

Four Seasons of the Waterfront | Designing a River Quay in Riga

Thesis Plan

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16 Jan 2012 | Delft



Colophon |

Four Seasons of the Waterfront:
Designing a River Quay in Riga

Thesis Plan

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Introduction |

Waterscape plays a crucial role in coastal cities. Waterscape defines identity of cities and contributes into the quality of urban environment. Nowadays an urban waterfront is a venue for recreation, entertainment, sport and other public activities. Although in many North European cities the waterfront is eventful during summer season, it is lifeless for most part of the year due to harsh weather conditions and unsafe or hard access. The thesis explores spatial conditions for a weather-proof and accessible waterfront in the case of Riga (Latvia) in a framework of green/open space development strategy.

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[1]Studio Framework | Delta Interventions

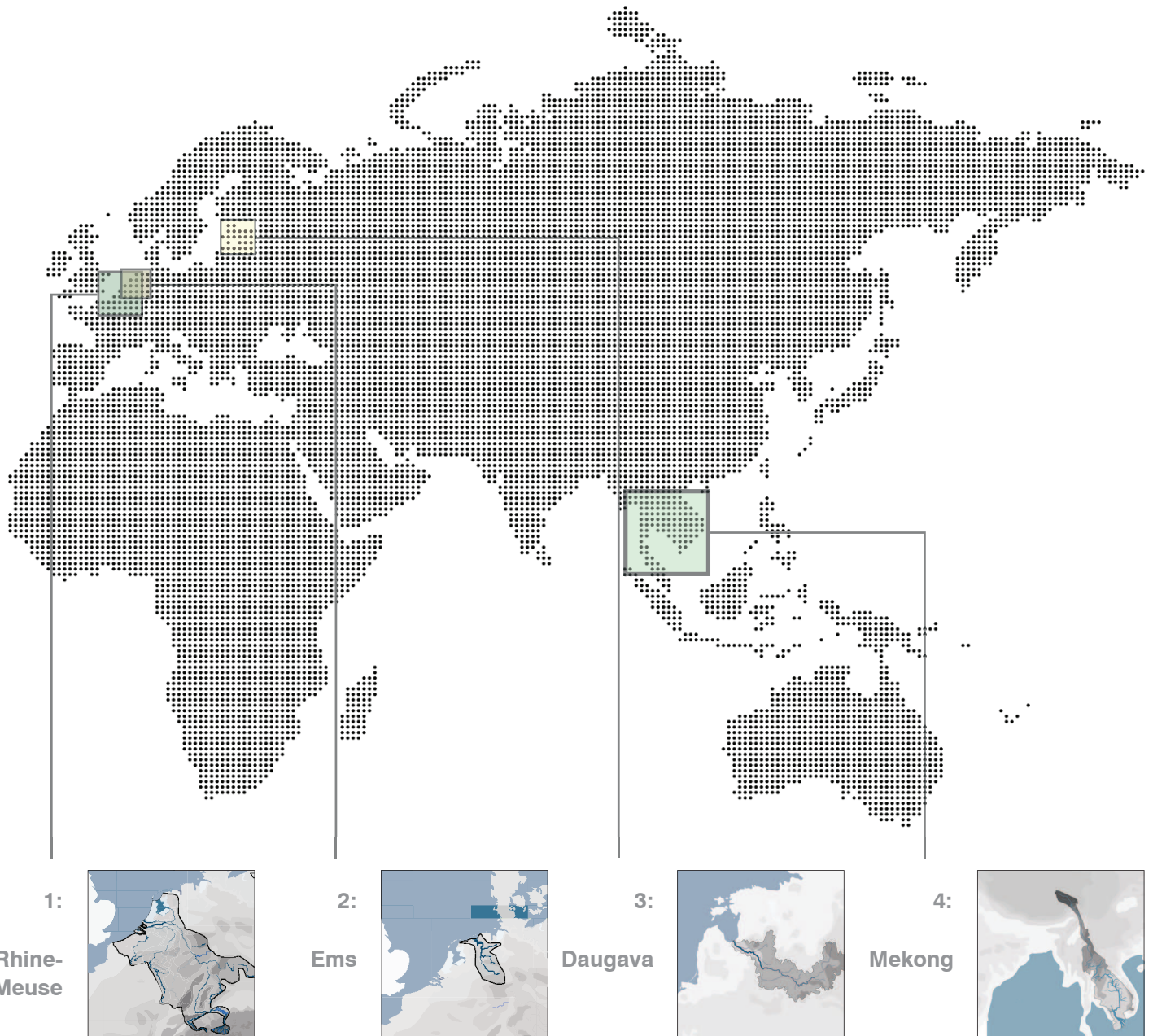


Fig.1.1 Four deltas of the group studio research, source: Delta Interventions, 2011-2012

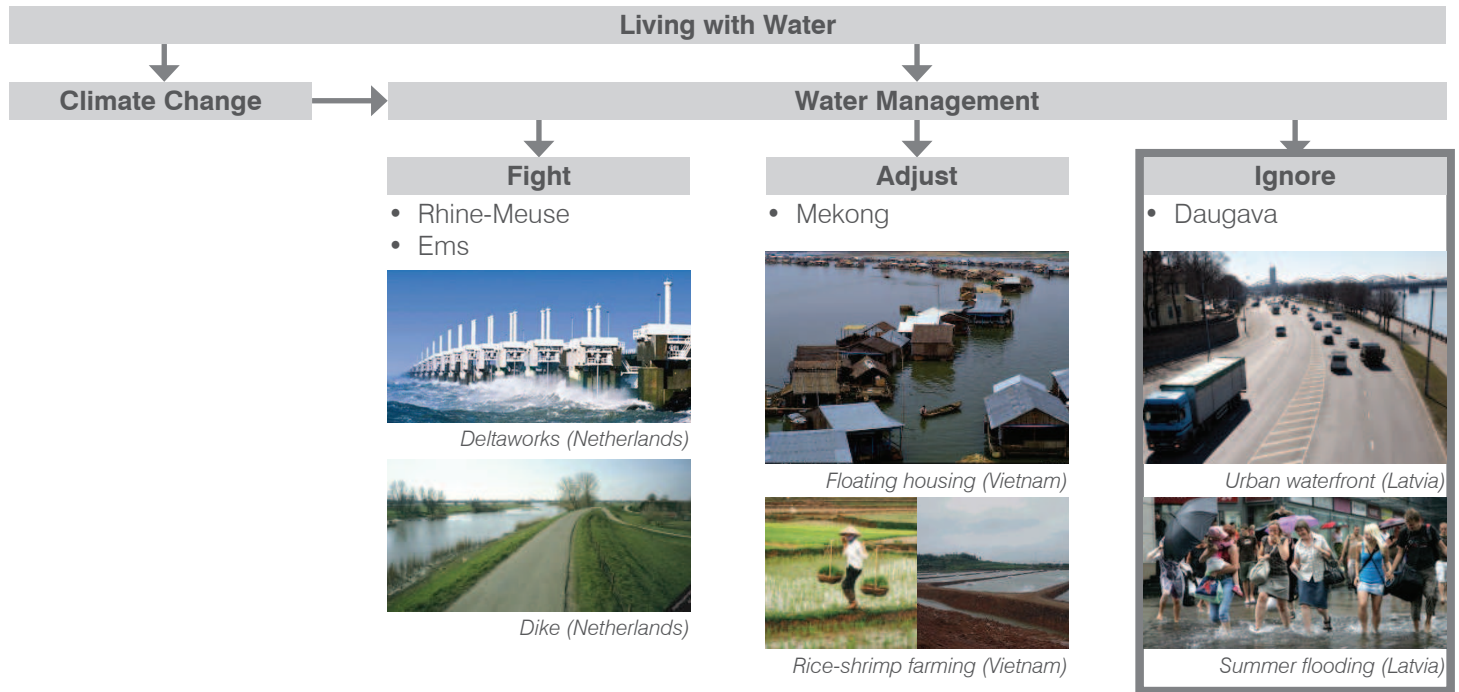


Fig.1.2 Studio framework

In the graduation studio ‘Delta Interventions’ students work on the comparative analysis of four river deltas: Mekong (Vietnam), Rhine-Meuse (Netherlands), Daugava (Latvia) and Ems (Germany) (fig.1.1). Although, the four deltas are of different scale and character, they face similar problems concerning the coexistence of settlements and the river. Therefore, the main topic of the studio research is ‘Living with the water’ (fig.1.2). The theme involves climate change related issues and consequently, water management.

