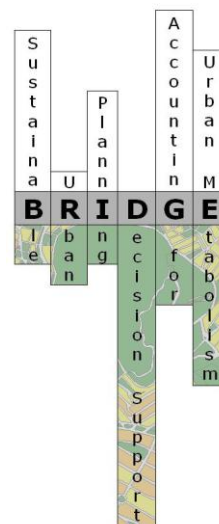


Eero Nikinmaa and Timo Vesala

Sustainable Urban Planning in Helsinki, Minutes of the 2nd CoP Meeting

20th January 2010

Helsinki, Finland



Preface- acknowledgements

The BRIDGE project assists in organizing in each of the case study cities (Athens, Florence, Gliwice, Helsinki, and London) interaction between professionals in the field of (sustainable) urban planning. In the course time, Communities of Practice (CoP) will be formed in each of the cities. On a regular basis the city planners and academic researchers will discuss the state of the art of sustainable urban planning in the respective communities and will learn from each others expertise.

In this second CoP meeting in Helsinki the participants elaborated upon the environmental and socio economic indicators relevant to the urban planning practice in Helsinki and in particular to the Meri-Rastila case study. The meeting resulted in, amongst others, essential information for BRIDGE researchers in order to be able to develop a Decision Support System accounting for urban bio-physical metabolism and its environmental and socio-economic consequences. Ultimately, this Decision Support System will assist urban planners in decision-making in the field of urban metabolism.

We would like to thank all the participants for their valuable contribution to the 2nd Cop meeting in Helsinki

Eero Nikinmaa and Timo Vesala

Introduction

In the context of the BRIDGE project, a second CoP meeting has been organised on 20th of January 2010 in Helsinki. Annex 1 presents the programme of the meeting. The gathering brought together a group of 13 people, including urban planners from the city of Helsinki, employees from the Helsinki Energy Company, and the Helsinki Public Works Department as well as Helsinki University researchers in the field of urban planning and urban metabolism (annex 2).

The meeting had the following objectives:

- To continue the sharing of experience on sustainable urban planning in Helsinki between the city urban planners and the academic researchers in the field of urban planning and urban metabolism
- To exchange experiences on tools for assessing planning alternatives that are already in use by the participants in the city of Helsinki
- To familiarize with the planned intervention 'Meri-Rastila case study': Underlying challenges, planning alternatives and planning indicators in use
- To further discuss the sustainable urban planning objectives and correlating environmental and socio-economic indicators in relation to the planned intervention 'Meri-Rastila case study'. These indicators are to be used to assess sustainability of proposed interventions and planning alternatives in Meri-Rastila

1. Introduction to the BRIDGE project and to the concept of Community of Practice (Timo Vesala and Annemarie Groot)

Because some of the participants did not participate in the first CoP meeting, a brief introduction to the BRIDGE project and the concept of Community of Practice was given in the beginning of the meeting.

Discussion on the BRIDGE project

- Outi Salminen asked about the planning scales assessed in Bridge. She indicated that the implementation planning for sustainable urban runoff management is conducted at a very detailed level (cm).
- Antti Varkemaa explains that here the planning level detail is quite coarse (1m, 5m). City planning is usually not conducted at a very detailed scale.
- Douglas Gordon indicates that the DSS tool should help understand densities: quantifiable measurements are needed per capita to understand the effect of a compact city versus urban sprawl.
- Ainhua indicates that the level of assessment at the SEA level (i.e. for planning purposes) is quite coarse). For practical purposes, and due to data constraints and resources available, specific planning alternatives are analysed, but the assessment can be extended at the city level. Also, it is noted that some of the indicators are quantified per capita, addressing Douglas' concerns.

Discussion on the concept of Community of Practice.

- A Community of Practice (CoP) is driven by its members' wish to improve their performance in practices by addressing burning issues and continuous learning. Commonly, CoPs are small groups or closed memberships, with a clear identity. CoPs tend to start as networks and evolve over time into a CoP. In Helsinki the city planning participants still form a loose network which will only evolve into a Community of Practice in case the participants feel the benefit of it
- Ainhua enquires whether there has been any interaction among kick-off CoP participants in the last 6 months.

- Douglas indicates that the Strategic Planning Division and the Energy Sector have met for the first time after the CoP. They plan to keep in touch and meet on a regular basis to address common concerns on energy use and sustainable planning in the city. Also, the city planning department has been involved in an European project in relation to polymetrics. After a 4 year period, the project has been completed and despite the lack of additional funding/resources, partners keep in touch (this is an example of CoP).
- Jaro asks Annemarie about her view on the CoPs after the first round of CoPs
- Annemarie notes that each city has a loose network established. However, the process is still too much driven by the needs of the BRIDGE project. CoP contents and agenda should be more driven by the needs and interests of its members.
- Douglas notes that CoPs can only be formed when a clear benefit arises.
- Timo states that he has just realized what CoP means and how they are supposed to operate.

