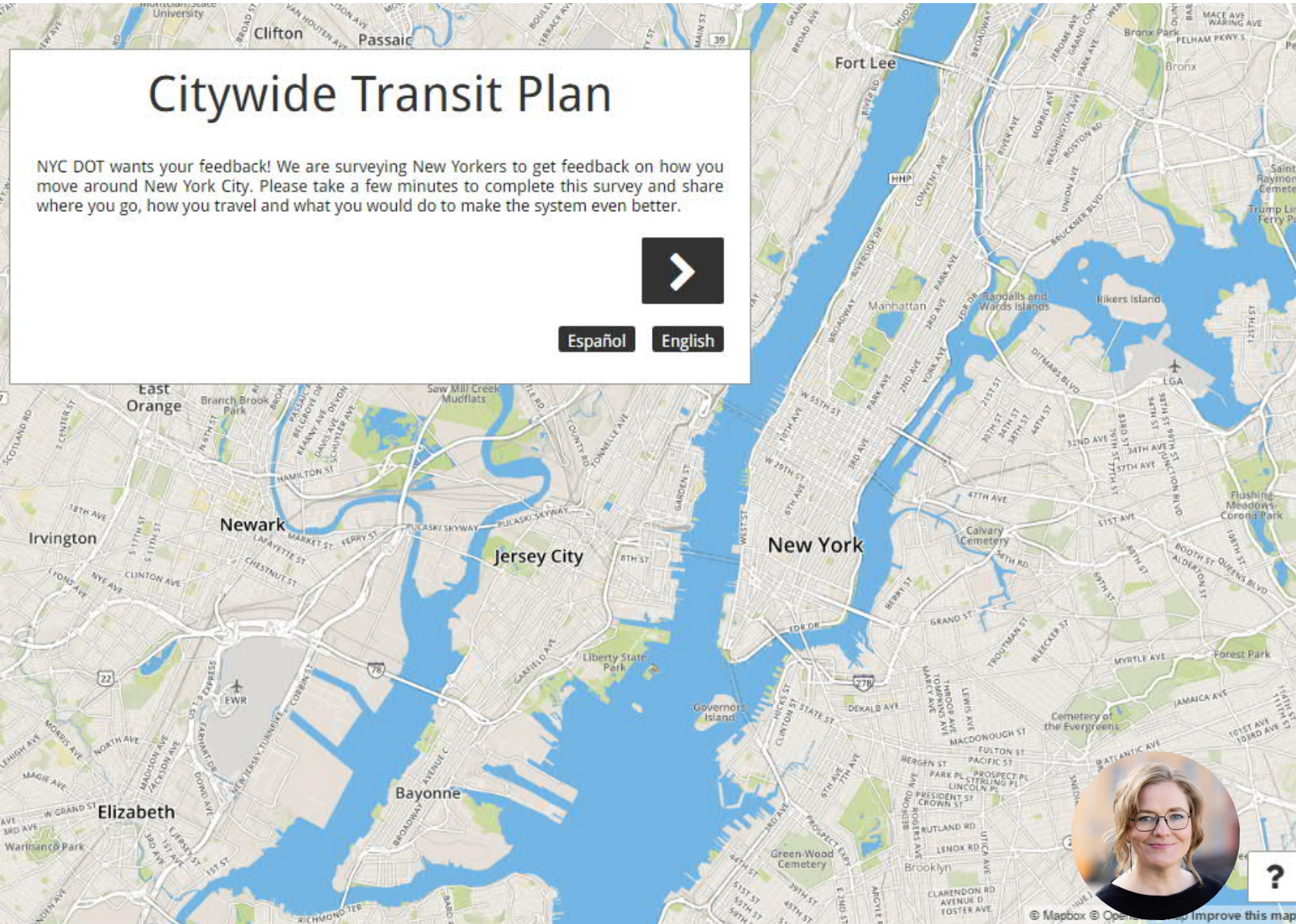
Street Element	0 / 100
Automobile traffic lane	<input type="text" value="0"/>
Parking lane	<input type="text" value="0"/>
Exclusive transit lane	<input type="text" value="0"/>
Protected bike lane/cycle track	<input type="text" value="0"/>
On-street bike lane	<input type="text" value="0"/>

Citywide Transit Plan

NYC DOT wants your feedback! We are surveying New Yorkers to get feedback on how you move around New York City. Please take a few minutes to complete this survey and share where you go, how you travel and what you would do to make the system even better.

