EESTI KUNSTIAKADEEMIA

URBAN STUDIES

STUDIO III: THE NEW POWER GRID

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Cities change over time, but generally the metabolism of a city is very slow. Cities grow and adapt to changes, accommodating people and economies of all sorts. Sometimes there is an opportunity to make changes within the urban fabric or to catalyze developments.
The alteration of the electrical grid within Tallinn offers an opportunity to transform and enhance fringes of neighborhoods, public spaces, mobility networks and so on.

The New Power Grid studio focuses on the question of what could be "the new power" in Tallinn urban design. What are the main spatial issues that the vacant land under the electric grid network can deal with and contribute to improve?

The studio relies on a concept of an urban ecosystem and system thinking when it comes to designing our cities. By looking at the infrastructure landscapes as well as green structures, built as well as void spaces, mobility as well as social structures simultaneously one can see the mix of layers that all influence each other.

Themes like urban connectivity and mobility in general are discussed. How to design a linear urban space that connects to its neighbouring districts while going through a mix of neighborhoods with variety of characters?

Social structures and the activities of the various user groups are studied in order to understand the current functions placed in the site.
How do design informality?

Urban densification is discussed by asking how much of the open corridor space should be kept as open public space and how much could be sold for private investors for development purposes. What is the balance between built and unbuilt? What is the idea of an urban public space in general? Could besides recreational function a public space also be productive?

Besides developing an urban transpormation concept for these electric line corridors and asking what, the course asks how by searching for potential design strategies and asking what sort of tactics to use in an urban design process.

CONTENTS

ACT CORRIDOR

RUTH COMAN

HANDLE (MICRO) URBAN ACTIVITIES

Act corridor proposes a spatial development of the "Power Line" in Tallinn that bases on existent activities and practices in and along the corridor. In this way the currently functioning places enable a further development after the electrical line will be put underground.

PLOT 1 TRACES

Follow the traces! Indicating different activities the found traces show that the places are used and appropiated. Thus people identify with them. Taking into consideration existing functions and activities these can be further developed and specialized by producing an appropiate space for them (Lefebvre 1996: 188).

PLOT 2 PERMEABILITY

The more access the more use. The idea of permeability refers to environments that allow people to see, choose and access their route (Carmona/Tiesdell/Heath/Oc 2010: 258). The majority of places along the corridor are vast and accessible. Extending this idea inhabitants have the opportunity of experimentation.

MAPPING THE ACTIVITIES

Like a snapshot in time the map of activities found especially under the power line shows clusters specific to their environment: more diverse areas respectively spaces without concise qualities and practices.

Housing *Industrial areas*
Green spaces *Garages*

WHY

Following the activities and practices on corridor scale it becomes clear that these actually reflect existing shortages on city scale. While desire path mirror general missing connections, biking on informal routes reflect missing bikeways. Garbage left near benches or in public space reflect missing qualitative meeting places. Finding ways for improving existing conditions contributes also for the whole city.

ACTIVITIES MATRIX

	LOCATION	LAND OWNERSHIP	INTENTION	GOAL	ELEMENTS INVOLVED	GROUP/INDIVIDUAL	SIDE EFFECTS
picking mushrooms / apples	forest, road edges	public	eating, selling	a (second) income / cooking	plastic bag, knife, basket	individual	using the "products" of public space for own purposes
repairing cars	garages	private	helping friends, using the own skills	a (second) income	cars, instruments, garage	individual	reinterpretation of the garage's use (not vacant anymore)
keeping bees	garage roof	private	eating	cooking	beehive	individual	biodiversity
grilling	meadow, backyard	private / public	spending leisure time	meeting and eating	cutlery, blanket, grill, meat, bench, light	group	animating public space
horse riding	forest, seashore	private / public	sports, leisure time	health	saddle, sports equipment, horse	group / individual	attraction for tourists (?), creation of a destination
selling fruits / vegetables	pedestrian road	public		income	price tags, products, umbrella, stand	individual	opportunity to buy while passing by or while waiting the bus
biking	pedestrian road, bike roads, informal routes, paths, streets	private / public	mobility, sports, leisure time	getting to the desired destination, spending leisure time	bike	group / individual	creating new connections, stimulating other persons
jogging	desire paths, pedestrian, forest	private / public		health	comfy clothes and shoes	group / individual	
walking	desire paths, pedestrian	public	getting to the desired destination	solving everyday things		group / individual	shaping new paths, seeing and being seen
meeting	park, energy pylon, bench	public	eating, drinking, communicating	social relations	food, drinks, cigarettes, pylon, sitting option	group	stimulating and animating public life
composting apples	road edges	private / public	throw away the surplus		apples	individual	producing fertilizer
waiting	pedestrian road, bus station	public		meeting, move forward	benches, light, station	group / individual	possible new interactions
playing	meadows, void spaces, playgrounds	public	having fun		playing equipment, light	group	animation of public space, interactions
fixing up things	garages	private	helping friends	re-use objects	instruments, objects, garage	individual	recycling, reusing vacant spaces

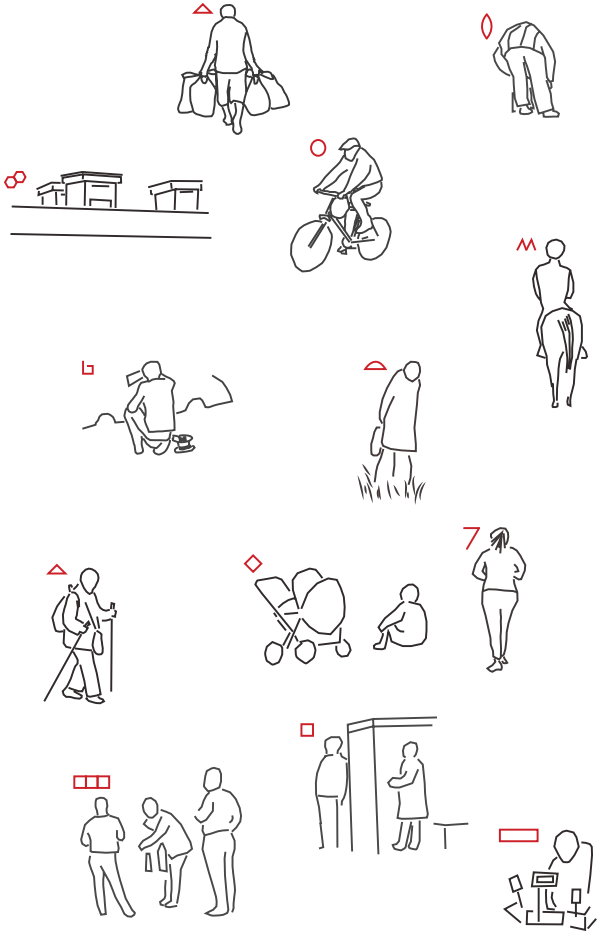
CONCEPT PRINCIPLES

LANDOWNERSHIP

The given important place quality established by the cadastral pattern - permeability - is the extent to which an environment allows people a choice of routes through and within it (Carmona/Tiesdell/ Heath/Oc 2010: 258).
1. Keep the landownership, so that the site remains public accessible (permeable).

EXISTING ACTIONS

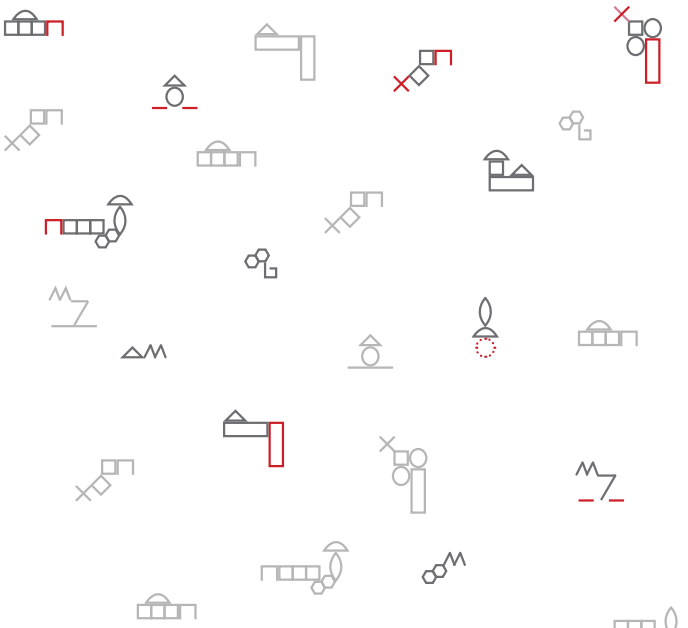
By putting the electric line underground functioning activities could be threatened either by privatization or by degeneration into void, unused places. Even if the spaces along and under the electric lines are very restrictive and rigid activities show that the space works and functions by itself. >> Matrix; Map of Activities
2. Take existing actions as starting point for the development of the spaces and places.



NEW PATTERNS

Even though the spaces along the electric lines function these can be improved: not by overwriting existent uses but by developing them. To percceive changes as exciting and make them also comfortable and acceptable the old and familiar will be mixed with the new and unfamiliar (Carmona/Tiesdell/Heath/Oc 2010: 258). >> Patterns by Christopher Alexander

3. Bring in new practices either by combining the found ones or by creating new relating actions.

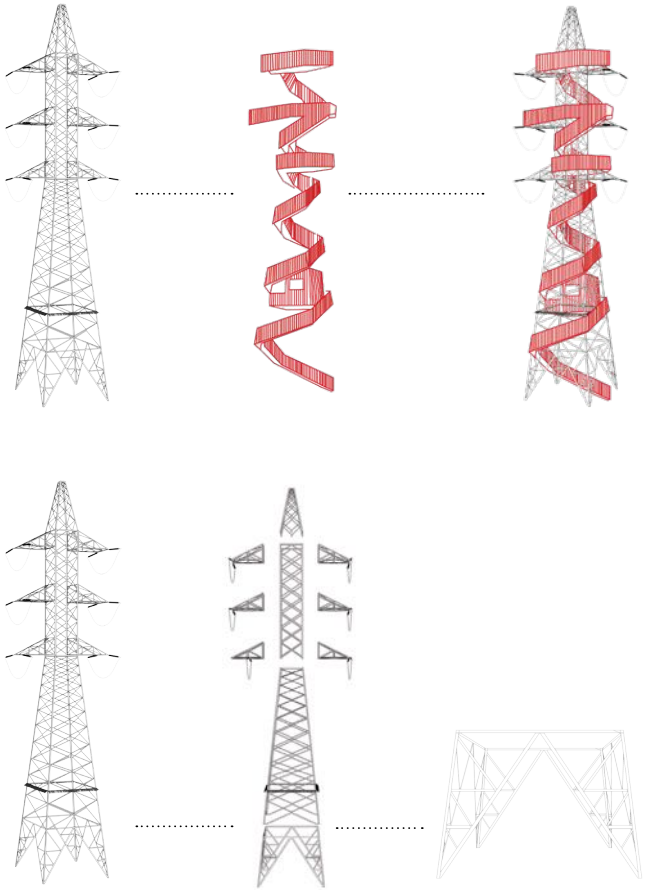


Identifiable neighborhood *Activity nodes* *Promenade* *Degrees of publicness*
Housing in between *Road crossing* *Bike paths and racks* *Fruit trees*
Small public squares *Common land* *Public outdoor room* *Bus stop*
Food stands *Pedestrian street* *Positive outdoor space* *Tree places*
Hierarchy of open space *Paths and goals* *Path shape* *Accessible green*
A place to wait *Seat spots* *Activity pockets* *Communal eating*

RE-USE & RE-INTERPRETATION

The processes of landscape change, where current uses over-write, but do not completely erase the marks of prior use is named ‘palimpsest’. The most defining marks after the power line will be the energy pylons (Carmona/Tiesdell/Heath/Oc 2010: 258). Transforming them into other objects - observation towers, pergolas, benches etc. - existing elements are transformed for further uses. This principle can also apply to garages.

4. (Re-)use and reinterpret not only the actions but also objects on site.



PUBLIC SPACE TRANFORMATION CONCEPT

TRANSITION TOWARD DESIGN

After analysing the space and developing the concept principles the power line site is divided in 4 segments. For each one the design is a result of the activities, principles and patterns.

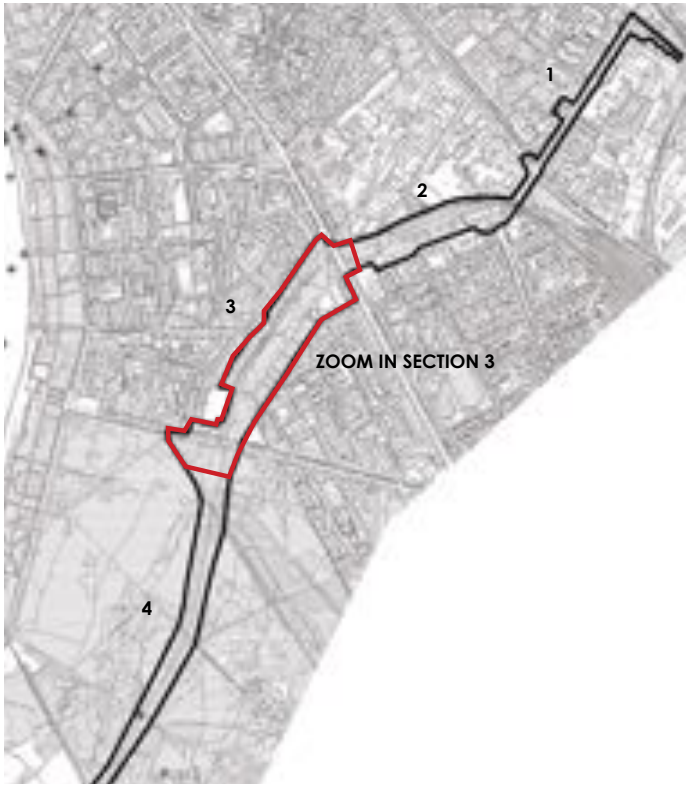
SECTIONS

1 IN BETWEEN

2 PRIVATE IN PUBLIC / APPROPIATED

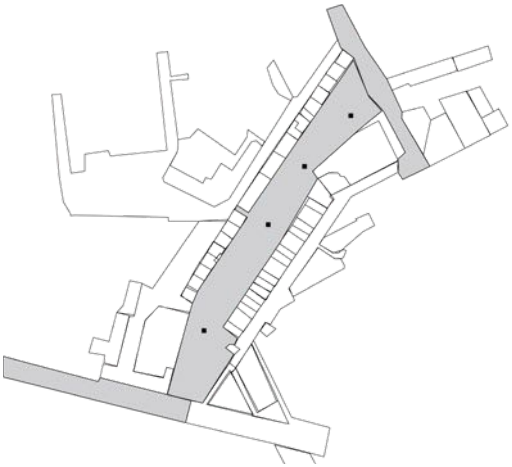
3 TRANSITION AND CONNECTION

4 LEISURE



ZOOM IN: ANALYSIS SECTION 3

LAND PLOTS

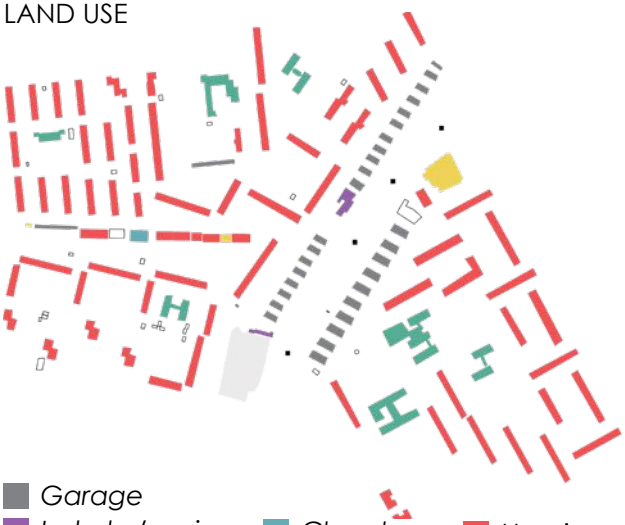


Land plot with the power line
Energy pylon

DESIRE PATHS AND GREEN SPACE

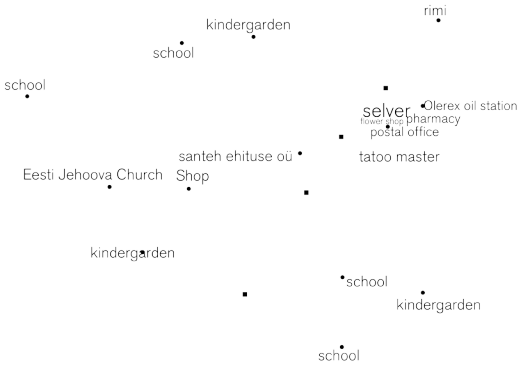
Green space
Dog area
Tree
Energy pylon

LAND USE

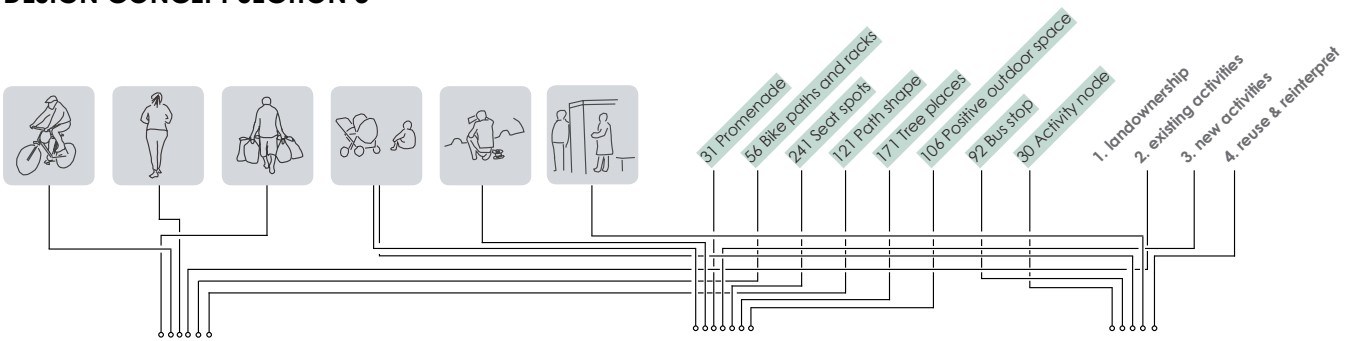


Garage
Industry/services
Church
Housing
Shopping center
Educational institution

INDIVIDUAL ESTABLISHMENTS



DESIGN CONCEPT SECTION 3



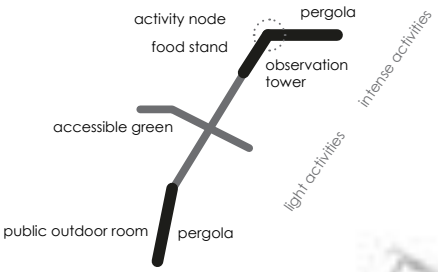
> improve the quality of existing connections

> transform the transit zone into a 'staying' zone

> strenghten the activity node

DESIGNING INFORMALITY

The public space is organized through three sections. The first one concentrates around the activity node in the North characterized by intense activities. This also represents the connection to "2 PRIVATE IN PUBLIC". The second part will remain predominantly green and with light activities while the third part will be the transition to "4 LEISURE" with intense activities but different to the first one.



