

MORPHOSIS

OF AN ABANDONED URBAN SPACE



ACKNOWLEDGEMENT

“What does it imply when we no longer invent things from the beginning but create them through interaction with what already exists? It is a central question: In what ways can we decode the materials available to us?”

Ellen Braae, Professor, University of Copenhagen

Sometimes, it is hard to put in to words the gratitude you feel for the extensive support of the people involved directly or indirectly in your quest to find answers. What started of as as an internship as a part of the course, turned out to be an amazing experience in my process of learning more about design in general and landscape architecture in particular, the work culture, professional environment and many more. I would like to thank BOGL for giving me the opportunity to be a part of the team, working at BOGL has moulded my thoughts and approach towards design and they have been extremely supportive all through out especially when I was working on my thesis. Jens, name partner, for agreeing to be my guide and finding time to have a consistent dialogue over my progress. His valuable advices and thought provoking questions incited me to explore multitude of possibilities to find the right design solutions.

To Prof. Nicole, whose consent to being my thesis advisor gave me the liberty to consider my thesis as full of possibilities. She has been a constant support, always open to hear my thoughts and furthermore having a discussion on what, where and how? leading to the final presentation. It was an enriching experience to hear your perspective and to learn from you imparting an insight in understanding the various facets to approach a set of given issues.

Additionally, I would like to thank my friends Reili and Lennard, with whom I began the conception of my thesis. The wonderful people I met in Tallinn, who took time from their busy schedules to have a conversation with me and share their thoughts about Linnahall. Mait Väljas (Researcher-curator_Museum of Estonian Architecture), Oliver Orro (Lecturer_Estonian Academy of Arts), Diana Haapsal and Kristel Ratassepp (Tallinn City Planning). Their impressions have added a new dimension to the way I perceive Linnahall and the project as a whole.

My mother for inspiring me to be ambitious, Arya, whose intellectual inputs have led to me to rather unexplored design discoveries and my family and friends who stood by me when I needed them..

Dedicated to

Dad

PROLOGUE

During my visit to Tallinn in 2016, my host, Reili, who studied Culture Heritage and Conservation showed me around and the city taking me through the Old town of Tallinn explaining me the historical significance of this quaint and well preserved medeival town. We walked through the streets of Kalamaja (Kala - Fish, Maja - House) sheltering its architectural legacy of wooden houses built to accomodate the influx of workers that came with the cities rail connection to St. Petersburg in the 1870. We took a stroll in the Kalamaja Cemetery park, the graveyards of which were destroyed by Soviets, a peaceful place close to the sea. Across the street is Lennusadam or the Seaplane harbour, a museum exhibiting the history of old maritime Estonia. Taking a quick peek at the Port Noblessnor we moved on further along the coast bypassing the Patarei Sea Fortress, unique example of military architecture and world-class engineering that served as Soviet-era prison. At this point I came to know about the revitalization of the promenade and as we advanced I saw a behemoth of brutalist architecture looming in the distance, with huge graffiti works painted all over the structure.

Here I meet the **Linnahall**, I had not known then what would the structure mean to me until we were close enough to observe the accessibility of such a huge structure to the surrounding landscape. **It got me thinking to a point where I wanted to explore the nature of connection it can give back to the city of Tallinn.**

ABSTRACT

After the closing down of its concert hall in 2010, discussions for the renovation Linnahall has been an ongoing process with slow progress. All this while the building has been decaying with seemingly bleak future prospects. In an effort to salvage Linnahall and the coastline, it could be said that there was a need for coherence in the relation of various spaces, architecture and regions within the coast of Tallinn.

The thesis attempts to revitalize the coastline of Tallinn and investigates the possibilities on discovering activities and functions of intermediate nature for Linnahall through the intervention of landscape architecture which will bestow it with positive attributes. The proposal in itself is not about imagining how to restore the concert hall to its Soviet era glory but to create a framework that will ennhae the spatial quality for future developments.

Master Thesis

Morphosis of an abandoned Urban Space

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CONTENTS

| | |
|--|----|
| 1.0 Introduction | 01 |
| 1.1 Causality of abandoned urban spaces/buildings | 03 |
| 1.2 Environmental risks of abandoned properties | 04 |
| 1.3 'Broken Windows' Theory | 05 |
| 1.4 Urban Exploration_The consequence | 07 |
| 2.0 Public spaces and the City | |
| 2.1 Need for public spaces and key drivers | 10 |
| 2.2 Kevin Lynch_The image of the City | 11 |
| 2.3 The City model_Copenhagen | 12 |
| 2.4 What makes Great places ? | 13 |
| 2.5 Guidelines for designing Great cities_Jan Gehl | 15 |
| 3.0 Precedent Study | |
| 3.1 The Highline_New York_US | 17 |
| 3.2 Paddington Reservoir garden_Sydney_Australia | 21 |
| 3.3 Waterfront_Aalborg_Denmark | 25 |
| 3.4 Kalvebod Waves_Copenhagen_Denmark | 27 |
| 4.0 Tallinn Estonia | |
| 4.1 Tallin and its coastal development | 30 |
| 4.2 Demographics | 31 |
| 4.3 Climate factors | 32 |
| 4.4 Tourism | 34 |
| 4.5 Comparison : Other european cities | 34 |
| 5.0 Influential deveopments | |
| 4.1 Kultuurikilomeeter_Culture Kilmoeter | 37 |
| 4.2 Tallinn Port Development_Zaha Hadid Architects | 39 |
| 4.3 Kesk-Küla by Kadarik Tüür Arhitektid OÜ | 41 |
| 6.0 Site Context | |
| 6.1 Architecture, Museums and View platforms | 44 |
| 6.2 Public park and Open spaces | 45 |
| 6.3 Regions in direct relation to the coast | 46 |
| 6.4 Spatial and movement corridors | 47 |
| 6.5 Kalamaja_Site neighborhood | 48 |

| | |
|---|----|
| 7.0 Linnahall | |
| 7.1 History | 50 |
| 7.2 Plans, section and elevation | 51 |
| 7.3 Timeline of functionality | 52 |
| 7.4 Dissection of Linnahall_various spaces | 53 |
| 7.5 Anatomy of Linnahall | 54 |
| 7.6 Discussions during Site Visit | 55 |
| 7.7 People and Linnahall | 56 |
| 7.8 Special provisions for renovation of Linnahall | 57 |
| 7.9 Linnahall_The Haves and Could haves | 58 |
| 8.0 Site | |
| 8.1 Defining the Site | 60 |
| 8.2 Site Precinct_detailed hierarchy | 61 |
| 8.3 Site images | 63 |
| 8.4 Visual Analysis | 65 |
| 9.0 Evolution of Design | |
| 9.1 Phase 1 | 68 |
| 9.2 Phase 2 | 71 |
| 9.3 Morphosis of an abandoned space | 75 |
| 9.4 Masterplan_1:4000 | 77 |
| 9.5 Design Features and Elements | 79 |
| 9.6 Detail plan_ and Visualizations_Linnahall+Promenade | 81 |
| 9.7 Detail plan_ and Visualizations_Museum plaza+Play | 85 |
| 9.8 Detail plan_ and Visualizations_Lennusadam | 87 |
| 9.9 Detail plan_ and Visualizations_Underpass | 89 |
| 9.10 Planting plan | 91 |
| 9.11 Material study_Kinetic tiles | 93 |
| 10.0 Epilogue | 95 |
| 11.0 Bibliography | 97 |
| 12.0 Appendix | 98 |

I.0 Introduction



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The cities of 21st century have been on a constant path of expansion since the days of industrialization. Though they are depicted as lively places bustling with human activity, things become more equivocal when you look closer. Economic crisis, bad urban planning or urban pauperization are some of the many reasons that explain the existence of derelict spaces/buildings that local authorities and developers gradually forget about. Due to its immobile, indestructible, and fixed supply nature, the value of a land parcel is often determined by its location, condition, demand, access, restricted use (zoning), future plans, and social value (Coleman 1982; Peirce 1995). The use of land within the urban settlements is therefore of high importance when defining the spatial characteristics of a city. The abandoned or neglected urban buildings/spaces over a period of time start gaining notoriety among the common people as its use becomes more and more redundant. Around this time these spaces start being taken over by the graffiti artists who vent out their emotions, others make it their home ground for drug abuse due to the space's less interaction with its surrounding context.

Recently, the exploration of disused urban spaces have gained popularity with many photographers and thrill seeking adventurers, venturing in to these seldom looked into spaces of the history that are in the process of being forgotten. Urban Exploration (Urbex), as it is also called, does also create an awareness about the structure of the now defunct buildings that the present generation haven't earlier known about. These buildings and spaces though are gradually worn down, what would it mean when they stand isolated in the context of ever growing cities? How could their untapped potential be explored by retaining its history and moulding it to fit the current urban fabric.

an illustration of how unused space in an existing fabric lacks coherence

To involve the public in creating a mass awareness of the scenario we are faced with would be an initiation in making them understand the importance of the heritage, the history and how the future could be contemplated, contextually. One of the many questions we are seldom faced with the elimination of these sites are, Is it really worth aligning our developmental plans with the globalization aspect of creating more and more assets of commercial value while totally disregarding a city's past and how it came to be? There is indeed a growing need for a new approach towards city planning that focus on making it more environment friendly and human-centric. Addressing the existing city spaces to create a framework in to which the city would grow could become an essential aspect of this pragmatic outlook.

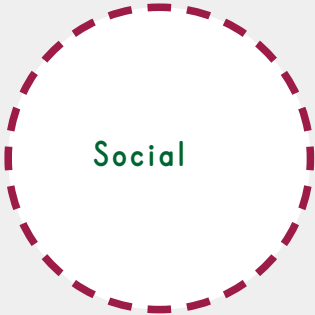
"Old ideas can sometimes use new buildings. New ideas must use old buildings."

Jane Jacobs

1.1 Causality of abandoned urban spaces/buildings



Heritage preservation
Land use changes



Changing neighbourhood preferences
Land contamination



Land demand and supply
Market mechanism
Demographic change



Public policy making

The characteristic of any unused urban space gradually tend to become as : wasteland that simply occupy space between various activity/functions in the city. The most important aspect of these, though are the ones that are affected in the above description, their uniqueness. These sites have potential of contributing to the community depending their level of integration by preserving or enhancing their distinctive character. Depending on their location, abandoned areas can be converted into different facilities. Every city has such vacant spaces that are waiting to be adapted to the current urban fabric so that they can be part of the total cityscape. For example, in Thailand, property developer AP Thai, with help from digital agency CJ Worx, transformed small and irregularly-shaped plots into practical football fields, which question the limits of urban environments in order to illustrate the belief that ‘space can change one’s life’. In this case, an unused space is modified to affect the everyday life of a community as whole.

Abandoned areas mostly depict fractures in the history of cities, for instance the decline of an entire industry. Depending on their former function, buildings that are left behind are located in the heart of a city, or at an attractive spot next to a river or by a lake, which is where most industrial factories used to be placed (Anja Graner). Over the years as the city expanded and industrial developments experienced transformations many of these spaces eventually became ‘used lses’ rather than useless. But the beauty of the aged buildings has been described in Jane Jacobs’, The death and life of great American cities as:

Among the most admirable and enjoyable sights to be found along the sidewalks of big cities are the ingenious adaptations of old quarters ro new uses. The town-house parlor that becomes a craftsman’s showroom, the stable that becomes a house, the basement that becomes an immigrants’ club, the garage or brewery that becomes theater, the beauty parlor that becomes the ground floor of a duplex, the warehouse that becomes a factory for Chinese food. the dancing school that becomes a pamphlet printer’s, the cobbler’s that becomes a church with lovingly painted windows_the stained glass of the poor_the butcher shop that becomes a restaurant: these are the kinds of minor changes forever occurring where city district’s have vitality and are responsive to human needs.

1.2 Environmental risks of abandoned properties



Roof Leaks
and Mold

The growth of mold is accelerated in the case of dilapidated or detereorating building constructions due to the increased possibility of water intrusion through rofing materials and sprinkler systems.



Asbestos and
Lead Paint

Release of asbestos and lead paint in the old buildings during the renovation or demolition works.



Dumping

Once it is common knowledge that the property is abandoned it becomes a fairly familiar practice of dumping wastes and other garbage in the building site and its grounds.



Criminal
Activity

The abandonment eventually leads to less and less people moving in and around the site and can open up possibilities for people looking for nooks and corners for the carrying out of illegal activities without disturbances.



Storage and
Tank leaks

Unamintained and unknown storage tanks can lead to the contamination of the soil when they leak and its hard to identify the source. The storage drums carrying the chemicals and materials used in case of past operations release as the drums are susceptible to structural breakdowns.

Icons source : <https://thenounproject.com>

1.3 The “Broken Window” theory

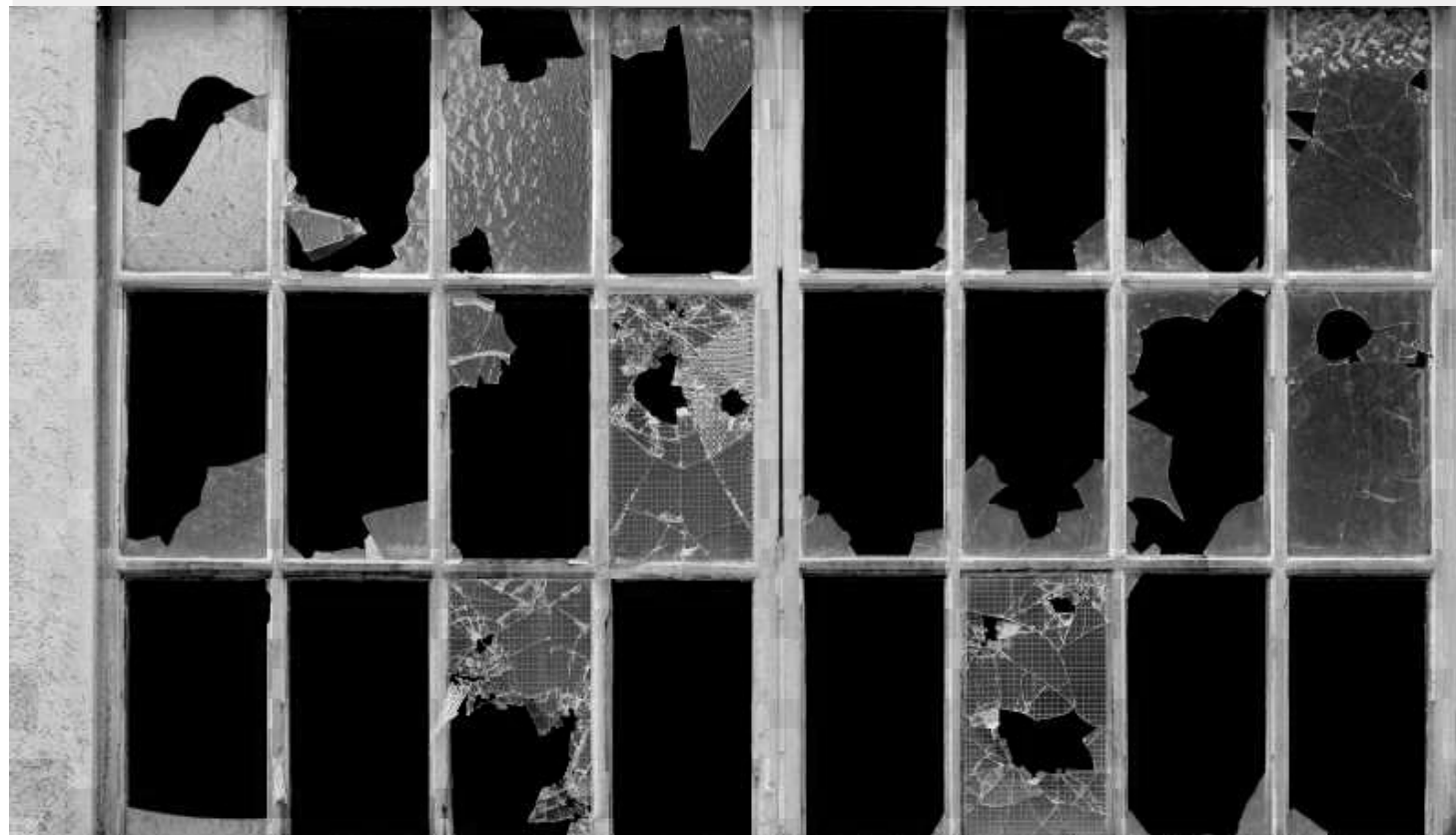


Image source : www.safeopedia.com

Broken Window Theory (Fig. 1) was an outcome of ‘Broken Window’, a 1982 article by criminologist James Q. Wilson and George Kelling. The theory states that an ordered and clean environment, one that is maintained, clearly indicates that the criminal behaviour is not tolerated within the community. Inversely, a disordered environment, one that is neglected (broken windows, graffiti, excessive litter), sends the signal that the area is not under constant surveillance/attended to and there is little to no risk of detecting criminal behaviour. These physical signs of disorder were thought to be visual reminders of neighborhood deterioration that eventually would result in institutional disinvestment, decreased interest in a community, migration and resident avoiding social interaction (Sampson & Raudenbush, 1999; Perkins & Taylor, 1996; Xu et al., 2005).

The theory assumes that any particular landscape or urbanscape of a city “communicates” to people. This, though has an emphasize on built environment attempts to relate it to the human behaviour. As we live in a space dominated by the constant presence of buildings, the sociological effect of it on the people cannot be ignored.

A successful strategy for preventing vandalism, according to the book’s authors, is to address the problems when they are small. Repair the broken windows within a short time, say, a day or a week, and the tendency is that vandals are much less likely to break more windows or do further damage. Clean up the sidewalk every day, and the tendency is for litter not to accumulate (or for the rate of littering to be much less). Problems are less likely to escalate and thus “respectable” residents do not flee the neighborhood.

Kelling’s original interest in “minor offences and disorderly behaviour and conditions” was inspired by the initial contributions of Jane Jacobs’, *The Death and Life of Great American Cities*. The first thing to understand is the public space peace of cities has to be kept primarily by an intricate, almost unconscious network of voluntary controls and standards among the people themselves and enforced by the people themselves (Jane Jacobs). This clearly paves for an unwritten rule of the streets for the people using it and how that has a long term impact on the neighborhood and a city as a whole.

“Consider a building with a few broken windows. If the windows are not repaired, the tendency is for vandals to break a few more windows. Eventually, they may even break into the building, and if it’s unoccupied, perhaps become squatters or light fires inside. Or consider a pavement. Some litter accumulates. Soon, more litter accumulates. Eventually, people even start leaving bags of refuse from take-out restaurants there or even break into cars.”

Broken Windows, 1992

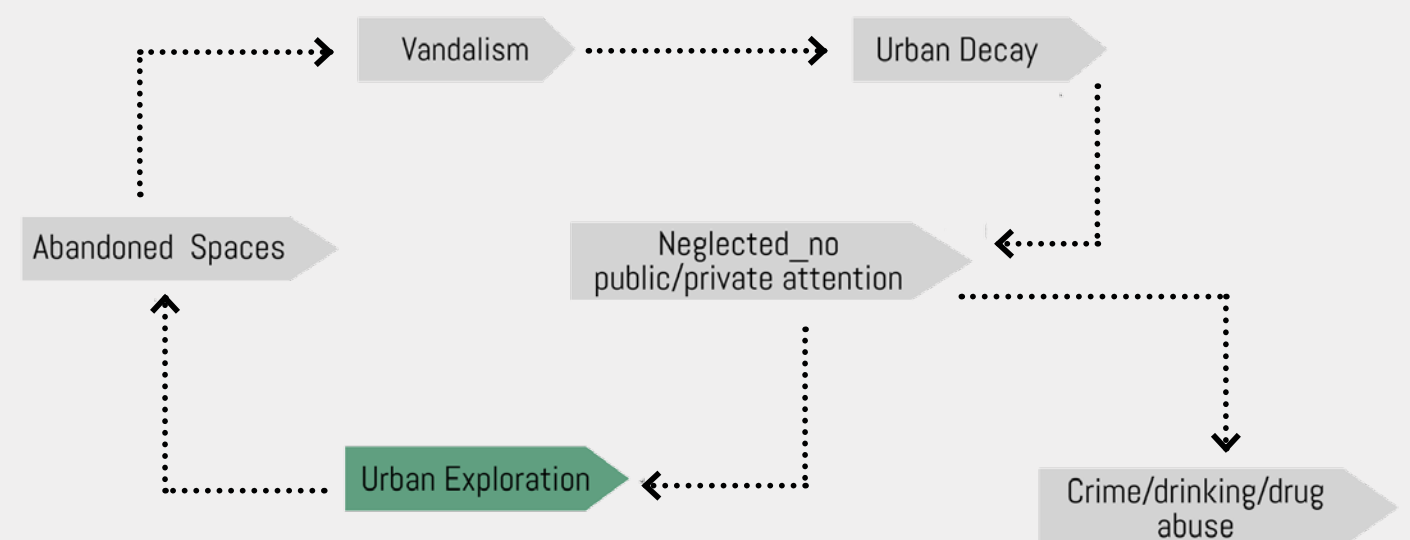


Fig.1 The chain of events based on Broken window theory

1.4 Urban Exploration (Urbex)



© David de Rueda

The art/act of exploring, researching or documenting the abandoned places is in a broader sense called as Urban Exploration (Urbex). Sometimes these hulking structures lay rotting in the middle of the city and sometimes they are in the quiet suburbs abandoned and waiting in silence. These are places isolated from the “normal” world, places most people rarely venture into or see.

The people who do these does for various reasons(Fig. 2) but the most important aspect is of the significance of what they do. It is more often lost upon us that this also helps us understand a structure and could also motivate to return it to a more useful and productive way to the daily lives of the public than letting these spaces while away useless.



Architecture



History



Photography



Graffiti art



Curiosity



Ethos of Space

Fig. 2 Why people explore abandoned urban spaces

2.0 Public spaces and the city



Image source : <http://estonia-paradise-of-the-north.blogspot.dk>

Cultural
significance

provides a
platform for
the social de-
velopment of
individuals

Hierarchy of
spaces within the
city

creates a
breathing
space in the
city for its
people

by 2050 , approximately
70% of world population
will be in urban
environments

for its ability to
drive economic
growth

high ratio
of youth
moving in to
cities

enhance a city's
character and
its architectural
diversity

transformation
of abandoned
urban spaces

2.2 The image of the City _ Kevin Lynch

Clarity and legibility, although may not seem the most important character of any city, they become more and more vivid as we approach the urban context in a human scale. The size, character and time of the space blend together to form an amalgam of complex environments that cannot be perceived when considering the city as a thing rather than as a living being with all of its inhabitants. There is a consistent use and organization of definite sensory cues from the external environment. This organization is fundamental to the efficiency and to the very survival of free-moving life (Kevin Lynch).

Paths

They are corridors along which the user moves – customarily, occasionally and potentially. For most of the people those are the primary elements as they relate the surrounding environmental image in reference to the path it is associated with. They may include not only, but also, the various streets, pathways, highways, rails etc.

Nodes

A strategic loci, in the city's otherwise organic/planned sprawl. The observer's attention to detail is heightened and perceive the elements with an unusual level of clarity. It is at these places that people pause to make decisions. They can be both junctions or concentration of characteristic like in the case of many European cities' old towns.

Landmarks

The physical characteristics of a building/element by its virtue of uniqueness in an urban context may seem to anchor a casual observer's view. These landmarks become a system of identifications spread throughout the city that people use for navigation. Its quality is usually strengthened by merit of its location at a junction involving path decisions.

Districts

An area more often characterised by the similar traits into or through which an observer moves. The physical features that determine thematic continuities which may consist of an endless varieties of components: form, space, texture, details, symbol, building type etc. The boundaries of a district varies in typology from being hard to soft and in certain cases almost indistinct.

Edges

They are the sequential elements not a part of the path but that creates divisions between 2 phases like walls, shores or edges of developments. People tend to look up to these penetrable barriers that help define a region as organising features that hold together the area.

Many kinds of cues are used: the visual sensations of color, shape, motion, or polarization of light, as well as other senses such as smell, sound, touch, kinesthesia, sense of gravity, and perhaps of electric or magnetic fields. The complication of a well directed and precise in fine detail environment is its ability to inhibit the emergence of new patterns of growth and activity. Its overwhelming adherence to the present becomes a hindrance for its future. In contrast, what we as human beings seek is not a conclusion but an open-ended order capable of sustained further development. The distinctive aspects of a city's images can thus be classified as follows:



Paths



Nodes



Landmarks



Districts



Edges

Images source : The image of the city

2.3 The City model_Copenhagen

Until 1962, all streets in the medieval city centre were filled with cars and all the squares were used as car parks. As car traffic increased, conditions for pedestrians were rapidly deteriorating. On 17 November 1962, Copenhagen's main street, Strøget was pedestrianised. The conversion stirred up debates many arguing that a pedestrian street would never work in Denmark. However although scepticism was high, the new car free environment proved extremely popular with local residents from day one. This marked the beginning of a gradual transformation that has continued ever since. Today Copenhagen has a vibrant city centre that attracts visitors throughout the year. Today the city of Copenhagen has over 96 000 m2 (of which 33 % is street and 67 % city squares) of car-free space. While pedestrian traffic levels have remained largely unchanged over past decades, activities connected with stopping and staying are almost four times greater than in 1968. The summers see many locals and tourists enjoying the sun in the cafes and open spaces. A lot of music festivals are organized during this time and many people arrive from different parts of Europe to be a part of this vibrant atmosphere. While during the winter, ice skating and few other activities take the center stage.

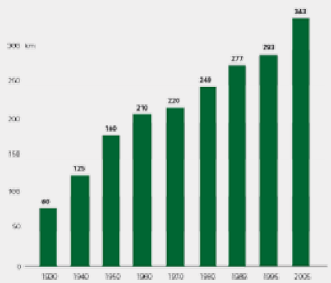
Instead of wide, noisy streets in and out of the city and six storey underground parking all over the city centre, Copenhagen has opted for fewer cars and an extremely attractive city centre. Copenhagen is living proof that it works'.
Jan Gehl and Lars Gemzøe, 1996



Evolution of Public spaces



Images source : Public space public life_Jan Gehl



Growth of Cycle lane network in Copenhagen

Images source : Urban design for people lecture by Jan Gehl

The steady increase in the length of cycle lane suggests that gradual investments have been made in the development of the bike infrastructure and the city has been reaping its benefits as it continues to be featured as one of the most bike-friendly cities in the world. Green bikeways are established these years – for bicycles only and in a green environment throughout the city. Green waves are established on main bicycle routes with traffic lights timed in favor of bicyclists going an average 20 km per hour. The challenges in the increase of congestion are addressed by the city by widening the bike lanes at strategic locations.

