

# **LIVABLE PUBLIC WATERFRONT**

**CASE STUDY: TEIVAS SHORELINE**

## Abstract

Author Kuutschin-Gallardo, Jessica	Type of publication Master's thesis	Published Spring 2020
	Number of pages 78	Pages of Appendices 15
Title of publication <b>Livable Public waterfront</b> Case study: Teivas shoreline		
Name of Degree Master of Engineering		
Abstract <p>Over the last years, cities worldwide have started to develop their waterfront areas for recreation and public use. The shoreline in the south-eastern part of Lake Vesijärvi and that closest to the city centre of the city of Lahti was altered in the past when an embankment for a railway line was added crossing the lake. Later the rails were removed, and nowadays it is used as a walking road. The embankment gave birth to a new shoreline shape in the area of Pikku-Vesijärvi pond. Therefore, the lake waterfront in that area was left disconnected from the city. The new landscape became a historical element of the environment. The area is on the way to attractive touristic areas. The need for development in the area has been growing as a part of the work of the City Planning Department, under the existing Vision Programme 2030. This includes the Ranta-Kartano area development, which represents positive progress in the approach of the urban centre to the lake shore.</p> <p>This Master's thesis investigates how to improve the shoreline of Teivas. It aims to find a vision for how to become a livable waterfront, with integrated public space for public use. In addition, the work looks for a better connection of the urban structure to the shoreline and better land use for the area to create a more accessible and sustainable place for the people of Lahti. The study searches for weaknesses and opportunities, while questioning the authorities' views, using this study to find new aspects for consideration.</p> <p>There is an extensive background study, based on history related to the area; a literature review related to urban design principles, image, public life, form elements, waterfront regeneration; and a case study spatial analysis to support the findings, recommendations, and proposition. A new vision needs to recognise the Teivas shoreline as the gate and front garden of the city of Lahti. It should also improve its connections through green corridors for public use. The paper has conclusions concerning the process challenges and a discussion of the findings.</p>		
Keywords Waterfront development, public space, livable space, public life, urban design, regeneration		

## Tiivistelmä

Tekijä Kuutschin-Gallardo, Jessica	Julkaisun laji Opinnäytetyö YAMK	Valmistumisaika Kevät 2020
	Sivumäärä 78	Liitteiden sivumäärä 15
Työn nimi <b>Elävä julkinen ranta-alue</b> Case:Teivaan ranta		
Tutkinto Insinööri (YAMK)		
Tiivistelmä <p>Viime vuosien aikana kaupungit eri puolilla maailmaa ovat alkaneet kehittää ranta-alueitaan virkistys- ja julkiseen käyttöön. Vesijärven kaakkoisosassa, ja lähinnä Lahden keskustaa olevaa rantaviivaa muutettiin aiemmin, kun järven ylittämiseen, rakennettiin rautatiepenger. Myöhemmin kiskot poistettiin ja aluetta käytetään nykyään kävelytienä. Penger muodosti uuden rantaviivan Pikku-Vesijärvelle. Kyseisen alueen ranta jätettiin erilleen kaupungista. Uudesta maisemasta tuli historiallinen elementti ympäristöön. Alueesta on muodostumassa houkutteleva turisteille. Alueen kehittämistarve on kasvanut osana kaupunkisuunnittelu, olemassa olevaa Visio 2030 - ohjelmaa. Tähän liittyy myös Ranta-Kartanon kehitys, joka edustaa merkittävää muutosta kaupunkikeskuksen ja ranta-alueen lähentymisessä.</p> <p>Tässä opinnäytetyössä tutkitaan, kuinka Teivaan rantaviivaa voidaan parantaa. Työn tavoitteena on esittää visio alueen muodostamisesta eläväksi julkiseksi tilaksi palvelemaan yleistä käyttöä. Lisäksi työssä pyritään yhdistämään kaupunkirakenne paremmin rantaviivaan ja maankäytön kokonaisuuteen kehittämällä sitä paremmin saavutettavaksi ja kestäväksi Lahden asukkaille. Tutkimuksessa kyseenalaistetaan kaupunkisuunnittelun näkemyksiä sekä pyritään löytämään uusia tarkastelutapoja.</p> <p>Työssä on esitetty laaja alueen historiaan liittyvä taustatutkimus; Kirjallisuuskatsaus liittyy kaupunkisuunnitteluperiaatteisiin, imagoon, julkiseen elämään, muotoelementteihin ja ranta-alueiden uudistamiseen. Tapaustutkimuksen alueellinen analyysi tukee havaintoja, suosituksia ja laadittua ehdotusta. Uuden vision on tunnistettava Teivaan rantaviiva Lahden kaupungin portiksi ja etupihaksi sekä parannettava sen yhteyksiä vihreiden käytävien avulla yleiseen käyttöön. Työssä esitetään arvio prosessin haasteista ja johtopäätökset tehdyistä havainnoista.</p>		
Avainsanat Ranta-alueiden kehittäminen, julkinen tila, käyttökelpoinen tila, julkinen elämä, kaupunkisuunnittelu, uudistaminen		

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## 1 INTRODUCTION

Creating livable and attractive waterfronts has been a significant issue for cities in the last years. A waterfront is an urban border and has the potential to be a gate for the city and give a vision for it. A waterfront is a space where expressions of the urban culture can be built and a place that the public can enjoy. It must be integrated physically and visually to the existing urban fabric of the city and emphasize on the public accesses to it. To be attractive it is necessary for it to be combined with the green environment, landscape design, services, and good connections.

Normally a waterfront development involves the following stakeholders: a client, a community group, the city, an investor, a developer, or a port authority. The future image should be created based on analysis of the area socially and environmentally, but many times that image might follow economic interests given to private promoters.

For the analysis it is necessary to understand the land opportunities and constraints, and what is needed from the land and the space to approach the vision. As well, it is necessary to understand the history, spatial quality, and functionality tendency of the existing situation

The area under study is the shoreline of the marina of Teivas and the west/south side of the park of Pikku-Vesijärvi in Lahti, Finland and is part of a historical route between the sports centre and the travel harbour. Teivas marina area does not attract public use, and nor does it attract possible investors. A place with identity and with meaning attracts people for public life.



PICTURE 1. Aerial view from Teivas marina and Pikku-Vesijärvi park and pond (marina.com)

## 1.1 Relevance of the topic, problem statement.

The topic is relevant, as many times in our cities many natural environments such as a waterfront are relegated or postponed, left disintegrated of the urban fabric due the transformation of the city structure. The transformations might have been through a rail network change or when the area has been limited to one particular use for a long time, for example industrial use, transport use, or restricted private recreational use. The shoreline should belong to the community and not to a specific group. The study case of this thesis is affected by these issues, is relevant for Lahti inhabitants, as it is a crucial cross point for many daily users to travel to and from their work and the surroundings are used for public recreational use. Also, it is important to consider that the city of Lahti has had the interest to improve this area for a long time, looking after a new vision to open more business possibilities and make it more alive.

## 1.2 Research aim

The aim of this thesis is to find a vision, to regenerate and connect the case study area between Teivas Marina waterfront and the south side of Pikku-Vesijärvi park. Urban planning concepts will be used to understand the structure of the area and define some design guidelines to be applied

The aim of the guidelines is to achieve a sustainable integrated public waterfront, considering its position in the urban network. As well, the research aims to find ways to improve the study place responding to the strategic city planning aspirations with a view for 30 to 40 years, more connecting public, private spaces, and nature. For these, a theoretical and analytic framework will be used, and it will aim to respond to the wishes of the inhabitants and improve the environment. The research will also answer the question of what is relevant to the protected areas considered historically valuable, and will question the master-plan regulations, including the land use for the selected area. The study investigates the history of the area, and searches from local land use as a reference.

In general, the thesis refers to the North-East coordinate as North, to the South-West coordinate as South, to the East -South coordinate as East and to the West -North as West.

Research questions:

-How to integrate the shoreline better with public use?

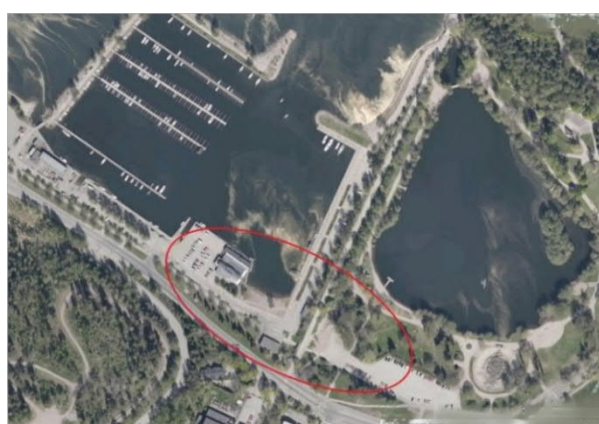
-What kind of future image could integrate the waterfront better with the city?

### 1.3 Thesis background

The background of the thesis is based on a real development project under the land use planning of the city of Lahti for the area between Sports Centre and the Travel Harbour, to improve it for 2030 (fig.1) expecting more exercise, culture, events, urban and nature tourism, leisure and recreation, throughout the year. The area includes the city centre area of Ranta-Kartano, multi-use stadium Kisapuisto, Sibelius House area, Port of Lake Vesijärvi, Rantaväylä, Pikku-Vesijärvi park, Lanupuisto park, the Marina of Teivas and the Sport-Exhibition Centre. For these there have already been different proposals for changing the master plan.



FIGURE 1. Harbour-sports centre (City of Lahti 2018)



PICTURE 2. Case study, Teivas shoreline, South side of Pikku-Vesijärvi park

The author has a background in architecture, with many years as project architect in the design of public and residential buildings. The urban planning branch is familiar, and the thesis is an opportunity to learn more and to use the knowledge learned during the courses of this master's degree in Urban Sustainability to develop a concrete case of urban design.

The thesis process started with two meetings with planning architects working in the city of Lahti, held on 20.08.2018 and 17.10.2018, where a spatial analysis of the area was presented and discussed, and the problems and the disconnections were recognised.

It was recommended that the target area of this study be the area between Teivas Marina waterfront and south side of Pikku-Vesijärvi park and the old railway bank (pic.1). As well, it was concluded to emphasize urban design, keeping the marina docks as a guest and home port, but more integrated to the town and the city's strategy programme Vision 2030. It was suggested to propose locations and sizes for the potential business services for boat users, as well as for residents.

## 2 OBJECTIVES OF THE RESEARCH

The applied research was carried out to solve specific questions, it will be exploratory and descriptive.

### 2.1 Research questions:

The main research questions

- How to integrate the shoreline better with public use (Qualitative research)
- What kind of future image could integrate the waterfront better with the city

Other research questions-the second sub question is: which are the design principles to be inclusive and inviting, enabling anyone to be part of the new downtown urban life and events.

### 2.2 General Research Objectives

- In general, the goal is to contribute to the improvement of the urban quality of life of the inhabitants of Lahti by generating a quality public space in the particular area. As well it is the intention to contribute with a theoretical framework concerning planning and case topic to develop the Teivas Shoreline as a livable integrated public waterfront. (fig.2). Networks of different types of social groups and space patterns (author 2020)

### 2.3 Specific Research Objectives

- To regenerate new forms of appropriation and connect the case study area with the south side of Pikku-Vesijärvi park connecting public spaces, private spaces, and nature
- To respond to the strategic city planning aspirations with a view for 30 to 40 years more
- To respond to the relevancies of protected historical elements and question the masterplan regulations including the land use for the selected area.

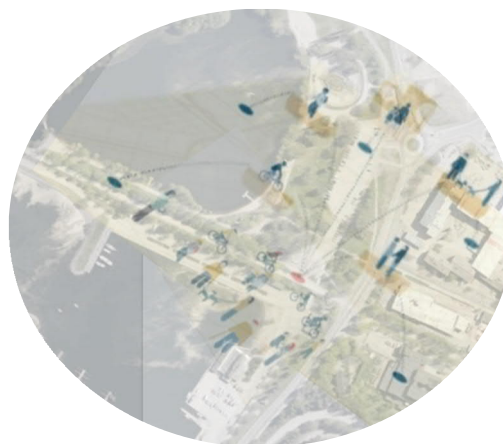


FIGURE 2. Public networks and groups (author 2020)

### 3 RESEARCH AND PLANNING METHODS

This thesis is used as a theme, a present problematic of the City of Lahti for this area which needs new land use changes for 2030. The harbour sports centre's aim is to develop and diversify in recreation, sports, culture, tourism, and events.

The methods used in this work are based on literature dealing with urban design and planning. The thesis research is under three phases: recognising, exploring, and designing. The research represents a case study that follows a design process by observing, analysing and proposing.

#### 3.1 Qualitative research methods for the analysis

Qualitative research methods are based mainly by observation and social interaction searching for an explanation of the why and how of what was observed or assimilated, without exactly numerical data. It will provide descriptions about the topic on research and will give the answer to the formulated questions. The questions that needed to be asked were first identified.

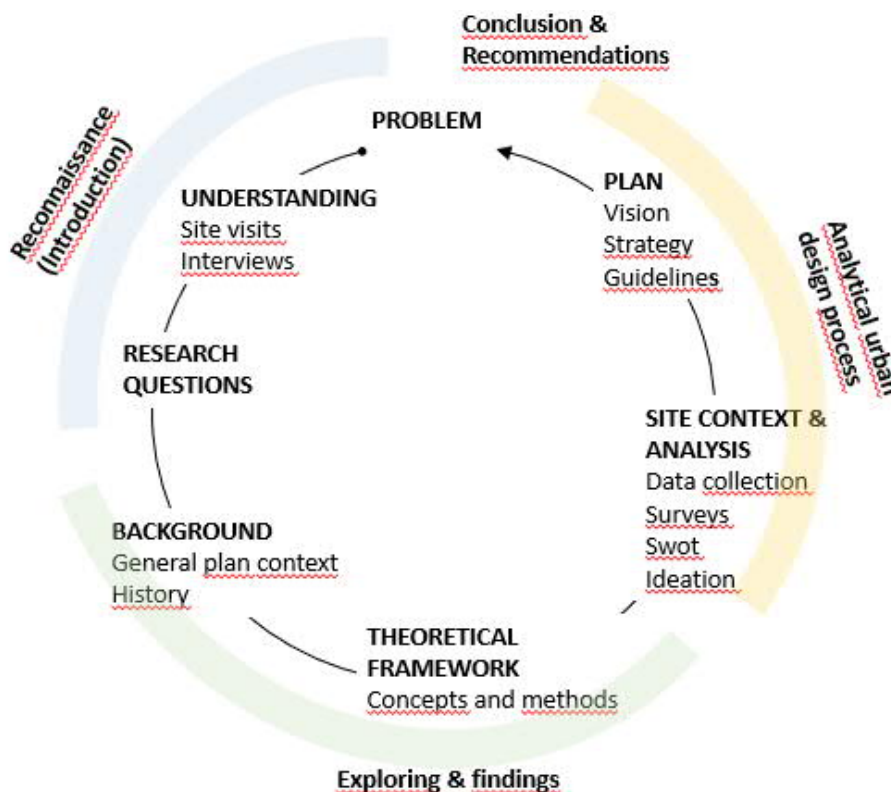


FIGURE 3. Research process method (Author 2020)

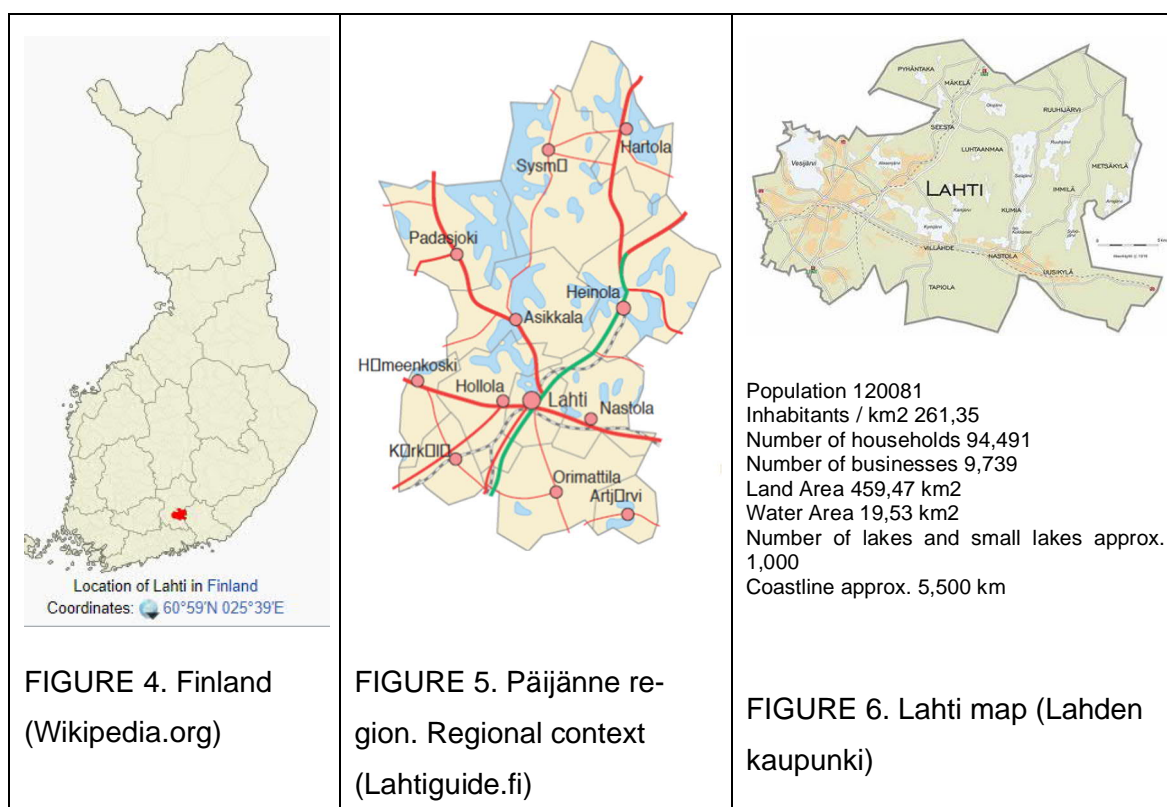
- Background. The area as part of the city, general plan context. Mainly the information was collected from the municipality of Lahti.

- A history review of the area, which was relevant to evaluate the environmental and cultural values for the area.
- A literature review: Analysis of the theoretical review collected which overview the main urban planning concepts and methods related with the topic, which are utilized to understand the structure of the area and finding the design guide-lines and strategies for urban design and waterfront public restoration.
- Data collection and analysis applied the following items
  - Physical and spatial analyses of existing conditions of the area. Kevin Lynch tools recognising general patterns, quality elements like paths, edges, nodes, and landmarks were used to improve the understanding.
  - Public life tools suggested by Gehl and complementary previous data mappings. Collecting people movements, stationary activity, analysing interviews with users in the area, either by the author or other earlier interviewers.
  - Legibility of the site structure, by observing the users, the ways the people move, react, and perceive their environment
  - Accessibility to the area
  - By interviewing authorities and analysing previous studies (meetings with project manager Pirkko- Leena Jakonen, City Architect Anne Karvinen-Jussilainen, zoning architect Markus Lehmuskoski, zoning architect Marja Mustakallio)
- The analysis was summarized through SWOT, strengths, weaknesses, opportunities, and threats
- The summary would give the tools to visualize an image form for the specific site and the properties required for an integrated public space and needed qualities for a waterfront.

## 4 BACKGROUND OF THE RESEARCH- AND DEVELOPMENT

### City Profile

The city of Lahti meaning “Bay” as a translation, is one of the 9 municipalities and capital of the region of Päijät-Häme, Finland's eighth largest urban region. The development of the city of Lahti is based on the city's strategy for 2030. The city aims for a smart environment and indicates that the whole city is committed to promoting sustainable urban development. Lahti is a growing, vibrant city and aims to innovate, experiment with new activities and be a child friendly welfare city (Lahti 2018). Lahti combines lake views and diverse nature, public transportation, and the use of recycling energy solutions. The surrounding ridge and lake landscapes provide a natural living environment.



### 4.1 Lake Vesijärvi profile

To the north, Lake Vesijärvi connects with the second largest lake in Finland, Lake Päijänne, through the Vääksy Canal, that is 1.3 km in length and was built in the years 1868-71 (Lahdenmuseot 2020). At the north coast of Päijänne is located the 7<sup>th</sup> largest city, in terms of population, in Finland, Jyväskylä.

In Lahti, hills, water and the unique topography form the identity of the city. Sailing, hiking, skiing, outdoor activities are important part of Lahti lifestyle.

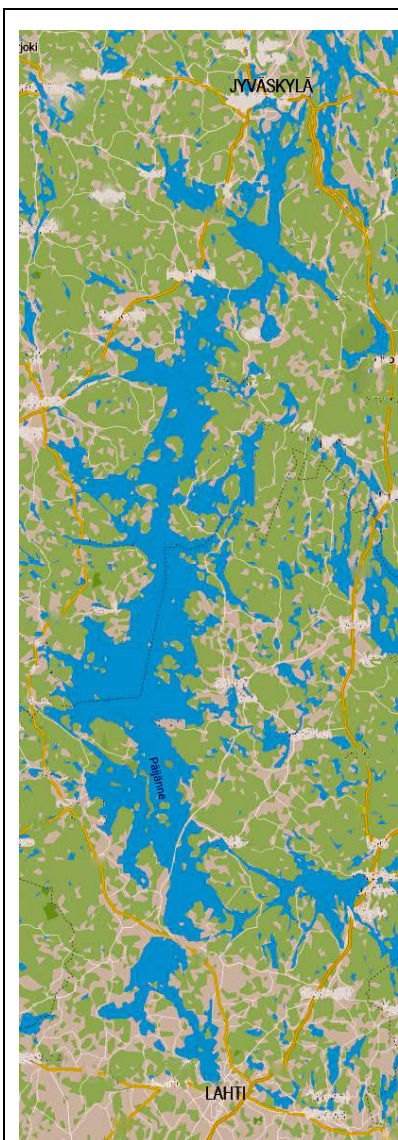


FIGURE 7. Vesijärvi lake and Päijänne lake (google map 2020 modified by author)

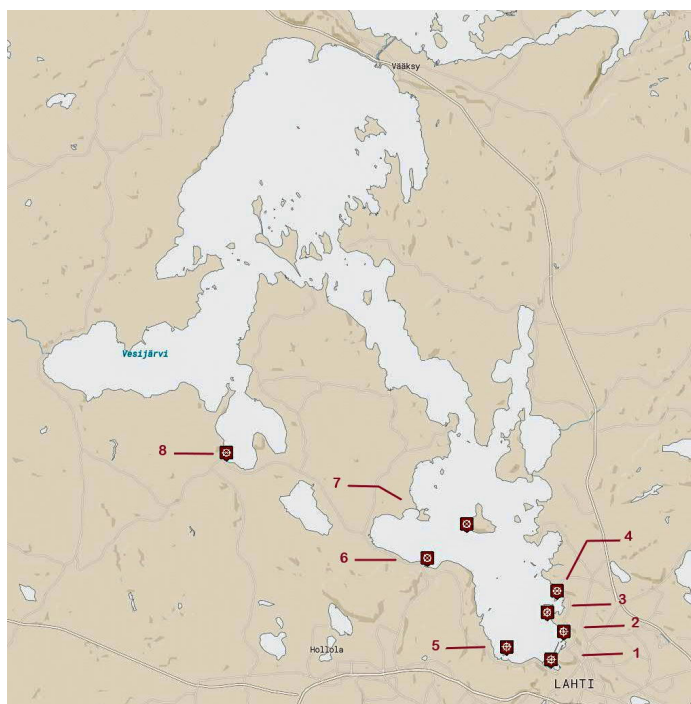


FIGURE 8. Vesijärvi Marinas (marina.com 2020 changed by author)

1. Teivas Marina, Lahti
2. Vesijärvi Harbour, Lahti  
Vesijärvi Marina, Lahti
3. Ruoriniemi Marina
4. Niemi Marina, Lahti
5. Myllysaari Marina, Lahti
6. Messilä Marina
7. Enonsaari Deck
8. Hollola Deck



PICTURE 3. Vesijärvi harbour (marinas.com 2020)



FIGURE 9 Territorial delimitation of the port of Teivas and Vesijärvi. (Lahti 2020)

## Pikku-Vesijärvi Park and pond



PICTURE 4. Pikku-Vesijärvi Park and pond (Lahden seudun luonto 2020)

Pikku-Vesijärvi park, is a popular park for recreation with an English style, which surrounds the Pikku-Vesijärvi pond (Vesku.net). The pond was a cove of the big Vesijärvi lake in the last century and is located next to Kariniemi Park, it was separated but has a connection under the track bank which went through. (Keto 2006). Lahti habitants refer to the pond as Small lake.