1 FOOD STAND

In addition to vegetables/fruits selling (mobile) food stand complement the activity node.


Food stand

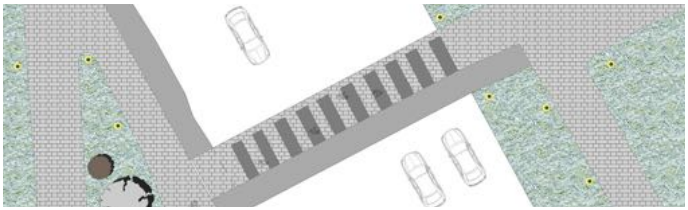
2 OPEN PLAYGROUND

Playing furniture is informally placed in the meadow and is available for different ages and user groups.


Playground furniture

3 CROSSWAY

The links between the sections are enhanced through re-designed, wide and color-differentiated crossways where people feel comfortable and safe.



4 OBSERVATION TOWER

For enhancing the activity node the first pylon will be transformed into an public observation tower. The towers are constructed to carry heavy power lines over the ground, making them strong enough to hold platforms and high enough to give a view over the neighborhood.
Reference: Anders Berensson Architects, Stockholm National Park.
The added stairs and platforms are made in wood to reduce weight.

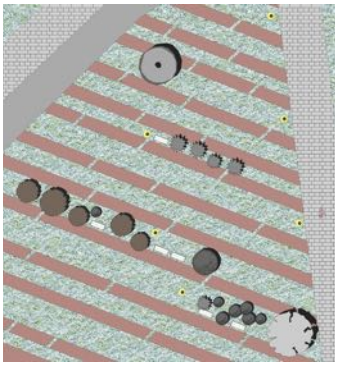
5 NEW BIKE AND PEDESTRIAN CONNECTION

Existing desire paths will be further developed and improved and thus formalized, creating new connections. Bikeways will have a smooth surface for a better mobility and will be visually separated from pedestrians. The latter will have different qualities: paved surface of different width for walking (promenade, narrower sidewals), smooth surfaces for jogging. All of these connections will be equipped with lighting system, bike racks, dustbins and benches.


asphalt pavement grass-dirt grass-pavement stone

6 CENTRAL PLACE

The central place accompanying the activity node is mostly open but nevertheless partly enclosed by trees and shrubs, giving the necessary “back” to the place. The play between paved and grass areas keeps an informal note and gives freedom of movement and surface preference.
Openness and interplay paving-grass takes into consideration the quality of permeability.
Reference: Forum am Kanzleramt - Berlin.



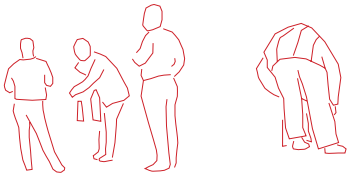
7 COMMON EATING

For transforming the currently tranzit space into a “staying” place there are different infrastructure for sitting, eating and meeting that responds to different needs of young people, families or elders. This are mostly located in the third part of the place, near urban gardening spaces but also in the proximity of food stands.This infrastructures can also be linked to practices of picking mushrooms/apples/berrys creating a cycle of gathering and consuming.

Grill place

Picnic table

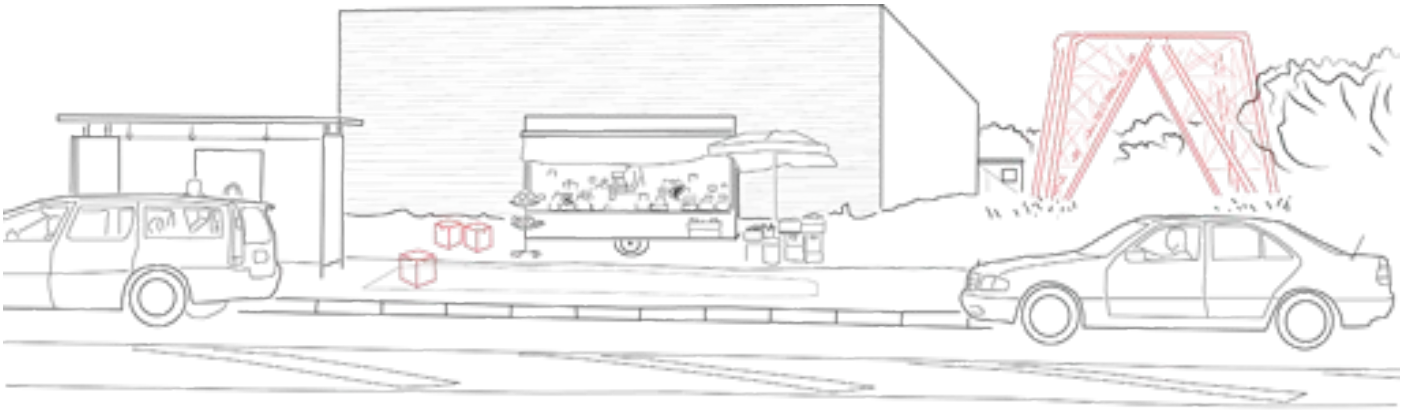
Roofed picnic table



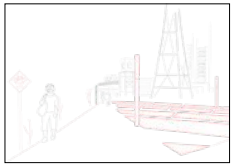
8 PERGOLA / PUBLIC OUTDOOR ROOM

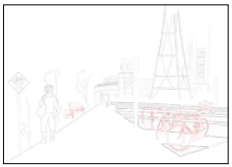
By transforming a pylon into a pergola different activities which require defined space can be practiced. The columns can be covered by climbing shrubs and offer a partly enclosed place with benches and sitting possibilities.

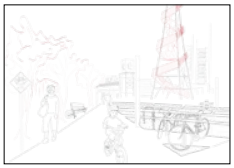
Sitting possibilities



PHASING AND IMPLEMENTATION







individual/
group
inhabitant(s)

municipality

initiatives

planner

tactical
urbanism

pilot
projects

implementation

ENERGY LAB

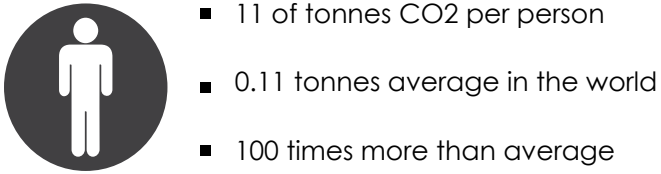
SIIM KUUSIK

STATEMENT

ENERGY PRODUCTION IN ESTONIA

When looking at the energy production of Estonia, around 93% of the energy is made from burning the fossil fuels. 5% is gotten from the ground gas and 2% from other sources such as wind, hydro, solar, and oil.

CONSUMPTION PER INDIVIDUAL



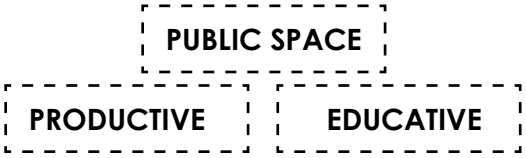
The average Estonian individual produces about 11 tonnes of CO2 in their lifetime, what is the second highest in Europe and altogether 10 times higher than the worldwide average.

In Tallinn, most of the energy is transferred from Narva, a city about 210 kilometres away from Tallinn itself. This energy is mostly generated by burning fossil fuels. As this method is rather unsustainable for a long term, there is the question of possible future alternatives. The research question this project discusses is how the space of a urban environment could be beneficial to energy production and how this can be reached.

For energy production itself, there are several other alternativeswhat could be possible. What can be mentioned are solar, wind, biogas or geothermal power. However there is still a question on how these energy production methods could be reached.

One of the methods could be a education from younger age what is more directed towards alternative sources of energy.

If people would have a better understanding of energy use and the production itself, perhaps the possibilitiy of a more open future towards alternative energy sources also possible.



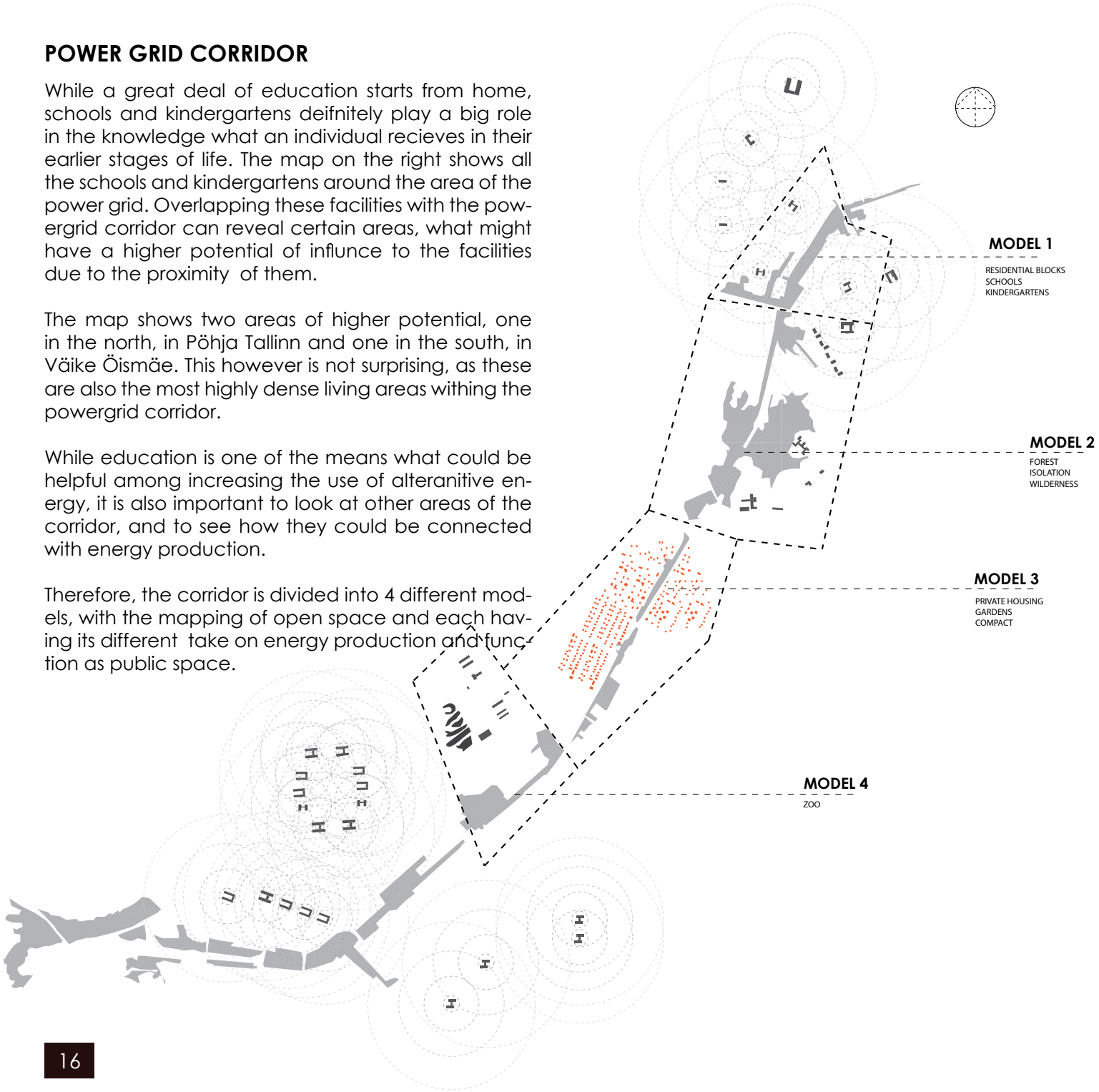
POWER GRID CORRIDOR

While a great deal of education starts from home, schools and kindergartens deifnitely play a big role in the knowledge what an individual recieves in their earlier stages of life. The map on the right shows all the schools and kindergartens around the area of the power grid. Overlapping these facilities with the powergrid corridor can reveal certain areas, what might have a higher potential of influnce to the facilities due to the proximity of them.

The map shows two areas of higher potential, one in the north, in Põhja Tallinn and one in the south, in Väike Öismäe. This however is not surprising, as these are also the most highly dense living areas withing the powergrid corridor.

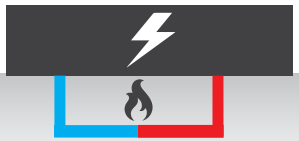
While education is one of the means what could be helpful among increasing the use of alteranitive energy, it is also important to look at other areas of the corridor, and to see how they could be connected with energy production.

Therefore, the corridor is divided into 4 different models, with the mapping of open space and each having its different take on energy production and function as public space.



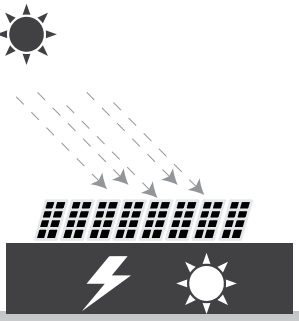
ALTERNATIVE METHODS OF ENERGY PRODUCTION

GEOTHERMAL



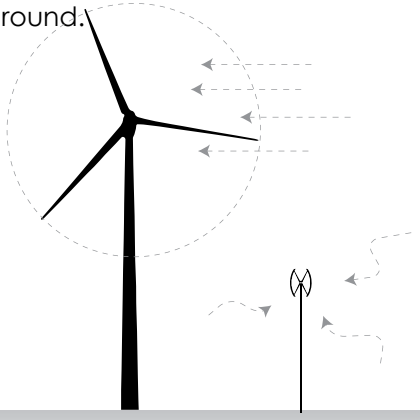
Geothermal energy could be one possibility to be used in the area. Cold water will be pumped deep underground, where it will be heated by the geothermal heat of the earth and afterwards brought back on ground.

SOLAR



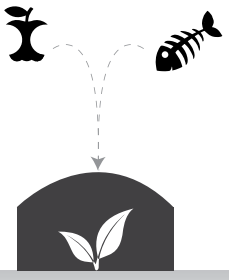
Another possibility would be to use solar power. The solar panels in this case have to be facing the south and placed by 40 degree angle. Solar power can be efficent, however is expensive and has a high varying rate of production compared summer and winter periods.

WIND



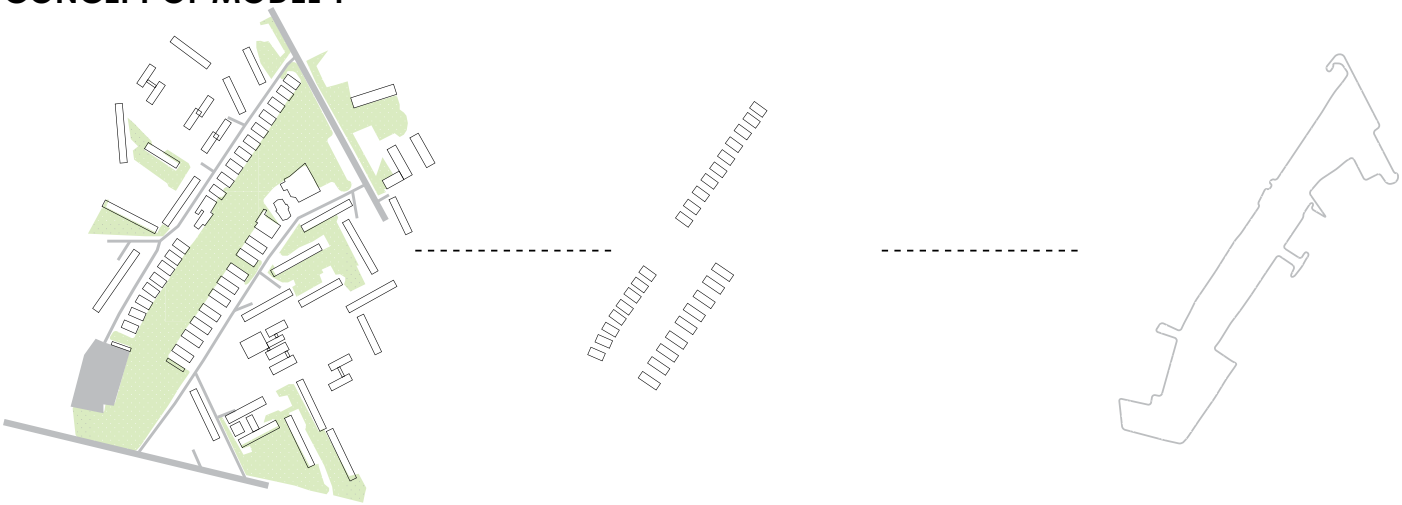
There is a also a definite potential of using wind turbines in the project area. In windy coastal cities such as Tallinn the turbines can be rather efficent. There is however the question which type of turbine would suit the best for the area.

BIOGAS



Another method to look into would be the biogas energy. This would work on recyclable waste what is produced in the urban environment. The plant should be however small scaled, to deacrease the spread of any unwanted smells coming from burning the materials.

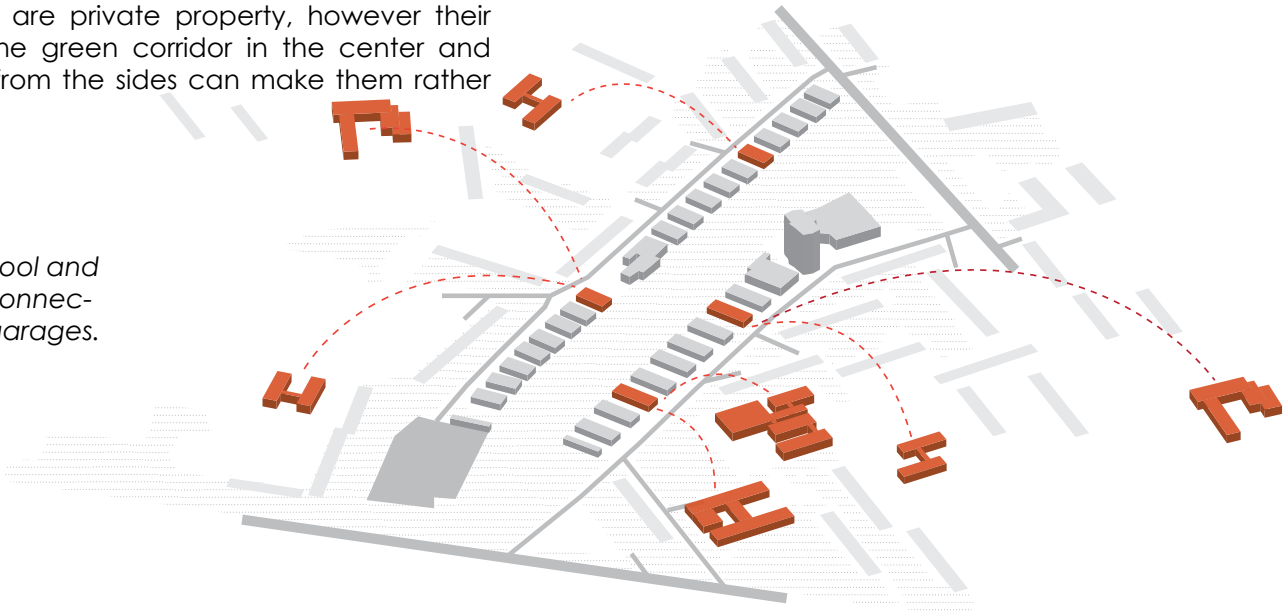
CONCEPT OF MODEL 1



A general map of the chosen area in Pöhja Tallinn shows an area quite common to the socialistic planning principles. Many high rise residential block buildings, with several schools and kindergartens placed inbetween them. A common sight is also the garages in the middle, forming a linear green corridor in the center.