➔

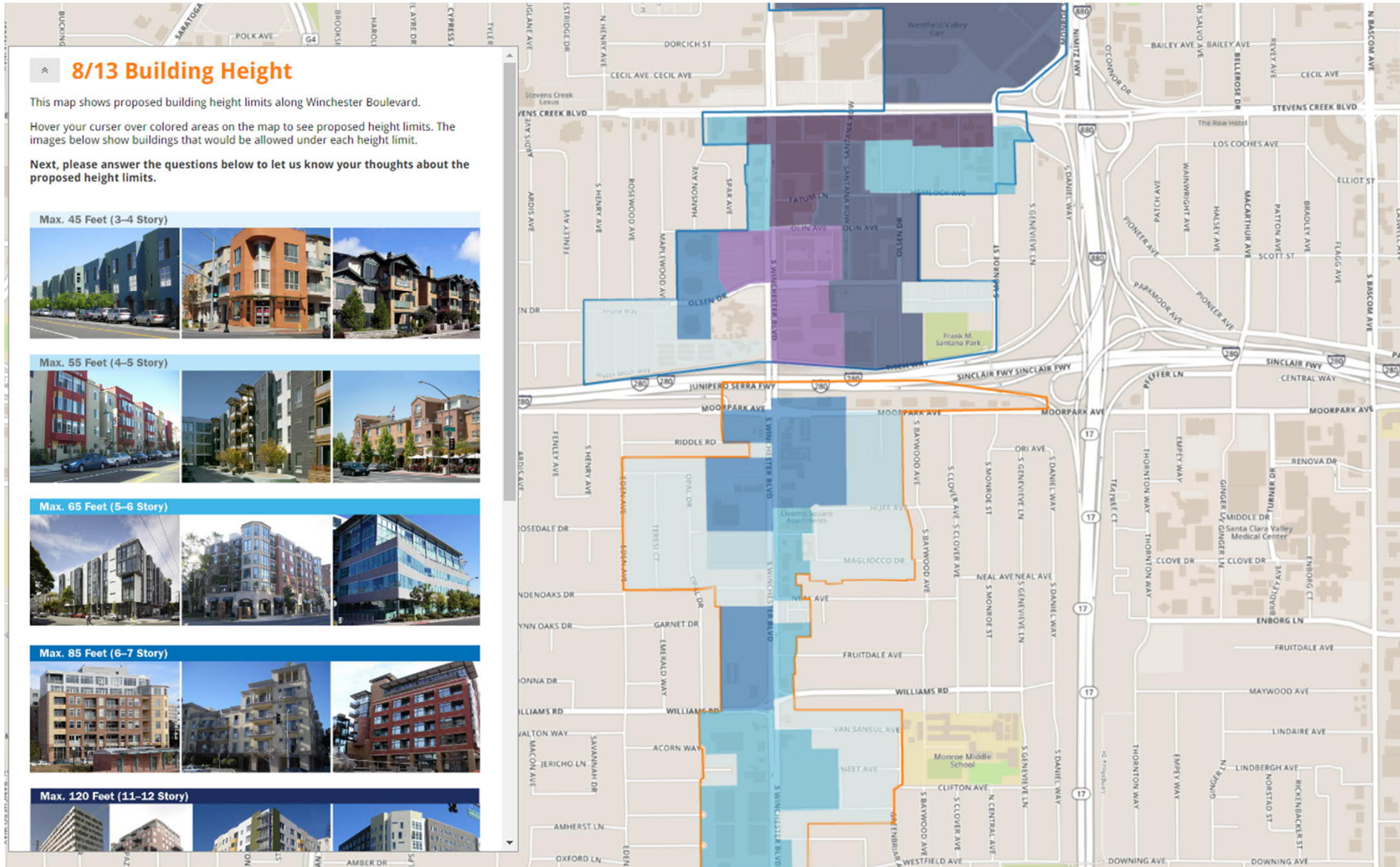
[Español](#) [English](#)



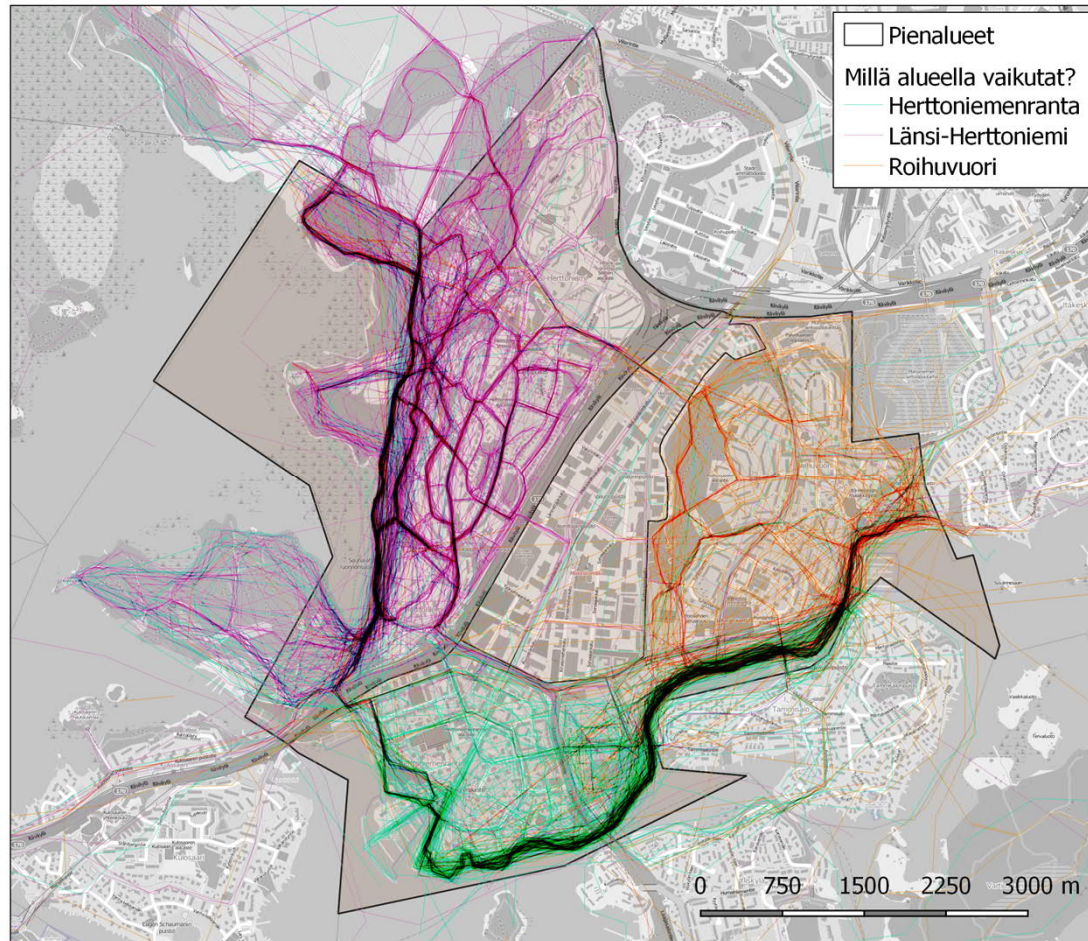
Map labels: Clifton, Passaic, Fort Lee, Manhattan, East Orange, Newark, Jersey City, Bayonne, Elizabeth, New York, Irvington, Fort Lee, Manhattan, East Orange, Newark, Jersey City, Bayonne, Elizabeth, New York, Irvington.