2. Highlights of the kick-off CoP (Timo Vesala)

Discussion:

- It is noted that the City of Helsinki has a target to have carbon neutral developments by 2050.
- It is also noted that the Water Management and Urban Facts (research department) representatives are missing at the CoP. Both the Water Management and Urban Facts department were invited but due to overlap of meetings and other tasks no representative from these institutions could be present

3. Introduction to the Meri-Rastila case study (Antti Varkemaa, annex 3)

The Meri-Rastila development plan relies on the existing Rastila Metro station. The neighbourhood is suburban, characterized by buildings built in the 1960s and 1980s (the population has increased from 16,000 inhabitants in the 60s to 30,000 today). The area lacks urban structure and urban services; the area borders forested areas. The density e-factor at present is 0.6 (i.e. 60% of the land is built and 40% maintained as green area). This is a reasonable density, but is a bit lower than that of new developments that show an e-factor of 0.8. The area is predominantly inhabited by immigrants. About 30% of the inhabitants are not able to speak the Finnish or Swedish language. There are no social problems reported yet, but one fears that these type of problems might occur in the future. Due to a well established greenway network, the area has an important recreational function for the inhabitants of the city of Helsinki and its surroundings.

First part of the discussion:

- Douglas notes that the new strategy for sustainability in Finland aims at minimizing urban sprawl and provides high density new developments linked to transport nodes and transport corridors.
- Jaro notes a potential conflict on a human well-being indicator with regards to the e-factor: people probably prefer low density while the city planning promotes high density for sustainability reasons.
- Douglas notes that this is the priority at planning (and BRIDGE) level; personal preferences do not necessarily follow sustainability considerations.

Antti continues describing the area: locals want to maintain the open spaces, and green amenities of the area. There is lot of opposition to planning new development within existing green areas. In addition, there is a regional recreation route along the coast in Meri-Rastila. The area identified for development by the city is that within 600m from the Rastila Metro stop. The

houses immediately adjacent to the planned area were built in the 1990s. The quality of the buildings is poor, most of them are social or rental dwellings. As a result, Meri-Rastila has become a suburb for immigrants (30% of residents are non-Finish). There are not many social problems in the area yet, but the planning department wants to anticipate any potential problems and counteract by raising the quality of living in the area. There are various forest/park areas with different character and natural features to be taken into consideration. The plan must maintain the valuable forest areas, as well as a geological formation (an ice-age rock outcrop in the middle of the plot) on the hill-top covering an area of 30mx60m which gives character to this forest part of Meri-Rastila. There has already been a Masterplan for the area, but it was not sufficient in terms of services and detailed planning.

The planning objectives for the area are:

- At the city level: to provide new housing for the growing metropolitan areas (100.000 people is expected), built to address climate change (i.e. densification of urban structure, focus on railway and metro stations), and places of work mixed with housing.
- At the neighbourhood level/ Meri-Rastila level: to deal with demographic polarization (i.e. immigration issue), to move towards more owned dwellings and bigger apartments, to improve services and to provide a more positive image to the area (to attract new residents).
- With regards to green space –nature: to maintain sufficient and continuous recreation and habitats, and to improve accessibility to nature areas.

Tension between these objectives can be observed.

Three **preliminary alternatives** have been proposed for discussion purposes only during public consultation. By regulation, public participation in urban planning is obliged. These alternatives are not final; a new alternative will develop after the public consultation process (see annex 3). It is expected that the public will be mainly opposing to any alternative of new development. It is foreseen that tools for assessing the planning alternatives will be provided to the public

- *Alternative 1:* 5-storey apartments, 500 residents, minimal impact on green spaces and nature, little effect on the character of the area. This is a minimal impact alternative. The reaction to the photomontages is that they are misleading as the buildings have been located on top of the forest and the reality won't be that green. It is expected that this alternative will have little impact on the mentioned planning objectives.
- *Alternative 2:* Two dense group of apartments. 5-storey apartments and row of houses accommodating 1,500 residents. Hilltop built; slope unbuilt. No connection to the sea and no real improvement of Meri-Rastila's character. Green environment but stand-alone buildings in the forest and no connection to exiting dwellings nearby. The area will not be self sufficient in terms of services. This alternative seems to lack character and it will not bring about much improvement to the area.
- *Alternative 3:* Residential building around the hilltop all the way down to the waterfront. Office space, maximum 1,000 work-spaces and 1,800 residents. More urban with sea views, various residential building types. Some public services planned for this alternative: primary school, day care centre. The sea views allow increasing profitability of buildings. It will make the area more interesting to live (the sea is an assets). MERI means SEA.

Discussion:

- What have been /are the design criteria underpinning the alternatives? For example in alternative 3, the criteria 'character of the houses and neighbourhood' is used in relation to the aim for Alternative 3
- The new development should be more urban than suburban to help solve the image problem. Alternative 3 has the biggest environmental impacts although socio-economically is more

appealing. However, planners realize that this is not a realistic alternative because of the environmental implications. There are no flooding issues in the area.