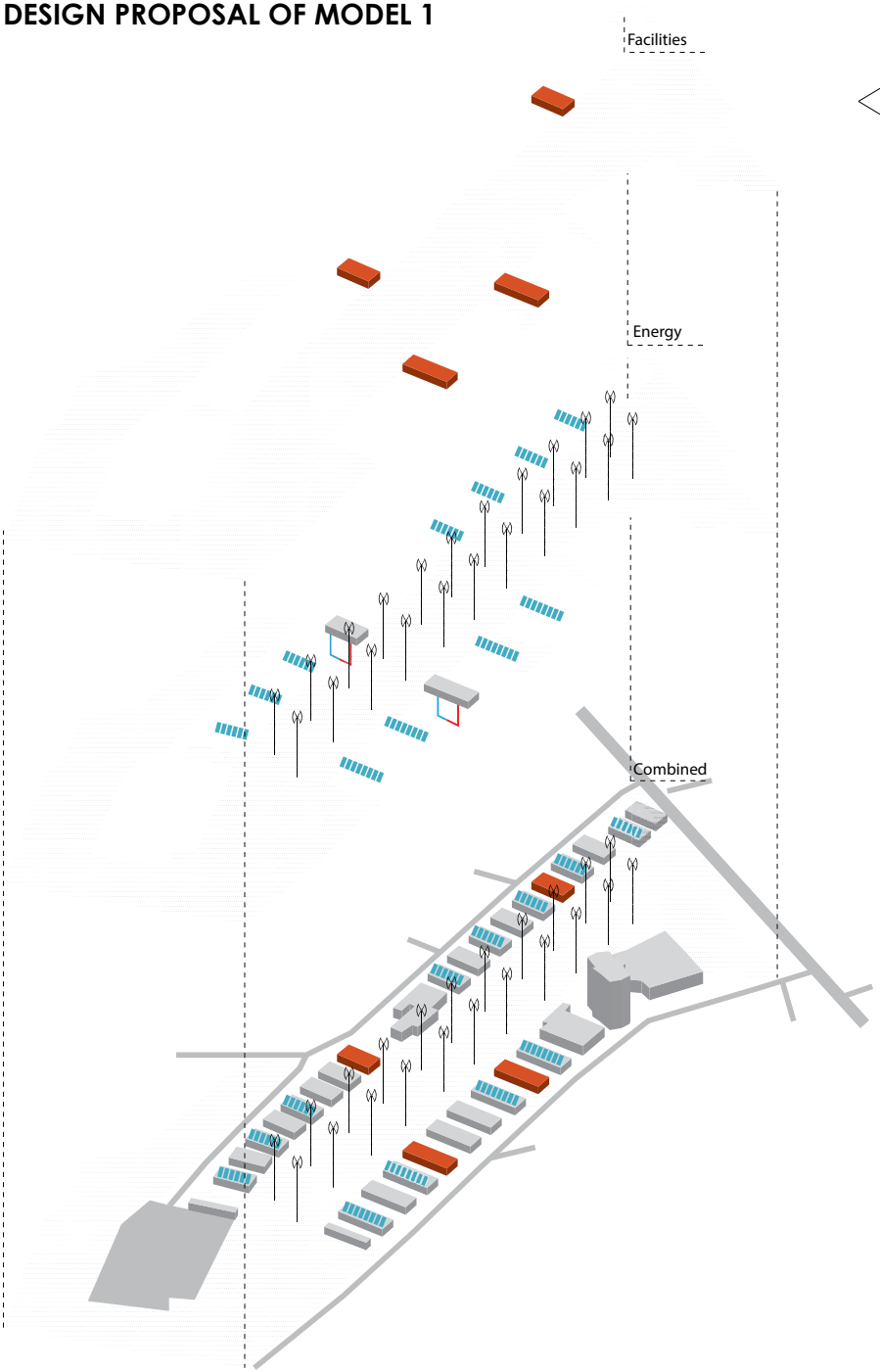
Thinking of assets, what in the area may be useful for the project, the gararages are certainly one of them. These facilities are private property, however their proximitiy to the green corridor in the center and good access from the sides can make them rather valuable.

Another valuable asset to the area would be the green corridor in the center. This area is mostly used for walking dogs, recreation or simply as an accessway. However the green space itself can be said to be somewhat underused, and what could be used for a greater potential.

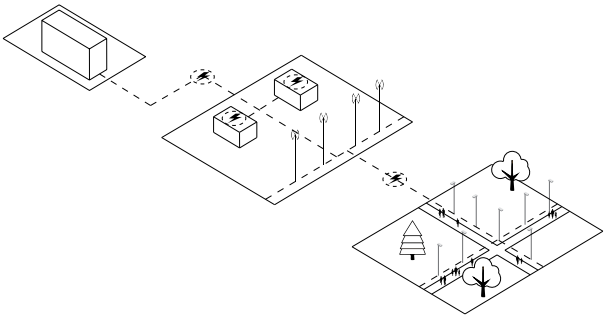


Scheme 1. School and kindergarten connections with the garages.

DESIGN PROPOSAL OF MODEL 1

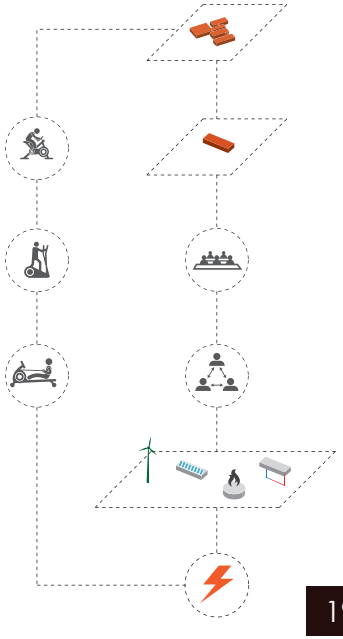


ENERGY USE

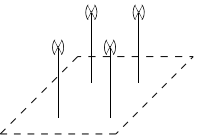


There are several different possibilities what the created energy in the area could be used for. However the idea here would be that the same energy would be used up in the area and close surroundings. One of the possibilties here would be the energy needed for the lighting infrastructure of the area.

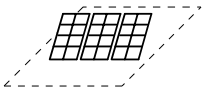
ELEMENTS WITHIN THE AREA



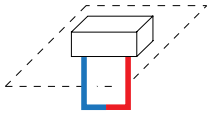
PARAMETERS



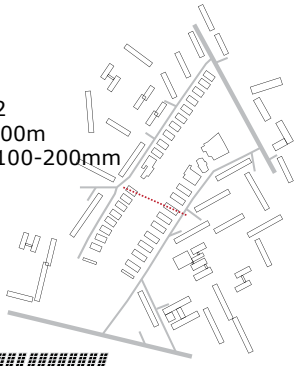
- 1kw system
- swept area 4,62m2
- cut in wind 3,5m/s
- 1250kwh/year



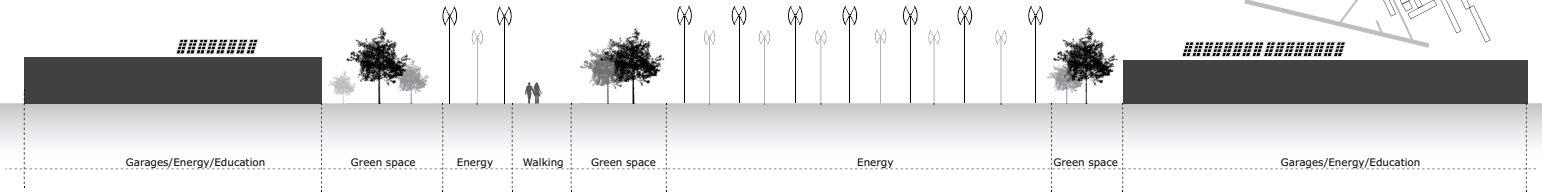
- 5kw system
- 33m2
- 20 panels
- 4822kwh/year



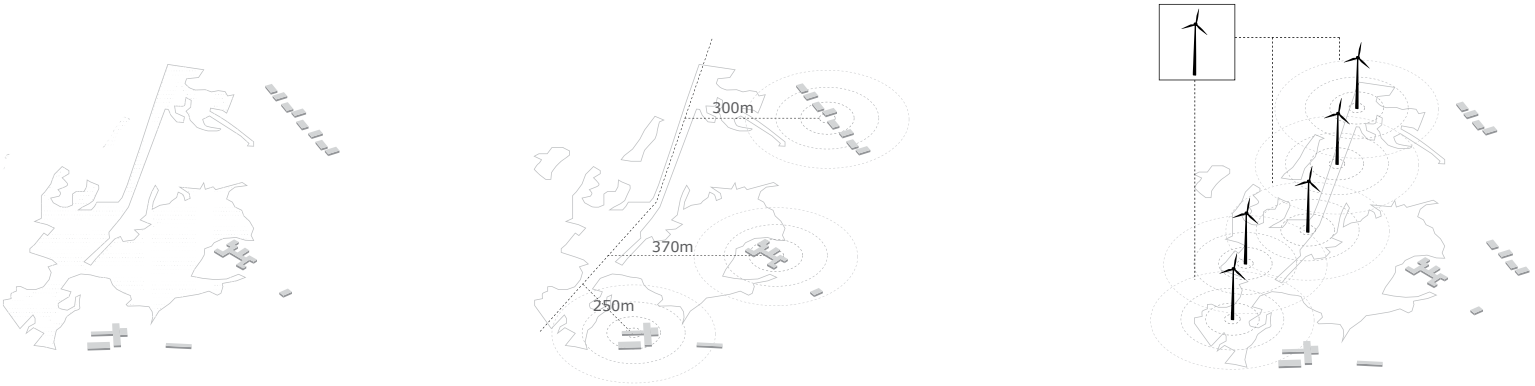
- 10-35w/m2
- depth 20-200m
- diameter: 100-200mm



SECTION



CONCEPT OF MODEL 2

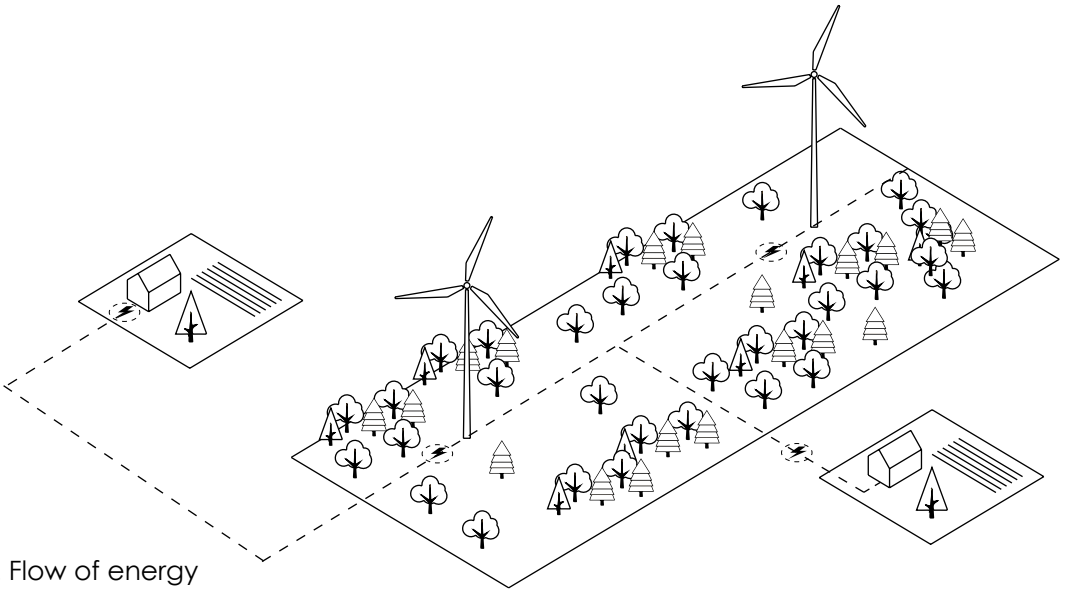


Merimetsa is an area what can be said to be rather-wild compared to rest of the corridor. The surrounding forest and available empty land give some other opportunities for energy use compared to the surrounding area.

The closest facilities surrounding the corridor in this case can be found to be quite far away. The closest buildings are situated in the south, about 250m away.

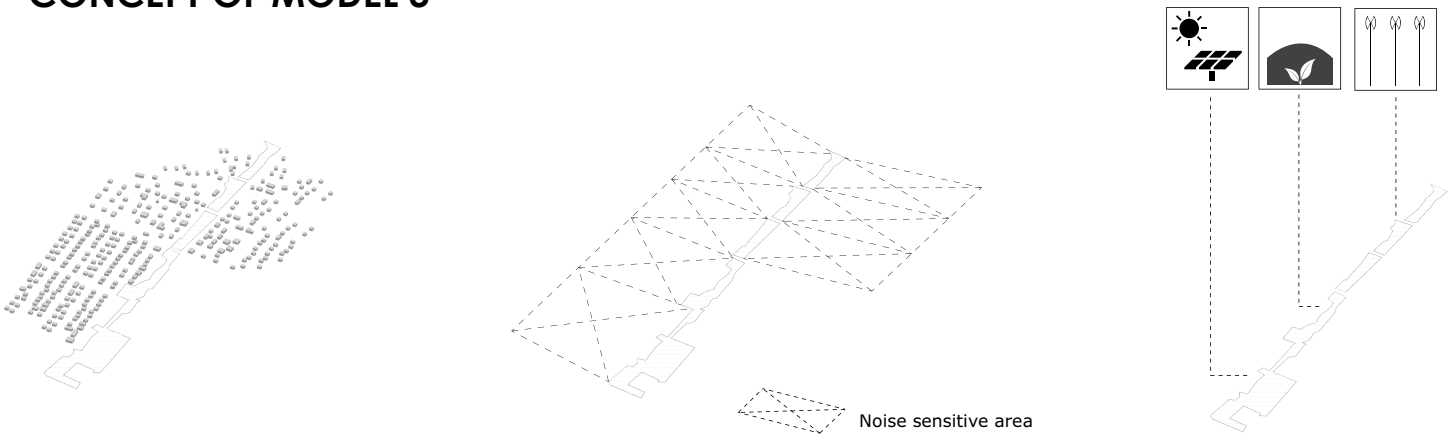
The central open area in Merimetsa is useful as an area for larger wind turbines. The turbines in this case have to taller than the surrounding forest, to provide maximum output of energy.

Depending on the amount of energy created, it can be used in the surrounding facilities rather than in the distance. This would somewhat decrease the amount of infrastructure and energy losses in the process.



Scheme 2. Flow of energy within the area

CONCEPT OF MODEL 3

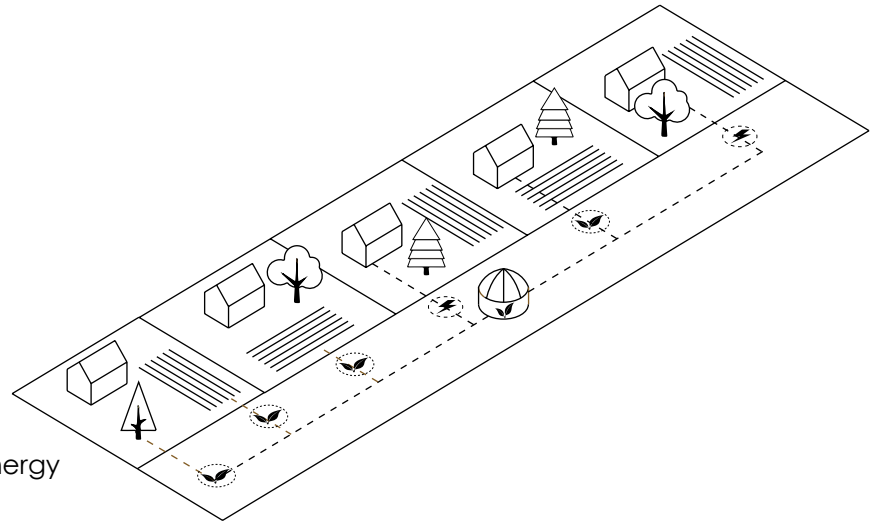


The area of Model 3 is situated more in the south of the corridor, between Veskimetsa and Merimetsa. The area can be said to rather dense, surrounded by private housing which leaves the central corridor to be very narrow and compact.

As the area is surrounded by private housing andi s extremely compact, which makes energy production possibilities a little complicated. As the surrounding houses are sensitive in terms of noise, or smell, therefore the interventions in the area have to be smaller scaled compared to the rest of the corridor.

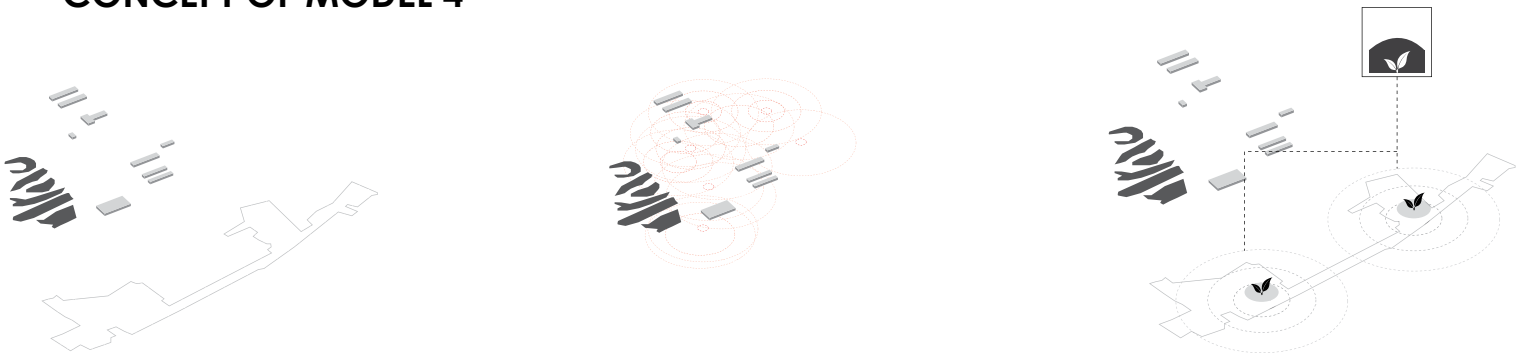
Methods what could be used in this case are solar panels, wind turbines and biogas. However the fact that the corridor has densily growing vegetation, the solar panels and wind turbines in this case can not be said to be too effective.

An idea would be to use small scaled biogas tanks, which would be shared between 5-10 different private houses. As the houses have gardens, there is definetly a lot of organic waste generated in the area. The energy produced by the biogas tank would be returned to the nearby houses.