The park is marked with the Green Grass sign, which is a guarantee that the city is committed to maintaining and developing the area. It has a kiosk, and an open theatre, three piers and e many activities are carried out there. The park has as well, about 40 tree species, representing a typical used on waterfronts. The pond is not recommended for bathing, due to intermittent blue-green algae and water turbidity.

The Pikku-Vesijärvi pond covers an area of 5 hectares, with a maximum depth of 5 m. The ice thickness is usually less than 0.5 m in wintertime. For decades it has been having problem from eutrophication. Additional water has been pumped into the pond from the adjacent main Lake Vesijärvi and needs the existing connection through the strait to get the water out. The pumping station is nearby and is first connected to the musical fountain. Today the lake functions quite normally. (Lahti 2016.) According to the research of the author the pond type is a diversion embankment pond type, which will have the disadvantage that always it will depend on a pump to fill it up (akvopedia 2020).

## The main marinas in Lahti

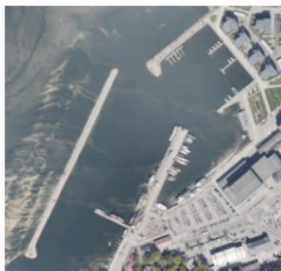


PICTURE 5. Teivas marina (Lahti 2009)

The marina is at the closest shoreline from the city centre, in a scenically valuable place, where lake Vesijärvi meets the largely unbuilt Teiva's forest on the Salpausselkä mountain range. It is at the south eastern corner of Lake Vesijärvi. The marina and a restaurant have taken over the water edge of Teivas with a home marina and a guest marina, with side berths on the quay. It has a maintenance building toilet, shower, and laundry facilities. The restaurant administers the deck's rents and equipment rent for

water sport activities. Parking is possible, and even caravans are allowed overnight, all around the area. The area has valuable natural sites. (Lahti 2019).

The east is limited by the railway embankment, which is associated with the city history, later the city's industrialization. There are containers for the collection of mixed waste, bilge, and septic tank drainage, drinking water and dock electricity, a concrete ramp for launching boats and a dog swimming area. The marina has 530 places for motor and sail boats, 72 rowing boats. Also, there are 15 places for guest boats.



Vesijärvi harbour, called the public “living room” of Lahti by the locals, is currently a port mainly used for recreation, located as well in the south part of Lake Vesijärvi, it is located about a kilometer northwest of the city centre, but separated by the hill of Kariniemi. To the south of it is Teivas marina and to the north is Niemi marina. Vesijärvi harbour is a route and a centre for charter

PICTURE 6. Vesijärvi harbour (Lahti 2019) are restaurant ships on the pier. ter cruise water transport. In the port, during the summer there are restaurant ships on the pier.

Lahti's Sibelius Hall - a concert and congress centre, is also located at the harbor. The area is a popular leisure destination for Lahti residents and is a residential area. There are landscapes in the area with natural values. The area contains provincially and locally valuable cultural environment (Lahti 2018). Also, Vesijärvi harbour has a marina in the northern side of the city.



Niemi Harbour has about 540 berths for motor and sailboats and 131 berths for rowing boats. The port has a mixed and hazardous waste point, suction emptying of bilge water and septic tanks, drinking water and quay electricity. There are 2 landing ramps and a docking area for boats, as well as storage for trailers and boat stands. And the main thing is that it has fuel service. The harbour has a wharf for official boats and fishermen, as well as a dog swimming area.

PICTURE 7. Niemi harbour (Lahti 2019)



PICTURE 8



PICTURE 9



PICTURE 10

Pictures 8., 9., 10. are from each marina (marinas.com)

## 4.2 Master plan, land use planning and target networks

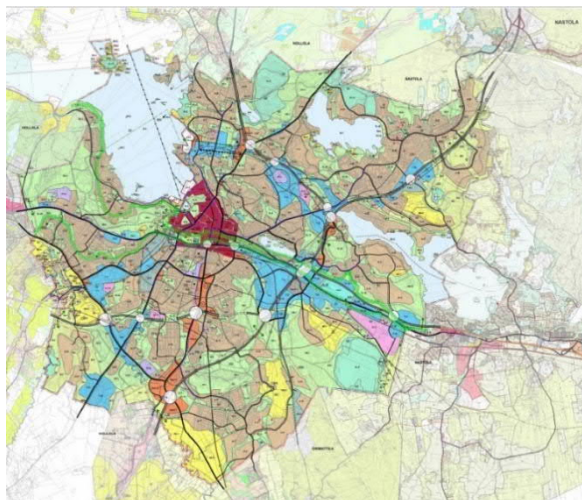


FIGURE 10. Extract of existing masterplan Y-202 for west side of Lahti (City of Lahti 2019)

During the present Lahti City Council period (2017-2020), the highest planning authority in the City of Lahti, the city planning department, has been developing a new master plan for 2020-2021, a master plan 2030 Y-203, following the city's strategy 2025 and the programme Vision 2030, to make of Lahti a bold environmental city, a more attractive, business-friendly sustainable city, with goals for vitality, renewal and communality. (Lahti 2020.) The masterplan affects the whole municipality, defines how the land will be used by functional zoning and descriptions (Carmona 2010).

Land use planning shapes and organises reality - it affects people's everyday lives and inhabitants over a very long period of time, even decades (Jauhiainen & Niemenmaa 2006, 20–21). The master plan coordinates and guides the preparation of more detailed town plans. It defines for example, location of residential and recreational areas, jobs, services, and transport routes. The town plans solve the internal street network of the areas and more precise land use by block. The town plan sets out more detailed principles for construction, such as building rights, placement of buildings on the plot and floor heights. (Lahden Suunta, City of Lahti 2019.)

The strategy of Lahti for the new masterplan, includes the measures for development of the Sustainable Urban Mobility Programme, as the themes of the Environmental Programme and the Service Programme. Great emphasis has been put on a network of nature reserves, ecosystem services, cultural landscapes, and improving even more the cycling network.

The ecosystems services are subject to the general regulations such as the groundwater regulations and its protection. As well, the land use design concerning landscape, geology, groundwater, natural environment, climate, cultural history, and recreation apply (Lahti 2020).

## Harbour-Sports centre and Teivas shore town plan change

The urban environment service department of the city of Lahti, responsible for land use, municipal technology, and construction and environmental control developed together with wide range of representatives from the city group and with the residents, a development project for the area between the Sports Centre and the Harbour, to improve it for 2030, expecting more exercise, culture, events, urban and nature tourism, leisure and recreation throughout the year. The area is owned by the city and includes the most significant downtown areas, like the city centre Ranta-Kartano area, the multi-use stadium Kisapuisto, Sibelius House area, the Port of Lake Vesijärvi, Satamaradanpolku path which is also called Rantaväylä lane, Pikku-Vesijärvi park, Lanupuisto park, the Marina of Teivas and the Sport-Exhibition Centre. (Lahti 2018.)



FIGURE 11. Harbour-Sports Centre, Vision Programme 2030 (Lahti 2018)

The project Harbour-Sports centre vision 2030 was related mainly to the route from the Sports Centre to Passenger harbour through the Satamaradanpolku (Harbour line path), but also the route from the city centre to the shoreline, through Rantakartano area.

The project includes specific visions:

- A vision for developing exercise and sports at multi-use stadium Kisapuisto, Sport centre and new projects for skiing and a climbing park on Teivas' slope.

- A vision for park and green areas improving Pikku-Vesijärvi park, Lanu park as a lift and terrace on its slope.
- Two visions for the waterfront area, one including a Spa hotel and sauna / pool close to the harbour and another without hotel but sauna and swimming pool, closer to Teivas. Both reinforcing the guest harbour area, expanding the home harbour area, locating a floating pool, a new sauna, and restaurants; and even incorporating a port rail from the Sport centre to the passenger harbour (fig.12)
- A vision for the city centre RantaKartano area as a residential-and pedestrian axis park corridor, including a spa hotel and a water sport centre (fig.13) (Lahti 2018).



FIGURE 12. Two visions for the waterfront: left including the hotel. Right without it. (Lahti 2018)

The Vision B was approved in February 2018 by the steering group of the City Government's Vitality and Employment Division, plus a representative of the Päijät-Häme Association. The vision is not an official formula and thus does not affect town planning. The vision is the common view of the working group for future development of the region and possible partnerships with private companies. The guidelines of the city's strategy have also been the background material in the vision work. (Mustakallio 2020.)

Therefore, local town plans were developed also supporting the city strategy 2017 and the previous project development, to promote attractiveness and tourism, needed to be revised and changed. In the city centre Ranta-Kartano area a change (A-2738) was initiated 2018, on three blocks by Kartano street side and the aim was to enable the construction of a hotel and water sports centre and parking facility.



FIGURE 13. Rantakartano visualization, development (Skanska 2020)

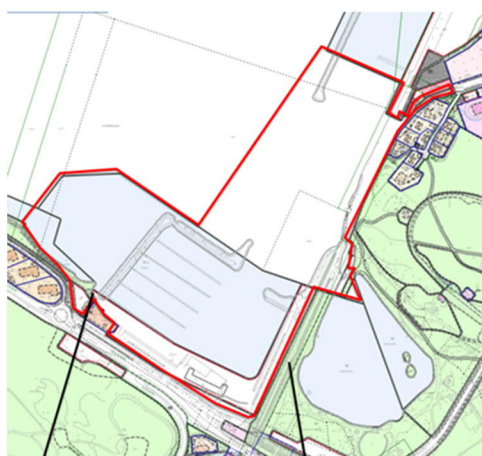


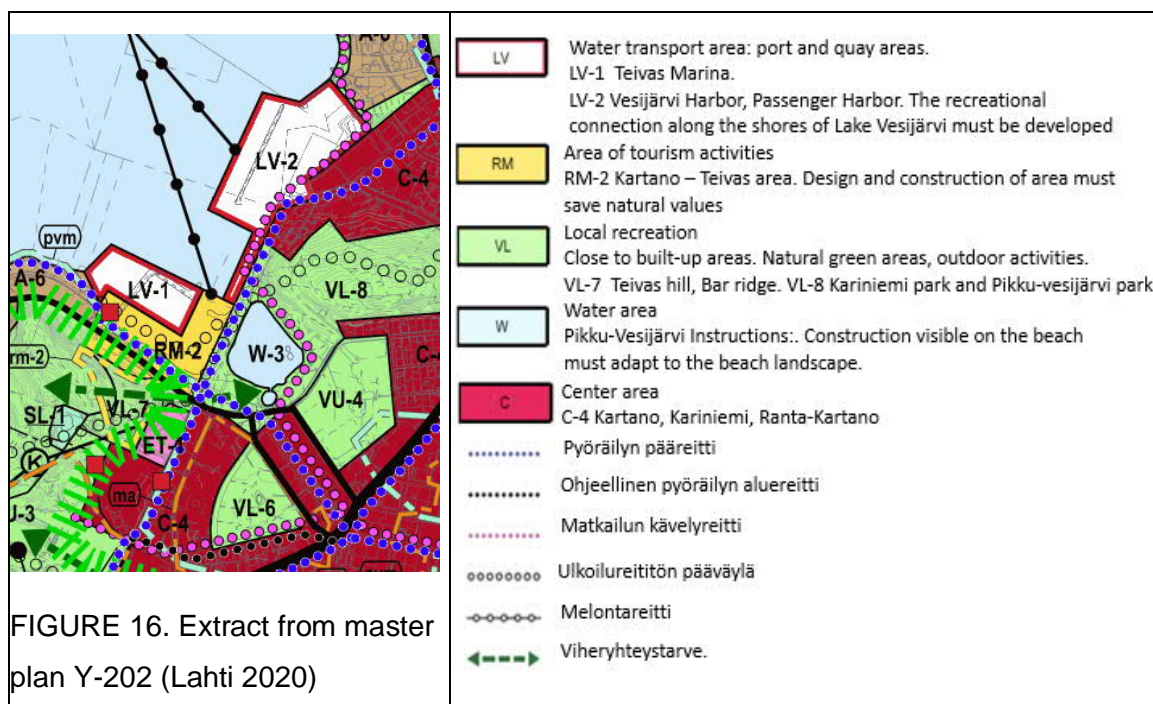
FIGURE 14. Latest extract from the updated town plan change for Kartano, Satamaraitti or Harbour trail, swimming pool A-2735a (Lahti 2019)



FIGURE 15. Extract from the updated town plan for Rantakartano area 398 A-2738 (Lahti 2019)

For the waterfront, the city has been developing in different phases a town plan change A-2735, called *Kartano, Satamaraitti, uimala*, for zoning a floating sauna, swimming pool and restaurant along the Satamaraitti path or (Harbour trail) from 2018, by the planning architect Marja Mustakallio and now it is included in the work programme. The planning area is about 22.5 ha and is located between The Port of Teivas and the Port of Vesijärvi, which was without a town plan. It was changed to open more possibilities for businesses developments and commercial services by the waterfront, and to make possible the existence of a floating sauna, a swimming pool, an extension of the marina and restaurants. The change aim supports the city strategy to create attraction and tourism development and leisure and recreation services for citizens.

From the master plan Y-202 (FIG. 23) the change will affect the harbour activities of area L1 and L2; water area W-4 and W-3; the tourist activities in RM-2 and the area of local recreation VL-8. The changed area to be zoned is part of the 398A-433 town plan dated from 1986. According to this plan regulation, the change area affects the area W-1. LV-1. LV of the block 2368 and a part of the old railroad and is between the marina of Teivas and the harbour of Vesijärvi. The walking and cycling will be mainly on the track of Satamaraitti.



sir : the text extracted from the town plan regulations, indicating that the area marked with the text “sir” (fig.17), corresponds to the embankment which is protected, and if actions are planned a statement needs to be asked from the Finnish Heritage Agency. (Hirvonen 2015.) It was a big investment at the time, as at the same time was planned together with the construction of Vääksy channel to connect Lake Vesijärvi with Lake Päijänne. It means that if is required the alteration of a solid relic which may be part of an earlier Finnish settlement and its history, but causes unreasonable harm to the property use or if it is located within a public route plan, the opinion of the museum archaeological commission is required. This may evaluate and may grant permission for further studies and write an official statement after the plan has been presented. (Muinaismuistolaki 1963.) The surface shape of the area marked as “sir”, should be preserved, and the traffic road should be permissible to water.

Another challenge for the planning has been the actual technical infrastructure, concerning pipes inside the embankment of Satamaraittis path and others crossing under it. The

pipes are about 1m under the walking path, but according Lahti Aqua Oy experts it is feasible to move them as they are pressurized. The pipes might need to be renewed in the year 2100, moving them might involve a high cost. There is no specific reason why those pipes are inside the embankment, probably it was because it was the easiest place to install them at a certain time.



FIGURE 17. Existing Teivas town plan (Lahti 2020)



PICTURE 11. In May 2020, town plan A-2735 is not officially ready, the latest proposal for the town plan area change was made 11.2019 (Lahti 2020)

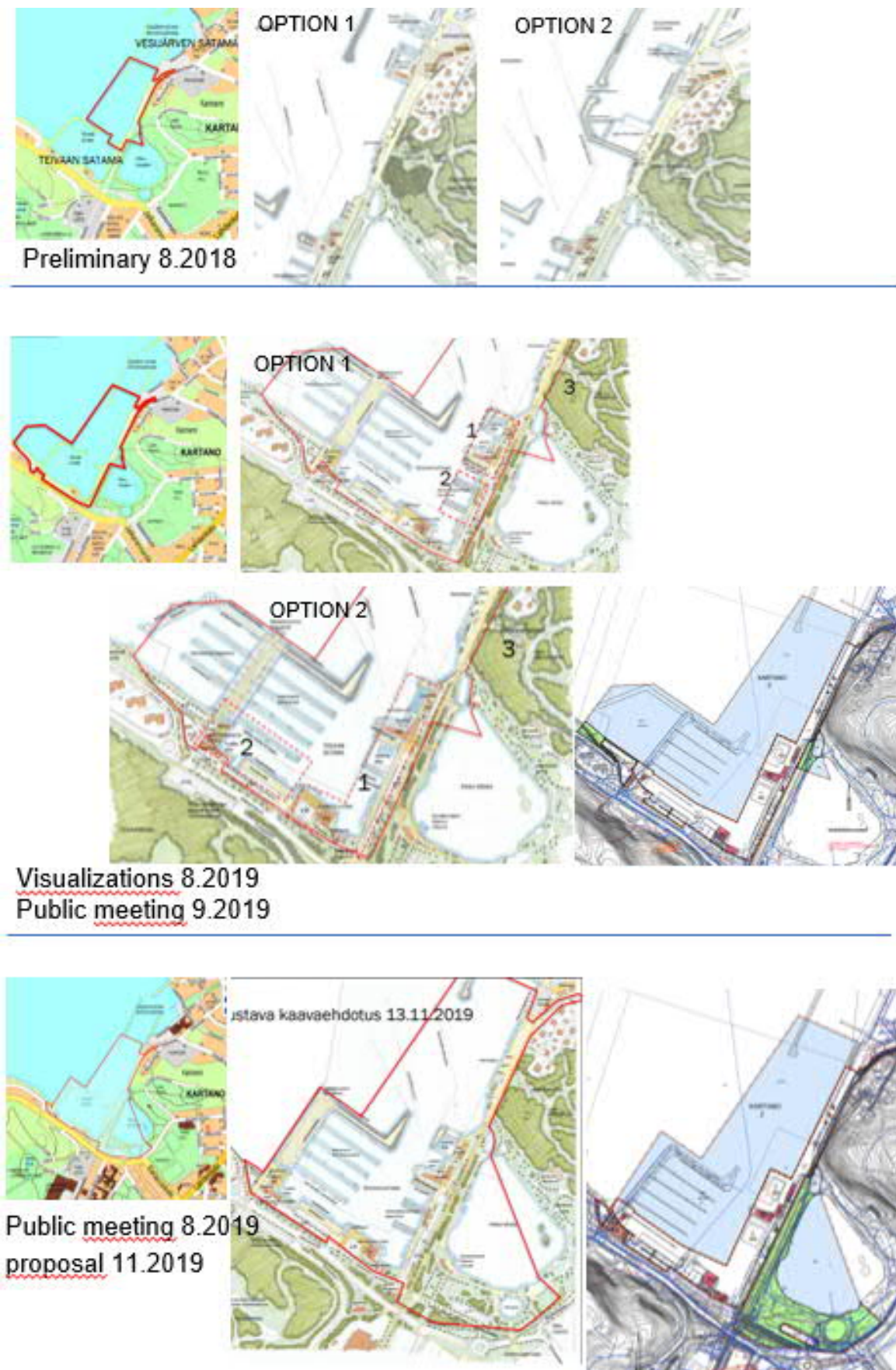


FIGURE 18. Phases during the process for the town plan change (Lahti 2020)

### 4.3 Historical review of the case study

Lahti is known from the year 1445, and the village growth is due to its crucial position by land and water routes.

The study area belonged to the land of Lahti manor from 1540, which was sold in 1869 to August Fellman. The city of Lahti acquired the land in 1919 (Lahden kaupunkimuseo).

The railway between Helsinki and Hämeenlinna was constructed in 1862 and after 1863 it was decided to continue the railway from Riihimäki to Lahti. This was not possible due to lack of finances, but in 1868 the railway building from Riihimäki via Lahti to St Petersburg was commenced with the support of Russian funds. The entire track was inaugurated on the 11th of September 1870 by Emperor Alexander II. The track was completed quickly and cheaply, costing 50 % less than the first part from Helsinki to Hämeenlinna. Lahti got the first train in 1869 (fig.20). (Kuka, Mitä, Lahti 2019.) This road is the most crucial one as included Lahti in the national and international network, getting rapid urbanisation due to the industrialization period. At the same time, large wood processing factories were built on the southern shore of Lake Vesijärvi to the north of Kariniemi hill, and other factories as well, for which the railway was built to serve the needs of the industrial settlement.

(pic.12). The embankment built over the lake altered the natural shape of the shore and divided Vesijärvi. The bank gave birth to Pikku-Vesijärvi in 1869. (pic.13)



FIGURE 19. King's map of Finland 1776-1805, Lahti region. Lake continues up to the city centre. (Tarjanne H.)



FIGURE 20. The Russian topographical map from 1875 (National archives)

About 1 km west from the station of Lahti, before reaching the pond of Mytjärvi, is the bifurcation of the main rail line between Riihimäki and Saint Petersburg (fig.20). Railway track is towards the right) and the branch terminal line for Vesijärvi-harbour train track that continues to the north). On this point a depository area was located to serve steam locomotives.

It was challenging to build that harbour track over the lake, so a massive section terrain was cut off from Salpausselka hill to make the railroad filling over the Gulf of Vesijärvi. Before this, the only way to reach the harbour was from behind the village of Kariniemi. At the same time when the harbour track was built, the Vääksy Canal connecting Lakes Vesijärvi and Päijänne was under construction and was meant to work together with the harbour track.



PICTURE 12. Lahti Sawmill area, log ferry on the lake, rafts, house factory - probably from the 1950 (Lahtelaista 2016)



PICTURE 13. View from Pikku Vesijärvi to Pallas beach (photo from John Bööck 1914, Picture archive of the Lahti City Museum)

The industry activity in the south side of Kariniemi hill, nowadays as Vesijärvi harbour, worked until 1980. After then the traffic was so little that in 1990 the track connection was cut off to the station in Jalkarannantie street crossing point, the rails were covered with asphalt in 1993, the rails between Jalkarannantie street and Vesijärvi stations were removed. The track was protected by the town plan, but a State Railways official sold the unused light rails as scrap and did not respect the town plan order. Still some people in Lahti would like to rebuild the line, thinking that it might attract tourism and that the tracks will enhance the image of Lahti and of the lake. VR promised to give suitable rails back if the city would want to restore the tracks by the footpath. After the demolition of the track, the embankment switched for light traffic for pedestrians and bicycles and at the same time the acquisition of the land for the city became easier. In 1996 the city bought the station building and its surroundings. The historical railway bank between Pikku-Vesijärvi and Vesijärvi is protected by the Ancient Monuments Act of the National Board of Antiquities. Any impact on the embankment structure will require the opinion of the National Board of Antiques.