Visualising future structure on a map, San Jose



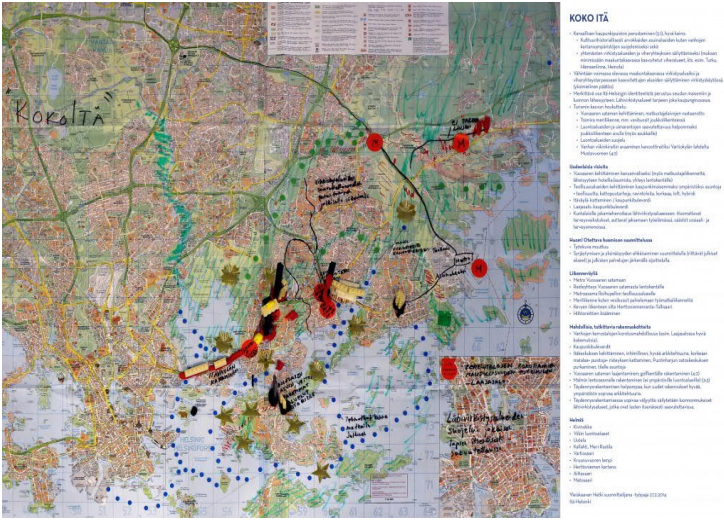
Generating shared neighborhood vision in Herttoniemi



Helsinki Master Plan: Further data processing in workshops



- 4 workshops in February 2015
- Over 100 participants
- PPGIS data available



More influential participation?

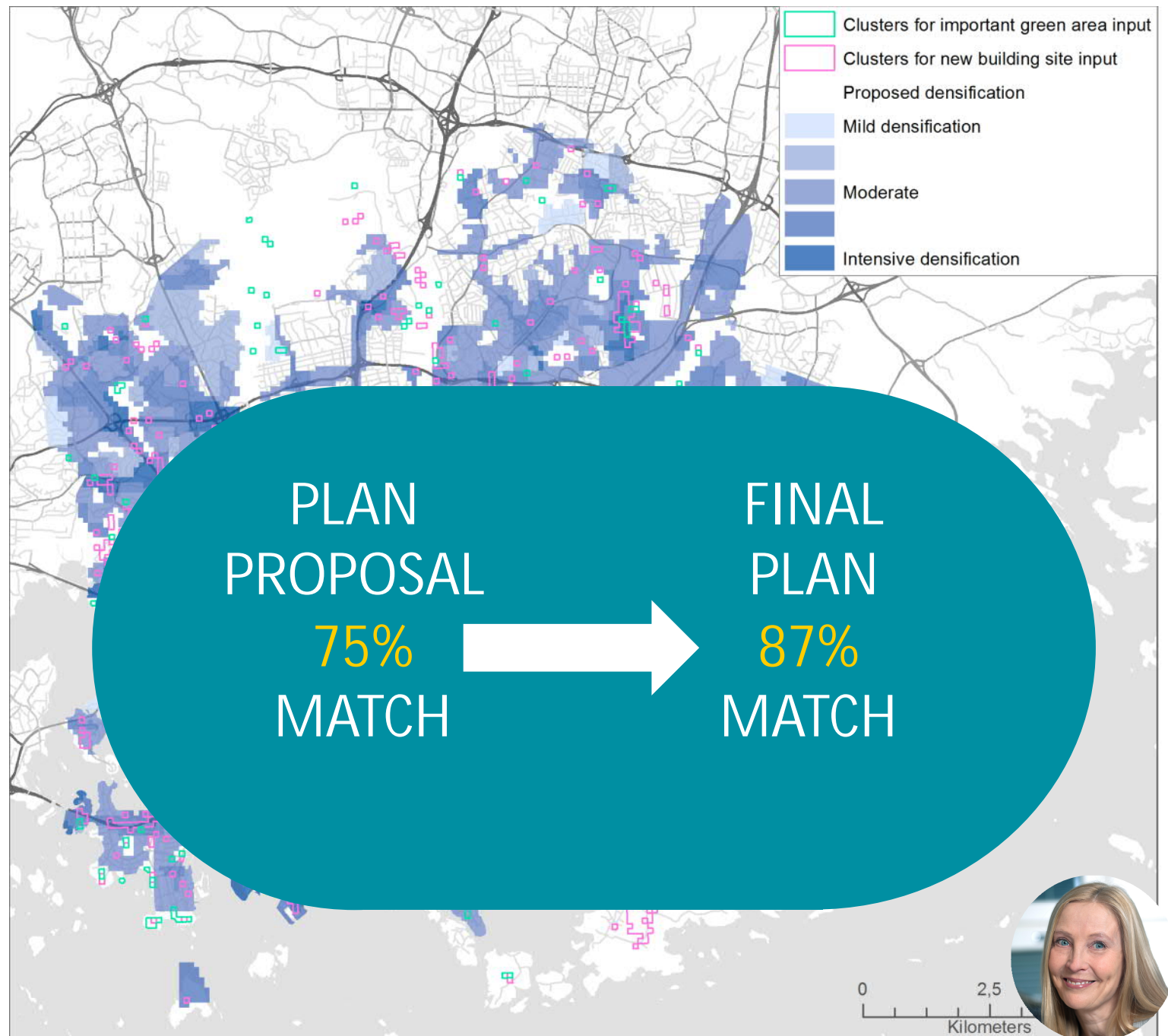
How residents' views align with the plan proposal and final plan?



More influential participation?

The comparison between participants' views and the Helsinki Master Plan proposal

Kahila, M. Broberg, A. Kyttä, M. & Tyger, T. (2016) Let the citizens map - Public participation GIS as a planning support system in Helsinki 2050 master planning process. *Planning practice and research*, 31, 2, p. 195-214.