- These are first approaches for discussion, they are not serious alternatives. This is potential problem for BRIDGE. There will be a second round of alternatives based on design considerations and public feedback. The do-nothing alternative (keeping the green areas as it is) is also assessed. Further alternatives will be available in approximately 2 months time. The current alternatives have a lot of unresolved aspects, such as parking areas, design and materials) which will affect the assessment and value of indicators.
- There are, however, key design principles: the centre area (to the north-west of the site) should be re-emphasized; there is a need for more owned-housing which can only be achieved by making them marketable; the geological site needs to be protected by building around it; the green areas need to be conserved and maintained, particularly along the coastline; different types of housing and ownership must be promoted.

4. Planning tools in use

- Antti states that the planning control department uses an evaluation matrix, which has a number of considerations such as: cityscape and landscape, nature, soils and rock, traffic, health, city infrastructure, services and commerce, economic costs. These evaluation criteria vary for each project. These criteria are based on the planning objectives. Each alternative is assessed against these.
- In addition, Antti and Olli Jokinen also note that VTT Technical Research Centre of Finland is currently working on a tool to specifically assess sustainability based on indicators. These indicators are based on PREAM and LEED indicators (e.g. eco-footprint, carbon footprint, ecology, energy rating, etc.). The idea is to measure the foot print of planning applications with regards to the area to be built, public transport availability, etc. There will be a subjective assessment of certain environmental considerations (e.g. materials applied, energy consumption, etc.) as there are no models to calculate these in detail. Thus, the user will set the characteristics of the development and the tool will score the different entries according to building regulations and other normatives.
- Douglas indicates that in his division (Strategic division of the planning department) they use standard planning tools for strategic planning, entailing the development and assessment of alternatives by checking them against key criteria: economic performance; social inclusion; connectivity; spatial cohesion. Climate change and environmental aspects run through each one of these four criteria. There is an integrated approach to city and regional planning. There is no planning assessment tool in use that specifically looks at environment. Moreover, planning at city level is conducted in relation to the level of the region.
- Tea Erätuuli notes that they apply a straight forward assessment based on energy demand and supply, including the consideration of costs and emissions. Central heating is the key issue in Helsinki, in terms of renewable energy sources and legislation. In this regard, they carry out risk analysis (i.e. assessment of the financial impact of the energy source type used). Currently cheap energy sources are commonly applied accounting for: 55% gas, 25% coal. The Council made a decision to reduce CO₂ by 20% emissions by 2020, which significantly affects energy sources to be used. The energy department has signed an agreement to become carbon neutral by 2050.
- Nea Kielineva from the Public Works Dept. states that they use cost-benefit analysis and environmental assessment techniques. She presents the work undertaken by the Public Works; key tasks include construction and maintenance of public areas. Their environmental goal is to estimate the impact and adaptation to climate change. They have two consultants using software for calculating CO₂ emissions and assessing the impact from construction operations (e.g. buildings and roads). The software also allows calculating C intake.

- Douglas notes that the EU territorial agenda sets defining goals for sustainable development, but at national and city level the compact-city approach is also strongly pursued through guidelines and legislation.

5. Further defining environmental and socio-economic indicators

The environmental indicators defined at the kick-off CoP were used as the starting point to further define environmental indicators that are relevant to the assessment of the planning alternatives in the Meri-Rastila area. These environmental indicators are presented in the following table

Table 1. Environmental indicators relating to planning objectives

Planning objective	Environmental indicator
Optimize Energy Consumption	<ul style="list-style-type: none"> • Energy demand (i.e. electricity consumption per dwelling) • Energy balance in buildings (i.e. heating energy) • Percentage of energy from renewable sources
Protect Water Resources	<ul style="list-style-type: none"> • Water balance: surface run-off, evapotranspiration, and filtration. • Concentration of pollutants • Conveyance, storage, and quality mitigation structures present • Percentage (surface area) of imperviousness
Improve Air Quality	<ul style="list-style-type: none"> • Concentration of pollutants (ozone and particulate matter) • Greenhouse gases and CO₂ emissions per capita • Emissions from transport, split per type: private and public
Enhance Human Well-being	<ul style="list-style-type: none"> • Density of development (persons/m²) • Population exposure to air pollutants (vs. clean air) • Population exposure to polluted waters (vs. e.g. swimmable waters) • Population exposure to contaminated soils • Presence of citizen health promoting/mitigating urban and natural structures
Anticipating climate change	<ul style="list-style-type: none"> • Carbon intake (i.e. carbon sinks) • Material reuse (e.g. soils) • Number of zero-carbon buildings

Jaroslav Mysiak presented a summary of the issues noted/discussed in the morning session as a starting point for discussing socio-economic indicators. A number of indicators are defined for some of these aspects (see table below). Due to time constraints and participatory limitations, it is agreed that additional relevant indicators will be defined by BRIDGE researchers and provided to CoP participants for review and approval.

