

Master's Programme in Urban Studies and Planning

Studio publication 3

Sub-Urban Futures: Re-imagining Malmi

Edited by Michail Galanakis & Anssi Joutsiniemi

2020

ISBN 978-951-51-6903-7 (paperback)

ISBN 978-951-51-6904-4 (PDF)

English language editor: Paul J. Cottier Under layout design: Natalia Vladykina

Photos on the cover: Rista Simo, 1970 and Alanco Jan, 1981

www.helsinkikuvia.fi, CC BY 4.0 license





# SUB-URBAN FUTURES

RE-IMAGINING MALMI

Editors
Michail Galanakis & Anssi Joutsiniemi

# TABLE OF CONTENT

4 —	Suburban	Seeds	Needs	and Deeds
-----	----------	-------	-------	-----------

Anssi Joutsiniemi, Michail Galanakis & Teemu Jama

# 10 — Chapter 1

Soft Factors and Participation as the Heart of Planning in City Attractiveness

Liisa Amperla, Emma Piela & Janita Jämsén

# 32 — Chapter 2

Wild malmi: Animals at the Planning Table

Allan Delesantro, Mira Eggersgluess & Laura Turpeinen

# 62 — Chapter 3

Malmi Green: Discussing the Quantity and Quality of Green

Kaie Kuldkepp, Emmi Turkki & Tong Sheng

# 86 — Chapter 4

Neighborhood Connectivity and Streetscape in Future Malmi

Alejandro Arce, Samuli Strandberg, Jiaxin Tao & Huixu Li

# 116 — Chapter 5

# Resilient Malmi City 2050

Anna-Lena Brede, Anna Hakala, Hanna Kuivalainen & Aliaksei Zanouski

# 146 — Chapter 6

# Malmi for People and Pollinators - Guiding Criteria

Daisy Charlesworth, Ekku Keurulainen, Jessica Nielsen & Mike Tomassen

# 180 — Chapter 7

# Connecting Malmi people

Jingyi Mao, Jure Pučnik, Erkko Kukkonen & Ilmari Talvitie

# Afterword

# 204 — The Neglected Urban Land Question and Its Auspicious Comeback

Jani Vuolteenaho

# 208 — The Poverty of Economicism

Kimmo Lapintie

# SUBURBAN SEEDS, NEEDS AND DEEDS

# Anssi Joutsiniemi, Michail Galanakis & Teemu Jama

The public discussion in the past decade has centred around promoting urban life. More recently, we are encountering a new tone of discussion that suggests we put all our trust into visions of a sustainable life in densely-built urban environments. Despite an increase in public debate over the desire for classic urban features, at least in the Helsinki Metropolitan Region we are by-and-large on the very same track paved in the 1960's development and green field planning (see image below). It is no less ambiguous that while it may appear that municipalities are densifying, this holds true only in the very large scale; the actual development we see is based on scattered and accidental development, wherever suitable land parcels are available.

If we look at the community-structure formed by Helsinki, Espoo, Vantaa and Kauniainen, without the historic city centre, we may see that there are no differences in the way administrative municipalities are built as they reflect the same prevailing national suburban culture. The area of the historic centre, which is invisible in the lower map in figure 1., is home to 15% of the population of the Helsinki Metropolitan Area. In relation to the construction and development practices of the present city, the core city is more of a statistical distortion than a representative example of Finnish city making.

Planners, politicians, developers and consultants use the term "urban" profusely, perhaps more nowadays than ever before. Still, the outcomes we see are very different from the classic perceptions most of us have of "Urbanity". If we take the architect's perspective, we may find micro-scale replicas of the "True Urban" in the newly-built parts of the edge city. If we alternatively take the planner's perspective, we may find plots of land with building rights that are equal to plots in the historic city centre. If we take the urbanist's perspective, we may surely find more signs of "classic" urbanity, such as skateboarding and graffiti, the farther we go from the centre. Finally, if we take the resident's perspective, we may see a history of small-scale, short-term, rapid, private and public implementations. We may find it extremely hard to recognise any typical "-scapes", like landscape, streetscape or cityscape. Worst of all, there seems to be little chance for escape either. This "implement-scape" is no more urban than suburban. It is a hybrid that, while interesting to study, is also demanding to live in.

From early on, Finnish suburbs, like in other parts of the world, received a very unfavourable head start. The prefix *sub* attaches suburb to the family of words that do not hint at any bright future. Consider the following group of words, none of which are very encouraging: *suburban*, *submission*, *subside*, *subduce*, *substitute*, *subtopia*, *subhuman*, *subdue*, *submerge*, *subjection*, *subsidize*, *subrogate*, *subversion*, *subterfuge*, *subdeb*, *subserve*, *subsit*, *subordinate*, *subvention*, etc. The Finnish term used, *esikaupunki*, is not much better. It suggests areas that are not developed to their full potential, and are somehow in a stage of becoming (Joutsiniemi, 2006: 220). The common rhetoric and institutional structures seem to hide not only the seeds, but also the needs and deeds for meaningful urban development.

As educators, we attest that, indeed, the best part of working in academia – especially with students – is the possibility to get rid of the burdensome institutional baggage in ways that no planning stakeholders can do. In this process of imagining and re-imagining, the his-

tory of current suburbs have not always been suburban; it may have been favourable, or unfavourable sometimes, but not suburban. Before the great annexation of 1946, the present suburban fringe was administratively divided differently. The neighbourhoods of *Haaga*, *Huopalahti*, and *Kulosaari* had limited independence in the form of a *borough* (fin. *kauppala*; swe. *köping*). The rest of the region was part of the wide Helsinki rural municipality from the medieval parish of Helsinge. Maybe surprising to us nowadays, but Malmi was the administrative centre of that county. So, it is quite understandable to ask: what has happened in the recent past?

Our Urban Challenge Studio 1 is, chronologically speaking, the first signature course that students take when commencing their studies in the Master Programme in Urban Studies and Planning (USP). We started the course by taking students on a bicycle excursion in Malmi. They experienced the field they were to explore, while nudging them to perceive the "sub-urban" and "urban" conditions and their physical attributes. Social attributes were interlinked of course; however, our method was to lead students in a sensory engagement of spatial qualities without judgment. Starting our course with an excursion - a far cry from what we could plan for our incoming students this fall amidst the pandemic - and, with the help of Pia Fricker's exercises inspired by Strollology, we had exactly that intention - to encourage our students to shake off preconceptions and immerse in the experience of place. Through weekly assignments and constant iterations, we unpacked overloaded concepts such as density and diversity, that are used widely in urban planning, but also more alien-to-planning concepts, such as objectivity vs. subjectivity, reality vs. imagination, and true vs. fake. Our method aimed at encouraging students to distance their projects from the existing, pervasive institutional settings, and to focus on local potentialities they themselves identified. We did not hold back in alerting students to how could Malmi had been possibly imagined differently from the suburbia it has been developed into. Below we present a snippet from one of the course assignments; this one, entitled Possible Futures of Malmi, included a "fake" coat of arms for Malmi.

<sup>1</sup> esikaupunki, esikoulu, esiliina, esinahka, esiselvitys, esimies, esilaulaja, esiteini, esivalta, esitys, esinäytös, esileikki, esirukous, esimaku, esineistö, esipesu, esitutkinta, esihistoria, esimerkki, esivanhemmat, esirippu, esilääkitys, esipuhe, esitäytetty...



Figure 1. Suburban zone of the Helsinki Metropolitan Area without the historical core. The top image shows the building footprint and the one below the farthest extensions of the urban boundary (2000-2015). The mapped area is 50 \* 30 km. The study area of student exercises in Malmi is outlined in the upper map (Source: Vaattovaara et al. 2020).

Image of the Finnish blazon of Malmi arms: "Hopeakentässäsininen polviorsi, jossa kolme hirsttäistä hopeista, siivekästänuolta, joiden kärjet ja sulat kultaa."

The proposal for a coat of arms constitutes supportive evidence that the documents date back to the later part of the 1950s. The creator of this coat of arms is unknown, but the style and composition carry a recognizable similarity to the works of Ahti Hammar and Gustaf von Numers.

The winged arrows hint at the optimistic future prospects of the local development for the entire municipality, and specifically the importance of Malmi airport. It seems that there existed a clear vision of local independence, and of steering away from the unclear administrative roles, land speculation, the deprived "suburban" social conditions, and the developments of the early 20th century (Harvia 1936).

In this volume you may find the thoughtful contributions of two esteemed USP teachers: Aalto University's professor of urban planning Kimmo Lapintie, and Helsinki University's lecturer on social policy Jani Vuoltenaho. We wish to thank them for sharing their valuable and poignant insights on urban development. Admittedly, however, the focus of this publication is our students' output after approximately four months of study in Stu-

dio 1. Our students developed projects that surpassed our initial intentions and expectations, as is most often the case. We write here with awe while introducing to you, the reader, the projects of the students of USP from the academic year 2019-20. We have been calling them USPeers and we hope they feel as proud of themselves as we are of them. Some managed to escape the trappings of institutional planning, some selected to play within the established rules; however, each one of these projects have something new to voice. Take a chance and listen.

### **REFERENCES**

Harvia, Yrjö (1936). Helsingin esikaupunkiliitos. Erikoisselvitys Malmi-Tapanilan liitosalueesta. (Mietintö n:o 8). Helsinki. https://www.hel.fi/static/tieke/digitoidut\_asiakirjat/helsingin\_esikaupunkiliitos/erikoisselvitykset.html

Joutsiniemi, Anssi (2006). Ei-kenenkään Helsinki. Tampere University of Technology.

Vaattovaara, Mari; Joutsiniemi, Anssi; Airaksinen, Jenni; Wilenius; Markku (2020). Kaupungit politiikassa? Kolme teesiä ja seitsemän askelta tulevaisuuteen. Ministry of Economic affairs and Employment. Discussion paper. 3.9.2020. https://tem.fi/documents/1410877/0/Sparrauspaperi\_Final\_03092020+%281%29.pdf/bd6d840a-a965-2046-5e59-6273a3ba3006/Sparrauspaperi\_Final\_03092020+%281%29.pdf?t=1599127694053



Urban Studies and Planning 2020 Urban Studies and Planning 2020 Urban Studies and Planning 2020 Urban Studies and

CHAPTER

Planning 2020 Urban Studies and Planning 2020



Urban Studies and Planning 2020 Urban Studies and Planning 2020

# SOFT FACTORS AND PARTICIPATION AS THE HEART OF PLANNING IN CITY ATTRACTIVENESS

Our goal is to improve the image of Malmi through soft factors, which increase the city's attractiveness. We concentrate on safety, cultural planning, and citizen activism.

Liisa Amperla, Emma Piela & Janita Jämsén





# SOFT FACTORS AND PARTICIPATION AS THE HEART OF PLANNING IN CITY ATTRACTIVENESS

Currently, Malmi is going through an extensive transformation, from a neighbourhood with a challenging reputation to one of the new urban centres of Helsinki. What are the key factors that enable this change to happen? How to improve the negative reputation of the place? In urban planning, building spaces and focusing on hard factors, such as, infrastructure for example, may not be enough. Thus, people, especially those who have an attachment to a certain place, should be 'at the heart' of the planning process. In order to consider citizens' dreams and needs, it is necessary to develop a dialogue between them and different stakeholders. To achieve this, we must pay attention to inclusion within the city and how to strengthen this inclusion via participation.

In this work, we concentrate on how to improve the negative reputation of Malmi through a participatory approach where citizens are 'at the heart' of planning. As our starting point, we were interested in the needs of the people. In order to study the subject, we chose to look at a survey conducted by Helsinki city in 2018. As a result

of looking at the survey answers we underline two factors that inhabitants wished to be improved in Malmi: safety and attractiveness. This was a starting point in finding out the needs of locals in the Malmi area, drawing on 1155 resident and visitor answers within the survey. As can be seen in Picture 1., some of the key factors that respondents wished to develop were related to improving attractiveness (Urban environment division, 2019). Developing attractiveness is connected to the residents' wishes for safety, tidiness, verdant areas and general pleasantness. These wishes concerned the centre of Malmi especially, which struggles with its outdated image. However, we acknowledge that the survey may not be a sufficient tool in representing the needs of the people of Malmi. Therefore, we took an additional interest in the needs of the local third and the fourth sector, and their perception of Malmi's challenges.

Both of the acknowledged needs - safety and attractiveness - belong to the group of soft factors. Soft factors normally refer to human issues in urban design, such as people, culture, politics, economics, and society (IGI Global, n.d.). Soft factors in city attractiveness refer to such features as the identity and history of a place, atmosphere and safety, tourist and nature attractions, events

# turvallinen vehreä siisti

and cultural attractions. These features are appreciated by people who then want to remain in a place (Aro, 2016). This, in other words, refers to the retaining power of a place.

According to Charles Landry (2008), a successful city understands how to combine the dynamics of hard and soft factors. Cities with a strong identity will succeed during economically challenging times by keeping their inhabitants in the area (Koste, Neuvonen and Schmidt-Thomé, 2019). Moreover, cities will be expected to offer more pleasantness, memorableness and possibilities to participate in creating the city. Inclusion enables citizens to act in the city and to participate in activities or planning. Thus, creating places for citizens should be a collaborative process which involves different stakeholders and perspectives. Safety is an important aspect of placemaking and the creation of attractive and comfortable places (Project for Public Spaces, n.d.). In addition, safety has a significant role in image creation (Koskela, 2009), location selection (Kortteinen et al., 2005), and housing prices (Ceccatto and Wilhelmsson, 2012).