Place-based data can be integrated to existing systems

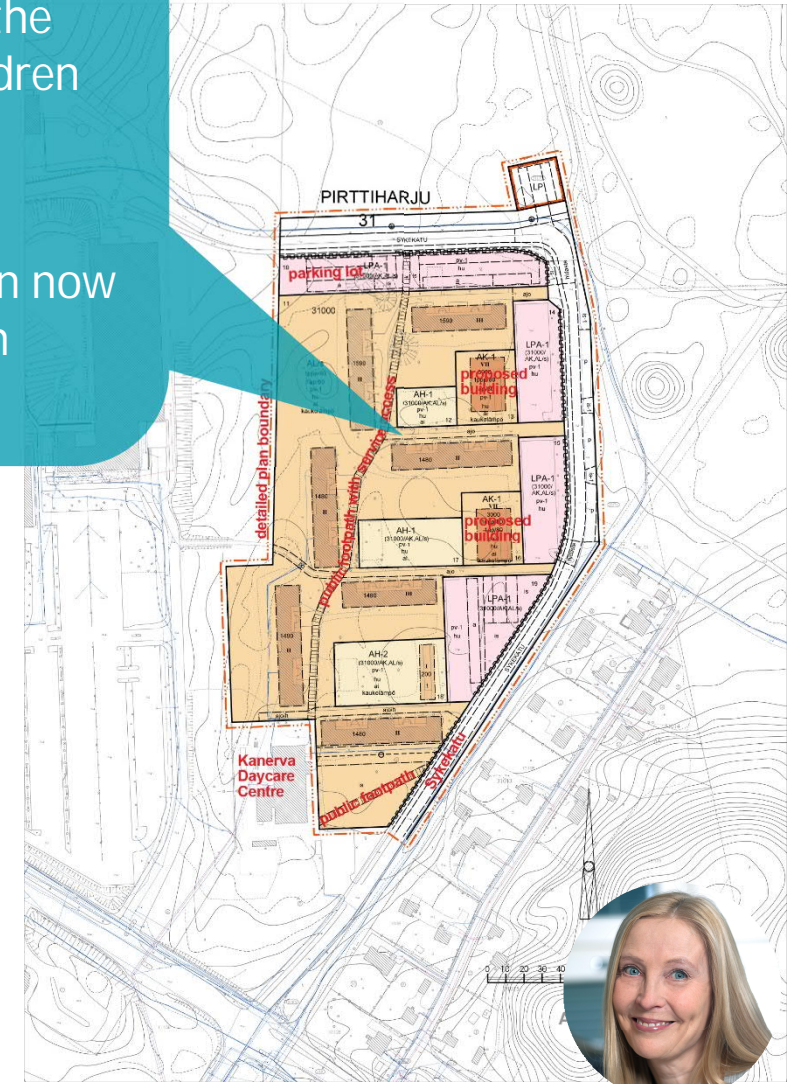
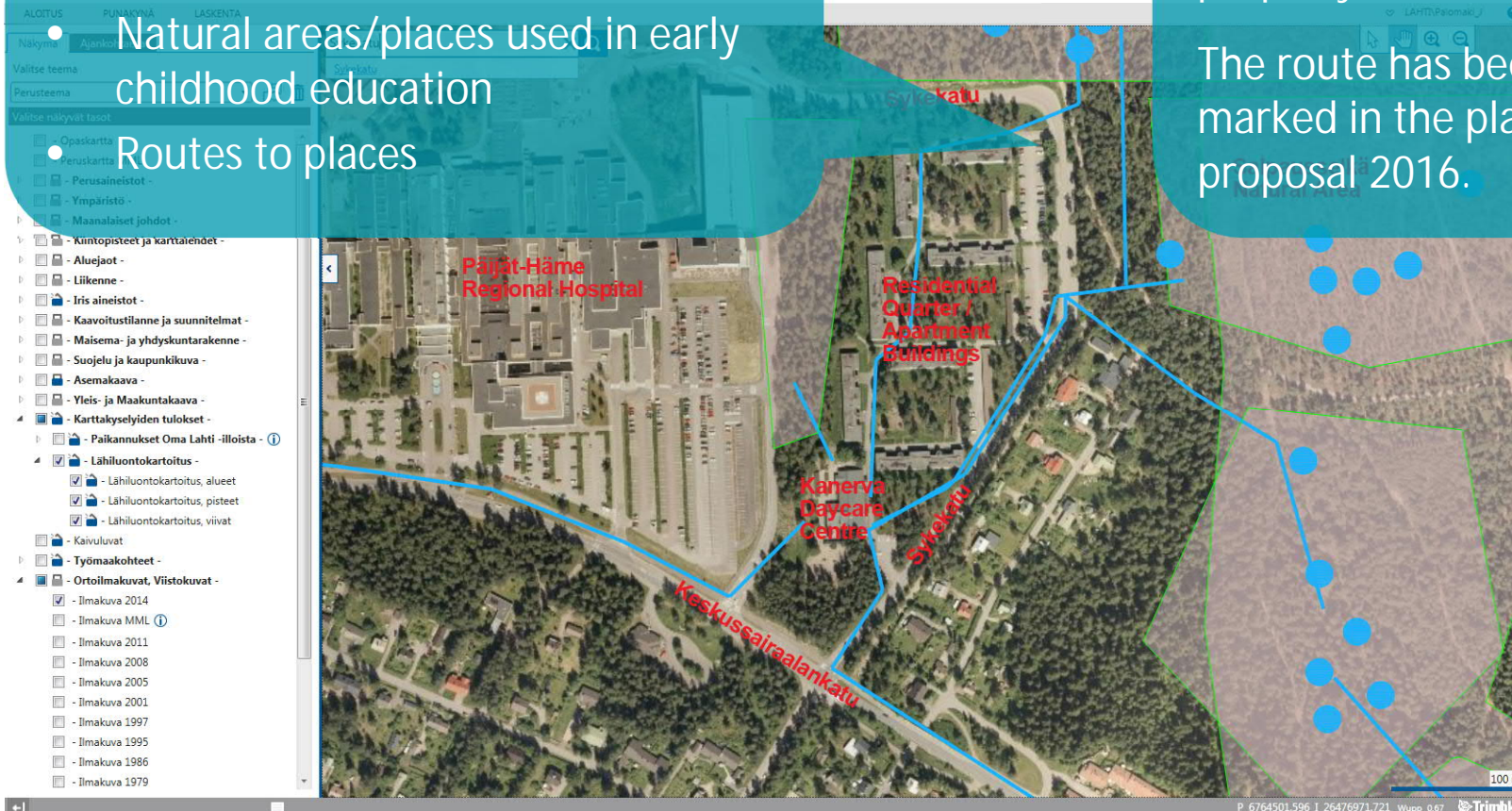
Case: City of Lahti, Finland

DATA in the GIS system of the city

- Knowledge from children from 59 day care centres
- Natural areas/places used in early childhood education
- Routes to places

The detailed plan did not acknowledge the route used by children through private property.