In other words, the main question of the studio is **how do cities deal with water level fluctuations and increased flood risks caused by the global warming?** In the selected deltas there are three ways how to treat this problem:

1) to **fight** - by building dams, barriers and dikes and protect settlements from the river influence, typical for Rhine-Meuse and Ems river deltas;

2) to **adjust** - by benefiting from the seasonal cycle of the river, growing rice during the wet season and shrimps during the dry season, for example, typical for the Mekong river delta (Brennan

et al., 2002);

3) to **ignore** - the river is not involved into the city life, except for port activities in the estuary, occasional floods cause minor economic damage, typical for Daugava river delta.

However, nowadays these trends are changing. In the Mekong river delta with the growth of cities the government adopts the Dutch-German approach towards water management, t.i. ‘to fight’, while in the Rhine-Meuse river delta urban designers and planners propose ecologically friendly strategies, t.i. ‘to adjust’. In Daugava river delta the city council supports flood awareness raising projects, such as Riga against flooding (*Riga pret pludiem*) (PAIC, 2011).

The aim of the studio in this context is to research the impact of climate change on the water regime in the deltas and to study multiple ‘living with the water’ strategies and their spatial influence on the urban tissue. The results are to be summarized in the integrated studio report.

[2]Project Focus | Delta | City | Waterfront

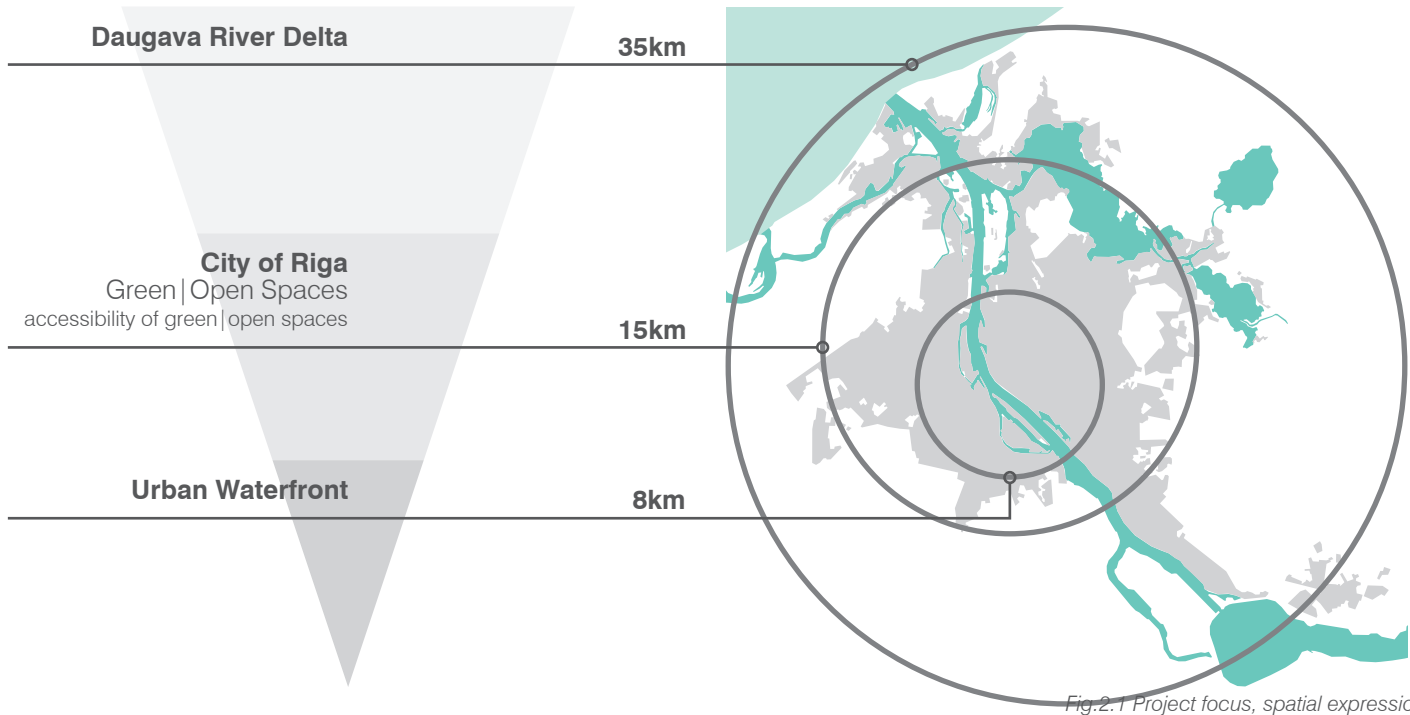


Fig.2.1 Project focus, spatial expression

Apart from the group research within the studio, each student develops an individual project. This project deals with the city of Riga as a main focus. However, for better understanding of urban problems it is essential to look at the larger context, t.i. the Daugava river delta. At the same time within the framework of the Master Thesis it is impossible to plan the whole city in detail, therefore it is necessary to pick a strategic design location, t.i. the waterfront of the city of Riga. According to the above mentioned approach the individual project involves three scales (fig.2.1):

- 1) the **delta** - the Daugava river delta, studio related research;
- 2) the **city** - the city of Riga, main focus and theoretical underpinning;
- 3) the **waterfront** - the urban waterfront of the city of Riga, strategic intervention.

The vision for the city of Riga will focus on green/open spaces and their accessibility because by developing a green/open space structure it is possible to significantly improve the spatial quality of the city and strengthen its international position.

[3]Context | City of Riga

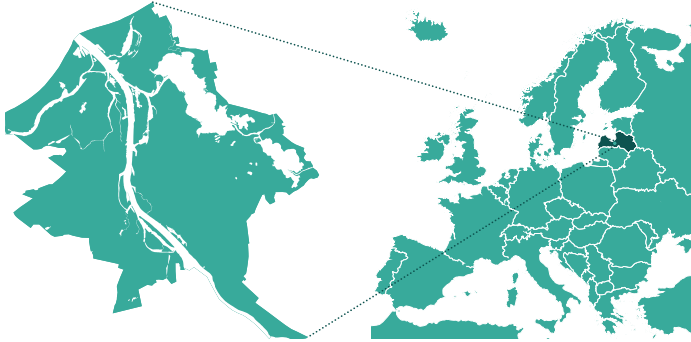


Fig.3.1 The city of Riga, location

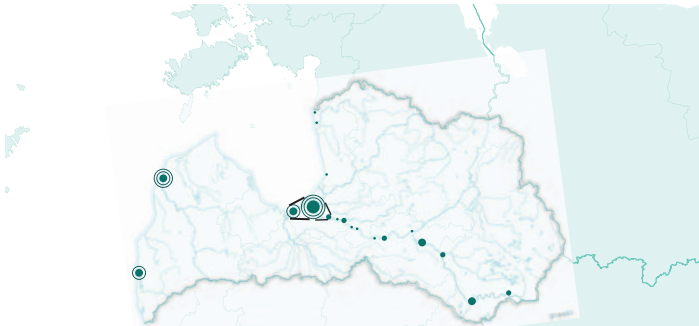


Fig.3.2 The city of Riga, urban cluster

Riga is a capital of Latvia, one of the three Baltic countries. It is located at the East coast of the Baltic Sea and in the delta of the Daugava river (Western Dvina) (fig.3.1).