Our work aims to find ways to contribute to the means by which safety and attractiveness can be developed with the possibility of new found interests attached to the third and fourth sector. We have divided the work into two parts - improving safety and attractiveness through citizen activism - which are based on the recognition of needs. Both parts seek improvements while highlighting the role of participation. Particularly, we are interested in finding answers to the following questions: How to create safer and more attractive public spaces? How to acknowledge the needs of the local community and what kind of role can participation play in these? What type of participation tools can be used to give voice to different stakeholders, and moreover, to citizens to improve safety and attractiveness?

# CITIZENS AS A PART OF URBAN PLANNING

Public spaces are a democratic right for all residents and they are an important element for a good urban environment (Perrault et al., 2020). Thus, all citizens should be equally involved and given opportunities to take part in urban planning. In 1969, Sherry Arnstein published her "Ladder of Citizen Participation". Arnstein divides citizen participation into eight levels wherein the top levels are about citizen power, the middle is about tokenism, and the lowest levels include non-participation. Citizen Power stands for residents who are in control or are strongly integrated as a part of planning processes in different ways and at different phases of the project. The intermediate part of the ladder includes levels which are called tokenism, which signifies the situation when stakeholders and citizens are used in making the participation process look more inclusive, and when citizens cannot know if their opinions will be heard at the end. At the bottom of the ladder is nonparticipation, wherein people are misled into thinking they are part of participation processes, even though they are not (Arnstein, 1969).

Inclusion and activism have been on the rise in Helsinki and has been recognized by the city. The city of Helsinki informs on its own website Participate and Influence (participation and citizen information unit, 2020) that one of its goals is to build a better city together with its residents and to hear as many different voices as possible. To achieve this goal it has launched the Participation and Interaction Model which is introduced on the same website. The entire municipal organisation has been engaged in participation principles, which are written in the city's administrative rules. The idea of the model is to promote the appreciation of residents' know-how in Helsinki. For example, as a part of the model, the city is opening up venues for all via the Varaamo online booking-platform. Moreover, it includes boosting regional collaboration with participatory budgeting and borough liaisons. Participatory budgeting is aimed at citizens of Helsinki having the opportunity to present ideas on how their own neighbourhood could be developed. Borough liaisons are municipality workers who facilitate dialogue

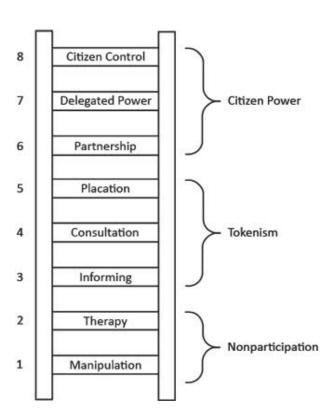
between residents and the city, and help neighbourhoods with the ideation of participatory budgeting. Their task is to promote citizen participation for improvements in their neighbourhoods. Every major district in Helsinki has its own borough liaison (Rissanen, 2019a; participation and citizen information unit, 2020).

### **METHODOLOGY**

As noted, participation is well thought through in the City of Helsinki. Our idea was to use participation-centred approaches other than what the city of Helsinki is applying. Particularly, we consider the soft factors wished to be developed in the area. Thus, the reason to seek such approaches is to find alternative tools for the challenges of our focus area of Malmi. Overall, this study used different data collection methods, such as, interviews and observative walks. We were inspired by two different methods – design thinking and cultural planning. Design thinking was used as a base for investigating safety through a design-based safety investigation of the Malmi station. The cultural planning approach, on the other hand, was used for examining the activist view of Malmi.

# DESIGN THINKING, CPTED AND A WALK

Design thinking provides an integrated approach not limited to rationality and being analytical, but which recognizes the ability to be intuitive, recognize patterns, construct ideas with emotional and functional meanings, and use different ways of expression (Miller, 2017). Through these notions, design thinking evolves as a kind of mindset of alternative creative solutions, in which the ideating and testing nature of the process is important. We want to highlight the design thinking approach in light of participation and such terms as co-designing and co-production, which are used in the field to describe the cooperation and participation of different parties in different designing processes. For example, Bovaird and Loeffler (2012, p.3) define community co-production of public services as "[t]he public sector and citizens making better use of each other's assets and resources to achieve better



Picture 2. The levels of Arnstein's "Ladder of Citizen Participation" (Arnstein, 1969).

outcomes or improved efficiency". With this co-production and co-designing mindset, we advocate citizens' participation in the design process of their local environments in order to achieve more optimal outcomes.

One way of improving the safety of an area is through crime prevention through environmental design (CPT-ED), which has been used in many safety led projects and has proven to have some good results; although the means of the CPTED have not always been effective and have been criticized (Cozens & Love, 2015). For example, Cozens & Love point out that it has been frequently observed that negative socio-economic and demographic conditions can reduce the efficacy of CPTEDs. Additionally, the connections between design and crime is a highly debated and complex topic, which cannot be oversimplified (Taylor, 2002).

We consider CPTED as a design thinking approach similar to VPUU (Violence Prevention through Urban Upgrading) introduced by Maze (2020) in the context of designing for governance. As a South African governance project, VPUU is not limited to the built environment, but also considers 'social crime prevention' and acts as a key interface between the state and people, thus providing a positive example of participation and co-creation, also for the CPTED method. CPTED has been commonly divided into components as seen in *Table 1*.

In order to analyze these factors in the Malmi station, we started by taking one observational walk in the station area. This way we formed some initial impressions of the design of the station in terms of safety. We acknowledge the limits of our subjective experience as observers since a needed participatory method was not implemented in our limited scope. We took the walk mid-week, at around 6 pm on a dark November evening in 2019. At this time, the station bridge was moderately busy. Investigating the premises during different times of day, for example, during weekends or late at night, would have different implications on the analysis, since the amount and type of people change depending on the time of day.

# CULTURAL PLANNING, ACTIVISTS VIEW OF USES OF A PLACE WITH INTERVIEWS

Cultural planning is an operational model of urban development with an emphasis on interaction. Hence, it is a way of practising inclusion in local planning (Hovi-Assad, 2019). In cultural planning, culture is understood as a wider concept than mere aesthetics. The local cultural practices of local communities and the local perceptions of place are essential to this understanding. This definition includes the meanings of the natural environment for locals (Bianchini, 2013). Cultural planning is a placebased approach where the idea is to use local knowledge as an asset in the planning process (Bianchini, 2013; Baeker, 2018). Moreover, a definite advantage of using cultural planning approaches is that it concentrates in a territorial remit. This territoriality is at the core of the research of the Malmi planning assignment. The idea, according to Bianchini (2013), is that cultural planning is able to cut through the divide of public, private, and voluntary sectors, as well as the divide between the concerns of different institutions and disciplines. It is intended as a method for revealing the hidden cultural assets of a place. This is often the case of third and fourth sector local knowledge. Hence, Bianchini (2013) recognizes people's creativity and their ideas as a resource for urban and regional strategies.

As cultural planning endeavours to answer the problem of the non-evident use and meanings of places it offers tools to include these aspects that often are not considered in the planning process. Consequently, hearing how citizens regard their experience of the environment offers an insight into this otherwise elusive content and can bring forward possibilities for co-creation among the stakeholders. Cultural planning methods lay emphasis on the participation of the local community. In this way, meaningful places can be understood as part of forming place identity. Using the method is normally a long process which can take years to complete.

In the recently published book called *Kulttuurisuun-nittelu* (Cultural Planning, Häyrynen and Wallin, 2017), the cultural mapping procedure has been used previously in Finland, for example, in Nikkilä and in the Kok-

Components of CPTED		
Image management	environment that looks like it is cared for and supervised, for example vandalism is quickly repaired	
Activity support	attracting safe activities, for example local events or other functions to attract legitimate users, eyes on the street.	
Target hardening	form of access control, limiting opportunities for crime at the scale of a building, using stronger doors, locks, alarms etc.	
Access control	helps define private and public space and who can enter, through fencing, walls, card entry systems etc.	
Territoriality	clear sense of ownership in a space, so users are more likely to act as guardians, through design that defines private and public spaces	
Surveillance	enhancing visibility, eyes on the street, windows, CCTV	
Geographical juxtaposition	the influence of nearby land uses, for example pubs and vacant lots	

Table 1.
Components of CPTED (adapted from Cozens & van der Linde, 2015).

keli-project at river Kokemäki (Häyrynen and Wallin, 2017), (Kokkeli-hanke). In their project, they used online mapping tools or surveys for engaging the citizens and finding out the meanings and uses of local places. A more conclusive cultural mapping and planning process, with participatory workshops with other level actors, was beyond our capabilities in the given timeframe. We decided to study the Malmi area operational culture via interviewing local actors about their uses and meanings of places. Firstly, we interviewed the borough liaison for north-eastern Helsinki, Outi Rissanen, about the actors of Malmi. As a result, we decided to interview the most active NGO and fourth sector actors of Malmi during the time of our project. We focused our questions on finding out the needs of local actors in strengthening their possibilities for citizen activity in the area of Malmi. In this study, we looked at two activist groups - the Longinoja activists and Malmin seutu siistiksi roska kerrallaan-movement (Making Malmi tidy by picking one piece of litter at a time). We conducted one interview at Malmitalo and the other by email. In these interviews, we asked open and semi-open ended questions to determine the uses and meanings of places for these activists. In order to achieve a more supportive environment in Malmi, we concentrated on the needs in facilitating the existing local activism.

### **SAFETY & ATTRACTIVENESS**

In the next section, we have considered Malmi through its identified challenges - safety and attractiveness. We first look at the current situation concerning safety in Malmi and the results from our investigation regarding the problematic station. In the second part, we look at the current situation of the actors and the results from the interviews.

### HOW TO MAKE A SAFE PUBLIC PLACE

Feeling safe in public spaces has been identified as an important factor in participation (Liska et al., 1988). As ear-

lier mentioned, the feeling of safety has been identified as a main challenge within Malmi. Therefore, this first challenge is focused on the core of the problem - the Malmi station. We will identify the design needs of the station with the help of CPTED (crime prevention through environmental design). We use CPTED as a means of a design thinking approach, in which we highlight the importance of co-creation and inclusion.

In the survey of 2018 (Keskinen and Pyyhtiä, 2019), around 17 percent of Malmi residents felt unsafe in their neighbourhood late on Friday and Saturday evenings compared to the city average of 13 percent. This number had gone down from 30 percent in 2015 (the city average 16 %). Despite this improvement, Malmi is still considered to be one of the less safe districts.

In terms of socio-economic factors, most of the districts in Malmi are worse off compared to the city average, although it is not the most deprived neighbourhood in Helsinki (City research & statistics department, 2019). According to Kemppainen et al. (2014), living in a socio-economically deprived neighbourhood, and being close to a train station, are considered factors negatively affecting perceived safety. Kääriäinen (2002) concludes that having an unclean and unmaintained environment, combined with the accumulation of socio-economic disadvantages, also visible in public space, is the most challenging combination in terms of perceived safety. Finally, the perceptions of safety are also affected by the media through negative news (Smolej & Kivivuori, 2006). In Malmi, negative headlines about violence and drug trade, for example, together with its negative reputation, can have an impact on the perception of safety.

### The current situation of the Malmi station

Station environments are often perceived as unsafe. According to Cozens et al. (2004), rail users consistently perceive risks of crime to be considerably higher than official statistics indicate. In several surveys, respondents have considered the Malmi station to be unsafe (Urban environment division, 2019; Rissanen, 2019b). An older assessment by the rescue department of Helsinki city

(2012) highlighted the feelings of threat at the Malmi station bridge, especially at night time. The station bridge is a pedestrian pathway located at the northern end of the tracks between two shopping centres (*Picture 3. & 9.*).

In general, substance abuse, littering, vandalism and thefts have been identified as challenges in the station area. Rissanen (2019b) interviewed locals who expressed their hopes for more services for substance abusers, such as a needle exchange, but also more security guards. Regarding the station, the interview respondents mentioned untidiness and wished for more common spaces and seating areas for people to spend time.

According to Siippainen (2019), property owners of the commercial spaces have been proposing closing of the station bridge at night time, yet the city has kept it open due to access to the trains, although different solutions to improve the situation are being investigated by the city. The urban environment division of the city of Helsinki (2014) hopes that the building of the new residential area at the old airport premises will make large investments towards the station more viable.

### Results from the observative walk

In terms of image management, the station does not look well maintained: the surfaces look worn and littered, and there are clear signs of vandalism in the form of broken windows, graffiti and abandoned shopping carts (*Pictures 3, 4 & 5*).

In terms of activity support and attracting safe activities, the station mainly attracts passers-by in the form of commuting and shopping. There are no benches or places to linger at the station, apart from a few restaurants. In the shopping centre of Malmintori, there is a seating arrangement, which attracts youths and the elderly. Communal activities do not take place in the station and there would not be much space for these activities anyway. There would be more potential for communal activities in the surroundings areas, like in the squares in front of the shopping premises.

Access control and target hardening (Table 1.) are vis-

ible in the station to some extent; some spaces and pathways are closed to the public (*Picture 6.*). Referring to territoriality, a clear sense of ownership in space, and the divide between private and public space, could be more clear. For example, many doors need to be opened to go in and out of the station and in some cases one might feel uncertain which pathways are public. Many of these doors lead to seldom-used stairways to the ground level (*Pictures 7. & 8.*). The doors and infrequent usage of these stairways, make some pathways feel less public and safe. Especially in the case of the pathway seen in *Picture 8*, it is easy to see why a person would feel unsafe. In terms of design, the pathway is long and confined, and there is no visibility to the station which might have even more implications on perceptions of safety.