Timeline of walking street



1962 - First pedestrian promenade - 15,800 sq.m



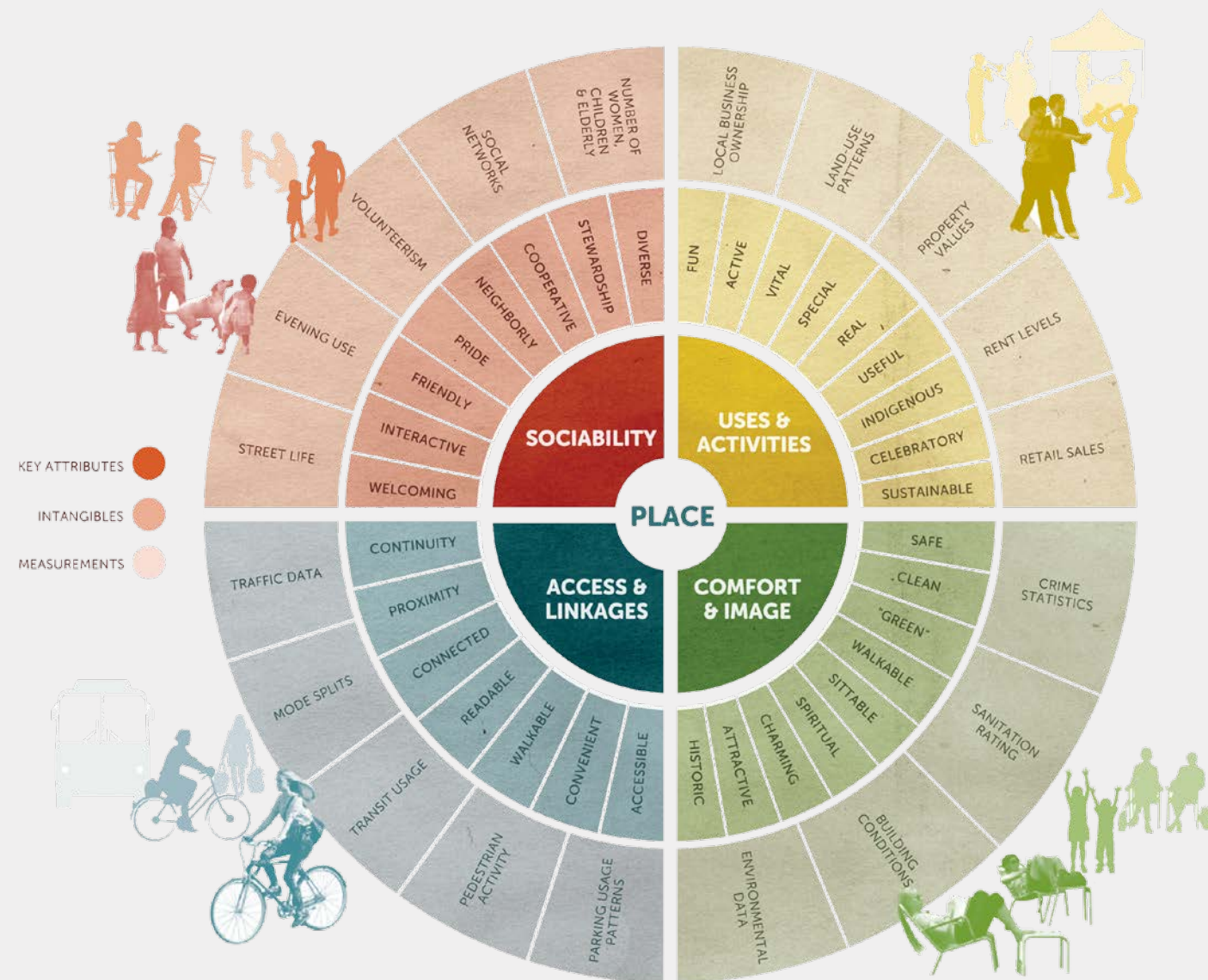
1973- Connection of the pedestrian streets to important locations - 49,200 sq.m



2005 - Network of car-free streets and squares - 99,700 sq.m

Images source : New city spaces_Jan Gehl

What makes “Great Places”?



Images source : <https://www.pps.org>

Sociability

The social value of public space is wide ranging and lies in the contribution it makes to 'people's attachment to their locality and opportunities for mixing with others, and in people's memory of places' (Dines and Cattell et al., 2006).

The public spaces have the quality of bringing together people within the community. These interactions act as catalyst in promoting a sense of place amongst people. This in turn is a basic requirement for a place to feel safe. The spaces have to actively involve the people and assist them to evolve various activities that will shape the nature of the public space.

Uses and Activities

The absence of principle purpose that could generate a varied amount of activities in a space tend to hurt its quality even if its located centrally. The need in this context is to study the user groups and base the functionality of the public space on differential groups who will come together to use the space. Activities could also be created with active participation of the community and people will eventually relate to the place as their own.

PUBLIC SPACE

Access and Linkages

It can be essentially determined whether the space is used regularly or not by looking at the access of the space to the public. It is very important that the spatial character of the space is legible visually and physically to the surroundings. In order to keep the spaces safe for pedestrians and playing children the edges has to be designed accordingly, for eg. markers that block vehicular movement in a pedestrianized street and clarity for the bike tracks.

Comfort and Image

The fact that any public space is naturally linked to its regulation of safety is a common knowledge. While the feeling of security and comfort is vital it should give out the vibe which welcomes people to any public space. This boosts its image and encourage more and more people in using the space creating a vibrant atmosphere.

Jan Gehl Cities for People

Guidelines for designing great Cities _ Jan Gehl

Jan Gehl, has been studying the urban life and people's movement ever since he and his wife, psychologist, Ingrid Gehl went to Italy after receiving a scholarship. They investigated the interaction between public space and public life in comparison to the 'lifeless' architecture that had started to emerge in Denmark. Their early studies in Italy, of registering movement and behavior, as well as the identification of 'life' patterns in urban spaces, formed the basis for Jan Gehl's books, research and the foundation of Gehl Architects. After his return to Denmark, Copenhagen became his urban laboratory with studies being conducted by him as well as colleagues and students from The Royal Danish Academy of Fine Arts, School of Architecture, in Copenhagen. The extent of studies were substantial taking over various seasons - spring, summer, fall and winter - as well as during the day, evenings, weekdays and weekends. The observations that had been made since 1968, have regularly recorded how public space is utilized and what changes and developments have occurred with respect to life in public spaces. The purpose of this lengthy process was to begin to understand the patterns of life which were taking place in the public spaces and to test methods with which to study these patterns.

According to him, the main problem that the cities have accumulated over the decades is their planning principles that has centered around automobiles instead of considering people at the core of an efficient way of developing the cities. As the cities grow to accommodate the growing population it is estimated that by 2050, 66% of the world's population will live in the cities. This alone, urge the urban planners reconsider the kind of planning strategies that have been adopted for the development of cities. Jan Gehl lays out a set of guidelines to which a city can attach itself to recreate the lost urban spaces and reclaim the public life, making a city livable, healthy, safe and promote sustainable environment.

Stop building 'Architecture for cheap gasoline'

Every city in the world is plagued by the macro issues of climate change and public health which has its contribution from the automobile industry gaining popularity in the early 20th century. A study indicates the shorter life span of people living in suburbs as they regularly use vehicles to commute in comparison the city dwellers who walk more. Nobody knew about that, or thought about that, when cheap gasoline and affordable cars were streaming into society (Jan Gehl).

Making Public life the driver for Urban design

Inspired by Gehl's works and his vision, the city of Copenhagen created a framework plan, 'A metropolis for people', laying out strategies for making Copenhagen the best city in the world. The suggestions encouraged people to move out of their private spaces and become an integral part of the city. This helps improving the urban life and supports a healthy society. They said that if people spend more time in the public spaces, the city becomes safer. It becomes more exciting and more interesting. And it furthers social inclusion. This is an important part of having a democratic society: having citizens who can meet each other in the course of their daily doings, and not only seeing different people on television or on screens (Jan Gehl).

Design for Multisensory experience

The examples of Venice and Brasilia are often quoted as extremes to the human experience of a city. The former being considered by Gehl, epitomizes a city that engages all of our senses, and, in effect, becomes an environment tailored for a thriving public life scaled to the individual and latter broke this rule to make the automobiles happy.

Making transportation more equitable

Today we face an inescapable challenge of social equality which has been on the rise as a by product of increase in real-estate demands and higher land values. This tends to push the lower income group to the city's fringe whence the higher proportion of the income is spent on family's transportation. The inequality becomes more evident when the city center is occupied by people with higher income who spend less on the same.

Banning of Cars

He emphasizes, "The automobile was a good thing in the 'Wild West' of Detroit in 1905. It's not at all the smart mode of transportation for the general population in a city of 10 or 20 million people, like South America, Africa, and Asia. The days of the automobile as something for everyone in the world are definitely over." It is high time the city reclaimed its spaces for the people than paving way for more infrastructure that eventually will lead to more.

3.0 Precedent Studies

3.1 HIGH LINE

Location : Manhattan, New York, USA
Architects : James Corner Field Operations, DS+Renfro and Piet Oudolf
Project Year : 2009
Length : 21 kms
Aim : Reclamation of an abandoned elevated viaduct on the city's West side railway line



© Andrew van Leeuwen



© Iwan Baan



Fig. 3 Masterplan of Highline

Image source : www.pinterest.com

The Highline viaduct (Fig. 3), a portion of the New York's West side line was built in 1934 as an improvement to the street-level railroad tracks down Manhattan's west side. The 1.45 mile long elevated steel structure had freight trains running on it until the 1980. During the 1990s the line was unused and in need of maintenance but the

structure was sound and it caught attention of some of the urban explorers and local residents who noted the vegetation they had grown atop. They formed an organization called 'Friends of Highline' which has been creating the scheme for its revitalization ever since. The design has been done in 3 phases with the last one completed in September 2014.

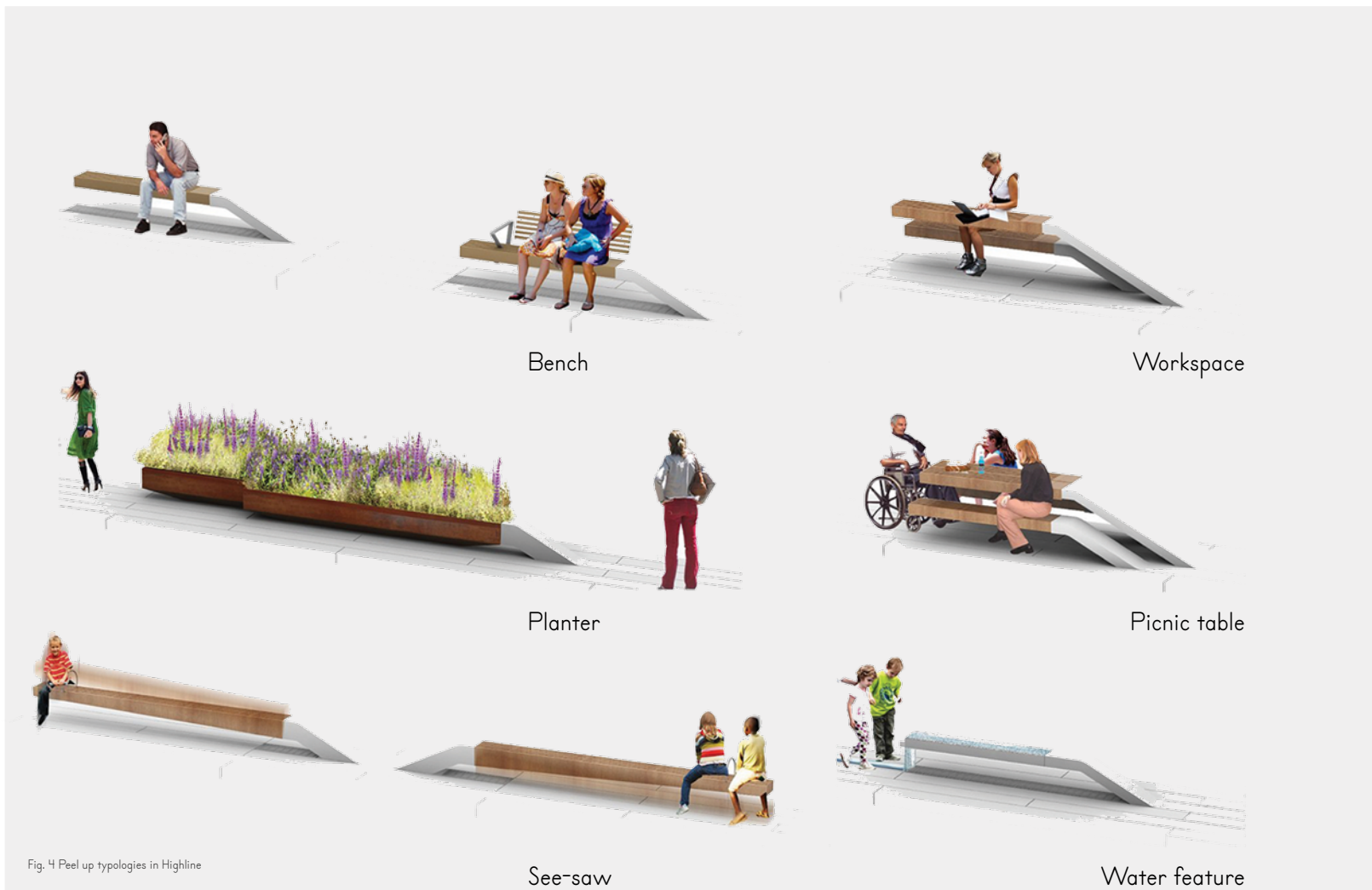


Fig. 4 Peel up typologies in Highline

Of the many of the inventions and inspirations that High-line has nurtured and inspired, the peel up typology (Fig. 4) for various activities piqued my interest the most. The idea that one element can lend a coherence to the whole project in a way with each feature having its own identity still be a part of the whole have a huge impact in the perception of the landscape. The average walking speed of a person is measured as 5km/hr and to design a myriad number of landscape elements could be overwhelming for the perceiver. Through this approach James Corner and the team of architects carefully choreographed a path that encourages the user to experience the landscape rather than focusing on its components.

Also, notable is the consideration of different age groups that would be using these peel up typologies. There is one for everyone and is integrated well in to the landscape. As in a normal park these introductions are designed to be 'along' the way, as we progress in a direction of our movement they evolve in their function accordingly. The access to site at different intersections, depending on that particular street's pedestrian traffic, has played an important role in determining the kind of typology to be placed in a section.

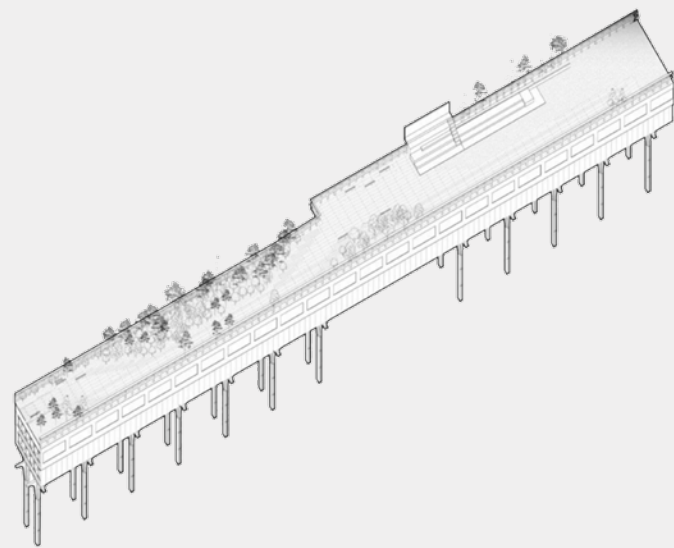


Fig. 5

The axonometric view (Fig. 5) shows the coming together of various elements - the elevated rail line, seating, peel up typology, the forest. If the design was to explore the possibility of any one of these extensively, it would have been evident that the process had lacked in finding the right mixture of activities to rejuvenate the space.

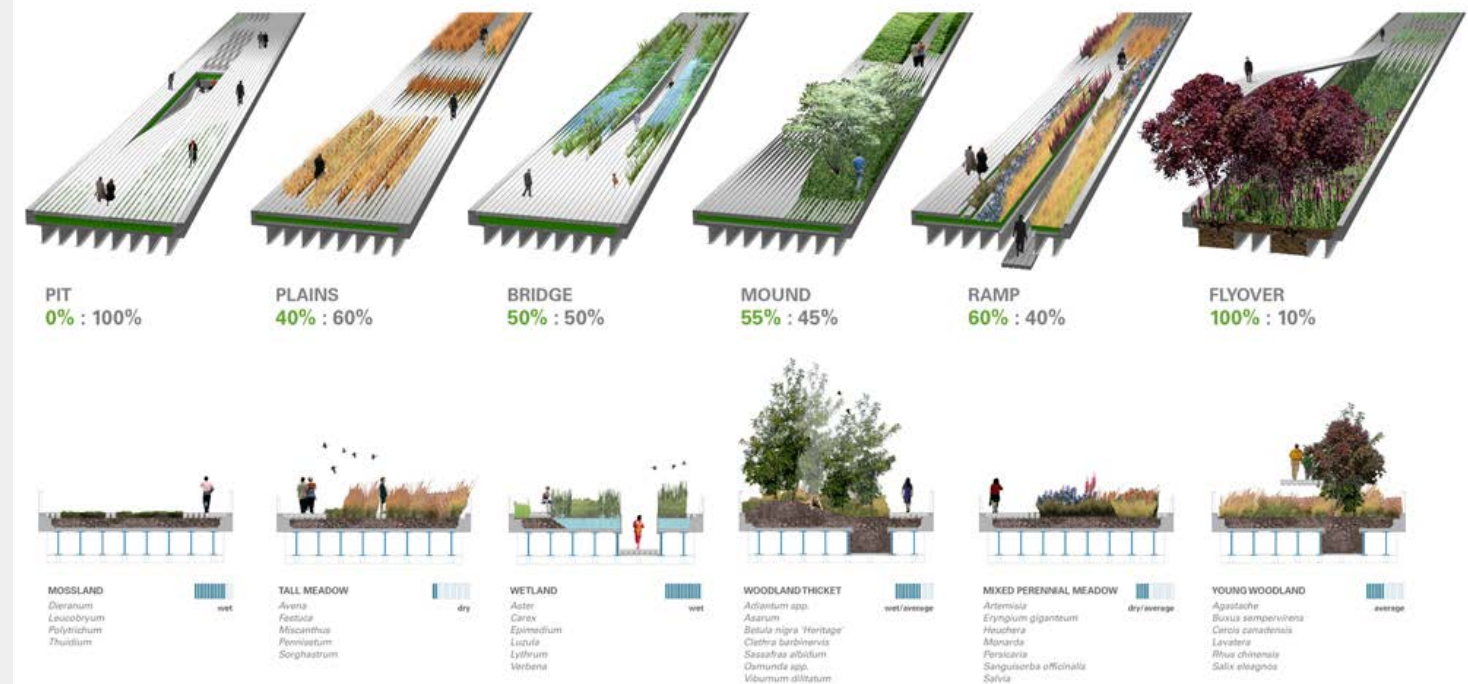


Fig. 6 Diversity in park infrastructure

"By opening the paving, we allow the plants to bleed through, almost as if the plants were colonizing the paved areas. There's a sort of bleeding or suturing between the hard paving, the surface for people to stroll on."

James Corner

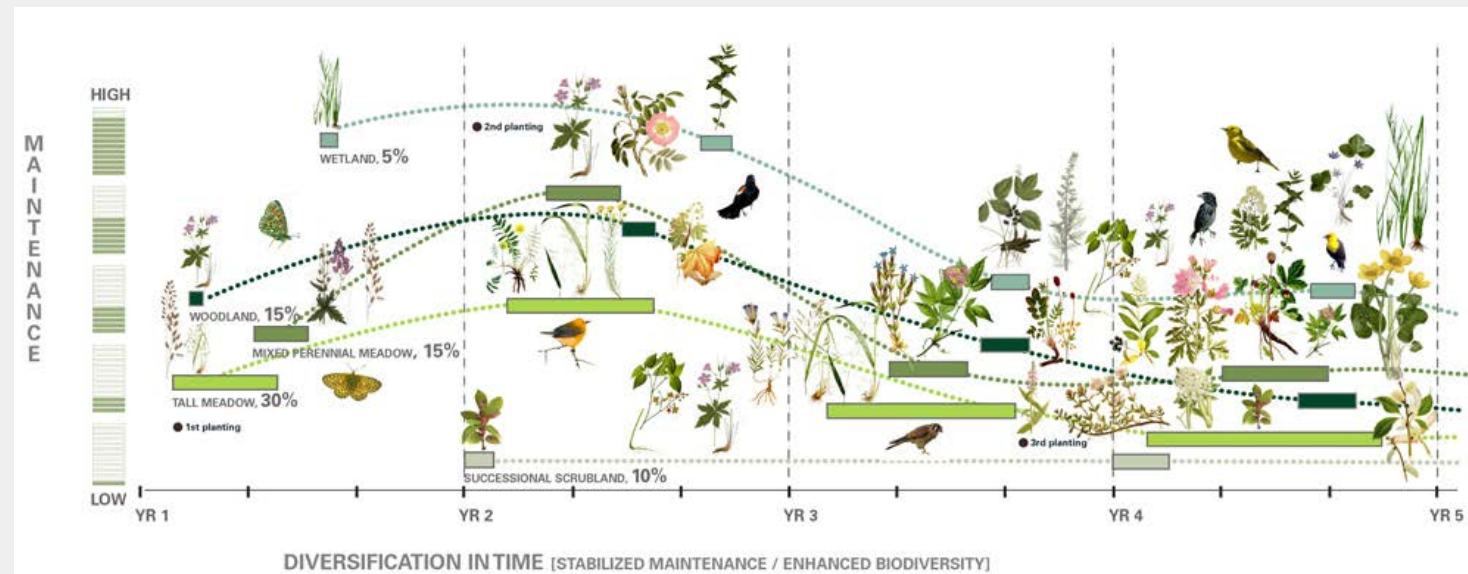


Fig. 7 Biodiversity in the Highline

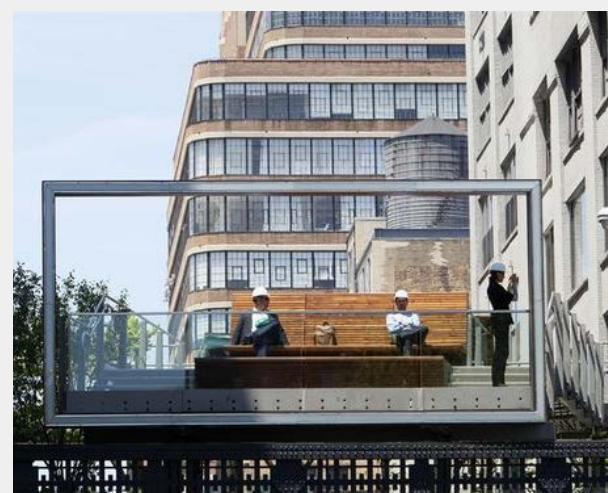


Fig. 8

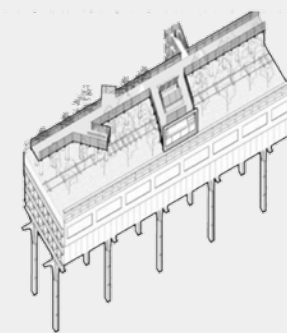


Fig. 9

The graphical presentation (Fig. 6) of the progress of biodiversity over the years is an interesting example of how the designers considered the future of the project.

The frame (Fig. 7 and 8) on the pier provides for a vantage point within the city which works both ways for the pedestrians on the street as well as people enjoying a stroll on the Highline.

3.2 PADDINGTON RESERVOIR

| | |
|--------------|---|
| Location | : Sydney, Australia |
| Architects | : Tonkin Zulaikha Greer Architects + JMD Design |
| Project Year | : 2009 |
| Area | : 2800 sq.m approx. |
| Aim | : Stabilize the structure and insert new functions in a way that maintained the compelling atmosphere found in the ruins. |



© JMD Design



© TZG Architects

Project Description

When TZG and JMD were commissioned to convert the Paddington Reservoir into an urban park, the general expectation was that the site would be capped off and a brand new arrangement built on top. However, we were captivated by the possibilities of revealing the 19th century structures as a ruin through which members of the public could wander, taking in the dramatic spaces and play of light across the remnants of historic walls and vaults.

Listed as a site of state heritage significance, the Paddington Reservoir was originally constructed in two stages, completed in 1866 and 1878. The water chambers were built below street level with a grassed park above, opened to the public in the 1930's. The operational life of the reservoir ceased in 1899 and the site was used as a workshop and garage until 1990 when roof collapses forced its closure.

The concept for the project was embodied in the existing artifact. An accessible sunken garden and pond, surrounded by a raised pre-cast concrete boardwalk, has been inserted within the conserved ruin of the western chamber of the former reservoir. The edges of the ruin are contained by concrete up-stands in such a way as to amplify the distinctive curved characteristics of the original brick vaults. The Victorian tree-fern garden hints at the era in which the Reservoir was originally built.

The eastern chamber has been conserved with new timber columns and a waterproof concrete structure over, stabilising the brickwork and forming the base for the new landscaped park above.

Two lightweight roofs float above the reservoir, signaling the main entry points to the park. The lightness of the roofs act as a counterpoint to the solid earthiness of the masonry vaults, while there is a whimsical reference to the older masonry mortar joints in the staggered pattern of the metal grid.

A restricted pallet of three materials – steel, aluminium and concrete were chosen as contemporary partners for the historic brick, cast iron and timber, united as they are in their raw industrial expression. This quality, crucial to sustaining the memory of the original purpose of the structure, is softened by the status given to the planting and also by the overt invitation, implicit in the walkways, to explore the whole park.

The reservoir was a vital source of water for the rapidly growing population in the 19th century. It ceased supplying water in 1899 and the site has been through a couple of uses since, including a garage and a petrol station. It is now state heritage-listed.

Hailed as a blend of the ancient Baths of Caracalla in Rome and the Hanging Gardens of Babylon, Paddington Reservoir Gardens opened in its current form in 2009.

The project has restored as much of the reservoir's original framework as possible, and re-imagined the space in a new way. Original brick, timber and iron fixtures were salvaged and the site is fused with contemporary and sustainable elements. It truly is a thrilling blend of old and new.

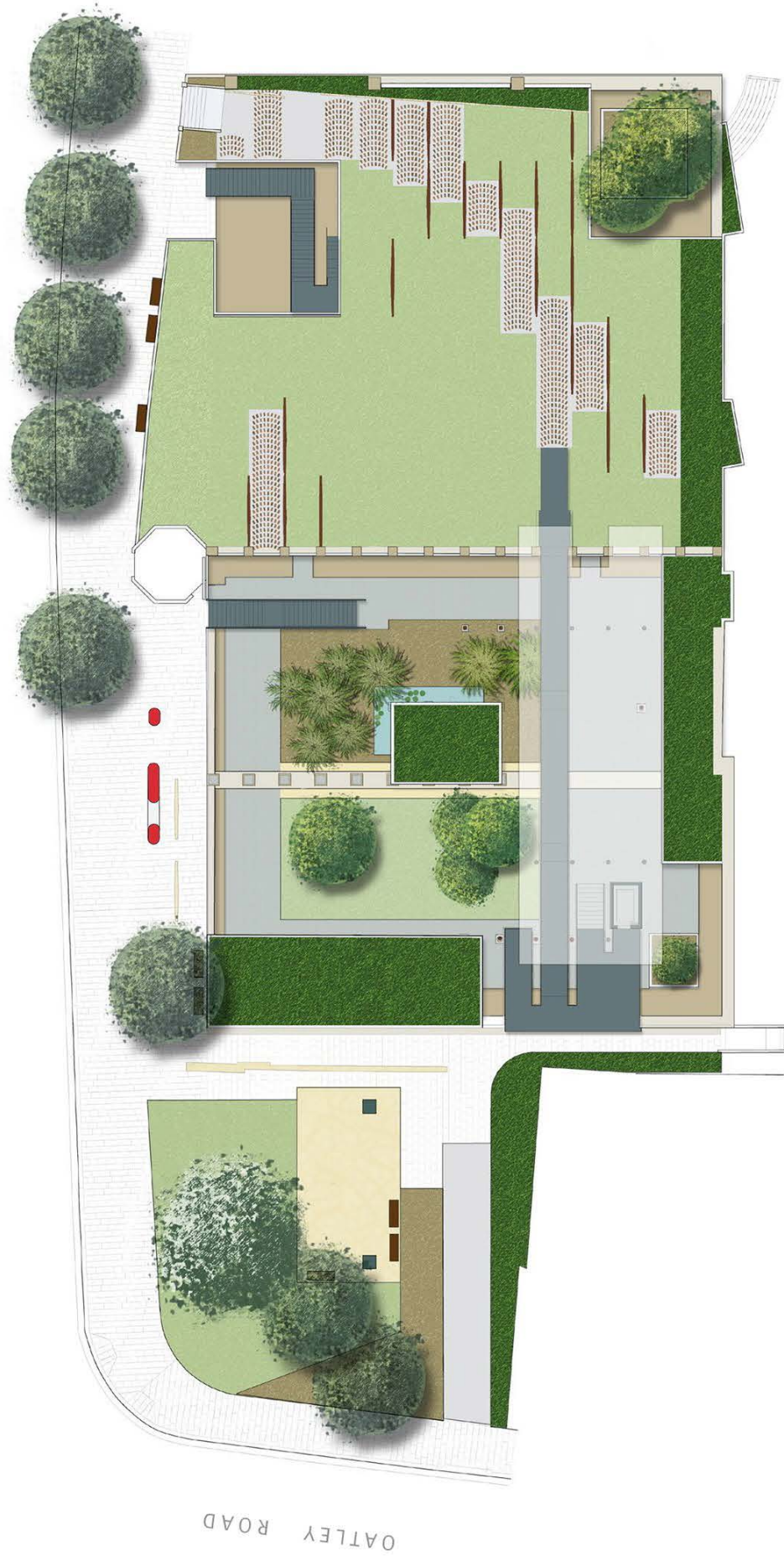
Stroll through the immaculate gardens and wide boardwalks. There are plenty of places to sit and have a rest. The roof-top features a stunning sunken garden, and vibrant graffiti art has been preserved in the eastern chamber. Hang around until the sun sets if you can, as the lighting detail transforms the space once again.