Riga is a port city with cargo and passenger port terminals which function all year round (fig.3.4). It has the biggest and rapidly developing international passenger airport among the Baltic countries. It is well connected via railway and highways to CIS countries (Commonwealth of Independent States) and via highways to Western Europe (Smitt and Dubois, 2008). Furthermore, there is a plan to connect the Northern Europe and the Baltic states to the Western Europe via a Rail Baltica high-speed railway (fig.3.3).

Due to good sea, air and land connections Riga attracts a large number of transit passengers and tourists, especially in high-seasons in summer and on Christmas holiday.

Riga is a primary city which concentrates all the major functions in the country, such as governmental institutions, hospitals, universities, trade and entertainment centers. It makes up more than a half of the country GDP and one third of the population,

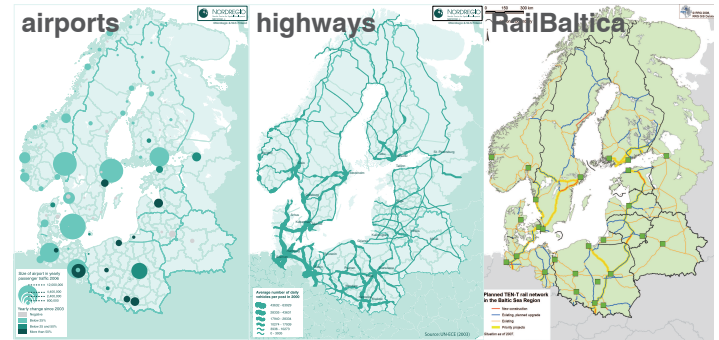


Fig.3.3 The city of Riga, connectivity (Nordregio, 2008)



Fig.3.4 The city of Riga, cargo port import/export (Pukaine, 2011)

t.i. approx. 710 thsd. inhabitants (Rīgas Dome, 2003-2011; LR Centrālā statistikas pārvalde, 2011).

Riga has large nature areas, such as the river, lakes, forests and a coastal nature park with a sandy beach within its borders. Together with the city of Jurmala, a recreational satellite town along the Gulf of Riga, and the city of Salaspils it forms a small urban cluster (fig.3.2). Although, the three cities do not merge together and have clearly defined borders, people commute between the cities for work and recreation. In the cluster the city of Riga has work and entertainment functions, while the city of Jurmala - recreation.

Riga has a moderate maritime climate which is influenced by the Atlantic Ocean and the continent. The coldest month is January with average -3.5°C , the warmest - July with $+17^{\circ}\text{C}$ (Казakov, 2004-2012). Snow cover usually exists from mid-December to mid-March.

In winter the Daugava river freezes and has a 20-40cm thick ice cover. Occasionally, the Gulf of Riga freezes as well. In this case to maintain the shipping the port uses icebreakers.

[4] Timeline | Europe | Latvia | Daugava | Riga

The timeline (fig.4.1) represents the most important events in the urban history of the city of Riga and morphological history of the Daugava river in Latvian and European context.

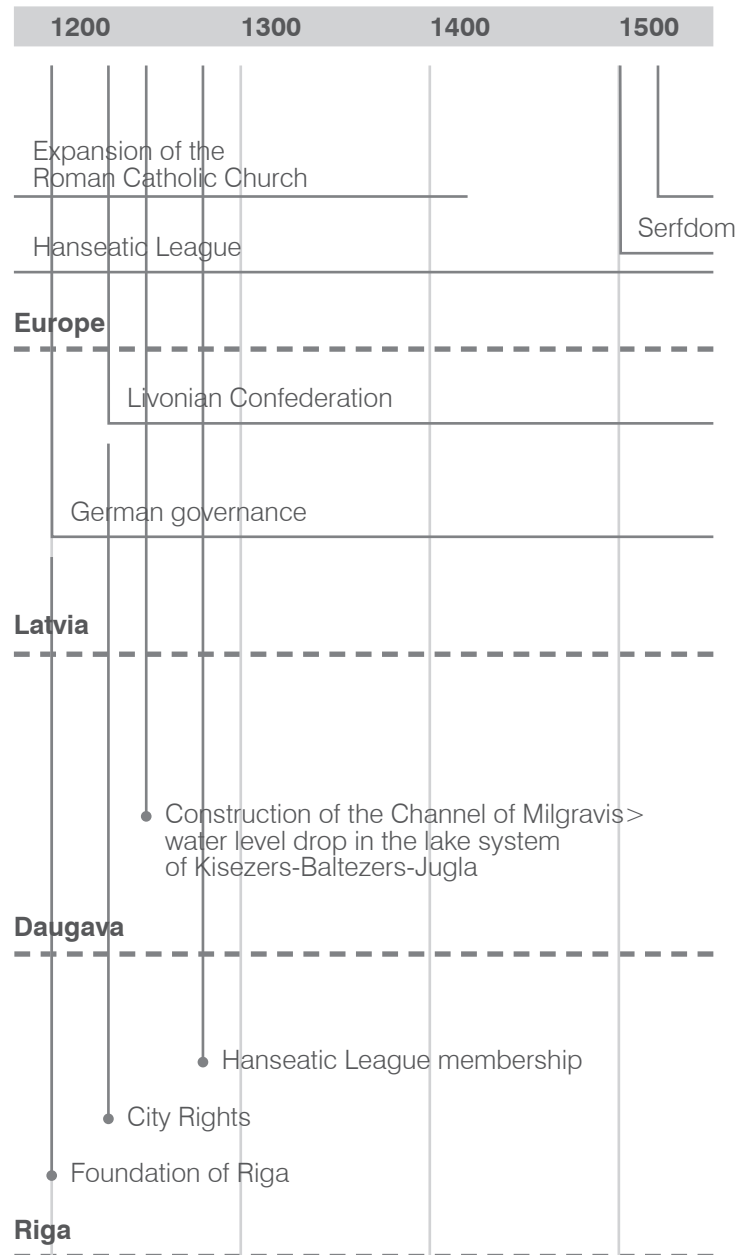
Important milestones in the development of Riga are the expansion of the city, natural disasters and the construction/demolition of significant urban and architectural structures, such as the fortification system, the railway and bridges.

Principal events that shaped the Daugava river delta are natural processes and disasters and the construction of large engineering structures, such as channels and dams.

It is essential to understand the overall context of all these events because some of them, especially the ones that include human factor, are influenced by significant changes in Latvia and Europe.

The timeline covers the eight centuries of the history of the city of Riga, starting with the official foundation date in 1201.

The detailed description and interpretation of represented in the timeline events is given in Chapters 5, 11 and 12.