Table 2. Key Issues and Considerations relating to Socio-economic indicators

Key Issue or Consideration	Indicator
Housing Demand	<ul style="list-style-type: none"> • Number and type of dwellings • Population growth • Demand for housing types • Percentage of owned/rented dwellings
Social Inclusion	<ul style="list-style-type: none"> • Access to housing • Social class/ethnic group • Age group of residents • Number of family households
Accessibility (Transport and connectivity)	<ul style="list-style-type: none"> • Travel time to work • Access to public transport
Services and Infrastructure	
Amenity and Recreation (physical and psychological health)	
Cost/Benefits of Planning Intervention (Building costs and job creation)	

6. Closure

The CoP participants would like to be better informed about the objectives of the forthcoming meetings on advance, the approach that will be used and the type of contribution that is expected. It was also concluded that more frequent and shorter meetings, than are indicated in the Bridge agenda, are necessary among the participants in Helsinki to keep up the process towards meeting the Bridge goal of forming an active CoP group.

Annex 1: Programme

08.45	Coffee
09.15	Welcome (Timo Vesala, UHE)
09.20	Introduction to Bridge (Timo Vesala (UHE)
09.40	Introduction to the concept of Community of Practice (Annemarie Groot, Alterra, Netherlands)
09.45	Highlights of the First CoP meeting (Timo Vesala)
10.00	Introduction to Meri-Rastila case study (Antti Varkemaa, City of Helsinki)
10.45	Break
11.00.	Discussion on the Meri-Rastila case study
12.00	Lunch
13.00	Discussion on planning tools and practices currently used in Helsinki and expectations for their development
13.30	Sustainable urban planning objectives and indicators Ainhoa Gonzales del Campo, (Trinity College Dublin) & Jaroslav Mysiak (Centro Euro-Mediterraneo per i Cambiamenti Climatici, Italy) <ul style="list-style-type: none">• Presentation of objectives and indicators as proposed during the 1st CoP meeting• Discussion how these fit the case study and on the need for additional indicators (i.e. environmental indicators, socio-economic indicators)
14.15	Coffee break
14.45	Sustainable urban planning objectives and indicators (continuation)
15.45	Closure (Timo Vesala)