Another major factor in CPTED is surveillance, which is about better visibility and social control, through for example windows, CCTV, and more eyes on the streets. The station itself has some windows and few CCTVs, but still, there are many corners and places where a person would feel secluded. In general, the visibility from the station to the tracks is poor. While during the daytime the station bridge has quite many people, and consequently feels safe, during night-time the situation would possibly be worse.

The last component of CPTED is the geographical juxtaposition that refers to the influence of nearby land uses. Land uses that have been recognized to contribute to crime are, for example, pubs, gambling establishments, pharmacies, vacant lots, unemployment offices, alcohol stores, clubs, municipal housing, and commercial buildings (Cozens and Van der Linde, 2015; Sypion-Dutkowska & Leitner, 2017). In the map of the station (*Picture 9.*) it can be seen that many of these land uses are present around the station, which is likely to have some effect on crime and fear of crime, although these effects can be difficult to estimate. Municipal housing is also present in the area, although not visible in the map.





Picture 3. Graffiti vandalism at the station bridge.
Picture 4. Broken windows at a staircase.
Picture 5. Abandoned shopping cart in the middle of the station.



Picture 6. Forbidden entry to some of the tracks.
Picture 7. Seldom used staircase with poor lighting.
Picture 8. Another empty staircase leading to a dark parking lot.

22



Picture 9. Map of the station and possibly crime facilitating functions around the area.  $\,$ 

# HOW TO SUPPORT CITIZEN ACTIVISM AND CREATE AN ATTRACTIVE PUBLIC PLACE

We chose cultural planning as the method to investigate the strengthening of local identity, attractiveness, and the retaining power of the area. Focusing on some of the unheard citizen knowledge of the Malmi area, we give our account of the most active third and fourth sector actors in Malmi. Furthermore, during the study, we found similarities with placemaking and included this viewpoint as well. The similarities between the cultural planning approach and placemaking are found in the tools for community engagement, with the community being at the core of the place (Häyrynen and Wallin, 2017; Perrault et al., 2020). We differentiate cultural planning more as a method of investigating local knowledge and, respectively, placemaking as a theory or a method of turning spaces into places.

### The current situation of the actors

Activists of Longinoja, from the gutter to the creek: Civic engagement in environmental management.

The Longinoja community is a successful example of citizen participation that has gained a significant foothold in Helsinki. Their participation has resulted in a role within policy-making. Their effort is a part of three initiatives of the City of Helsinki. In terms of participation, the effort can be seen as a functioning form of co-creation. It is a part of the Small Waters of Helsinki program, as well as Securing the Biodiversity in the Helsinki Area and The Baltic Sea Challenge. Its success is defined by becoming a part of these initiatives. The restoration activity has persevered for nearly 20 years. The effort started back in 2001. It has been acknowledged and rewarded with "Perseverance in the voluntary restoration of the urban brook of Longinoja in the Malmi suburb of Helsinki" winning the Finnish Biodiversity Award 2017-2018. The winner was chosen by the National Committee of Finland of the International Union for Conservation of Nature (Finland's environmental administration, 2019).

The community of Longinoja urban brook attracts a variety of participants. People from 1 to 98 years old are a part of the community. Yearly, the community organizes around 12 different sized events, hosting from 10 to around a 100 participants. The yearly life-cycle of the endangered trout includes phases that attract a large crowd. Especially around the time of spawning, there is active public engagement many times a week. Everyone can participate at some level. For example, the following of the trout is possible by a very low threshold of participation. The actual restoration requires more commitment and is done by a smaller group. With the longstanding attempt, the Longinoja restoration effort can be seen as a successful example of city citizen co-operation in improving an environment to benefit all. It is a grassroots level form of placemaking. Turning a ditch into a living urban brook that hosts the return of an endangered species is a massive effort. Furthermore, the transformed place supports a sense of community. It offers a low threshold facility for enjoying and restoring citizens' connection to nature amidst an urban environment and is also a place for locals to interact socially.

Make Malmi area tidy by picking one piece of litter at a time

The Plogging Community - Make Malmi Area Tidy by Picking One Piece of Litter at a Time idea started with a conversation about the untidiness of the Malmi area on a Facebook group. The most active people in this conversation took the initiative to organize a proper plogging Facebook group for the Malmi area. Some of their participants are involved in the Helsinki City Park Pals (puistokummit) activity. Hence, Helsinki city urban environment division provides the registered Park Pals with litter pickers, rubbish bags, and an insurance policy. They also arrange for the removal of the collected litter, if needed. The plogging activity can be seen as part of an international trend that started in Sweden. Plogging is jogging combined with picking up litter. It is part of an overarching environmentally-conscious movement. The problem of microplastics in our oceans has become more widely acknowledged and has made plogging more popular. One of the main goals is to reduce sources of microplastics in the environment.

Currently, events are announced on the Facebook page. There are 170 members in the group, but active participants of a particular event usually range from 3-8 people. In the year 2019, they organized 29 events. Unlike the Longinoja community, the threshold for participating in the events seems to be quite high. Despite the interest of locals, the number of active members has remained stagnant. Partly, this is due to difficulties in spreading information about the activity. Organizing the events is very time consuming and requires a high input from the group administrators. Documenting the events and posting online about the results are important parts of motivating participants. However, especially reaching people outside social media, for example, some of the elderly, the now absent city notice boards could be a means of distributing information. Hence, the more traditional ways of communication may prove to be more effective for some parts of the population. Furthermore, our interview revealed that a more traditional form of communication, through the grapevine, for instance, has been proven to be effective in finding participants for the events. Spreading information through someone familiar seems to be a useful tool and lowers the threshold for participation. Furthermore, facilitating cooperation with other local actors that are familiar to potentially interested participants could lower the threshold for participation.

In addition to the active community, there are solitary ploggers that might not participate in the events. Their efforts are considered equally important. The ideology of the group includes freedom of choice concerning personal input. As the activity is voluntary, and there are no employees, any effort, no matter how small, to remove litter from the ecosystem is meaningful. Hence, the ploggers take part in the activity according to their own interests.

The ploggers are interested in the attractiveness and pleasant atmosphere of the neighbourhood and collective responsibility. A surprising outcome was, considering the diversity within the Malmi area, that some ploggers considered all areas equally important. Their aim was more to do with the global goal of removing sources of microplastics from the environment. However, the emphasis of some of the other participants seems to be on urban

forests. This reflects their own use of the local forests, and the need to keep these places free from litter. Partly, it is due to the fact that they are not high on the city management priorities and, therefore, have a substantial accumulation of litter.

# Results: Participation by resident initiative results in a functioning method of placemaking

Resident originated placemaking works by facilitating social interactions among a variety of residents. It promotes a sense of community and shared responsibility capable of drawing people from the surroundings areas. According to the interviews, some of the important values behind the motivation for plogging were caring about tidiness, the well-being and pleasantness of the neighbourhood, and nature. One of their most important values is collective responsibility for the neighbourhood and community spirit. A similar phenomenon was expressed in the Longinoja community interview. They expressed that community spirit is the most important value they want to convey to the younger generations:

"It encompasses all, doing together, helping others, generating a good spirit and respect for nature."

These kinds of activities facilitate social interactions among locals. The ploggers stated that it was easier to approach them when they had the litter pickers and were often recognized by local people. They expressed interest and gratitude in their activity and many started plogging themselves as a result of the encounters. In terms of placemaking, this can be identified as a means of triangulation facilitating social connections among strangers. Furthermore, the *Malmi ploggers* have organized a joint effort for plogging in the Longinoja area.

Understanding the activity requires listening to the activists and understanding their needs considering the Malmi area. Facilitating the activists' participation is important for improving operational preconditions and is essential to their participation. This kind of activism that is tied to a particular place promotes ongoing participation.

In the Longinoja case of how activism originated, placemaking has proven to be successful. It is capable of drawing more people from the surrounding areas and offering a sense of community. The shared responsibility also promoted by the Malmi ploggers offers a simple way of committing to the area and community. This is true for Longinoja as well. In securing the operational preconditions for the Longinoja community it was necessary to recognize the habitat requirements for the endangered trout. It calls for a wide enough perimeter around the brook. This can well serve as an area for recreational purposes. Water environments in the urban context are especially important in stress reduction of urban dwellers. Waterside environments have a stronger impact in stress recovery than a non-aquatic environment (Korpela et al. 2010). Considering the special requirements of the trout, consulting an expert is advisable. For example, monitoring of the water quality during any constructions in the catchment area is vital for the community.

The Malmi ploggers would benefit from the facilitation of more close connections to the area's other actors. One important improvement would be facilitating the event organization by more information distribution sources. The city of Helsinki notice boards offer activity information to those unable to access social media. As all participants are volunteers, the time, money and effort required for distributing and taking care of information sharing are scarce. If Helsinki city would facilitate the dissemination of information, then this would strengthen the operational preconditions for plogging. The ploggers' most prominent idea is to promote the attractivity of the Malmi area by enhancing the tidiness, comfortability, and hominess of Malmi (viihtyvyys). The group answers to this need for a sense of community and shared responsibility. Furthermore, their activity answers straight to the needs identified in the Helsinki city survey.

### MORE PARTICIPATION, BETTER MALMI?

As mentioned earlier, people 'at the heart' of the planning processes can be an important and valuable asset. In Malmi, the challenges are safety and attractiveness. In

this study we were looking for answers to the following questions: How to create a more safe and attractive public space? How to acknowledge the needs of the local community and what kind of role can participation play in these? What type of participation tools can be used to give voice to different stakeholders and, moreover, to citizens for improving safety and attractiveness?

In terms of our first challenge, relating to safety, our research shows concrete design-related challenges, while highlighting the importance of participation. The CPT-ED creates a framework which is likely to be beneficial in terms of developing and re-designing the station, although it should be noted that these tools should not be implemented with simplistic expectations since crime prevention is a complex issue. The second-generation CPTED similar in approach to VPUU (Maze, 2020), may prove to be a more suitable approach since it takes into account the social context, community connectivity, cohesion and culture, as well as resident participation (Cozens & Love, 2015). Crime prevention then happens, for example, through social cohesion and connectivity which nurtures mutual respect and self-policing. Therefore, cohesive and actively participating communities are an important aspect in terms of safety. Participating people using the station, from all walks of life, would provide more comprehensive insights into the realities of the safety of the station, also taking into account the most vulnerable and disadvantaged people using the station.

Therefore, the results of the safety challenge indicate that safety is an issue, which should be taken into account through participation. Planning and developing the area should not then be done, with safety and the attractiveness of a place in mind, without hearing from the local users of the station first and foremost. The current state of the matter indicates that in terms of Arnstein's ladder of citizen participation, the past planning, upkeep and development of the station have been closer to tokenism and non-participation since the wishes of the citizens have not yet been actualized.

In the interviews of the two actors, there were many components contributing to the CPTED framework. Supporting these communities creates a stronger sense of ownership of the area and increases trust between the city officials and the residents. This contributes especially to the component of activity support in CPTED.

The community of Longinoja is very strong and has a strong sense of stewardship of the brook. In terms of the Arnstein ladder, they are at the level of citizen power. The community's longevity has strengthened their stewardship of the brook. The activist community is open to other actors of the area. They are explicit about enhancing the sense of community. This further encourages other local actors, such as local schools, to use the place and hence supports local social connections. Some of these other actors are local daycare centres and the schools of Pihlajamäki, Tapanila and Ala-Malmi, which use Longinoja for educational purposes. The school children's participation in this activist created place contributes to the idea of a sense of community. In addition, the newly opened nature trail of Longinoja has introduced the restoration work to the local public. This is in the core of what this activist group is promoting. Malmi plogging activity has partially become a part of the existing city park pals activity and has shown that this activity is easy to access for participating in the local area. However, the activity could be developed to become more supportive to the ploggers needs. Facilitating the communication among the area third sector actors would be of especial benefit to the activists.

The other two theories have their implications on the Longinoja practised activism. In terms of placemaking, the Longinoja gutter to the creek can be seen as an ideal example of activism based placemaking practice. Regarding Barsalou's (2018) idea of design thinking, the Longinoja process is extremely action-oriented and needs-based, creating successful outcomes of alternative solutions.

According to Brown and Wyatt's (2010) idea of design thinking, the Longinoja case is an example of constructing an idea with emotional and functional meanings and offering an alternative creative solution. Instead of looking at the gutter as a gutter, the activists saw the potential of the place. They have kept up with the effort with sisu for two decades and the success is indisputable.

As many as 90 spawning nests have been found during last year.

According to the book How to Turn a Place Around (2000), there are 11 key elements in transforming public places into vibrant community places. Placemaking argues that the complexity of public spaces is rarely understood, and there is tacit knowledge in the local community. Cultural planning on the other hand emphasizes understanding the intangible heritage. In How to Turn a Place Around, their first element is the Community is the expert. This complies with the cultural planning idea of interviewing local actors. In placemaking, the seventh key element they identified was Triangulation. It was described as a process where an external stimulus provides a linkage between people and facilitates communication among strangers. In public spaces, this could mean the placing of facilities, such as, benches with other amenities to bring people together. In the case of Malmi, the plogging activity can be seen to operate as an instrument of triangulation. The active ploggers reported having the litter pickers facilitating a conversation with local residents. Similarly, the Longinoja place and activities bring people together. In addition to the brook restoration and monitoring activities of the endangered salmon, the Longinoja location is used for outdoor recreation, including plogging. Since 2018, a new nature trail has been built, with it becoming more popular. Parts of the trail are accessible by wheelchair. These improvements further add to the triangularity of the place. The project was implemented by The City of Helsinki's Urban Environment Division project based on the initiative of activists. They help in the maintenance of the trail signs.