© TZG Architects



© TZG Architects

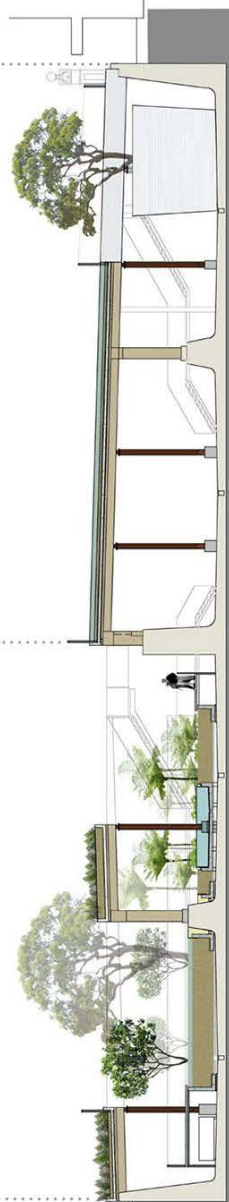


Eastern Chamber

Western Chamber

John Thompson Reserve

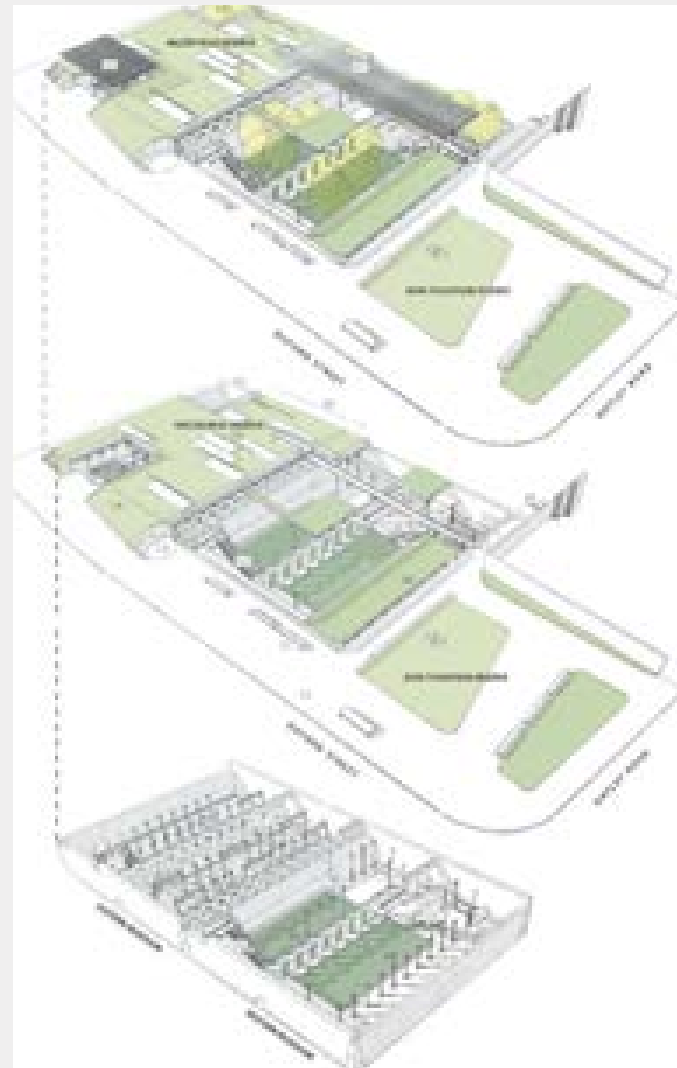
Oatley Road



© JMD Design



© JMD Design



© JMD Design

Major Takeaways

- Development of a comprehensive strategy for interventions at the Reservoir to accommodate the inevitable quirks and dodgy structure that may give way over the course of the construction.
- So concrete running perpendicular to Oxford Street traces and repeats the neat line of the brick arches, while concrete that runs lengthways runs a ragged line of best fit.
- Likewise, balustrades running around the park are vertical or wonky depending on their orientation to the street.
- The palette has been restrained to steel, timber and concrete and where possible existing surfaces have been left untouched.
- The authenticity and cultural significance of the structure is maintained at its best .

3.3 AALBORG WATERFRONT

Location : Aalborg, Denmark
 Architects : C.F. Møller
 Project Year : 2015
 Area : 170000.0 sqm
 Aim : Creating a new link to the city's fjord which earlier was an industrial harbour.



© Aalborg Kommune



© Helene høyer mikkelsen



Image source : <https://www.pinterest.dk>

What attracted me the most when I visited Aalborg was its visual connectivity to the waterfront from the physically separated (major access road). As we move through the Old town there are corridors that attract your attention to the waterfront and its architecture that includes buildings by renowned architect Jørn Utzon, Utzon Center, one of his last realized works and Musikkens Hus, by the world renowned Austrian architect firm, Coop Himmelb(l)au. The waterfront development is a study in various activities catering to the different age groups, having a children's play area along the restaurant, sports section, a garden and the promenade connecting all the buildings along the waterfront.



© C.F. Møller Architects

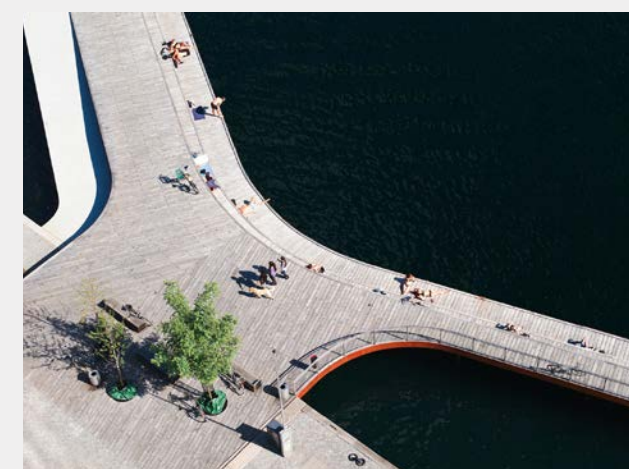
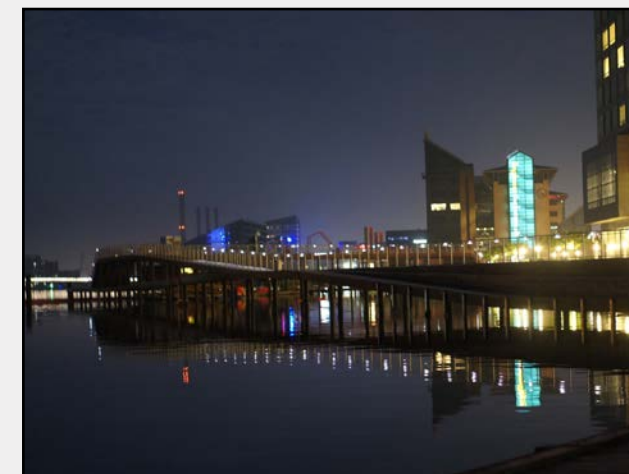
3.4 KALVEBOD WAVES

Location : Copenhagen, Denmark
 Architects : JDS Architects + KLAR + Urban Agency
 Project Year : 2008
 Area : 4000.0 sqm
 Aim : Regaining the inner city's connection to the harbour

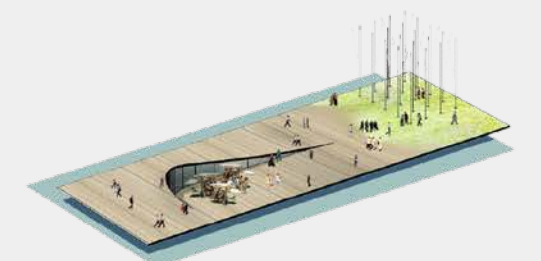
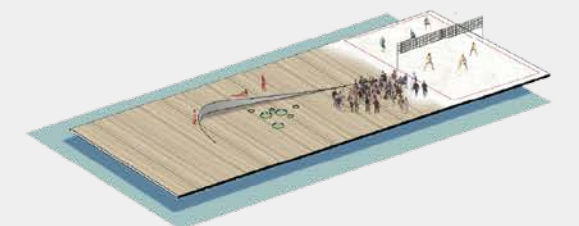
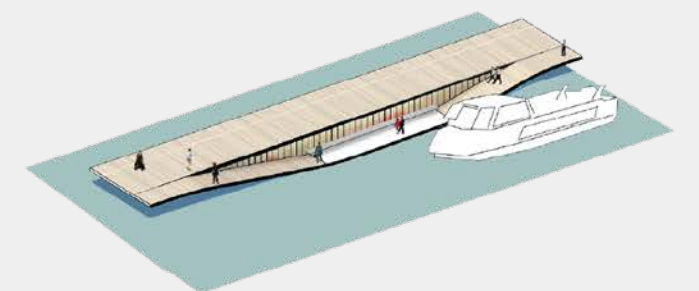
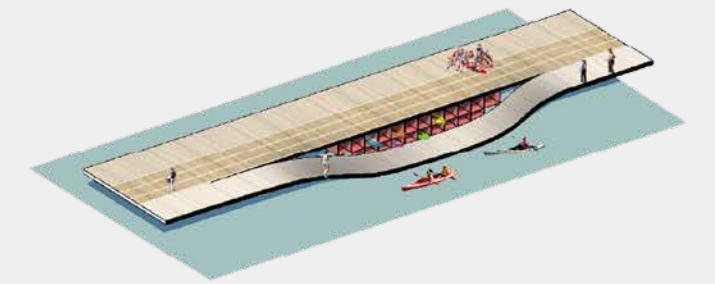


© JDS Architects

The project, though located in close connection to the city center had remained isolated and devoid of activities with offices mostly occupying the waterfront. I visit the place quite often for its proximity and access to the waterfront. During the summer months it is a bustling hub of activities as it is also linked to a larger network connecting many buildings along the waterfront. The attempt to stretch the city in to the sea has been a huge success as people enjoy the walk on the pier as I have observed. The platform offers a viewpoint as well as gathering space to enjoy the skyline. The flow of boats that commute to and from the water hub also creates an active maritime background and secures the connectivity of the plaza to the rest of the city.



© All images : JDS Architects



© JDS Architects

illustrations to study the various possible activities on the waterfront

3.0 Tallinn | Estonia



Tallinn and its coastal development

The capital and the largest of Estonia, Tallinn is located south of the Gulf of Finland, 80km from Helsinki. One of the best preserved medieval cities, the Old town of Tallinn was listed as a UNESCO world heritage site in 1997 and later set to include a modified boundary of 2,253 ha, up from 370 ha. In addition to architectural continuity, Old Town has retained its traditional use as a living city, hosting domestic, commercial and religious functions, and retaining the upper town as the administrative centre of the country. As a matter of fact, the city has maintained its skyline from both sea and land, to date.

For the purpose of understanding the historical and contemporary significance of Linnahall in context of the city of Tallinn, the study of its coastline (Fig. 10) was done drawing from various legible sources. The study has been limited from the mid 19th century when the architecture of Tallinn was heavily influenced by the Soviet era regime. Linnahall, built for the 1980 Moscow olympics was a part of a larger scheme that was undertaken to create new facilities and infrastructure for accommodating the event.

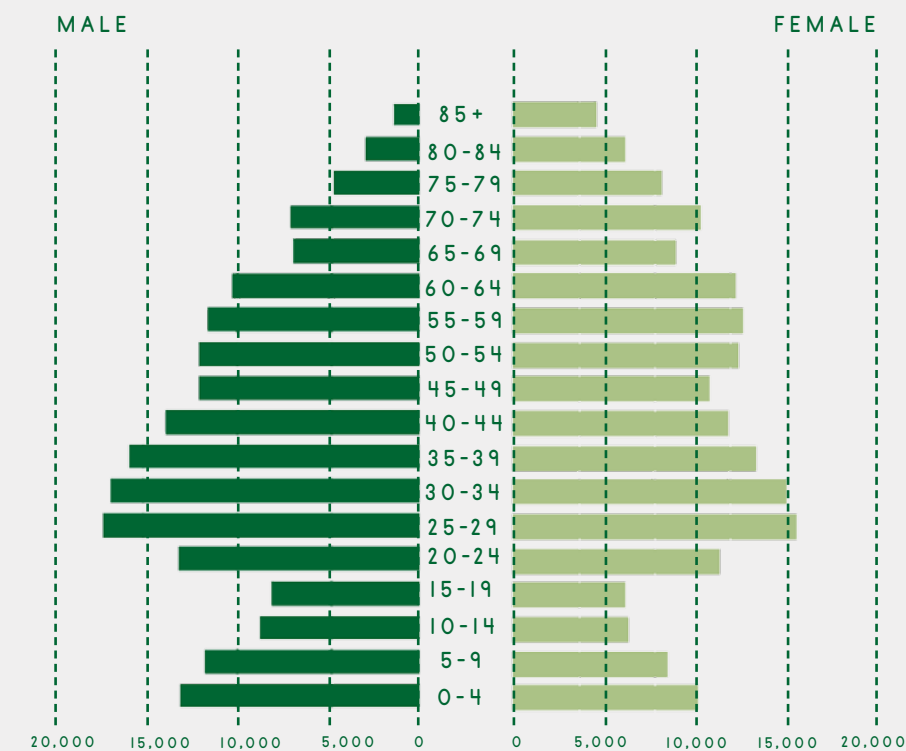
During the Soviet era, Estonian coastline was considered a strategic location, forming a part of the Iron Curtain, the boundary dividing the Soviet union from the West and non-controlled territories. This led to it being heavily militarized and guarded for the most part of Soviet occupation in Tallinn. The physical restrictions imposed required people to have permits and no access for non-productive activities, in short the waterfront remained inaccessible for public. It was during this time, Linnahall was built. The significance of the building is highlighted by the aspect that its conception created a bridge between the city and the coast making it accessible for all, only one of its kind when it was finished. After the Estonian Independence in 1991, the Soviet army evacuated the space during a period of 3 years and by 1994 the waterfront was opened to the public.

Over the years, the coast and Linnahall fell in to a state of gradual dysfunction and with the closing down of the concert hall it has become more evident, kind of becoming a backyard of the city of Tallinn. The Patari prison along the coast also faced a similar fate. Hence, the possibility of rejuvenation comes alive only when a comprehensive network of activities can be created combining the existing and upcoming developments.

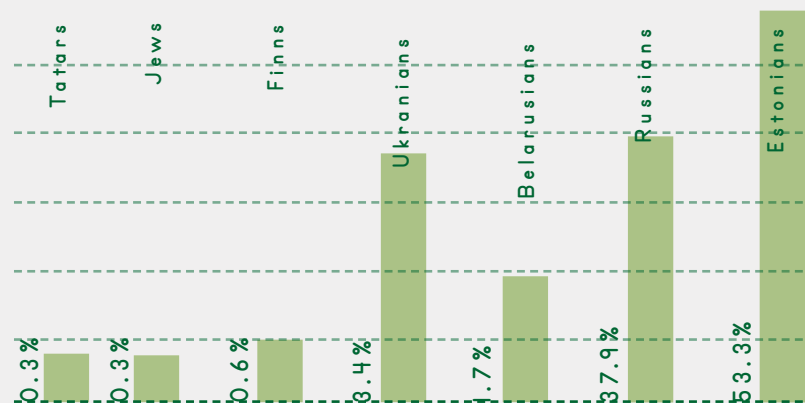


Fig 10 : The future of relics from a military past_ VV. van Vliet

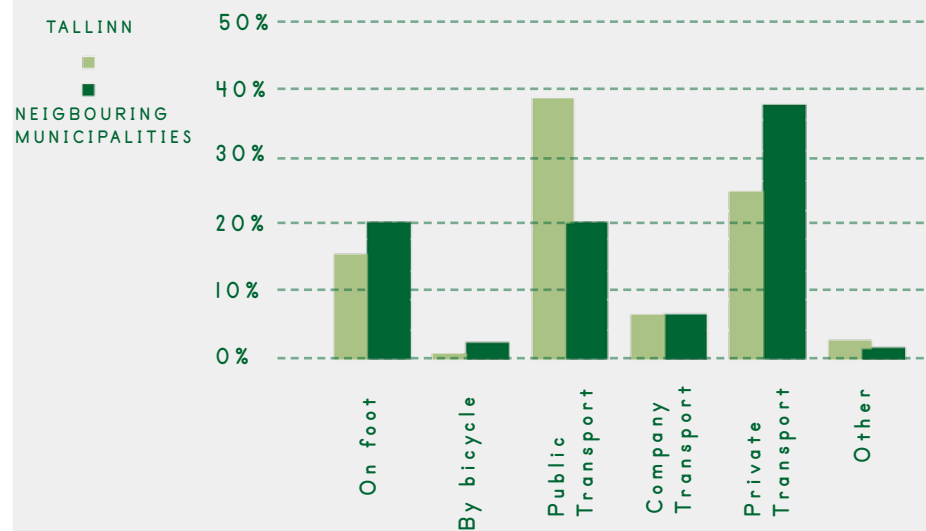
4.2 Tallinn - Demographics



Ethnicity



Modes of Commuting

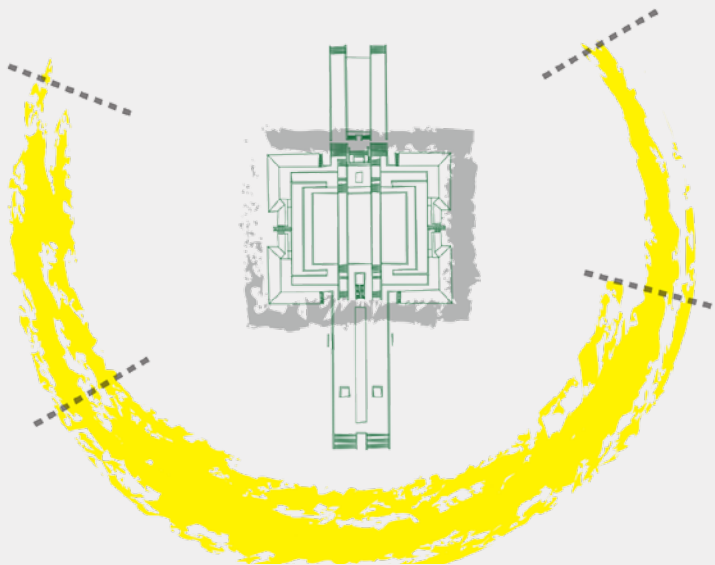


The structure of population is primarily related to the settling of larger generations in the capital, to study and work, during the 1980s. The immigration of youth has increased the percentage of younger age groups in the population of the city and has created a favourable basis for the growth of the birth rate and positive population growth. In the near future, this will lead to the need for a re-urbanisation process, due to the increasing requirement of more urban green spaces and revival of the non-unitilised or under-utilised abandoned urban spaces. Such abandoned spaces have also served to decrease the attractiveness of suburban living.

The population of Tallinn is multi-ethnic. Fifty-two per cent of the population are Estonians, 38% Russians, 10% Ukrainians, Belarusians, Finns, Jews, Tatars and other nationalities. The percentage of Estonians is greatest in the city districts of Nõmme, Pirita, Kristiine and the City Centre

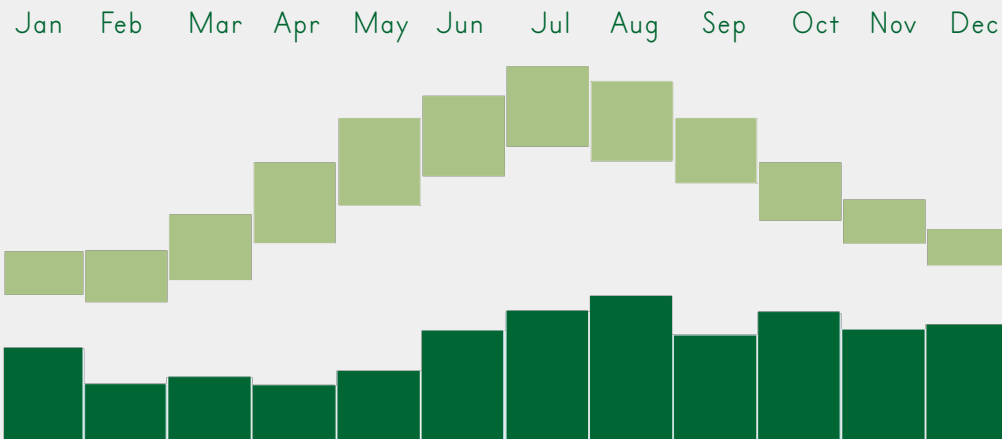
In comparison to Tallinn and its nearby rural municipalities, public transport not only allows one to move between work and home, but also ensures the availability of urban leisure opportunities, and fulfils other needs of the residents. For these urban dwellers, who have moved to the suburbs, availability of green spaces for leisure infrastructure and services continue to be vital. With new developments mushrooming within city limits, the need for recreation also exponentially rises.

4.3 Tallinn - Climate

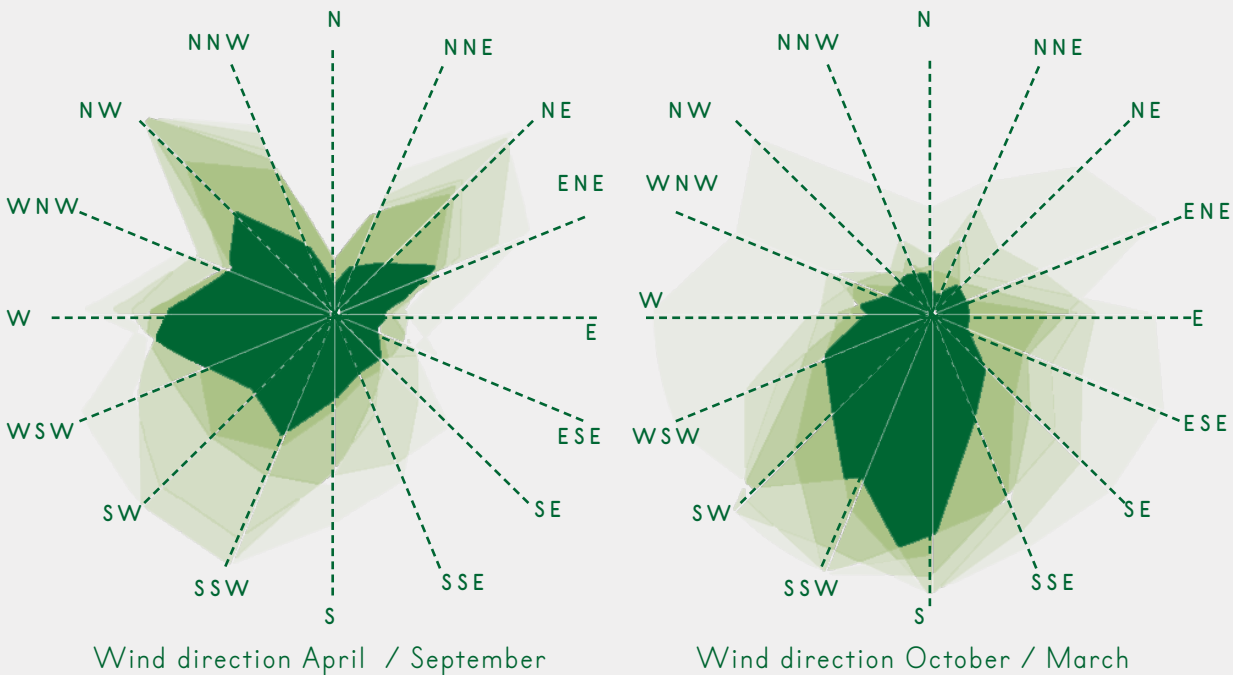


The climate in Tallinn is characterized by a fairly old winter, a cool spring with little precipitation. A moderately warm summer and a long and rainy autumn. However, some summers have weeks at a stretch of temperature around +30 degree and a warm sunny summer can keep autumn at bay until mid - october.