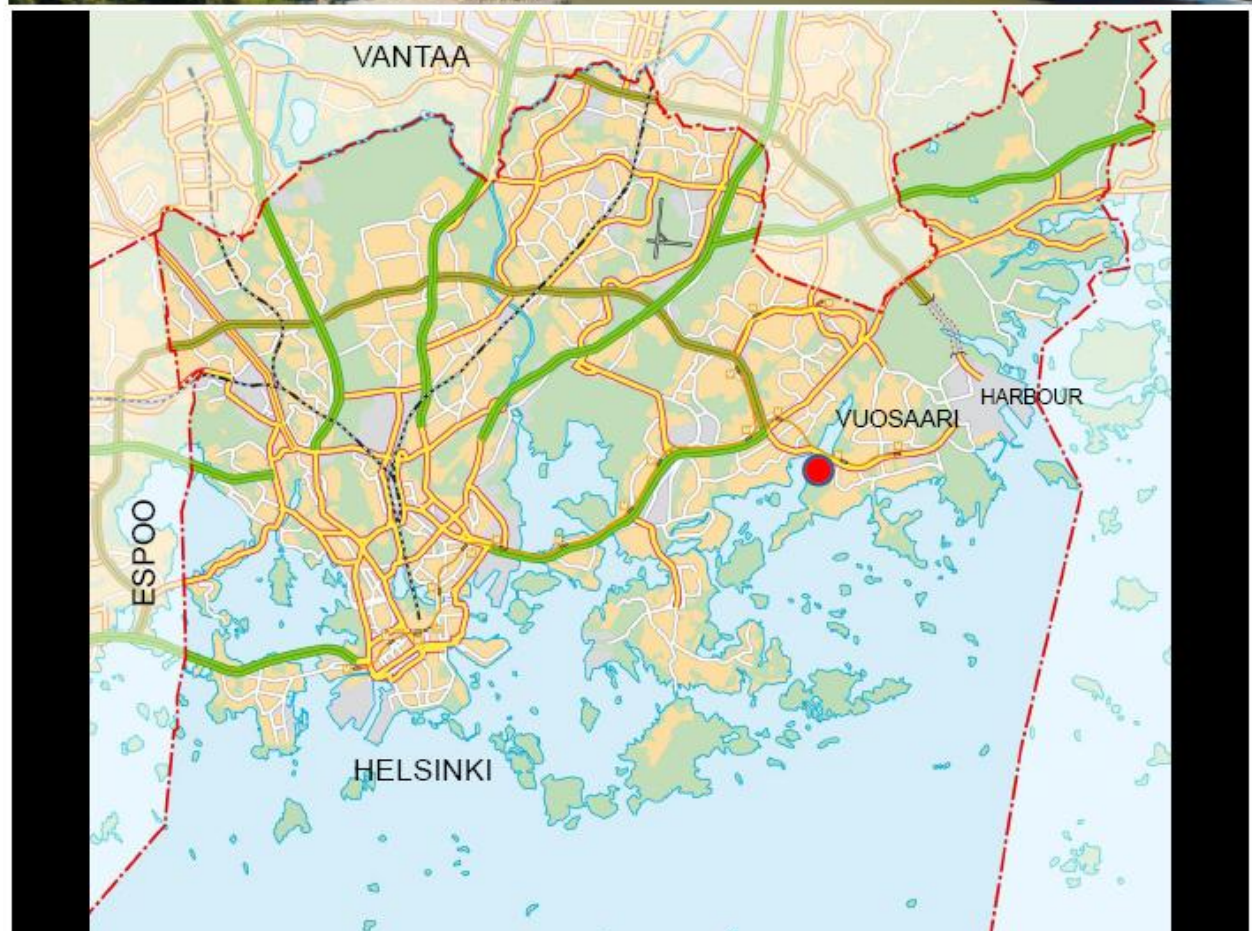
Annex 2: Participants

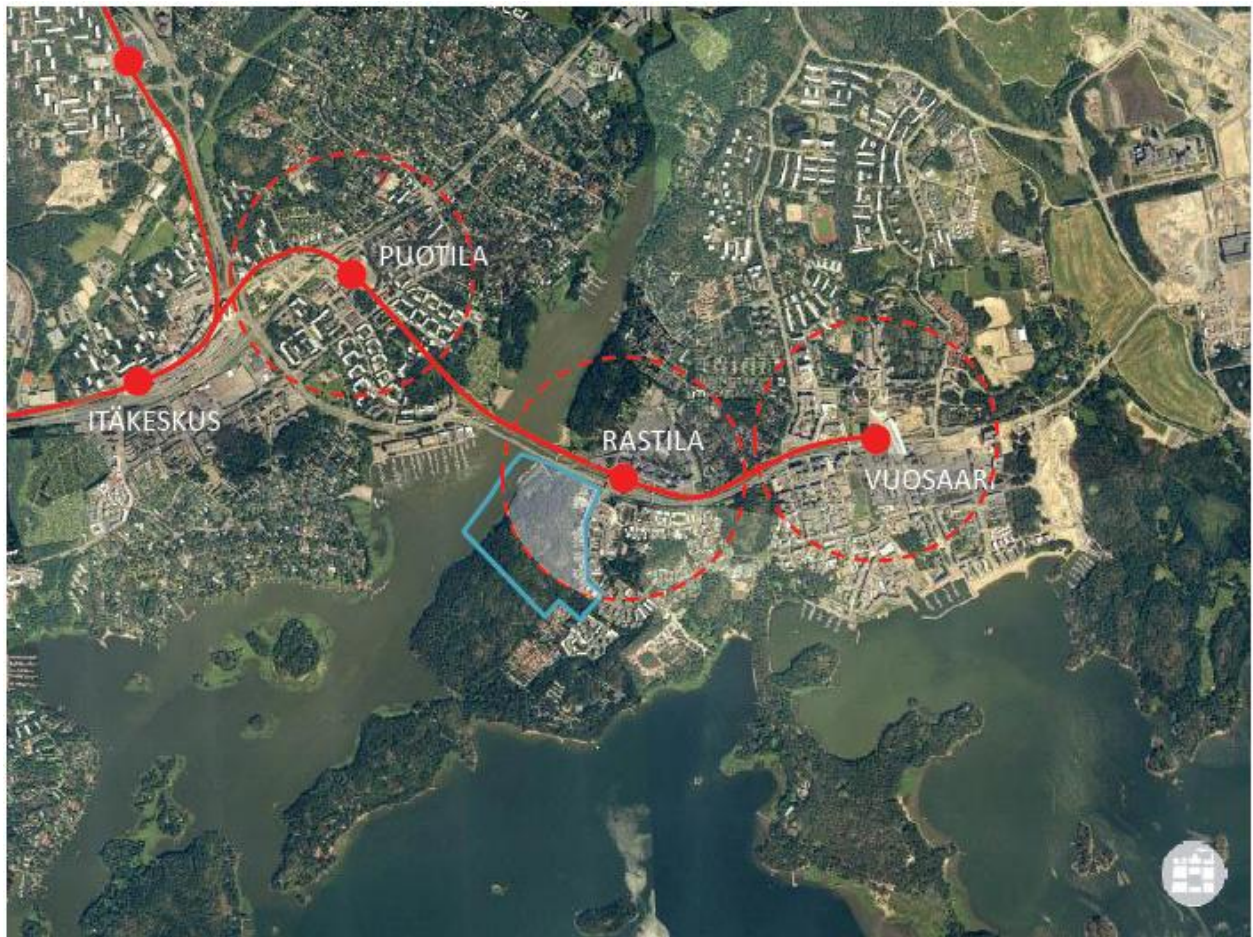
Timo Vesala	University of Helsinki
Heikki Setälä	University of Helsinki
Annika Nordbo	University of Helsinki
Anu Riikonen	University of Helsinki
Outi Salminen	University of Helsinki
Annemarie Groot	Alterra, Netherlands
Ainhua Gonzales del Campo	Trinity College Dublin
Jaroslav Mysiak	Centro Euro-Mediterraneo per i Cambiamenti Climatici, Italy
Olli Jokinen	City of Helsinki, City Planning
Antti Varkemaa	City of Helsinki, City Planning
Douglas Gordon	City of Helsinki, City Planning
Jari Rantsi	City of Helsinki, City Planning
Tea Erätuuli	Helsinki Energy Company
Juha Raiso	City of Helsinki, Urban green
Nea Kielenneva	City of Helsinki, Public works dept. carbon study