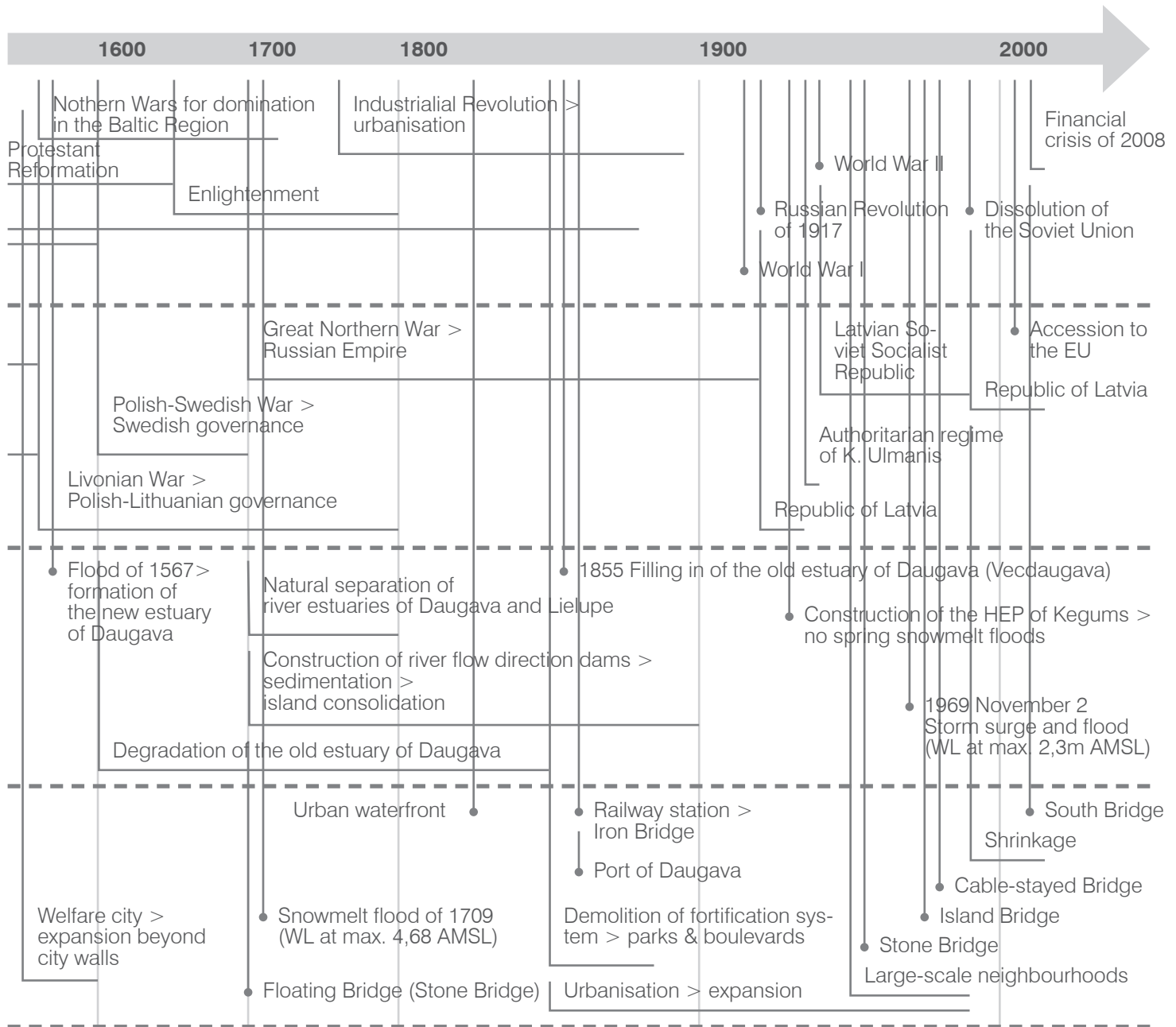


Fig.4.1 Timeline, based on Rigas Dome, 2006-2008 and Bebris, 2011

[5] Daugava River Delta | Development | Problem Statement



Fig.5.1 Daugava river, 12 cent. (reconstruction, based on Bebris, 2011)

Since the 12 century, when the first permanent settlement in the delta was founded, the Daugava river flow has changed dramatically. The delta was shaped both by natural processes and human interventions (fig.5.1, 5.2, 5.3). According to Bebris (2011) it is possible to distinguish four milestones in the urbanized delta development:

1) The construction of the channel of Milgravis (13th century) which connected the lake system of Kisezers-Baltezers-Jugla with the Daugava river. The channel has caused approx. one meter decrease of the water level in the lake system to the AMSL and thus contraction of the lake system surface.

2) The natural separation of Daugava and Lielupe river estuaries (from 16th to 18 centuries) caused by winter storms and snowmelt floods. The old common estuary, the so called 'Vecdaugava' gradually degraded and was filled in the 19th century whereas the new estuary of the Daugava river was reinforced for better shipping by dams and groynes.

3) The construction of flow direction dams (18th and 19th centuries) aiming to narrow and deepen the river bed for better ship-



Fig.5.2 Daugava river, 2010

ping. The dams have caused sediment accumulation in the side flows of the Daugava river. In a result of sedimentation process the side flows were gradually filled in and the small delta islands either consolidated into big islands or became part of the mainland.

4) The construction of three hydro power plants (20th century) upstream from the city which supply the city with energy and control the river flow. The dams have abolished the risk of snowmelt floods and decreased the natural flow of sediment to the delta. Although the fig. 5.2 clearly shows the natural trend towards the growing delta, the scarce sediment is not enough to compensate the coastal erosion caused by frequent winter storms. Thus, the Daugava river delta from the river dominated turned into the wave dominated delta.

It is obvious that humans interventions have played a crucial role in the shaping of the Daugava delta. The Daugava river flow in the delta has narrowed and deepened, the island archipelagos consolidated or merged with the mainland, the snowmelt floods were abolished. However, storm surge and rainfall floods are still a problem in the delta.