Sunpath diagram



All Year Climate and Weather Average



All Year Climate & Weather Averages in Tallinn

High Temp: 24 °C

Low Temp: -8 °C

Mean Temp: 7 °C

Precipitation: 56.l mm

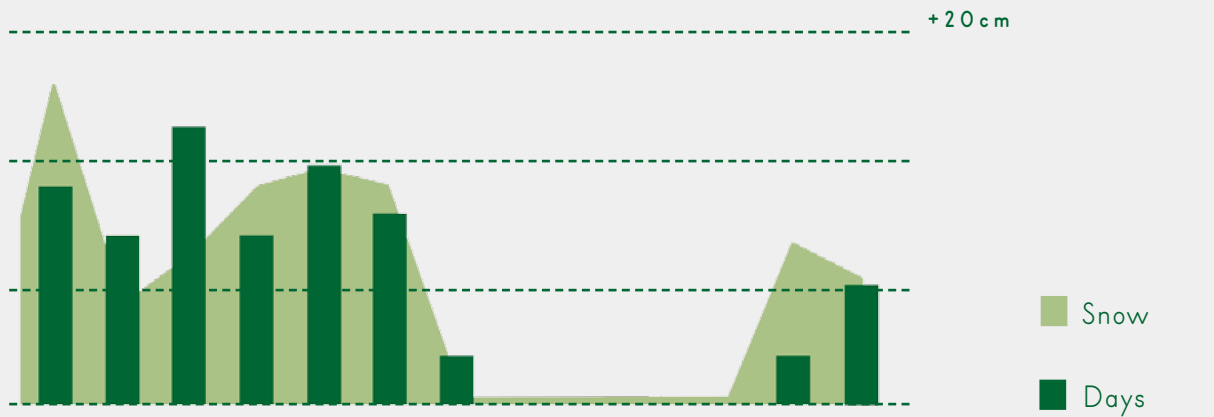
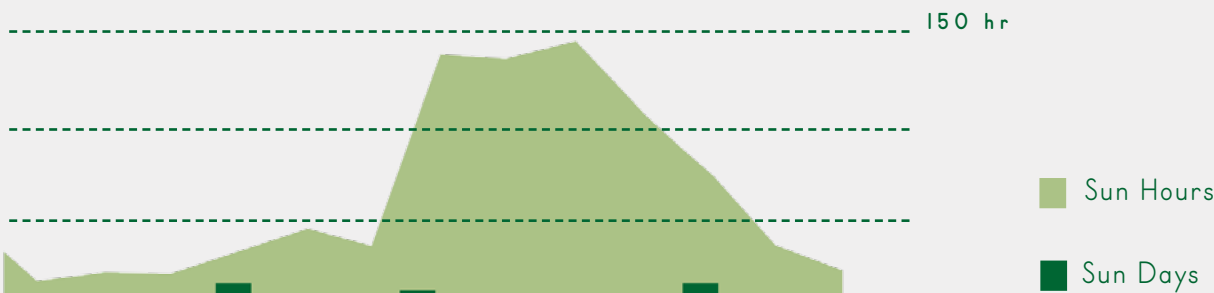
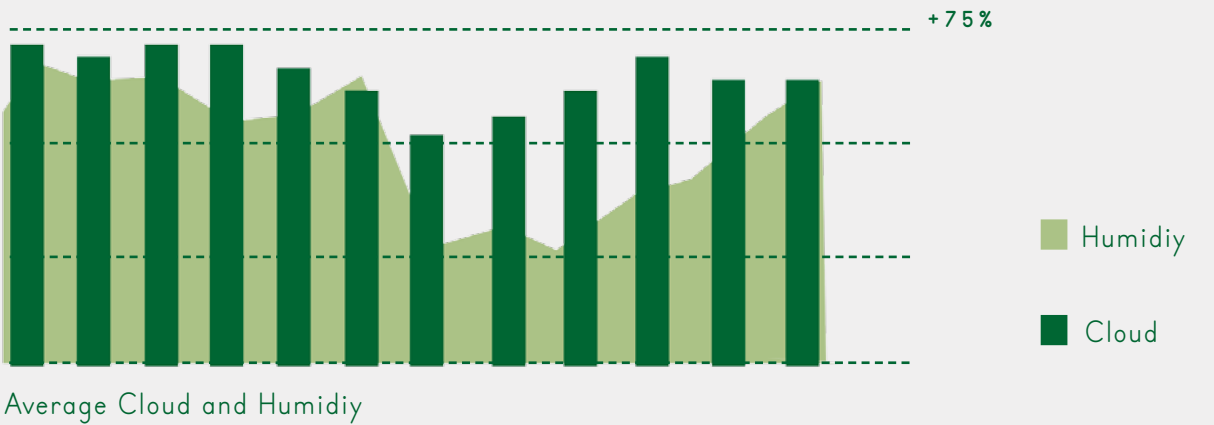
Humidity: 80%

Dew Point: 3 °C

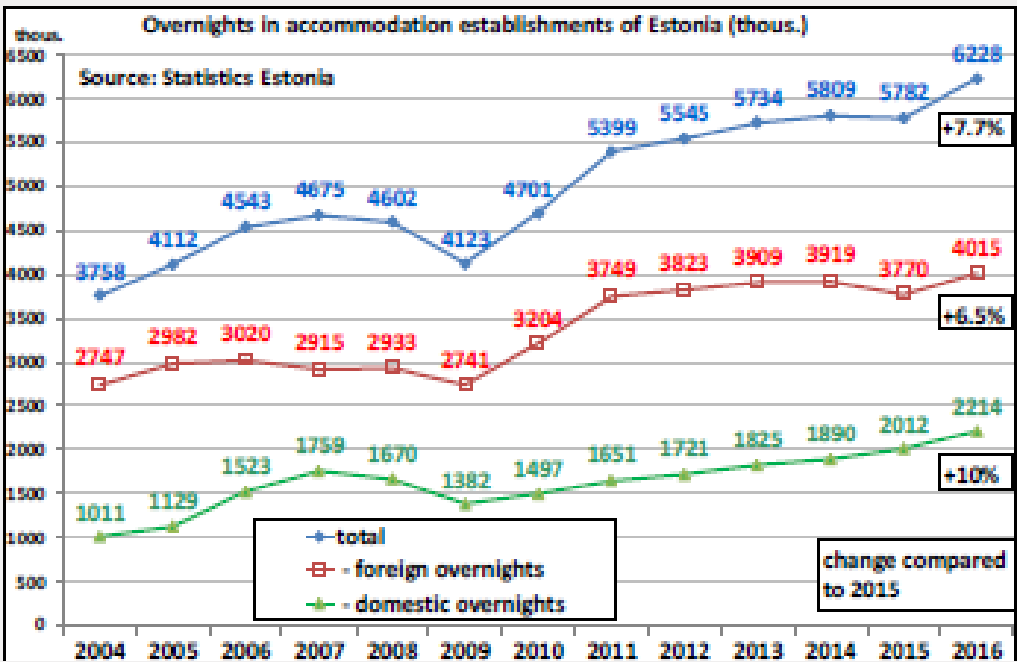
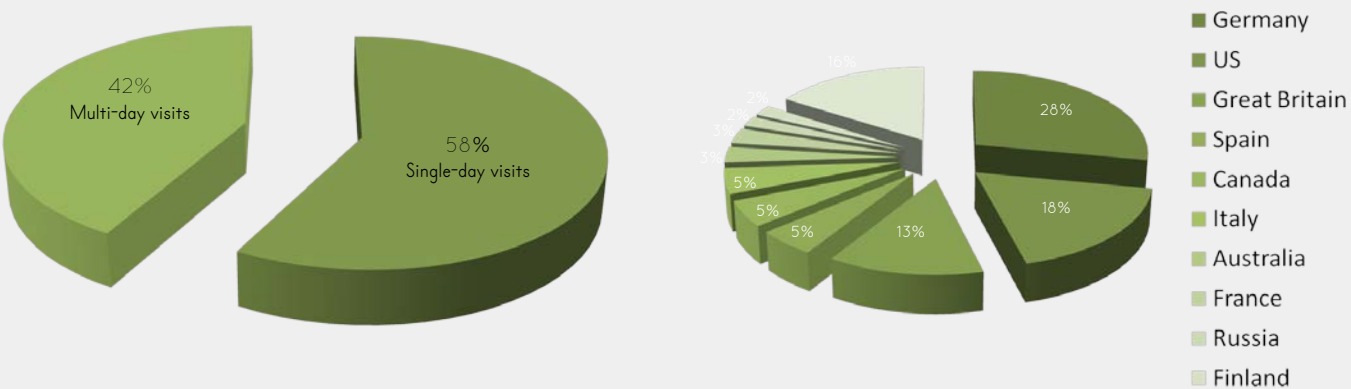
Wind: 14 km/h

Pressure: 1013 mbar

Visibility: 11 km



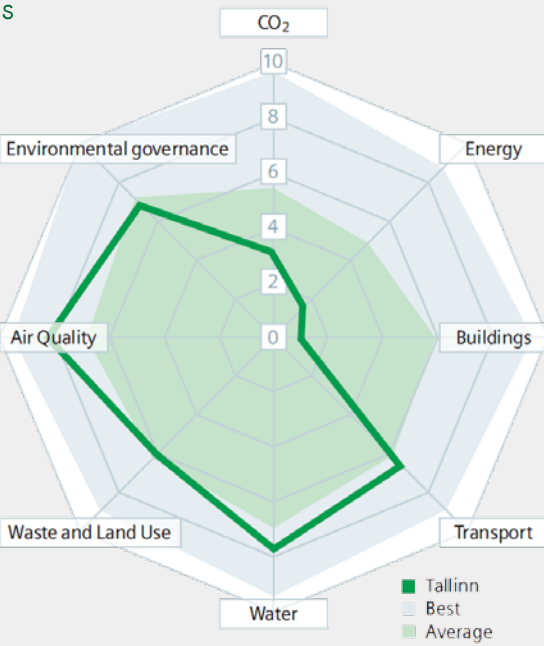
4.4 Tourism



The statistics show that there have been a steady increase in the number of tourists in Tallinn over the years. The number of foreign overnights mainly increased due to the strong increase in holiday trips. Of the 4.01 million foreign overnights, 2.73 million were spent by holiday tourists (increase by 9.4% or by 234,824 overnights compared to 2015). Foreign overnights on business trips amounted to 843,800 (compared to 2015, their number increased by 31,420 or by 3.9%) (*Estonia Tourism Board*).

4.5 Tallinn _ in comparison to other European cities

Tallinn is ranked joint tenth with Budapest in the transport category — one of its highest rankings in the index. As of 2008, 61% of inhabitants walked, cycled or took public transport to work. This puts the city more or less on par with the overall average, but the distribution is weighted towards walking and cycling, which boosts its score. In respect with environmental governance and waste land use the city is on par with the average of other nations while it is best in the air quality it fares badly in the aspect of buildings due to the high number of abandoned buildings mostly constructed during the Soviet era. There has been an ongoing debate for a long time on the way how these historical buildings should be dealt with. This proposals also addresses this issue and tries to search for possibilities that can find middle between the two opposing sections of the debating parties.



5.0 Influential factors



© Pii(tickettoadventures_blog)



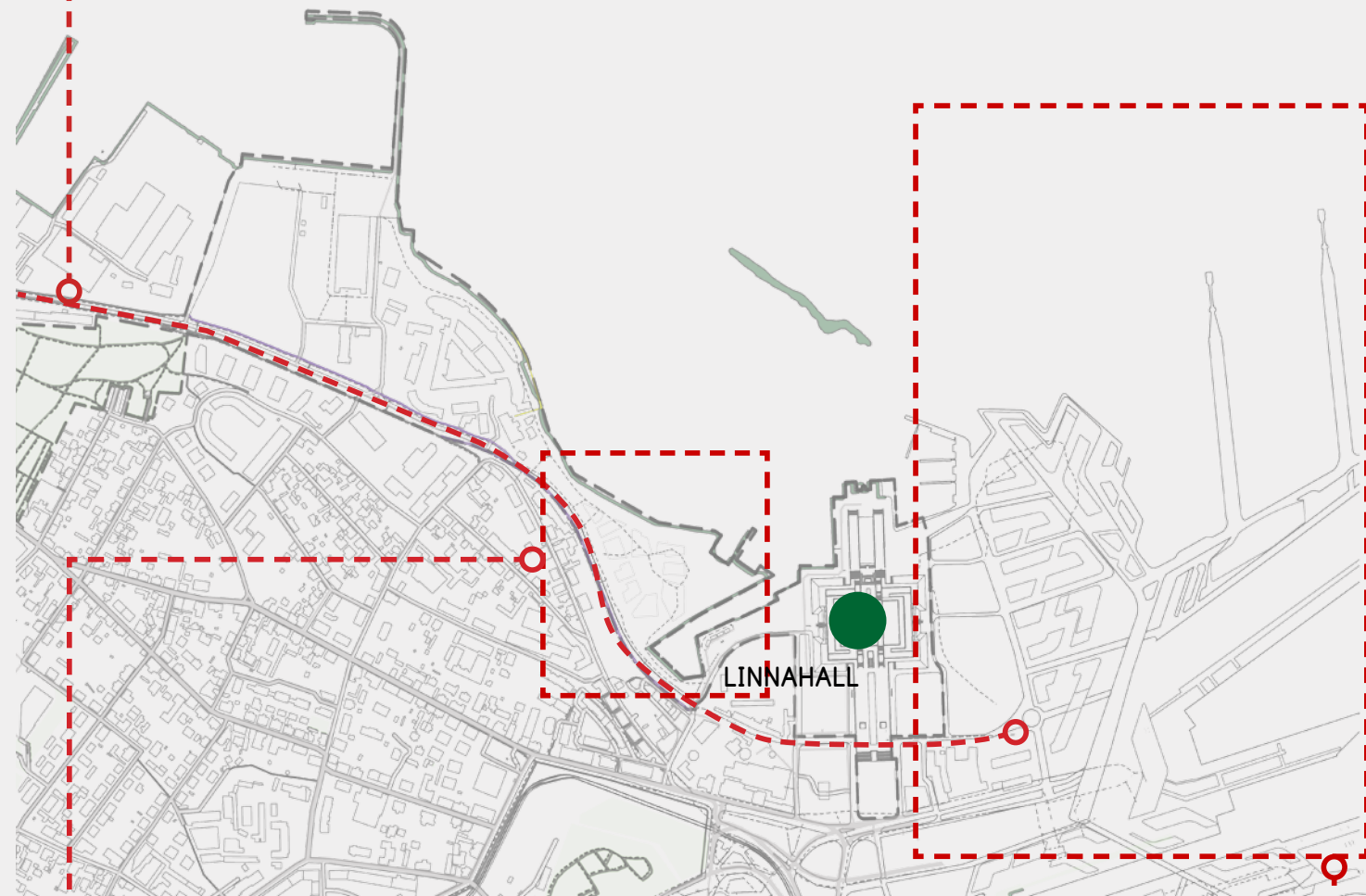
© Zaha Hadid Architects



© Kadarik Tüür Arhitektid OÜ

The Culture Kilometer (Kultuurikilomeeter)

When Tallinn was declared as the Cultural capital of Europe in the year of 2011, the city started its work on linking the waterfront post-industrial sites. The path offers an unprecedented stroll through the historical pages of Tallinn and its evolution as a harbor town. The importance of this site is its connection of Linnahall to the Port Noblessnor and Kalamaja cemetery park. Though, unfortunately, it decides to not utilize the waterfront and meander through the front of buildings facing the coast. By taking this in to consideration I would like to explore the reinvention of this path on a route that also doubles up as a promenade and offers very beautiful views of the coast.

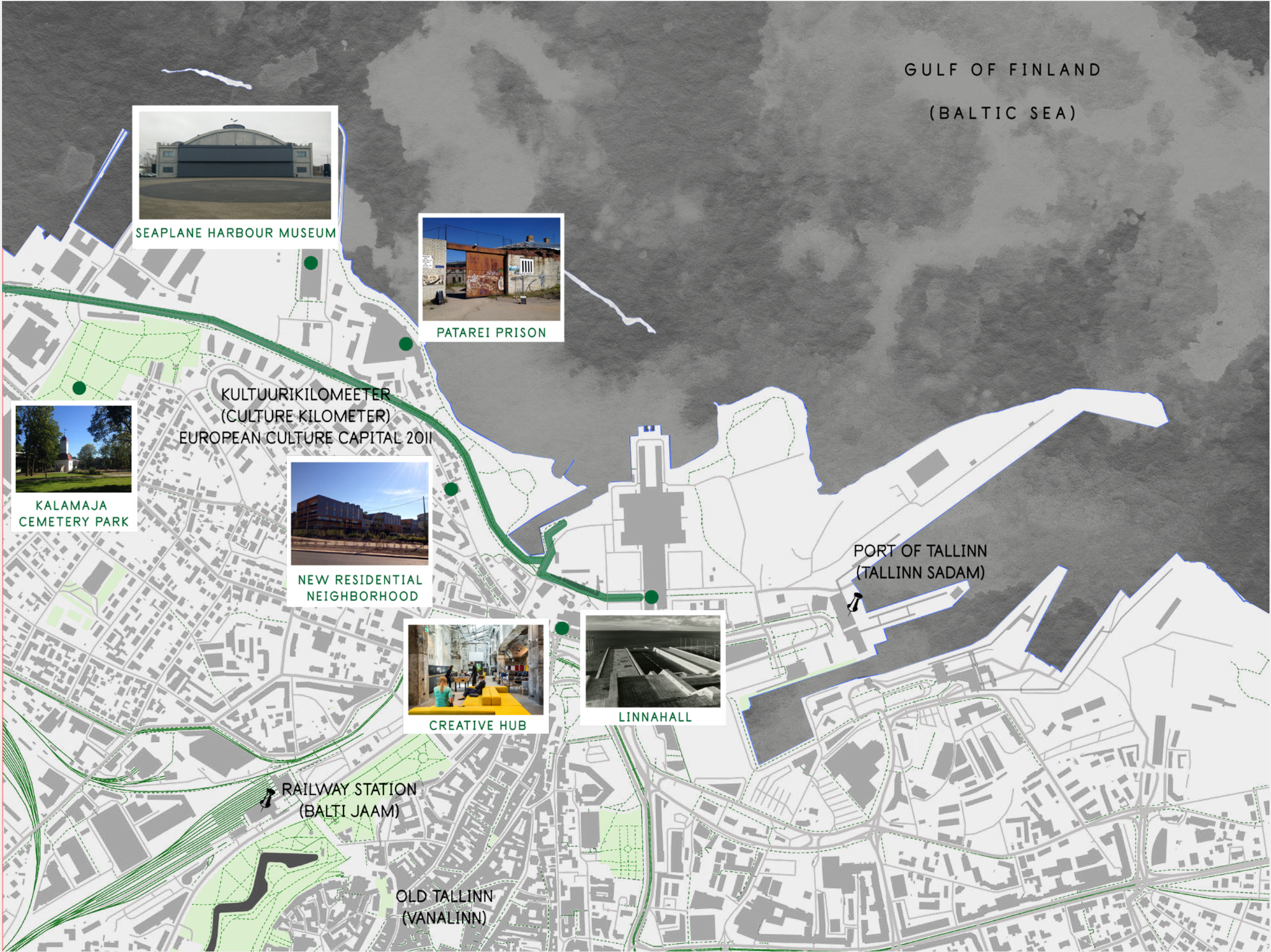


Port of Tallinn Masterplan by ZHA

Kesk-Küla by Kadarik Tüür Arhitektid OÜ

The Kalaranna development is located on the most exclusive real estate sea border of central Tallinn. The plans for the real estate property include a beach promenade(which for the purpose of my thesis have been not included in the scope of existing fabric) and a coherent public room with a building solution, turning the region into a valued community space in the city of Tallinn.

The future development of the Port of Tallinn was decided through a competition which was won by Zaha Hadid Architects with a concept 'Streamcity'. The design ironically though doesn't consider the presence of Linnahall which kind of demarcated the area completely. This presents me the limitation of my site up to the new development. Linnahall in this sense become the central entity between the new masterplan for the port and the promenade connecting it to Seaplane Harbour Museum, linking the two to each other and the city of Tallinn.



Just north of the Old Town, the Cultural Kilometre (Kultuurikilomeeter) is a footpath that runs through an intriguing stretch of post-Soviet, post-industrial Tallinn. It begins beside the Kultuurikaatel, a former power station now converted into a creative hub. Although through the years the area has seen a drastic change in the infrastructure and paths and bike tracks have been replaced by roads. The structures have not undergone much transformation and it still has potential to be a part of the city's future exoansion.



The future development of the Port of Tallinn was decided through a competition which was won by Zaha Hadid Architects with a concept 'Streamcity'. The design ironically though couldn't suggest or develop on the ideas for rejuvenation of Linnahall which kind of demarcated the area completely. This presents me the limitation of my site up to the new development. Linnahall in this sense become the central entity between the new masterplan for the port and the promenade connecting it to Seaplane Harbour Museum, linking the two to each other and the city of Tallinn.

© Zaha Hadid Architects



This project is one of the main ones along the newly constructed Kalaranna street, which was early a pedestrian/bike track as a part of the Culture kilometer. This could be considered as the first step in reactivating the waterfront with the introduction of a multi-purpose development which is an extension of the extensive gentrification Kalamaja has seen in the recent years.

© Kadarik Tüür Arhitektid OÜ

6.0 Site Context



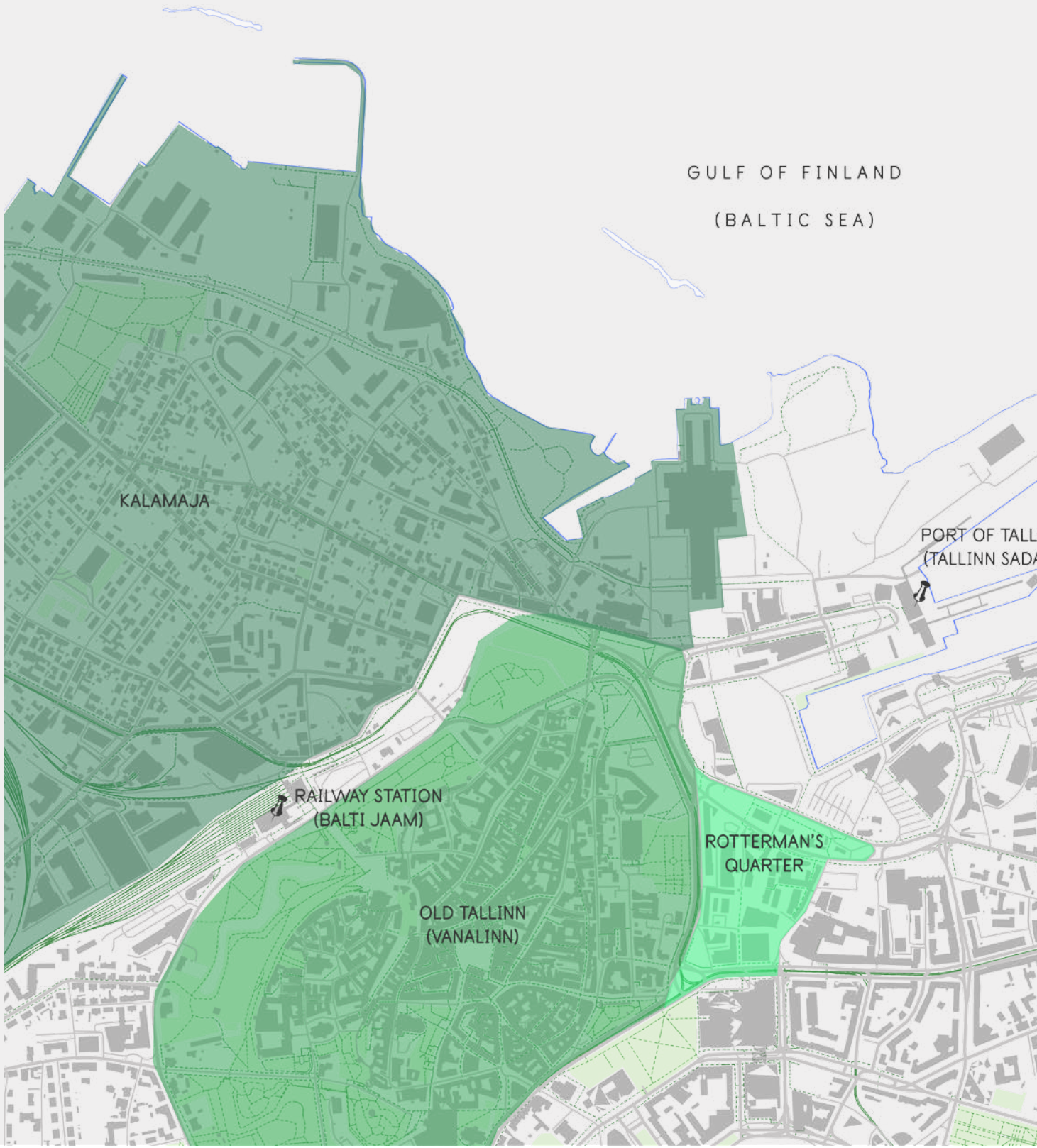
Tallinn _ Architecture, Museums and View platforms



6.2 Parks and Public spaces



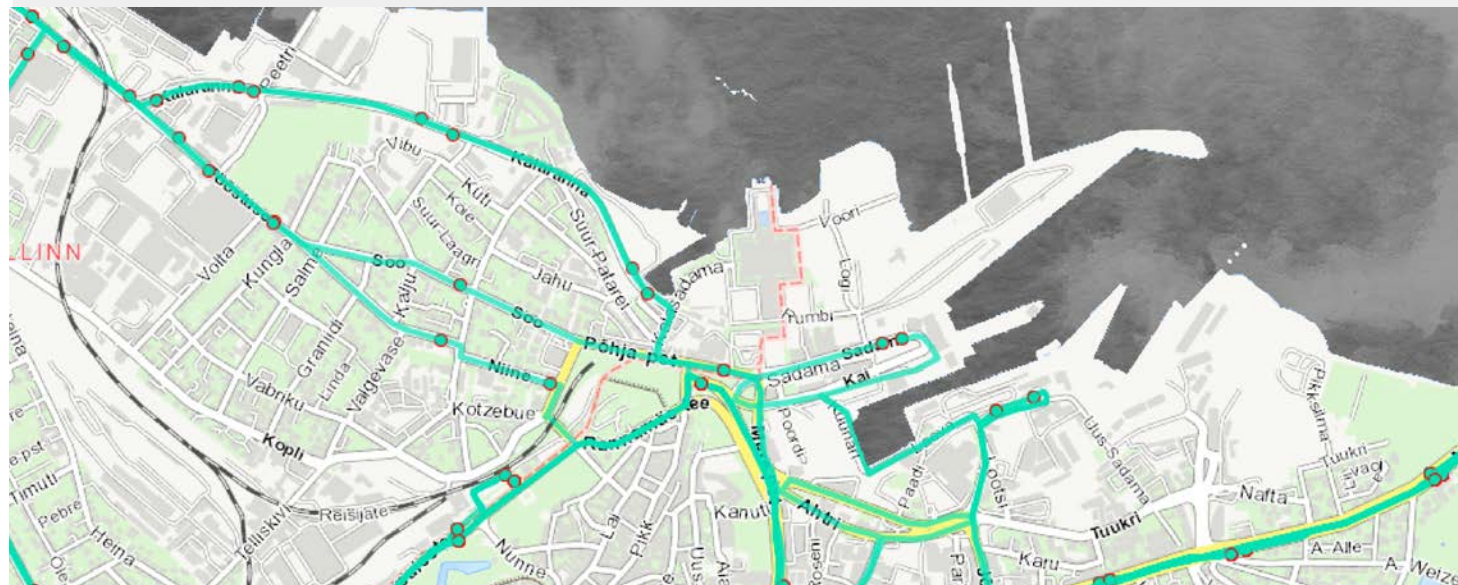
6.3 Regions close to the coast



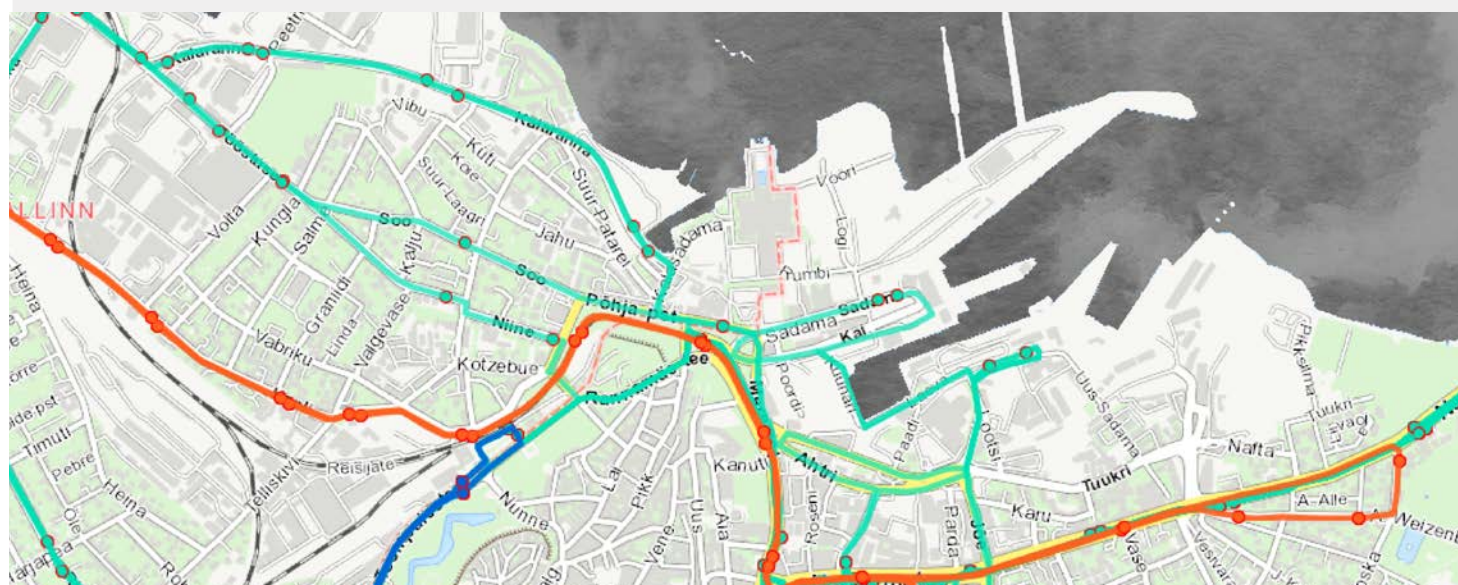
6.4 Spatial and movement corridors



Existing bike tracks



Public transportation _ bus



Public transportation _ tram and trolley bus

6.5 Kalamaja_Site neighborhood



Trend setting Kalamaja is actually one of the oldest urban areas of Tallinn. During the middle ages, mainly fishermen and pilots lived here and they gave the area its name. (Kalamaja means fish house in Estonian). Between the 17th and the 19th centuries Kalamaja with its defensive buildings was a strategically important area. The end of the 19th century and the 20th century brought fast industrial development. Up until the beginning of World War II, Estonia's most important fishing port was located here. The area came into its prime in the 1920s and 1930s. Many new houses were built which gave Kalamaja its charm today; the two and three storey dwellings, or so called "Tallinn houses". Back in the 30s, Kalamaja was idyllic. Inner courtyards behind high fences were full of children's laughter. There were large patches greenery for gardens and orchards. But from the 1940s the area started to slide into decline. The first decade of 21st century saw the gentrification of Kalamaja. The new arty inhabitants have brought in local businesses and have created a strong local community.