Annex 3 Meri-Rastila Case Study

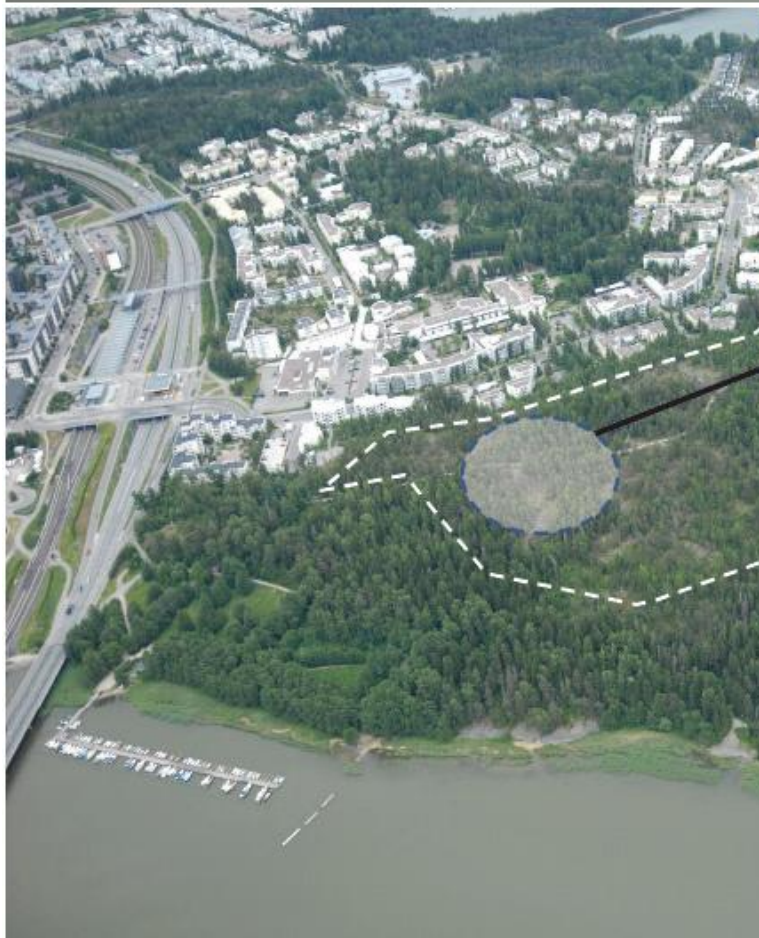


Helsingin kaupunki
Kaupunkisuunnitteluvirasto









OBJECTIVES

City (and state) level

- new housing (growing metropolitan area)
- against climate change:
 - densification with focus on railway and metro station areas
- places of work mixed with housing: less traffic

Meri-Rastila level

- integration
- dwelling stock: more owned dwellings and bigger apts
- improvement in services
- more positive public image

Green spaces/ nature

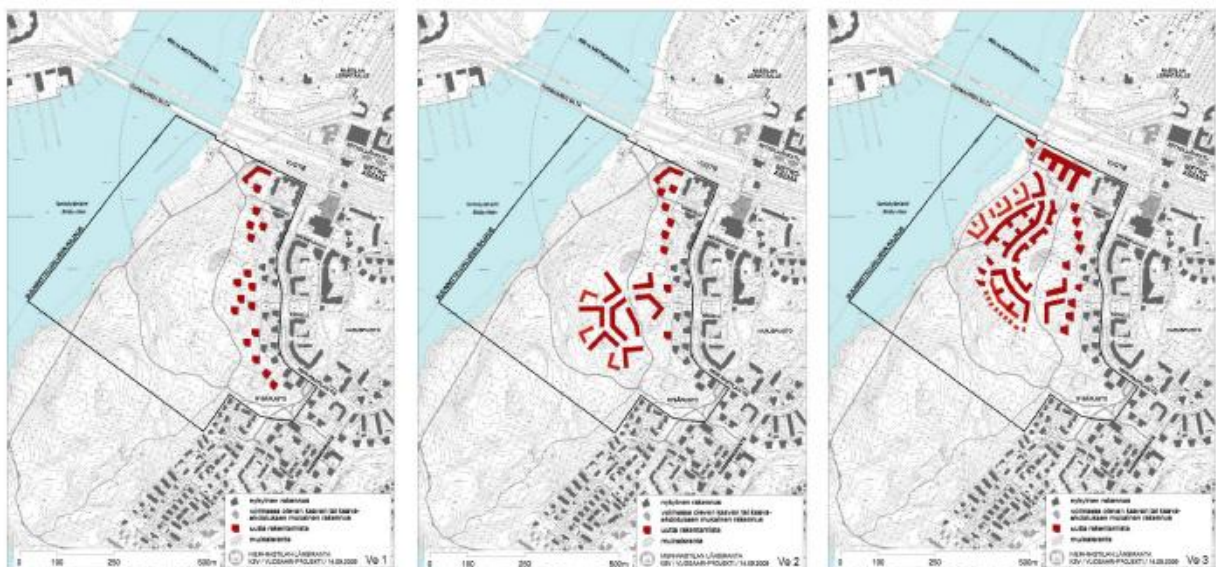
- sufficient and continuous: recreation, habitats
- accessibility