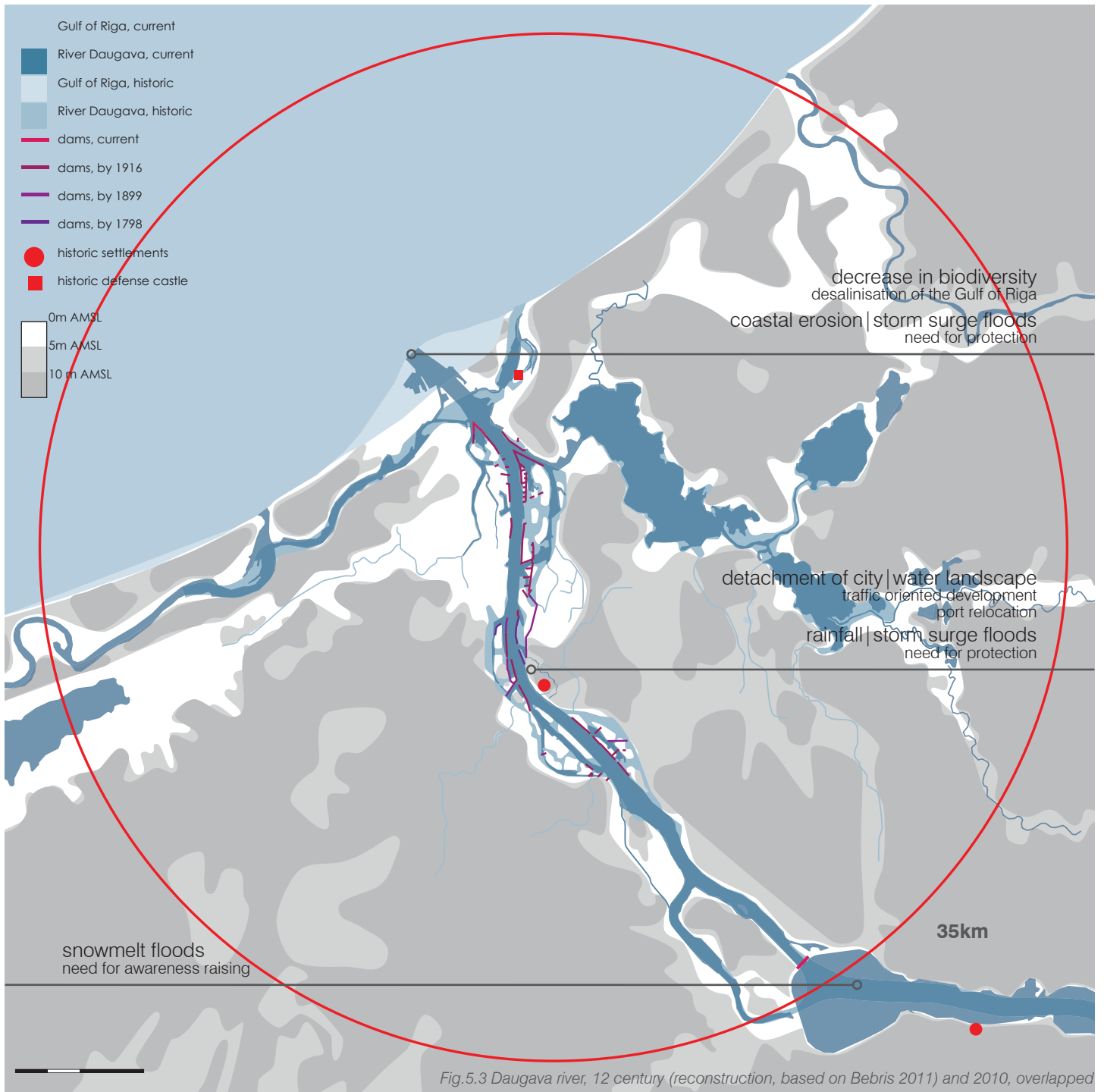


Fig.5.3 Daugava river, 12 century (reconstruction, based on Bebris 2011) and 2010, overlapped

[6] City of Riga | Development

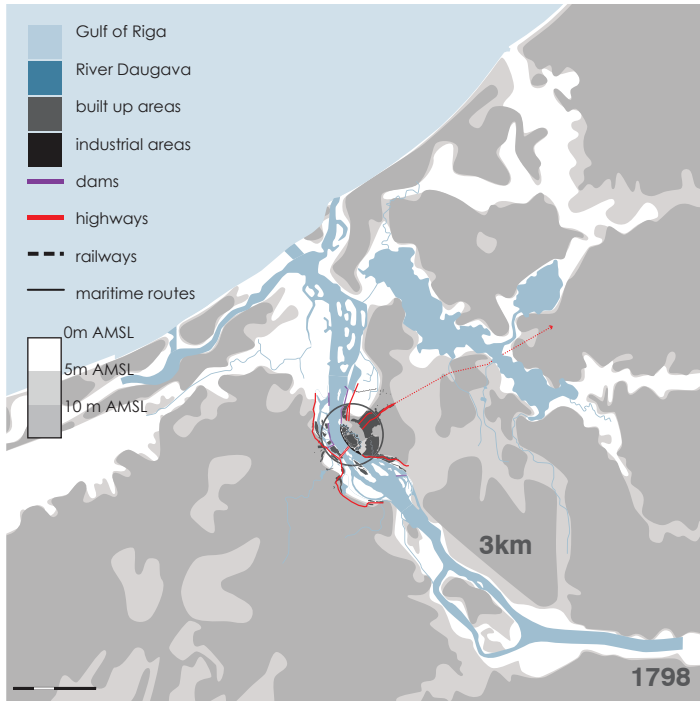


Fig.6.1 The city of Riga, 1798



Fig.6.3 The city of Riga, 1899

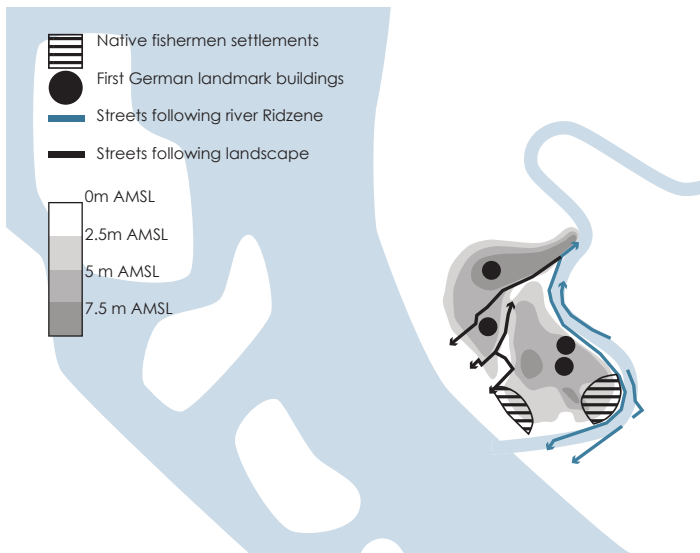


Fig.6.2 The city of Riga, 12 cent. (reconstruction, based on Zeids, 1978)

The current territory of the city of Riga used to be an overflow area which has been flooded during spring snowmelt. Therefore, there were no permanent settlements, but temporary fishermen villages. Permanent settlements of indigenous tribes have developed upstream from the delta in higher and safer areas, as for example, the hill fort of Daugmale. (Bebris, 2011).

However, the territory of the old town of Riga had an advantageous position close to the sea, in the estuary of the river Ridzene and on a small elevation. Therefore, at the turn of 12th and 13th centuries German missionaries have settled here next to existing villages. Early street and house patterns were strongly related to the underlying landscape. Landmark buildings were built on the hills and streets followed the river and the valleys (fig.6.2). However, as the city expanded and building techniques advanced the city tissue gradually became detached from the landscape. At the early stages the landscape shaped the city, but later on the city shaped the landscape.

Population growth and development of the city of Riga was uneven and affected by external events. Four major periods of



Fig.6.4 The city of Riga, 1916

growth and subsequent decline may be distinguished:

1) From 13th to 16th century the city experienced economic growth being a member of Hanseatic League and the population increased up to 12-16 thsd inhabitants. The city expanded beyond fortification walls.

2) During 17th and 18th centuries because of wars and plague the economy declined and the population shrunk up to 6-10 thsd inhabitants. For military purposes the first temporary floating bridge across the Daugava river was built. The bridge was in use during the warm season, but in winter inhabitants used to walk across the river on ice. (Fig.6.1)

3) In the 19th century with the industrial revolution and the end of the serfdom which stimulated urbanization process the city flourished again and the population increased up to 300 thsd inhabitants. The fortification system was replaced by the park system, railway tracks and stations were built. Boat service and the floating bridge connected both sides of the city across the river. (Fig.6.3, 6.4)

In the 20th century after the accession to the Soviet Union due

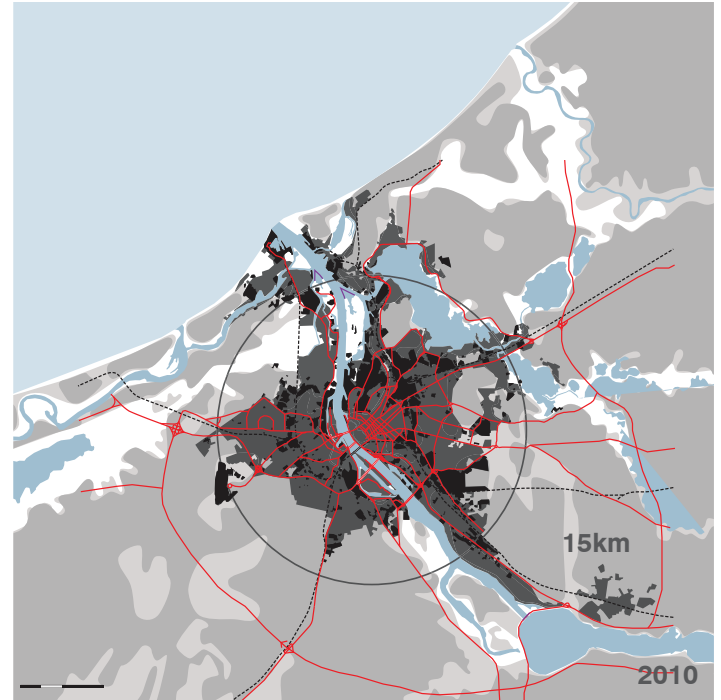


Fig.6.5 The city of Riga, 2010

to industrialization and internal migration the population grew up to 900 thsd inhabitants. In comparison to the 18th century the area of the city increased 25-fold. Multiple large-scale neighbourhoods and suburban villages grew around the city core to satisfy the need for new housing. Three permanent car/pedestrian bridges were built across the river. The port moved towards the estuary of the river. The inner city boat service became unnecessary.