Scheme 3. Flow of energy within the area

CONCEPT OF MODEL 4

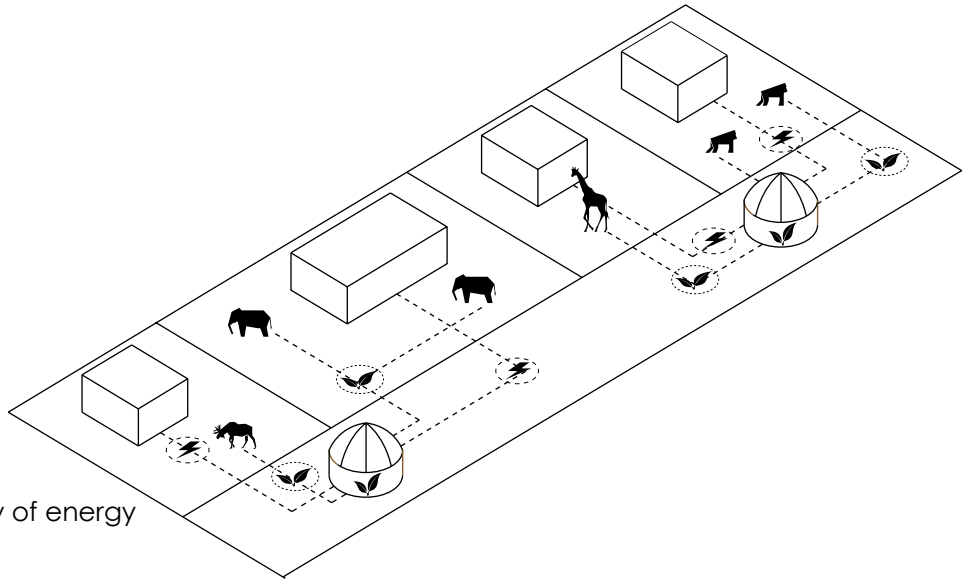


The area of Model 4 is situated more south along the corridor. It is surrounded be zoo in the north-west and commerce or industry facilities in the further south-east.

As the zoo which is situated in the north-west takes up a lot of space, it leaves not much room for other kind of facilities. Similarily to the Model 3, in this case there is defintely a large amount of organic waste produced by the zoo which could be an asset to the energy production.

The method in this area could be said to be similar to that of Model 3. One, or two biogas tanks which are placed along the empty space of the powergrid corridor.

As there is defintely a great deal of organic waste produced,the tanks in this case have to be bigger compared to that of Model 3. The energy created by the tanks can e returned to the facilities of the zoo itself.

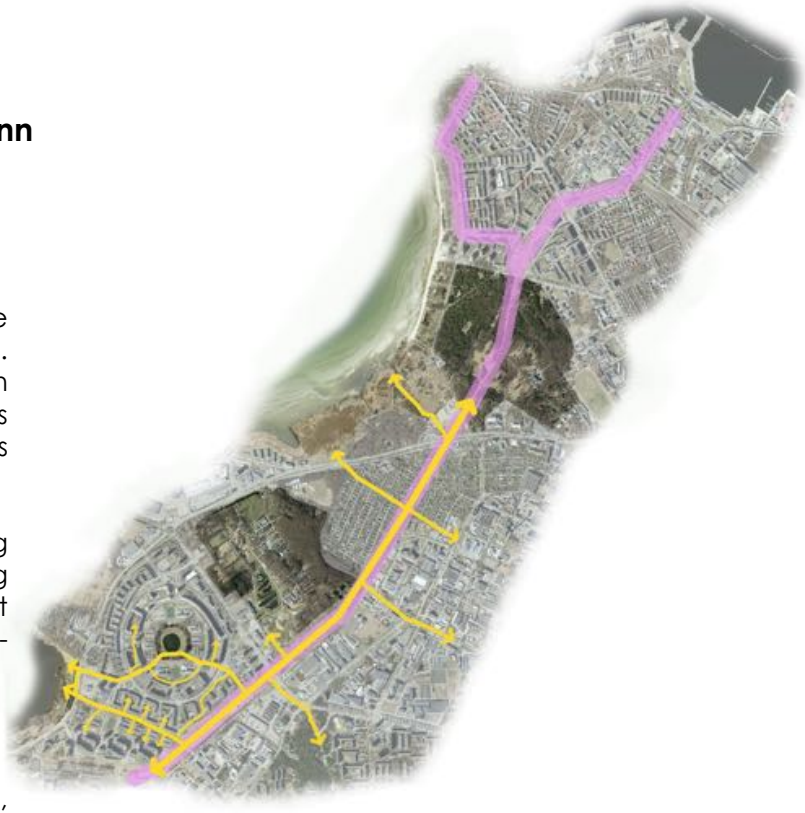


Scheme 4. Flow of energy within the area

NETWALK

A network of walking pathways in West Tallinn

TANITA DZOBA



OVERVIEW

When the electric power-line in West Tallinn will be placed underground, a linear space will be left void. Since it goes through different districts from the North to the South, one of its main qualities is that it serves as a pedestrian connection among neighorhoods and their points of interest.

The power-line space could be used as a starting point of a pedestrian network, improving the existing paths and creating new ones. The idea of this project is to create a multipurpose linear public space, adding new qualities to the neighborhoods.

ANALYSIS

It is a zoom-in of the Väike-Õismäe neighborhood, which can be taken as an example to study other districts of the city.

The area is charachterised by high-rise residencial buildings and one industrial zone. It is provided by services, schools and kindergartends.

- residence
- service/commerce
- industry
- school/kindergarten
- parking lot
- power-line
- street
- pedestrian path
- proposal
- play/sport ground

A dense network of streets and pedestrian paths create a round movement leading to the centre - a pond.

What is needed is an element which cuts the neighborhood horizontally, giving new reference points and leading persons from one end to the other.

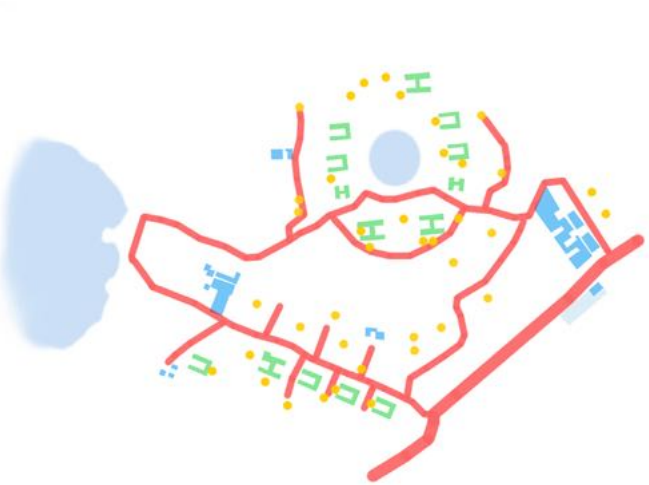
CONCEPT

In this project the space left by the power-line is used as a backbone connecting, on a bigger scale, Väike-Õismäe to the Zoo, Merimetsa beach and urban forest; on a smaller scale, it connects different places of the same neighborhood, thanks to smaller paths which branch off from the main one.

Moreover, the widest sections of the network can be used also as places where to stay and not just to pass, such as sport and play grounds, suitable for people of any age.

PROPOSAL

It is to create a new network starting from the existing one: a loop which starts and ends at the power-line. It would also ad public functions to the urban space.



service/commerce

proposal

play/sport ground

school/kindergarten

The loop would connect the school/kindergarten area and service/comercial areas with the main points of interest of the neighborhood: Harku lake, pond and power-line space.

A serie of sections show different landscapes and functions created by the Netwalk. As a multipurpose and multigenerational public urban space, its aims are both to lead people to a destination and to offer a place where to rest or to play.

The network has 5 different elements:

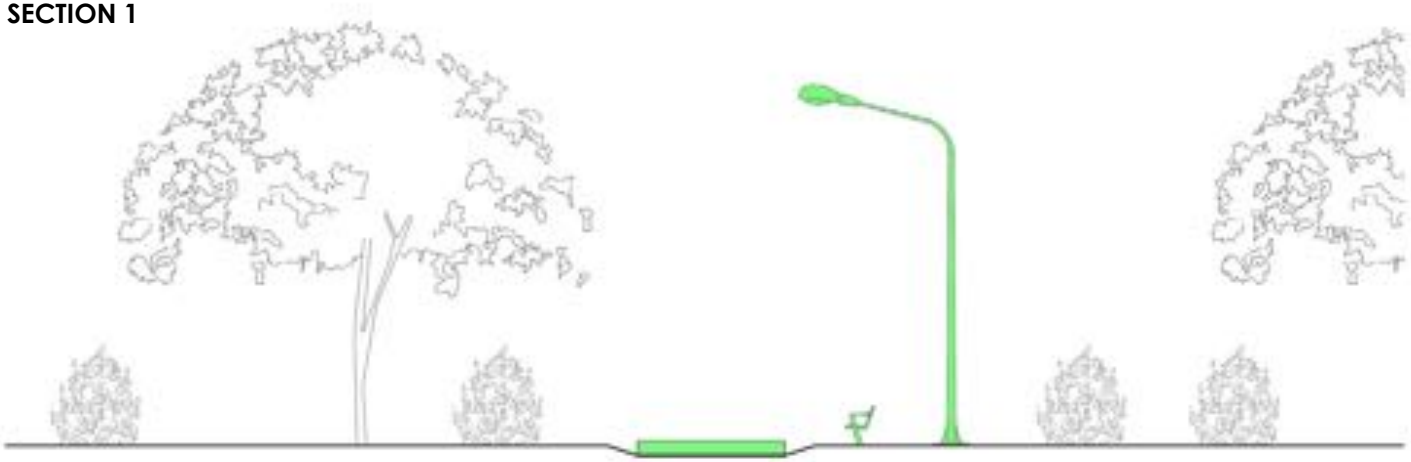
Pathway - it goes along the whole network and has different width. It can be used either as a walkway, a bench or a play spot.

Street lamp - it is present in every section. It allows people to use the Netwalk at any time of the day and in wintertime, making it safer as well.

Bench - it transforms the walkway in a gathering space where to stop and rest.
Playground and sport facilities - they allow the Netwalk to be also a leisure space both for kids and for grown-ups.

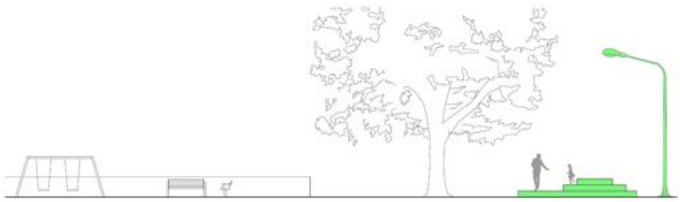
section netwalk area pathway playground sport area new tree

SECTION 1

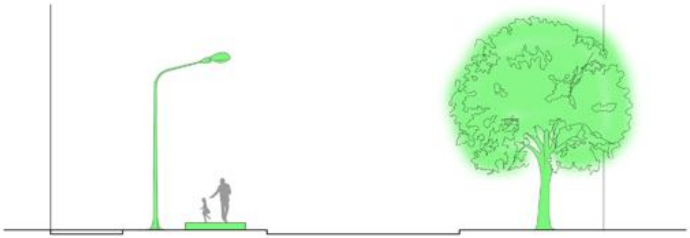


SECTION 4

SECTION 2



SECTION 3



LIGHT WAY

SARAH THEES

ANALYSIS

THE NEW POWER GRID

The plan of Tallinn's municipalty to hide the electric power line in the underground has already been implemented around the city center and the south-west destricts of Tallinn. For the future, it is planned to do the same with the electic line in Põhja-Tallinn and Haabersti. Within these destricts, the electric grid passes different types of enviroments, among others residential areas, recreational areas and business parks. This proposal demonstrates a possibility to connect living, recreation and working over the corridor with a light traffic way.

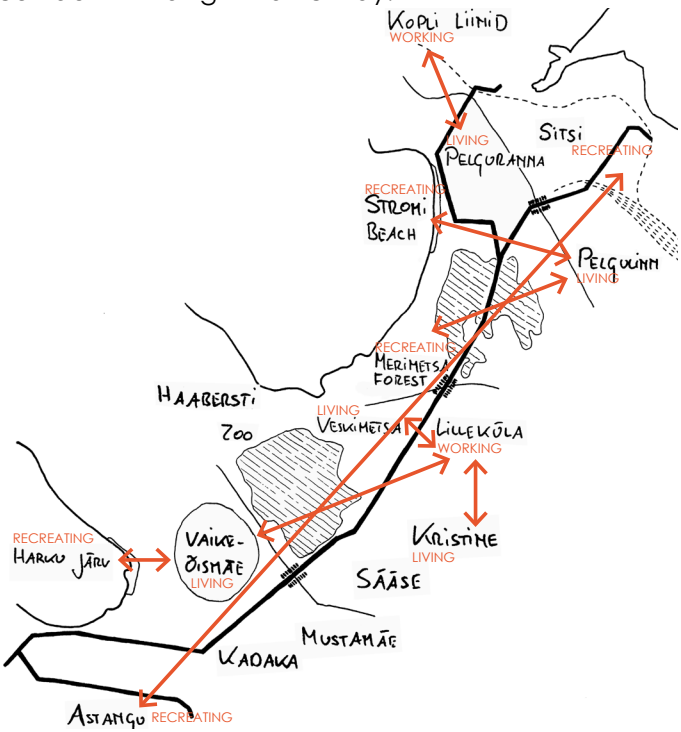


Figure 1. First scetch

Currently, the most popular way to travel to work in Tallinn is commuting by car; only one percent use the healthier way and take a bike. One reason could be the lack of bikeways in the existing network, which makes biking less intresting. And the second reason are missing marks for the bikeways on the streets and small sidewalks, which has to be shared. This makes biking automatically more unsafe and increases accidents between, cars and bikes or bikes and pedestrians.

Figure 1 shows the electric line corridor and the idea to connect the districts, also the beaches and forests over this line, to create a new network.

How people in Tallinn travel to work

Walking	24%
Car	52%
Biking	1%
Public transport	23%

How many kilometers of bikeway exist

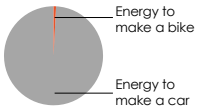
Kilometers of bikeway	180KM
Kilometers of road	2.600KM
Ratio of bikeways to overall roads	6.7%

Why bikeways should be improved

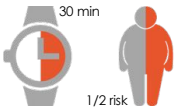
A better bike network can help to decrease the risk of accidents between cars and cyclists and cyclists and pedestrian.

In 2012, 1.381 accidents happened in Estonia, where 87 people died.

Why more bikes should be used



1% of the energy used to make a car is enough to manufacture a bike.



30 minutes of cycling daily can reduce your chance of obesity and diabetes by half.

In Figure 2 the masterplan shows the possibilities of the new connections. The two sections display the actual situation of the width around the electric power line corridor.

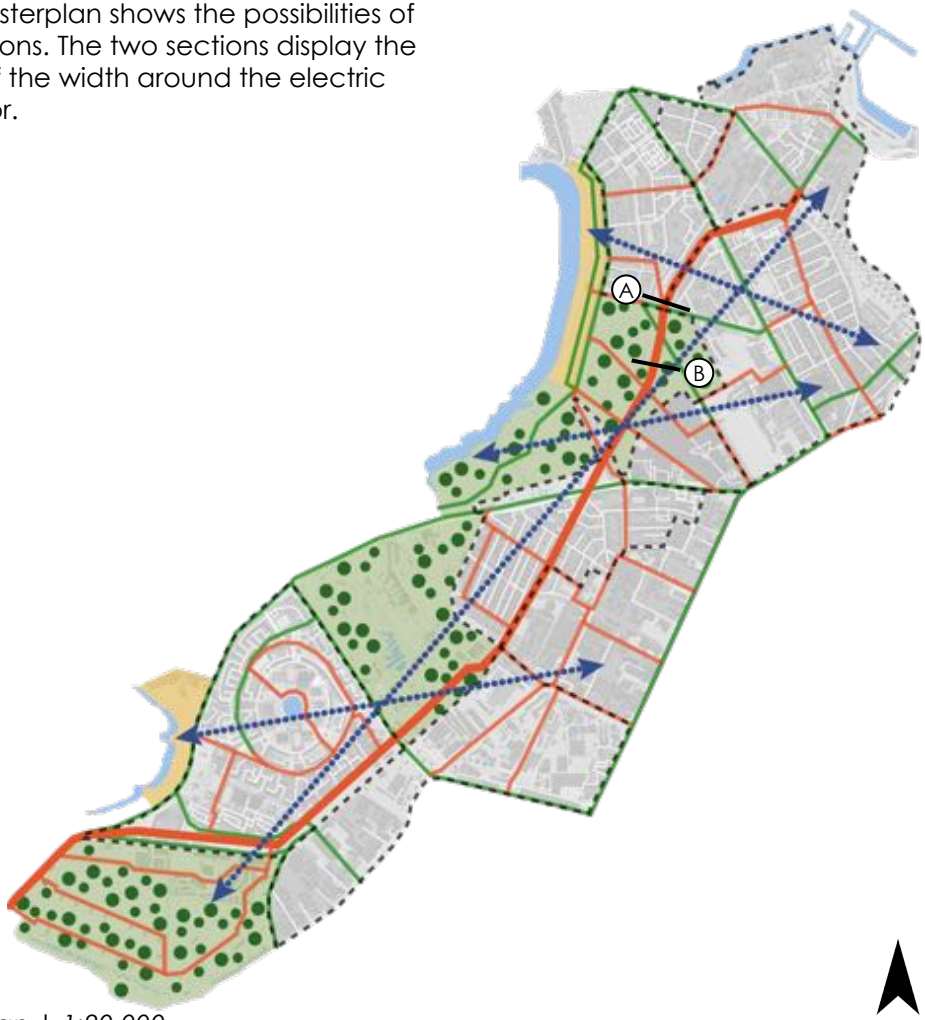


Figure 2. Masterplan | 1:80.000

Figure 3. Section A | 1:2000 | Pelgulinn: widest area

Figure 4. Section B | 1:2000 | Merimetsa forest: narrowest area

Figure 5. Visual 1 | Veskimetsa: forest area

Figure 6. Visual 2 | Mustjõe: dwelling area

PROPOSAL

With the transformation of the power line it is possible to create a seven kilometer long bike highway. It will start in the north neigbourhood of Karjamaa, follow along the west coast of Tallinn in the Merimetsa forest, pass the zoo, lead through Väike-Õismäe, and end in the south forest of Astangu. This highway creates a connection between the existing bike network from north to south. Smaller bikeways complete the existing network to give a better connection from east to west over the highway and between the destricts with their different functions. To give the highway recognition value, orange street lamps will be installed over the whole distance so that the users can easily follow the new LIGHT WAY.