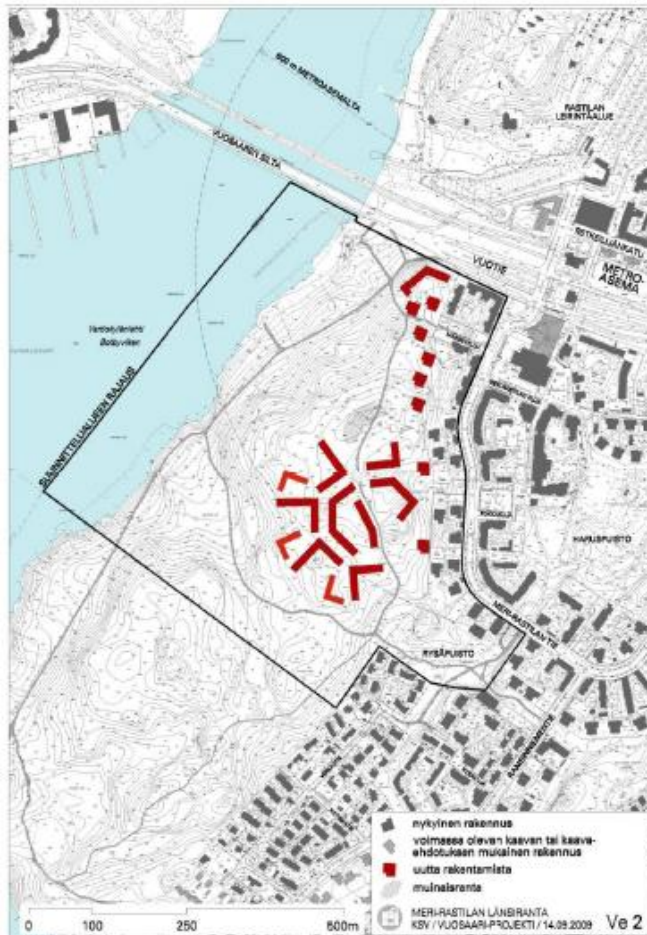


COMPONENT MASTER PLAN

Redefining areas for new housing and office space

Alternatives: different preliminary approaches for discussion (public participation), tools for impact assessment (result: design/planning principles)





"RASTILANLAKI"

Compact layout:

- a dense group of apartment bldgs in the woods
- a new edge for existing blocks

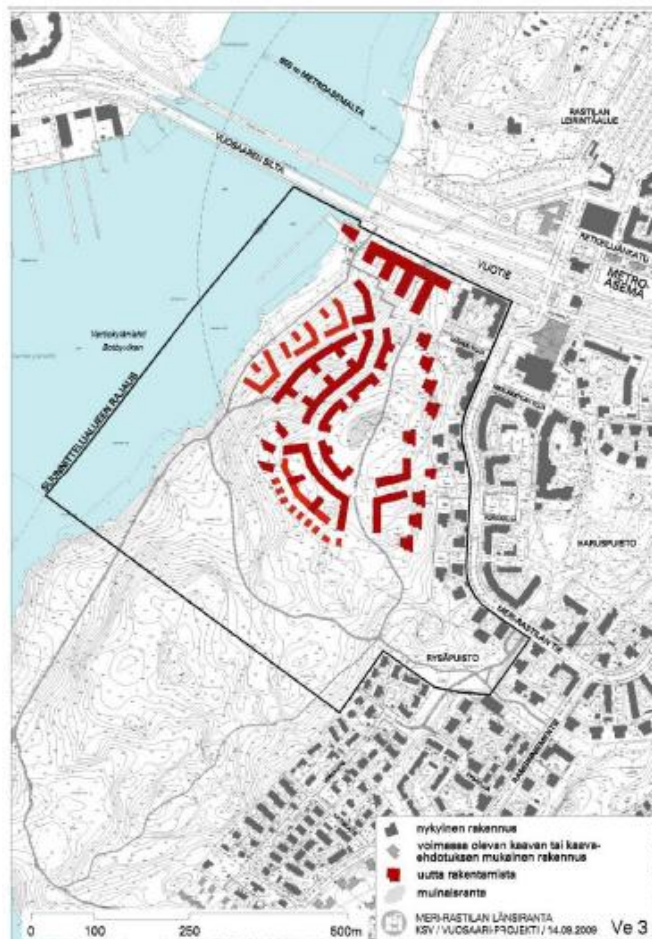
Apartment bldgs (5 st.) and
row houses (2 st.)

Max 1 500 residents

Hilltop built, slope unbuilt

No connection to the sea
No real improvement for Meri-
Rastila area





"RANTA-RASTILA"

Residential bldgs around the hilltop all the way down to the waterfront. Office space along Vuotie.