4) After the dissolution of the Soviet Union in 1991 and with accession to the EU in 2004 because of complicated economic and political situation and emigration the population of Riga gradually decreased to 710 thsd inhabitants. The current trend is population shrinkage (Krišjāne & Bauls, 2011). (Fig.6.5)

However, there is a need for new affordable housing. The current floor space per resident in Riga is 27 m², while the Europe average is 40 m² (LR Centrālā statistikas pārvalde, 2009; ECOTEC Research and Consulting Ltd., 2007). The city has already expanded to its limits, therefore the only possibility to keep the inhabitants in the city borders is to densify. Furthermore, the city suffers from severe traffic jams. The four car/pedestrian bridges (the fourth one built recently) are not capable to solve the problem.

[6] City of Riga | Problem Statement



Fig.6.6 13 January 2009 riots in Riga caused by rapid economic decline (Author: Budahs A.)



Fig.6.7 Latvian immigrant workers abroad (Source: www.anglobalicnews.co.uk)



Fig.6.8 Rainfall flooding, Riga, summer 2010 (Author: Palens E., LETA)



Fig.6.9 Children bathing in Daugava river, Riga, summer 2010 (Author: Kalns K., Diena)



Fig.6.10 Degraded urban spaces, Moscow district, Riga (Source: www.russkije.lv)



Fig.6.11 Spatial barriers, Old Town, Riga (Author: Eglite A., F64)

Economy

- financial crisis
- population shrinkage | emigration

Spatial relevance | need for

- attractive city image
- small intervention | win-win strategy

Environmental

- increased rainfall | storm surge flood risk
- summer urban heat island effect

Spatial relevance | need for

- cool public spaces | summer
- flood protection | summer | winter

Spatial quality

- degraded urban spaces | outside city center
- spatial barriers | pedestrian | cyclist unfriendly

Need for

- well designed | maintained public spaces
- pedestrian | cyclist friendly urban environment

After accession to the EU and the financial crisis of 2008 (fig.6.6) the city of Riga experienced two waves of emigration. The main reasons for citizens to go abroad are better job/study opportunities and higher wages. However, many people stay abroad for the working season (fig.6.7) or study period only and do not change their permanent residence (Krišjāne & Bauls, 2011). Under these circumstances it is possible to minimize migration by creating favourable conditions in Riga. It is necessary to create new well-paid working places and to bring foreign investment to the city.

However, the city of Riga is not attractive for foreign businesses. The real city compared to the advertised image is degraded

During the last decade the city of Riga faces global climate change related challenges. The difference in temperatures between the seasons increased. Winters are cold with thick snow and ice cover, while summers are hot and humid.

Although with construction of HEP the risk of snowmelt floods in the delta was minimized, the risk of summer rainfall and winter storm surge floods increased.

The existing flood defence system is able to protect the city during storm surge floods with maximum possible water level of +2.20m AMSL. In the observed 140 years the critical water level was exceeded only once, during the storm surge of 1969 (Ābeltiņa, 2010). However, it is expected that next century the maximum possible water level will rise up to +2.60m AMSL (PAIC, 2011).

As already mentioned in the previous chapter the city expanded after the World War II after accession to the Soviet Union. According to the post-war planning policy new developments were traffic oriented, followed strict zoning and focused on built structures rather than open spaces. Modernist planning approach resulted into large scale monotonous single-function neighbourhoods with poor public spaces and car/public transport dependency.

Although the city center has small scale development and walkable distances, the abundance of cars, noise and pollution and the lack of green makes the city car/public transport oriented and pedestrian/cyclist unfriendly. There are little bicycle paths in the city and the existing paths are ill-designed. Furthermore, there

(fig.6.10) and does not have an identity.

To create an appealing city image city authorities should improve the public space quality focusing on unique features of the city, namely abundant green and water landscape which constitutes 28,0% and 15,7% of the total city area respectively (Rīgas Dome, 2003-2011). Currently, these high potential spaces are either unused or used for special events only and do not attract visitors on a regular basis.

It is obvious that in current economic situation the city is unable to realize big urban projects, therefore every improvement should be subdivided into small interventions which would bring immediate benefits.

In addition, the existing sewage system is unable to cope with increased rainfall, therefore in the last decade the city was heavily flooded twice, in 2005 and 2010 (fig.6.8). It is clear that additional flood protection measures, such as flood barriers and water retention areas are necessary.

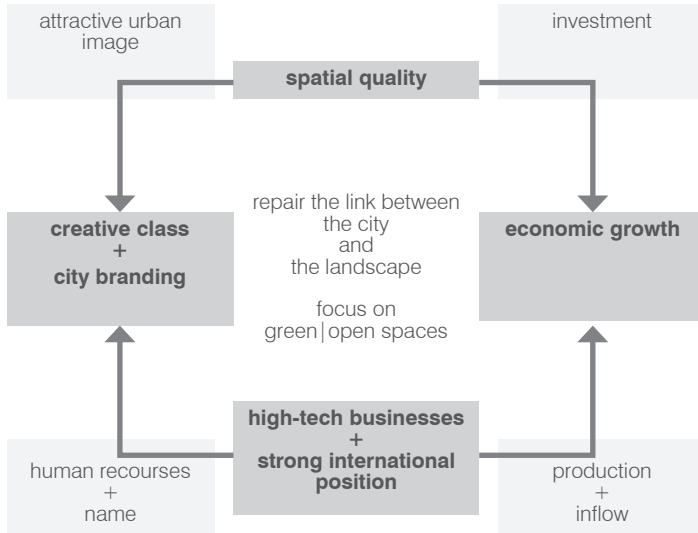
Besides, summer heat waves in the city became more frequent (fig.6.9). July 2010 was the hottest in the last 95 years. The day temperatures in Riga were between +27°C and +32°C. Summers of 2002 and 2006 were extremely hot as well. Moreover, days with temperatures above +30°C became characteristic for climate in Latvia (LVGMC, 2010). Despite all these facts the city of Riga does not provide the citizens with cool public spaces.

are plenty of spatial barriers (fig.6.11), especially for cyclists and disabled people, such as large crossings, street bottlenecks, kerbs and stairs.

In addition, the quality of built structures and public spaces in the city center off the popular tourist routes is low (fig.6.10). Houses are often in poor condition and the green/open spaces are not maintained.

Unfortunately, the current Riga development plan 2006-2012 (*Rīgas attīstības plāns 2006.-2018. gadam*) (Rīgas Dome, 2005) does not have a graphic green/open space or cyclist/pedestrian path development strategies. However, to improve the urban environment these strategies need to be developed.