Figure 7. Masterplan | 1:80.000

Visuals

Potential for resting spots

Potential for transition hub

Potential for bikomat

Bike Highway
New bikeways
Existing bikeways
Destrict border
Connections

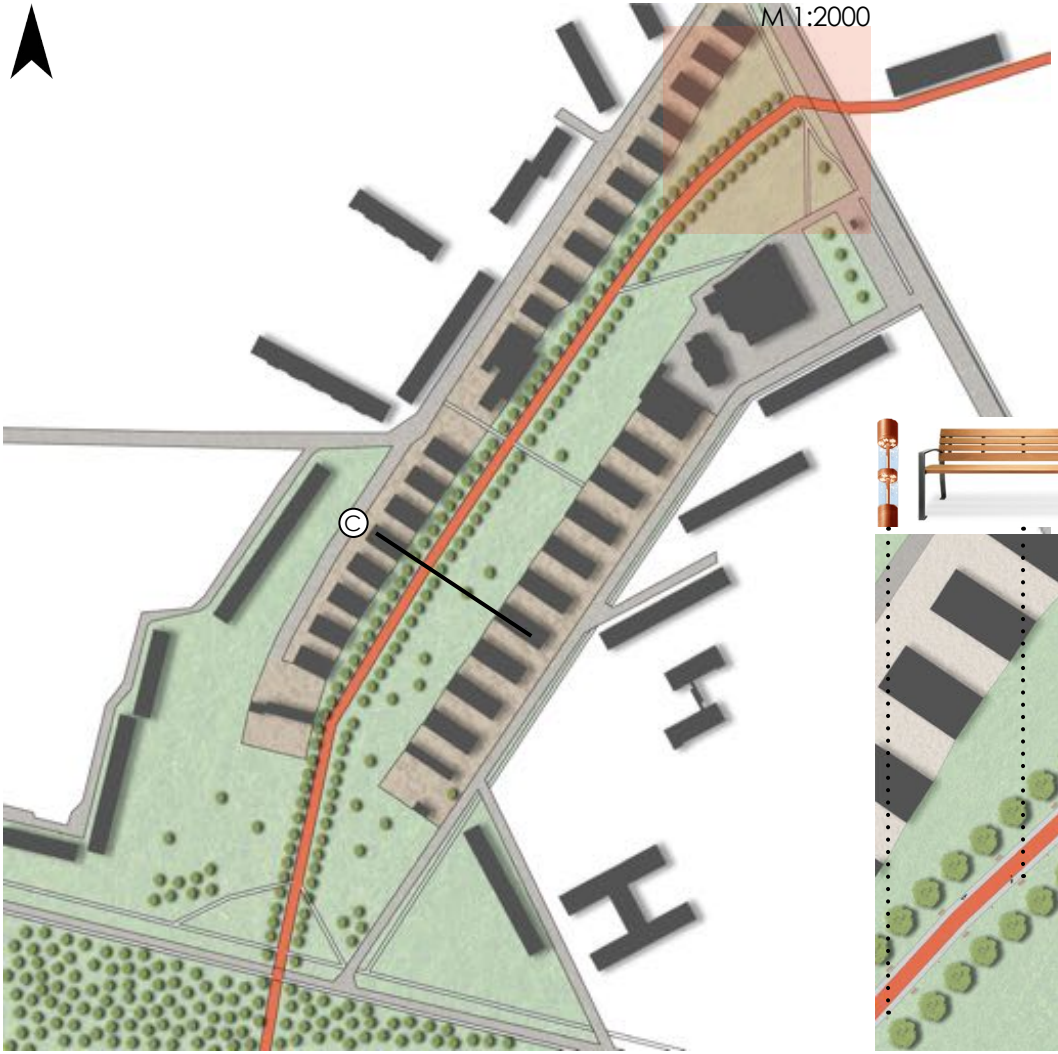
Figure 8. Bikomat: example

Figure 9. Pelgulinn today

Figure 10. First step

TRANSFORMATION

With the area in Pelgulinn it is shown how the transformation from a pedestrian walkway to a bike highway takes place step by step. The first markable point will be to install the orange lamp post to show the exactly way during all seasons. Furthermore, new trees are planted. The next step will be to change the small walkway into a seven meter wide road, divided into a walkway and the bike highway. Additionally, new benches will be placed beside the LIGHT WAY.
Future developments can be to implement bike shops beside the bike highway and create local transit hubs, which combine bus stations with bike parking lots in one place and improve transition between different modes of transportation.



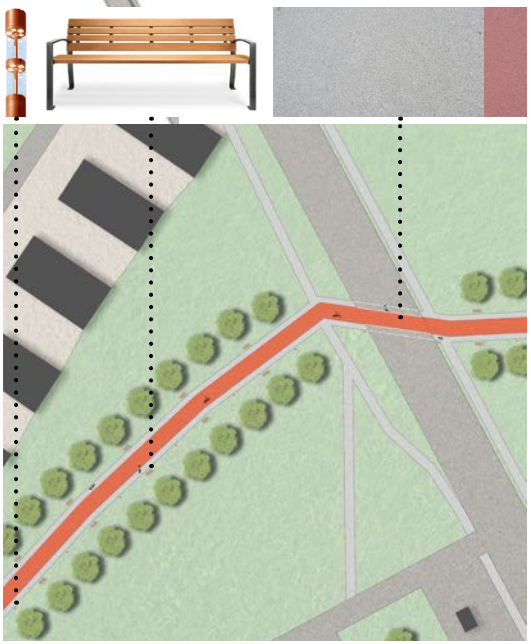


Figure 11. Masterplan | 1:5000

Figure 12. Masterplan | 1:2000

Figure 13. Section C | 1:400

THE ACCESIBLE CITY WORK

ISACCO BEGARANI

ANALYSIS

CONTEXT

The aging of the urban population in Estonia reflects the demographic trend that is generally affecting Europe. About one out of five urban resident has more than 65 years.

The elderly and disabled people are not just numbers but people strongly rooted to their home and neighborhood, jealous of their autonomy. Maintaining home the elderly and the refusal of hospitalization in cases of in in infirmity, bring to the fore the respect for the person, avoid de-personalization and breaks with the story of a lifetime.

Health-related policy are not enough to care of elder and physically disabled people, is requested to activate a network of social relations, media and initiatives that can foster their partecipation and valuing it as a resource.

Cities can no longer be only interested in the health issues when talking about the elderly but must instead refurbish the city in a more global perspective, taking greater account of the social context and construction that characterizes the life of all days. Henri Lefebvre

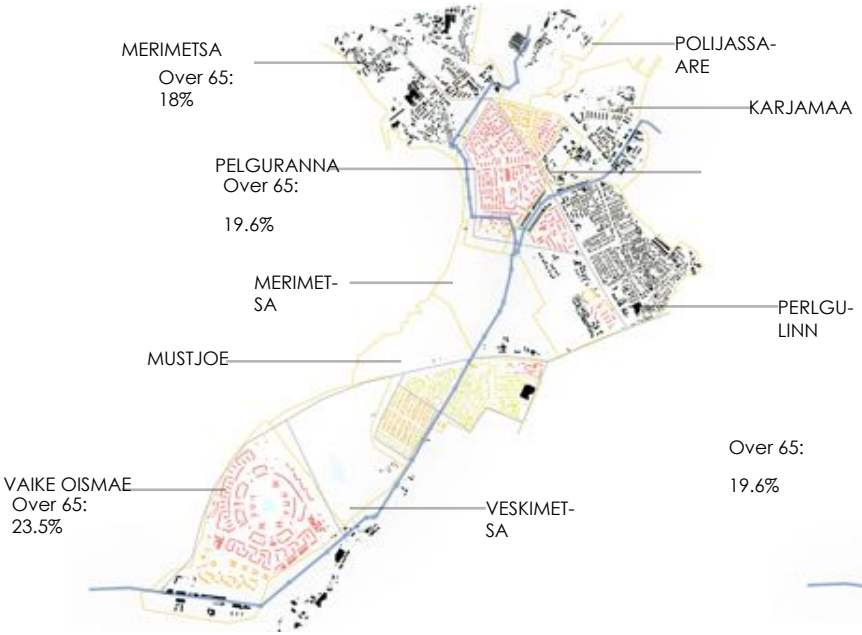
4.3% of Tallinn population has physical disability

Values
- Safety
- Environmental quality
- Dedicated space
- Familiarity and relations among people

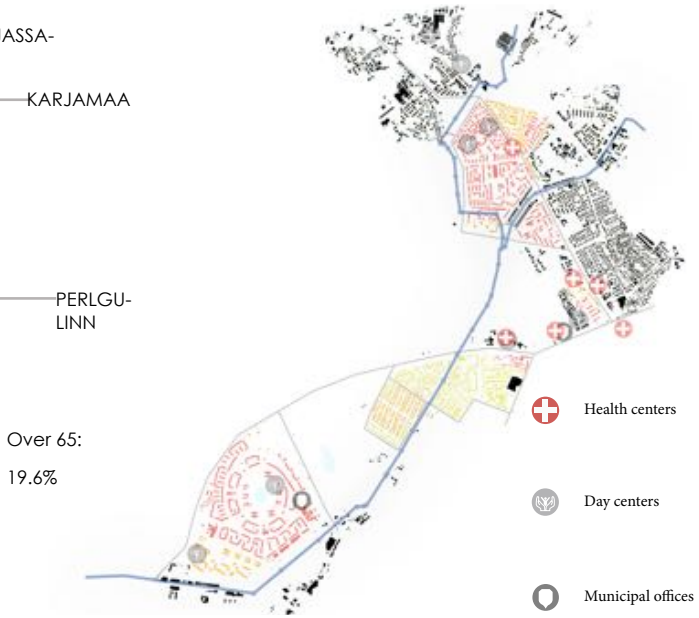
Fears
- Inaccessibility of the space
- Not belonging to the community
- Isolation and loneliness
- Impossibility of reaching urban services

Powerline

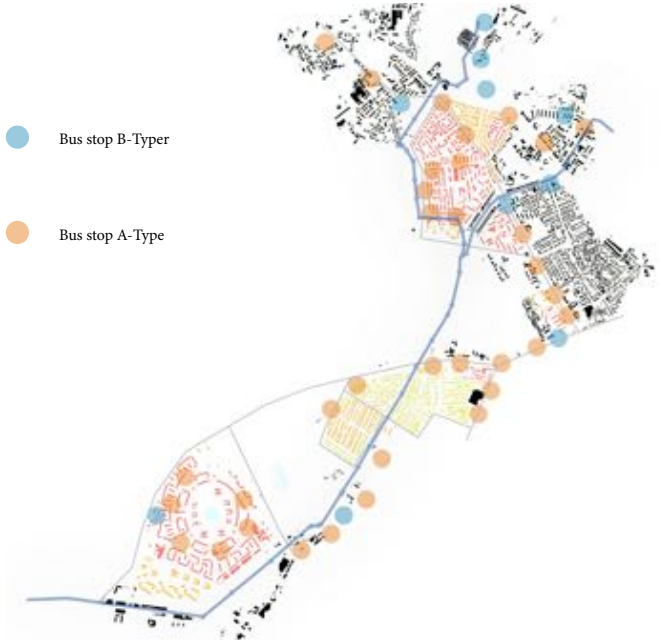
Public transport conncections



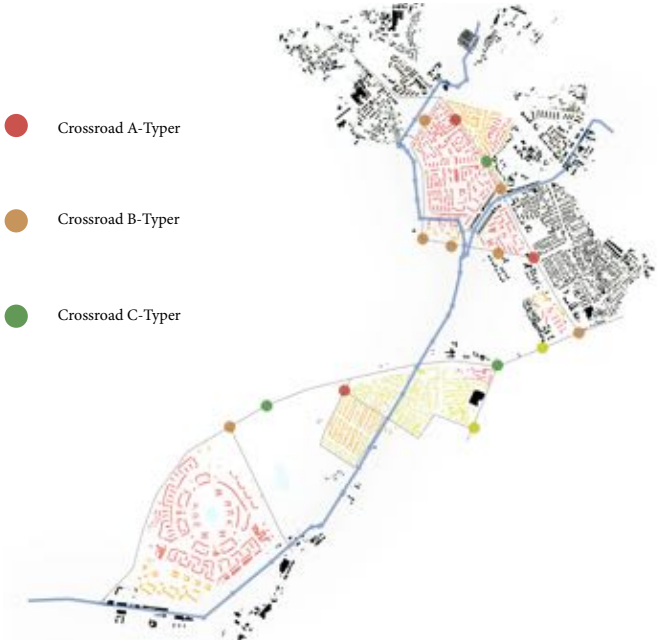
City districts



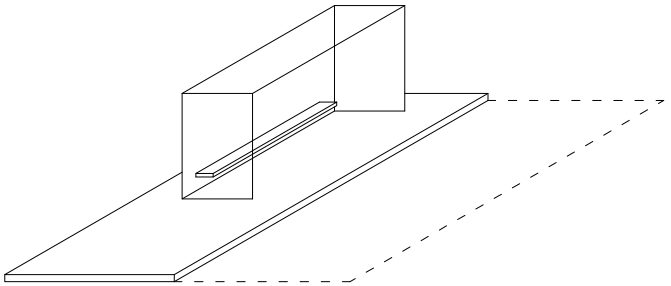
Public services spots



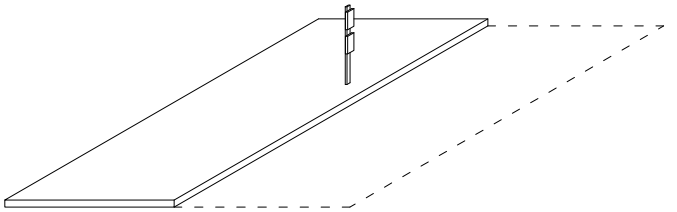
Bus stop quality



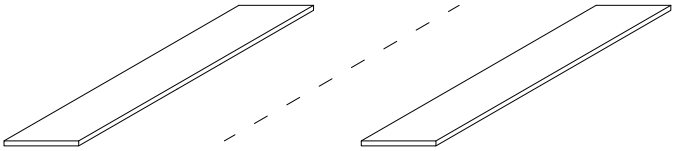
Crossroads quality



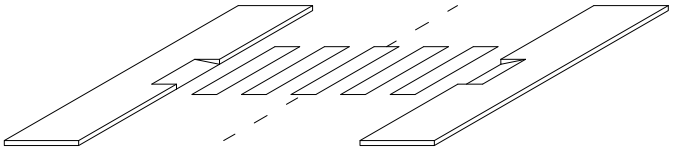
Bus stop A-type



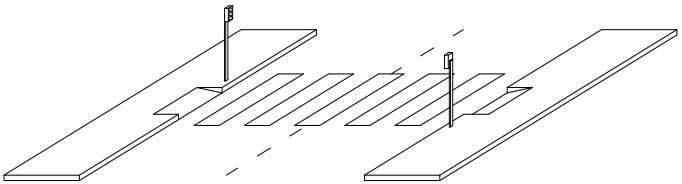
Bus stop B-type



Crossroad A-type, unofficial but forced

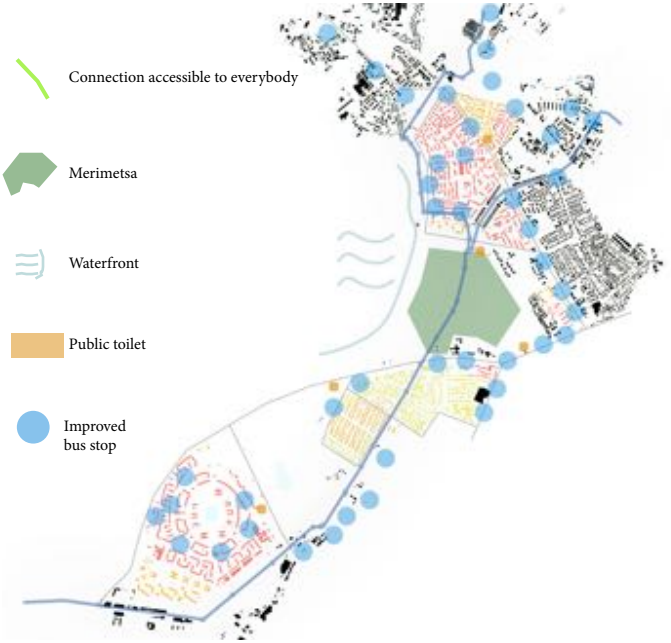


Crossroad B-type, without traffic light



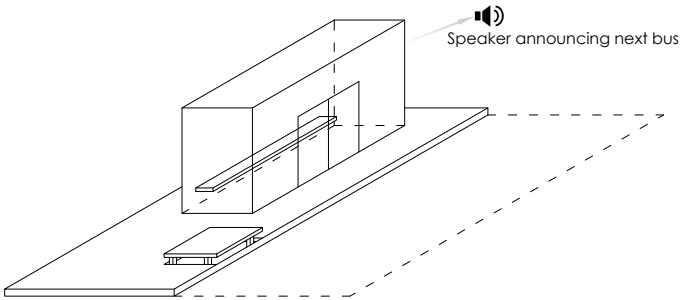
Crossroad C-type

General concept

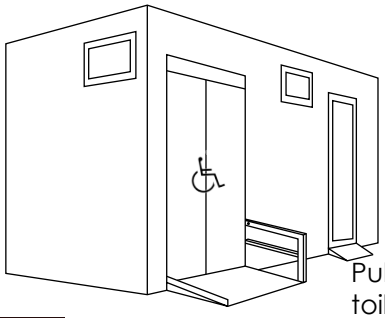


Improved bus stops and public toilet

Improved crossroads, new social centers and new accesible paths

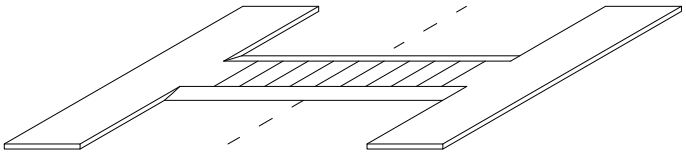


Warm bus stop

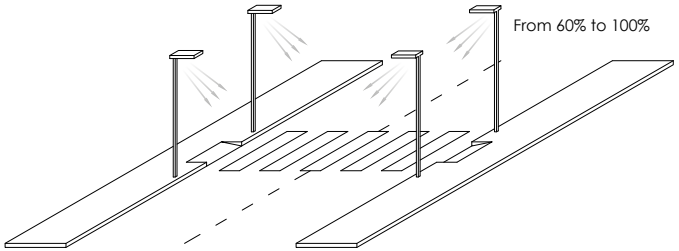


Public toilet

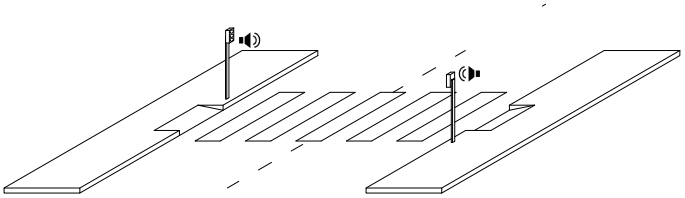
App for the reporting of architectural barrieres and accessibility assessment



Crossroad without height difference

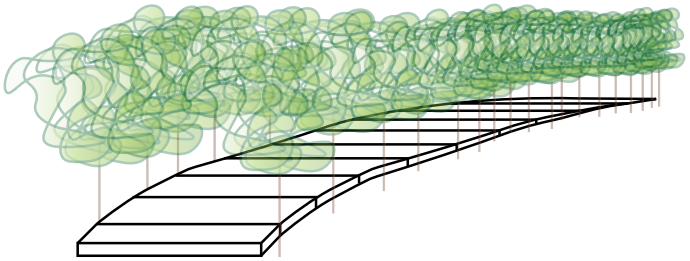


Brighter lighting during the crossing action

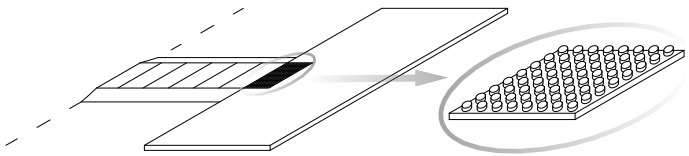


Green light: 1.3 seconds for each meter of the crossroad

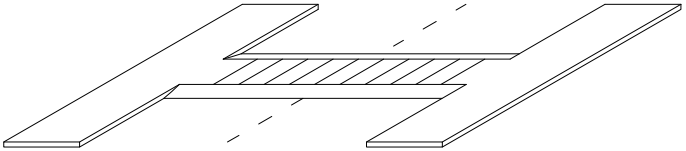
Slower traffic light with acustic signal for blind people