In 2001 a plan was made to build the track again, with the idea to use a special technique that will cover the gap for the wheels of the wagons so the rails would not bother the cyclists and walkers on the route, opening the possibility for a diesel train by to use it (as

there is no overhead electricity in this section) to be able to get to Sibelius Hall (fig.21). The proposition includes making a crossing under the track to avoid interruptions in the movement of the train. The Sibelius Hall Concert and Congress Centre was completed in the area in 2000 - hence the name Sibeliusrata. (Lahden Rautatieharrastajat Topparoikka ry.2020)



PICTURE 14. Pikkuvesijärvi view from the south to the hill in 1950 (Lahtelaista 2016)



PICTURE 15. Vesijärvi railway station and railway yard in the early 1990s. (Lahden Kaupunkiympäristö 2020)

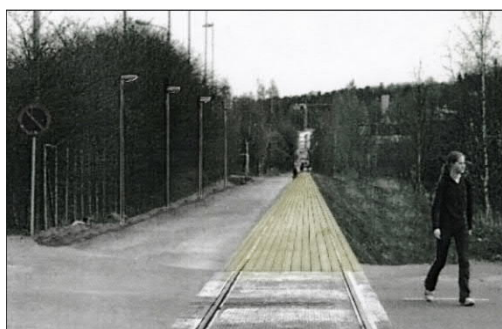


FIGURE 21. (Topparoikka.ry. 2020)







Wooden deck idea for new rails, hidden for the light traffic. View from Salpausselänkatu street to Jalkarannantie street 1990s



PICTURE 16. (Meriluoto 1980)

1980 steam train crossing Jalkarannantie from Vesijärvi harbour to Heinola

1878 Alfred Caween drew up the first town plan for Lahti. (fig.23) The effect of the first town plan has been significant for Lahti. Construction after the fire began virtually from an empty area. In Caween's plan, the location of Aleksanterinkatu street, the main thoroughfare of the city centre followed the old village track (FIG. 29). The connection to the south used to be near Mariankatu Street. Construction initially focused on the streets Aleksanterinkatu, Rautatienkatu and the market square. The old village track is actually one of Finland's most important historical routes, connecting the castle of Hämeenlinna and the castle in Vyborg, it is called Ylinen Kuninkaantie road.

		
<p>FIGURE 22. Lahti villa 1750 (Lahti City)</p>	<p>FIGURE 23. Lahti villa 1878 first town plan and base for the present-day plan. (Lahti City)</p>	<p>FIGURE 24. Part of town plan 1910 (Lahti City)</p>
		
<p>PICTURE 17. Aerial picture 1946 (Lahti 2020)</p>	<p>PICTURE 18. Aerial picture 1960 (Lahti 2020)</p>	<p>PICTURE 19. Aerial picture 2001 (Lahti 2020)</p>

The Pikku-Vesijärvi pond before 1870, just after being separated from Lake Vesijärvi, was considerably larger; when the lake was flooded, the water could reach the village centre even up to the area where is nowadays the market square. (fig.19, 22). In the 19<sup>th</sup> century the shores started to be filled and together with a decrease of the lake water level the shoreline retreated by several tens of metres. By 1919-1931, two thirds of the wastewater of the city of Lahti was discharged into Pikku-Vesijärvi pond. In 1924, it was even proposed to fill the lake, in 1946 by Olavi Laisaari, city planner, who proposed to make of it and its surroundings a recreation oasis, but still the bottom of the pond was polluted. In 1998, 59,000 cubic metres of sludge were dredged from the pond; before that, Pikku-Vesijärvi had a maximum depth of 2.55 metres and an average depth of 1.7 metres. Nowadays the maximum depth is 5 metres

The park of Pikku-Vesijärvi was built 1959-1961 and renovated in 1997 by Erkki Kivivuori, it has an English style arboretum (Lahti 1997). Lahti Energy built on the park a musical fountain, the largest in the Nordic countries (Wikipedia 2020 and Lahtenlehti 2019). This fountain relates to a pump that helps with the water turnover.

Teivas marina was built in 1960 and the shoreline in front the bench (pic.18), but the guest pier started to function only about 10 years ago. In pic.17, Can be seen that harbour still did not exist and had no shoreline.



PICTURE 20. Photo was taken by Tapio Strandberg decades ago. View of Satamaraitti path to the south, between Pikku-Vesijärvi and Teivas area. (Lahtelaista. 2013). PICTURE 21. Photo taken by Halme Kaija in the 1980s. Vesijärvi shoreline side, to other side of the road is Pikku-Vesijärvi pond (albumit auki 1980)

On the area two small brick technical buildings exist. The smallest one, is not in use and is old from the 19<sup>th</sup> century, where there was a water pump. *It was used to pump water to the railway deposit next to Mytjärvi in Sopenkorpi in the days when they were still using steam trains* (Lehmuskoski 2020)

#### 4.4 Case study, historical review in land use :Teivas hotel plan and Swimming facility project

The area, for many years was thought to be built as a swimming centre and a spa hotel by the lake and area of Teivas, therefore the town plan went through many propositions for it. Different models were drawn up for how the spa hotel could be implemented.

1913- The earliest plan, a “proposal for a bathing room” which did not materialize.

1914- In 1905, was approved to build a bathing room on the shore of the town, for a fixed fee, for public use. Prior to the founding of the city bathhouse in 1914, the site had a private bathhouse for some years. It seems to be in that picture.

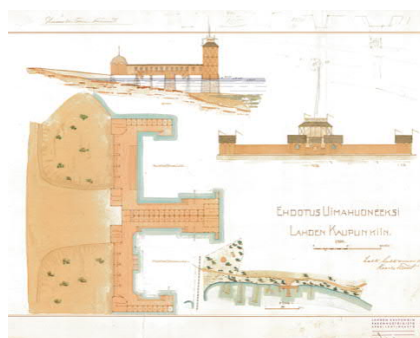


FIGURE 25. The earliest plan, a “proposal for a bathing room” (Lahti 2018)



PICTURE 22. First city bath house and swimming pool facility in Lahti 1914, nowadays by Jalkarannantie street (Lahti 2018)



PICTURE 23. Inauguration of the Lahti swimming pool, 1914 (Lahti 2018)

1980- Teivas town plan would already allow construction of a 16,500-square-foot building in the area.

2002- The change in the town plan prepared for the area, did not proceed as was not in accordance with the regional plan

2006- As an initiative of LAKES Lahti Region Development company OY, nowadays Ladec Oy, a tourism development plan was drawn up for the Lahti region, was made a survey examining different location options for a hotel. Then it was decided that Teivas was the most appropriate, because it is near the lake, harbour, city centre, as well as being near to events and sport places

2007- A *Seven Heaven* plan was completed in which a seven-storey hotel would be located on the Teivas slope

2009- A town planning project in the Teivas area was launched, led by LADEC OY, Lahti region development, which enabled an internationally significant hotel investment in the Lahti area, where a hotel has been envisaged for decades. A town plan change was started. The draft plan would enable the construction of 30,000 square metres of floor space. The draft plan assigned 1/3 of the building right to the Teivas slope and 2/3 to the shore of Lake Vesijärvi (Lehmuskoski 2018)

2011-2016 Draft alternatives

The plans developed by consultants Seppo Juurikko from Akriier Oy and Architecture office Arktes Oy under architect Paavo Karjalainen, proposed a tourist centre called the Seven Heaven concept, which consisted of hotel and holiday condominiums, as well as spa, business, meeting and activity facilities. Eight different options for this. were created

2011- The plan included 350 parking spaces located mainly under the hotel building. The light traffic connection of the old railway bench was kept in all options. One option was located on the west side of Teivaanmäki slope. In the centre of the multi-level building, a glass-roofed spa with waterfalls and slides that overlooked Lake Vesijärvi, Pikku-Vesijärvi Park and the city centre was proposed. Each of the seven levels of the spa section formed its own "sky" with various activities and themes, and restaurant spaces at the top-level. On both sides of the spa section, hotel and holiday condominiums spread out through the terraces of the Salpausselkä slope, providing direct access to both the spa and the ski slope.



FIGURE 26. Teivas spa at the foot of the slope. The Seven Heaven Leisure Centre (Lahti 2018)



FIGURE 27. Teivas spa by the foot of the slope and by the shoreline. The Seven Heaven Leisure Centre (Arktes 2011)

Another option for the spa hotel consisted of a plan where some buildings were placed by the shoreline and some on the foot of the slope of Teivas hill.



FIGURE 28. Teivas spa at the foot of the slope. The Seven Heaven Leisure Centre (Arktes 2011)

The Spa on the slope was not feasible, because the Land Use and Building Act (§ 54) did not allow it. This is the most important legislation controlling land use and preserving built heritage and cultural landscapes, which is under the Ministry of Environment and this Act requires that the zoning plan cannot erase the special values of the built environment and

the natural environment. On the location planned for the spa hotel, were significant natural and landscape values on the slope: areas of great biodiversity value. The area is geologically valuable because it represents a marginal formation dating back to the ice age. As well, military remnants of war sites and places with squirrel communities. In addition, there are of course values for recreational, educational and sporting activities.

The ELY Centre ( Centre for Economic Development, Transport and the Environment), as the planning authority, finally took the position that if the spa hotel would be zoned on the Teivaanmäki slope, then the case might have to be referred to the court for judgment on the basis of the Land Use and Building Act (§ 54)

Even after a number of draft alternatives and discussions with authorities, citizens, decision-makers and other stakeholders, there did not seem to be any solution that could be satisfactory to all parties. Teivaanmäki has been proposed as a nationally valuable landscape area ( Lahti, Lehmuskoski 2018.)

2012- Teivas` area regulation in the master plan was changed, because of the complaint. The new master plan became official on 2014.

2016- A new town plan change started for Teivas area. The placement of building masses rights would be located at the Teivas harbour north of Jalkarannantie street. However, there was little left in this proposal from the original Seven Heaven concept. The goal again was the Teivas hotel. The change in the plan would enable a private operator to be able to build a spa hotel in Teivas for both tourists and Lahti residents. The draft plan would enable the construction of 10,000 square feet in a 16-story narrow tower shown in the draft plan, and 30,00 square metres totally by the shoreline. The new buildings would not impede port operations, but the Lokki restaurant would remain under the buildings. The new construction would not have a detrimental effect on walking and walking routes. A public walking trail would be reserved for the shoreline. The parking spaces required for hotel operations would be allocated to an underground car park of building rights.

In other options 1/3 of the conglomerate, would be located on the Teiva slope and 2/3 of the building right, would have been located on the beach, which would require some filling of the water area and pier structures.. Restaurant Lokki would be demolished, but the boat company Vene-Tauriainen could continue operating. The other buildings in that project would have been lower with green roofs and wooden materials. This project went on for discussion with the Historical Museum authorities.



FIGURE 29. Teivas` spa hotel project as a life tower hotel on the beach and Spa on the foot of the slope (Lahti 2016)

2017- The new draft includes a building right of 30,000 square metres. According to the draft, the construction would be located near the port of Teiva in the waterfront area. A new sketch includes an 18-story tower-like section as well as lower 1-4-story sections. The shoreline would still remain in public use. The new sketch of the Teivas Spa Hotel leaves the slope unbuilt.

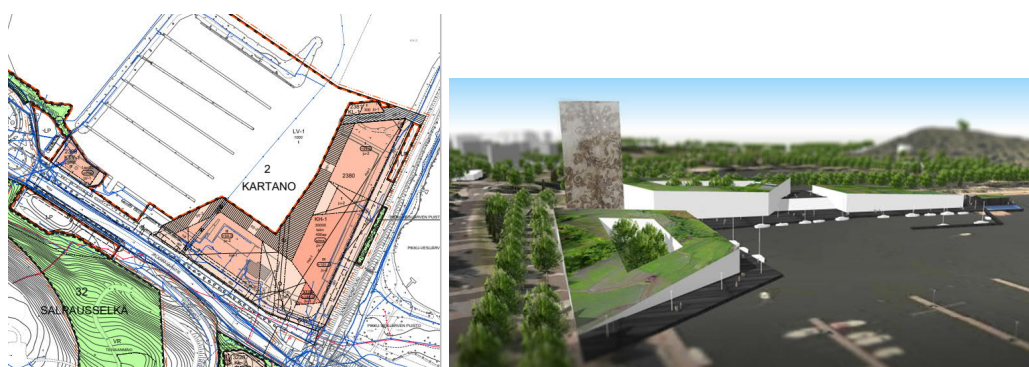


FIGURE 30. Proposition for town plan A-2492 for Teivas area (Lahti 2017)



FIGURE 31. Aerial view hotel tower proposition (Lahti 2017)

2018- The Technical and Environmental Board decided (§ 54) to remove the area reservation for the spa hotel block from Teivaanmäki slope from the town plan proposal and re-drafted a new formula proposal designating the hill zone VR for hiking and outdoor area. Today the Spa has been moved to the Ranta-Kartano area town plan and approved.

#### 4.5 Other Innovation projects for the area

In 2016, an innovative competition was launched: it was for innovations in smart lighting, digital services and design highlighted. The City of Lahti, Lahti Energia and LADEC Lahti Region development launched the Living Harbour Route innovation competition together with the Sen City project funded by Tekes.



FIGURE 32. Images above 1 and 2, Satamaraitti path light art (SenCity 2016) left under, project presentation, on the right, result from augmented reality history mobile app, which overlay historical images on present location. (SenCity 2016)

One idea was using an intelligent controlled lighting system that would be representing the lines of the train rails on the ground when it is dark, so as to appear as they were before the rails were removed and thereby evoke memories. This was proposed by Lê Anh Huy and Henrika Pihlajaniemi from the Faculty of Architecture from Oulu. (Berg 2016,10.)

Another idea to rebuild the history of the area was visualizing historical photos from the city of Lahti using augmented reality. The visualizations show photos from the old port and railway station of Vesijärvi. The demo application was implemented in Sen City project

#### 4.6 Participation, Discussion

For all these processes the city discussed and took in account all the parts and went through all the corresponding protocols.



Summary according the author, of the main observations of the people (P) suitable for this thesis and answers from the city about facts (C), during some of the interaction meetings and surveys with the community

<p>Public meeting dealing with the town plan change for the hotel in Teivas 16.05.2011 16p (Karvinen - Jussilainen 2011)</p>	<p><i>-C: Construction on the road Jalkarannantie Street to place construction and preserve both the slope and the beach, has also been studied, but handling the roadside in a long tunnel proved to be challenging .</i></p> <p><i>-C: It is not possible to place the hotel on the site of the Teivas power plant. The relocation of the power plant has been proposed, but it is not long-term in terms of operations or costs. In addition to the power plant, numerous main networks cruise in the area. Relocating the power plant is expensive and the power plant site is too small.</i></p> <p><i>P: Isn't the landscape more attractive to tourism than building a hotel in a scenically unique location? The area should remain accessible to all. (reference: translated by author).</i></p>
<p>Sketch of the Teivas area 21.11.2016 150 participants tool: Maptionnaire map survey</p>	<p>It was asked about the new draft town plan to locate a Spa hotel, what people like or dislike or want on the site.</p> <p><i>- P:The 16-story tower views didn't include the human eye.</i></p> <p><i>- P:The character of the whole city goes if the slope is excavated. I think a place for a spa hotel could be sought elsewhere Lahti is a city of ridges. (reference: translated by author).</i></p>
<p>Home harbour survey 2017 133 participants</p>	<p>Summary: From the total 66% lived in Lahti, most interviewees had motorboats or sailing boats. Home harbour, only 18,11%</p>

	<p>used Teivas satama, the most used harbour was Niemi harbour (22, 05%), then Padasjoki harbour and third Teivas harbour,</p> <p>Opinions related to Teivas marina: The opinions were general, almost never specified which marina they referred to. In general, marinas were desirable with action either festivals or competitions and more services, gasoline facilities were important, security, coffee places, cranes even hand cranked.</p> <p>A guest harbour was expected to have a place to get gasoline. which nowadays is in Niemi, a place to wash clothes, close by food shops, maintenance services and events, a sauna and showers. In their opinion Lahti did not serve the boat users well enough.</p>
Harbour and Teivas area survey 2017	See appendix 5.
Port walking 15.8.2018 100h (Saari 2018)	<p>The location for the sauna / swimming pool along the shoreline was discussed (fig. 12). Vision B was preferred so new buildings will not cover the view of the buildings in Kariniemi area. The location would be from the bridge towards the Lokki restaurant.</p> <p>a sauna for 50 people and a heated floating 50m swimming pool were presented. A possible 2-3 storey restaurant with glass wall and a gym. Also, an elevator to Kariniemi hill was discussed. The need to include children in the planning, and a separate pool for children, while the harbour route should have more to do with children.</p>
Satamaraitti path plan 15.8.2019 80h (Saari, 2018)	<p><i>-P: Add benches to path</i></p> <p><i>-P: Add flower poles to the harbour square. Columns for wheels to move.</i></p> <p><i>-P: B alternative best choice</i></p> <p><i>-P: Is there still activity on the Tauriainen Vene Oy site? There is still activity on the plot.</i></p>

	<p><i>-C: Parking planning is still underway, and more space is coming. Pikku-Vesijärvi park area is not being completely removed. The Ranta-Kartano area is getting a multi-storey car park. Disabled parking spaces will be arranged close to new activities. (reference: translated by author).</i></p>
<p>Consultation of the draft phase 12.9.2019</p>	<p><i>-P: Could also consider that boats must be able to be lifted and lowered by crane from somewhere, as well as brought in and taken out by road to and from the port. The routes are now very narrow, and the only way to travel with transports &gt; 4 metres wide? (reference: translated by author).</i></p> <p>According to the harbour manager, crane transport will be concentrated in the Niemi port in the future.</p> <p>The transport routes of Niemi Harbour will be investigated in connection with the pending town plan change of Niemi Harbour. All wide transports must apply for a permit from the Uusimaa Centre for Economic Development, Transport, and the Environment (ELY Centre).</p>
<p>2.10.2019 (Hämäläinen, harbour master)</p>	<p>Marina operational demands for the town plan changes:</p> <p>It was demanded that Satamaraitti path may be pp/h (street reserved for pedestrian and cycling or general pedestrian and cycling area with maintenance driving allowable as be indicated). It was said that that the street on the shoreline must be the same as that in the harbour area and not pp/h., because the area should have port facilities, so service traffic be permitted</p>
<p>13.11. 2019 (Saari 2019)</p>	<p>The hope was expressed that changes would not bring too many activities for children and young people in a way to be uncomfortable for adults that use the marina, like skate ramps or trampolines etc.</p>

## 5 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

A literature review was necessary as a base to find the theoretical framework and find the right design methodology and the right direction for the analysis and the project design.

### 5.1 Building an Image

The study by Lynch (1990) about urban form in the book, *The Image of the City*, the image of the environment, explained the city as a phenomenon in transformation in extension, forms and perceptions. The concepts of Legibility; Building the Image; Structure and Identity; and Imageability will be used for a more extensive comprehension of the chosen area. He asks if the area under study is legible? Is the area recognised by its inhabitants by its landmarks or pathways and are these grouped in a pattern? An unclear place that produces disorientation leads to an unwell feeling and insecurity. Lynch explained the need of an environmental image, how the individual reads its exterior, an experience mixture between his senses, memory, and interpretation.

It is explained that to build an image there must exist interaction and relationship between the observer and the environment. An observer is one who has become deeply familiar with a part of the city and has an image of it full of memories and meanings. Then in this chapter he explains about Identity as a way to analyse an image, what makes that specific image as a distinct entity, with a meaning for the observer. To distinguish that entity, it is necessary for the area to be recognizable, therefore, legible. Also explained meanings vary from person to person and in time, it is better to build the image of a place concentrated on the structure of it, as a spatial relation with the observer and its pattern relations and its physical element qualities. Finally, he explains the concept of image ability, related with the quality of those elements, either natural or man-made, that are perceived by the observer and that will determine how the image will be. Even too high quality may inhibit development. Patterns of elements are like nets of paths, clusters of landmarks. (Lynch 1990, 2-100.)

From the second appendix of the book, the use of the method (Lynch 1990, 140) was explained the methods used to apply the imageability of a place, an interview of the residents to learn what their environmental images of a city are, asking how people think they circulate and use an area, which points are the most distinctive or vivid, to end up configuring the information in a mapping system. His method proposed to ask people to draw a draft map of the study place as they would be explaining to someone else how to get there. The idea is to analyse how and what people drew and notice which elements were

relevant for them. As well as a method it is advised to apply the technique of image analysis, recognising the strengths and weaknesses of the place and general patterns as parts, like the physical form types like paths, edges, districts, nodes, and landmarks.



**Paths:** People observe the city while going through it and according to these paths they organise and connect the other environmental elements. Concentrates a special use or activity on it. The path may give spatial qualities regulating the width, the orientation, the continuity, the façade permeability, the pavement texture and how much conspicuous the trees are. The visual exposure of the trails to other parts of the city accentuates their importance. When a directive quality exists, the individual can feel his position in the total length. The scale can be accentuated by means of landmarks or nodes along the path. The paths can be considered a network when the relationships that are repeated are enough regular or predictable.



**Edges:** Are linear components that are not utilized and not considered by the observer as pathways. They are the limits between two phases or linear breaks in continuity. For example: beaches, railroad crossings, development edges, walls. They constitute lateral references; they are more or less penetrable fences that separate one region from another. The strongest edges appear visually prominent, continuously, and impenetrable to transverse movement. They may at the same time be paths in which the image of circulation is predominant, it is a path with boundary characteristics.



**Nodes:** Strategic points of the city to which an observer enters or departs. Sites of a break in transport, a crossing or a convergence of paths, moments of passage of one structure to another or concentrations and/or confluences of a certain use or physical character (corner where people gather, a fenced plaza, etc.). The place of a pause in transport is of decisive importance for the observer of the city. It becomes a memorable space if the shape of it is in proportion to the importance of the functions.



**Districts:** Sections of the city whose dimensions range from medium to large. The observer mentally "enters" it, and they are recognizable as if they had a common character that identifies them. Identifiable from the inside, also from the outside if they are visible. Neighbourhood names also contribute to identity. Limits can vary rigid (built elements: parks etc.) or soft and uncertain, and there are even regions that lack limits. Some regions can be introverted, independent, with few connections to the city, while others can be turned outward and connected to the surrounding elements.



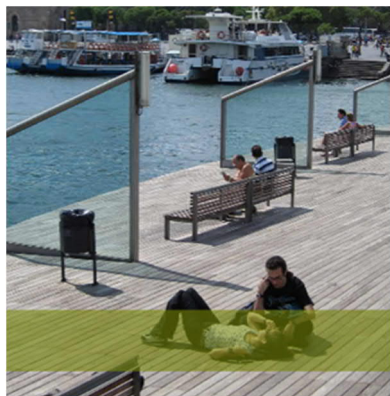
**Landmarks:** Reference points which the viewer does not enter to it. Physical objects as, a building, a sign, a store, or a mountain. Even signs, store fronts, certain trees,

street furniture details. They have a sharp shape and are easy to identify them. A series of landmarks in which one evoke the other one, generate displacement.

Basically, Lynch`s method of understanding urban areas is based on forms. Analysis of elements takes place, using the concept of Legibility, through recognising landmarks, pathways, edges, nodes districts and patterns of the surroundings. Building the Image is how the observer creates an image. The identity meaning can be practical or emotional, but it varies.

## 5.2 Public space and public life

The study by Gehl and Svarre (2013) explains the differences between public space and public life, public life is all that is happening between a built environment and interacting with the public space. This book is mainly about people`s behaviour in public space. People should not only be observed for their actions, also it should be asked, who they are, how long they are staying. During the observation research period, the study is about the people, and it is crucial to ask the following questions, how many do this or that, who are they, where they walk, stand or sit. What happens in the place and for how long? The diversity of activities should be noticed, as well as groupings and tendencies. The need for creating “better people places” is explained, as is the need to apply a human scale. (Gehl & Svarre 2013.)