[7] Strategy | Economic | Environmental



Fight with

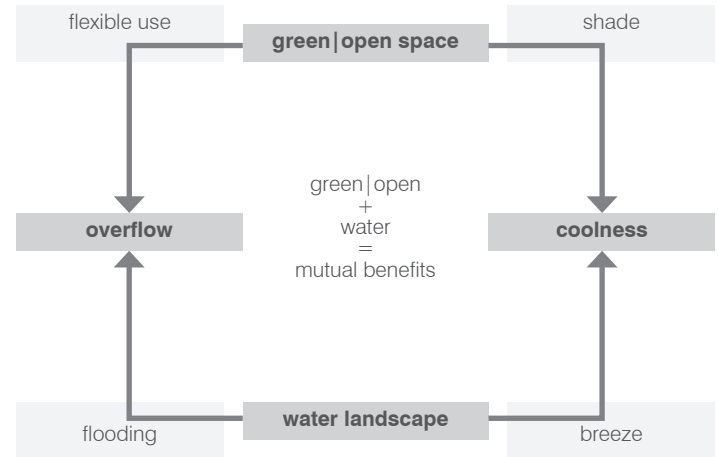
- financial crisis
- population shrinkage

Fig.7.1 Economic strategy

Important criteria of spatial quality:

- qualitative green | open public spaces
- qualitative architecture
- access to water and green landscape
- relaxed atmosphere
- well-developed public transport
- pedestrian | cyclist friendly urban environment

(Lorenzen, 2010)



Fight with

- urban heat island effect
- flood risk

Fig.7.2 Environmental strategy

Focus on the waterfront, because

- it is a potential green | open space
- provides access to the water landscape



Fig.7.3 Balboa Park, San Diego, California
(Author: D'Alu S.)

To deal with the problems declared in Chapter 6 Problem Statement the strategy has been developed. The strategy is subdivided into economic and environmental strategies (fig.7.1, 7.2), spatial strategy being included in the both.

The economic strategy is based on the assumption that by strengthening an international position of the city it is possible to attract human capital to the city, which in turn will boost the economic growth of the city (Florida, 2003). For the financial wellbeing it is important to attract highly educated and productive individuals, the so called 'creative class' (Florida, 2002).

There are many factors that determine the location choice of the creative class. However, for the current project only spatial factors and the factors that can be translated into spatial are the important ones. From this perspective the key attraction factor is the qualitative urban environment (Assink & Groenendijk, 2009), which in turn consists of multiple sub-factors, such as:

- well-developed, designed and maintained public space structure,
- qualitative architecture,
- access to water and green landscape,
- relaxed atmosphere,
- well-developed public transport system,
- pedestrian/cyclist friendly urban environment (Lorenzen, 2010).

The diagram (fig.7.1) shows that if the spatial quality of the city improves, it will become internationally recognized for its outstanding urban features and attractive for the creative class. An international name and the creative class professionals are valuable attraction factors for the international trade companies, high-tech businesses and tourists, which in turn stimulate the economic development of the city. A wealthy city with strong economy has extra financial resources to invest into spatial quality.



Fig.7.4 Beach, San Diego, California
(Source: www.oceanfront-hotels.net)

However, it is impossible to focus on all the aspects contributing into spatial quality of the city within the framework of the Master Thesis. Therefore, the project deals with green/open spaces of the city as the key element that contributes to most of the above listed sub-factors. Indeed, not only green/open spaces improve the urban environment on the whole, but are a powerful tool in the international city branding (Konijnendijk, 2010). The importance of green/open public spaces is supported by the fact that the top 10 creative class cities in USA according to Florida (2002), have large city parks, gardens and beaches (fig.7.3, 7.4).

The city of Riga with 28,0% of green surfaces of the total city area (Rīgas Dome, 2003-2011) has a big development potential. Although a large part of these spaces is not maintained and is unattractive for public, a clear development strategy and investment will turn the currently degraded and dangerous places into qualitative and eventful recreational spaces for citizens.

The environmental strategy, in turn, implies that green/open spaces and water bodies can benefit from mutual proximity and solve current climate-related problems (fig.7.2). On the one hand, green/open spaces are flexible and can serve as overflow areas in case of storm surge floods and heavy rainfall. On the other hand, the water bodies generate breeze, which cools down adjacent areas and this way mitigates the urban heat island effect. Moreover, water vapour improves the air quality by purifying it from small dust particles.

The waterfront is the space on the edge of 'green' and 'blue' landscapes. On the one hand, it is possible to turn the river quay into green/open space, on the other hand, it provides access to the water. Therefore, public spaces at the waterfront will use the benefits of both.

To sum up, the project focuses the waterfront redevelopment in a framework of green/open space strategy.

[8] Research Question | Sub-questions

Daugava River Delta

- SRQ2.1 How does the water landscape contribute into the spatial quality of delta cities in Northern Europe?
- SRQ2.2 What are the water related challenges that delta settlements (city of Riga) in the Daugava river delta face?

City of Riga

Green | Open Spaces
accessibility of green | open spaces

MRQ: How does the quality and accessibility of green | open public spaces contribute into the strengthening of the international position of the city?

- SRQ1.1 What are the key factors that attract the creative class into the city and contribute into the city branding?
- SRQ1.2 Which of these factors are spatial and what is the spatial translation of the non-spatial factors?
- SRQ1.3 How do the green | open public spaces and their accessibility contribute into the spatial quality of the city?

Urban Waterfront

MRSQ: What kind of spatial strategies and design tools should be implemented to integrate the water landscape into the city under the conditions of season change in Northern Europe?

- SRQ3.1 What are the challenges that the urban waterfront faces with the season change?
- SRQ3.2 How do accessibility issues affect the mutual integration of the waterfront and the city?

[9] Methodology | Overview

Daugava River Delta

Literature review

- on delta cities in general (SRQ 2.1 | 2.2)
- of existing governmental and competition projects on water management in delta settlements (SRQ2.2)

Comparative study (SRQ 2.1)

- of Rhine-Meuse, Ems and Daugava river deltas and delta cities

Spatial analysis of Daugava river delta (SRQ 2.1 | 2.2)

- history | current condition of natural development and human impact
- history | current condition of relationship between the water landscape and the city

City of Riga

Green | Open Spaces
accessibility of green | open spaces

Literature review

- on creative class | city branding and their relationship with strengthening of the international position of the city and spatial quality (SQR1.1 | 1.2)
- on spatial quality and its dependence on green | open space quality and its accessibility (SQR1.3)

Case study (SQR1.3)

- of existing governmental plans | projects on green | open space
- of successful traffic restructuring projects

Spatial analysis of the CS cities and the city of Riga (SQR1.3)

- on green | open space development and current situation
- on traffic flow | line development and current situation

Urban Waterfront

Brief literature review of CS cities and the city of Riga (MRSQ | SRQ3.1 | 3.2)

- on city spatial | economic | political development and current condition
- on design guidelines for successful public space

Case study (MRSQ | SRQ3.1 | 3.2)

- of successful waterfront redevelopment projects focusing on urban form | functions | accessibility

Fieldwork in CS cities and the city of Riga (MRSQ | SRQ3.1 | 3.2)

- study of the current spatial condition in photos & sketches | sequential analysis

Evaluation

- SWOT analysis for structure and master plans | development scenarios | Space Syntax to evaluate accessibility before and after intervention (if applicable)

[9] Methodology | Methods | Sub-questions | Output

Literature review I

Comparative study
Rhine-Meuse | Ems | Daugava

Literature review II
(the main one)

Case study I
strategy - green | open spaces

Spatial analysis
Daugava

Spatial analysis I
CS cities | Riga

SRQ2.1 How does the water landscape contribute into the spatial quality of the delta cities in Northern Europe?

SRQ2.2 What are the water related challenges that the delta settlements (city of Riga) in the Daugava river delta face?

Q1 What are the common water management related problems and their solutions? Which solutions can be implemented in the Daugava river delta?

Q2 How did the humans shaped the Daugava river delta and how did the river influenced the development of the city of Riga?

SRQ1.1 What are the key factors that attract the creative class into the city and contribute into the city branding?

SRQ1.2 Which of these factors are spatial and what is the spatial translation of the non-spatial factors?

SRQ1.3 How do the green | open spaces and its accessibility contribute into the spatial quality of the city?