This quiet little neighbourhood just outside the Old Town is has a wonderful collection of colourful wooden buildings. Throughout most of Tallinn's history Kalamaja served as the town's main fishing harbour. In fact, 'Kalamaja' literally means 'fish house' in Estonian, and starting from the 14th century the area was traditionally dominated by fishermen, fishmongers and boat wrights. Everything changed in 1870, however, when Tallinn was connected to St. Petersburg by railroad. This sudden change saw enormous factories starting to sprout up in this part of town, bringing with them an influx of thousands of new workers. The wooden houses built to accommodate these workers became Kalamaja's architectural legacy and are now what gives neighbourhood its unforgettable charm. The most architecturally unique of these are called 'Tallinn Houses'. Built in the 1920s and 30s, these two- to three-storey apartment houses are made of two symmetrical wooden wings separated by a stone central staircase. There are about 500 of these in the city today. The gentrification of this neighborhood has completely changed the art landscape of Tallinn.



7.0 Linnahall



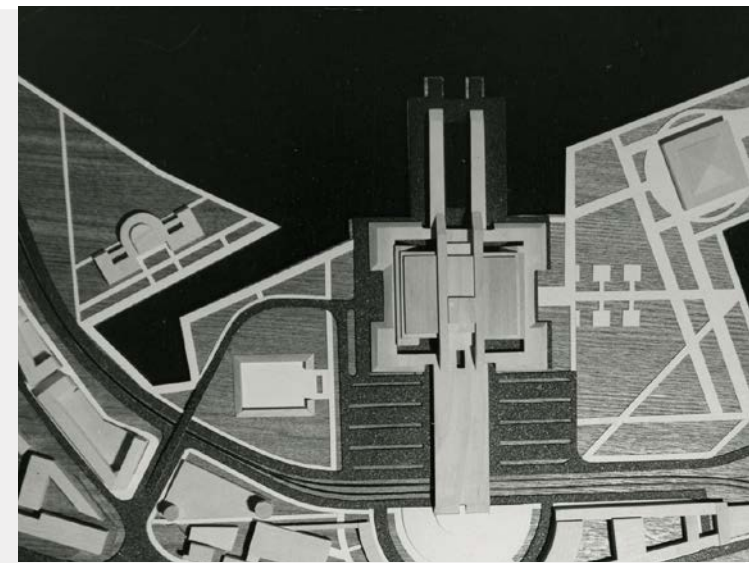
7.1 History

The Linnahall concert and sports hall, named after Lenin has been a landmark of Tallinn since 1980, when it was built by the then Soviet Union for the Moscow Olympics. It was the largest and most prominently sited of the many buildings designed for the Olympics, and being a multipurpose cultural centre the future of the building seemed to looking positive.

The building included an ice rink, a 4600-seat concert hall, an exhibition and dance hall, a bowling alley, cafeterias and hundreds of square metres of walkable roofs, terraces and squares. The architect decided to spread the functions horizontally rather than going high, over the large area of previously industrial harbour sites between the seashore and the Old Town. Its location determined the low height of the building, in order to preserve the iconic views to the medieval old town from the sea. The roof of the building can be walked across and it acted as a railway overpass, reconnecting the city with the sea. The Linnahall site, was chosen ahead of two other locations in the early 1970's partly because of its central location, but also because, according to concert hall architect Raine Karp, the building had the potential to 'reconnect the city with the sea, and the surrounding territory with the city', transforming areas along the seashore into public leisure spaces.

Design Philosophy

Linnahall is a symetrical monumental slab concrete structure which looks like a pointer from the city to sea. It is designed in a way that the building top which has a very low elevation for an entertainment venue is accessible from the exterior through several staircases. The architect wanted to create a link between the city and the sea without obstructing the view on the silhouette of the medieval old town. The axial approach and the low design enforce this goal. The building's turfed sloping side walls relate it to its surroundings. A sea fortress built by Imperial Russia in the 19th century is situated nearby. In combining design elements for a closed fortress and an always open observation deck the architect plays with the metaphors of seclusiveness and accessibility thus giving the building its unique character. The significance of the building is highlighted by the aspect that its conception created a bridge between the city and the coast making it accessible for all, only one of the its kind when it was finished.



Building Details

Address: Mere pst. 20, Tallinn

Plot: 42 818 m²

Building area: 39 422 m²

Usable area: 37 221 m²

Number of floors: 4

Architects: Raine Karp, Riina Altmäe

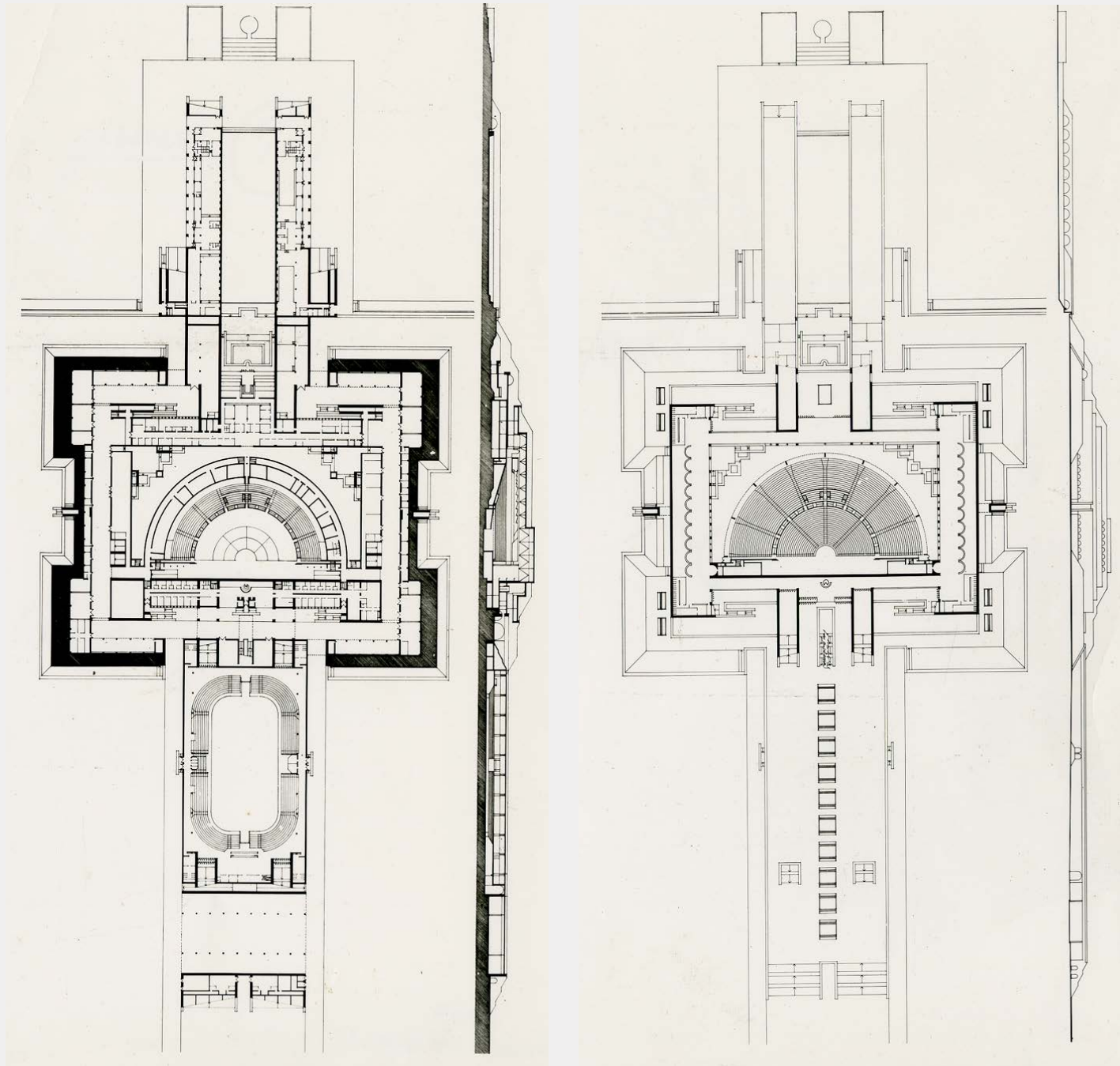
Interior design: Ülo Sirp, Mariann Hakk

Completed: 1980-81

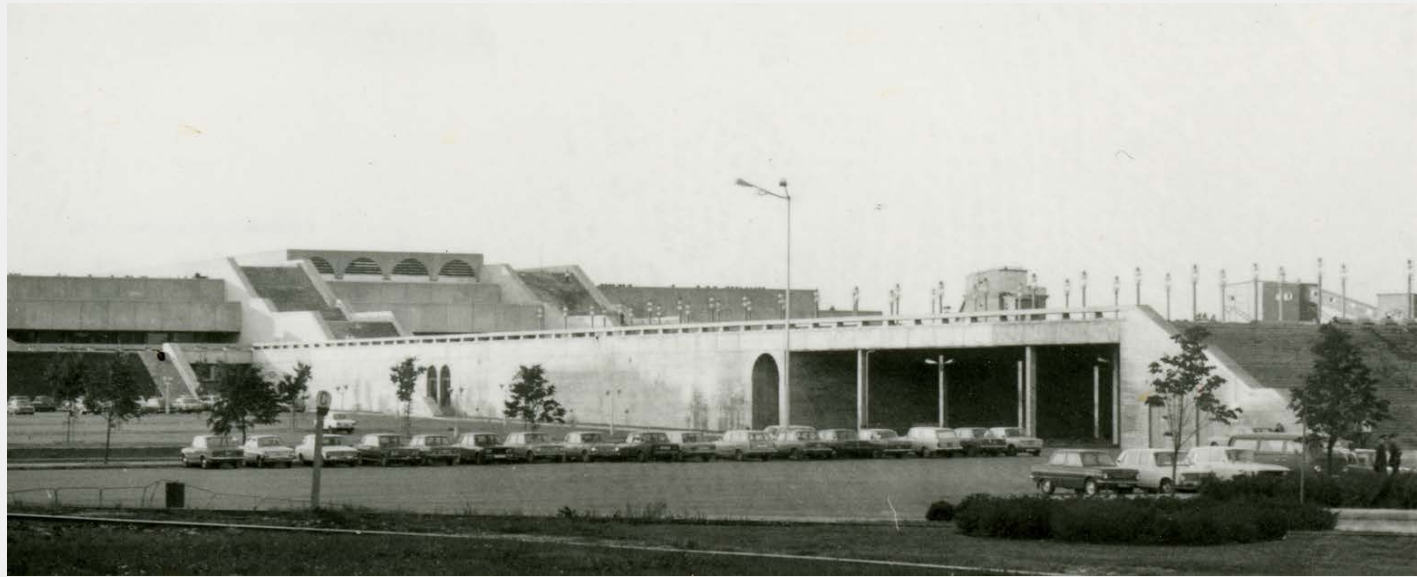


Images source : Museum of Estonian Architecture

7.2 Plans, section and Elevation

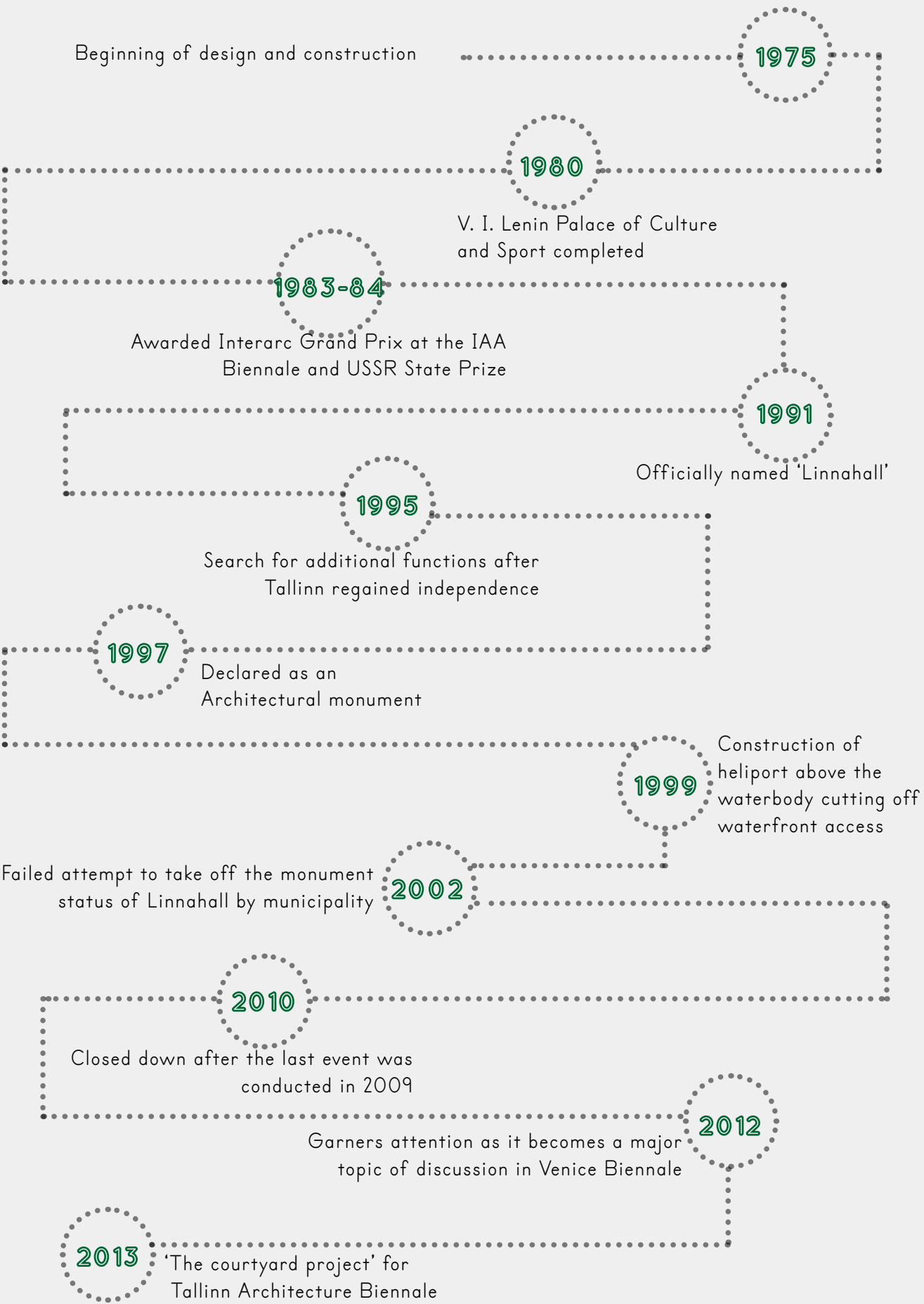


Images source : Tallinn City Planning Agency

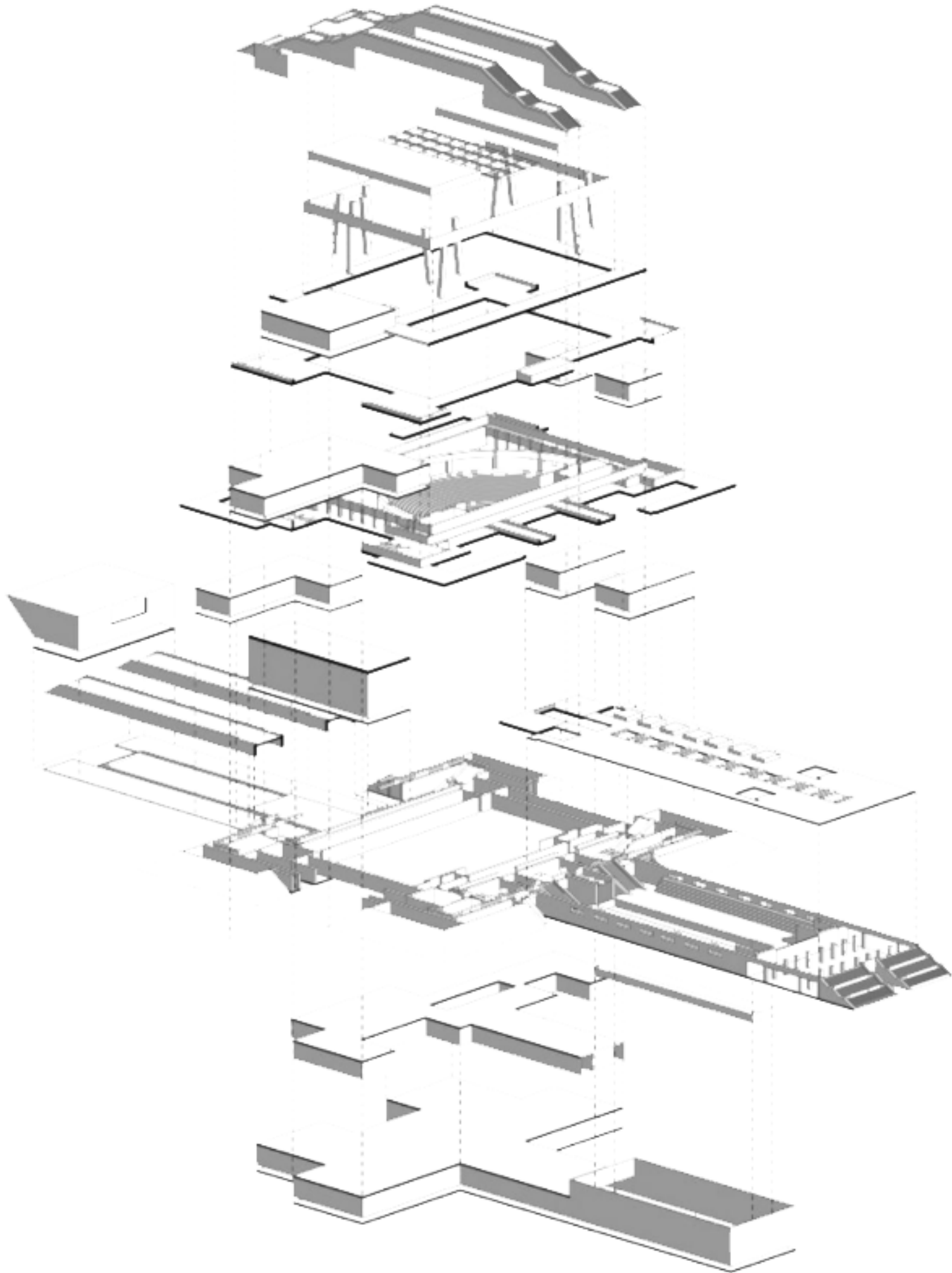


Images source : Museum of Estonian Architecture

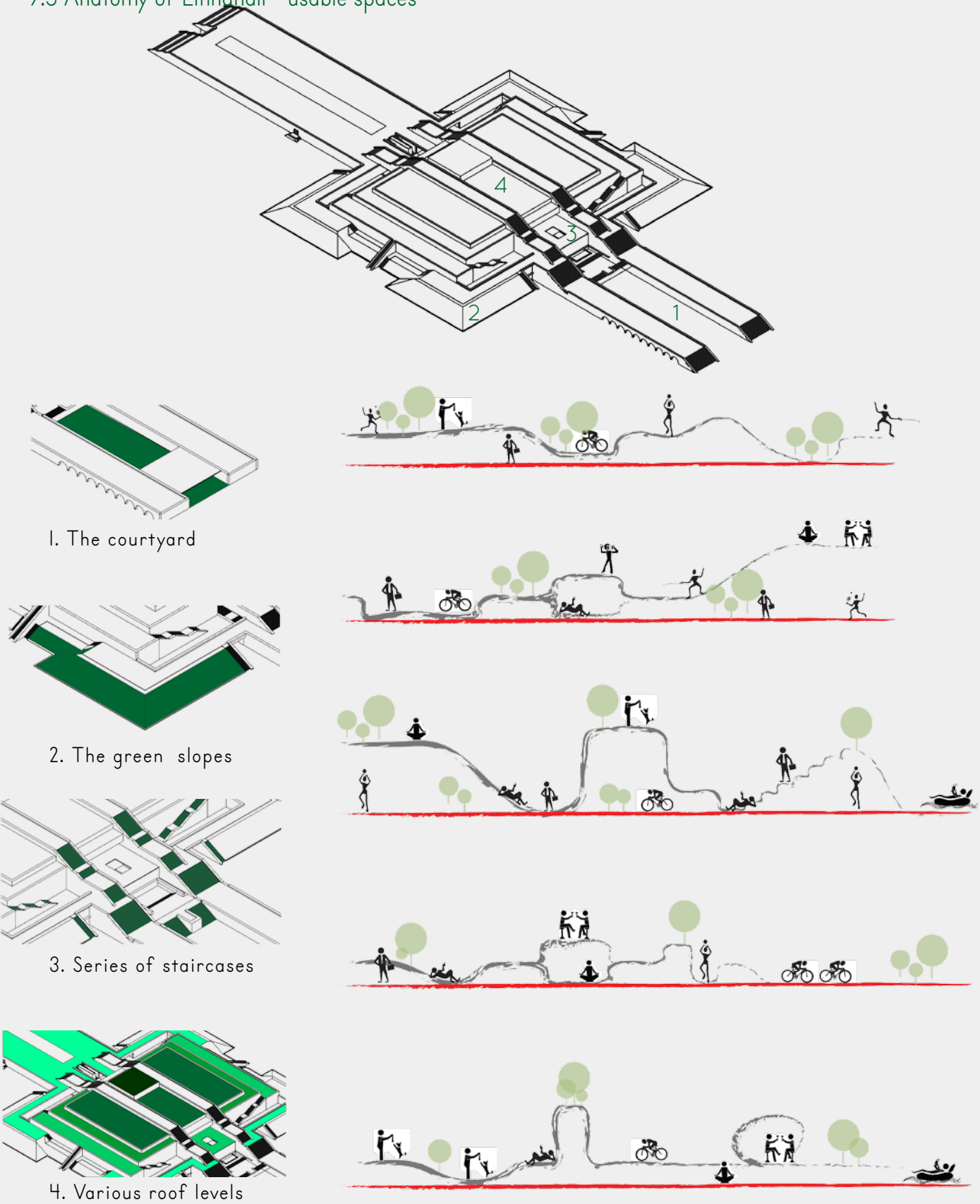
7.3 Timeline of functionality



7.4 Dissection of Linnahall - variation of spaces

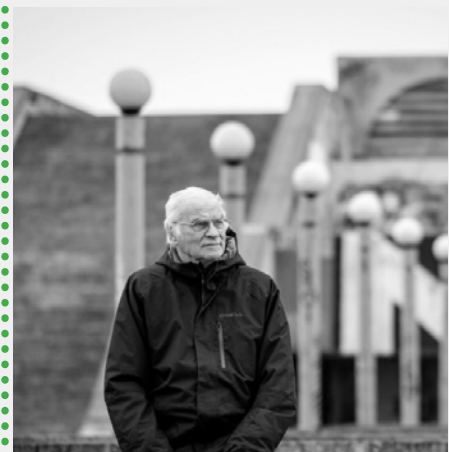


7.5 Anatomy of Linnahall - usable spaces



The detail analysis of Linnahall's structure opens up a study in different spatial usages. The courtyard towards waterfront is an opportunity to create possibilities of various street level activities intended for the purpose of bringing in more daily users. The slopes, on the east (parking) though have limited usage the opposite ones open to the waterfront and play elements could be introduced. A seating+planting design could be a strategy for the flight of staircases that surround the building allowing the users more time to explore while moving through the spaces. The top of the roofs are flat and as per the restrictions surrounding Linnahall's renovation, part of them could be converted in to green roofs.

7.6 Discussions in Tallinn (only excerpt from Architect)



He was able to achieve the goal for a functional building to connect the harbor to the Old Town, without destroying the visual amenity of either hiding the massive function center under a series of staircases. When viewed from afar, the Linnahall appears to be a giant staircase into the city, creating the feeling that one is walking through MC Escher’s famous surreal painting “Relativity.” One can walk right over the top of this massive concert hall, a design approach that speaks of public ownership.

“Creativity was easier then than it is now. Now, money talks. In Soviet time, there was no money, and the land belonged to the government. Now, land owners are very hard people. Back then we had no materials or building quality, but creativity was much freer then, and there was actually less bureaucracy. It seems crazy to say it today, but it was.”

Raine Karp, Architect of Linnahall

“It was designed as a bridge connecting the city and the seafront which was closed due to Soviet authorities due to construction military and industrial institutions on the water-front. Today, the seaside is open, and this idea of connection doesn’t hold the same value anymore. The rejuvenation of Linnahall becomes an important factor in the context of Tallinn, which is not a large city. It is a pity, to let such a magnificent building waste away catering to only a narrow sector of people who goes there irregularly to enjoy the view, urban explorers, people who romanticize architecture ruins or drug addicts. It becomes a necessity under this scenario that any design for Linnahall has to consider different social groups, different age groups and give people a strong reason to scale up the stairs to the top of the building.”

Oliver Orro, Lecturer, Estonian Academy of Arts



“For a city to be sustainable, in the sense of life it has to have many layers of activity and in the case of Linnahall there is a lot of real estate pressure due to its location and there have been various proposals but by law, there has to be access to the sea but the quality of spaces through these housing blocks depend on the developer whether they are concerned about it. But this adds to the importance of a public space and thereby facilitating the rejuvenation of Linnahall to create a hierarchy of different active spaces.”

Mait Väljas, Curator Museum of Estonian Architecture

“The conservation and rejuvenation of Linnahall has been an ongoing debate since its closure in 2009. Many acts of vandalism has ruined the structure’s image in the city of Tallinn but still the historical significance remains. There has been many competitions over the years for the revival of Linnahall and/or its surrounding area. The latest proposal is set to begin renovation works by 2019.”

Diana Haapsal, specialist at Tallinn planning Agency



“Linnahall for me has a sentimental value due to the memories of my school days when it was open and I used to visit it with my family for musical concerts. My wish is for people of Tallinn to look back in to history and understand the significance Linahall holds. Nowadays we are taking it for granted but to think back and realize the fact that it was the first place where we could get access to sea compared to an open seafront today. It is important that we don’t forget that piece of history rather than consider it as a Soviet era eye-sore.”

v

7.7 People and Linnahall

| | | | |
|---|------------------------|--------------------|--------|
| Rebuild it, but preserve it's architecture | <div><div></div></div> | 66 | 53.66% |
| Rebuild it extensively, don't preserve it's architecture | <div><div></div></div> | 22 | 17.89% |
| Demolish and build new opera theatre, concert hall or something similar there | <div><div></div></div> | 35 | 28.46% |
| Demolish and leave the lot empty | <div><div></div></div> | 9 | 7.32% |
| Leave it as it is | <div><div></div></div> | 1 | 0.81% |
| Other (explain what & why) | <div><div></div></div> | 2 | 1.63% |

Poll source : <http://www.skyscrapercity.com/showthread.php?t=1431152>

★★★★★ a month ago

Another brilliant abandoned area in Tallinn. Interesting to read up about the history of this building, why it was abandoned and the reason it was built the way it was. Some fantastic street art all over the structure perfect for urban exploration.

★★★★★ 7 months ago

Meh. Concrete structure you walk on and it's free. Luckily, I was in the area because I got very little enjoyment from it. Everything is locked up besides the top part. I would love to see inside. It's as if the country is upset it's here so they've let it get destroyed. Instead, I would love for the Estonian people to make this structure their own and prosper from it. Even like this, it's still a tourist destination.

★★★★★ a year ago

Nostalgia, it reminds me old soviet time, when I was a child and visited Town Hall for ice hockey training. It is a huge massive building. It is a real masterpiece of the Soviet architecture, it fits the landscape just perfect, doesnt block the view from sea and from town. Internal planning is perfect! And it is a perfect example of careless owners. How lical administration does not value the soviet legacy. Even after 30 years without renovation, the building is very stable.