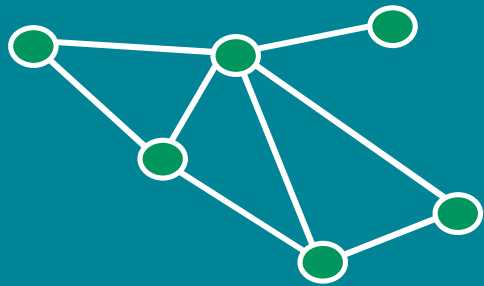
The route has been now marked in the plan proposal 2016.



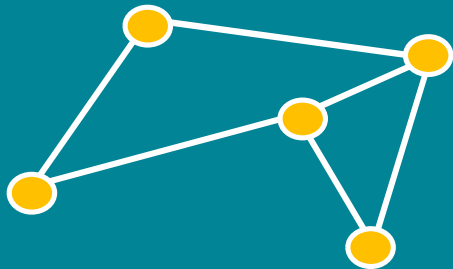
NOW: Development prioritization model

Case: City of Espoo

Everyday life network



Quality network



How often do you visit this place?

Seldom

Often

Negative

Development potential?

Development priority?

Positive

Maintenance priority?

Protection priority?

The personal meaning of the place



Development prioritization model

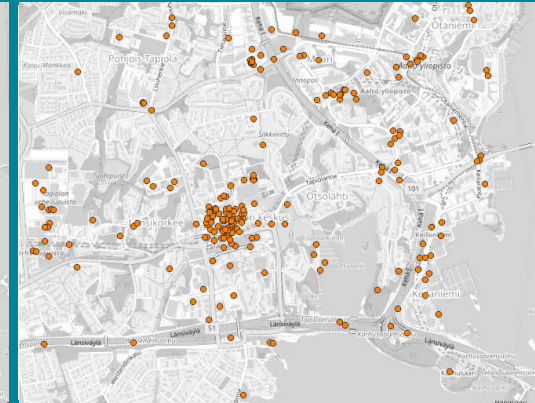
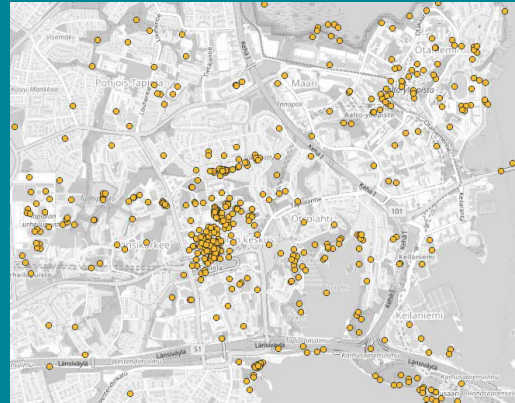
How often do you visit this place?

Seldom

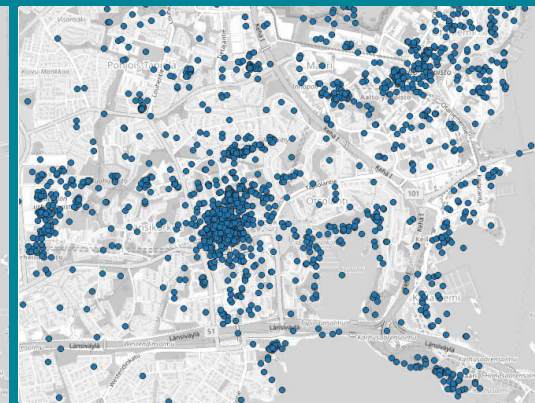
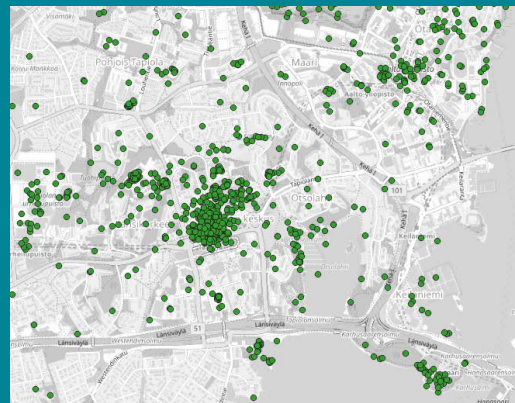
Often

The personal meaning of the place

Negative



Positive



Meaningful participation – avoid playing with the participants

*The biggest advantage so far has been the 'image' benefit of implementing this kind of survey. To be able to use the content of the survey we have to deepen the analysis."
(Case Helsinki: Planner)*

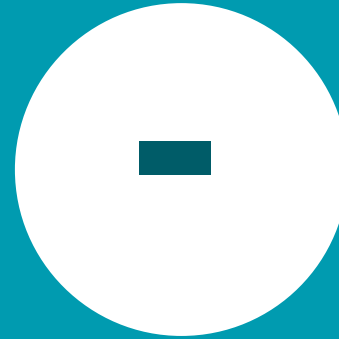
... PPGIS can be used as a therapeutic participatory device



PPGIS & the effective practises of public participation



- Easy to implement by planners, residents or other actors *
- Data collection in various geographic scales
- Usable in various phases of the process and in different planning situations
- Systematic data collection reduces unnecessary data collection
- Data can be used by various sectors



- Leads easily to the continuation of top-down participation
- Can take the form of non-meaningful participation
- Lack of economic resources, skills, interests etc., can prevent use of digital methods
- Digital methods alone are seldom sufficient*
- Does not solve all the challenges of public participation*
- Strategic level questions difficult to answer
face-to face discussions




A photograph of a wooden boardwalk path winding through a forest. The path is made of weathered wooden planks and leads into the distance, flanked by dense trees and undergrowth. The lighting is soft, suggesting a forest setting.