The impression that comes through from the surveys and interviews is that Malmi seems to lack community spirit on some level. In both these investigated cases, activism has offered a means and a way of coming together for a cause and facilitating interaction among strangers. The Longinoja represents a classical placemaking by doing approach which is the eighth key element of placemaking. Activism has successfully produced a more people-friendly environment, making the spaces more community spaces. In the Ploggers case, the placemaking

can be seen perhaps more loosely and widespread, whereas in the Longinoja case it is more place-bound.

### **CONCLUSIONS**

Our work built upon the results of a survey which the city of Helsinki conducted in 2018, an observational walk, and interviews we conducted. In the survey, safety and attractiveness were the most desirable aspects respondents looked for in Malmi, thus our work concentrated on these. From the interviews, we found the activists' emphasis was on the subjects of a sense of community (yhteisöllisyys) and shared responsibility, both of which enhance safety, comfortability and contribute to the attractiveness of Malmi. These forms of participation in social activity are significant in creating the social wellbeing of this area. Similarly, the VPUU approach suggests the importance of social inclusion in planning for safety.

We recognize that our study reveals but only a thin slice of the whole situation of Malmi stakeholders. Our results indicate the potential of using a cultural planning approach in developing an area and the potential of using local knowledge. Furthermore, by using placemaking tools local solutions to the challenges of an area can be found. Including more stakeholders in the process could reveal more of the local solutions to local challenges.

In our work, we conclude that safety has not been taken into account well enough by the city in terms of participation, though citizens have taken matters in their own hands and have reached higher ladders of participation. Furthermore, safety and attractiveness were improved by local activism. It could be argued that some answers to the locally perceived shortcomings are already being considered inside the community and answered by local activism, and are in fact reasons for the uprising of some forms of activism.

### REFERENCES

- Arnstein, S. R., 1969. "A Ladder of Citizen Participation," JAIP, Vol. 35, No. 4, July, pp. 216-224.
- Aro, T., 2016. Kaupunkien kovat ja pehmeät vetovoimatekijät [online] Available at: <a href="https://www.ouka.fi/documents/64220/16476345/">https://www.ouka.fi/documents/64220/16476345/</a> Timo+Aro-Kaupunkien+kovat+ja+pehme%C3%A4t+vetovoimatekij%C3%A4t.pdf/209e2320-6aaf-454c-af33-eb-4f512a7825> [Accessed 10 december 2019].
- Baeker, G. 2018. Cultural planning, Critique and some ways forward, Municipal World. 2. P.12-14. Ontario. Available at:
- https://www.municipalworld.com/articles/cultural-planning-critiques-and-some-ways-forward/

[Accessed 20 November 2019].

- Barsalou, L. 2018. Define Design Thinking. She Ji: The Journal of Design, Economics, and Innovation. 3. 102-105. 10.1016/j.sheji.2017.10.007
- Bianchini, F. 2013. 'Cultural planning' and its interpretations. In Young, G. & Stevenson, D. (eds.), The Ashgate Research Companion to Planning and Culture (pp. 377-392). Aldershot: Ashgate
- Bovaird, T. & Loeffler, E. 2012. From Engagement to Co-production: The Contribution of Users and Communities to Outcomes and Public Value. Voluntas: International Journal of Voluntary and Nonprofit Organizations, 23(4), 1119-1138.
- Brown, T., and Wyatt, J., 2010 Design Thinking for Social Innovation. Stanford Social Innovation Review. 8(1), pp.30-35.
- Ceccato, V., & Wilhemsson, M. 2012. Acts of vandalism and fear in neighbourhoods: Do they affect housing prices? V. Ceccato (Ed.), The Urban Fabric of Crime and Fear, pp. 191-212.. New York, London: Springer.
- City research & statistics department, 2019. Helsingin tila ja kehitys 2019. [pdf] Helsinki: City research and statistics department. Available at: <a href="https://www.hel.fi/hel2/tietokeskus/julkaisut/">https://www.hel.fi/hel2/tietokeskus/julkaisut/</a> pdf/19\_06\_17\_Helsingin%20\_tila\_ja\_kehitys\_2019.pdf> [Accessed 11 December 2019].
- Cozens, P., et al. 2004. Tackling Crime and Fear of Crime While Waiting at Britain's Railway Stations. Journal of Public Transportation, 7 (3), pp. 23-41.
- Cozens, P., & Love, T. 2015. A Review and Current Status of Crime Prevention through Environmental Design (CPTED). Journal of Planning Literature, 30(4), 393-412.
- Cozens, P., and van der Linde, T., 2015. Perceptions of Crime Prevention Through Environmental Design (CPTED) at Australian Railway Stations. Journal of Public Transportation, 18 (4), pp.73-
- Dorst, K. 2011. The core of 'design thinking' and its application. Design studies, 32(6), 521-532.

- Finland's environmental administration, 2019. Restoration of Urban Longinoja Brook Wins Finnish Biodiversity Award 2017-2018. [online] Available at: https://www.ymparisto.fi/enUS/Nature/Restoration\_of\_Urban\_Longinoja\_Brook\_Win(49494) [Accessed 19 November 2019].
- Hovi-Assad, P. 2019. Kulttuurisuunnittelulla lisää osallisuutta kaupunkikehittämiseen. Tiedelehti Hybris.
- Häyrynen, M. and Wallin, A. 2017 *Kulttuurisuunnittelu, kau- punkikehittämisen uusi näkökulma*. Helsinki. Suomalaisen kirjallisuuden seura.
- IGI Global, n.d. [online] Available at: <a href="https://www.igi-global.com/dictionary/soft-factors-or-soft-elements/50356">https://www.igi-global.com/dictionary/soft-factors-or-soft-elements/50356</a> [Accessed 10 July 2020]
- Kemppainen, T., Lönnqvist, H. and Tuominen, M., 2014. Turvattomuus ei jakaudu tasan Mitkä asuinalueen piirteet selittävät helsinkiläisten kokemaa turvattomuutta? Yhteiskuntapolitiikka 79(1), pp.5–20.
- Keskinen, V. and Pyyhtiä, E., 2019. Turvallisuustutkimus: Oman asuinalueen turvallisuus parantunut, alue-erot kaventuneet. Kvartti-Kaupunkitiedon verkkolehti, [online] 14 June. Available at: <a href="https://www.kvartti.fi/fi/artikkelit/turvallisuustutkimus-oman-asuinalueen-turvallisuus-parantunut-alue-erot-kaventuneet">https://www.kvartti.fi/fi/artikkelit/turvallisuustutkimus-oman-asuinalueen-turvallisuus-parantunut-alue-erot-kaventuneet</a> [Accessed 28 November 2019].
- Kokkeli-research project. 2017-2019. Kemppi-Vienola, V., Heino, M., Häyrynen, M., The University of Turku. Available at: https://blogit.utu.fi/kokkeli/kohdealueet-ja-toiminta/ [Accessed 1 December 2019] , https://blogit.utu.fi/kokkeli/2017/10/23/uusi-postaus/ [Accessed 19 November 2019], https://query.eharava.fi/2712# [Accessed 19 November 2019]
- Korpela, K., Yle'n, M., Tyrväinen, L., Silvennoinen, H. 2010. Favorite green, waterside and urban environments, restorative experiences and perceived health in Finland. *Health Promotion International*, Vol. 25 No. 2.
- Kortteinen, M., Tuominen, M., and Vaattovaara, M. 2005. Asumistoiveet, sosiaalinen epäjärjestys ja kaupunkisuunnittelu pääkaupunkiseudulla. Yhteiskuntapolitiikka 70(2), pp.121–131.
- Koskela, H., 2009. Pelkokierre. Pelon politiikka, turvamarkkinat ja kamppailu kaupunkitilasta. Helsinki: Gaudeamus
- Koste, O., Neuvonen, A., and Schmidt-Thomé, K. 2019. Turning points of urbanization. Helsinki: Demos Helsinki.
- Kääriäinen, J., 2002. Rikollisuuden pelko kasvaa Itä-Helsingissä. Asuinalueiden erilaistuminen ja turvattomuuden kokeminen Helsingissä ja Espoossa vuosina 1997 ja 2001. *Yhteiskuntapolitiikka* 67(3), pp.214–222.
- Landry, C. 2008. *The Creative City: A Toolkit for Urban Innovators*. Second edition. London: Earthscan Publications.
- Liska, A., Sanchirico, A., Reed, M., 1988. Fear of crime and con-

- strained behavior. Specifying and estimating a reciprocal effects model. *Social Forces*. 66(3), pp.827–837.
- Loginoja community. Discussion. [interview by emails] (Personal communication November and December 2019).
- Malmin seutusiistiksi roska kerrallaan. Discussion. [interview and emails] (Personal communication November and December 2019).
- Mazé, R. 2020 'Design (Govern)mentalities: Implications of design and/as governance in Cape Town,' in M. Erlhoff and M. Rezai (eds) Design and Democracy: New critical perspectives.
- Miller, B. 2017 [online] Available at: <a href="https://medium.com/@bhmiller0712/what-is-design-thinking-and-what-are-the-5-stages-associated-with-it-d628152cf220">https://medium.com/@bhmiller0712/what-is-design-thinking-and-what-are-the-5-stages-associated-with-it-d628152cf220</a> [Accessed November 2020].
- Participations and citizen information unit of Helsinki city, 2020.

  Participate and influence [online] Available at: https://www.hel.
  fi/helsinki/en/administration/participate/channels [Accessed 10 July 2020]
- Perrault, E., Lebisch, A., Uittenbogaard, C., Andersson, M., Lucie Skuncke, M., Segerström, M., Svensson Gleisner, P. and Pere, P. 2020. Placemaking in the Nordics: a guide to co-creating safe and attractive public spaces in the Nordic region. Stockholm.
- Project for Public Spaces 2000. How to Turn a Place Around. First edition.
- Project for Public Spaces, n.d. Placemaking: What if we built our cities around places? [online] Available at: <a href="https://uploads-ssl.webflow.com/5810e16fbe876cec6bcbd86e/5a6a1c930a6e-6500019faf5d\_Oct-2016-placemaking-booklet.pdf">https://uploads-ssl.webflow.com/5810e16fbe876cec6bcbd86e/5a6a1c930a6e-6500019faf5d\_Oct-2016-placemaking-booklet.pdf</a> [Accessed 23 November 2020]
- Rescue department of Helsinki city. 2012. Paikallinen turvallisuusanalyysi Koillinen suurpiiri. [pdf] Helsinki: Rescue department. Available at: <a href="https://www.hel.fi/static/pela/Julkaisut/Koillisen+suurpiirin+analyysi+24+5+2012+END.pdf">https://www.hel.fi/static/pela/Julkaisut/Koillisen+suurpiirin+analyysi+24+5+2012+END.pdf</a> [Accessed 11 December 2019].
- Rissanen, O., 2019a,b. Discussion and unpublished material: borough liaison (Stadiluotsi) [interview and emails] (Personal communication November and December 2019).
- Siippainen, A., 2019. Malmin putki pysyy öisin auki "Usein kauppakeskuksessa jopa yövytään". *Helsingin Uutiset*, [online] 30 september. Available at: <a href="https://www.helsinginuutiset.fi/artikkeli/803271-malmin-putki-pysyy-oisin-auki-usein-kauppakeskuksessa-jopa-yovytaan">https://www.helsinginuutiset.fi/artikkeli/803271-malmin-putki-pysyy-oisin-auki-usein-kauppakeskuksessa-jopa-yovytaan</a> [Accessed 11 December 2019].
- Smolej, M., and Kivivuori, J., 2006. The relation between crime news and fear of violence. *Journal of Scandinavian Studies in Criminolo*gy and Crime Prevention. 7(2), pp.211–227.
- Sypion-Dutkowska, N., and Leitner, M., 2017. Land Use Influencing the Spatial Distribution of Urban Crime: A Case Study of

- Szczecin, Poland. ISPRS Int. J. Geo-Information, 74(6).
- Taylor, R., 2002. Crime Prevention through Environmental Design (CPTED): Yes, No, Maybe, Unknowable, and All of the above. Handbook of Environmental Psychology, 27, pp. 413-26, John Wiley, New York.
- Urban environment division of Helsinki city, 2014. Helsingin yleiskaava - Mahdollisuuksien Malmi. [pdf] Helsinki: Urban environment division. Available at: <a href="https://www.hel.fi/hel2/ksv/julkai-">https://www.hel.fi/hel2/ksv/julkai-</a> sut/yos\_2014-21.pdf> [Accessed 20 November 2019].
- Urban environment division of Helsinki city, 2019. Malmin keskusta huomenna [pdf] Helsinki: Urban environment division. Available <a href="https://www.hel.fi/hel2/ksv/liitteet/2019\_kaava/4003\_4\_">https://www.hel.fi/hel2/ksv/liitteet/2019\_kaava/4003\_4\_</a> verkkokarttakysely\_tulokset.pdf> [Accessed 20 November 2019].

# Special thanks

Malmi seutu siistiksi roska kerrallaan Longinoja community Outi Rissanen Michail Galanakis

Urban Studies and Planning 2020 Urban Studies and Planning 2020 Urban Studies and Planning 2020 Urban Studies and

CHAPTER

Planning 2020 Urban Studies and Planning 2020



Urban Studies and Planning 2020 Urban Studies and Planning 2020



# ANIMALS AT THE PLANNING TABLE

We approached the planning of a future Malmi as a layering of habitat structures for different animals (Siberian flying squirrel, northern goshawk, brown trout, white-tailed bumblebee and humans). Our planning problem was to negotiate how these diverse habitat needs could overlay onto the existing Malmi landscape and still allow an increase in human population.