★★★★★ a year ago

There is something strangely intriguing about the harshness and brutality of this architecture. It's bold lines and sharp edges draw you up the stairs where you get panoramic views of the coast and the city. There is plenty of local artists who have made this building their canvas. It's a good spot to take a couple of beers and enjoy the mild spring sun ☀

Resembling a cross between a nuclear bunker, a WWII sea-fort and some inscrutable temple to a vanished god, the Linnahall is in fact a covered concrete arena built for the 1980 Olympics. Originally named the Lenin Palace of Culture and Sport, it’s an extraordinary structure – rotting, barred, weed-strewn and comprehensively graffitied. Heritage-listed and badly decayed as it is, Estonians and visitors alike are free to wander under its monumental shell. A major refurbishment is planned for spring 2019.

Before the renovation work commences, baffled tourists continue to wander its rooftop walkways and take endless photos to show their friends back home their brush with post-Soviet decay.

Concrete steps lead up to the roof – a favourite spot for young partygoers to bring drinks and watch the sunset before a night out, or watch the sunrise after a night of clubbing. It is a great place to enjoy watery Gulf of Finland views and contemplate Soviet-era Tallinn – this was the northwestern edge of the Soviet Union, after all.

The massive, 5,000 seat amphitheater was commissioned by the Soviet Union to show the world their mastery over concrete-pouring. As many important buildings in Soviet Union, the design of Linnahall was planned to be also useful during the war time. The location by the sea and the flat roofs made it a perfect spot for tanks or cannons to cover the whole bay of Tallinn, in case the “evil” Finns would want to conquer the city.

7.8 Special Conditions for Municipal protection and renovation of Linnahall

Introduction

The architectural and technical condition of Tallinn City Hall has been the subject of repeated examination and publication of expert opinions in recent years. Architectural historian Piret Lindpere drafted in 2002 In September, an expert opinion found that the features of the Tallinn City Hall as an architectural monument were preserved.

Linnahall and its surroundings cover about 10 hectares of land, which is functionally divided into three:

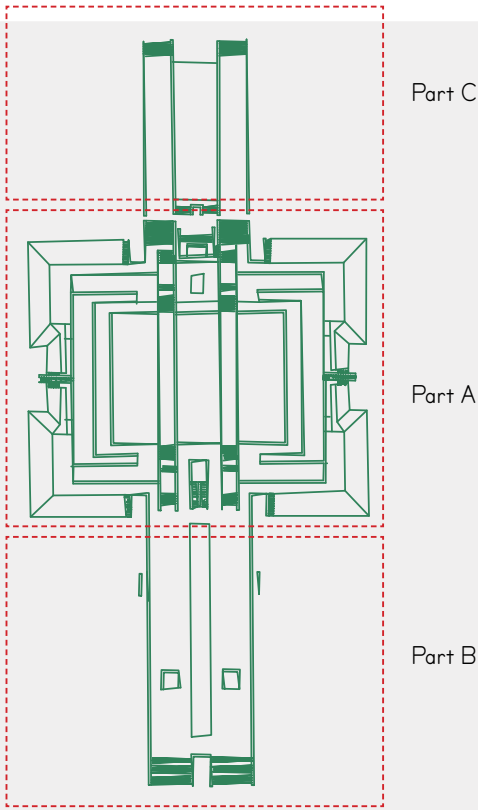
- Part A : the main building (with a 4800-seat concert hall)
- Part B : southbound ice hole and shelter
- Part C : the seafront with a refrigeration basin.

Highlights(in regard to the thesis research) of Part A

- The general image of the bastion area of the linnahall must be preserved, and the architectural plan must remain essentially unchanged
- In the western part of the A-body, a green zone and a protective zone of 50 meters must be maintained. To foresee the construction of a coastal promenade on the west side of the A-part from Linnahall, from the city-side staircase to the sea.
- In the comprehensive plan for the seaside area of Tallinn. It is desirable to link the planned new buildings with the activities of Linnahall.
- Up until now, unused roof surfaces can be planted and put into use as a recreation area (integrated into the built environment).

Part B

- Stairs must be maintained, but consider the possibility of reducing the slope of the ladder to make it safer. It is also advisable to find a way to create new entrances to the A building through the design of the internal corridors.
- What is important is the idea of a square raised on the roof of the building.
- The goal is to put the field in action, to create attractors and to facilitate access (necessary lifts, including access to the lobby).
- The design of the field must be understood as preserving the observation area by sea to the west and east.
- It is allowed to erect elements of lightweight construction, to create attractive urban furniture and to create a low level of urbanization.



Part C (most rebuilt as compared to the original solution)

- The cooling water pool is an architecturally effective part of the original concept, but has lost its function to date.
- The liquidation of a pool (full or partial) and replacement of it with a new volume of construction is permitted.
- The height of the new design cavity must not exceed two floors, an ideal function would be a cafe-restaurant with sea view or another cultural function.
- In the part of the corridor, a redevelopment of the stairs area is allowed, and new functions on the roof terraces, including the so-called seafront.

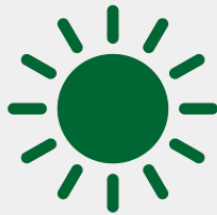
Summary

For the Linnahall, the vast majority of the features of the monument, both for the exterior and interior, have survived, and therefore the application of the protection is justified. Linnahall is an exceptional building in heritage conservation practice and it is not conceivable to impose any restrictions on the renovation of an object in the Heritage Conservation Act. The aim is to make the City Hall functionally more flexible and attractive, which would allow the building to be used efficiently and competitively. The future of Linnahall is linked to the construction of the entire seaside area of Tallinn. One of the goals of the comprehensive plan of the coastal area between Paljassaare and Russalka is the integration of Linnahall as a unique architectural work into a new urban street-squad network.

7.9 Linnahall : The Haves and Could haves

From the various analysis and detail studies on Linnahall I've come to the following conclusion of what the building has to offer its users and what it can potentially offer. The future prospects opens up a new venue to explore in the sense of activities the spaces of Linnahall can be designed to accommodate.

The Haves



Sun / sun traps



Show to look at (a vantage point which was one of the primary design features)



Water (the 3 features to see/hear and touch the water)



Seating Spaces For lone use, For Group gathering/Performances.

The Could haves



Trees / greenery (to be close to the nature)



Refreshments :Cafes



A rooftop restaurant offering the expansive view of the sea



The unused and accessible roof areas are used for skating by the locals



The rooftop restaurant could have an organic farm where the vegetables could be grown



The opportunity to have a stage and seating for various celebratory events

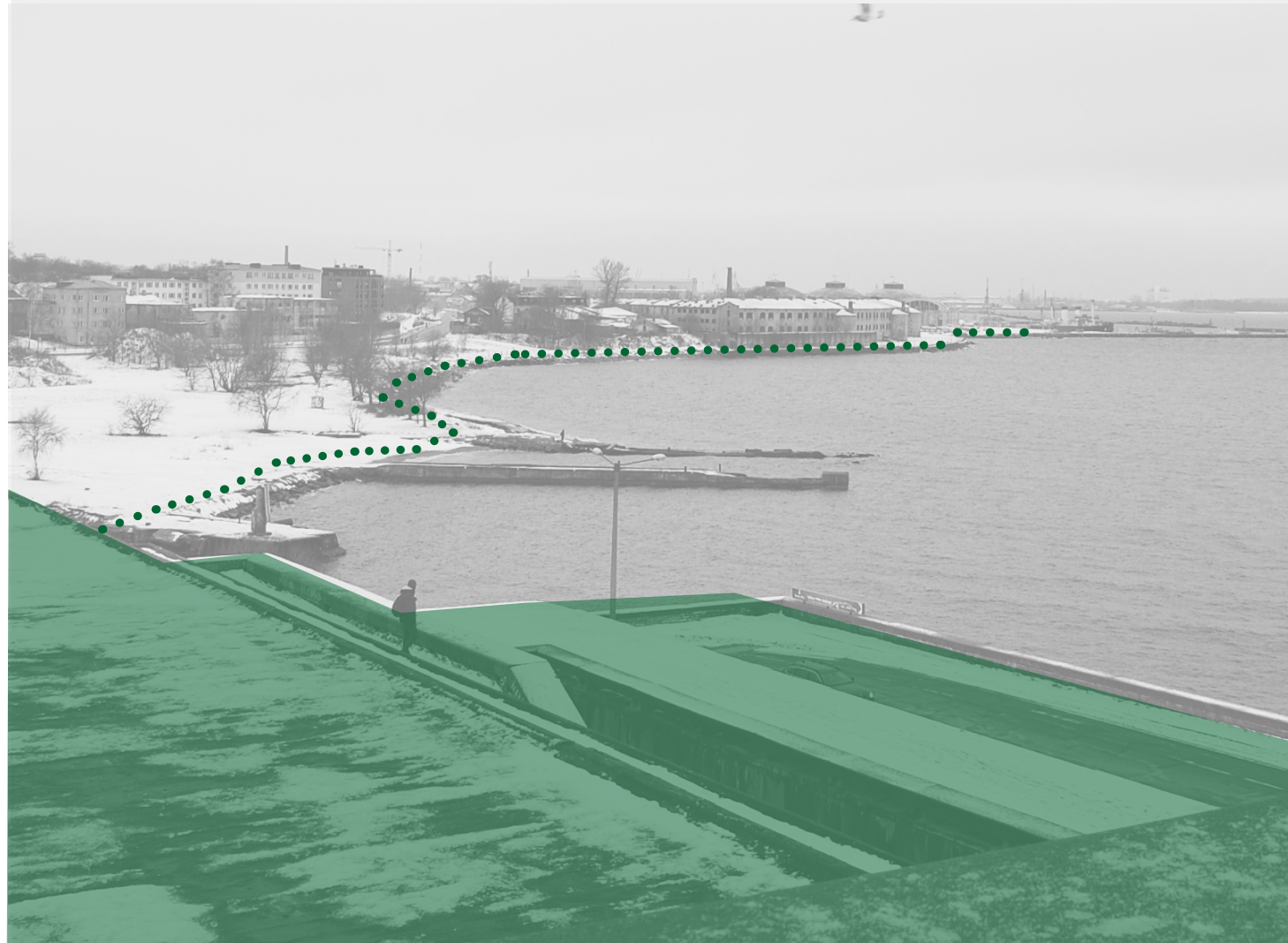


Kid's play areas are a desirable additions

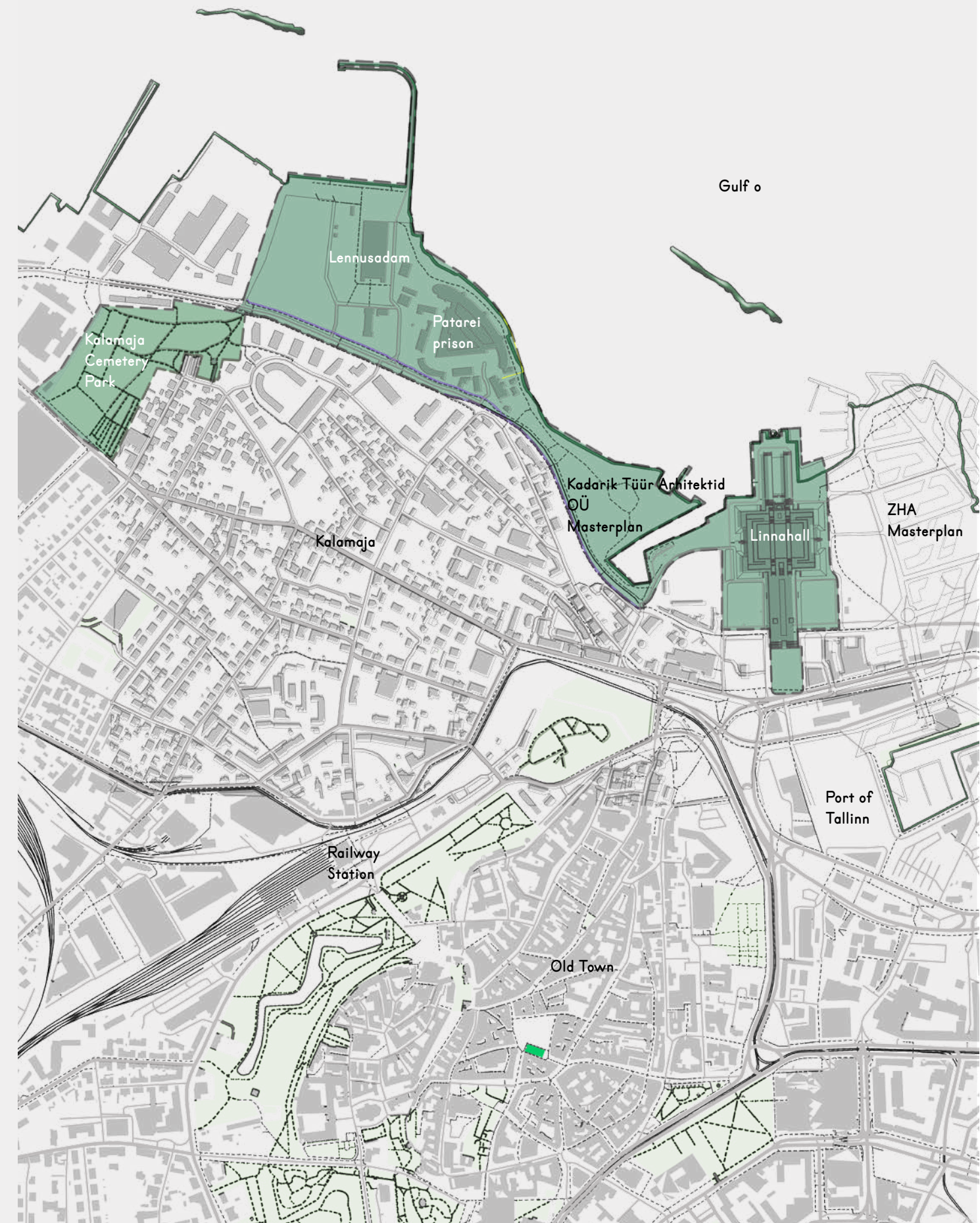


A direct connection to the promenade results in increased user numbers

8.0 Site



8.1 Defining the Site

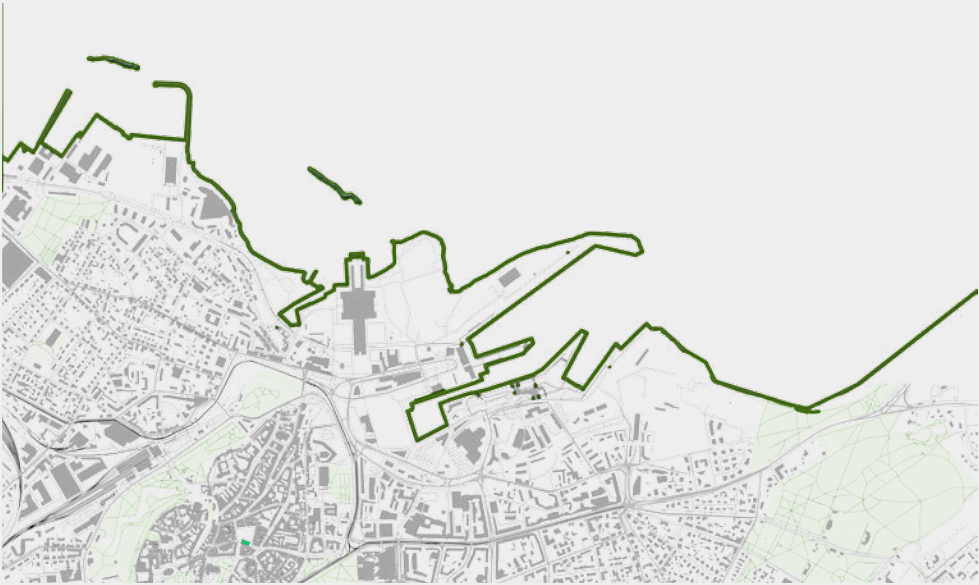


8.2 Site Precinct_Detailed hierarchy



Relationship
to water

The site's predominant feature is its location on the coast of Tallinn. This gives the opportunity to create a varied number of outdoor space in conjunction with the waterfront. Architecture of Linnahall is special in the sense that it provides access to the water by a passage through its rooftop.



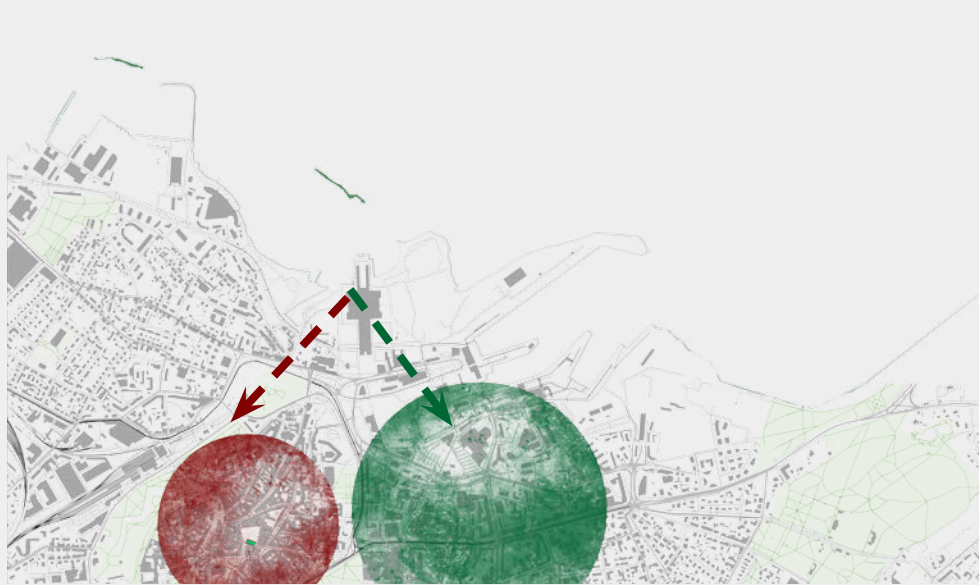
Relationship
with promenade

The foreshore sets an impressive language for the site and is a strong drive on giving the city a better visitor experience. Possibility of an attempt to rejuvenate the exiting culture kilometer by connecting it to the promenade. Eventually the promenade will become a recreational and hub for public space activities.



The scattered green :

The recreational green spaces within the context are scattered across with no proper connectivity between them. This indicates an absence of a green corridor that will encourage the pedestrian movement. There is a lack of direct link of these green areas to the water. Any design has to contemplate a possibility of linking the spaces with each other and water.



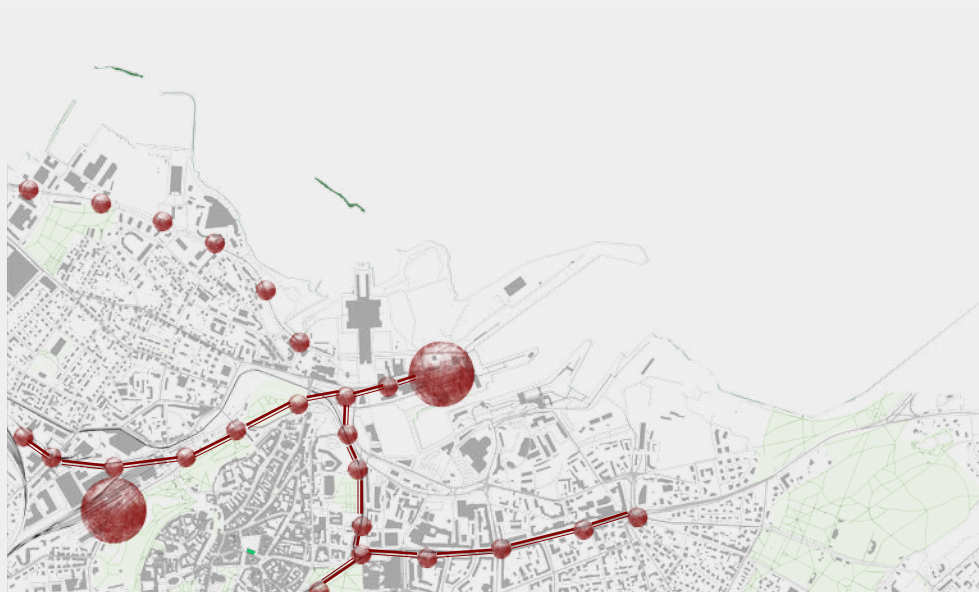
Connectivity

Proximity advantage of the precinct to city centre and old town as well as and across the city. The access from old town could lead to the possibility of Linnahall being one of the most visited areas after Old town. It is only a matter of analyzing and assigning the right set of functions of intermediate nature. to Linnahall.



Key Economic Generators

Only 2.5 hours away by ferry from Helsinki, Tallinn is quite a tourist destination for people who plan to visit Finland. The site's location proximity to the Port of Tallinn is an area that could be explored to lure in more visitors with its rejuvenation.



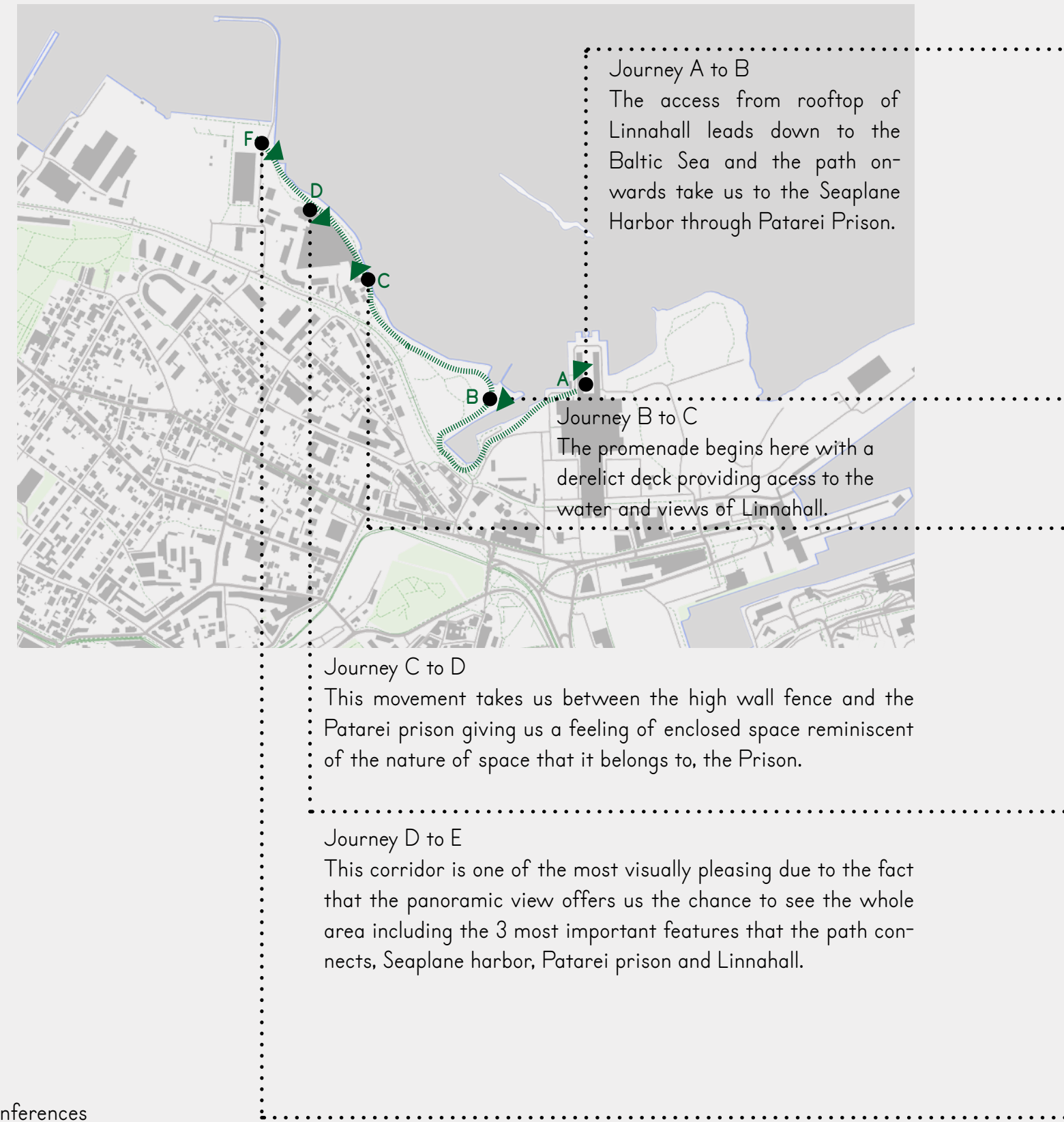
The Transport Corridor :

Linnahall is accessible by cities public transportation and the private cars. There is an existing bike track running through Linnahall. Maximum connectivity ensures that more people can reach the place and activate the waterfront along with the building.

8.3 Site _ The images follow the journey from Linnahall to Lennusadam along the waterfront



8.4 Visual Analysis



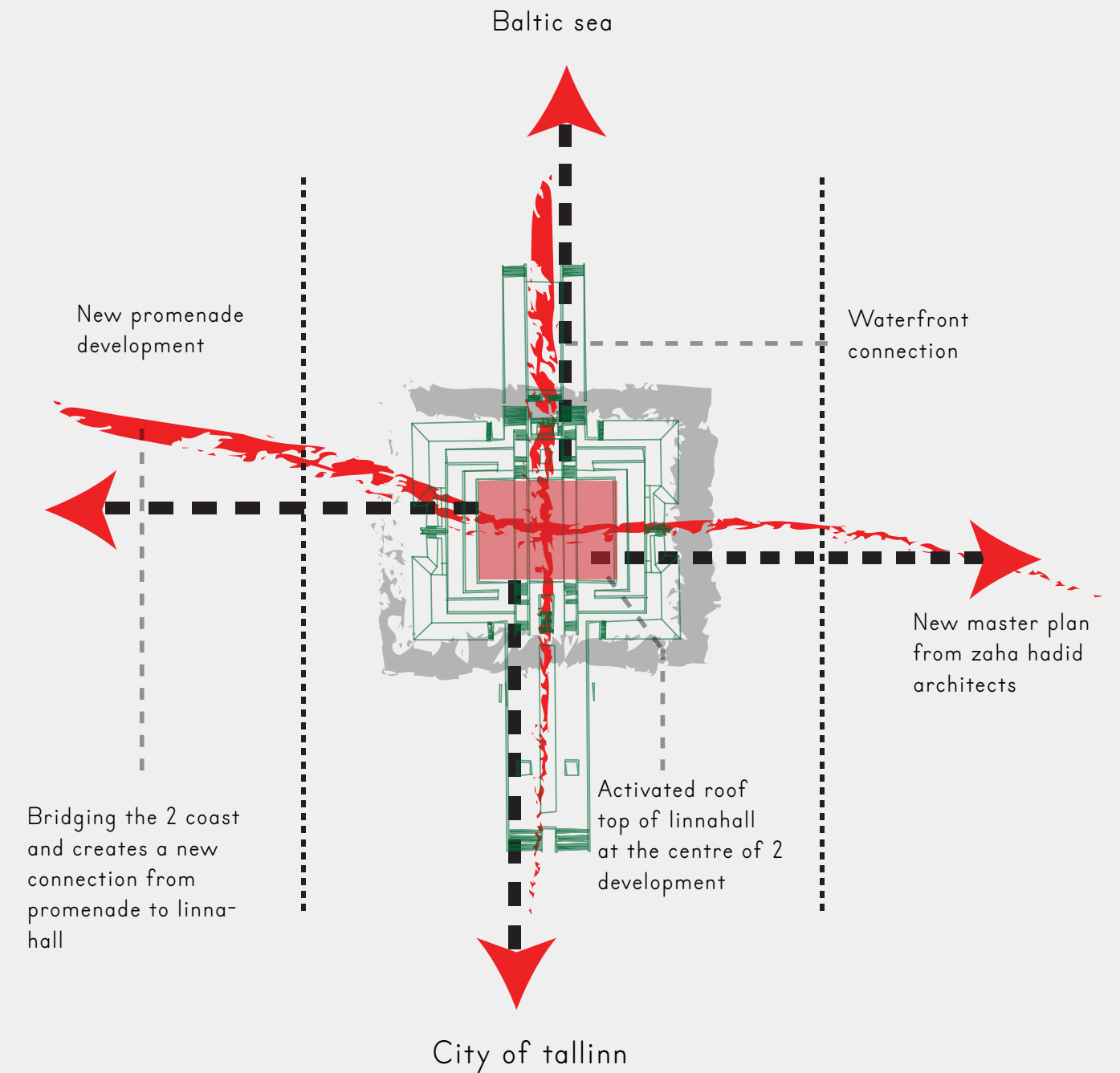
Inferences

The various degrees of enclosure that are existing along the promenade can be considered as opportunities to create spaces that are varying in their functions and quality. This helps us revive the spatial essence and create a multitude of activities that will bind together the whole seafront as a single entity.