PICTURE 24. Rambla del Mar, human scale Barcelona (Seattle-Public Space Public Life 2009)

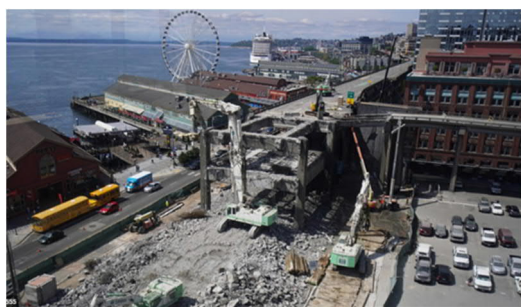


PICTURE 25. Views of public uses in Hafencity (Bruns 2012; Urban Waterfront Regeneration)

### Seattle case

A good example to analyse the public life and public space was found from the city of Seattle by Gehl architects, (2009). Presenting an excellent analysis for the city and the people, a public life survey. The method was to find public space programmes, tracking,

counting the users' behaviour on maps. In relation to the waterfront, the area would be favoured with the plan of removing a viaduct for security reasons. The study remarks that the elimination of the viaduct is an opportunity to integrate the downtown with the border through retail and restaurants, to create stronger links between the centre and the waterfront, to revitalize the public route and prioritize the area for pedestrians and bicycles. This will support the need to create a sense of ownership and will lead to diversity. It analysed the quality of the open spaces and hierarchy, the quality of ground floor, frontages or facades, street elements and urban furniture. For Gehl a survey means to study physically and socially a place.



PICTURE 26. Alaskan Way Viaduct demolition in 2018, Seattle, KOMO News, 2019

The Viaduct was a barrier between downtown and the waterfront



FIGURE 33 Ensure a suitable footprint, Gehl Architects, Seattle Public Space and public Life, recommendations, 2009.

The present waterfront Seattle programme 2010-2024, has proceeded with several projects.



FIGURE 34 Alaska way project, Waterfront Seattle.org, 2020



FIGURE 35 Park promenade project, Waterfront Seattle.org, 2020

To have a successful space it is needed to have activities, accessibility, comfortability, and sociability. Activities help to make it lively; accessibility makes it attractive; comfortability makes it healthy and sustainable; sociability makes it safe

For the planning process, Gehl emphasizes the social context using a space. An area should be designed facilitating and encouraging the activities based on public life. The space should open new values and develop a network of public space. (Gehl 2020.)

There is a requirement for observation, analysis through counting, measuring, and analysing the spaces to be improved. It recorded all that happened in a place and analysed the qualities of the space. Scale, senses, movements, interests, behaviour, and people's engagement in their surroundings are qualities that should be registered.

Why do people use public spaces? How did they arrive there? Who did they talk to there and why? Do they feel comfortable, safe, and even delighted in a space? The only way to learn about a space is by asking directly.

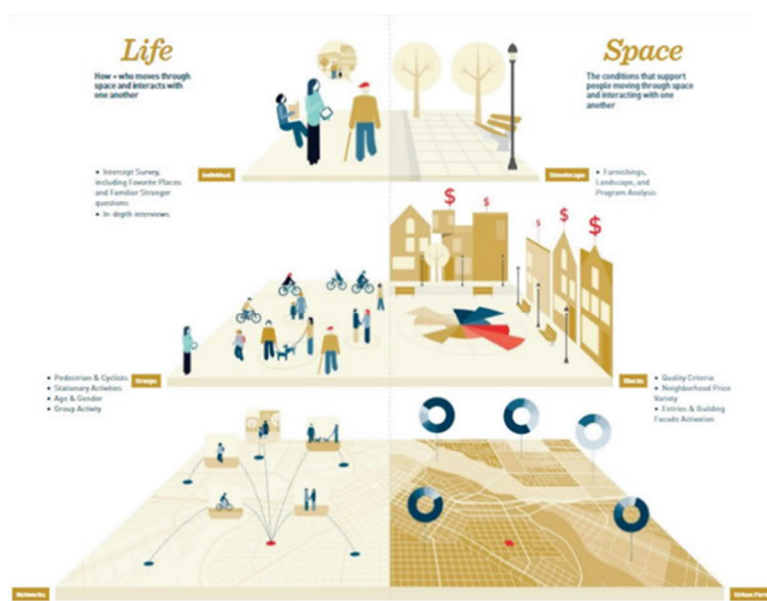


FIGURE 36. The Public Life Diversity Toolkit (Gehl 2016)

1.- Survey tools, physical and social elements of a place. A survey can encompass many forms of data collection, from mapping benches to counting cyclists to conducting interviews. The survey needs to know what is wished to be studied, to address something measurable, related to the goals of the project.

2.-Scale of the Survey. How much one needs to know of the study area surroundings. It is recommended to think of the study at three levels, city, neighbourhood, site.

3.-Choose the right public life tools to collect multiple public data, for example:

- Count people by age and gender
- A moving people count, the amount of people in a space at different times of the day, in a pedestrian crossing, in a park compared to how many people stop.

- 12 Quality criteria, is based on three themes, if a space is protective, comfortable, enjoyable for spending time there? 1. Is the place protected from cars, noise, rain, and wind? people do not spend time in a place that does not have these qualities. 2. Does the place offer possibilities for walking, wheelchair use, standing, sitting, seeing, and nice chatting? 3.- Does the place offer positive aesthetic and sensory experiences? Summarize the positive, neutral, and negative value to each criterion under the themes of protection, comfort, and enjoyment. Results are subjective, as they are based on the perception of the surveyor of the space.
- Stationary Activity Mapping, map what people are doing on certain time
- Participant Survey
- Public Life Data Protocol

4. Plan the survey, normally used several people and different days are used

### 5.3 Waterfront urban design, regeneration, and assessments

The waterfront space either of a sea, river, or lake is a natural element of the environment with its own natural boundaries. As known during history, different settlements interfered with it affecting its natural topography for their own development, for industrial and transportation use according to what was going on at the time. Nowadays, nature has gotten a relevant and protagonist role, and cities require their waterfronts to be more attractive and regenerated. (Pekin, 2013.) For waterfront regeneration, to create and integrate new public shorelines, more and more stakeholders take part in this action.

What is a waterfront?

*According to Moretti (2008), the word “waterfront” means “the urban area in direct contact with water”. Yasin et al. (2010) indicated that waterfront is defined generally as the area of interaction between urban development and the water. Hou (2009), described the waterfront area as the conflux area of water and land. (Pekin 2013,3).*

A waterfront to attract people should offer facilities. The visual landscape effects that water produces are the main things that attract people to the waterfronts, as relaxation. Throughout, there are designs related to water taking over motion and serenity factors (Pekin 2013,4.).

An important aesthetic effect may be psychological. These effects are the emotional result which is perceived with the senses. Besides, there are also psychological reactions towards the water which come from people's spirits. Human beings psychologically tend to perceive water as an element which provides the continuity of life. (Özyavuz 2013.)

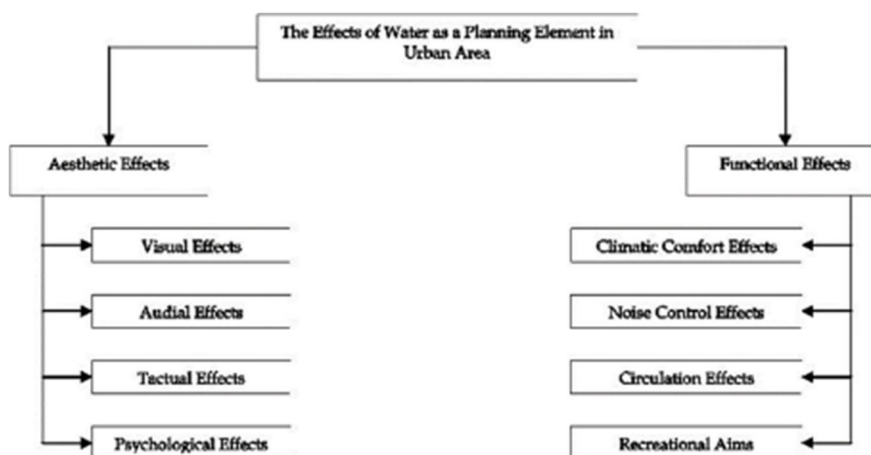


FIGURE 37. Adapted from Önen (2007), the effects of water as a planning element in an urban area. (Pekin 2013,4)

In the natural structure of the city, the water element of presence or absence influences the process and the image of the city. It supplies opportunity for interaction between human settlement and nature and water, as a marginal environment, it is a dynamic place which changes biological, chemical, and geological character.

Professionals and the master planning should identify early enough certain relevant issues that would come up. It refers to the issue of public access to the coastal edge and points out that from an urban design perspective it is essential, particularly in urban areas, to generate clear routes that provide activity, but this also brings the dichotomy between the public and the private, when there are also boat facilities on the site, which require consideration of safety and security issues (Slater 2014).



PICTURE 27 . Dubrovnik, Croatia, the boats berthing is combined with the public access and public life (Spindrift Consulting 2014)



PICTURE 28. Costa Esmeralda, Sardinia. Access and public use hindered by vehicles and large boats (Spindrift Consulting 2014)



PICTURE 29 Teivas marina, Lahti. Public use minimized by vehicle and transportation structure (author 2020)

The study case is not private land and has no private accesses, but the space still produces a feeling of not belonging.

It is mentioned the need that urban designers should work together with technical designers, as the first ones might focus on the land opportunities and not consider enough or correctly the water-based aspects, such as tidal range, water depth, prevailing wind direction. These aspects might require the need for specific kind of slipways.

The usual mistakes in waterfront development plans that constrict public use is to be tempted to privatize too much the shoreline with, single orientation commercial activity, hotels or housing, which inhibits the non-resident to feel comfortable and belonging to the place. It occurs that when the moment of a redevelopment comes any proposition might be seen as welcome, letting one particular use to dominate the area, which over time will only degenerate all possible energy and interest in the place. Therefore, it is important avoid single dominating-use. (Kent 2007.)

Another mistake is to have too passive spaces without diversity on activities and lacking a variety of destinations. It is thought that just proposing green areas and large fields to play sports are a positive matter, but in the end also these can disintegrate the waterfront from the rest of the city. A fine grain in the texture is necessary to create better destinations.



PICTURE 30, 29, 30. View from Sibelius Hall to residential Ankkuri area, Lahti (author 2018). Portland Oregon (Kent 2007). New York's Battery Park City (Kent 2007)

PIC.28 These are aesthetically and accessible waterfronts, but in PIC. 28 predominate residency and iconic buildings, as well is combined with wide passive parking place area, result non supporting public life.PIC 29. Vast green area may make the waterfront popular but not represent and attract everybody and do not integrate the shoreline to the city. PIC 30. A monotonous road without moments that vary attraction or appropriation, serves only as a place of passage, and does not contribute to public life (Kent 2007.)



PICTURE 31. Shoreline ideas. Middle and right. Chicago Riverwalk (Pinterest 2020)

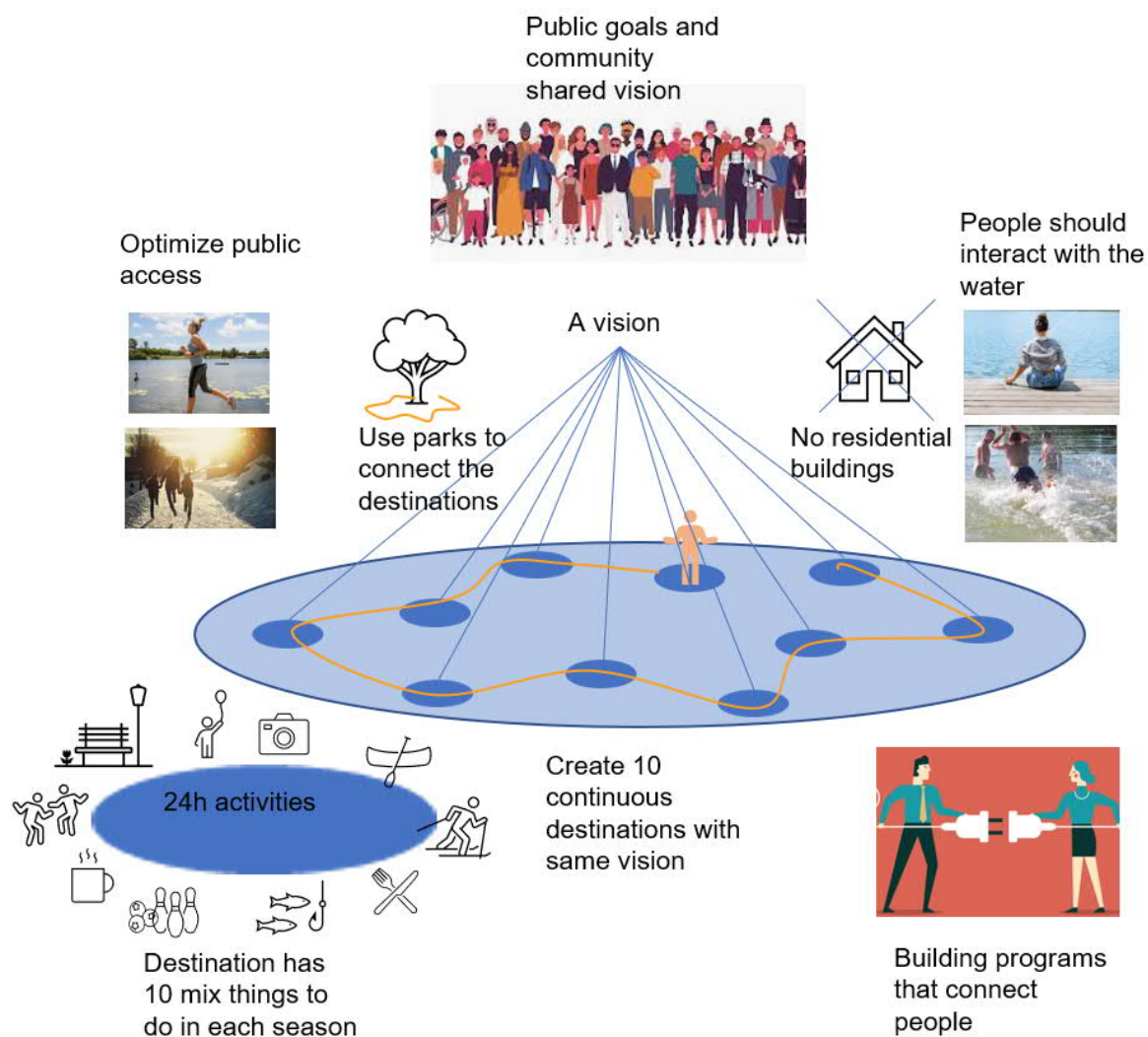


FIGURE 38. To transform a waterfront (Project for Public Spaces 2009)

#### 5.4 Typologies of waterfronts

**New Urban Expansion:** This typology contains the waterfront areas which are built all over again in available areas; and reclaimed old industrial or port areas.

**Waterfronts and Great Events:** In this one is established because of important temporary events in the waterfront area such as the Expos.

**New Urban Waterfront Itineraries:** The waterfront regeneration implies innovative consequences along the banks and in the surrounding areas. It provides public uses along pedestrian paths.

**Reuse of Port Areas:** This typology includes waterfront areas which are regenerated former port areas.

Urban Beaches: urban planners defined them as artificial environment created in an urban area. (Pekin 2013.)

## 5.5 Sustainable Marina planning

The thesis does not aim to design a boatyard but was needed to understand some principles concerning marinas, as the place is related to a marina and would be needed to suggest recommendations of how to proceed for better integration.

Normally marinas take well into account all the principles related with the environment and to be economically sustainable but does not always consider the social sustainable factor of the marina criteria design. A relevant matter to encourage social sustainability is that the built environment offers goods and services to the community members and guests. (Biondi, 2014.)

A marina is like a basin with natural and/or artificial barriers with moorings for small boats like sailboats and powerboats, for leisure use with its own services and parking places. Recreational boating facilities can have fixed or floating boat slips (Wikipedia 2020) A marina may include facilities for maintenance, shops and restaurants. Normally there is a boat ramp for transporting boats from land to water. If the marina would incorporate more services it would not be just a boat parking place, it may then be a destination.

Terminology:

A pier is a long platform sidewalk of steel, concrete or wooden, from the land to the water. Also, could function as a berth for small boats or for fishing. (Cambridge Dictionary 2020)

A dock: in British English it is the watery parking place where boats can land and be berthed and moored. In American English it is a pier. Berthing usually is perpendicular to the main dock, but also can be alongside or bulkhead.



PICTURE 32. Dock ideas, from left up to right. 4. Hornsbergs-Strandpark (landezine)

This thesis will consider docks as being the same as a pier. The advantages of floating docks instead of fixed docks, is that they are adjustable for high and low water level conditions, they may be easily expanded and may be reconfigured the size of the split, according to the boat size. (Marina Appraisal 2020) The berth distance is recommended as 3 metres, even though it may vary between 5m and 10m, depending on the boat, but in the study area there are not often big visitor boats seen.

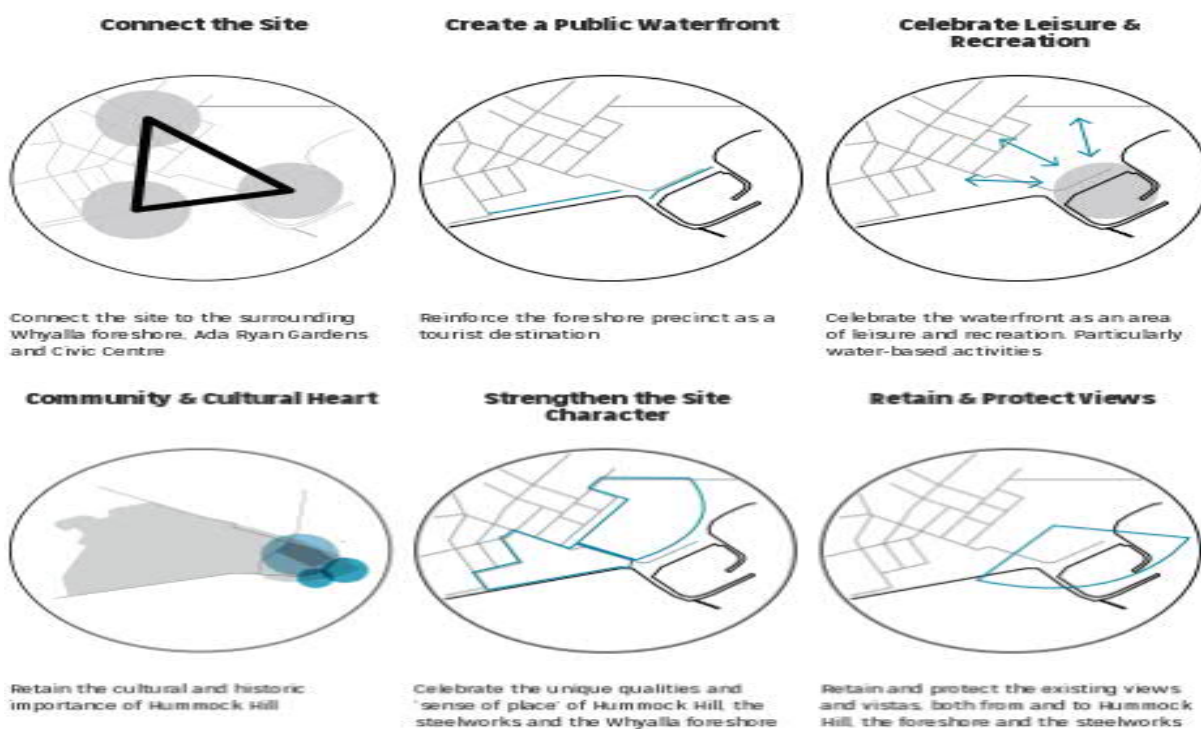


FIGURE 39. Principals for Whyalla marina development urban design (Oxigen 2016)

## 5.6 Turning rail corridors into public spaces

UNESCO concerning Historic Urban Landscape from 2011 recommends internationally to find a holistic approach that balances social, environmental, economic and cultural sustainable development and that integrates urban conservation. (Appendino 2017,2.) To afford urban sustainability is to consider historic urban areas, as they have a role in the local identity, but balanced with the urban development, because cultural heritage threatens the natural deterioration of the cause and the possibility of social and economic changes (UNESCO 2011). Concerning the relationship between heritage and sustainable planning it is crucial to remember that one of the biggest characteristics of the railways is, as in the past they brought prosperity to a town and their people, they also produced a division, separating one side from another, becoming a barrier and forcing people to take long walks to be able to cross the lines. Towns that considered the train track as a unifying element through a railway, physically divided the structure and made the lands beside them

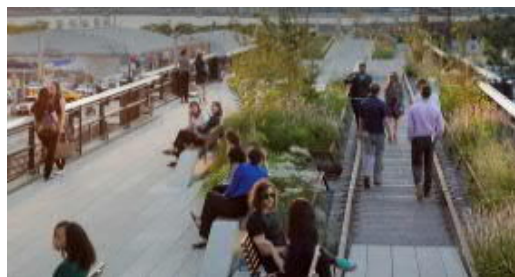
to be displaced and become undesirable areas (McHugh 2016). When rail tracks were planned, usually they were planned on the edges of the town when was thought there were no sides to separate, but when the cities grew the concept of *the wrong side of the tracks* was created.

As in everyday life, the values of urban spaces may change. Urban regeneration is a feasible tool of progress in urban sustainable development. Although it might meet conflicts with many stakeholders.

Railways have a strong significance on heritage values, but mostly are related with economic matters. The transformation of rail corridors on greenways may connect areas that have been isolated and bring public life and community sense. Rail to trails, has been working with trails as linear parks in a recycling form. These greenways are used for walking, jogging, cycling, nature observation and even socializing. These need study of the existing vegetation, soils, types of structures in development, topography, near or intersecting streams, as near lakes and ponds. (Flinkt, Olka, Seams 2002.)



PICTURE 33. Philadelphia Rail Park (Centre city Philadelphia, 2020)



PICTURE 34. The high Line New York (Baan)

On these projects, the viaduct of the old train track was transformed into a park, trees were planted, and new structural support for the viaduct edges was installed



FIGURE 40. Taichung Green Corridor, Taiwan by Mecanoo and S.D Atelier (Holmes 2018)

An example when the old rail track with a historical character was a relevant element in the development of the city related with communication, with the time became a divider, the proposition to use the track itself to do be the unifier of both sides as a green corridor, including programmes for leisure and recreation .

Evaluate with experts in history, the significance of the trail related structure, and analyse the feasibility of adding or removing a part of the structure or transforming it. Some structures when they have got an historic designation, might be difficult to restore. The structure might be based on bridges, tunnels, canals and buildings. It is important to define well the trial surface layers and the cross-section slopes. (Flinkt, Olka, Seams 2002.)

## 5.7 Appreciations concerning embankments

An embankment is an earth or gravel raised structure, usually intended to hold back water or to carry a roadway (Merriam. Webster 2020). Usually, an embankment exists in a water area to protect people against floods. The disadvantages of an embankment it that it limits people's easy access to the water edge, has a high maintenance cost because of possible erosion, and might destroy animal habitats. According to an investigation for the French Prealps, it was mentioned that attention should be paid to the vegetation grown on this engineered embankment filled with soil. It is wanted to prevent trees on these embankments for safety reasons and it is needed to look after a possible large growth of the roots. It is recommended to check them regularly, be alert of vegetation growth and possible burrowing animals. If the slope of the embankment is slight or is internally filled with concrete, it should not be necessary to avoid the forest, but when the vegetation and trees have already grown, it is generally not recommended to plant trees on the embankment even if it is ecologically sound and aids landscaping. (Evette, Zanetti, Cavallié, Dommanget, Mériaux, Vennetier 2014.)

According to conversations with the Water Protection Manager of the City of Lahti, Ismo Malin in 2020, he expressed the opinion that embankments have ruined the lakes in Finland. Eutrophication problems and overgrowth have been caused as a result of them.