ALLAN DELESANTRO,
MIRA EGGERSGLUESS
& LAURA TURPEINEN

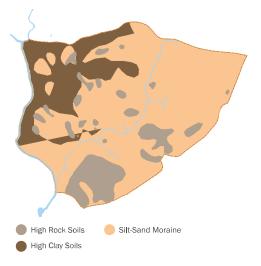
### INTRODUCTION

Malmi is a peri-urban neighborhood characterized by a few densely occupied centers and two agricultural corridors along the Longinoja Stream and the River Vantaa. Biotope analysis of Malmi reveals that, in its present state, it is a complex mosaic of domestic gardens, old growth forests, agricultural haylots, open meadows and industrial brownfields (Copernicus, 2017). This complex habitat structure exists not because of deliberate planning efforts but because of the complex geophysical and hydrological character of Malmi, wherein high-clay soils and flood risk have discouraged dense residential development in large patches of the district (Kaupunkiympäristön Toimiala, 2017). Contemporary engineering and stormwater management means that the conservation of this defacto open space is no longer guaranteed. Proposals like the Malmi Airport project demonstrate that increasing development pressure on Malmi is likely to result in a decrease in open space and changes to its current habitat structure (Helsinki Planning Department, 2015).

When planning new development in urban areas, like Malmi, a traditional planning process involves the consideration of a large number of stakeholders in the local socioeconomic system: governments, residents, businesses, NGOs and social institutions. In planning, it is often who is invited to the planning table that defines the outcome. Over the last century, the "who" involved in planning has been expanding continuously from a select elite to a broader set of socio-economic interest groups. Still, patently absent from planning tables are the voices of *animals*. While animals can not speak with intelligible language, their actions, presence in cities, and the vast amounts of knowledge the scientific community collects about them, can be considered a "text" equivalent to political voice (Metzger, 2014).

In planning for a future of Malmi, we propose to make these voices a central concern by introducing the habitat needs of animals, including humans, to the planning process. The failure of the planning process to include animal voices in the past has resulted in familiar conflicts, like those surrounding the stoppage of the Raide-Jokeri tram project due to encounters with Siberian flying squirrels (*Pteromys volans*) and needlessly threatens urban biodiversity (Metzger, 2014; Selonen & Mäkeläinen, 2017; Yle, 2019).

Our research on Malmi is approached as a form of role-play scenario planning, in which we as researchers embody and understand the habitat needs of five "flagship species" and represent those needs at a gamified planning table. This strategy, inspired by German ecological planners Wolfgang Weisser and Thomas Hauck, recognizes that considering all animals, or "ecology" as a broad nebulous goal, can make planning for biodiversity a cumbersome process. Instead, by selecting a few flagship species, species which have cultural, ecological and local significance, we are able to limit ecological considerations to a



Malmi Soil Analysis Data used: (Kaupunkiympäristön Toimiala 2017)



Malmi Urban Biotopes Analysis Data used: (Copernicus 2017)

more digestible form, usable in the planning process. Planning in this way will not conserve all possible species, but the flagships species will act as conservation surrogates, supporting other species within or having similar dependence on their habitat structures (Selonen & Mäkeläinen, 2017; Wessier & Hauck, 2017).

#### APPROACH AND GOALS

While urban land-use may seem like an insignificant driver of Finnish biodiversity loss compared to forestry and agriculture, we argue that the inclusion of animal voices in the hypothetical planning of Malmi is necessary for three reasons:

- (1) With 85% of Finns living in urban areas (World Bank, 2019), the dominant opportunity to experience contact with animals will occur within urban areas, not in remote forests. This contact, occurring casually and in the course of daily life, is critical to preventing the "extinction" of natural experience and apathy of urban dwellers toward nature elsewhere (Standish et al., 2012).
- (2) Animals have the potential to make Malmi a more attractive neighborhood. In a world where places compete with one another like businesses, soft attractions and quality of life factors are becoming increasingly important planning considerations (Florida, 2003). Wildlife has the potential to become one of these attractions. As organizations like the Friends of the Longinoja demonstrate, wildlife viewing and volunteerism can create community engagement and social connectivity (Standish et al., 2012; Longinoja.fi, 2019).
- (3) In a world that is increasingly global, animals are reminders of what makes a place unique. Every city in the world has cockroaches, pigeons and rats. Only a handful of cities in the world have Siberian flying squirrels or brown trout. These species have the potential to create a sense of place (Standish et al., 2012; Wessier & Hauck, 2017).



UUTISET > NEWS

News 1.8.2019 13:14 | updated 1.8.2019 13:20

# Flying squirrel habitat stalls intercity tram line construction

Environmental concerns have spurred complaints in Helsinki, while Espoo has been boosting its conservation efforts.

■ Share



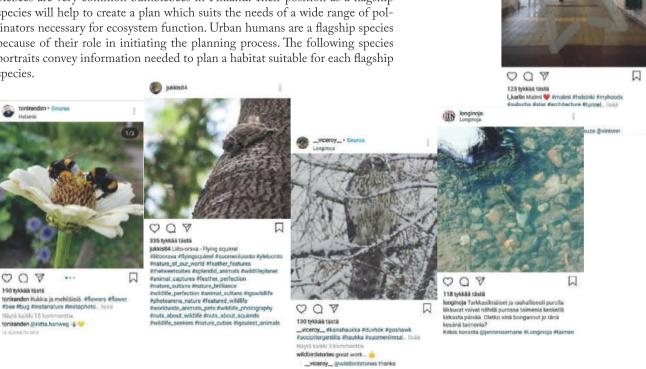
Trees scheduled to be chopped down are marked with colour-coded crosses. Image: Kristiina Lehto / Yk

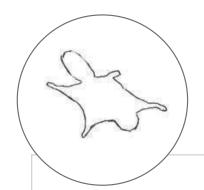
Headlines like these are evidence of the gap between socio-economic and animal needs in city planning leading to the disruption of both (Yle 2019).

Efforts of groups like the Friends of the Longinoja (2019) demonstrate that community action centering around non-human urban residents can create positive neighborhood identities.

#### FLAGSHIP SPECIES

Five different animal species from different taxonomic groups were chosen to represent Malmi: Siberian flying squirrel (Pteromys volans), brown trout (Salmo trutta morpha trutta), northern goshawk (Accipiter gentilis), white-tailed bumblebee (Bombus lucorum) and the urban human (Homo sapiens urbanus). Brown trout and Siberian flying squirrels were chosen because of recent media attention surrounding their conservation status. Sea migrating brown trout are endangered in Finland (Louhi et al., 2019). These trout are an iconic species for Malmi because of the popular community-driven restoration of the Longinoja stream, one of the few sites where sea migrating trout still spawn in Finland (Longinoja.fi, 2019). Flying squirrels are classified as a vulnerable species in Finland and a protected species by EU law (Lammi & Routasuo, 2018; Punainen kirja, 2019a). They are often at the center of animal conflicts in urban Helsinki (Yle, 2019). The northern goshawk is a near threatened species in Finland, increasingly vulnerable to commercial forestry (Punainen kirja, 2019b). There have been sightings of northern goshawks in Malmi but no verified nesting sites. Goshawks nest in Kaupunginpuisto, a small forest near Malmi, and would likely spread to Malmi if provided with suitable nest sites. White-tailed bumblebees are very common bumblebees in Finland. Their position as a flagship species will help to create a plan which suits the needs of a wide range of pollinators necessary for ecosystem function. Urban humans are a flagship species because of their role in initiating the planning process. The following species portraits convey information needed to plan a habitat suitable for each flagship species.

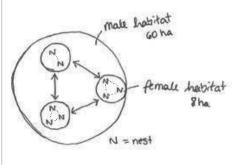




# Siberian Flying Squirrel Pteromys volans

A gliding rodent living throughout Eurasian boreal forests from Northern Europe to Japan¹. The flying squirrel is vulnerable within the EU¹. Due to urbanization and habitat fragmentation, populations are decreasing¹. Flying squirrels are nocturnal and rest during the day in their nests². They are rarely observed by humans.





Siberian flying squirrels need spruce-dominated mature forests with a mix of deciduous trees2. The male habitat extends over 60ha and can include several female habitats (8ha)2. Usually, there is a core area within the range<sup>3</sup>. Male individuals move between female ranges. Females behave territorially and have several nests within their range and move between them regularly<sup>2</sup>. They nest in tree cavities, twig nests and nest boxes<sup>2</sup>. A female range should consist of one dense forest patch connected to other patches and foraging sites by a network of less dense woodlands.² Individuals can move between smaller (young) forest patches (>1ha) and fine-scale features such as large single trees and sapling stands². In Helsinki, human residential areas are typically used for moving and foraging but not nesting². Thus, males are more often found in human habitats². Flying squirrels move by gliding between trees. Optimally, trees are taller than 10m and no farther than 20m apart².⁴.

Siberian flying squirrels forage for buds, catkins and leaves from deciduous trees like the common aspen (*Populus tremula*), grey alder (*Alnus incana*), black alder (*Alnus glutinosa*) and birch (*Betula spp*)<sup>1</sup>.

DIET

HABITAT









DISSERVICE for humans

dispersal

of seeds

Bureaucracy and legal fees

**SERVICE** 

interruption of

construction interruption of logging

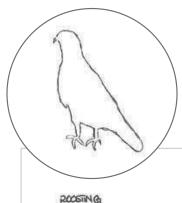
for humans







Since flying squirrels have a limited gliding distance of 20m, their habitats are severely limited by land-use fragmentation<sup>2</sup>. Siberian flying squirrels are the prey of Ural owls and other birds of prey<sup>1,3</sup>. Commercial forestry means a loss of available nesting locations, fragmentation and vulnerability to predation<sup>3</sup>.



# Northern Goshawk Accipiter gentilis

Large forest-dwelling birds of prey. There are about 10,000 northern goshawks distributed throughout Finland<sup>5</sup>. Some migrate to Central Europe and the Mediterranean in winters while others over-winter along the Baltic Coast<sup>6</sup>. Recently the goshawk has become near threatened in Finland due to loss of old-growth forests and increase in human forest exploitation<sup>7</sup>.



Goshawks mating pairs and often return to the same nesting site every spring. Over their lifetime they make high investments in permanent nests, constructing 1 meter high "twig castles" in sturdy coniferous tree branches<sup>8,9</sup>. When nesting, female goshawks do not leave the nest<sup>6</sup>. Male goshawks must hunt near the nesting location in order to frequently return food to their chicks and mate. For this reason,

form lifelong suitability of nesting sites within close proximity to prey sources is the primary constraint in goshawk habitat suitability. When nesting, goshawks are highly adverse to disturbances and need thick forests, about 250 meters or more in width. When hunting goshawk prefer high vantage points overlooking large

areas<sup>10</sup>. Bogs, grasslands and agricultural fields are preferred hunting areas9. Based on observations of other nesting locations in Southern Finland these hunting areas are usually 750-1000m in width and follow streams or rivers which are attractive to prey10.

Goshawks are capable of catching and eating large prey animals such as pheasants and hares moving over open ground. They also eat smaller urban prey like rats, pigeons and seagulls8.

DIFT

HABITAT



HUNTING

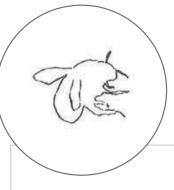






Human hunters (Homo sapiens venandi) destroy goshawk nests because they view them as a threat to the wild game population9. The hooded crow (Corvus cornix) consumes goshawk eggs and can harass mother hawks so severely that they abandon their nests9. The forest industry often destroys potential and active nesting sites in mature forests.<sup>7</sup>





## White-tailed Bumblebee Bombus lucorum

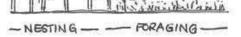
Large member of the order Hymenoptera distinguished from other bees or wasps by their fluffy appearance. They are a generalist, short-tongued bumblebee and the most common in Finland. A bumbleebee colony has an average of 120 workers for one queen.11 The White-tailed Bumblebee is an important pollinator for wild plants including berries.



White-tailed bumblebees are ground nesting bumblebees that form colonies in small premade cavities in the ground, most commonly the abandoned nests of mice and vole located on forests edges or in shrubby areas. Bumblebee colonies can be found wherever there are suitable ground cavities

but they favor those in should have sufficient flower warm, south-facing slopes. White-tailed bumblebees have a flight range of approximately 1 kilometer from their nest. They forage wherever flowering plants can be found but the best flowers for bumblebees are ones with lots of nectar and high quality pollen. Besides the nectar and pollen quality the temporal distribution of flowers is important. Foraging areas

sources from early spring to late summer. Therefore a diversity of flowering plants with different blooming times is needed. Spatial distribution of flowers is also important. Flying long distances requires a lot of energy and exposes the bumblebees to additional stress. The best food sources will be located near nesting sites and in dense clusters.



HABITAT

Bumblebees collect nectar and pollen from a variety of flowers. Preferred flowers include red clover (Trifolium pratense), willowherbs (Epilobium spp.), vetch (Viccia spp.) and goat willow (Salix caprea). 12

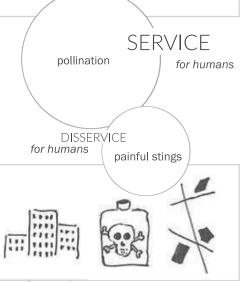
DIET

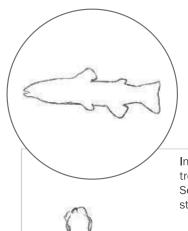






Urbanization processes reduce nesting habitats and limit foraging areas. Pesticides used in agriculture can be toxic to bumblebees when foraging in agricultural areas. Habitat fragmentation decreases available foraging habitat and habitat connectivity. Fragmented habitats increase bumblebee foraging time which causes stress and mortality.