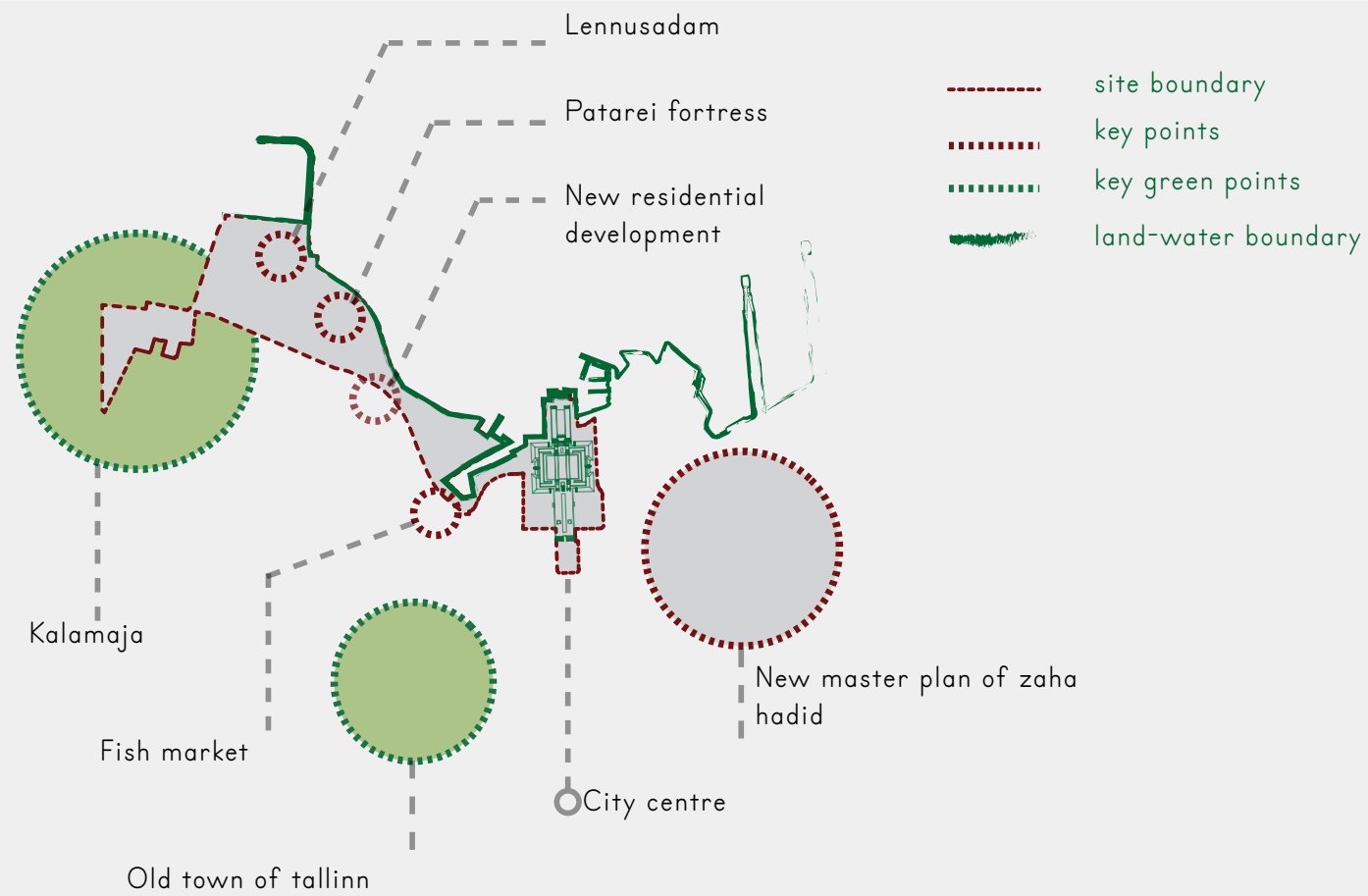
9.0 Design evolution

The design evolution depicts the process the design has undergone. It starts with the Phase I where we see the basic where it all begins, the sketches and tracing sheets. Analysis and understanding the spatial essence of the place, the connections to the city, waterfront and new developments. Phase 2 comes up the ideas on how to incorporate the various elements in to a coherent network. It also becomes the base from which the final design is shaped. Here I have tried to explore many different possibilities in finding the right way to bring together spaces of separate functions and activities as a part of the larger network catering the city as a whole.

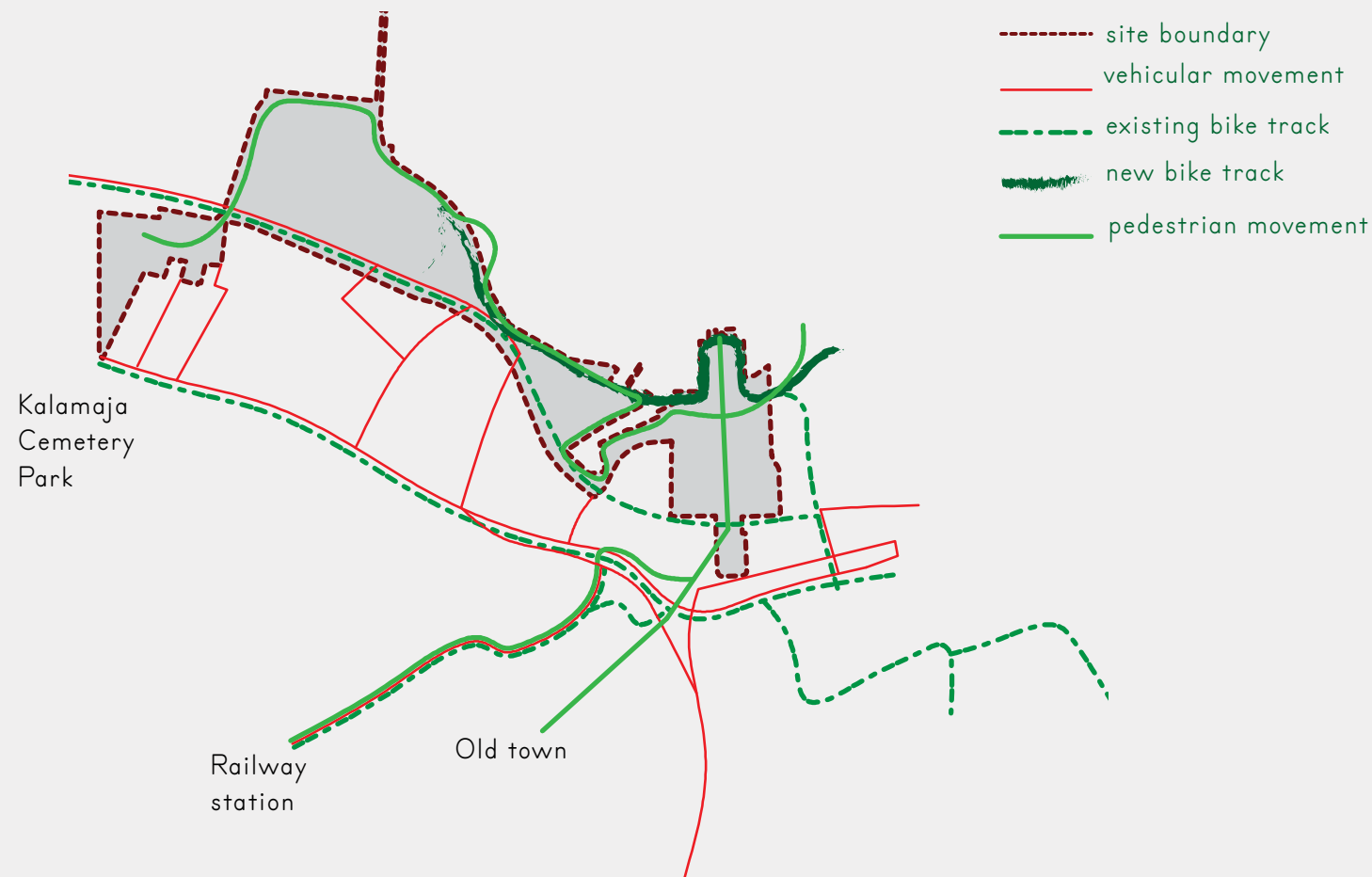


There are plans to develop the coastal area of Tallinn as the current state of buildings in this stretch have been deteriorating with time due to lack of maintenance and construction quality. The recent renovation of Lennusadam could be seen as an example of how these buildings can be reclaimed through a thoughtful approach appropriate to the site's context and the usage.

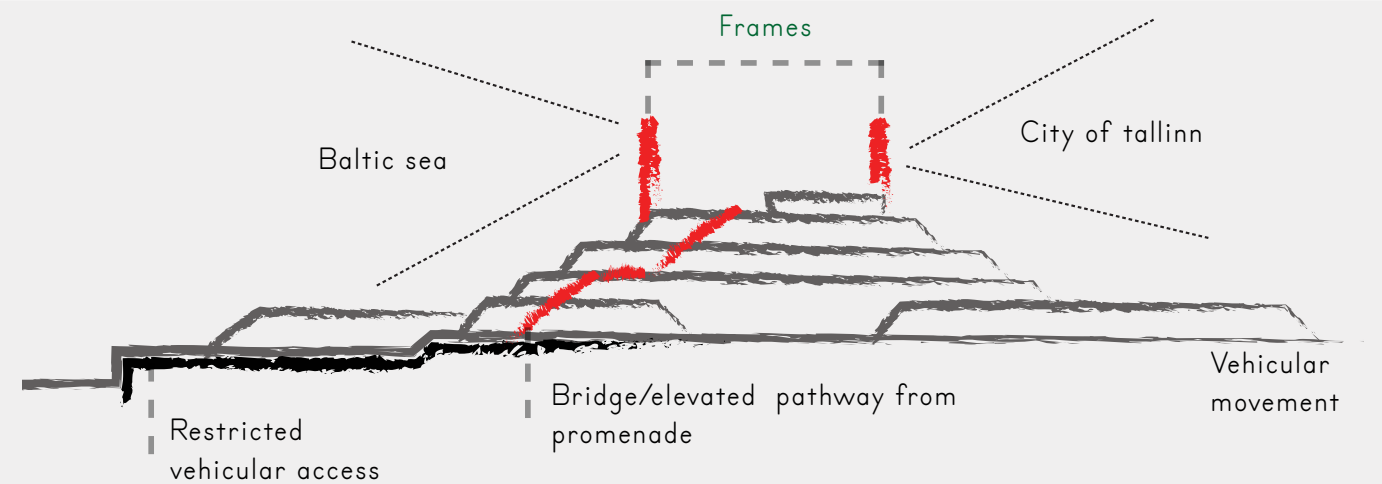
In case of Linnahall with the new developments planned like the Masterplan by ZHA and KTA on either side will bring in an influx of more users and the renovation of the building will add to the positive quality.



Linnahall at the centre of new developments



Circulation diagram around Linnahall



Linking Linnahall : to city and its coastline

Zone 1

- Kalamaja Cemetery park and Lennusadam Connection
- Important access to the promenade
- Activities related to the maritime museum
- The only direct connection from Kalamaja which is divided by the road kalaranna
- Activity map, Exhibition spaces , Pathway connection
- Wooden deck and seating spaces ,Existing park

Zone 3

- New masterplan offers residential+commercial spaces
- Bridge connections to other zone increases access
- Decks and seating spaces
- Open green areas for the city and the residents of kalamaja more specifically
- Promenade

Zone 2

- Patarei prison and sea fortress (competition for opening to public)
- The wall and the enclosed space – ethos of the space – relating to its history as a prison
- Viewpoints – opening in the wall
- Existing lookout point from the prison times – inspiration
- Museum plaza and the connection to creating activity spaces for the children

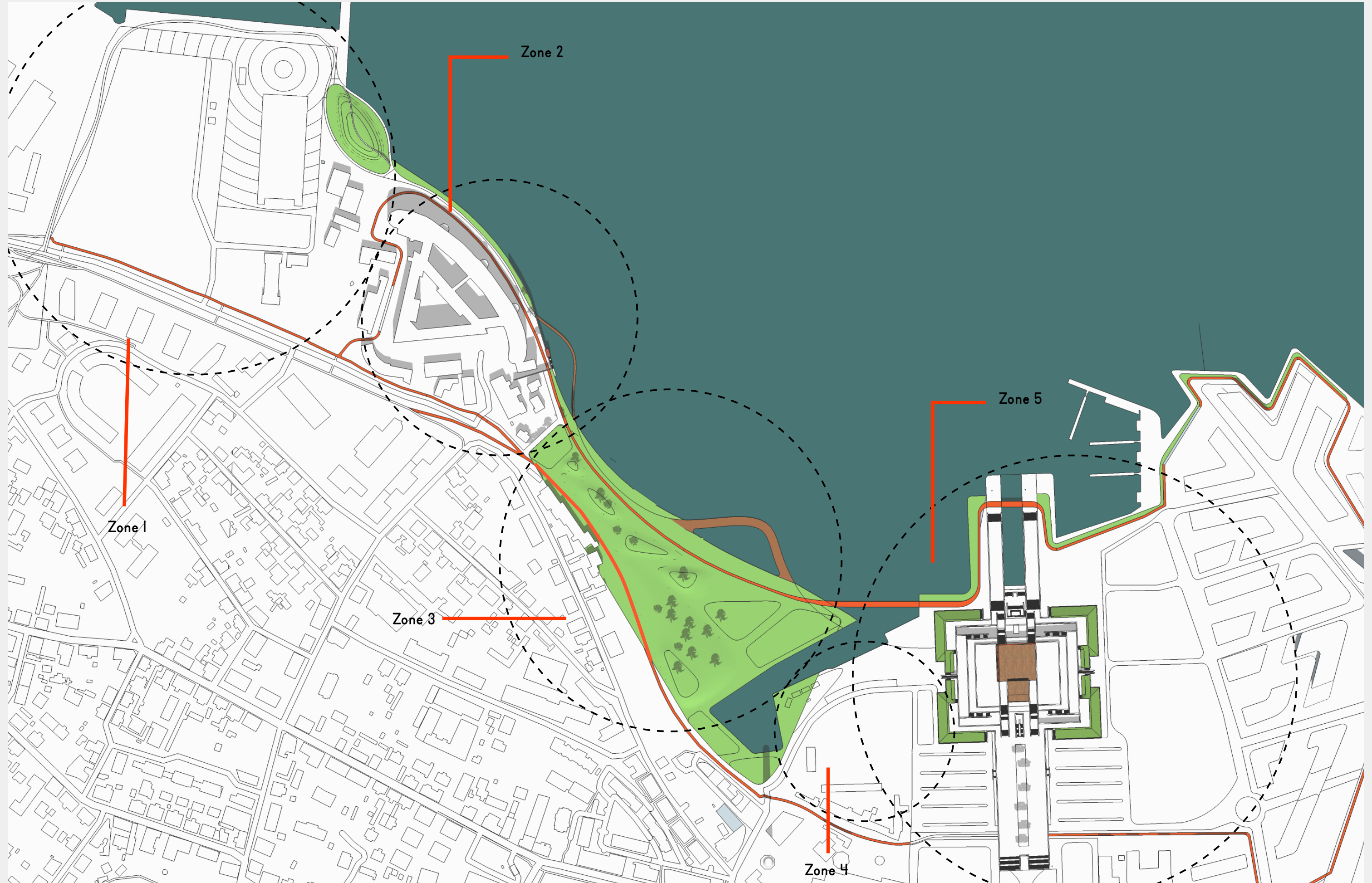
Zone 4

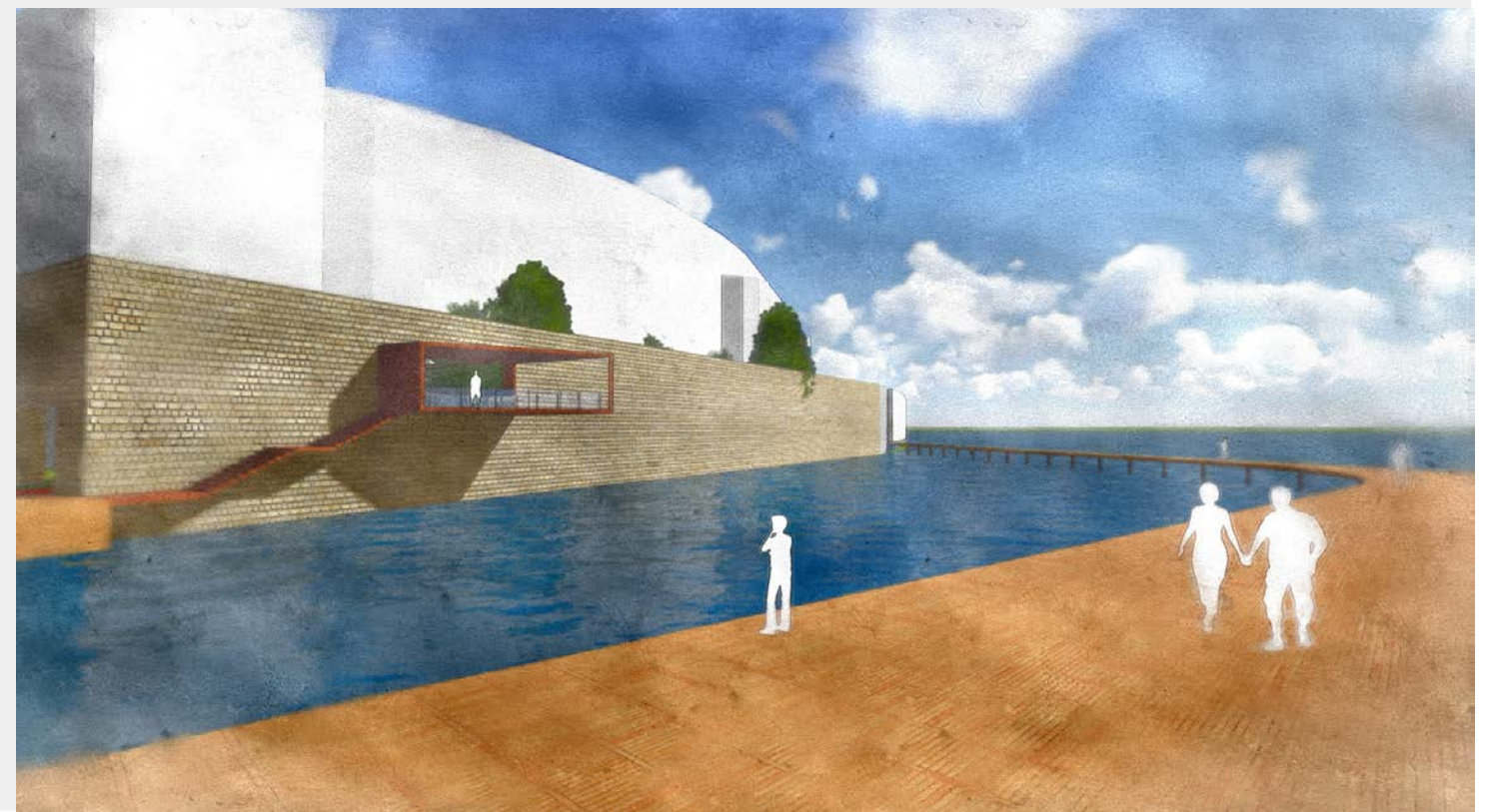
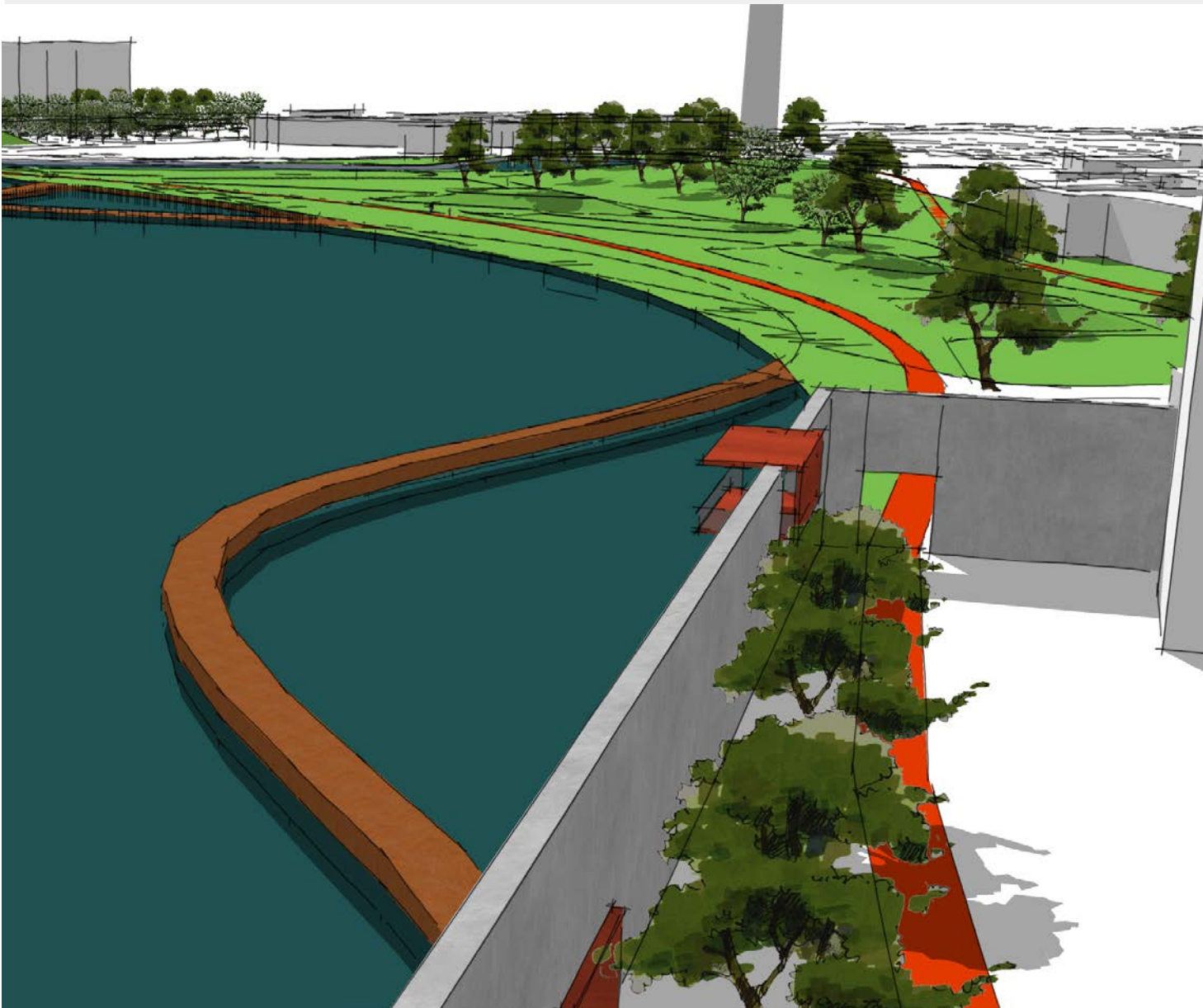
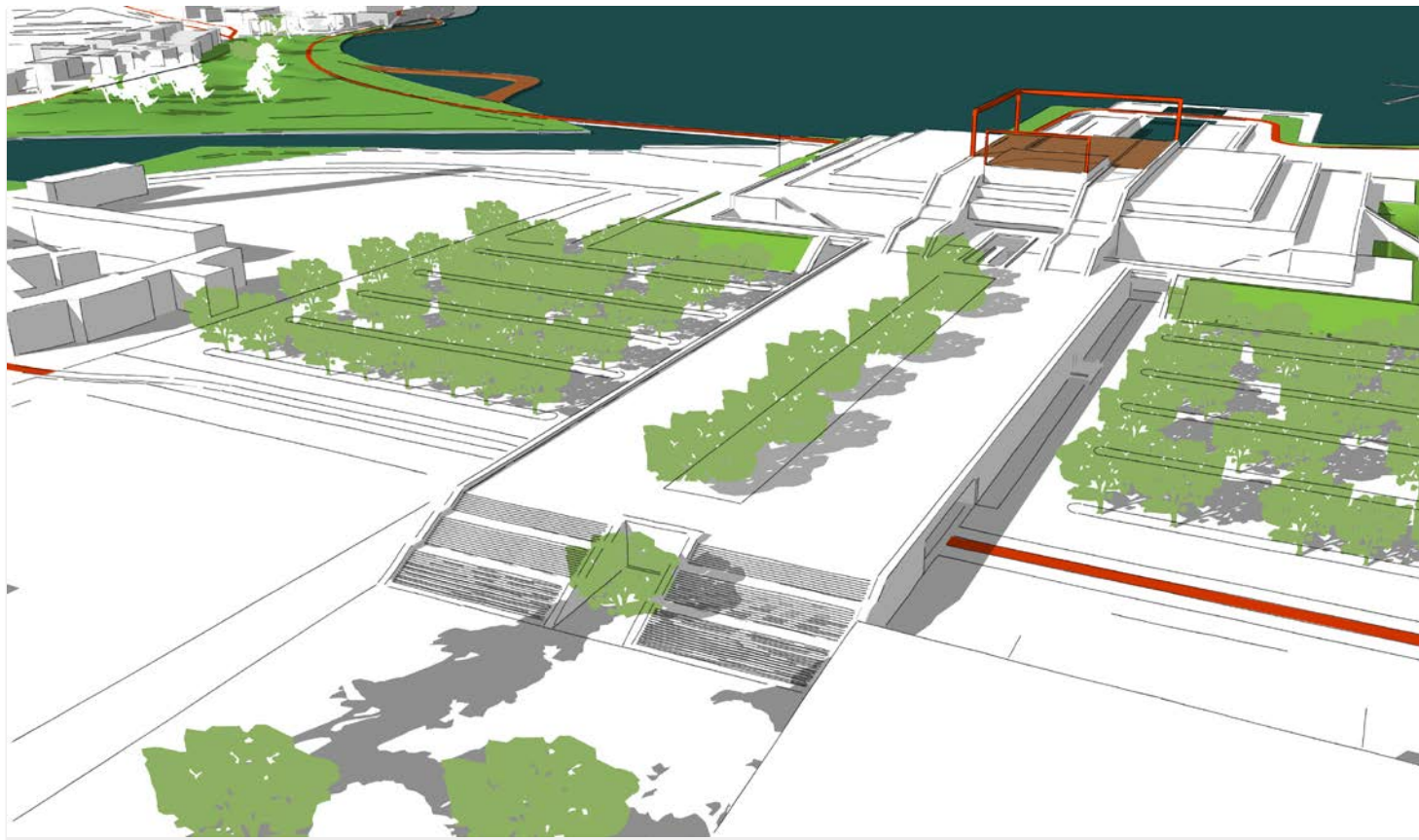
- Existing fish market
- Making it more active by providing wind and snow protection
- Opportunities for waterfront cafe and restaurants
- Related seating spaces