SURVEY AMONG FINNISH PLANNING OFFICIALS:

Map-based surveys are
established (31%)
& useful (38%)
tools in participatory
planning (Nummi, 2018)



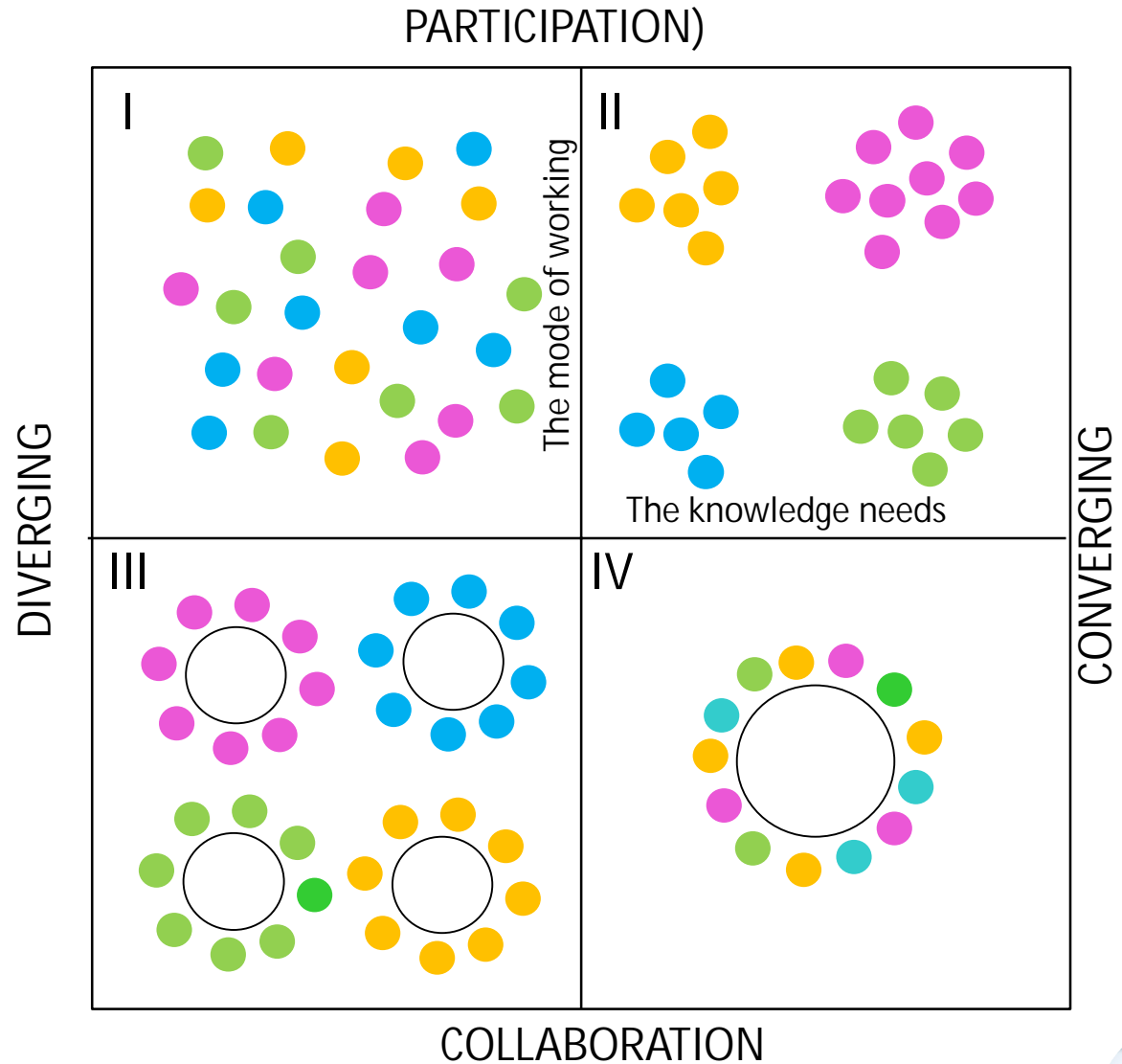
An aerial, high-angle photograph of a busy pedestrian street. The street is paved and filled with people walking in various directions. The people are dressed in casual, everyday clothing. In the center of the image, there is a semi-transparent white rectangular box containing text in a teal color. The text reads: "Technology is not the answer to problems of participatory planning – learning by doing and wanting to do good quality participation matters".

Technology is not the answer to problems of participatory planning – learning by doing and wanting to do good quality participation matters