PICTURE 35. Embankment in Teivas shoreline (author 2020)



PICTURE 36. Teivas embankment large visible roots (author 2019)

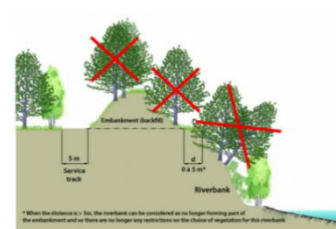


FIGURE 41. Diagram concerning trees on embankments (Evette 2014)

## 6 CASE STUDY, BUILDING THE IMAGE (SITE)

The area of Teivas, as it has been explained in this thesis, has undergone for almost 10 years several propositions and town plan changes, to revive the southern-eastern shoreline side of Lake Vesijärvi. At present, the land use department has proposed a new plan mainly for an area a bit further north than Teivas, including a floating swimming pool and sauna, as is explained in chapter 4.2.1 of this thesis. The aim of the thesis is to find a vision, identify opportunities, integrate this area, find new potential forms of appropriation for people of today, and for those in the future, to make the site a livable public waterfront. This analysis considered the methods of the literature review and the information recollected of the existing regulations and plans and mainly the author's analysis and observations.

The site of the study is situated in the Teivas area by the southern lake waterfront. There is located the marina of Teivas and a restaurant. To the south is the forested steep slope of the hill of Teivas behind the two-way Jalkaranta Street with regular traffic. There is also the powerplant and future residential buildings nearby.

To the north is first the lake of Vesijärvi, the hill of Kariniemi and Vesijärvi harbour, one of the biggest attractions for locals and tourists, especially during the summer.

To the east are the park and pond of Pikku-Vesijärvi behind the embankment for the elevated pedestrian road that continues all long from the south up to Vesijärvi harbour (old railroad) called Satamaraittipolku. Beyond the park it is now empty, but the new urbanization scheme of RantaKartano buildings is coming.

To the west are the marina docks and infrastructure, and a bit further on are Jalkaranta residential buildings.



FIGURE 42. Case study area in red on the map of Lahti (Asiointi.maanmittauslaitos.fi 2020 modified by author)

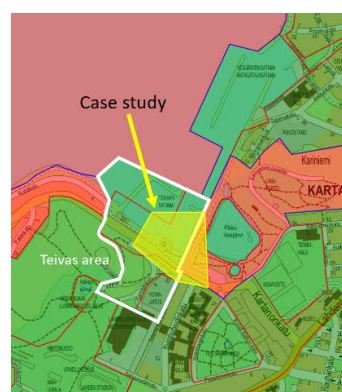


FIGURE 43 Part of the masterplan. Case study in yellow. Teivas area in white. (Lahti 2020, modified by author)

## 6.1 Urban Scale, urban structure

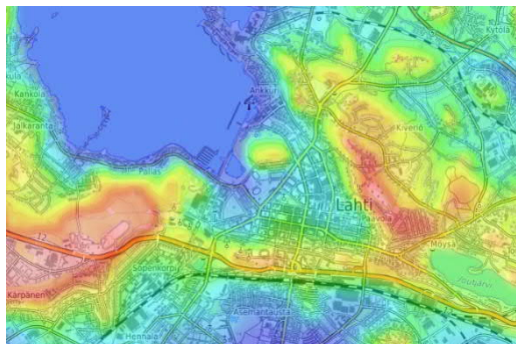


FIGURE 44. Topographic map, Case study area at Lahti (Topographic map 2020)



FIGURE 45. City centre sector structure analysis (made by author 2020)

The study place is part of the central sector of the city and that is why it is necessary to understand the structure of the city centre and neighbouring areas. This sector is between two long hill chains, Salpausselkä edge on the south is the most significant and valuable environment element for the place and the city and to the north, there are segregated but continuous mountains of variable heights. The surrounding mountains and hills have influences on urban layouts. The centre itself as the whole sector is not all flat, it varies with peaks and troughs every now and again. It has a compact and ordered reticule aligned to the Salpausselkä mountain range. Other reticules contour the foot of the hills. Towards the lake edge, the unique hill of Kariniemi contributes with a new grid system. The RantaKartano site follows the direction to the opening framed by Teivas hill slope and Kariniemi hill slope, the original approach to Lake Vesijärvi to the land. This direction is repeated and perceived further by the point of change of the height of Radiomäki hill. (fig .45)

### 6.1.1 The context and connectivity of the Neighbourhoods

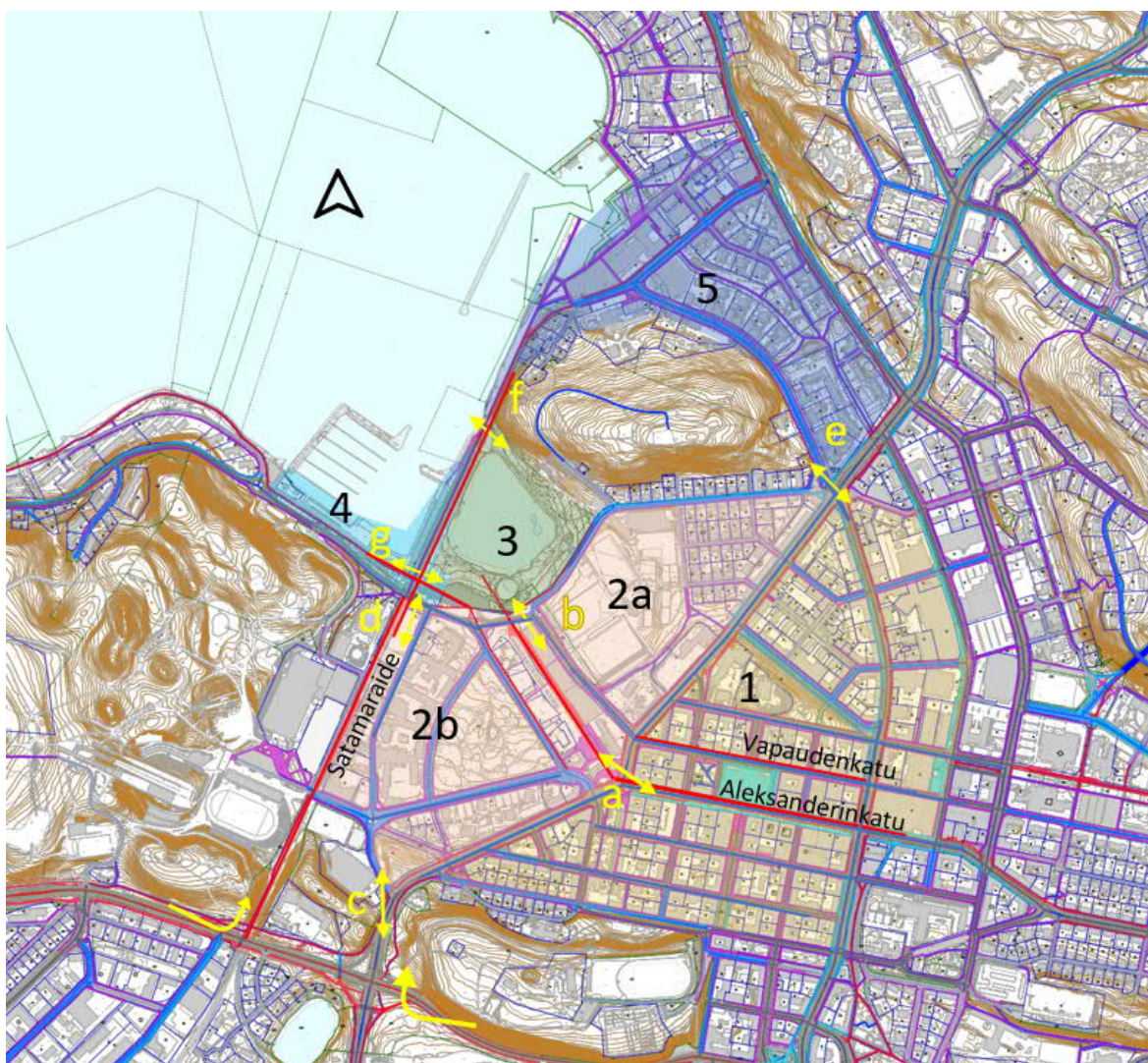


FIGURE 46. Urban paths networks, main urban scale nodes and districts or areas. (Lahti map service 2020, modified by author)

The map has been modified by the author. Streets are in blue, in red and purple are pedestrian /cyclist ways. The map has been marked with thicker red the ways by which the author analyses in the forthcoming text. The numbers refer to urban area textures presenting different urban shapes and layouts, they are not necessarily following the master-plan division. According to the author these have an influence on the connections to the study area.

Area (1) City centre; area (2) Kartano; area (3) the park; area (4) Teivas shoreline; area (5) Behind the Kariniemi hill.

The letters in yellow represent the relevant node connections. Nodes (a), (b) and (c) and (e) are in an urban scale, (d), (f), (g), are in the study area scale.

Lahti's transport policy guidelines specify and illustrate the city's strategy, giving priority to friendly modes of transport, which are walking, cycling, and public transport. The most significant challenges are to increase cycling, improving cycle paths, especially in the city centre. The city should offer all year-round, safe, and comfortable walking, cycling and public transport corridors from residential areas to services. According to the traffic plan, traffic will be moved from the city centre area and directed to the city centre perimeter, parking will be centralized in facilities, and street parking will be reduced. (Ramboll 2012, 5). The area of study is mainly highly used by pedestrians or cyclists, there is the reason the analysis pays higher attention to these networks and connections. The street layouts are considered as they are the routes that allow the movements of the people. A permeable and functional urban structure permits people, vehicles to move from one to another.

-Node (a): The area (1) city centre, is divided by a wide road area (2) disconnected strongly in node (a). The coming Rantakartano project that has already started its construction process on the existing Jalkarannantie street (FIG. 21 and 67), in the middle of area (2), should improve that situation, at least should resolve the pedestrian and cyclist's mobility working as a bridge to area (3). The RantaKartano complex will have a green corridor path between the buildings where there will be residential blocks, hotel, and water sports centre. It aims to connect the city centre with area (3), the park of Pikku-Vesijärvi in node (b) and as well to continue it to connect with area (4).



FIGURE 47. Draft visualization RantaKartano project on area (2) joining nodes (a)-(b). (Arkkitehtitoimisto K25 Oy, 2008)

The node (a), will privilege pedestrians and promise to be attractive and integrator. Vehicles will be challenged to find their way surrounding the node.

According to the author, the spatial concept is a longitudinal interior public space and transversal towards extended green spaces

The Ranta Kartano project, might resolve the connection between node (a) and node (b), and is a step to bring the centre to the east and water edge.

The main pedestrian and traffic streets from the city centre are Aleksanterinkatu and Vapaudenkatu both in the area (1) and beside the square, especially emphasized on



PICTURE 37. Node (a) View from Aleksanterinkatu street to Teivas shoreline (author 2020)

Aleksanterinkatu, which also is part of the cycling route. Both streets work together as a system, one leading in one direction and the other in the opposite direction.

In general, the streets from the area (1) do not have a straight connection to area (2), increased by the strong traffic and wide street of Hollolankatu, except those on the peripheral sides. The traffic plan of Lahti, to strengthen pedestrian traffic on the most used roads in the middle of the downtown, has been regularized in such a way that the perimeter roads are faster than the others, which affects pedestrian and cycling use on those streets.



PICTURE 38. View from Vapaudenkatu street to Teivas shoreline (google map)

- Node (b): The new project in RantaKartano includes water as water flow and for storm-water management, understanding that the blue infrastructure as a connecting urban element needed on the area, just bringing back the nature of the city, bringing back the water in a comparable way to how it was before the year 1968, when Lake Vesijärvi reached exactly this point. Moretti (2008) considers that the waterfront is any “*urban area in direct contact with water*”.



FIGURE 48. Park Plan for RantaKartano area (2), Studio Terra (Lahti Palvelu Kaavoitus, 2020). PICTURE 39. Node (b). View from Jalkarannantie street to Teivas shoreline (author 2020)

-Node (c) and (d): Node (d) is an intersection between the primary path Hollolankatu and the secondary path Svinhufvudinkatu and is the main access to the Sport centre and to the shoreline. It is mainly for users coming from the south side of Lahti. The path, of Svinhufvudinkatu is a curvy descending street, for which Salpauuselkä /Teivasmäki hills and

the powerplant pipe are landmark references and a background which can be seen along the road route. These indicate and orientate the passerby to the Teivas shoreline. The path contains meanings for the inhabitants, as it concentrates associated uses that typify it and buildings with similar form pattern. Nowadays, this node and the street have neither a well-being pedestrian path nor a cycling path. The next parallel path Hakatorninpolku has a cycling lane but it is a longer round route to the shoreline. The area 2b, a mixture of an industrial and educational area, could support and complement Teivas shoreline after more development, the area is already an environment for young people as it contains buildings for the education field and many sport services. The vocational college Salpaus Further Education provides many services.

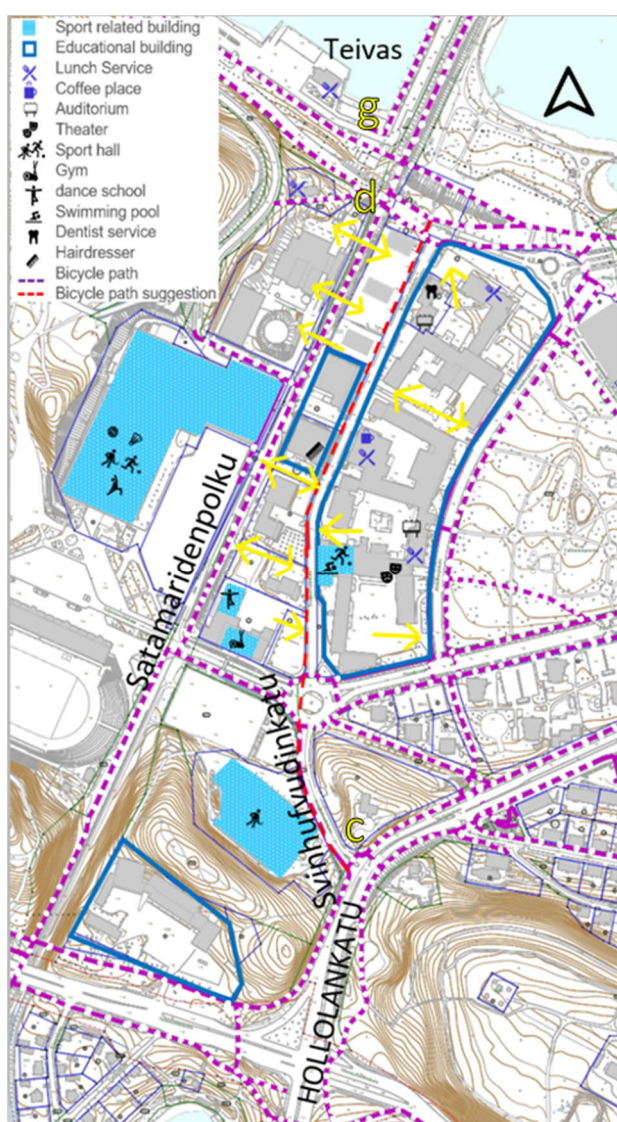


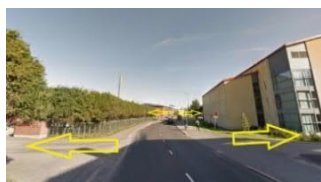
FIGURE 49. Area (2b) to the south. Bike paths and use of land. This district contiguous to the study site (Author 2020)

The Satamaraide path (pic.40), a linear bicycle trail from South Hämeenlinnantie main street to the north to Vesijärvi harbour it does not connect with its surroundings, due to the poor corridor space quality.

This area is potentially an active district, *imageable* (Lynch's term). Svinhufvinkatu path has many similar characteristics, not necessarily positive, but follows a certain pattern. A long inactive facade blocks that transversally exchange interior yards creating corridors spaces, but with no activity on them(pic.41). The new coming housing project that will be in front of the study place by node (d), it will be relevant for the area. The project consists of repetitive blocks distanced equally, opening cross corridors which might enrich and break the linearity of the Satamaraide route. It is the opinion of the author that the experience of the cyclists' journeys will be increased if they can feel a connection with the surroundings.



PICTURE 40. Satamaraide path 4 sequences from south to north. From Sport centre to Harbour. Third sequence is node (d) (author 2020)



PICTURE 41. Svinhufvudinkatu (google map)



PICTURE 42. Svinhufvudinkatu end. (author 2020)



PICTURE 43. Node (e)



PICTURE 44. Node (e) (Author 2018)

Node (e) (pic.44) To the north of the city centre, the connection between area (1) and (5) is related, but not integrated, the connection between (1) and (5) has a big potential for improvement. The hill of Kariniemi, which is an important landmark reference for the city, highlights the bifurcation and through its contours and profile, allows a clear connection to area 5. (pic.43)

### 6.1.2 Landscape and green structure

*Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (Council of Europe 2000).*

The landscape and its elements, like the hills, the forest, the trees, the topography, the water, are mainly the strongest protagonists in the area of study. In the study place there is not relevant built infrastructure. The green areas of the bay are fragmented, but they can give many signs. On a vertically plan they may delimitate the space as a wall or a pillar and in a horizontal plane they delimitate it as a floor and a ceiling, especially during the summer when the trees are leafy. In the winter these trees have no leaves, do not mark the same delimitations as in summer. Pines remain leafy during both seasons and become more noticeable during the winter. The trees may provide shade or act as a barrier.

Is important to emphasize again the importance of Teivas slope and Lake Vesijärvi which are really the only two natural elements in the closer context of the study area.

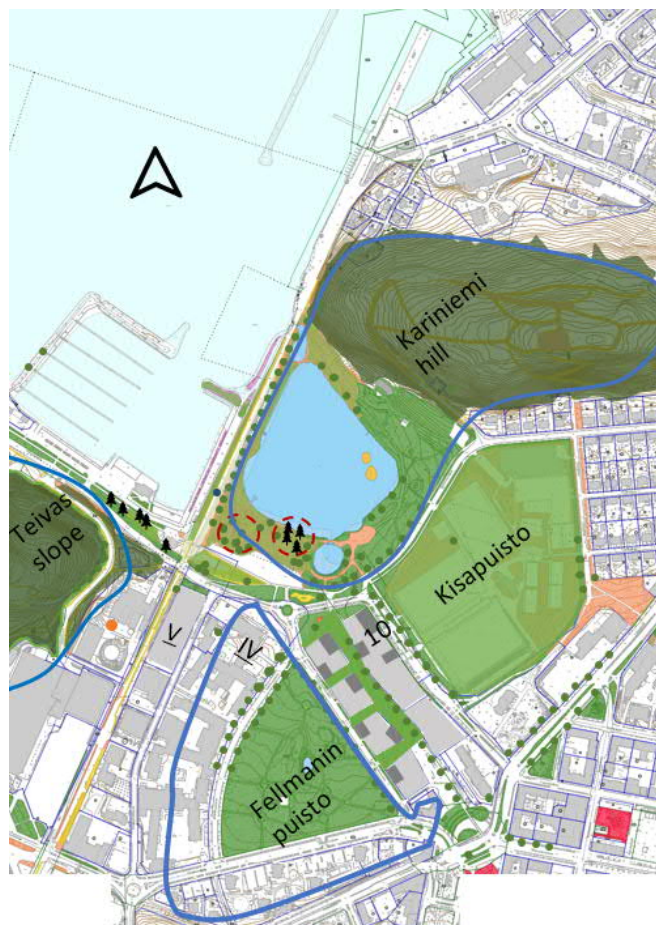


FIGURE 50. Analysis of Green areas systems (author 2020)

The Satamareitti path embankment, the Pikku Vesijärvi park and pond are all artificial. Their existence is due to a justified historical moment in Lahti city. Even the case study area is artificial, a new waterfront was created in recent years.

The Pikku Vesijärvi park, probably the most visited place, which was conceived to be a recreational oasis, existed before the Teivas Satama and the shoreline path.

There are three green systems, the study area is in the middle and in the centre point which could articulate them.

1.- Pikku-Vesijärvi park district with Kariniemi Hill district, there are walking routes, art sculptures typologies and nature that connect them. Rantakartano project might

connect with this green system through it coming green blue corridor.

This Green system has the qualities of a free, protected and being inside feeling

2.- Fellmani park district is a system of its own with its surrounding buildings which are organised with similar patterns, this system offers a more formal structural pattern. The pattern forms are repetitive presenting open courtyards.

3.- Teivas hill and surroundings



PICTURE 45. Pikku-Vesijärvi park-Kariniemi hill foot edge. Inner view (Author 2019)



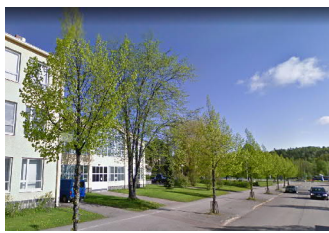
PICTURE 46. Pikku-Vesijärvi park-Kariniemi hill foot edge. Outsider view (Author 2019)

### Green system 1

The hill and the park are integrated through a gradual connection in the terrain. Even it looks natural, it is a quite planned area.



PICTURE 47. Stählberginkatu street / Fellmani puisto Park (google map)



PICTURE 48. Salpaus buildings/ Stählberginkatu street (google map)

### Green system 2

It is a national significant built cultural environment. The park is surrounded by a fan-shaped planned area (museovirasto 2020).



PICTURE 49. View towards Teivanmäki slope (Author 2019)



PICTURE 50. Teivanmäki slope/Jalkarannantie street (Author 2019)

### Green system 3

The slope has been divided by Jalkarannantie street, at the foot of the hill



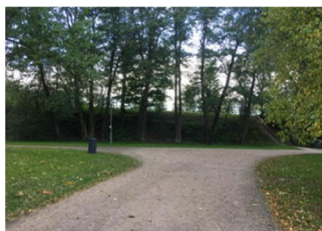
For the site, the silhouette of the hills and its forest mark lines as landmarks and references for the city during the whole year. Red points: The tower of the power plant and in Niemi area are the most visible aspects the site. The high trees work as well as reference surfaces having a visual and spatial impact on the perception. From the closer surroundings are landmarks the tower of the church, the Radiomäki tower and the ski jumping infrastructure, which are not really seen from the site.

FIGURE 51. Landmarks relevant for the study place (author 2020)

## 6.2 Area scale

The place is a disconnected space from the contiguous areas, due to its natural barriers and shapeless discontinuous sections. Almost is not possible to refer to discontinuity since there are no moments or spaces to unite or differentiate. The physical elements that give form to this space like its edges, lack function and valuable shape. That is why the space fails to transfer a message because it lacks intentionality. The physical environment affects people's behaviour (Gehl 2017).

### Topography



The old railway bank creates a straight line from the harbour of Teivas to the harbour of Vesijärvi. Basically, the old railway bank just delivers people from one end –to the other



The embankment is about 113 metres long and 4 metres higher from the city centre at the east side and up to 6 metres higher than the shoreline level.

PICTURE 51. Topography of the site, heights in relation with the shoreline side (author 2019, 2020)

The southern port area of Lahti does not attract people to spend their time on the shoreline of Lake Vesijärvi. It has also been developing as a hub of anti-social behaviour. It is easy to notice a big disconnection and segregation near the harbour of Teivas. This is also found in western parts of the master plan of the City of Lahti Y-202 (City of Lahti 2016). The area lacks the quality of place.

The view to the site from the city centre to the lake waterfronts obstructed by a wall or bank of earth covered with several trees from the city. Instead the city has direct access and visual connection to the water of Pikkuvesijärvi small lake, which was the natural Vesijärvi lake before got its own identity and structure as an inner "Room" for the city of

Lahti. The other side of this embankment Livable neighbourhoods should be accessible to anyone (Gehl, 2016).