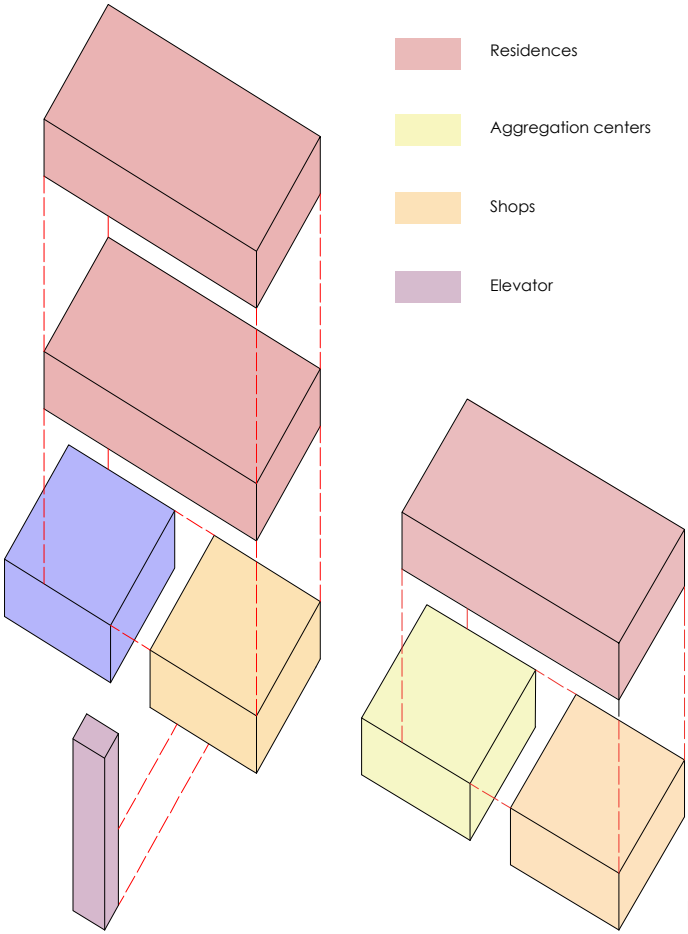
Wheelchair path in the forest



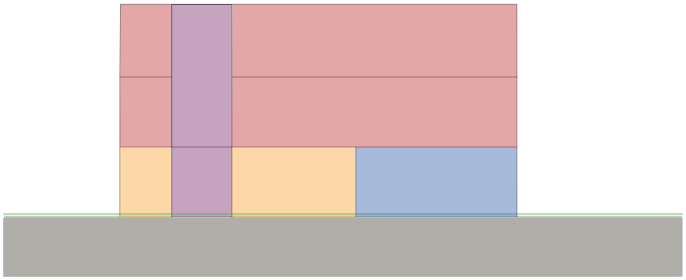
Tactile signal befor crossroad

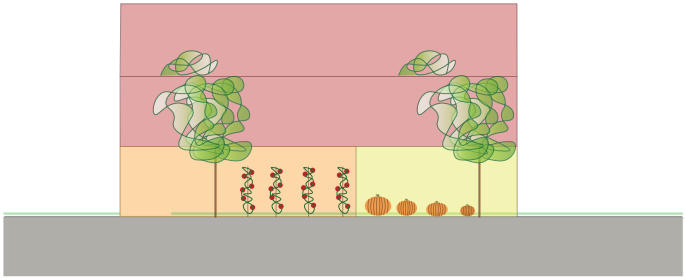


Crossroad without height difference



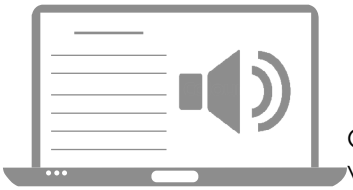
Exploded schemes of social residences and day-centers





Section schemes of social residences and day-centers

Maquette of points of interest for blind people



Government sites with vocal synthesis

BREAKING BARRIERS

SETH AMOFAH

URBAN FARMING

INITIAL ANALYSIS

The powerline is creating viable space for new urban expansion, experimentation and/or development of Põhja (North) Tallinn. The district is known as one of the hotspots in the city of Tallinn which has used similar opportunities to activate and many urban interventions have been used to revive idle spaces such as Telliskivi.

The corridor could be used to foster Tallinn city's Action plan of greenery in for 2013-2025 that will provide eco-diversity in the green space and functioning green network as it handles a bigger challenge of ethnic segregation along the corridor. Põhja Tallinn District is the third least green district in the city just ahead of Mustamäe and Kristine districts.

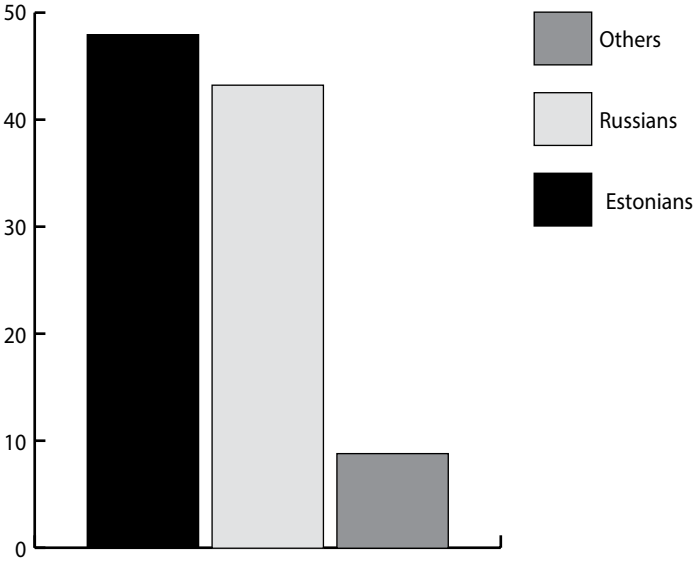
The Powerline Corridor

Green Areas in North Tallinn District

The powerline runs through five urban areas in the district. The powerline has become a boundary separating the respective urban district into ethnic concentrations on both sides of the line. Pelgulinn through Kopli to Karjamaa all on the northern part of the line are ethnic Russian dominated whereas the southern settlements of Pelgulinn to Kalamaja are ethnic Estonian people majority.

Population and Ethnic composition of North Tallinn

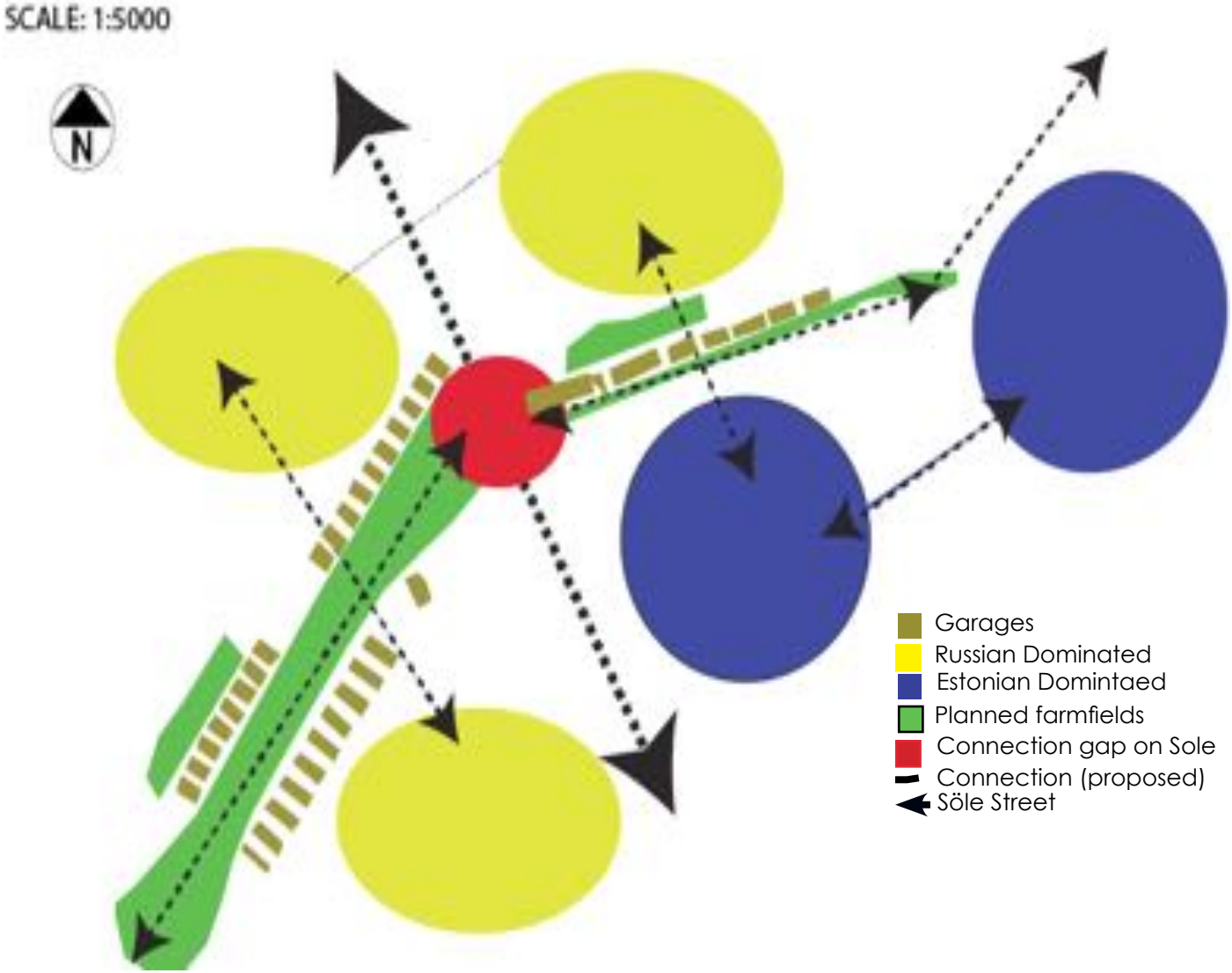
North Tallinn is the second highest russian ethnic residence after Lasnamäe. The 47.9% of Estonian and 43.2% Russian ethnicity in the area makes it ethnically closely divided. The district has Russians have weak economic abilities leading to higher unemployment rate and higher crime rate. The district has the highest number of residents on the city's social benefit subsistence benefit programme in 2015.



Bar Graph Showing Ethnic Composition of North Tallin, July 2016

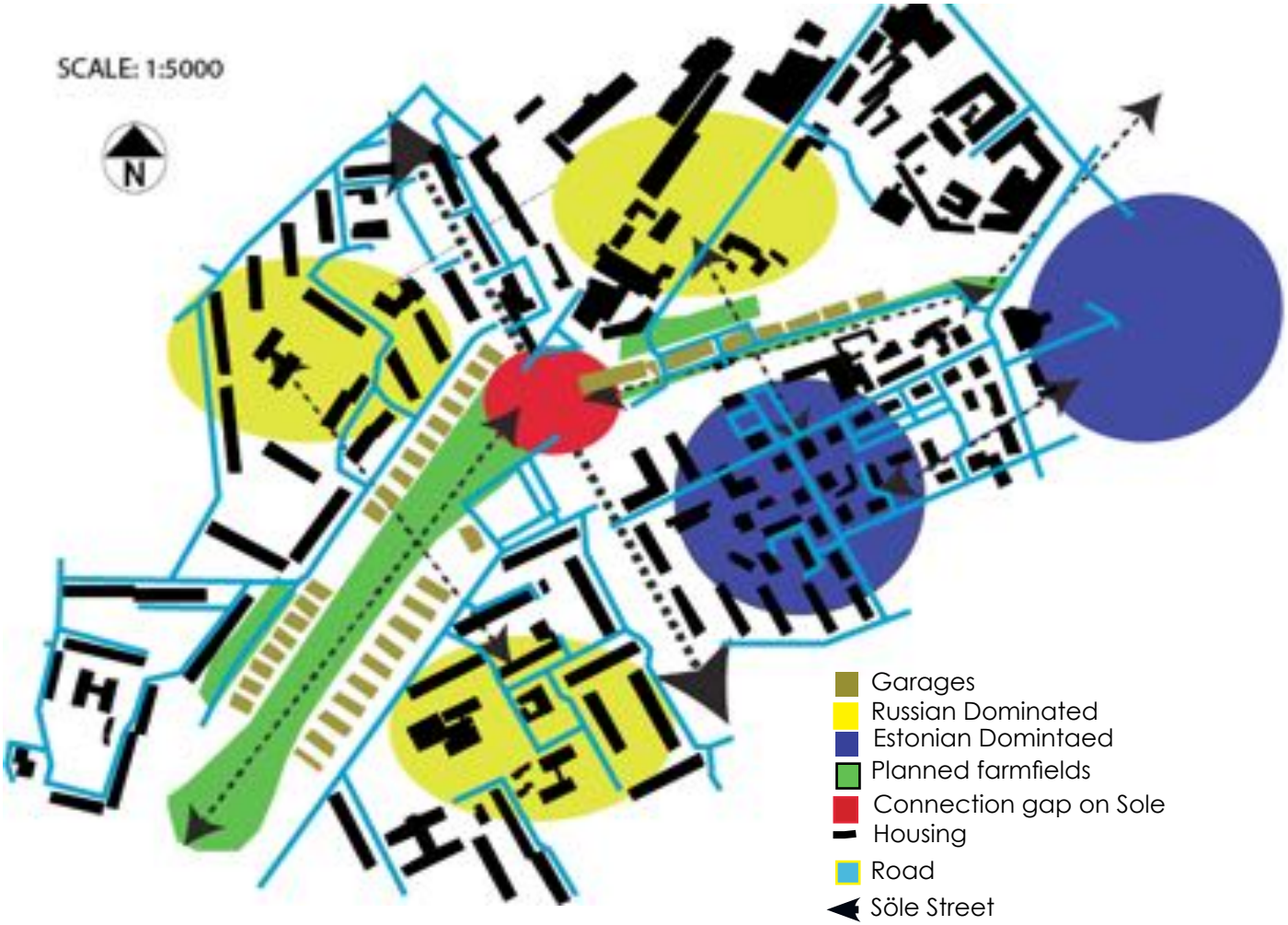
CONCEPT

In an attempt to bridge the ethnic, social and economic barriers between Pelgurana- Sõle Street and Sitsi-Pelgulinn towards the Kopli-Tööstuse street, the garrage area on the corridor will form the main anchor to bridge the areas together through urban farming and farmers market.



Concept Scheme Map for the Urban farm

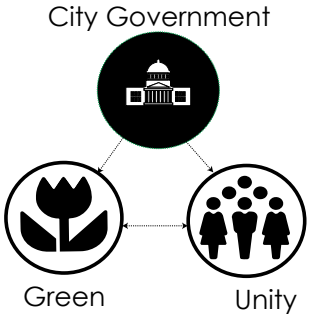
The focus of the concept is to create a continuous access from either sides of powerline through the urban farm which serves as a community 'meeting' place and a walk-through. The current road network is truncated from cording together because of the existing powerline. The urban garden will provide avenue for series of footpaths to link the different settlements along the vehicular roads and courtyards.



Concept Scheme Map for the Urban farm and connections along the corridor.

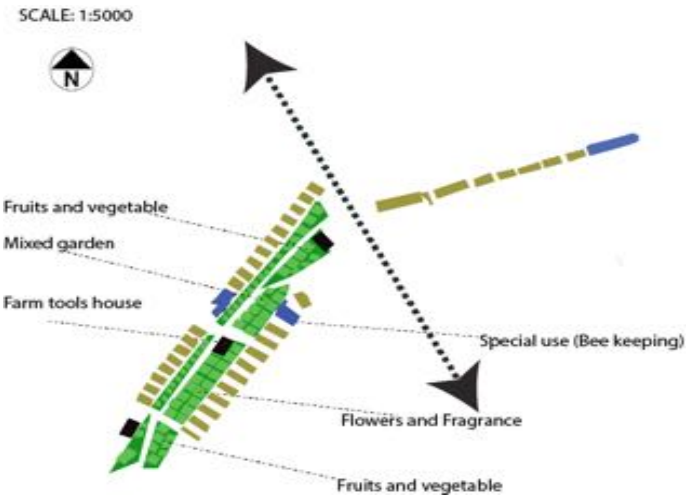
APPROACH

Tallinn City Government in an attempt to achieving the green action plan, will use the new empty powerline as a conduit to mitigate engage neighbourhood associations on the both sides of the corridor to initiate the urban farm. The land being publicly owned makes it easier for the municipality to implement this idea, however, the garages are privately owned. A partnership is therefore required between the public authority and the respective neighbourhood associations. The municipality initiates the urban farming after engagements with the associations by proving the inintial farm inputs, seedlings,inplements and technical support to all residents willing to start the farm in the corridor area. A farmers market is provided to allow farmers to sell their products and wares and also serve as a public space.

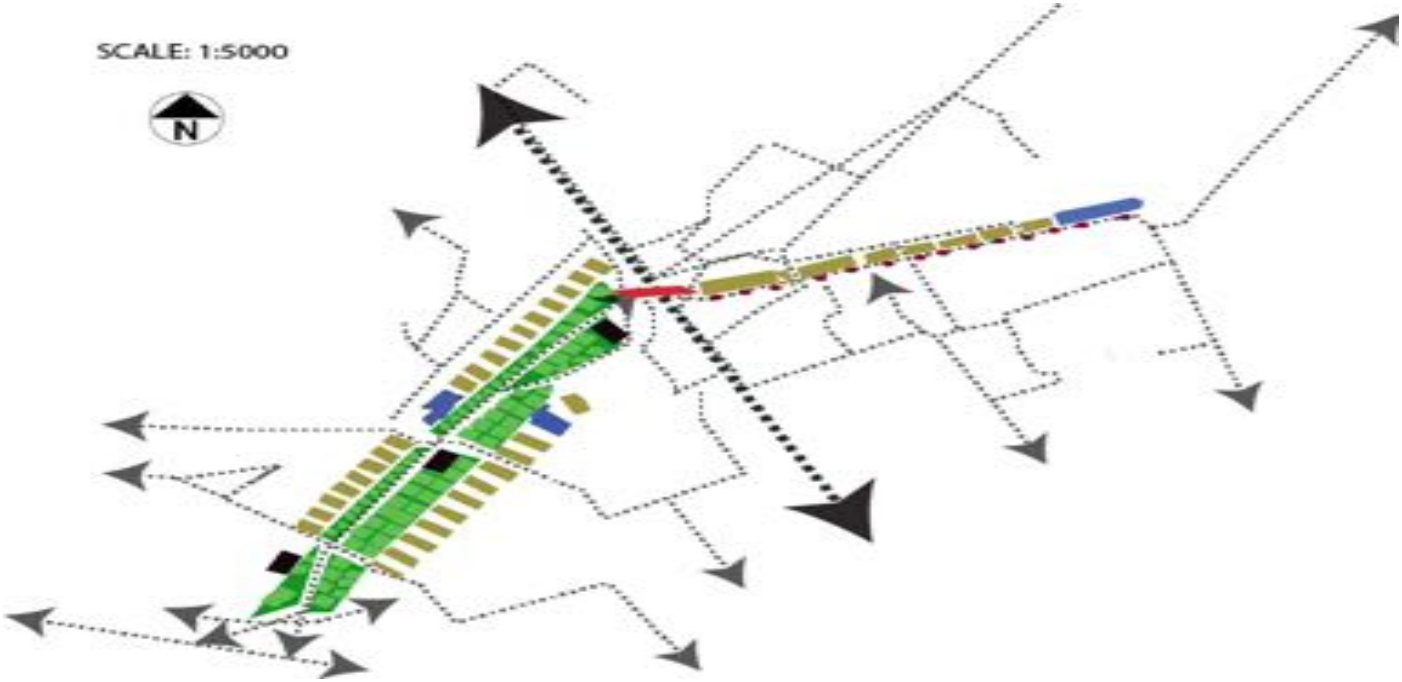


FARMING PRACTICES

The powerline would be empowered to engage in various urban farming practices. The corridor in front of garages would be prepared and demarcated into cultivating different crops, vegetables, fruits and fragrance flowers between April and October each year. To ensure the possibility of crop growth in the cold times small green houses would be built to protect the crops from the severe weather April and October. Industrial used garages will be used as green houses to provide protection for crops and vegetables that cannot stand hot weather of the summer. The green houses will also serve as nursery for the seedlings and young plants.