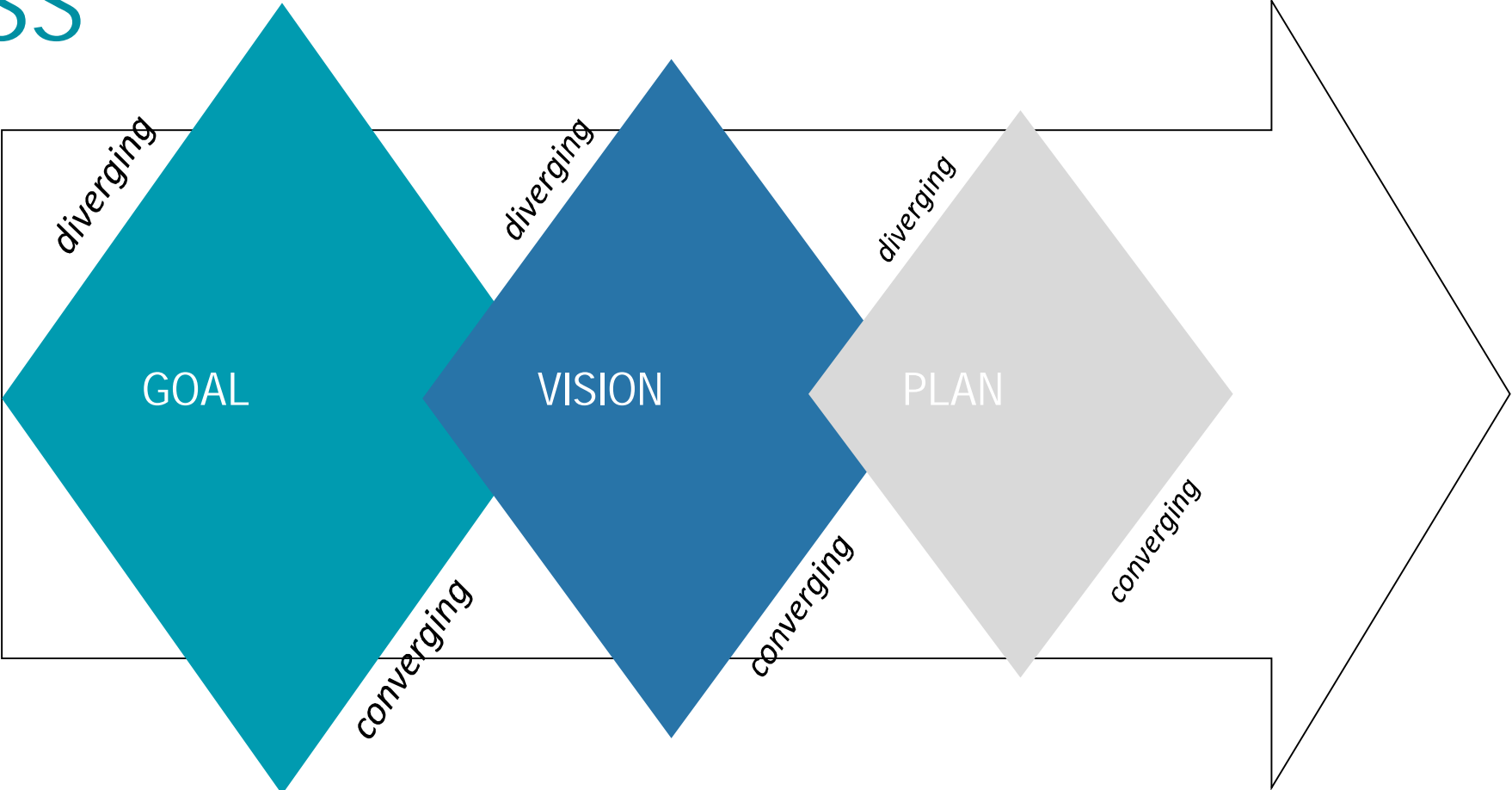


FOUR DIFFERENT TYPES OF COMMUNICATIVE ACTIONS IN URBAN PLANNING

Staffans, A. Kahila-Tani, M. & Kyttä, M. (2019) Participatory urban planning in the digital era. Hyväksytty julkaistavaksi teoksessa Geertman, S. & Stillwell, J. (eds.) Handbook of Planning Support Science. Springer International Publishing.



THE FLOW OF COMMUNICATIVE ACTIONS IN DIFFERENT PHASES OF PLANNING PROCESS



An aerial photograph of a city, likely Oslo, Norway, showing a dense urban landscape with colorful buildings and a prominent church spire in the distance. A large, semi-transparent white circle is overlaid on the left side of the image, containing the text 'TOWARDS MORE STRATEGIC PUBLIC PARTICIPATION?'.

TOWARDS MORE
STRATEGIC
PUBLIC
PARTICIPATION?



Thank you!

Maptionnaire:
<https://maptionnaire.com/>

SELECTED READINGS

Laatikainen, T. Piironen, R. Lehtinen, E. & Kyttä, M. (2017) PPGIS approach for defining multimodal travel thresholds: accessibility of popular recreation environments by the water. *Applied Geography*, Vol 79, 1, 93-102.

Hasanzadeh K. , Broberg A. , Kyttä M, (2017) Where is my neighborhood? A dynamic individual-based definition of Home zones, *Journal of Applied Geography*. Accepted to be published, 2017.

Gottwald, S. Laatikainen, T. Kyttä, M. (2016) Exploring the usability of PPGIS among older adults: challenges and opportunities. *International Journal of Geographical Information Science*, 1-18.

Kyttä, M. Broberg, A., Haybatollahi, M., and Schmidt-Thomé, K. (2016) Urban happiness – Context-sensitive study of the social sustainability of urban settings. *Environment and Planning B*, vol 47, 1-24.

Kahila, M. Broberg, A. Kyttä, M. & Tyger, T. (2016) Let the citizens map - Public participation GIS as a planning support system in Helsinki 2050 master planning process. *Planning practice and research*, 31, 2, p. 195-214.

Laatikainen, T. Tenkanen, H. Kyttä, M. & Toivonen, T. (2015) Comparing conventional and PPGIS approaches in measuring equality of access to urban aquatic environments. *Landscape and Urban Planning*, Vol 144, 22–33.

Brown, G. & Kyttä, M. (2014) Key issues and research priorities for public participation GIS (PPGIS): A synthesis based on empirical research. *Applied Geography* 46, 122-136.

Kyttä, M. Broberg, A. Tzoulas, T. & Snabb, K. (2013) Towards contextually sensitive urban densification: location-based softGIS knowledge revealing perceived residential environmental quality. *Landscape and Urban Planning*, Vol 113, May 2013 , 30-46.