Max 1000 workplaces, 1800 residents

(more) urban, sea views and housing by the sea, various residential building types

Some public services: day care centre/ primary school

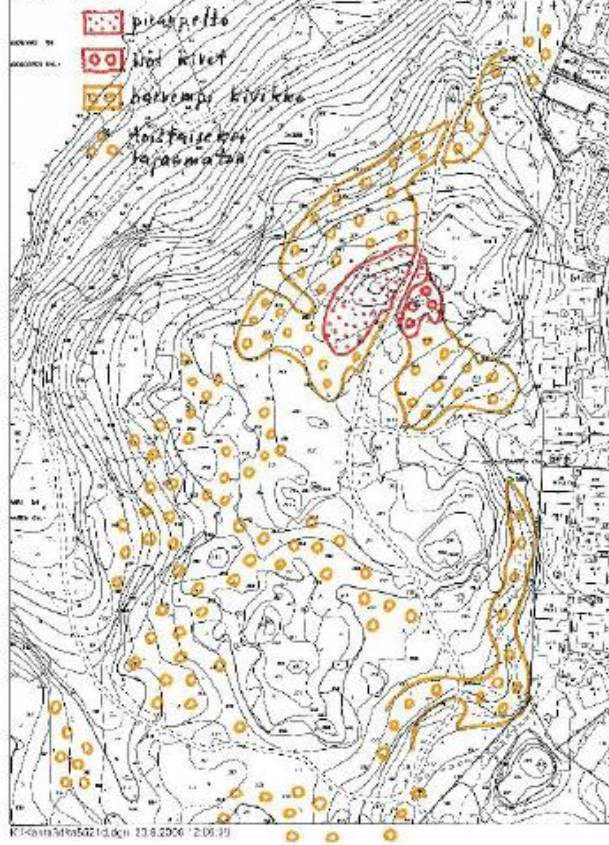


MERI-RASTILAN LÄNSSIRANTA 14.9.2009
VIISTOILMAKUVASOVITUS LÄNNEN SUUNNASTA VE 3



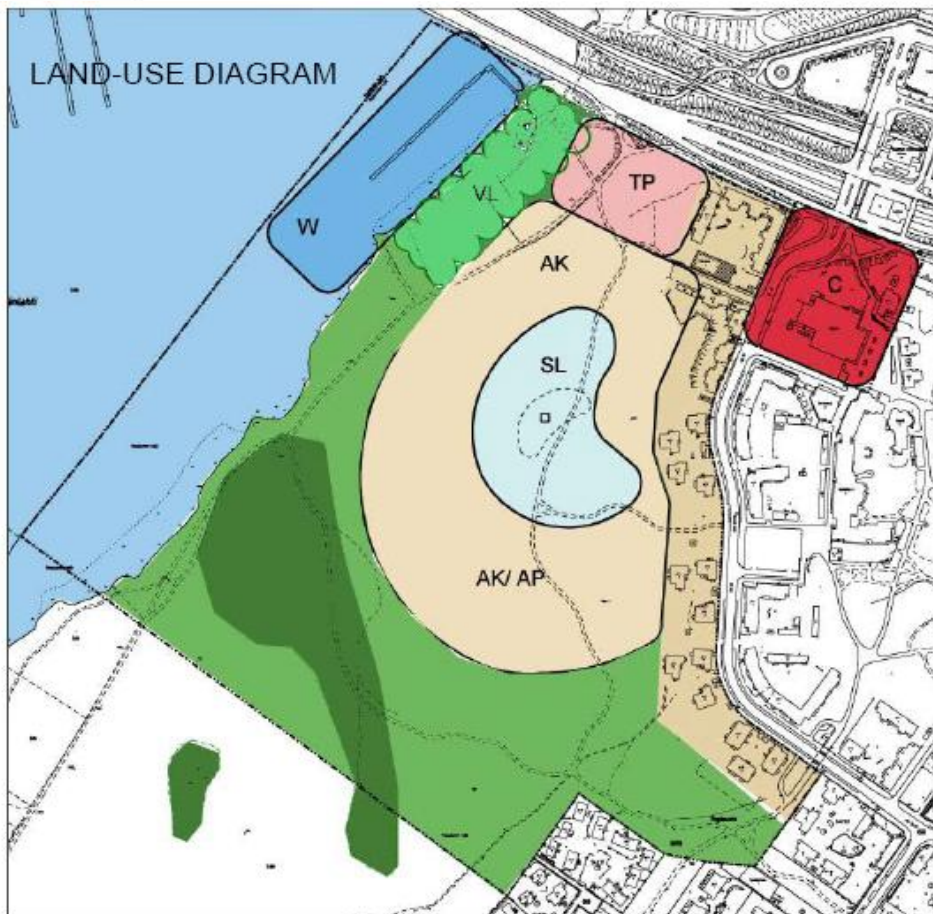
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Mesi-Rastlan muinaisrautatiekirkko
Antti Salla 2009



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LAND-USE DIAGRAM



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PROCESS AND TIMETABLE (Jan 2010)

Design/ planning principles w/ design alternatives	5/2010
Component master plan draft	8/2010
Component master plan	12/2010
City plan draft	4/2011
City plan	5/2012