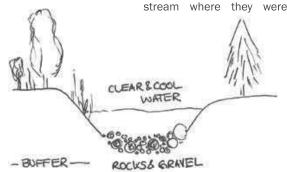


# **Brown Trout** Salmo trutta morpha trutta

Brown trout have 3 distinct forms: sea trout (S. t. m. trutta), river trout (S. t. m. lacustris), and stream trout (S. t. m. fario). Differences between these brown trout forms are in their adulthood habitats. The trutta morph described here is a sea migrating trout. The sea migrating brown trout population in Finland is critically endangered<sup>13</sup>.



trout migrate from the Baltic Sea to the same river or stream where they were



In spring, mature brown born to spawn<sup>13</sup>. A newborn trout spends its first few years in its home stream before it returns to the sea where it will mature fully. Trout require clear and cool moving water. The bottom of their streams should be lined with big rocks to provide protected places for spawning where water doesn't move too rapidly<sup>14</sup>. Trout also need

a layer of gravel to hide their eggs from predators. Vegetated buffer zones between water bodies and agricultural or urban areas are needed to stop excess nutrient flow into water and prevent eutrophication. Tall vegetation such as trees in the buffer zone will also provide shade to keep the water cool hot summer days. on

**SERVICE** 

In the sea, brown trout feed on Baltic herring, sprat and other small fish. In rivers and streams, less than one year old trout feed on plankton and small bottom-dwelling invertebrates. Bigger trout in freshwater also eat larvae and small invertebrates



HABITAT







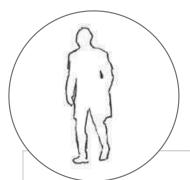




Hydropower dams disturb trout migration to spawning streams. Nutrient leakage from agricultural land and pollution from urban areas leads to eutrophication making rivers and lakes unsuitable for trout<sup>115</sup>. Fishing, especially with nets, reduces to the number of mature trout capable of reproducing<sup>14</sup>.



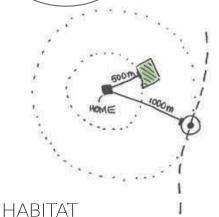




## **Human** Homo sapiens urbanus

A large, intelligent primate distributed globally with colonies formed in built environments especially near oceans and rivers. Migrates sporadically by ground, water and flight. Even though they produce few offspring, urban human populations are increasing with recruitment and assimilation of rural human sub-populations.





Urban humans live alone or in small family units in dwellings built from concrete, wood, steel and clay called a "home." Suitable homes need proximity to systems of ground transit to connect individual family units to other members of the colony. Urban humans do not use automobiles like rural or suburban humans and thus need to be close enough to walk to these transit centers. Urban humans have an average walking range of 1km to the nearest transit and service

center.<sup>16</sup> Urban habitats require continuous open areas suitable for walking and cycling between dwelling places and transit centers. Urban human habitats should have close proximity to green areas in order to sustain psychological and physical health. Green areas for recreation should not be more than 500m from family dwellings and no less than 6000m<sup>2</sup> in area.<sup>17</sup>

Urban human diets are dominated by avocados, oat milk, gluten free bread and hormone-free, free-range chicken. Food is acquired in grocery stores which can be found within built habitats.

DIET









special habitats

food supply

for other species

habitat fragmentation

**SERVICE** 

hunting and poaching

DISSERVICE for other species \

pollution

reduction of species richness

Although urbanization means the enlargement of urban human habitat, it also creates vulnerability to natural disasters and drives global climate change. Natural disasters have the power to destroy parts of the habitat and cause interruption in the supply of food. Individual *Homo sapiens urbanus* occasionally injure or kill others of the group.





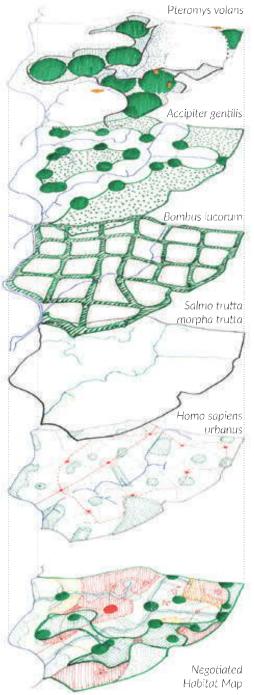


42

#### **PLANNING PROCESS**

The aim of our planning process is the negotiated existence of all five animals in Malmi. The animal voices are treated symmetrically: none is dominant over the others. Metzger (2014) demonstrates that "negotiation is not about suppressing or obliterating difference (which is the focus of consensus planning) but celebrating differences through mutual adjustments". A successful negotiation means creating conditions which increase every participant's wellbeing instead of increasing one participant's wellbeing at the expense of another's. Doing this is a complex process that we approached in a compartmentalized and sequential manner. Initially, we represented the needs of an individual animal with an optimal habitat map. These maps show the ideal habitat of each species, assuming that any existing land use and any existing building could be changed. The only parameters were those given by the Earth itself - soil, hydrology and the ability of land to sustain vegetation communities required by the animal. For the human optimal habitat map the existence of the central railroad was treated as a fixed parameter since it exists external to the scope of our intervention.

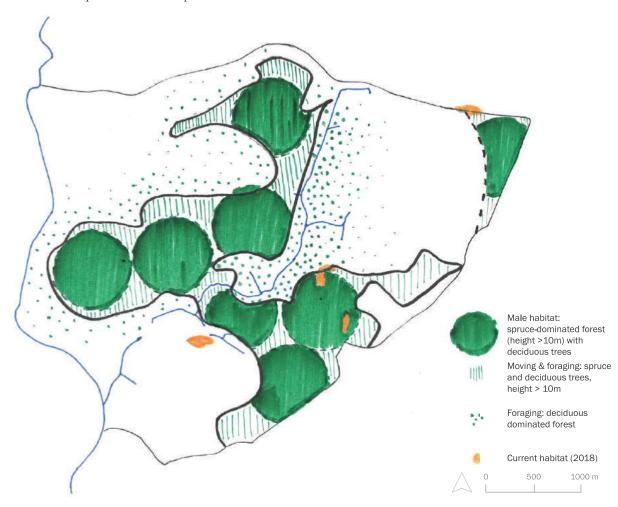
All 5 optimal habitat maps are overlaid to create the "negotiated habitat map". Overlaying the optimal habitats reveals conflict areas, such as where the northern goshawk's need for open space would exclude significant potential habitat for humans along the Ylä-Malmi stream corridor. It also reveals opportunities for collaboration, like the flying squirrel and northern goshawk sharing dense forest patches. Important to this process is that none of the species experiences a decrease to their available habitat. This means that not every habitat will be maximized, but none will be reduced from their present extents. A strategy for achieving the negotiated habitat was not to create only mono-functional areas but focus on developing hybrid typologies which could have utility for multiple species. While the Siberian flying squirrel would benefit from converting most of Malmi into a dense, undisturbed forest, the competition for space in a city will not allow a huge area of mono-functional dense forest. To maximize the utility of land we conceived of hybrid areas of forest and low density human habitat. The amount of dense, undisturbed forests is kept at the minimum necessary for nesting and the hybrid areas become suitable foraging ground. The negotiated habitat map of all flagship animals still does not consider existing land-uses and urban structures. As an additional step the negotiated habitat map is overlaid on existing conditions. We compared what we wanted to achieve with what already exists and thought through what actions would have to happen to change Current Malmi to Future Malmi. The future habitat map of Malmi is the final result. This map consists of 12 basic land-use typologies which together form a "habitat mosaic".



#### OPTIMAL MALMI I

#### SIBERIAN FLYING SQUIRREL PTEROMYS VOLANS

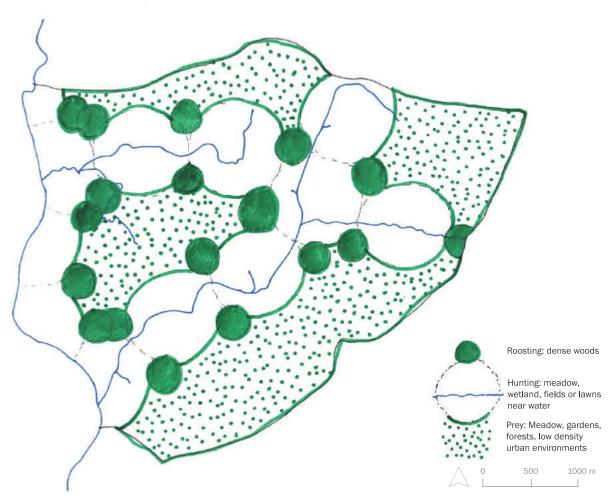
The Siberian flying squirrel prefers to nest in Norway spruce. Forests high in Norway spruce typically occur in silt-sand soils. Thus, the areas suitable for Norway spruce also become optimal for nesting squirrels. All other nearby forested areas will act as foraging ground and buffers between territories. Existing flying squirrel nesting sites (Lammi & Routasuo, 2018) are marked because they will be prioritized for conservation as it is easier to maintain existing nesting sites than to try to establish new ones. A continuous forest connection across the Longinoja to Ylä-Malmi will be required to access new potential habitats.



#### OPTIMAL MALMI II

#### NORTHERN GOSHAWK ACCIPITER GENTILIS

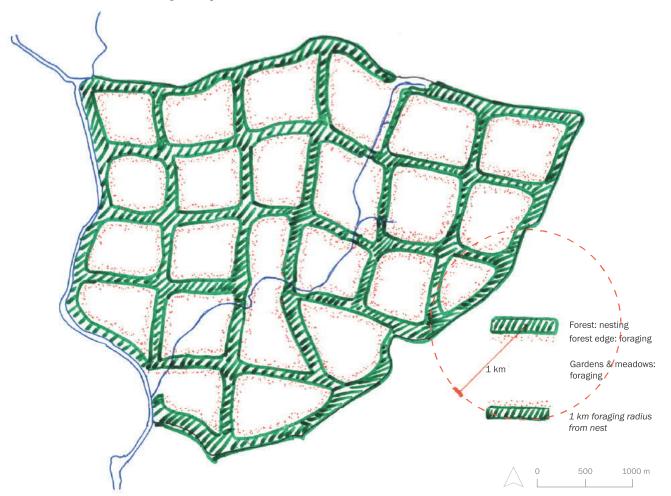
Malmi's water bodies form the spine of the goshawk's habitat structure, attracting sufficient prey density to sustain hungry nestlings. Unobstructed hunting grounds are required around these water bodies to provide a hunting area that is within optimal distance (1km or less) of available roosting sites. Suitable roosting sites should consist of dense forest patches. Optimally, they would be numerous, providing nesting pairs with opportunities to situate themselves near the most favorable hunting grounds and away from external threats. All other land not dedicated to hunting or roosting should serve to replenish prey populations.



#### OPTIMAL MALMI III

#### WHITE-TAILED BUMBLEBEE BOMBUS LUCORUM

The most important aspects of protecting white-tailed bumblebees are to ensure they have enough nesting sites, with flowering plants close to those nesting sites. Bumblebees build their nests in existing ground cavities. Usually they utilize old mice or vole nests, which means that bumblebee populations are partly dependent on mice and vole populations. Optimal habitat for bumblebees therefore include small patches of forest and scrubby areas to support healthy rodent populations. Meadows, gardens and other areas rich in flowering plants for foraging should be located as close to the nesting site as possible.



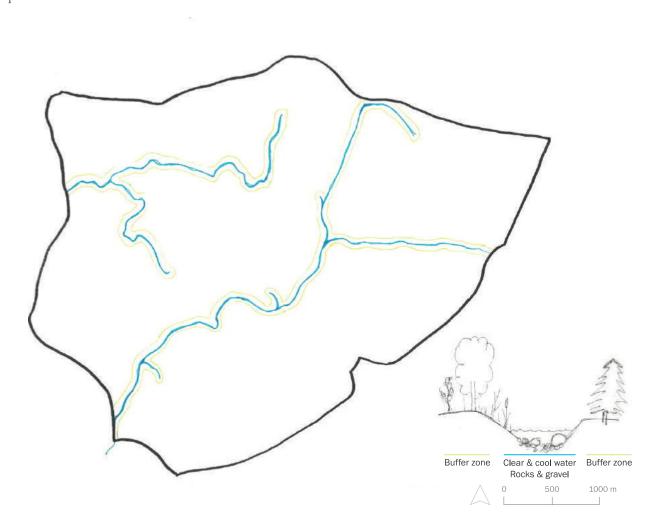
# — Chapter 2

46

#### OPTIMAL MALMI IV

## BROWN TROUT $SALMO\ TRUTTA\ MORPHA\ TRUTTA$

Brown trout can be found in rivers connecting to the Baltic sea (Fishingfinland.fi, 2019). In Malmi, they currently live in the Longinoja stream that connects to the river Vantaa. In Malmi, there is the possibility of creating more streams to serve as habitat for trout. Part of the Longinoja stream that is currently piped under the airport can be restored and a new stream in Ylä-Malmi can be created. Narrow vegetated buffer zones are needed around these streams to reduce nutrient leakage and provide shade for the stream.



#### OPTIMAL MALMI V

#### HUMANS HOMO SAPIENS URBANUS

Urban humans are successful at modifying any area of land into suitable habitats. Therefore, the most important factor in an optimal human habitat is transit accessibility. The optimal urban human habitat requires a new tram system to connect all areas of Malmi. Recreational green areas, service centers and transit centers are placed so that all humans live within the maximum acceptable walking distance.