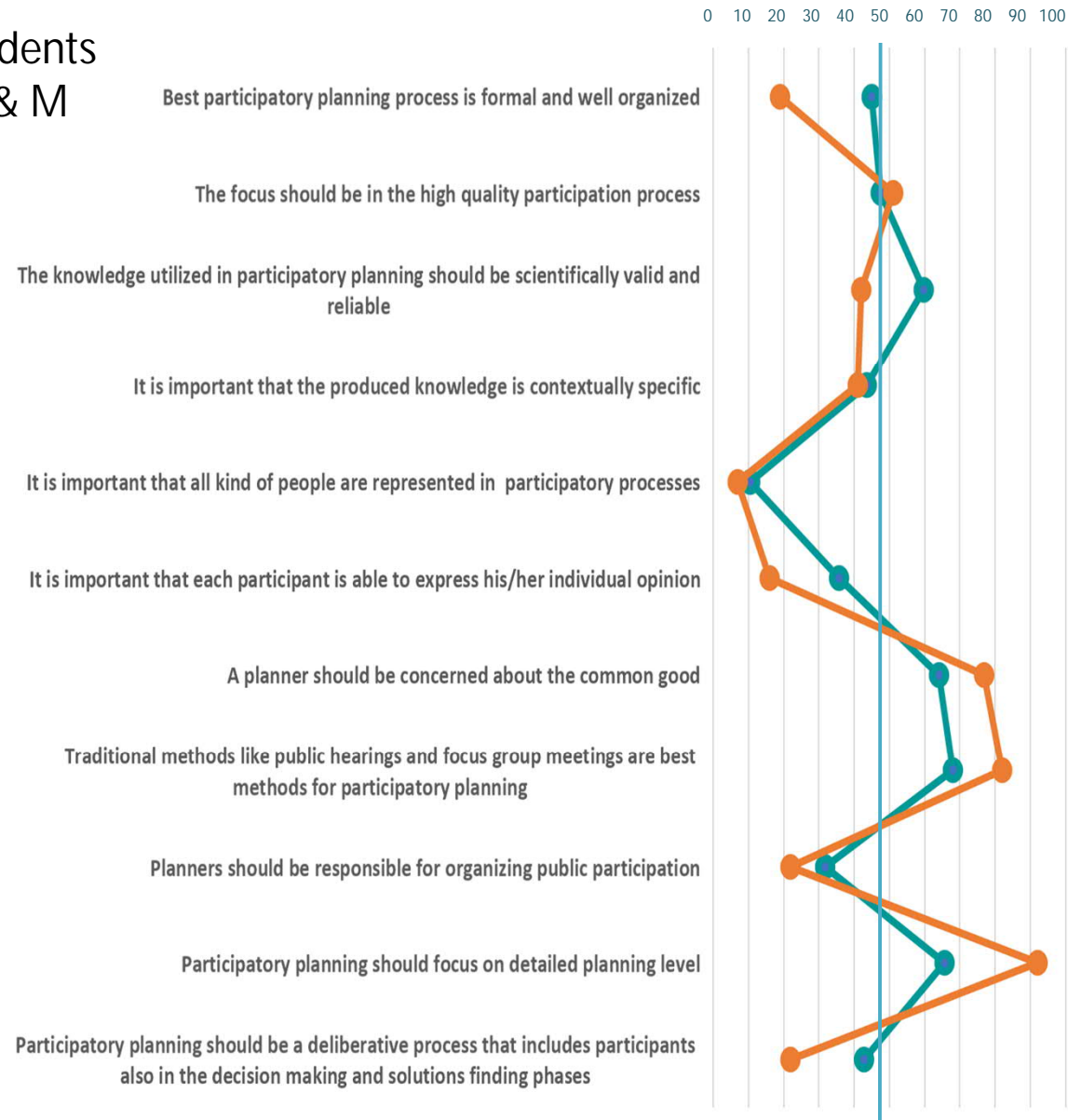
Broberg, A. Kyttä, M. & Fagerholm, N. (2013) Child-friendly Urban Structures: Bullerby Revisited. *Journal of Environmental Psychology*. Vol. 35, 110–120.

Opponents today

	Theme	Lecturer(s)	Opponents
4.3.2018	Does mapping improve public participation? Exploring the pros and cons of using PPGIS in urban planning practices	Maarit Kahila & Marketta Kyttä	Kaisa Piik, Frida Reinikka, Samuli Huusko, Iitu Kiminki

Teachers attitudes towards public participation vs those of the students

● = students
● = M & M



Best participatory planning process is informal and spontaneous

The focus should be in the high quality outcome

The knowledge utilized in participatory planning should be produced as a local knowledge building process

It is important that the knowledge is generalizable allowing comparison with other contexts

It is important that the local activists are well represented in participatory processes

It is important that people are able to express their collective viewpoints

A planner should try to understand the variety of needs of people

New technology methods like online tools and social media are best methods for participatory planning

Participants should be encouraged to self-organize participation

Participatory planning should focus on all levels of planning, also general and regional planning

Experts and politicians are the ones who can make the final decisions and find the solutions

	Theme	Lecturer(s)	Opponents
1.3.2021	Introduction	Marketta Kyttä	
4.3.2021	Does mapping improve public participation? Exploring the pros and cons of using PPGIS in urban planning practices	Maarit Kahila & Marketta Kyttä	Kaisa Piik, Frida Reinikka, Samuli Huusko, Iitu Kiminki
8.3.2021	Collaboration with residents' through decades	Aija Staffans	Juuli Koivumaa, Jonas Zaknoun, Joonas Jalava, Mirja Vallinoja, Nils Fahlenbock
11.3.2021	Building knowledge as a community for a brighter future	Johanna Palomäki	Ossi Jalonen, Venla Salomaa, Atte Kajander, Valtteri Nieminen, Phong Truong
15.3.2021	Argumentation and tacit knowledge in (participatory) planning	Kimmo Lapintie	Nelli Nokkonen, Pinja Pirinen, Katariina Kasvinen, Mari Niemelä, Canfang Feng
18.3.2021	Meet a planner with practical experience about public participation	Saana Rossi, Pilvi Nummi & Eveliina Harsia	
22.3.2021	Social Media & Participatory Planning People First. Urban indicators for a just and equitable transition	Pilvi Nummi Damiano Cerrone	Valtteri Nurminen, Tommi Toikkanen, Valtteri Lammassaari, Ella Paasilinna, Esa Taka-Eilola
25.3.2021	Maptionnaire onboarding PPP exercise	Kirsi Forss Marketta Kyttä	
29.3.2021	Conflicts and Collaboration in Planning	Lasse Peltonen	Petri Kangassalo, Mikael Rantanen, Jiaxin Tao, Thomas Mantell, Moona Tikka
1.4.2021	Participatory budgeting at the City of Helsinki	Mikko Rask	Emily Johnson, Victoria Haubenwaller, Samuli Strandberg, Laura Turpeinen
8.4.2021	Updating collaborative planning for self-organising cities Self-organized urban development and urban activism	Maija Faehnle & Sirkku Wallin	Nikolay Krupen, Eetu Saloranta, Ella Uotila, Juuso Virtanen, Anin Jossi
12. tai 15.4	Coursework presentations and discussion	Marketta Kyttä	