**SUMMER**



Old train road in higher level, block the access to the shoreline

**WINTER**



The only possible connection way, from the center, has been used as parking place



Lacks sustenance and support to shelter and create permanence to be a place



PICTURE 52. From top to bottom. The old railway road. The parking area beside Pikku-Vesijärvi from the old railway line. Teivas shoreline corner. (author 2018)

### 6.3 Social Mapping in Public space at Area scale

#### Mapping and counting of movements

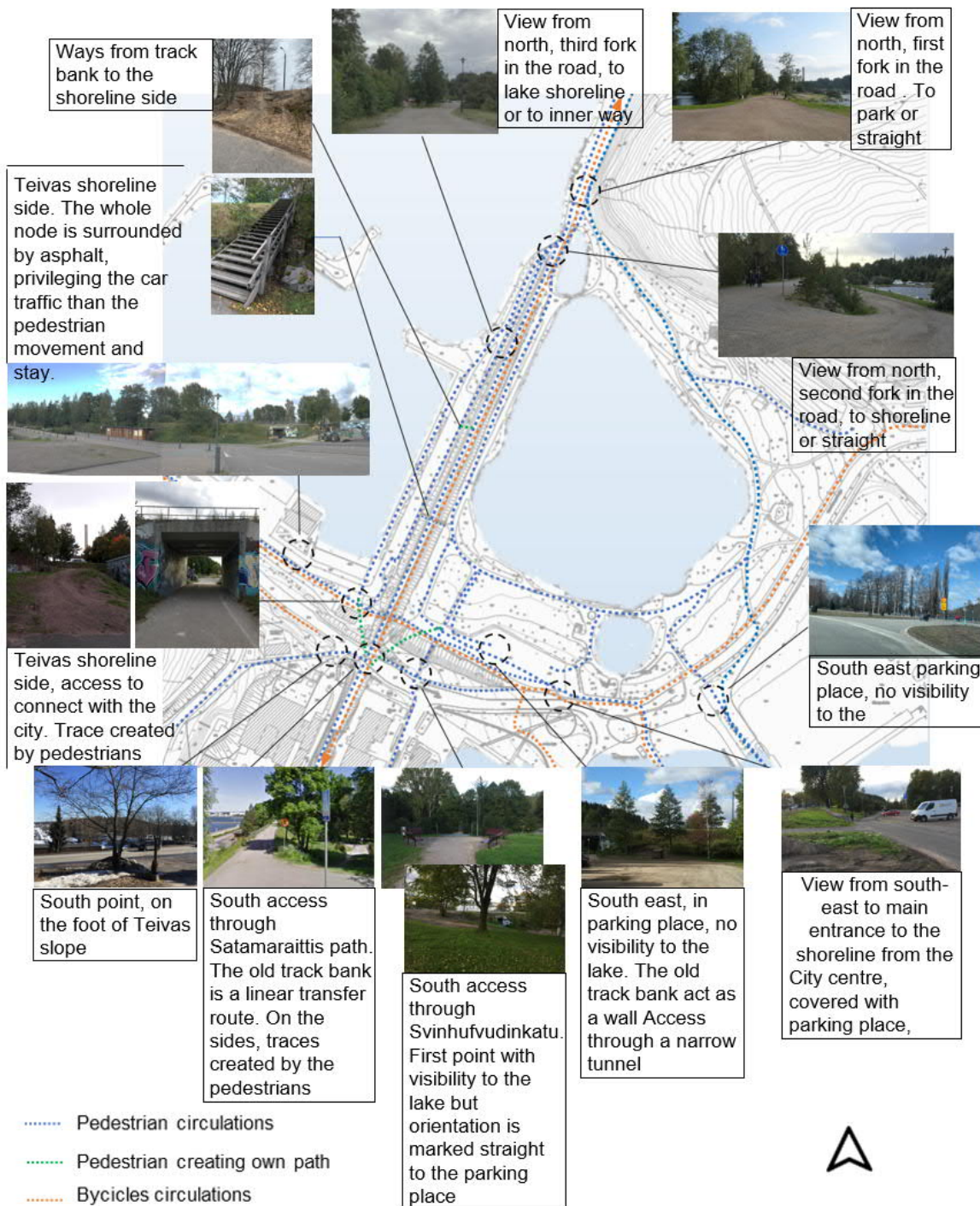


FIGURE 52. Paths and Nodes. Main pedestrian and cycling routes. Relevant points for connections (Data collected by author 2020)

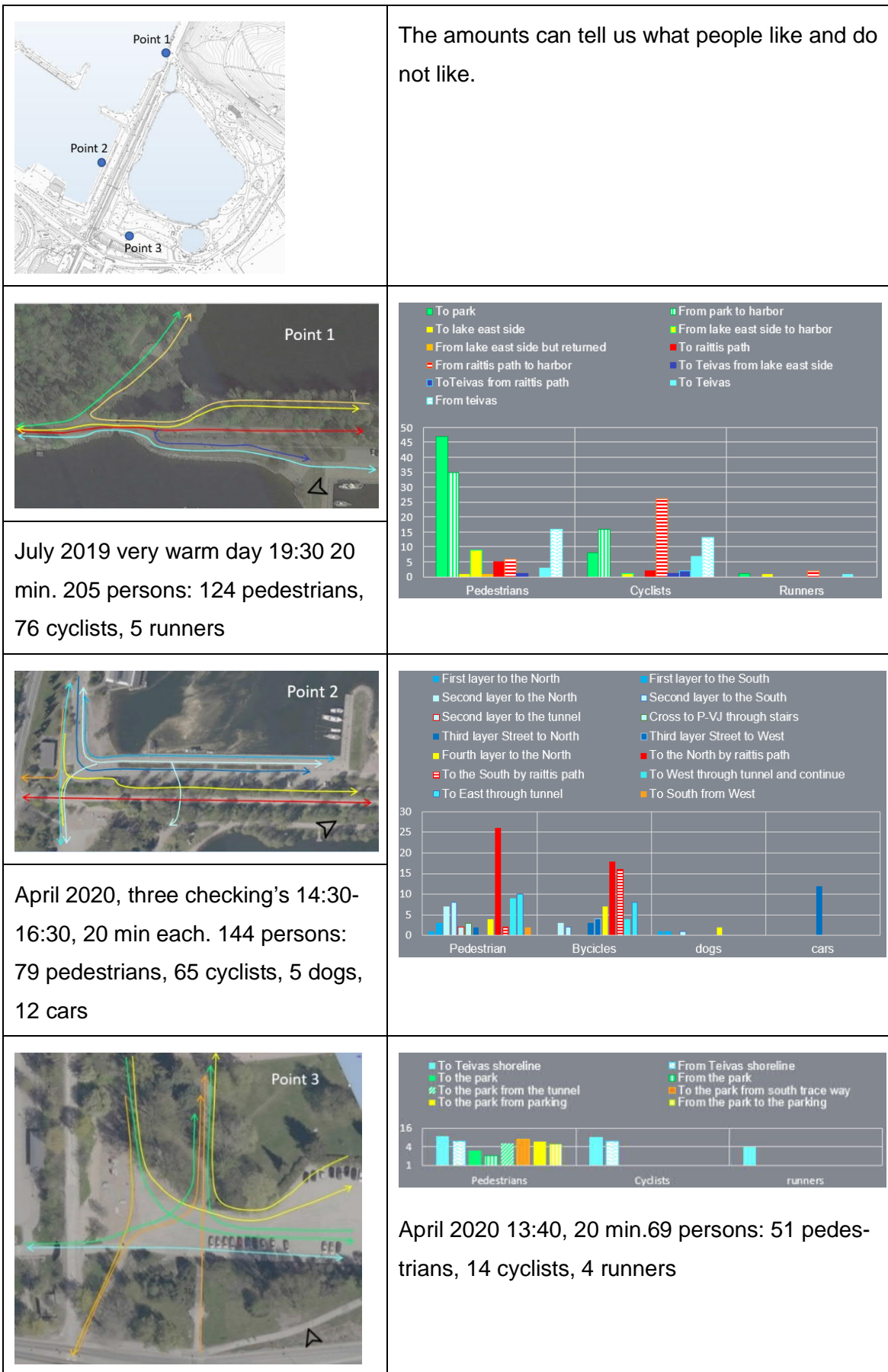


FIGURE 53. Mapping of amount and type of traffic (author 2020)

## Results from the mapping circulation

The amounts of gender and age groups were not always counted, the study is not accurate as it was carried out in different seasons and only on a Saturday. The two last people activity counts were held in 2020, which were affected by the Coronavirus period restrictions. It is not possible to compare results from point 2 and 3 with point 1 for such different conditions. According to Gehl's tools it is recommended to do the counting for 10 minutes per location. A proper survey would require more people and time to execute it.

- Point 1, the movements of pedestrians are more than that of cyclists, for people the first walking path preference is the direction to the Vesijärvi harbour through the park, the second preference is through Teivas and the third from Satamaraitti path. The Satamaraitti path is mainly used by cyclists rather than pedestrians, about 80% are cyclists coming to the harbour rather than leaving the harbour. In the other direction at this point, there are three consecutive bifurcations with changes of level, width and vegetation. These elements effect the flow perception.
- Point 2, The counting was mainly meant to check the movements in the lower level from the shoreline side, but as well the opportunity was taken to check movement from the Satamaraitti path. From this counting it could be appreciated that the movements are mainly to the north and the west. The tunnel is used both by pedestrians and by cyclists, but more by pedestrians. It is interesting to see that the number of users using the Raitti path was more than double from those crossing the tunnel. But the total amount of pedestrian in the lower level of shoreline was 51 pedestrians with different directions against 28 pedestrians in Raitti path. The number of cyclists moving down and up was quite equal. As well it could be appreciated that the type of cyclist is usually male and moving alone, the type of cyclist on the lower level are also individual types, but as well many couples and families with children. The pedestrians seen above may be bigger groups walking or jogging. At point 2 could be seen more dogs than at other points and many people walking alone. Because of the dog, the person decides which road is chosen, preferably where there be a soil type surface.
- Point 3, It was counted that the number of pedestrians preferring to go to the park from the city centre was 31 and the ones who crossed the tunnel were 19. From the 31, 11 used the parking place and 15 used the track created by people to come and go to the park from the South area. Also, people are seen to walk their

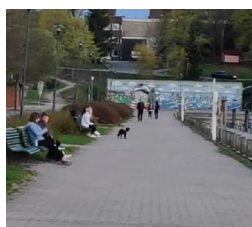
dogs quiet much preferring the areas with sandy texture or the beach as a destination.

### 6.3.1 User type of people and activities



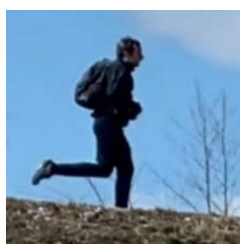
**Families:** It might be seen on weekends, mostly one parent with one or two kids and sometimes with a dog. Many families might see them cycling. In general, there are few families seen, so very seldom children are seen here. If a family is seen here it is just passing by. Mainly they are going to the harbour area or to the park.

PICTURE 53. Family (author 2020)



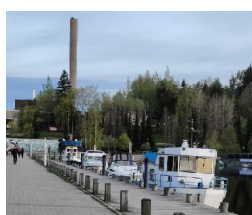
PICTURE 54.  
Couples or pairs  
(author 2019)

**Couples or pairs :** On the area, more younger couples than elder ones are seen in the area, even on the existing benches, younger people do not mind sitting on informal edges but even in other seasons than summer time, younger ones are using the benches. They like the place to have a private moment for relaxation. It is possible in summer; they go bathing and have conversations. It is possible that they visit only because of the rent of the water scooters. Elder people prefer to take the park routes to get to the harbour and try to avoid the wind. Elder ones might visit the place by car to walk less to visit the Vesijärvi harbour or pass through visiting the Lokki restaurant.



PICTURE 55

**Single urban person:** This one, is seen walking or cycling through a path, passing by the place, mainly from the upper level Satamaraitti path, and less by the shoreline level. They could be seen as well, in the other direction but always passing through, usually for a healthy sporty walk or bicycling. pic.53 single person (author 2020)





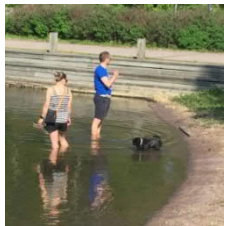
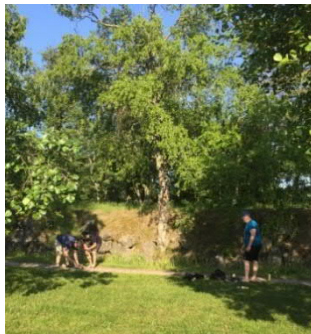


PICTURE 56

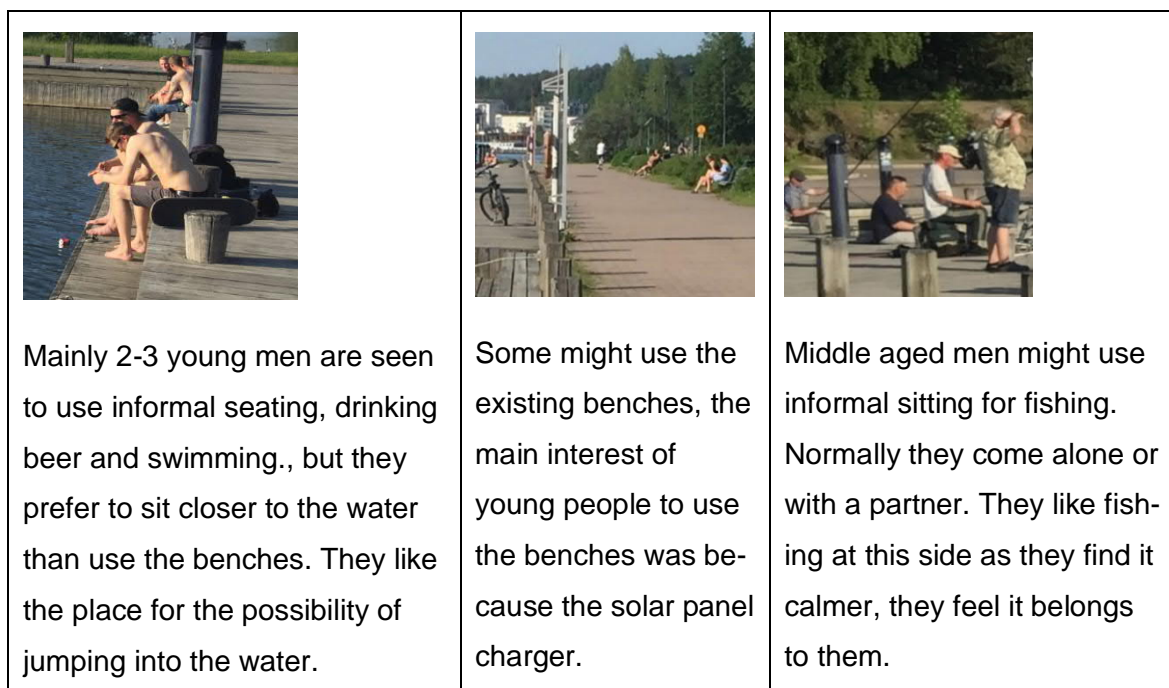
**Guest boat user:** Normally is not seen spending time on its boat or on the area, only the boat is there not giving any life for the waterfront. Pic.54. single person (author 2020)

Home boat user: Are not seen in this side on inside their boats or nowhere at all, they do not have anything to do at the study place

Visitors by car: There are many adult men parked or just sitting alone on their cars for 15 to 20 min, there are also people seen parking the car here to have a shorter distance to visit the Vesijärvi harbour.

### 6.3.2 Stationary Activity Mapping, registering what people are doing at certain time, activities, and beliefs after interviews

		<p>At Pikku Vesijärvi park side, one can see many groups, for picnic, sport activities, recreational activities in general. Many of them come by car, so they do not live nearby.</p>
<p>Usually there are more groups of women than men. Stationary activities: Standing waiting for something to do, bench seating, Grass seating, exercising on the grass, fishing, bike, sup rental, cafe seating, theater sitting, art activity.</p>		
 <p>Dog Bathing</p>		
 <p>Fishing during winter time</p>	<p>A Group playing M<math>\ddot{o}</math>lkky, (Finnish throwing game, based in wooden pins to be knocked over), searched the shadow and a quiet place.</p>	<p>Picnic place. The place is considered as a quiet place, to be in private</p>



PICTURE 57. All photos taken by author 2018-2020

A questionnaire survey was carried out (Appendix 1), by the author and delivered to some Lahti inhabitants and was filled in on site. It is a combination of Lynch and Gehl questionnaires. The health restrictions made impossible to get many people to answer it. The questionnaire was not always understood, especially regarding the picture and to which place it was referring. They preferred alternative questions. The personal interviews were the most effective, which were to about 20 young persons, under 40 years of age. 12 answers from the questionnaire, 6 men aged between 40-59 and 6 women between 30-40.

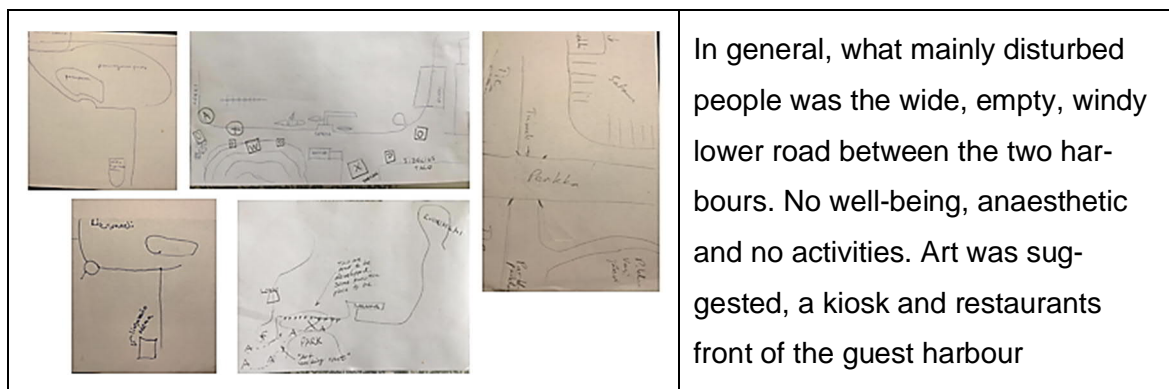


FIGURE 54. Examples of drawings made by some who answered the questionnaire.

From the drawings some understood the place as part of the whole line up to Vesijärvi harbour and remembered the slope of the Kariniemi hill as a whole with the embankment .Question 2: People pass through or visit the restaurant. Question11: Most answered to

feel the place belonging to the boat owners. Question 12: about the access, most answered that there is nothing to do there. Question 13: related to the embankment, the alternatives answers most chosen were: *that it not historical value, maybe but cut visibility.*

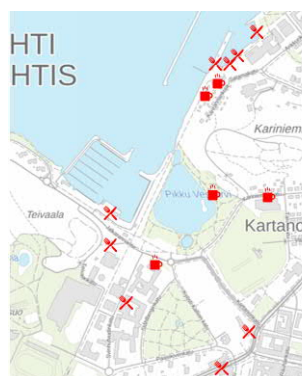
From interviews to young people, they think the guest harbour could be somewhere else and that no cars should be allowed. Concerning the embankment, many knew about the train, but couldn't believe that the embankment would be protected as they find it unattractive, they considered that the railway station's existence is enough for the memory. The Lokki restaurant by the border water line, is mainly used by middle aged to older people and they consider it an obstacle on the area.

It was told that more winter activities are needed in the city. However, since the city is characterized by this, it could be a place for skating or other sports during the winter-A formal swimming pool might have regulations and would not allow people to jump in, so is good to have a free-swimming place.

In general, the residents who use the place find on the area a place to relax, and isolated, they consider Pikku-Vesijärvi park and Vesijärvi harbour too noisy.

Services suggestions: Deck and sand beaches, marine museum, dancing place, sauna, gasoline station, grilling place, coffee place, playing ground, dogs playing ground.

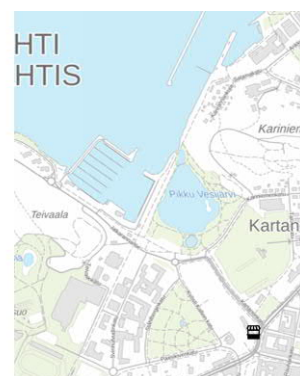
Nowadays  
nearby ser-  
vices



Restaurants and  
cafes near the area



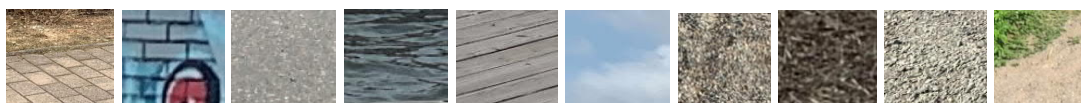
Activities for  
children and adults



grossery shop

FIGURE 55 Existing nearby services (Author 2020)

Main materials and colors perceived on the place



1. shoreline, 2. wall, 3 shoreline street, 4. water, 5. shoreline deck, 6. Sky, 7. Satamaraittis path, 8. embankment slope, 9. East side parking, 10. Sand and grass by Teivas beach

## 6.4 SWOT analysis

Considering the background research, community participation in earlier surveys as the author survey, a SWOT analysis highlighting the strengths, weaknesses, opportunities and threats, which served as a basis for outlining the development objectives and design concepts explained in the following chapter as Results.

### **STRENGTHS**

#### **Architectural and structure**

- The land is extensive, so is possible to add new structures and facilities
- Significant surrounding and landscape views, connection with the water and view to close and far forests.
- There is a marine structure that gives life to the water activities
- Some pattern can be recognised from the adjacent neighbourhoods to apply for continuity and integrate them in a same pattern structure
- Wetlands have been used for managing stormwater in nearby developments
- New residential areas are being developed close to the area
- Change of the usage plan is in progress to incorporate a sauna and a floating swimming pool.
- The city has a strong will to use sustainable solutions.

#### **Routes**

- Close by are urban green areas with extensive path networks
- Close and part of the most attractive and touristic routes in Lahti
- The area is very close to the city centre, 10 min walk, and important routes delimit the place

#### **Social Setting**

- Offers a calm place for reflection
- Younger people like to come to the place to be in peace
- Space used to for dogs to swim
- Place used for fishing

### **WEAKNESSES**

#### **Architectural and structure**

- Old protected buildings for technical reasons, without any architectural value
- Extended area without active edges that inhibits staying and the quality of the place
- The embankment
- Insufficient basic services and public equipment
- The shoreline is not the same all year round.
- In winter it is more unattractive than in summer
- The marina has taken the control of the land use fulling the area reserved for parking.

#### **Routes**

- Lack of clear accessibility for pedestrians
- Parking places all around the place
- The ways for pedestrians, cyclists and cars are not defined
- In winter, the cyclist's routes are not safe

#### **Social Setting**

- Lack of pedestrian shade elements
- Lack of character and theme
- Lack of street furniture
- Lack of a public park for gathering
- Community does not give chances for innovative solutions
- No place for children
- No place for older people
- A feeling of not being a public place and to belong to the marina
- The place does not connect the community with their lake
- The visitor coming from the lake has neither a visual nor a physical connection with the city
- Close by are strong attractive already traditional areas that would make it difficult to be alike and get habitants interested to be here instead

## OPPORTUNITIES

### **Architectural and structure**

- Create a public park, join Pikku Vesijärvi park under and over the embankment
- Transform the embankment and become an integrating green corridor.
- Improve quality of water of the Pikku-Vesijärvi small lake and stormwater drainage systems joining both lakes.
- Create buildings with interesting façade and human scale
- Apply the pattern of neighbourhood buildings to be part of a structural system
- Enlarge the land over the lake
- Reshape the embankment
- There is a good disposition of the authorities to approve and promote development plans
- Teivas marina could grow more to the east, releasing this area for community activities.
- Existing technical brick buildings, may be adapted for new functions keeping their history memory
- Possibly to relocate the trees
- The south parking place is a large area to add new infrastructure

### **Routes**

- Move the traffic of Jalkarannantie Street under the pedestrian level, facilitating the continuity physically and socially
- Lehmusreitti route from Teivas slope could join to the new park
- Create pedestrian and bicycle lanes
- Parking spaces could be moved from the place.
- Improve the guest boats parking inclusion.
- Improve the paths to be clear and use landmarks for significance and orientation.
- The inhabitants have left traces of their favorite shortcuts

### **Social Setting**

- potential for tourism
- Add shade protective elements
- Add stronger supports for staying
- Close to the area are places for lunch and sport and educational services, which could extend their work to this area
- It is wanted to decrease the use of cars in the city centre, so is not needed to create much parking places

## THREATS

### **Architectural and structure**

- It might not be wanted to be move or reorganise Technical installations like water pipes and stormwater installations inside the embankment,
- The embankment is considered a valuable historical element on the environment
- Difficulties for relocation of the trees
- Trees cover the slopes of the embankment, and the root water uptake by trees can cause seasonal shrinkage and swelling of the embankment soil. Many roots are superficial, which can cause the tree to fall.