48

#### NEGOTIATED HABITAT MAP

#### ALL FLAGSHIP SPECIES

For the Siberian flying squirrel, optimal habitat is reduced such that dense, undisturbed forests patches are kept at the minimum size needed to support nest colonies. Remaining potential forest habitats are allowed to hybridize with low density urban development which will not be disruptive to foraging. Where possible, goshawks and squirrels will share nesting habitat. Goshawk hunting areas are kept where they do not disturb the needs of other species. Bumblebees will find the resulting habitat contains many forest edges meeting grassy, flowered habitats. Humans can densify all areas where it is not disruptive to the other species and live in low densities where it is suitable. New and restored streams will expand the available spawning sites of the brown trout.



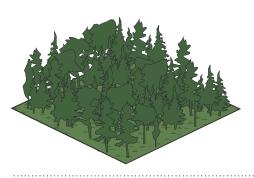
#### FUTURE MALMI HABITAT MAP

# ALL FLAGSHIP SPECIES WITH CONSIDERATIONS OF EXISTING LAND-USE

The results of the negotiated map are adjusted in order to better align with existing conditions. For example, if the location of a desired dense forest area is close to an existing dense forest, then the existing habitat will be preferred to the unnecessary creation of a new habitat. Where a desired land-use overlays on an incompatible land-use, the least disruptive action will be taken. For example, if mid-rise housing exists where there should be forest, a program of adding trees to the built area will be undertaken. In some cases, a greater disruption is needed, such as in the restoration of the Ylä-Malmi stream, which requires the removal of existing human dwellings. New urban density is situated to follow the logic of existing urban fabric rather than start from scratch.

Dense Forests Forests W/Buildings Parks Existing Buildings Prarie and Pasture New Buildings Detached Housing (Ex.) Existing Railroad Detached Housing Infill Transit Stop Mid-Rise Housing (Ex.) New Tramway Mid-Rise Housing Infill **Ecoduct Locations** New Dense Urban 1000m

50



#### **DENSE FOREST**

Dense forests are areas left to follow the natural succession of coniferous dominated mixed forests found in this region. After an initial campaign of reseeding and invasive species removal funded by the City of Malmi, these forests will be relatively unmaintained. Dead and decaying wood and debris will be left to rot on the forest ground providing micro-habitats for diverse small mammal and invertebrate communities, including bumblebees. Dense forests will provide nesting sites for flying squirrels and northern goshawks. City workers will tag nest sites and recreational use of dense forests will be limited to prevent disruption to these sites.



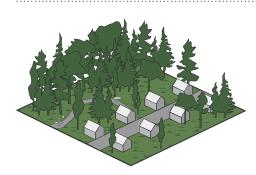
#### TREE PLANTING IN MID-RISE HOUSING

Multiple areas of Malmi consists of existing low density mid-rise apartment buildings. Many of these buildings are already surrounded by remnant forests fragmented by parking lots and lawns. The City of Malmi will work with the apartments' current landowners to convert some of the parking lots and lawn areas back into forest, creating a more continuous habitat structure for flying squirrels.



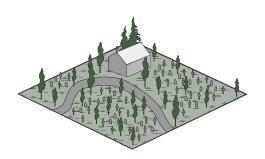
#### TREE PLANTING IN DETACHED HOUSING

More trees will be added to a few small detached housing areas in lower Malmi near the airport. These detached housing areas are a vital part of the connections between the dense forest patches used by the flying squirrels. City of Malmi programs will be implemented to prevent removal of old or decaying wood from these properties and encourage more forest-like domestic landscaping. Older trees will have to be actively monitored and supported to prevent damage to private dwellings.



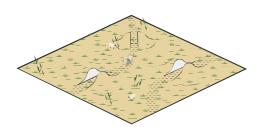
#### **NEW FOREST DWELLINGS**

New forest dwelling will be a new type of owner-built housing area consisting of alternating patches of forest and small single family housing units limited in size by zoning. Patches of forest will be at least 1ha. New forest dwellings will have a significant amount of city-planted trees to ensure flying squirrels can move throughout the area. Maximum distance between individual trees will be regulated to 20 meters. The new forest dwelling areas will serve as important green corridors connecting dense forest patches that squirrels use for nesting.



#### **PARKS**

Malmi has several public parks that will be left as they are now, because older parks are much more valuable in terms of ecosystem services than newly established ones. The biggest current park in Malmi is the Malmi cemetery which has a diverse plant community and many old trees. The City of Malmi maintenance practices of old parks will be revised to select for ornamental plant communities favorable to bumblebees as many of these parks' plantings are due for renewal.



#### PRAIRIE RESTORATION WITH DWELLINGS

New prairie with sod dwellings will be a new type of community built detached housing area which can serve as a hunting ground for the goshawk and nectar foraging grounds for bumblebees. House design will be regulated by zoning, such that all houses are single-story earth-berm dwellings. Vegetation in this area will consist of native flowering annuals and grasses. Tall trees and dense bushes that limit visibility will be kept at a minimum. Sheep will be introduced to the area to graze, eliminating the need for mowing and retarding the natural reforestation of the area. These sheep will be managed by the Fallkulla educational farm currently active in the area.



#### EXISTING DETACHED HOUSING

North-west Malmi has existing detached housing areas that will remain as they are, recognized for their existing diverse vegetation and mature trees. Residents in those areas will be encouraged to take part in bumblebee conservation programs which aim to make private gardens more pollinator-friendly.

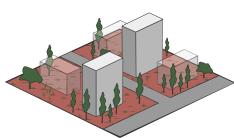


#### **DETACHED HOUSING INFILL**

Some detached housing areas will be densified to accommodate more humans where it will not detract from the habitat needs of other species. Densification will be implemented through tax incentives to encourage private home owners to build "granny flats", small self-contained housing units in their backyards, at their own expense and profit. Private home owners will also be allowed to electively subdivide and sell off portions of larger plots to allow additional private houses to be built in the area.

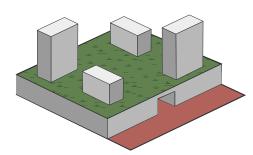
#### **EXISTING MID-RISE HOUSING**

Malmi has a few newly constructed apartment block areas that are located in areas not conflicting with the habitat requirements of any other flagship species. No significant changes will be required in these areas, but property owners will be encouraged to implement pollinator-friendly landscaping. Zoning will restrict building density to existing levels. In the future, building owners will only be allowed to renovate or replace existing buildings in-kind.



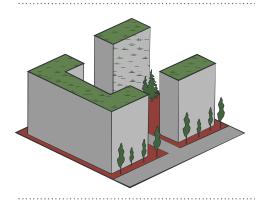
#### MID-RISE HOUSING INFILL

Where not in conflict with the needs of other flagship species, existing midrise housing areas will be densified. Existing property owners will be given tax incentives to build new units on their properties at their profit. Areas will be up-zoned to allow the building of larger and taller units when old ones are in need of replacement. If desired, existing land owners will be allowed to subdivide and sell portions of their land for new development.



#### RESIDENTIAL-INDUSTRIAL HYBRID

With the City of Malmi led development projects, residential buildings will be incorporated into light industrial areas to create residential-industrial hybrids. These areas will have housing on top of light industrial buildings or residential buildings infilled among existing industrial buildings. The existing industrial usage of this area can partly be maintained in such a way that allows residential cohabitation as could be found in many trendy loft neighborhoods of post-industrial cities.



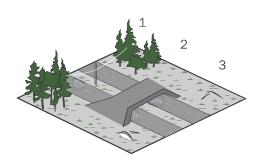
#### **NEW DENSE URBAN**

New City of Malmi led dense urban development will be constructed around new or existing transit nodes. These areas will consist of walkable high-rise buildings with shops and services on the ground floor. New dense urban areas will house a large human population attracted by the proximity to transportation, services and amenities. New urban landscaping practices will be pollinator friendly and support the foraging and movement of birds and small invertebrates serving as prey for goshawks.



#### MALMI AIRPORT NATURE CENTER

The airport of Malmi is an important part of Malmi's identity and the closing of the airfield evoked voices of resistance (Helsinki-Malmi Airport, n.d.). Our future plan for Malmi considers the preservation of the recognizable airport buildings and turns them into the Malmi Airport Heritage and Nature Center. The center informs residents about the former airfield and its history, as well as serving as a platform for nature education and nature community activities.

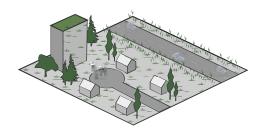


#### **ECODUCTS**

Ecoducts are any of a number of strategies to alleviate the effects of habitat fragmentation caused by roads and railways. With a limited gliding range between tree canopies, the Siberian flying squirrel is highly sensitive to fragmentation. The goshawk's prey will be more numerous if they can move and recruit mates from across major barriers.

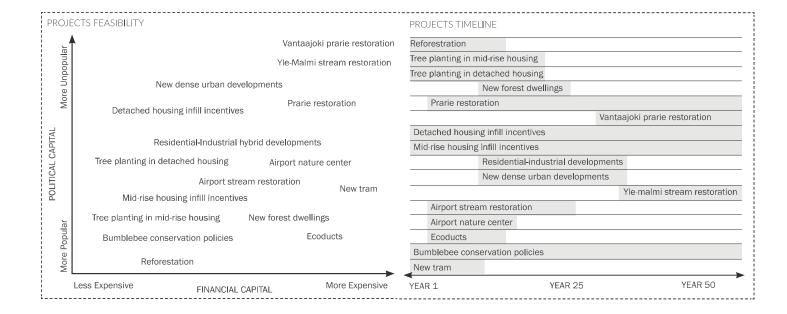
- 1. Median posts are low-cost wooden poles placed on medians or roadsides. In combination with rope bridges, they can be effective ecoducts for gliding animals like the Siberian flying squirrel (Taylor & Goldingay 2009).
- 2. Land bridges can support the movement of most ground animals (ibid., Metzger 2014).
- 3. Wildlife tunnels provide an effective pathway for some small ground dwelling animals, especially amphibians and rodents (Dramstad, et. al. 1996).

At the beginning of the project, different ecoduct strategies should be tested and monitored to find out the preferences of the target species in this area (Taylor & Goldingay 2009).



#### **BUMBLEBEE CONSERVATION POLICIES**

In the future plans for Malmi potential foraging areas for bumblebees are found everywhere, from the city core to suburban gardens and forests. The city will institute policies which will help to make the existing and new areas even more bumblebee friendly. With small adjustments to plant selection and green area maintenance practices, the amount of quality foraging areas will increase substantially. The city will arrange education and gardening events directing residents towards planting more pollinator friendly species. Pollinator friendly plant selection and maintenance practices will be incorporated in public parks and green infrastructure. Reduced mowing of roadsides and replacing lawns with meadows will increase flower abundance in Malmi.



#### FEASIBILITY AND TIMELINE

Some of the projects required to implement Malmi's future habitat structure would be, admittedly, unpopular and require time to design, finance and implement. The graphs below indicate the relative amount of political and financial capital required to realize each of these projects and a proposed timeline over which these projects would be implemented. We recognize that not all of these proposals would be popular. The most conspicuously unpopular ones are those that require the demolition of existing residential areas. These projects would occur over a long time frame during which the City of Malmi could slowly purchase properties as residents voluntarily move out.

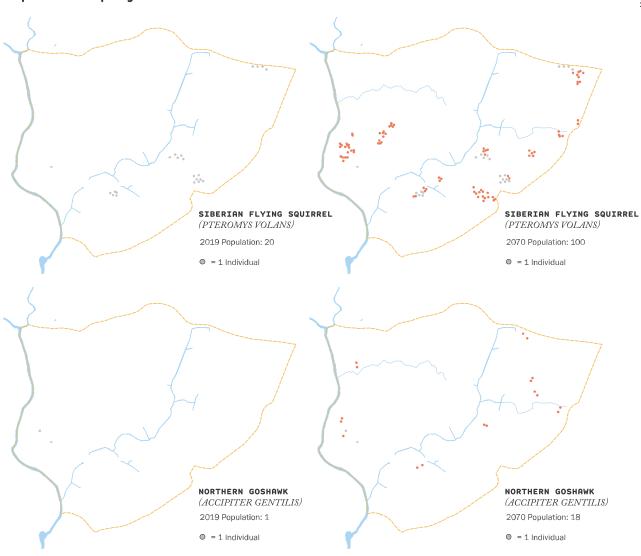
#### **POPULATION PROJECTIONS**

The result of our plan for future Malmi is an increase in the abundance of all 5 flagship species without an increase in the amount of mono-functional green areas. These projections are estimates based on extrapolating current populations to the new habitat. For the human population, we planned with the specific goal to meet or exceed the estimated population increase that would come from the redevelopment of Malmi Airport and adjacent densification (Helsinki City Planning Department, 2015). By determining the number of buildings, units and people per unit for the 12 different typologies, we were able to make an estimate of the future human population. The development of hybrid residential-greenspace and industrial typologies allowed us to achieve our human population goals as well as provide suitable habitat structures for the other flagship species.