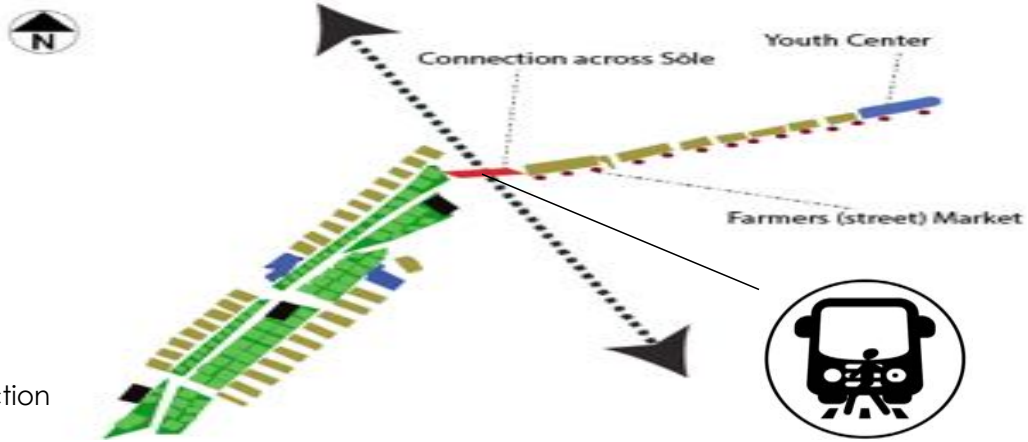
Scheme of the Urban farm practices



Urban farm, farmers market and and human flow scheme

CROSSING SÕLE

Sõle Street is ramped infront of the farm to provide easy access for residents to cross from the area of the market and the settlement all around. The speed ramp is built such that all vehicles would have to reduce to the barest minimum (20 km/h) before they can cross. This in default places the pedestrian and cyclist as the prioritized user of that section of the road.



Sõle Street Connection Scheme

THE FARMFARMING PRACTICES

he farm is bridging the ethnic segregation as well as providing healthy organic food for the neighbourhood and the ecology is improved by the variety of plants cultivated in the space. It also add up to the diversified green spaces as planed in the city's green action plan.

FARMERS MARKET

The garages between Sitsi industrial area and Pelgulinn is the new farmers market. The harvest from the urban garden is brought to the farmers market for sale. This creats another public gathering for the people to interact again and bridge the gap once again. Farmers in the corridor area have the priority in having market stall which are mobile. They are assembled each market day in the open air and taken away at the end of the day.

ART AND CULTURAL CENTER

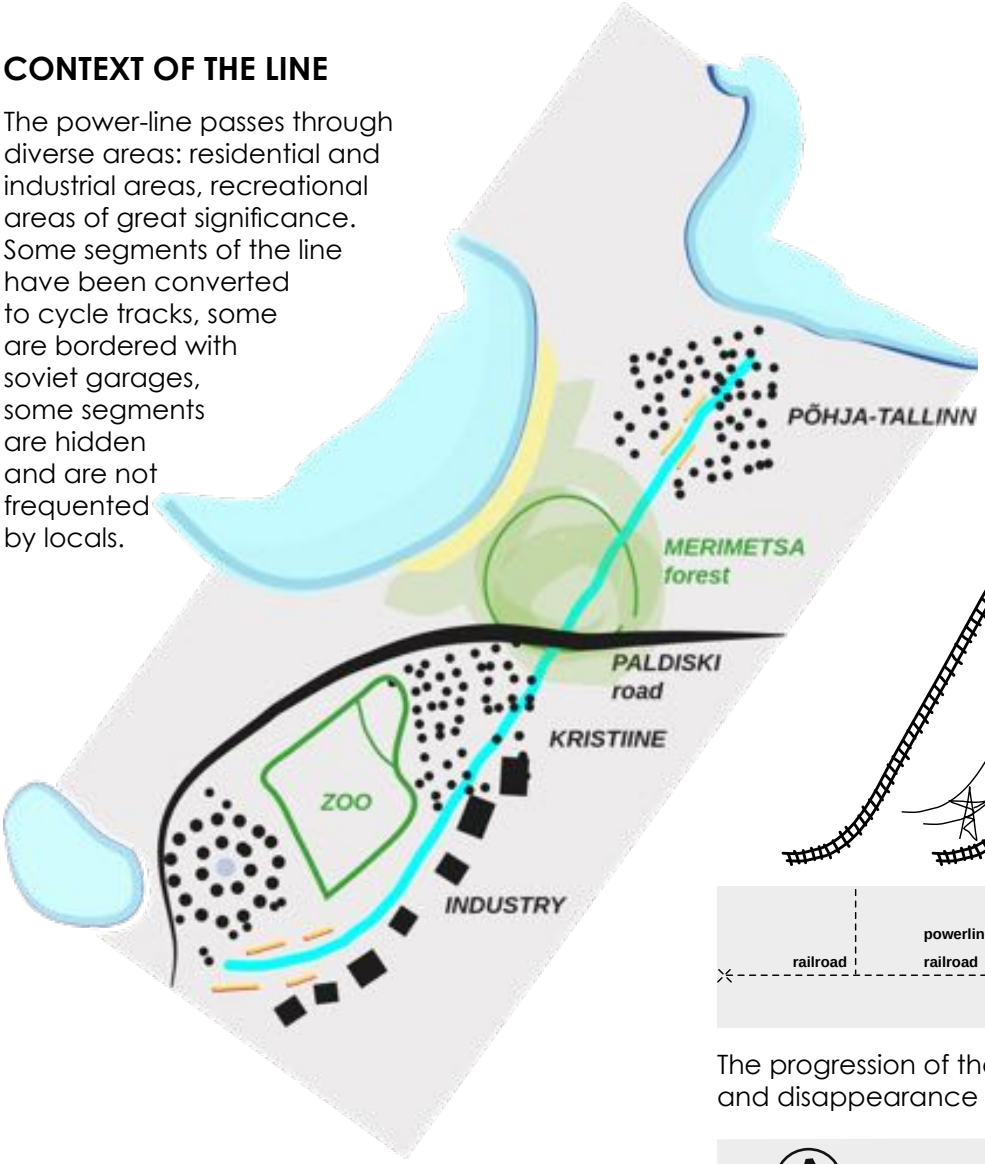
The auto-mechanical workshop at the end of the farmers market close to the Ristiku Street is acquired by the Municipality to serve as an art and free time center The center is used by various age groups for different activities ranging from art exhibitions, musical and craft lessons center, community center and public library. The building will be made to adapt to the different uses temporarily.

THE HUMAN POWER-LINE

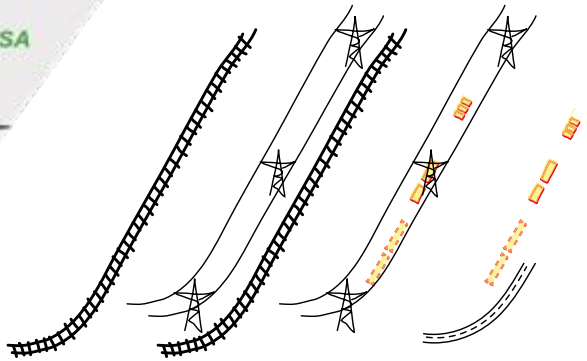
JUHAN TEPPART

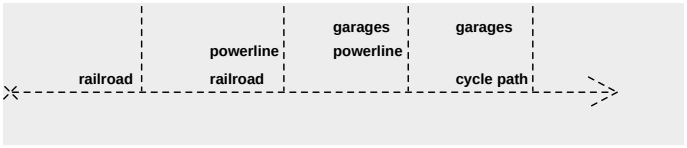
CONTEXT OF THE LINE

The power-line passes through diverse areas: residential and industrial areas, recreational areas of great significance. Some segments of the line have been converted to cycle tracks, some are bordered with soviet garages, some segments are hidden and are not frequented by locals.



Scheme of the line and the surrounding context

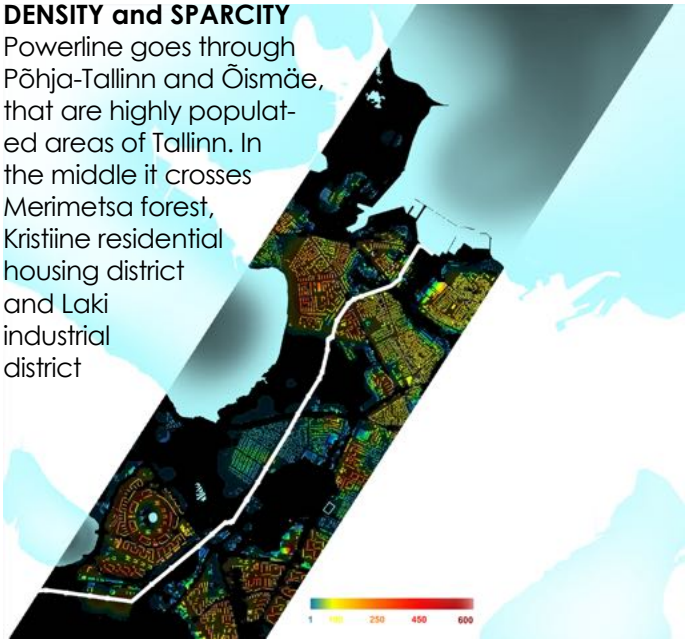




The progression of the line has seen the emergence and disappearance of different functions.

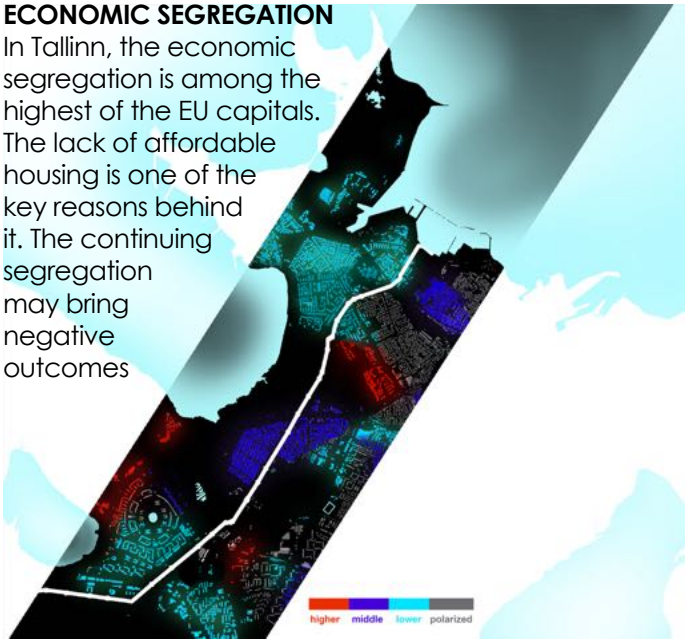
So far the line has been developed like an infrastructural corridor connecting two end points.

DENSITY and SPARCITY
Powerline goes through Põhja-Tallinn and Õismäe, that are highly populated areas of Tallinn. In the middle it crosses Merimetsa forest, Kristiine residential housing district and Laki industrial district



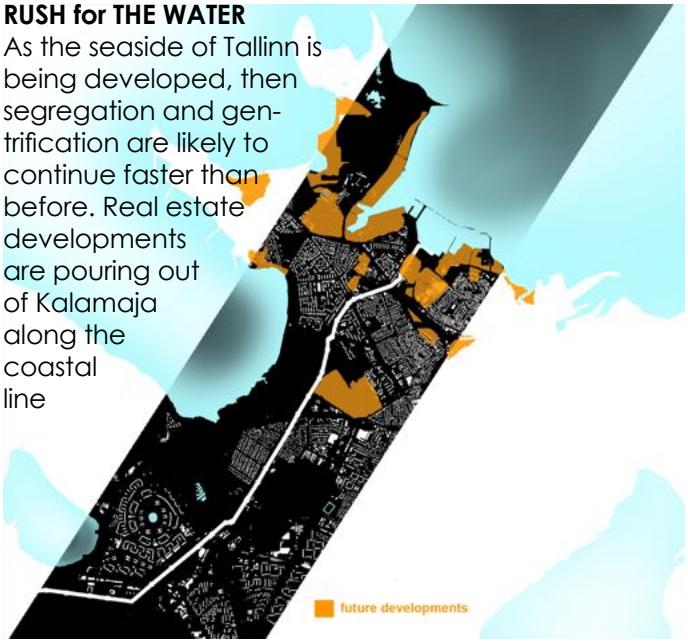
Pop. densities along the line, (persons per hectar)

ECONOMIC SEGREGATION
In Tallinn, the economic segregation is among the highest of the EU capitals. The lack of affordable housing is one of the key reasons behind it. The continuing segregation may bring negative outcomes



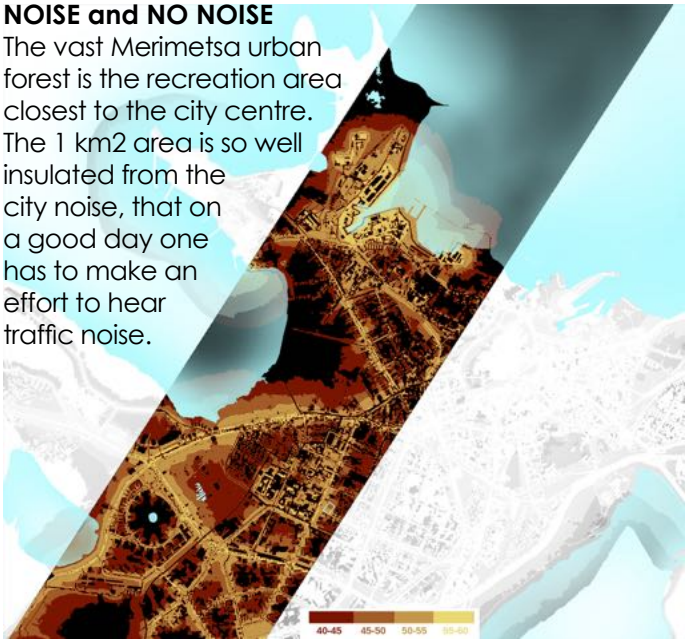
Economic segregation along the line

RUSH for THE WATER
As the seaside of Tallinn is being developed, then segregation and gentrification are likely to continue faster than before. Real estate developments are pouring out of Kalamaja along the coastal line



New residential developments along the line

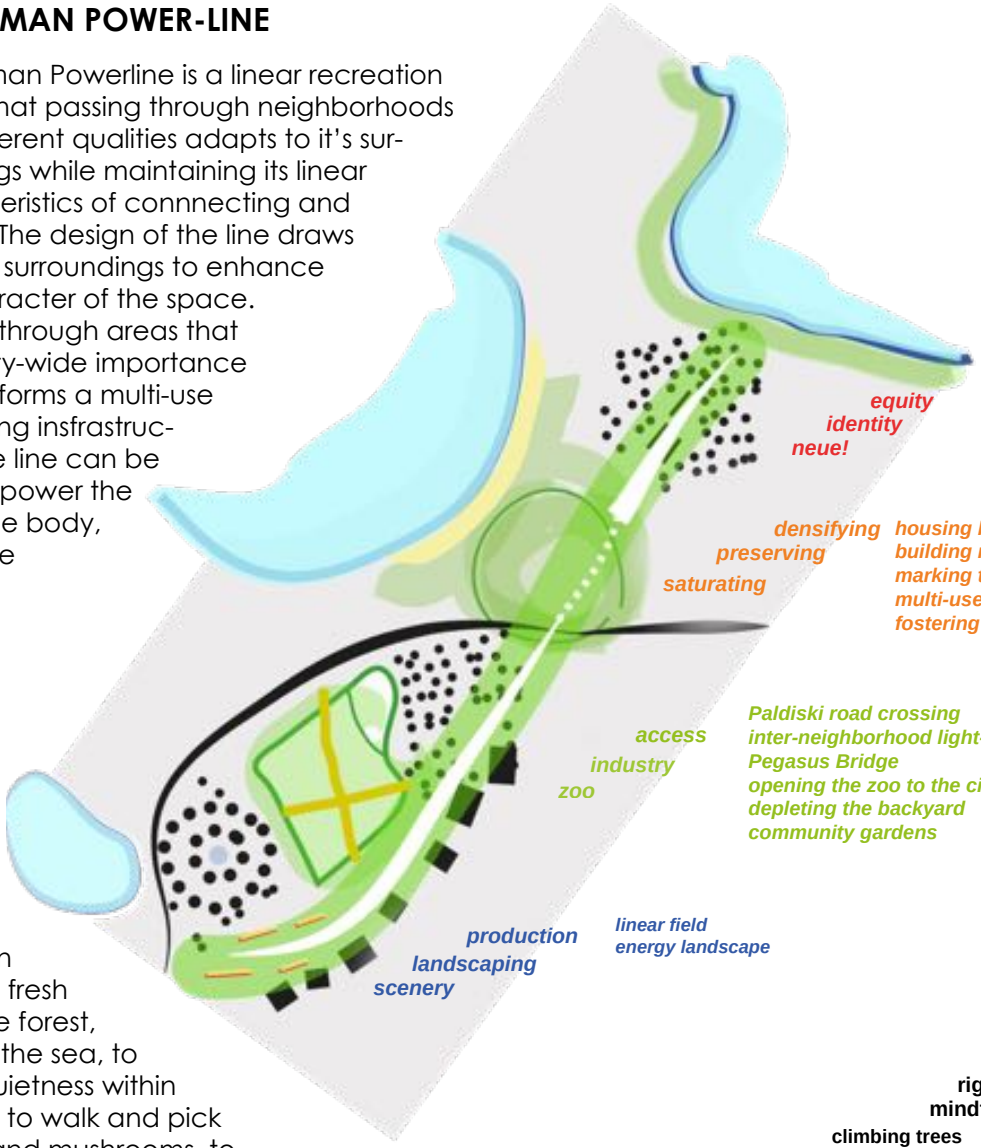
NOISE and NO NOISE
The vast Merimetsa urban forest is the recreation area closest to the city centre. The 1 km2 area is so well insulated from the city noise, that on a good day one has to make an effort to hear traffic noise.