### **Routes**

- Introduce new services will need more parking places which at the same time restricts the pedestrians.
- The marina administration has power on the authorities not allowing them to modify the area for the good of the city.

### **Social Setting**

- The use of graffiti on a few existence surfaces, is a sign that the people have noticed the abandoned situation of the place, it could be more difficult than they ever respect the place again. Even if the drawings were authorized, there is still behind the graffiti in the social mind means a social message
- Conservative older age community rejects innovative developments
- Not much participation on the opinions of the young people relevant for sustainable development
- Some people from Lahti would like that the train comes back to the shoreline
- The harbour considers the area as its own.

TABLE 1. SWOT analysis (author 2020)

## 7 RESULTS

All the information collected from past studies by the city authorities and the author's surveys and interviews, literature review, history, the author's spatial and social analysis gave qualitative data for the findings.

Answers to the research questions:

*-How to integrate shoreline better with public use?*

*-What kind of future image could integrate the waterfront better with the city?*

It is necessary to change the role of the shoreline inside the Vision 2030 and follow the opportunities from the SWOT analysis. The vision 2030 mainly emphasizes the linear SE - NW system and aims to enhance the extreme poles, the Sport Centre and the Vesijärvi harbour, considering what is in between as mere amenities for the route. The view also considers the Ranta Kartano as an essential step to integrate the city centre to the east up to the Pikku-Vesijärvi, but without a plan to integrate the shoreline. From the analysis of the implementations and how people live in the city, it seems to be considered that the shoreline is the edges of the small lake of Pikku-Vesijärvi and the route already referred to as the edge of the city.

To integrate the real shoreline, it needs an image that be legible, that has a meaning for people, inside a structure and an identity. It requires that the elements used by the people, such as the paths, the edges, the nodes offer some degree of belonging and guidance, just as Lynch has indicated. It requires that the elements be part of an interconnected fabric with continued sequences in both directions. The place is a Gate and the Front Garden of the city of Lahti. The place should be integrated with a greater commitment to the East-West connection system incorporating the big and small lake edges.

It is advised to develop the "Corridors" concept. In Lahti Kartano area there exist district "Rooms", with no connecting "Corridors". Room Vesijärvi harbour, room Pikku-Vesijärvi park, room Sport centre, room Kariniemi hill, room Teivasmäki hill. Camillo Sitte understood the city structure as a succession of linear connections. These "Rooms" work as islands in the urban fabric. They have such strong character and make them so unique that the connections become weak and without virtue. One can improve the place in terms of accessibility, inclusiveness, attractiveness, safety and comfort as Gehl proposed.

The marina at the moment takes almost the whole control of the area in land use, which does not allow the place to behave as a public place. The name of Teivas marina has invaded people's memory, which removes them from a sense of belonging. According the

literature review, interviews and people behaviour, one destination, a vast space, one predominant use and not safe place from traffic prevents the waterfront development. The area should be called Teivas shoreline, instead of Teivas marina.

The area to be public requires relevant physical recomposition. It is relevant to enhance the accessibility. It is required to create continuities from the existing patterns and create green upper bridges instead of barriers. The embankment must be opened partially, and the upper trail path rebuilt on the spot as a bridge structure. The embankment is a barrier to the revitalization due to its exclusive and imposing nature.

To revitalize the waterfront mixed uses needed to attract boat users and non-boat resident's users and a wide range of activities for all ages. It is suggested to consider the creation of Pavilions, like temporary built spaces as boat storage in wintertime and on summer for public use.

It is necessary to have amenities, but it is not enough to adhere isolated services and programmes that may attract the public with a novelty value, but over time the inhabitants will lose interest, because the place itself lacks its own character. The marina and harbour authorities should understand that if the place becomes public the marina will benefit.

*-To Regenerate new forms of appropriation and connect the case study area with the south side of Pikku-Vesijärvi park connection public, private spaces, and nature.*

It is necessary to have new forms which are representative and symbolic for the habitants, which make them feel comfortable and secure. Currently, the place of study, having neither life nor permanence, represents a few inhabitants who seek solitude, isolation, and momentary recollection, in informal supports. These forms are related to the built environment, either landscape or architectural, either both may contain supports, shade, direction, intention and protection, but certain function is needed to respond to specific activities and it is needed support-built infrastructure to support economical activities.

*-To Respond to the relevancies of protected historical elements and question the master-plan regulations including the land use for the selected area.*

The creation of an 'enabling structure' that recalls the inhabitant of Lahti's origins is proposed, the historical legacy can be evoked through representative rails and rescuing the pro-manufacturing production activity for the community and to contribute more to the history, to recover the city's original gate that connects East and West.

The industrial and manufacturing installations are part of the origins that made Lahti grow in the past, carpentry and textile industries were important branches located in the harbour and still some of them functions as galleries and a shop. It is proposed to revive and extend such services to the study area. A place for the handicraft's community Could be offered through a structure that includes collective and educational works, including activities for commercial purposes that advise and serve the maintenance of boats in the marina. A collective work support, where any inhabitant can conduct activities related to the trade or art, where there could be training courses, production and exhibitions. The institute of vocational education and training could extend its activities and preparation up to the harbour, with the fields of wood processing, manufacturing, etc. A co-work with local Lahti and close regional companies, as Pro Puu Centre and Versowood for woodworking could create the necessary street furniture created by the residents, such as benches, light structures, docks, using wood from the local forest. This type of management will increase in the sense of belonging and identity.

#### Recommendations:

- Any possible built assessment should leave free the edge between land and water, nothing should deprive people of access to the water, unless it is a building and programme with the purpose of connecting people to the water. Any built structure should be permeable and as transparent as possible.
- This side of the waterfront cannot be reserved for cars. The present carpark is not necessary, it is mainly used as a viewpoint from inside the cars. An emergency road is acceptable. It is recommended to create a meadow with different paths for different types of users.
- To redesign the shape of the bifurcations from Vesijärvi harbour to the South, leafy trees, high bushes influence the view and the decision to which road is taken
- Routes need to be recognizable. Would be recommendable to separate the path for cyclists and slow and fast pedestrians.
- It is important define nodes that generate meeting points, along the linear route, mainly for the pedestrians, the linear line must be interrupted, either in shoreline level as on the embankment level. Is proposed a serpentine path for the shoreline that breaks the linearity and for each curvature be different places and moments. The convex edge be used for an exposed contact with the water and the concave edge for introverted contact with the water. Many people seek privacy and their own space.

- The possibility of arranging the Jalkarannantie street at a lower level could be considered to enhance the urban integration of the place to the adjacent structures.
- It is suggested to convert the Satamaraitti path into a green rail corridor park and to add rails, evoking history as road edges.
- To create moments for pedestrian along the Satamaraitti path, attractive possibilities to access gradually to the lower level, through playing slips, stairs, terraced slope.
- To add innovative informal elements to seating. Conventional benches are not the most chosen, people search unformal options.
- To create many layers and sectorize the plan, combining floor materials.
- To consider locating a community/educational centre, which include those activities that gives rise to the city of Lahti.
- Activities desired by the people: Winter sport activities, a sauna (that is coming), a proper beach (sand and jumping) Restaurant, pop-up café, playground, sport equipment, as outdoor exercise.
- To study the possibility of unifying both lakes to improve the water and habitat quality.
- The height for new buildings cannot prevent the lake view from the urban areas
- South-East side of Pikku Vesijärvi park needs to be redesigned to be integrated with the shoreline.
- Many trees need to be removed or relocated.
- To include mobile and informal furniture with flexible use.
- To enlarge the marine to the East.
- To design three floating docks in the South east border, for berth alongside or perpendicular for guest vessels. And two or three boat slips. They also allow meeting points and other activities on wintertime.
- Sand beach with a close side and another open. Create a wooden deck for bathing
- To create a proper dog beach separated from the beach for people.



## Creating the front garden and gate on the shoreline



FIGURE 56. Views from Pikku-Vesijärvi park parking place to the East direction to Teivas shoreline. The lake will be seen from this point and make people go through smoothly. The railway trail path remains, evoking the past through a representative design. The embankment continues the same after the opening. The lake will come inside the pond.



FIGURE 57. Vision alternative 1A, schematic plan. On the middle a big articulating node. this is the option the author preference (author 2020) The exemplifying images were taken from Pinterest.



FIGURE 58. View to Satamaraitti path from South to North. Front, path showing rails partly along the path, used to demark a bicycle lane. Green lines and benches. Two pedestrian paths to each side of the bicycle lane. On the right, balcony views.



FIGURE 59. View from West to East from Teivas marina to the embankment, restaurant, artistic wood furniture, made by the habitants, Sport furniture, and different paths for cyclists and pedestrians.



FIGURE 60. View from Jalkarannantie towards the north. Vesijärvi lake and Pikku-Vesijärvi pond seen under the Satamaraitti path.



FIGURE 61. Closer views for figures 56, 59, 60

All alternatives assumed the location for the sauna and swimming pool has been accepted from the latest town plan suggestion. It was kept the shoreline level and wideness, open the embankment allowing the connection, and easy accessibility direction SW-NE.



FIGURE 62. Vision alternative 1B (author 2020). The exemplifying images from Pinterest.

Alternative 2: If would not be possible to make the connection between West and East by transforming partly the embankment as a bridge which will carry the most fluent connection and circulation from the city centre level, then the recommendation would be to understand Lahti as a city of edges and districts. Then the role of edges and enclosures should be privileged and reinforced, instead of connections and nodes.

The embankment should be even wider to the sides. The slopes descend gradually in green terraces to the shoreline, creating multiple accesses along the path. To achieve the integration of the marina to the city centre, then the embankment should look for the city and invite it to be crossed. The connection will be boarding the top of the embankment. The focus will be to generate a strong and attractive invitation to climb to the top of the bank. Other option would be enlarging the embankment with a suspending deck. The result would be a wide park covering partly the shoreline platform. Another main thing is to break the linearity of the embankment.

Also, it would be then recommended to relocate some trees, organise and prioritize the street according to the type of movement that will be carried out, a bicycle lane separated

from pedestrians, as well as from those pedestrians who only want to move from one place to another and those seeking a place of their own.



FIGURE 63. Vision alternative 2. (author 2020) The exemplifying images from Pinterest



FIGURE 64. View from Pikku-Vesijärvi park parking place to the East direction to Teivas shoreline. Reinforcing the concept of the embankment, which extends to the East, looking for the inhabitant through terraced slopes.

## 8 CONCLUSIONS AND DISCUSSION

- The literature review was useful. The methods planned during the process went well. The combination of Lynch methods and Gehl methods for the analysis was challenging but highly instructive and valuable. They gave enough orientation for the final planning, were useful for finding the social needs of the habitants. The public space techniques and surveys helped on the planning and the design.
- Citizens have become accustomed to predetermining territories as unique and special rooms for them, without understanding that the city should not be lived in as a house with doors and partition walls. Zones that respond to a convenient role have been stratified. The port is the living room and the park is the recreation room, and the case study is the backyard where nobody sees you and it is the place where you can be quiet and isolated. The current use does not go with the wishes and plans that the city has for it.
- After all the investigative work from previous studies and discussions with authorities and experts, with inhabitants, the author could not find anyone that has shown annoyance at the disintegration of the place before it was mentioned to them
- The satisfaction, conformity, and conservatism of the inhabitants, with the lively Vesijärvi harbour and the Pikku- Vesijärvi park seems to make no need for new recreation space.
- It is expected that the embankment infrastructure will reach an age when it is required to question its maintenance or not, and someone will need to intercede, because it prevents all regeneration of the waterfront.
- It is relevant to have a wider knowledge of marine design as the marina is so close to the area, that to propose the final vision would be fundamental work side by side with a marina designer expert.

### Challenges and self-evaluation

- To find the time to make my working life compatible with the thesis research.
- One of the biggest challenges was during this process, to be tempted to follow the actual context on the area and find a feasible solution, instead of a vision for the future. The city with their planning came ahead of the investigation and was concluded before my research was ended, so I had to decide to adapt to the reality of the accepted projects that are coming.

- Another challenge was to explain concepts that for me were obvious and be part of my personal common understanding and realized that may not be obvious for a reader who is not familiar with the field.
- The Thesis process was elaborated in different periods of time, which made it difficult for me to interweave themes and ideas already elaborated, and not have to re-think the content again. It was also necessary to change the approach more than once.
- It was difficult to understand all the information I needed of the place, and get information from some local institutions, as most of the information I needed was in Finnish language and I needed to translate.
- It was challenging to get in deep discussions with the locals, mainly with older people who showed distrust or shyness to start a conversation with a foreigner and start a dialogue in English.
- The Corona Virus period made it even more difficult for me by not being able to visit Lahti and not being able to get close to people.
- The embankment seems to be difficult to transform it, I investigated other possibilities, but others might not guarantee any success. I tried to investigate increasingly to find something else.
- It was challenging that the city has already carried out so many studies and could not find what they have not studied. I would recommend deep revision of the Environmental Protection Act concerning the appreciation of the embankment.
- I would recommend to the authorities that the participation is good but should be careful being manipulated by those who has own interests and not getting the view of everybody. Young people have opinions and have needs that they also should be heard, even they do not show interest taking part on the surveys and questionnaires.
- I think that for the city of Lahti it is especially useful to have foreign vision and outside visitors who can bring them another view.
- The city of Lahti will need to analyse and teach their inhabitants the role and importance of having a waterfront and rescue the lake shoreline. It will be necessary to evaluate the Pikku-Vesijärvi park/pond role. If the city wants to be a developed city, it cannot continue denying building a proper integrated waterfront.
- It was necessary to study many topics which were unfamiliar to me and which it was difficult for me at times to understand, but I learned and managed to have a consistent basis to support and finalize an urban proposal for the indicated place of study.

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## APPENDICES

APPENDIX 1 Questionnaire carried out by the author in the English language

APPENDIX 2 Questionnaire carried out by the author in Finnish language

APPENDIX 3 Author schematic plan vision alternative 1A for Teivas shoreline

APPENDIX 4 Draft plan a 2735 12.9-3.10

APPENDIX 5 Harbour area and Teivas final report organised by city of Lahti in Finnish language.

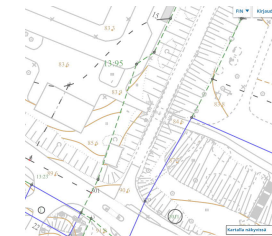
Thankyou for participating in this survey for the thesis of Teivas area (Teivas satama) as a livable public waterfront. Your responses will be kept strictly confidential. Kiitos

1. How often do you visit this place?  
 Daily  
 Weekly  
 Every few months  
 Rarely(once a year)  
 Never
2. How do you use this place?  
 Just passing through  
 Work nearby  
 Because of my boat  
 Because of the restaurant  
 Meeting with friends for fun  
 Is part of my ride or walk  
 Other \_\_\_\_\_
3. How do you get here or closer here when you visit or pass by?  
 By Walk  
 By Bike  
 By Car  
 By Public transportation
4. Your age and gender  
 Mies             30-39  
 Nainen         40-59  
 10-19         60-79  
 20-29         Yli 80
5. - What first comes to your mind, about "Teivaan Satama" what symbolizes for you? How would you describe Teivan Satama in a physical sense?

APPENDIX 1

9.1. Please could you draw me a quick map of Teivaan Satama in an A4 paper? Draw it, as you remember it and how you access there. It is as you would be explaining to a stranger how looks the place and how to reach the place, rapid description, covering all the main features that are distinctive for you  
TAKE FIRST PICTURE TO IT

9.2. Could you mark in your map using letters and arrows  
.X = Uncomfortable punctual places  
.O= Where would you like a bench  
.P= Where would you have more plants, trees...  
.A= Where would you have art  
.W= Where would you locate a kiosk, a cafe  
.arrow= Mark where should be the connection between Pikkuvesijärvi park and the waterfront



TAKE SECOND PICTURE TO IT. Please send both pictures and questionnaire picture result to number 50XXXXXXX Whatsapp or message

10. If you pass through or go to the place, where you normally come from?  
 Matkustaja satama  
 Pikkuvesijärvi park north side  
 Pikkuvesijärvi park south side through parking place  
 From the park through rantapenkka over it by stairs  
 From west by Jalkarinnantie  
 From east by Jalkarannantie  
 From Sportcenter by Satamaraitti  
 From Sportcenter by anywhere  
 From Park through the tunnel
- 11.- Do you feel that the place belongs more to the boat owners than to the community?
12. Do you think that access to Teivas Satama is enough fluent and expedited?  
 Yes is clear  
 Yes is clear but could be better  
 Is not clear  
 There is nothing interesting there
13. Do you think ranta penkka is important as an historical element that can not be touched?  
 Absolutly, is an heritage from the past  
 Is a symbol of the past, but can be modified  
 Is not relevant as historical value  
 I dont know, its height is useful to protect the park from the wind  
 Maybe, but cut visibility and connection with the coastline

Kiitos osallistumisesta tähän tutkimukseen Teivaan alueen (Teivaan satama) opinnäytetyöstä julkisena rantaalueesta. Vastauksesi pidetään ehdottoman luottamuksellisina. Kiitos

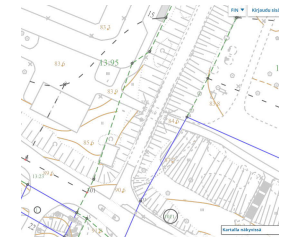
- 1. Kuinka usein vieraillet tässä paikassa?
  - Päivittäin
  - Viikoittain
  - Muutaman kuukauden välein
  - Harvoin (kerran vuodessa)
  - Ei milloinkaan
- 2. Miten käytät tätä paikkaa?
  - Kuljen sen läpi
  - Työskentelen lähellä
  - Veneeni takia
  - Ravintolan takia
  - Tapaan ystävien kanssa
  - Käyn kävelyllä
  - Muuta \_\_\_\_\_
- 3. Kuinka menet tänne kun vieraillet tai ohitat?
  - Kävelen
  - Pyörällä
  - Autolla
  - Julkisilla liikennevälineillä
- 4. Ikäsi ja sukupuolisi
 

<input type="checkbox"/> Mies	<input type="checkbox"/> 30-39
<input type="checkbox"/> Nainen	<input type="checkbox"/> 40-59
<input type="checkbox"/> 10-19	<input type="checkbox"/> 60-79
<input type="checkbox"/> 20-29	<input type="checkbox"/> Yli 80
- 5. Mikä mielessäsi ensin tulee Teivaan Satamasta, mikä symboloi sinulle? Kuinka kuvailisit Teivan Satamaa fyysisesti?

APPENDIX 2

9.1 Voisitko piirtää minulle nopean kartan Teivaan Satamasta A4-paperina? Piirrä se, kun muistat sen ja kuinka pääset sinne. Se on kuin selittäisit muukalaiselle kuinka näyttää paikalta ja miten päästä paikkaan, nopea kuvaus, joka kattaa kaikki sinulle tärkeimmät ominaisuudet.

OTA ENSIMMÄINEN KUVA SIIHEN



9.2 Voisitko merkitä karttasi kirjaimilla ja nuoleilla

- .X= Epämiellyttävät täsmälliset paikat
- .O= Missä haluaisit penkin
- .P= Missä sinulla olisi enemmän kasveja, puita...
- .A= Missä sinulla olisi taidetta
- .W= Minne sijoittaisit kioskin, kahvilan

.nuoli= Merkitse missä Pikkuvesijärven puiston ja rantayhteyden tulisi olla  
OTTA TOINEN KUVA SIIHEN. Lähetä sekä kuvat että kyselylomakkeen tulos numeroon 50XXXXXXX WhatsApp tai viesti. Kiitos

- 10. Jos kuljet läpi tai menee paikkaan, mistä yleensä tulet?
  - Matkustajan satamasta
  - Pikkuvesijärven puiston pohjoispuolelta
  - Pikkuvesijärven puiston eteläpuolelta parkkipaikan kautta
  - Puistosta rantapenkan kautta portaita pitkin
  - Lännestä Jalkarinnantiella
  - Itästä Jalkarannantiella
  - Urheilukeskusta Satamaraitilla
  - Urheilukeskusta missä tahansa
  - Puistosta tunnelin läpi

12. Luuletko, että pääsy Teivas Satamaan on sujuvaa ja helppopääsyinen?










- Kyllä, on selvää
- Kyllä on selvää, mutta voisi olla parempi
- Ei ole selvää
- Siellä ei ole mitään mielenkiintoista

13. Luuletko, että rantapenkki on tärkeä historiallinen elementti, jota ei voida koskea

- Ehdottomasti on perintö menneisyydestä
- On menneisyyden symboli, mutta sitä voidaan muokata
- Ei ole merkityksellinen historiallisena arvona
- En tiedä,, sen korkeus on hyödyllinen joten suojaamaan puistoa tuulta.
- Ehkä, mutta leikkaa näkyvyys ja yhteys rannikkoon

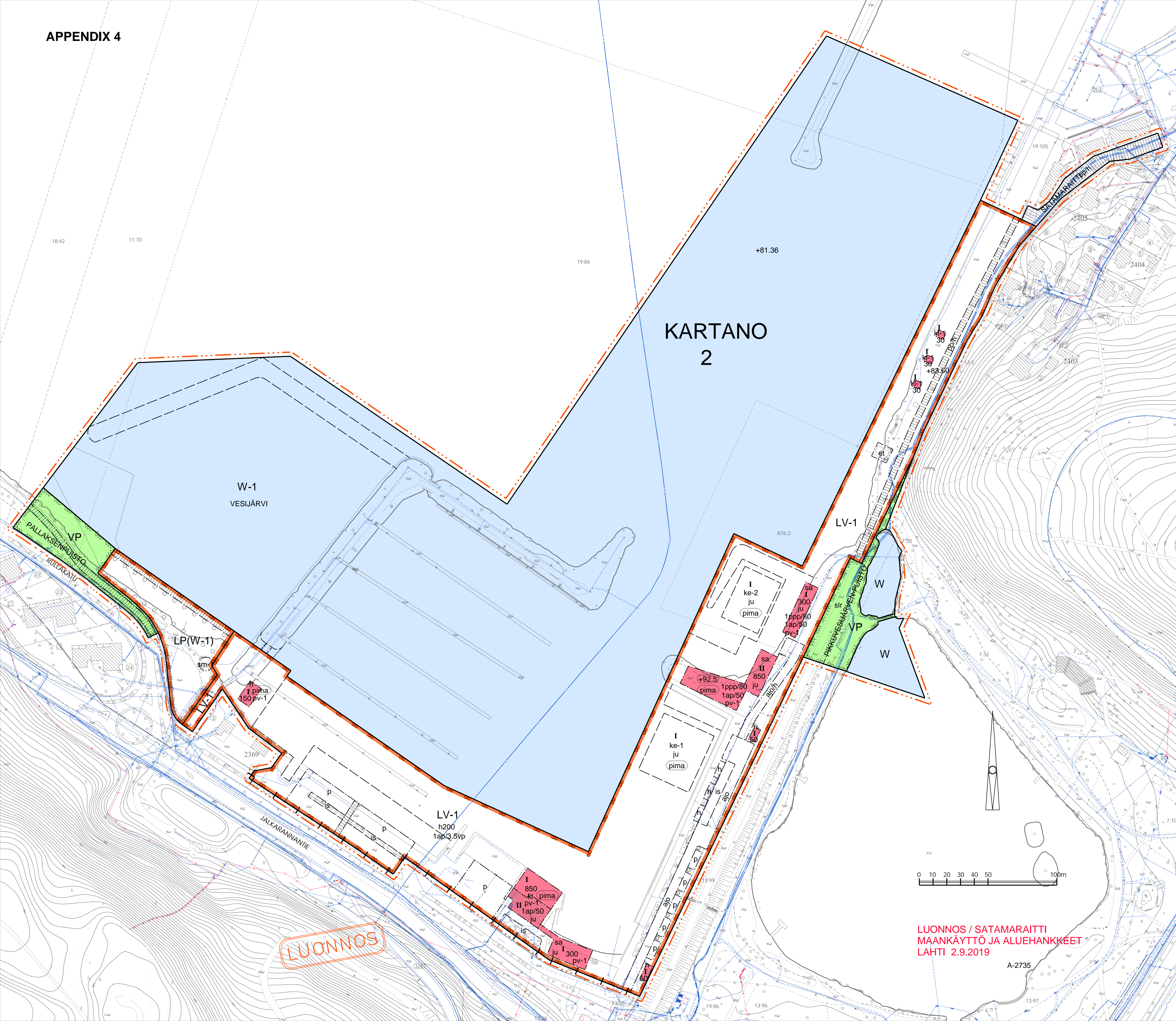
11.- Koetko että paikka kuuluu enemmän veneiden omistajille kuin yhteisölle?