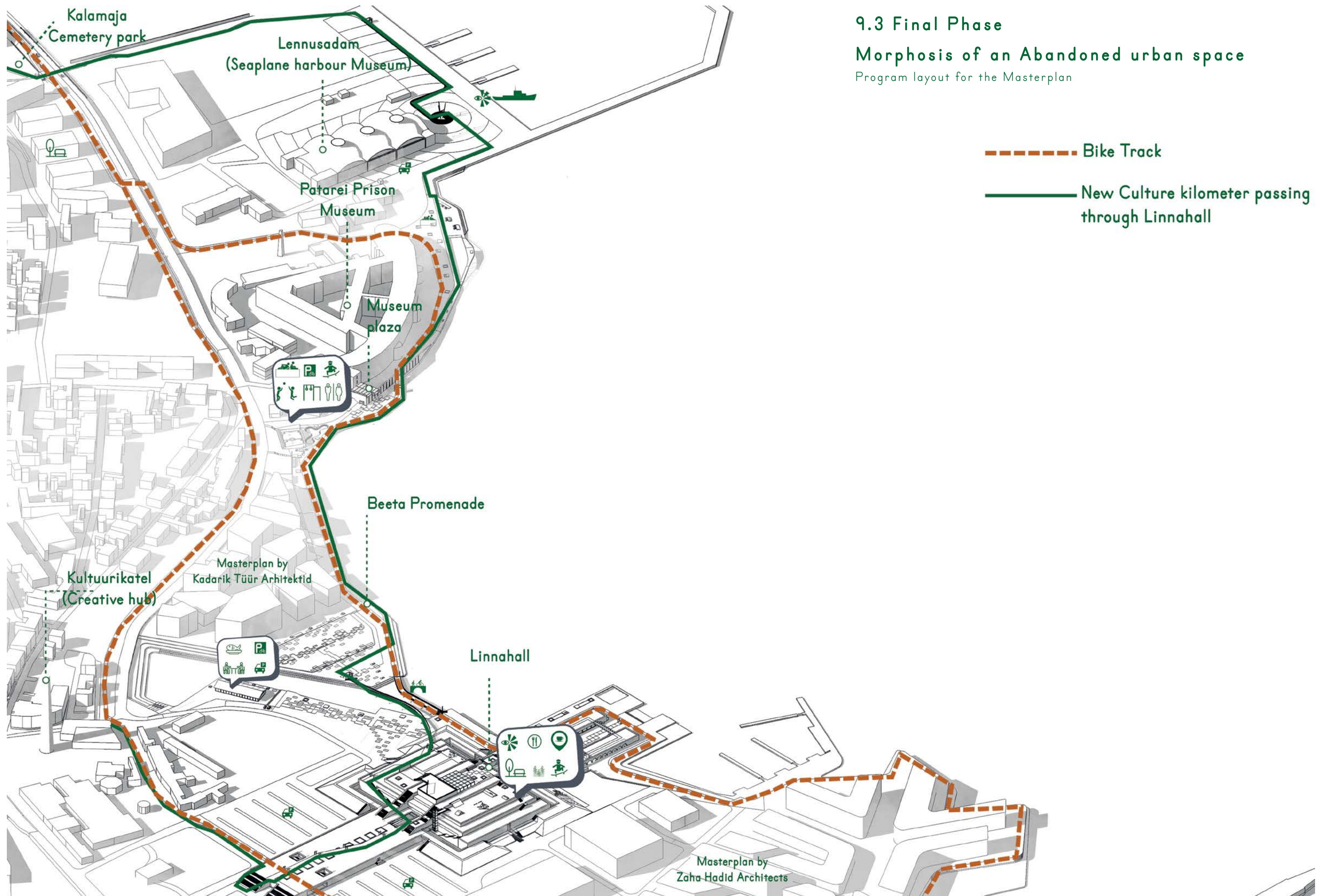
Zone 5

- Linnahall and related functions
- Open terraces with public accessibility
- Connection to the promenade, one of its kind when built in 1980
- Various activities at different levels
- Direct Connection to the waterfront promenade

Activity and Zoning diagram around Linnahall

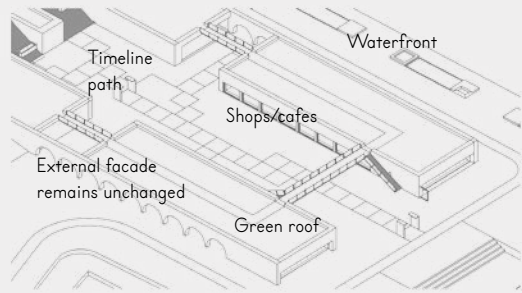




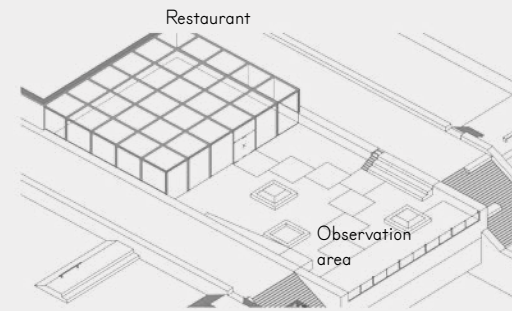




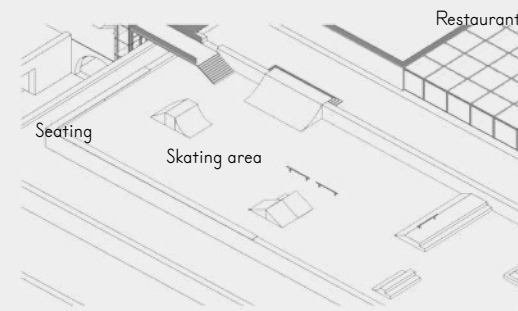
Design Features and Elements



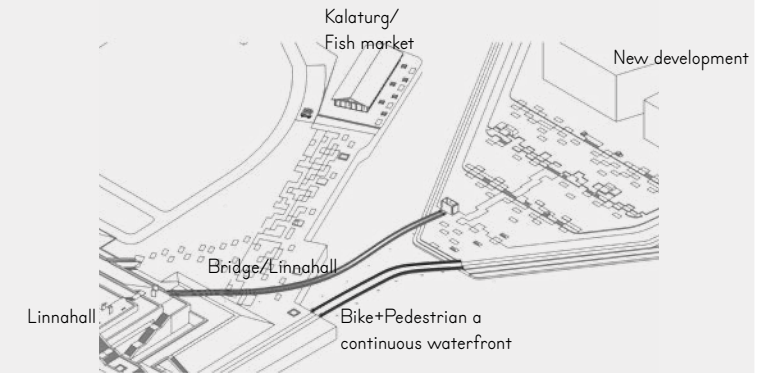
The existing water feature used for cooling the ice skating rink is now defunct and designed to be waterfront access street active spaces with shops/cafes and other functions meant to bring in more user groups.



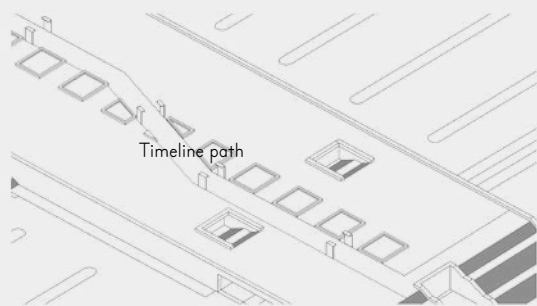
The restaurant along with the observation area forms the central element binding together all other active spaces on the rooftop.



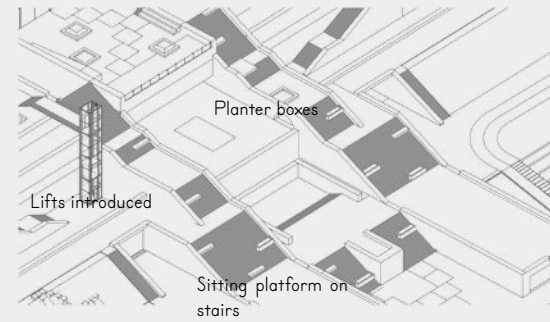
In considering the current situation of rooftop uses, there are people who comes to skate on the various accessible spaces. The provision of skating area gives more youth a reason to come to Linnahall.



The bridges link the promenade as a continuous element and also to Linnahall forming a part of the Timeline path and also thereby providing a direct access encouraging the circulation and pedestrian movement in to the building.



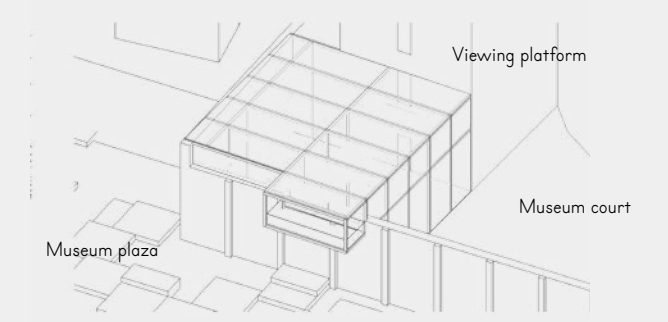
The timeline path features the historical trace of Linnahall. People who visit the place seldom gets to know what happened to this Soviet era mammoth of a building and to know the history renders the space more relatable.



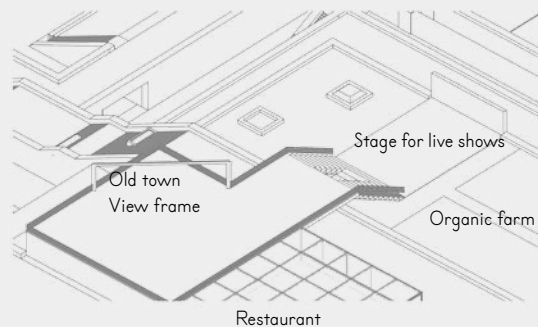
The stairs that lead to the waterfront from rooftop are 8m wide and to design a seating arrangement would encourage people to take more time in exploring the space and planter boxes added a bit of nature's touch.



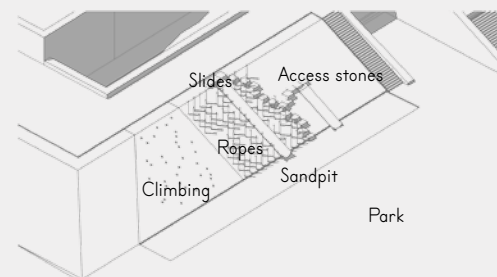
The outdoor play+gym location was planned to be in close proximity to the new development and yet in a niche where are others can easily be able to access it.



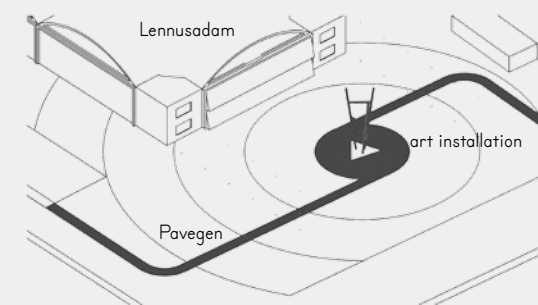
The viewing platform is an ode to the history of the Patarei prison and the existing wall on the waterfront. There was a outpost on the wall for the prison. The edge of the prison provides access to the museum and people come to the platform through the museum.



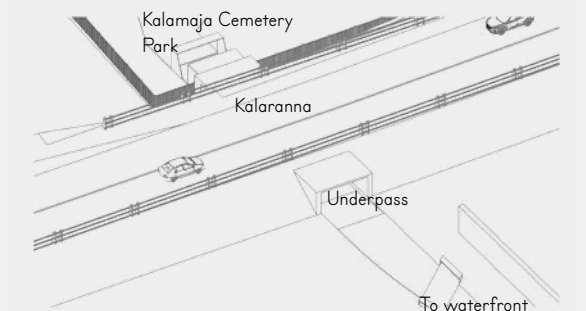
The highest point on the Linnahall's roof is accessed by a flight of stepping seats that are designed as viewing area for a stage. This could hold live music shows as a part of the restaurant and many more. The steel element frames the view of Old town. The organic farm is managed to meet the restaurant needs



The sloped greenery on the waterfront is turned in to an active play area in conjunction with the park area.



The design focus on Lennusadam is minimal as in line with practical aspect it was recently renovated. The path in pavegen material provides for the energy used for lighting up the space through the art installation.



The underpass links the main neighborhood of Kalamaja to the waterfront from the cemetery park.





View of Linnahall from Promenade

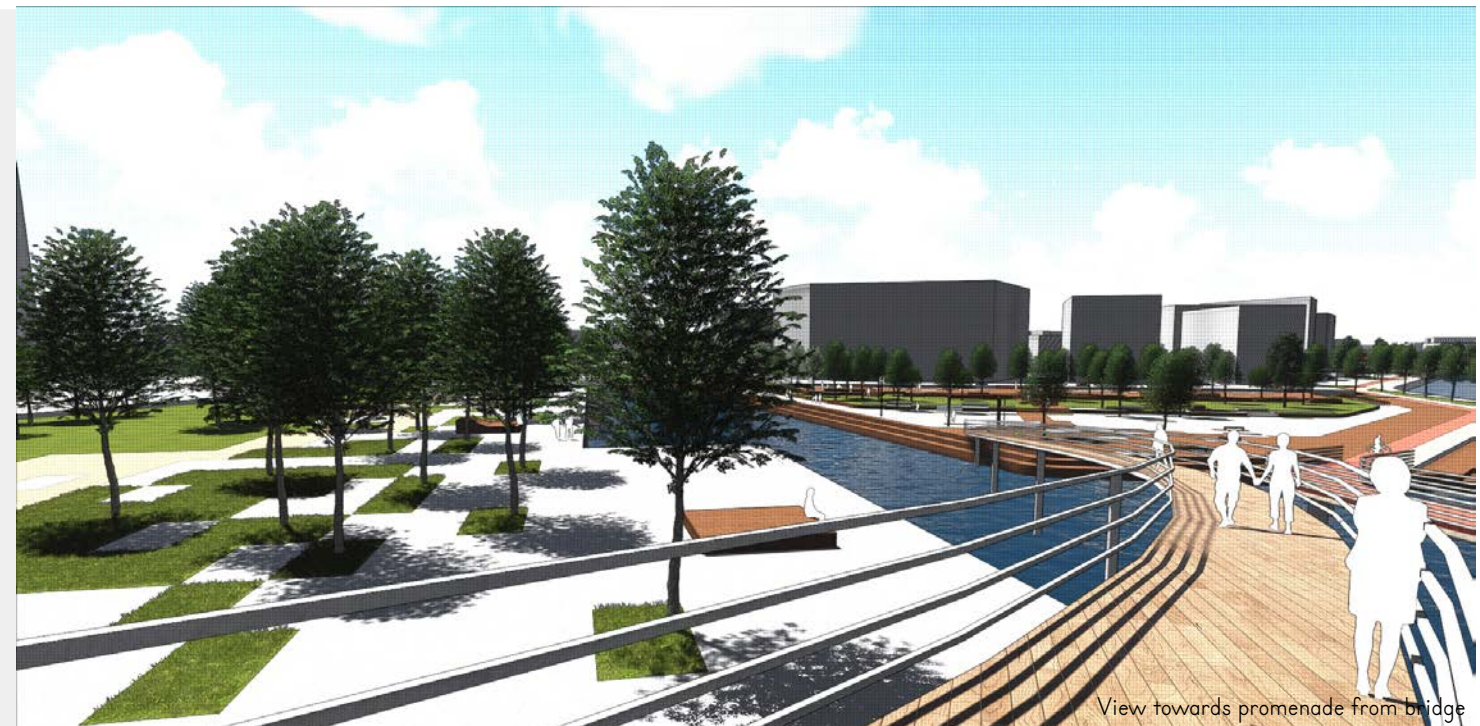


View of Fish Market

One of the main issues to be considered on site was the isolation Linnahall will be facing in the future with new developments planned on either side. The idea was to make a continuous promenade that becomes a part of the Linnahall and encourage people to use this historic building for its context. The promenade also continues as a bike+pedestrian path along the waterfront providing an access to the street level cafes/boutiques in the renovated courtyard quarter. This bike track goes on to encircle the new masterplan of ZHA which lacks a comprehensive networks of infrastructure for bikes. For the design of Linnahall, existing functional spaces were analysed in typologies against the kind of functions that could be designed and various activities follow suit. The rooftop supports functions requiring a flat and open spaces similarly sloping green has a play area as part of the design.



Kalaturg-The fish market



View towards promenade from bridge



View of the deck and site context



View of Street level functions_courtyard

Museum Plaza and Outdoor Play_1:10 00

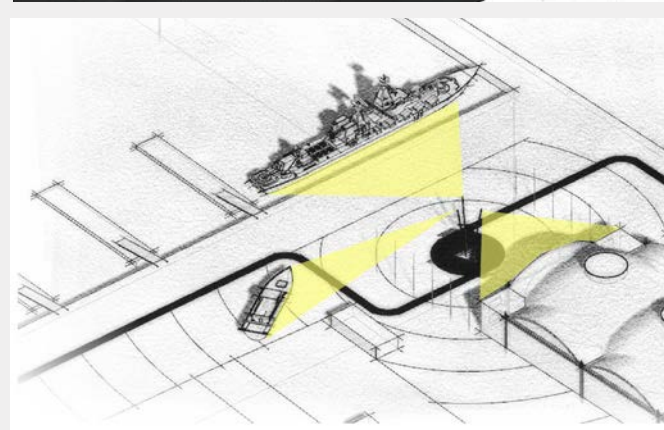


The design for the museum plaza takes in to consideration the competition brief out for the turning of Patarei prison to a museum. The entrance to the museum foyer is created from the requirement in the brief. The wall along the waterfront echos the history of the space and the design indulges it as a part of the museum entrance. The lookout point on the wall is redesigned as a part of the exhibition having access from the inside of the museum gives an excellent view of Gulf of Finland and towards the Linnhall. The pedestrian and bicycle track emerge out of the wall from a higher degree of enclosure reminiscent of how freedom felt escaping from the four walls of Prison. The space is turned into a plaza with seating and also adjacent is a playground that falls in between the main promenade and provides more accessibility to the upcoming residential neighborhood development.





Info portal: Entrance to Lennusadam



CONCEPT - LIGHTHOUSE

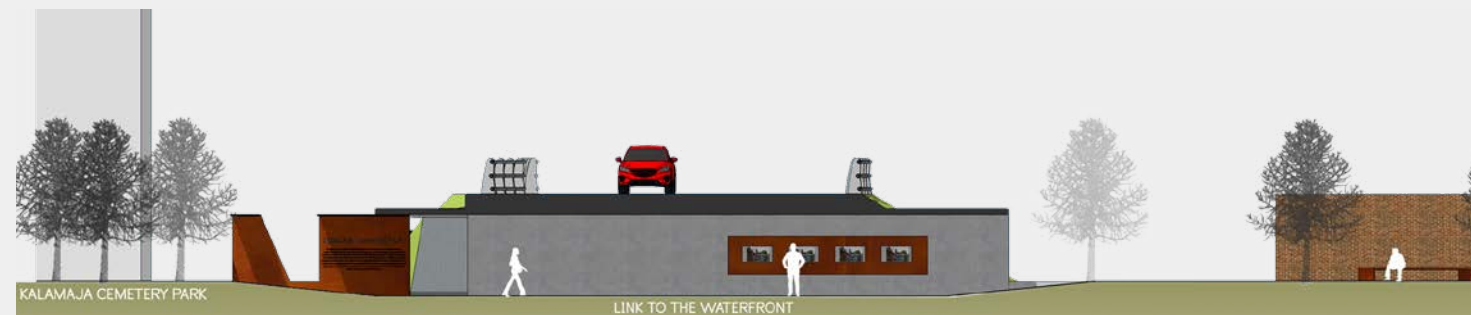
The idea behind the light installation was to bring focus on the area as right now it is huge open space with no focus and lay dormant throughout the year. Bringing in the pavement material PAVEGEN for the path gives more possibility for sustainable form of lighting the space. The installation draws inspiration from the idea of a lighthouse on the shore guiding the path of ships towards the land. The steel sculpture (embedded in the industrial history) lights up the three main elements in the square, the 2 ships and the building itself. It also lights up the existing poles in colour of red and green, with latter lighting up the path going through the poles making it more attractive for kids who would in turn increase the movement on the path leading to more generation of energy that is eventually stored for future purposes.



4 Underpass_Linking Kalamaja to the waterfront_1:250



The underpass



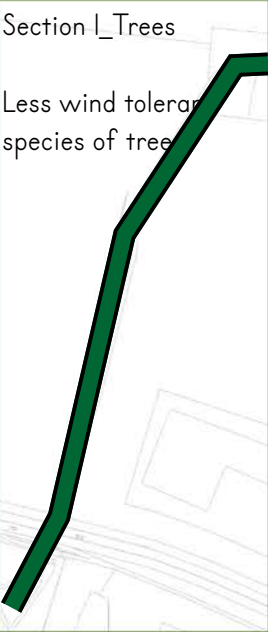
Section_1:250



Kalamaja has long been one of the historically stronghold neighborhoods in Tallinn. It also has a collection of buildings, both industrial and historical which needs renovation. With the development of Telliskivi the gentrification of Kalamaja has been happening at an unprecedented pace. But with the construction of the new Kalaranna road these residential spaces are separated from the waterfront. This underpass links the Cemetery park to the waterfront providing a direct access. The ideas of info portals are a coherent theme that gives a brief history to the passerby educating them about the space they are moving through. There is also series of art/photography along the pass and seating along the path leading up to Lennusadam. The materials usage directs/informs about the seating space and are complimentary with the new additional elements that are a part of the masterplan.

Section 1_Trees

Less wind tolerant species of trees



Pinus sylvestris



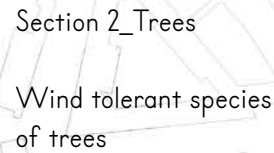
Betula pendula



Acer platanoides

Section 2_Trees

Wind tolerant species of trees



Alnus glutinosa



Fraxinus excelsior



Populus alba



Tilia cordata



Sorbus aucuparia

Culinary herbs



Petroselinum crispum



Ocimum basilicum



Allium schoenoprasum

Perennials



Achillea millefolium



Linaria vulgaris



Echium vulgare



Dianthus deltoides



Bellis perennis



Armeria maritima



Campanula rotundifolia

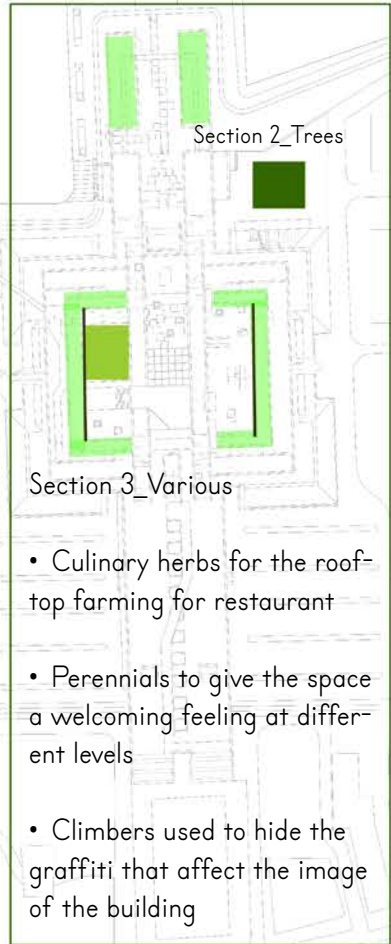
Climber



Hedera helix

Section 3_Various

- Culinary herbs for the rooftop farming for restaurant
- Perennials to give the space a welcoming feeling at different levels
- Climbers used to hide the graffiti that affect the image of the building



9.6 Material Study

Kinetic Tiles

By using the process known as the ‘piezoelectric effect’ it is now possible to produce clean, renewable energy by tapping into the normal activities of everyday life. This relatively new concept has the potential to contribute to the reduction of the use of so-called ‘dirty’ energy sources such as coal and oil by increasing the number of available green-energy options like solar and wind power.

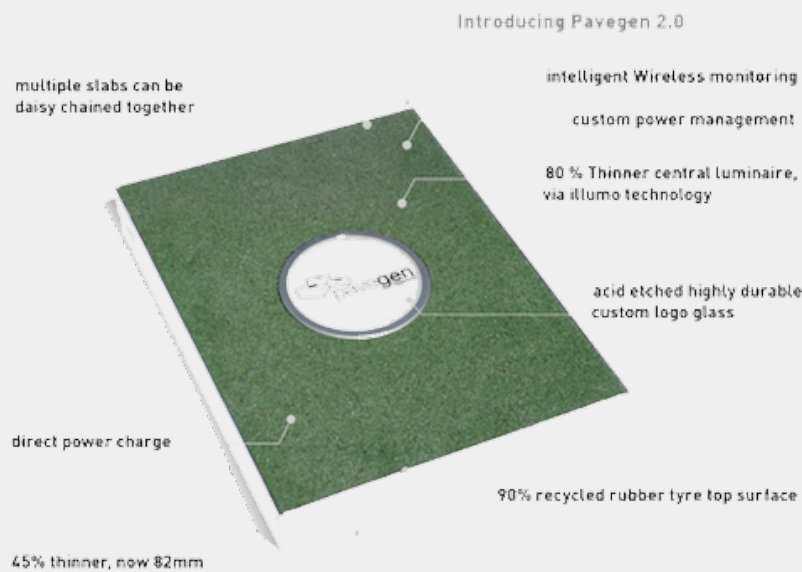
All moving things have kinetic energy. Kinetic Energy is energy that is possessed by an object due to its motion or movement. Any object, large or small, the size of a planet or as small as an atom, contains kinetic energy when in motion. The more mass an item has, and/or the faster it moves, the more kinetic energy it contains. An item that is at rest contains stored energy, otherwise known as ‘potential’ energy. Potential energy is converted to ‘kinetic’ energy once the item is put into motion.

The ability of certain materials to generate an electrical charge in response to applied mechanical stress (otherwise known as ‘pressure’) is the key to the success of Kinetic Tiles. Discovered by two French physicists in 1880, the two brothers decided to name this newly detected phenomenon the Piezoelectric Effect (pronounced pee-zo-electric or pee-eh-zoh-electric). The name comes from the Greek words piezo which means “push” and piezein “to squeeze or press”.

Designed for use in high foot-traffic areas, the tiles convert the kinetic energy from the footsteps of pedestrians into renewable electricity, which can be stored in a lithium polymer battery or used to power low-wattage, off-grid applications like street lighting, displays, speakers, alarms, signs, and advertising.

The kinetic tiles are made from nearly 100-percent recycled materials (mostly rubber) and some marine grade stainless steel. They can be retrofitted to existing structures or can be designed into any new flooring system with ease

In some ways it’s even better than solar or wind power because these technologies depend on the weather and are not always reliable. Kinetic Tiles and piezoelectric technology depend on the activities of humans and the movement of our machines. As with other green-energy sources, cost will eventually come down and this technology will become practical.



PAVEGEN

THE POWER OF FOOTSTEPS

Pavegen transforms the kinetic energy from motion into sotred and usable form of electricity. This can be used for a variety of purposes like street lighting, wayfinding elements etc. The intention of using this in Linnahall and adjacent areas is to provide for the basic electricity needs of the building and add elements of subtlety like the Timeline pathe where they light up and guide the users without consuming any extra resource. The usage of it begins with laying them on the maximum foot traffic and expanding as more and more people start using the waterfront spaces

PRODUCT SPECIFICATIONS

Dimensions: 500mm each edge
Power rating: 5 Watts continuous power from footsteps
Voltage: 48V (Range 12V - 48V)
Materials: Steel, recycled Aluminium, Composite.
Minimum order size: 2x4m array
Certification: EMC compliant, CE marked, UL compliant.

The diagram illustrates the energy flow process. It starts with three input sources: 'Footpaths' (with a person walking), 'Public Spaces' (with a group of people), and 'Athletics Fields/ Courts' (with people playing sports). These sources feed into a central 'Kinetic Energy' box. From there, the energy flows into a 'Usable/ Stored Electricity' box, represented by a battery icon. This stored electricity is then distributed to various applications: a smartphone, a lightbulb, and a set of power tools (drill, saw, and wrench).

10.0 Epilogue



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