Noise map of the surrounding areas, units (dB)

THE HUMAN POWER-LINE

The Human Powerline is a linear recreation space that passing through neighborhoods with different qualities adapts to it's surroundings while maintaining its linear characteristics of connnecting and uniting. The design of the line draws from it's surroundings to enhance the character of the space. Passing through areas that have city-wide importance the line forms a multi-use well-being insfrastructure. The line can be used to power the mind, the body, to relieve stress.



One can breathe fresh air of the forest, to smell the sea, to enjoy quietness within the city, to walk and pick berries and mushrooms, to cycle, hike, ski, horse-ride, etc. The range of possible activities is wide to include a diverse array of users and benefitters from the Human Power-line.

Concept scheme

Concept keywords

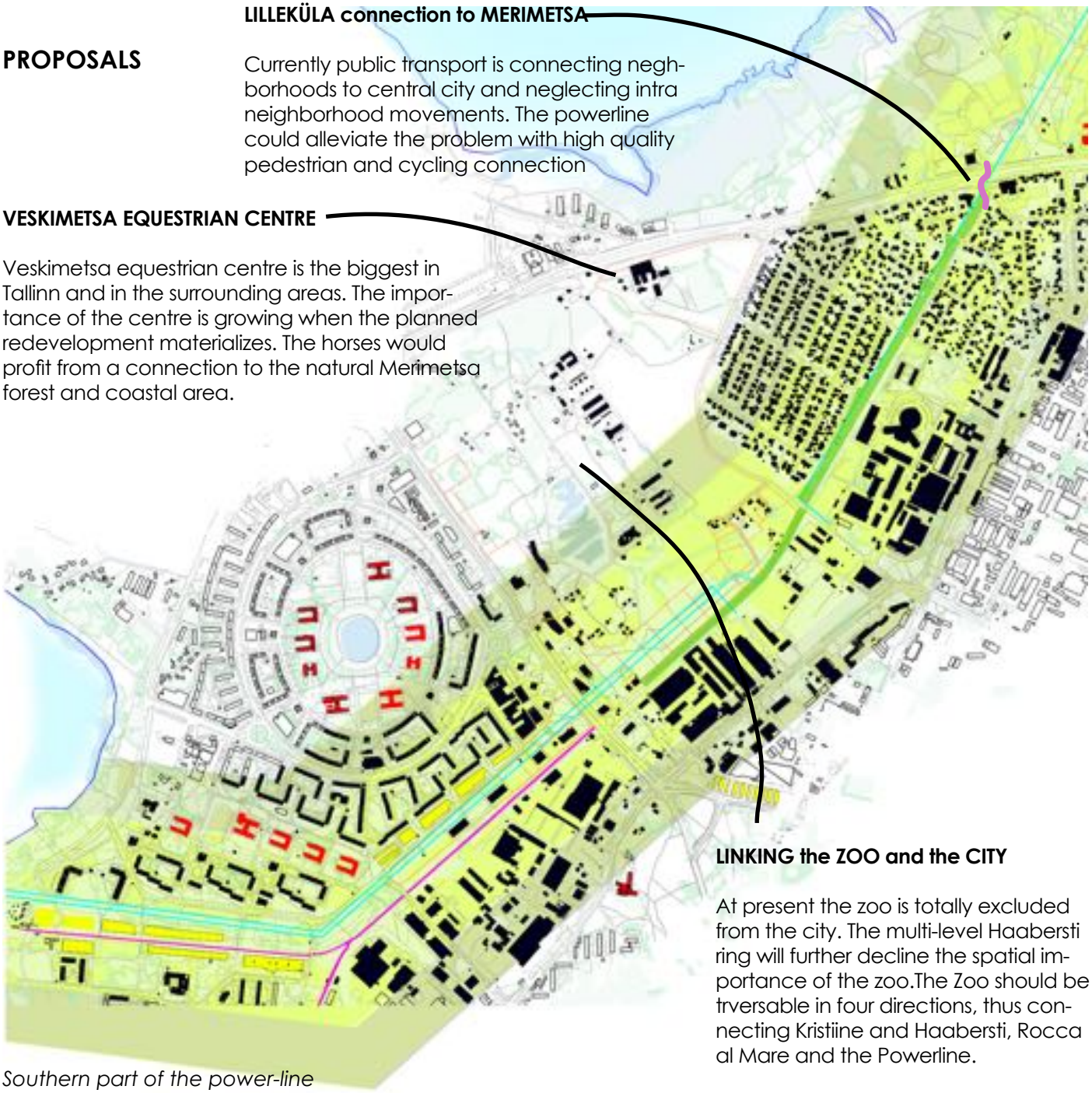
PROPOSALS

LILLEKÜLA connection to MERIMETSA

Currently public transport is connecting neghborhoods to central city and neglecting intra neighborhood movements. The powerline could alleviate the problem with high quality pedestrian and cycling connection

VESKIMETSA EQUESTRIAN CENTRE

Veskimetsa equestrian centre is the biggest in Tallinn and in the surrounding areas. The importance of the centre is growing when the planned redevelopment materializes. The horses would profit from a connection to the natural Merimetsa forest and coastal area.



Southern part of the power-line

LINKING the ZOO and the CITY

At present the zoo is totally excluded from the city. The multi-level Haabersti ring will further decline the spatial importance of the zoo.The Zoo should be trversable in four directions, thus connecting Kristiine and Haabersti, Rocca al Mare and the Powerline.

ERIKA street / START of the POWERLINE

The human powerline begins from the waterfront, intersecting with the planned coastal promenade, connection of two recreational structures strenghtens and forms a recreational network. The beginning is marked with an action node, a sighting tower to gaze at the sea and the powerline

GARAGES into HOUSING

the lines of garages are destined for new housing. The new developments have to take the powerline as the basis of the zoning. A minimal width of 31 m is to be reserved for the recreational are, excluding any through traffic. Pedestrian and light traffic prioritized, public transport reserved for possible tramway connection.

CLOSEST VASTEST REFUGE AREA

Merimetsa is the vastest recreational are closest to the city centre. It boasts different activities, foraging of mushroom, berries, flowers. Sports activities - skiing in winter, hiking, wandering, running, nordic walking, cycling, grilling, horse-riding, moto-cross and so on. It is also an important wildlife area. It is functioning and working well already, it calls for strenghening the identity of the forest.

PRAISING THE QUIETNESS

At present, the line passes through areas that house functions necessitating quiet environment, plenty of medical institutions, kindergardens, schools are whithin 300-500 m reach from the power-line

Northern part of the power-line

ERIKA st - START of the HUMAN POWER-LINE

Erika street is the place where the power-line corridor is the narrowest, 31 m wide. For a city street however the space is more than enough. The proposed design for Erika street has an emphasis on the linearity, of providing good cycling and pedestrian infrastructure and at the same time to introduce the park space within a strip of the street, a gesture to signify the start of the recreation Human Power-line.

NEW TRAMSTOP - a SQUARE

The completion of the Arsenal shopping centre and the new developments nearby call for better transit connections. Placing the tramstop at the intersection strengthens the linear park identity, a square like space forms around the tramstop, that has a good position to catch sunrays.

ARSENAL
shopping centre

ERIKA street / ASPHALT / PARK HIERARCHY

Hierarchy of the streetspace is redefined. There is only one street and one major entrance to the Arsenal shopping center that has asphalt covering. Seven other branches from this section of the street are cul-de-sacs. The entrances to the courtyards have a different surface covering to make the spatial logic apparent.

Kopli-Erika st ROUNDABOUT

Southern part of Erika street

Sighting tower/Square/playground

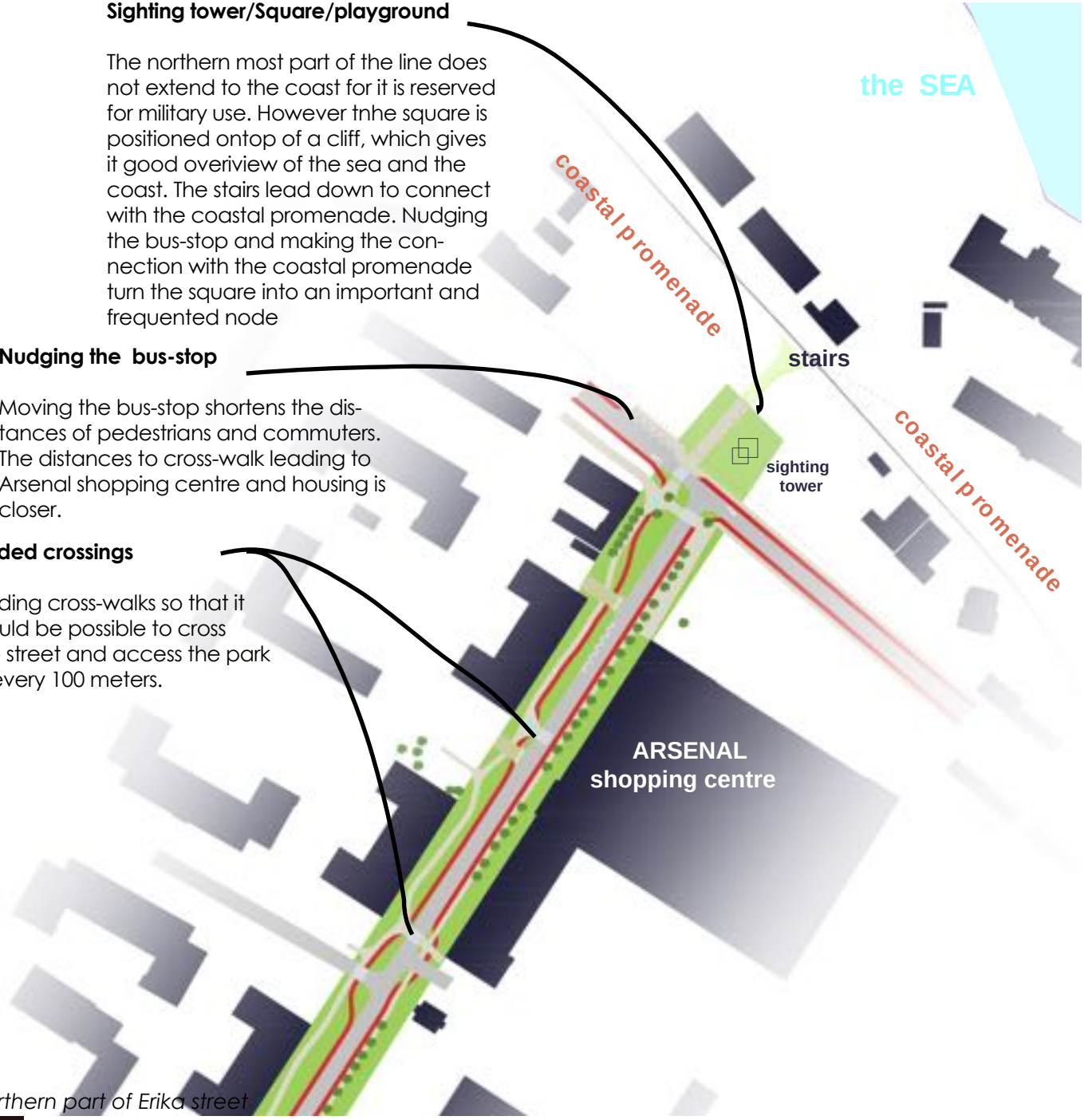
The northern most part of the line does not extend to the coast for it is reserved for military use. However tnhe square is positioned ontop of a cliff, which gives it good overiview of the sea and the coast. The stairs lead down to connect with the coastal promenade. Nudging the bus-stop and making the connection with the coastal promenade turn the square into an important and frequented node

Nudging the bus-stop

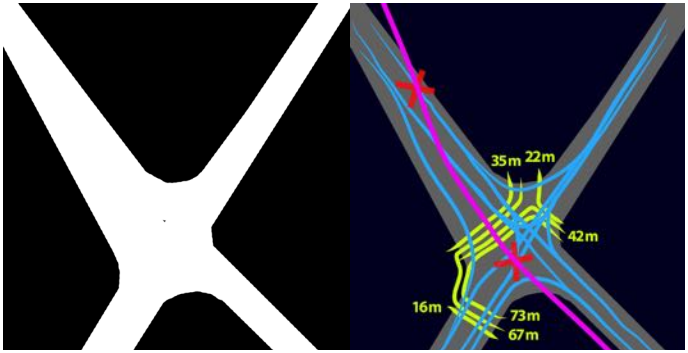
Moving the bus-stop shortens the distances of pedestrians and commuters. The distances to cross-walk leading to Arsenal shopping centre and housing is closer.

Added crossings

Adding cross-walks so that it would be possible to cross the street and access the park in every 100 meters.

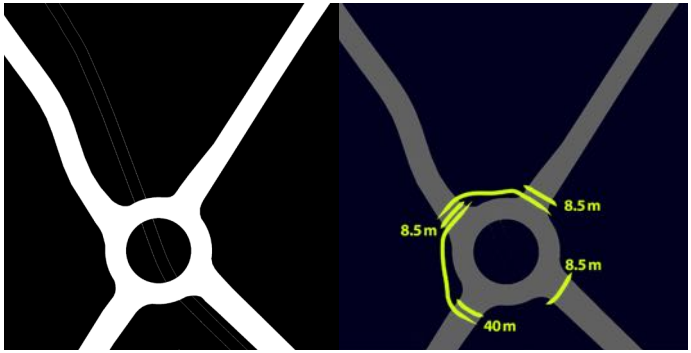


Northern part of Erika street



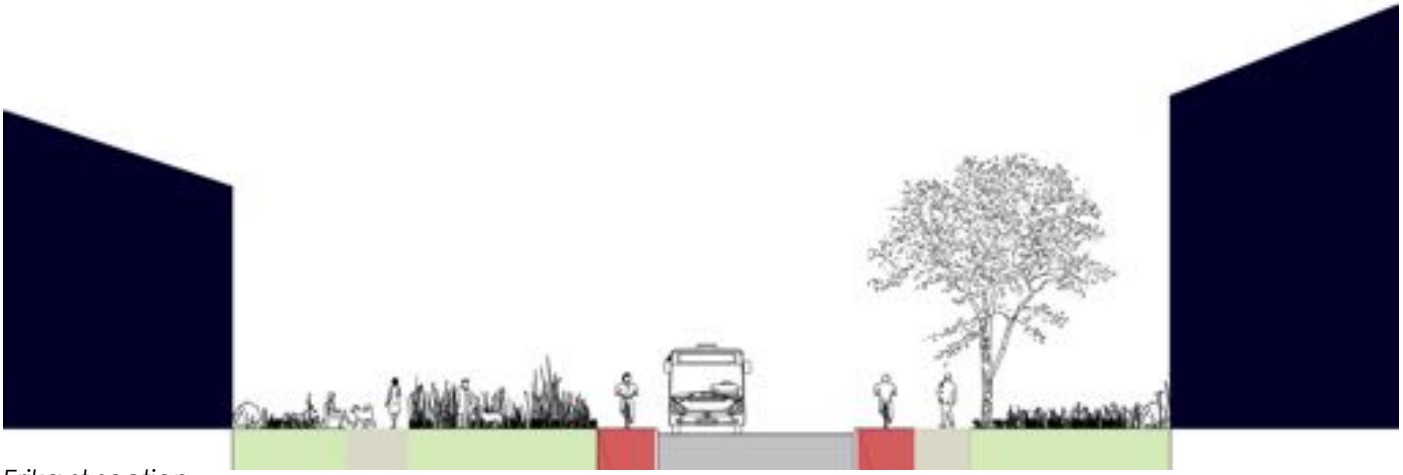
INTERSECTION with KOPLI street

Currently the intersection has two crossings with the tramway, the road geometry favours high speed turns, pedestrian space is poor, distances to cross the street long. The design of the intersection produces an average of 9 accidents per year. In the worst case, pedestrians have 6 car lanes and tram tracks to cross to get to the other side of the street. The total length of pedestrian routes over the intersection is 255 m. In the Netherlands, Amsterdam, Frederik Hendrikstraat, an installment of roundabout succesfully reduced the number of registered accidents at the intersection.



ROUNDABOUT and NEW TRAMSTOP

The completion of the Arsenal shopping centre and the new developments nearby call for better transit connections. Placing the tramstop at the intersection strengthens the linear park identity, a square like space forms around the tramstop, that has a good position to catch sunrays. With the roundabout, the total length of pedestrian routes over the intersection is 106 m.



Erika st section

COASTLINE CONNECTIONS

KASPARAS LUČINSKAS

ACCESSIBILITY TO THE COAST

ANALYSIS

The principal goal of the project is to use the placement of the power grid underground as an opportunity to solve some of Tallinn's problems regarding seaside accesibility and lack of more pedestrian and bicycle friendly connectivity.

The current power grid spans from the western and eastern coast of Tallinn, large sections of which are currently occupied by unused or underused industrial areas, which essentialy function as a barrier that limits accessibility to the seashore.

The existing greenery along the grid mainly concentrates on the western coastline and the greenery in general does not form a coherent network, which would allow pedestrian friendly movement and a more equal distribution of public green spaces.

GOALS

One of the overall goals would be to use the hiding of the power grid as an opportunity to repurpose unused areas in the northeast to open them up to the seashore.

The other goal would be to establish a public green connection between the western and eastern coast, thus providing greater pedestrian accessibility as well as more equal spread of public greenery near residential areas.

SURROUNDING AREAS

DISATVANTAGES

One of the main problem areas is the unused industrial buildup in the northeast, which is completely inaccessible.

Another problematic spot is the railway, which is largely unused and functions as a barrier for pedestrians.

The garage box areas, even though accessible, are currently largely unsuitable to serve as proper public greenery

ADVANTAGES

The western coastline is currently open to the public and is a target of tactical urbanism initiatives, thus giving the site a positive value

The Kalamaja park is a public green area, which serves the needs of nearby residents.

The district of Kalamaja is a popular neighborhood with valuable heritage wooden housing.

The Telliskivi creative quarter is a popular area of town containing entertainment, culture and housing for creative industries.

The forest on the southern side of the area provides typological variety to public greenery, enabling diverse uses and activities.

Stroomi beach is a public green area which is widely used by nearby inhabitants and provides access to the seashore.

PLAN OF ACTION

The plan is to provide incentives for private developers invest into the public spaces and cooperate with planners and the municipality

Thus it would also be in the interests of both the municipality and developers to invest in development of green public areas, which increases accessibility.

By opening up the industrial area for private development, there is a possibility to encourage the developers to also invest in greater accessibility to the site.

The ultimate goal would be to establish a strong public green connection between the coasts, thus increasing accessibility to the seashore and access to greenery

AREA PLAN

AXONOMETRY FRAGMENT

AXONOMETRY FRAGMENT

FUTURE VISIONS