# APPENDIX 3

-  Pedestrians fast path
-  Pedestrians slow path
-  Cyclists path
-  Pedestrians upper level
-  Slope lines
-  Green roof
-  Upper level/
-  Under level
-  Light structure

1. Amphitheater
2. Green terraces Picnic terraces
3. Sculptures and Interactive art combined in an urban meadow
4. Water connection between Pikku-Vesijärvi pond and Vesijärvi lake. Small boats.
5. Community center. Vocational education related with carpentry or shipwright. Restaurants. Green roof.
6. Performance stage, multiuse and pergola
7. Two glass coffee places, restaurants under the bridge. One beside the amphitheater,
8. Satamaraitti path transformed to be a park, connected to both sides along the path. Transformed to be a bridge between 4 to 6 meters high 100meters long.
9. Multiuse platform , Play space
10. Slope shaped in terraces for sitting and farming
11. High level linear path for cyclists South-North
12. High linear pedestrian path with sequence of moments of viewpoints
13. Lower level for bicycles West-East
14. Balcony viewpoints
15. Guest boat facilities and coffee /market
16. Guest boats piers location
17. Beach, wooden deck
18. Parking place
19. Irregular shoreline, creating moments, with shapes or balconies
20. Skating field in wintertime. Market square.
21. Fishing place





# KARTANO 2

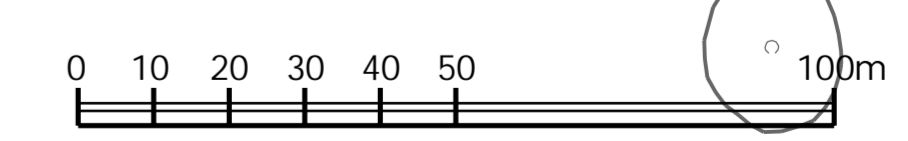
W-1  
VESIJÄRVI

LV-1

LP(W-1)

LV-1  
h200  
1ap/3.5vp

LUONNOS



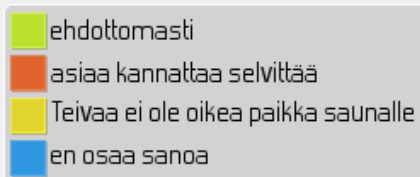
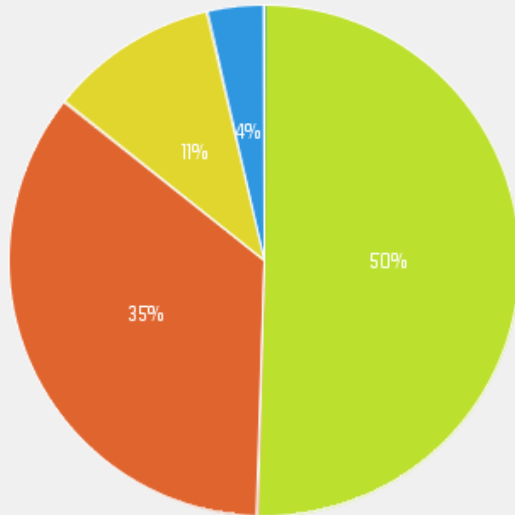
LUONNOS / SATAMARAITTI  
MAANKÄYTTÖ JA ALUEHANKKEET  
LAHTI 2.9.2019

A-2735

Available at: [https://www.lahti.fi/PalvelutSite/AluehankkeetSite/Documents/sataman-alue\\_ja\\_teivaa\\_loppuraportti.pdf](https://www.lahti.fi/PalvelutSite/AluehankkeetSite/Documents/sataman-alue_ja_teivaa_loppuraportti.pdf)

## Julkinen sauna Teivaan satamaan?

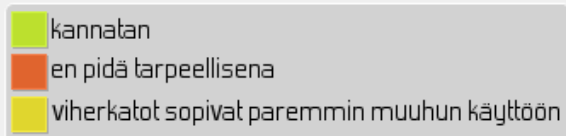
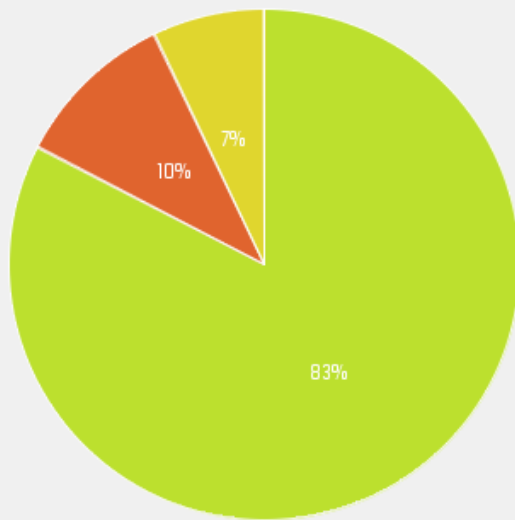
Tarvitaanko Teivaan satamaan, kylpylähotellin lähelle, julkinen sauna ja uintimahdollisuus?



ehdottomasti	50.46%	165
asiaa kannattaa selvittää	35.17%	115
Teivaa ei ole oikea paikka saunalle	10.70%	35
en osaa sanoa	3.67%	12
		<b>Total: 327</b>

## Viherkatot oleskelualueiksi?

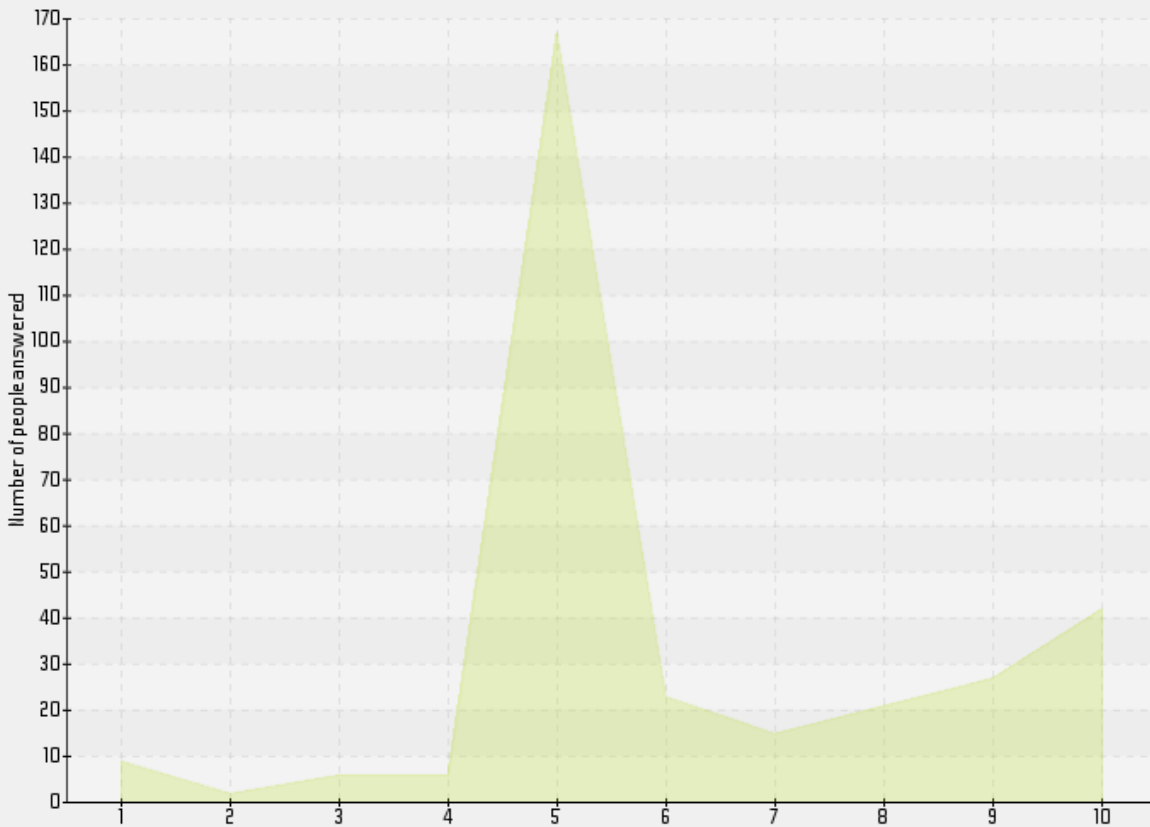
Teivaan luonnoksessa on esitetty, että kylpylähotellin matalampien osien viherkatoilla voisi olla julkisia oleskelualueita. Mitä mieltä olet ideasta?



kannatan	82.55%	265
en pidä tarpeellisena	10.28%	33
viherkatot sopivat paremmin muuhun käyttöön	7.17%	23
		Total: 321

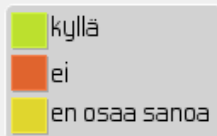
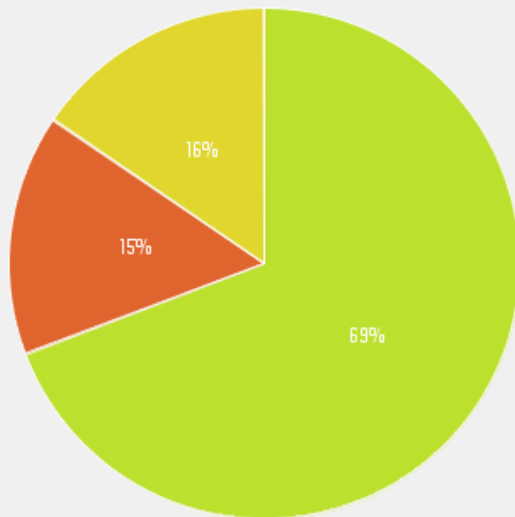
## Millainen on mielikuvasi

videolla ja kuvassa esitellystä luonnoksesta Teivaan kylpylähotelliksi?



1 (kielteinen)	2.83%	9
2	0.63%	2
3	1.89%	6
4	1.89%	6
5	52.52%	167
6	7.23%	23
7	4.72%	15
8	6.60%	21
9	8.49%	27
10 (myönteinen)	13.21%	42
		Total: 318

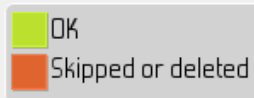
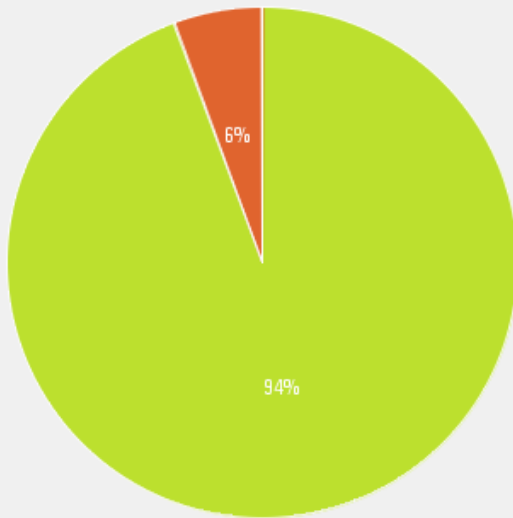
## Tarvitaanko Teivaaseen mielestäsi kylpylähotelli?



kyllä	69.21%	227
ei	15.24%	50
en osaa sanoa	15.55%	51
		Total: 328

## Kylpylähotelli satamaan?

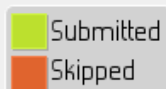
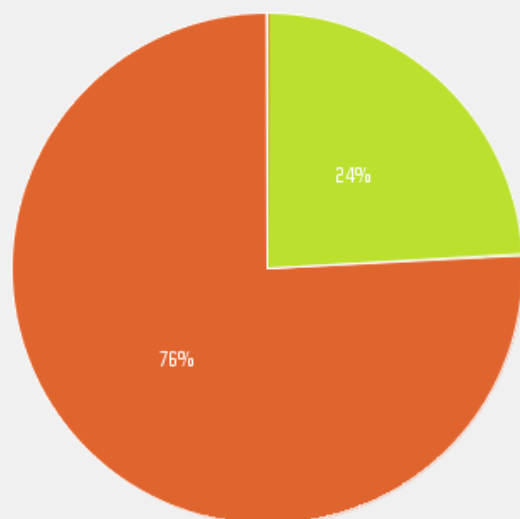
Ranta-alueelle, Teivaan sataman läheisyyteen, suunnitellaan paikkaa kylpylähotellille. Hotellissa olisi matalampia osia ja 18-kerroksinen torni. Rantaraitti pysyisi kaupunkilaisten käyt...



OK	94.36%	318
Skipped or deleted	5.64%	19
		Total: 337

## Oma ehdotuksesi

Urheilukeskusta ja satamaa yhdistävän alueen nimeksi. Halutessasi voit ohittaa kortin sulkemalla sen ruksista.



Submitted	24.17%	80
Skipped	75.83%	251
		Total: 331

1.	Pekan raitti	2017-02-15 08:27 (UTC)
2.	ei mitään erillistä nimeä	2017-02-15 08:28 (UTC)
3.	Rantatie	2017-02-15 08:34 (UTC)
4.	Lahen Helmi ilman D kirjainta	2017-02-15 08:35 (UTC)
5.	Satamaraitti. Jatketaan Sibeliustalolta alkavaa Satamaraittia koko matkalta Urkkaan asti. Nyt väylän nimi muuttuu ihan turhaan välissä moneen kertaan.	2017-02-15 08:36 (UTC)
6.	Rata	2017-02-15 08:38 (UTC)
7.		2017-02-15 08:39 (UTC)
8.	idioottien puuhastelut	2017-02-15 08:41 (UTC)

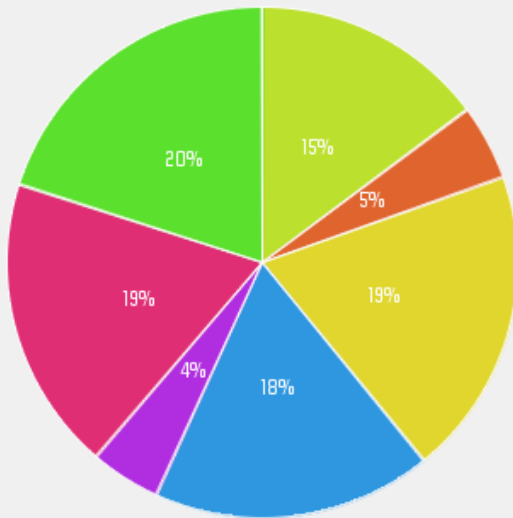
9.	Vetonaula, Lahti Happens, URSSI-promenaadi, Lahen Magneetti, Hypotenuusa (viivat torilta urhelukeskukseen ja Sibeliustalolle muodostavat suoran kulman ja näin ollen Urhelukeskuksen Sibeliustalon väli on Vetovoimakolmion hypotenuusa)	2017-02-15 08:46 (UTC)
10.	Miksi se pitää uudelleen nimetä?	2017-02-15 08:47 (UTC)
11.	Salpauksen rantatie	2017-02-15 08:50 (UTC)
12.		2017-02-15 08:50 (UTC)
13.	Rantapiha	2017-02-15 08:51 (UTC)
14.	Salparaitti	2017-02-15 09:15 (UTC)
15.	Lahden Satama	2017-02-15 09:17 (UTC)
16.	Lahden Simpukka (jonka sisältä löytyy monta helmeä), Smurffi, Lahti Pro, Veskuvius, KIMULI (kisat, musiikki, liikunta), LISSU-promenaadi, VAUDEVILLE, West Side Lahti	2017-02-15 09:22 (UTC)
17.	Vesku	2017-02-15 09:27 (UTC)
18.	Vesku	2017-02-15 09:45 (UTC)
19.	-	2017-02-15 09:56 (UTC)
20.	Lahen ranta	2017-02-15 10:14 (UTC)
21.	Rantaväylä	2017-02-15 10:19 (UTC)
22.	X	2017-02-15 10:29 (UTC)
23.	aurinkorinne	2017-02-15 10:47 (UTC)
24.	Ranta-Akseli	2017-02-15 11:43 (UTC)
25.	Saukki. (SAtama ja UrheiluKesKus) Pikku-Veskun kaveri, symppis ja helposti lähestyttävä. Veselementti keskeinen (melkein kuin saukko).	2017-02-15 11:54 (UTC)
26.	Veskunsportti	2017-02-15 12:32 (UTC)
27.	Salpalokki	2017-02-15 12:55 (UTC)
28.	Kisapuisto	2017-02-15 14:13 (UTC)
29.	Cikflgl	2017-02-15 14:43 (UTC)
30.	Teivaa	2017-02-15 15:19 (UTC)
31.	.	2017-02-15 15:31 (UTC)
32.	□	2017-02-15 15:32 (UTC)
33.	Harborgate	2017-02-15 15:48 (UTC)
34.	Salparanta	2017-02-15 15:51 (UTC)
35.	Iso-Vesku	2017-02-15 15:52 (UTC)
36.	Lahden ranta. On simppeleisti synkassa veden, järven ja lahden kanssa □	2017-02-15 15:57 (UTC)
37.	nimeä pitää harkita kauemmin	2017-02-15 16:11 (UTC)
38.	Ratapenkka	2017-02-15 17:13 (UTC)
39.	.	2017-02-15 17:30 (UTC)
40.	Veskun raitti	2017-02-15 19:04 (UTC)
41.	Vedenranta	2017-02-15 19:24 (UTC)
42.	Ranta-raitti	2017-02-15 19:54 (UTC)
43.	Fellmannin raitti	2017-02-15 20:12 (UTC)
44.	jotain luonto- tai vesiaiheista, Luoto, poiju tms. ehdotukset ihan korneja, helmi sellaisenaan menisi	2017-02-15 21:47 (UTC)
45.	Veskubuleward	2017-02-15 21:53 (UTC)
46.	Ei missään nimessä mitään englanninkielistä tai hassua sanaväännöstä. Oliko Satamaraitti?	2017-02-15 22:17 (UTC)
47.	Rantalahti	2017-02-15 22:31 (UTC)
48.	Jokin brändäävä kv investoreja houkutteleva nimi, nämä aitanpolkutyypiset eivät toimi!	2017-02-16 04:00 (UTC)

## FUTURE DIALOG

49. rantaraitti	2017-02-16 04:54 (UTC)
50. Höyrylä	2017-02-16 06:11 (UTC)
51. Häränsilmäväli	2017-02-16 08:26 (UTC)
52. Rantapuisto	2017-02-16 11:03 (UTC)
53. Rantapuisto TAI West Side Park	2017-02-16 11:49 (UTC)
54. Joku missä yhdistyy sekä urheilu että satama... mikä se sitte olisikaan. Täytyy miettiä	2017-02-16 12:03 (UTC)
55. Ranta- raitti	2017-02-16 12:33 (UTC)
56. Rantakaista	2017-02-16 12:43 (UTC)
57. Rantapuistosta	2017-02-16 12:54 (UTC)
58. Kiskartano	2017-02-16 17:38 (UTC)
59. satamarata	2017-02-16 22:15 (UTC)
60. Rantapuisto	2017-02-17 01:18 (UTC)
61. Veskunraitti	2017-02-17 08:33 (UTC)
62. Raitti	2017-02-17 18:26 (UTC)
63. Ursa	2017-02-17 19:19 (UTC)
64. Teivas	2017-02-18 08:08 (UTC)
65. Rantaraitti	2017-02-18 10:42 (UTC)
66. rrrrrrRikkrrrrrrRkrrrrrrRrooo	2017-02-18 15:29 (UTC)
67. Rantapuisto	2017-02-18 15:44 (UTC)
68. Teleportti	2017-02-18 16:39 (UTC)
69. Weskunranta	2017-02-19 06:23 (UTC)
70. Salpauskeidas	2017-02-19 14:16 (UTC)
71. Salparaitti on hyvä, historiallinen nimi, rantaraitti on myös hyvä...	2017-02-20 09:04 (UTC)
72. Lahen hygge	2017-02-20 09:15 (UTC)
73. Satama	2017-02-20 09:35 (UTC)
74. Ranta bulevardi. Puisto bulevardi.	2017-02-20 09:45 (UTC)
75. tuo kuvaa parhaiten aluetta	2017-02-20 10:36 (UTC)
76. Satamabulevardi	2017-02-20 19:29 (UTC)
77. Salpauselän rantapuisto	2017-02-21 12:48 (UTC)
78. -	2017-02-21 14:27 (UTC)
79. Teivaanmäki	2017-02-21 20:08 (UTC)
80. Parkki	2017-02-22 06:21 (UTC)

## Mikä alueen nimeksi?

Urheilukeskusta ja satamaa yhdistävälle ja ympäröivälle alueelle pohditaan nimeä. Mikä olisi hyvä nimi kuvaamaan tätä monipuolista ja laajaa aluetta?

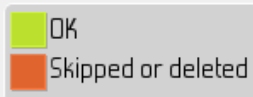
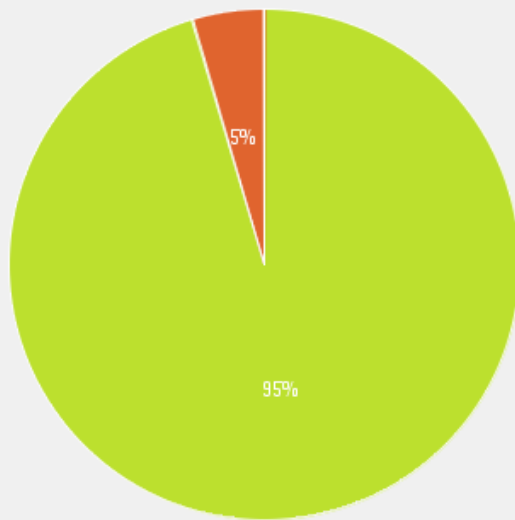


Lahden Helmi	14.75%	50
Lahti Center	4.72%	16
Salparaitti	19.47%	66
Ranta-akseli	17.70%	60
Lahen Olkkari	4.42%	15
Rantapiha	18.58%	63
joku muu	20.35%	69

Total: 339

## Info: sataman ja urheilukeskuksen aluetta kehitetään kokonaisuutena

Sataman, urheilukeskuksen, Ranta-Kartanon ja Kisapuiston alueet ovat tärkeitä tapahtuma- ja vapaa-ajan paikkoja. Aluetta lähdetään kehittämään kokonaisuutena, yhdessä alueen toimi...



OK	95.40%	332
Skipped or deleted	4.60%	16
		Total: 348