#### UNCERTAINTY

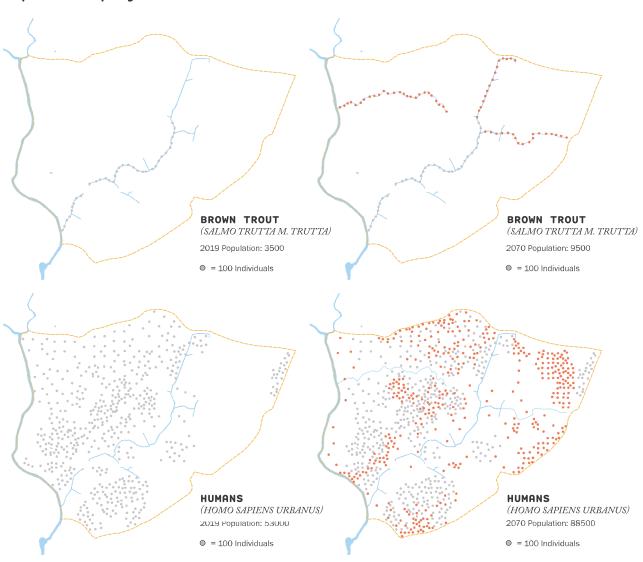
As humans, interpreting non-human wants and needs is not an easy task. We have to recognize the possibility that we can easily misinterpret these non-human voices. The knowledge we have of animal habitat preferences comes from observations and, unfortunately, most of these ob-

# Population projections



56

# Population projections



servations occur in non-urban areas. In analyzing these habitat preferences researchers look at common indicators of suitability that can be repeatedly and consistently measured. They measure the size, density, proximity and adjacency of markers like dead-wood, mature forest growth, standing or running water, and open clearings. However, there are many other confounding factors which go unmeasured and their effect on habitat suitability is often unknown. We must also acknowledge that non-human voices can change, just like human voices, and that habitat preferences that scientists have observed from past data may not reflect the future behavior of the animals in question. For example, it was long assumed the Siberian flying squirrel was intolerant of human-occupied habitats, but within the last decade they have experienced a "boom" in Helsinki and Espoo and show no signs of reversing course (Yle, 2016).

#### **GENERALIZATION**

The planning approach used in this project is applied to site specific conditions of soil, natural topography and existing species distributions. It also takes into account five flagship species which are deemed relevant to this specific place. The result is an urban plan which can not be repeated elsewhere. However, this approach could be generalized to any context and for any set of flagship species. The result in a new place and with new species would be different but would follow a similar process of identifying optimum habitat structures and overlaying them on existing conditions.

#### CONCLUSION

In a system that frames the choice between biodiversity and socio-economic needs as an either-or scenario, socio-economic needs have tended to win out, but not before biodiversity considerations cause headaches and delays. By imagining a planning scenario that includes animal voices from the beginning, we are seeking to create a system that utilises a both-and scenario where

planning for a socio-economically functional place can also mean conserving and creating the habitat structures needed to support a variety of animals, including, though not limited to, *Homo sapiens urbanus*.

#### SPECIES PORTRAIT REFERENCES

- Selonen, V. & Mäkeläinen, S. (2017) Ecology and protection of a flagship species, the Siberian flying squirrel. Hystrix. 28 (2). Available from: https://www.researchgate.net/publication/322677517\_Ecology\_and\_protection\_of\_a\_flagship\_species\_the\_Siberian\_flying\_squirrel [Accessed on 20.11.2019].
- Mäkeläinen, S., de Knegt, H.J., Ovaskainen, O.T. & Hanski, I.K. (2016) Home-range use patterns and movements of the Siberian flying squirrel in urban forests: Effects of habitat composition and connectivity. Movement Ecology. 4, 1-14. Available from: https://doi.org/10.1186/s40462-016-0071-z [Accessed on 04.11.2019].
- 3. Jokinen, M., Hanski, I., Numminen, E.; Valkama, J. & Selonen, V. (2019) Promoting species protection with predictive modelling: Effects of habitat, predators and climate on the occurrence of the Siberian flying squirrel. Biological Conservation. 230, 37-46. Available from: https://doi.org/10.1016/j.biocon.2018.12.008 [Accessed on 04.11.2019].
- 4. Asari, Y., Yanagawa, H. & Oshida, T. (2007) Gliding ability of the Siberian flying squirrel *Pteromys volans* orii. Mammal Study. 32, 151-154. Available from: https://www.researchgate.net/publication/232676054\_Gliding\_ability\_of\_the\_Siberian\_flying\_squirrel\_Pteromys\_volans\_orii [Accessed on 04.11.2019].
- 5. Lehikoinen, A. (n.d.) "Goshawk (*Accipiter gentilis*)" http://atlas3. lintuatlas.fi/results/species/Goshawk [Accessed on 22.11.2019].
- NatureGate. (2019) "Goshawk (Accipiter gentilis)" http://www. luontoportti.com/suomi/en/linnut/goshawk [Accessed on 22.11.2019].
- Finnish Biodiversity Info Facility. (2019) "Northern Goshawk (Accipiter gentilis) Endangerment." https://laji.fi/en/taxon/ MX.26647/endangerment [Accessed on 22.11.2019].
- City of Helsinki (n.d.) "Northern Goshawk: Urban bird of Prey." https://citynature.eu/en/birds/northern-goshawk/ [Accessed on 22.11.2019].
- 9. Byholm P. & Nikula, A. (2007) Nesting failure in Finnish Northern Goshawks *Accipiter gentilis*: incidence and cause. International Journal of Avian Science. 149: 597-604. https://doi.org/10.1111/j.1474-919X.2007.00687.x [Accessed on 22.11.2019].
- Cornell Lab of Ornithology. (n.d.) "EBird: Goshawk (Accipiter gentilis)" https://ebird.org/species/norgos. [Accessed on

22.11.2019].

- 11. Cueva del Castillo, R., Sanabria-Urbán, S. and Serrano-Meneses, M.A., 2015. Tradeoffs in the evolution of bumblebee colony and body size: a comparative analysis. Ecology and Evolution, 5(18), pp.3914-3926.
- 12. Ranta, E., Lappalainen, K. and Miettinen, H., 1984, January. Foraging dynamics of two bumblebee species (B. lucorum and B. lapidarius) during one summer. In Annales Zoologici Fennici (pp. 77-88). Finnish Academy of Sciences, Societas Scientiarum Fennica, Societas pro Fauna et Flora Fennica and Societas Biologica Fennica Vanamo.
- 13. Luonnonvarakeskus (2019) Tietoja kalalajeista: Taimen. Available from: http://kalahavainnot.luke.fi/kalalajitieto/taimen/[Accessed on 28.11.2019].
- 14. City of Helsinki (2019) Longinojan valuma-alueselvitys ja vesienhallinnan suunnitelma. Helsingin kaupunki / Kaupunkiympäristön toimiala. Kaupunkiympäristön julkaisuja 2019:8. Available from: https://www.hel.fi/static/liitteet/kaupunkiymparisto/julkaisut/julkaisut/julkaisu-08-19.pdf [Accessed on 27.11.2019].
- Louhi, P., Marttila, M., Orell, P., Artell, J., Erkinaro, J., Hiedanpää, J., Huusko, A., Hyvärinen, P., Jaukkuri, M., Juutinen, A., Karjalainen, T. P., Kaukoranta, M., Marttila, H., Marttunen, M., Mellanoura, J., Mustonen, K., Piironen, J., Romakkaniemi, A., Rotko, P., Saura, A., Sutela, T. & Vehanen, T. (2019) Vaelluskalojen palauttaminen rakennettuihin jokiin Rakennettujen jokien tutkimustuloksia vuosilta 2011–2018. Helsinki, Luonnonvarakeskus. Luonnonvara- ja biotalouden tutkimus 55/2019. Available from: https://jukuri.luke.fi/bitstream/handle/10024/544632/luke-luobio\_55\_2019.pdf?sequence=1&is Allowed=y [Accessed on 27.11.2019].
- 16. Daniels, R & Mulley, C. (2013) Explaining walking distance to public transport: The dominance of public transport supply. The Journal of Transport and Land Use. Vol. 6 No. 2 [2013] pp. 5–20 doi: 10.5198/jtlu.v6i2.308. [Accessed on 26.11.2019].
- Olafsson, A.S., Caspersen, O.H. & Møller, M.S. (2015) "Green Surge: Study on urban green infrastructure planning and governance in 20 European Cities." https://greensurge.eu/products/ case-studies/Case\_Study\_Portrait\_Aarhus.pdf. [Accessed on 26.11.2019].

#### **REFERENCES**

- Andersson, E. (2006). Urban landscapes and sustainable cities. *Ecology and Society*. 11 (1):34 Available from: http://www.ecology-andsociety.org/vol11/iss1/art34/ [Accessed on 25.11.2019].
- Copernicus. (2017). CORINE land cover. Available from: https://

- land.copernicus.eu/pan-european/corine-land-cover [Accessed on 14.09.2019].
- Dramstad, W.E., Olson, J.D. & Forman, R.T.T. (1996). Landscape Ecology Principles in Landscape Architecture and Land-Use Planning. Washington D.C.: Island Press.
- fishinginfinland.fi (2019). Sea trout silver-flanked surfer of coast.

  Available from: https://fishinginfinland.fi/sea\_trout [Accessed on 12.12.2019]
- Florida, R. (2003). Rise of the Creative Class. New York: Basic Books.
- Helsinki City Planning Department. (2015). *Urban Plan. Helsinki city plan draft*. Available from: https://www.hel.fi/hel2/ksv/julkai-sut/esitteet/esite\_2015-1\_en.pdf [Accessed on 17.10.2019].
- Helsinki Department of Urban Environment. (2017). *Geotechnical Maps*. Available from: https://kartta.hel.fi/ [Accessed on 14.09.2019].
- Helsinki-Malmi Airport. (n.d.) Friends of Malmi Airport. Available from: https://www.malmiairport.fi/en/foma/friends-of-malmiairport/ [Accessed on 26.11.2019].
- Lammi, E. & Routasuo, P. (2018). Helsingin liito-orava kartoitus 2018. Helsingin kaupunki / kaupunkiympäristön toimiala. Kaupunkiympäristön julkaisuja 2018: 27 Available from:https:// www.hel.fi/static/liitteet/kaupunkiymparisto/julkaisut/julkaisut/ julkaisu-27-18.pdf [Accessed on 25.11.2019].
- Longinoja (2019). Website. Available from: http://longinoja.fi/ [Accessed on 27.11.2019].
- Louhi, P., Marttila, M., Orell, P., Artell, J., Erkinaro, J., Hiedanpää, J., Huusko, A., Hyvärinen, P., Jaukkuri, M., Juutinen, A., Karjalainen, T. P., Kaukoranta, M., Marttila, H., Marttunen, M., Mellanoura, J., Mustonen, K., Piironen, J., Romakkaniemi, A., Rotko, P., Saura, A., Sutela, T. & Vehanen, T. (2019). Vaelluskalojen palauttaminen rakennettuihin jokiin Rakennettujen jokien tutkimustuloksia vuosilta 2011–2018. Helsinki, Luonnonvarakeskus. *Luonnonvara- ja biotalouden tutkimus*. 55/2019. Available from: https://jukuri.luke.fi/bitstream/handle/10024/544632/luke-luobio\_55\_2019.pdf?sequence=1&isAllowed=y [Accessed on 27.11.2019].
- Metzger, J. (2014). The Moose are Protesting: The more-thanhuman politics of transport infrastructure development. In: Metzger, J., Allmendinger, P. & Oosterlynck, S. (eds.) *Planning Against the Political*. New York: Routledge.
- Mäkeläinen, S., de Knegt, H.J., Ovaskainen, O.T. & Hanski, I.K. (2016). Home-range use patterns and movements of the Siberian flying squirrel in urban forests: Effects of habitat composition and connectivity. *Movement Ecology*. 4: 1-14. Available from: https://doi.org/10.1186/s40462-016-0071-z [Accessed on 04.11.2019].
- Selonen, V. & Mäkeläinen, S. (2017). Ecology and protection of a flagship species, the Siberian flying squirrel. *Hystrix*. 28 (2):134–146. Available from: https://www.researchgate.net/publica-

- tion/322677517\_Ecology\_and\_protection\_of\_a\_flagship\_species\_the\_Siberian\_flying\_squirrel [Accessed on 20.11.2019].
- Standish, R.J., Hobbs, R.J., Miller, J.R.. (2012). Improving city life: options for ecological restoration in urban landscapes and how these might influence interactions between people and nature. Landscape Ecology. 28 (6):1213-1221. Available from: https://link.springer.com/article/10.1007/s10980-012-9752-1 [Accessed on 06.11.2019]
- Taylor, B.D. & Goldingay, R.L. (2009). Can road-crossing structures improve population viability of an urban gliding mammal? Ecology and Society. 14 (2):13.
- Available from: https://www.ecologyandsociety.org/vol14/iss2/art13/ [Accessed on 25.11.2019].
- Weisser, W.W. & Hauck, T.E. (2017). Animal-Aided design: using a species' life-cycle to improve open space planning and conservation in cities and elsewhere. *bioRxiv*. 1:150359
- Available from: https://pdfs.semanticscholar.org/a839/395c4595e-578abf2f978d08b8ca53920fea2.pdf [Accessed on 27.11.2019].
- Yle (2019). Flying squirrel habitat stalls inter-city tram line construction. Available from: https://yle.fi/uutiset/osasto/news/ flying\_squirrel\_habitat\_stalls\_inter-city\_tram\_line\_construction/10903459 [Accessed on 27.11.2019].
- Yle (2016). Siberian flying squirrel population boom in Helsinki. Available from: https://yle.fi/uutiset/osasto/news/siberian\_flying\_squirrel\_population\_boom\_in\_helsinki/9254382 [Accessed on 27.11.2019].

Urban Studies and Planning 2020 Urban Studies and Planning 2020 Urban Studies and Planning 2020 Urban Studies and