Q1 What is the use of green | open spaces throughout the year?
(individual use | public events)

Q2 What is the city policy on green | open spaces?
(development | maintenance issues)

Q3 What is the typology, distribution and quality of green spaces in the city?

Q4 How to combine traffic flows | lines with green | open spaces?

SRQ2.1 list of spatial quality criteria that benefit from the proximity of water
(text | impressions | schemes)

SRQ2.2 list of the water related problems in the Daugava delta
(impressions | maps | text)

Q1 typology of common water management solutions
(schemes | impressions | text)

Q2 morphology of the Daugava river delta
(maps | text)

Q2 city of Riga development in relation to the landscape, study
(maps | text)

SRQ1.1 list key factors that
• attract creative class
• contribute into city branding
(text)

SRQ1.2 define which of these factors are spatial | non-spatial
(text)

SRQ1.2 translate non-spatial factors into spatial (if possible)
(text | schemes)

SRQ1.3 define the role of green | open space and its accessibility among these factors
(text | schemes)

Q1 typology of green | open spaces and their use
(text | schemes | pictures)

Q2 governance structure for green | open spaces
(schemes)

Q3 study of green | open spaces of Riga according to type | quality indicating problem areas
(maps | pictures)

Q4 study of traffic and green | open space combination opportunities indicating best choices
(text | sections | pictures)

Studio framework
water - spatial quality

Studio framework
water management |
water-settlement relations

Theoretical framework
city international position |
creative class & city branding | spatial quality |
green & open spaces

Diagnosis I
Riga - green & open spaces
Best choices
green & open space use & governance | traffic restructuring

Literature review III

Case study II
design - urban waterfront

Spatial analysis II
CS cities | Riga

Fieldwork
CS cities | Riga

Design
structure plan - city
master plan - waterfront

Phasing
structure plan - city
master plan - waterfront

Ex-ante evaluation
SWOT | scenarios |
Space Syntax (if applicable)

Q1 What are the general design requirements for a successful public space?

Q2 How did the relation between the urban waterfront, the Daugava river and the city of Riga changed through the centuries?

Q3 What is the current city policy on the water and green | open landscape?

SRQ3.1 What are the challenges that the urban waterfront faces with the season change?

Q1 What are form and function peculiarities designing for the season change?

SRQ3.2 How do accessibility issues affect the mutual integration of the waterfront and the city?

Q2 In case of the urban waterfront in Riga, does accessibility play a crucial role in the spatial quality evaluation?

Q1 Is there a standard way of treating similar problem areas or should these areas be treated in a unique way?

Q2 What is the implementation strategy for big-scale long-term projects in the economic and governance conditions of Riga?

Q1 What are the strengths, weaknesses, threats and opportunities of the structure plan and the master plan?

Q2 How feasible are the both plans in case of an unfavourable development scenario? (bad economic situation | misuse etc.)

Q3 (in case of traffic restructuring) -> What is the input of the proposed intervention into the traffic pattern?

Q1 definition of spatial quality | list of criteria for spatial quality (text | schemes | pictures)

Q2 study of river - urban waterfront - city relation (sections | impressions) development milestones (text)

Q3 governance structure of water and green | open landscape in the city of Riga (schemes)

SRQ3.1 list of the season change related challenges (text | pictures)

Q1 typology of design features and uses (impressions | text)

SRQ3.2 sequential analysis on the urban waterfront accessibility (photos | maps | text)

Q2 a strong link between spatial quality and accessibility (schemes | text | impressions)

Q1 structure plan:
• typology of problem areas (spatial analysis I)
• typology of interventions for similar problem areas (maps | impressions)

Q1 master plan:
• typology of problems (spatial analysis II, fieldwork)
• hierarchy of problem areas starting with those which need an urgent solution
• individual solutions for each problem area (maps | sections | impressions)

Q2 fund-raising and governance strategy for non-commercial public projects (schemes | text)

Q1 SWOT analysis of the structure and master plans (text)

Q2 scenarios for favourable | unfavourable development conditions (text | schemes)

Q2 plan feasibility evaluation in a negative development scenario (text | schemes)

Q3 (in case of traffic restructuring) -> Space Syntax analysis of the existing and proposed situation (maps | text)

Design guidelines
successful public space
Governance
Riga - water & green & open spaces

Diagnosis II
Riga - urban waterfront
Best choices
designs and uses

Strategy I&II
(design + phasing)
city green & open spaces
urban waterfront

Reflection
on plan efficacy
Underpinning
for plan modification
(if applicable)

[9] Methodology | Case Studies | Strategy

green | open spaces
city strategies | plans | projects



Frankfurt am Main (Germany)
Business capital of Europe

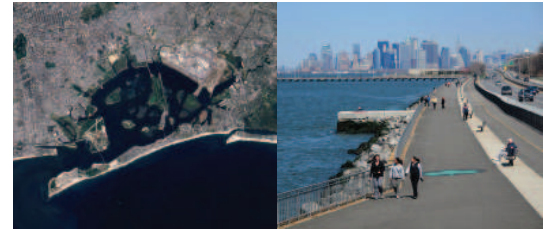


San Francisco (USA)
Creative class capital of USA
(Author: Chambers J. (above), Wolfman S.F. (below))

traffic restructuring
relocation | tunnel | downgrade fast lane to slow lane



Barcelona (Spain)
Port Vell



New York | Brooklyn (USA)
Prospect Park
(Author: Iliff D. (above), Matlack D. (below, right))

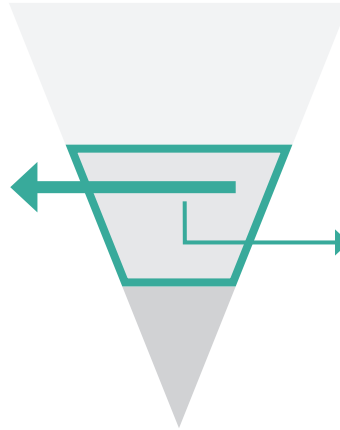


Fig.9.1 Case studies, strategy

The project involves two sets of case studies. The first set is strategy related case studies and the second - design related case studies. The strategy related case studies are, in turn, subdivided into green/open space planning and governance and into traffic restructuring case studies.

For the case studies on green/open space planning and governance the cities of San Francisco and Frankfurt am Main were chosen (fig.9.1). According to Florida (2002) San Francisco holds the first place among the US cities in the percentage of creative class of total working population. Frankfurt am Main is a business capital of Europe. These cities attract significant international investments and have flourishing economies. Besides, both cities have extended networks of well functioning green/open public spaces.

The goal of the case studies is to explore the use, typology and governance of the public spaces in these cities and to choose the best options which could be implemented in case of Riga.

For the case studies on traffic restructuring the cities of New York and Barcelona were chosen (fig.9.1). The goal of the case studies is to understand how do these cities successfully combine busy traffic lanes, green/open public spaces and waterfronts. For Riga it is a crucial question because most probably it will not be possible to relocate the highways which cut off the river from the city. Therefore, the only possible solution will be to combine them with a planned riverside park.

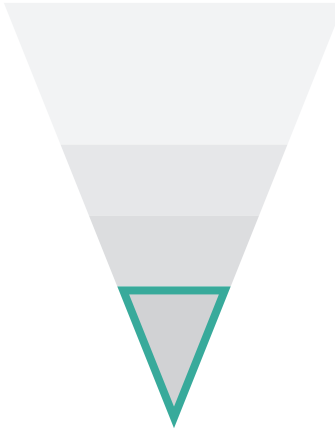
[9] Methodology | Case Studies | Design

urban form | functions | accessibility
impact of season change



Oslo (Norway)

Akker Brygge
(Source: www.pps.org)



Copenhagen (Denmark)

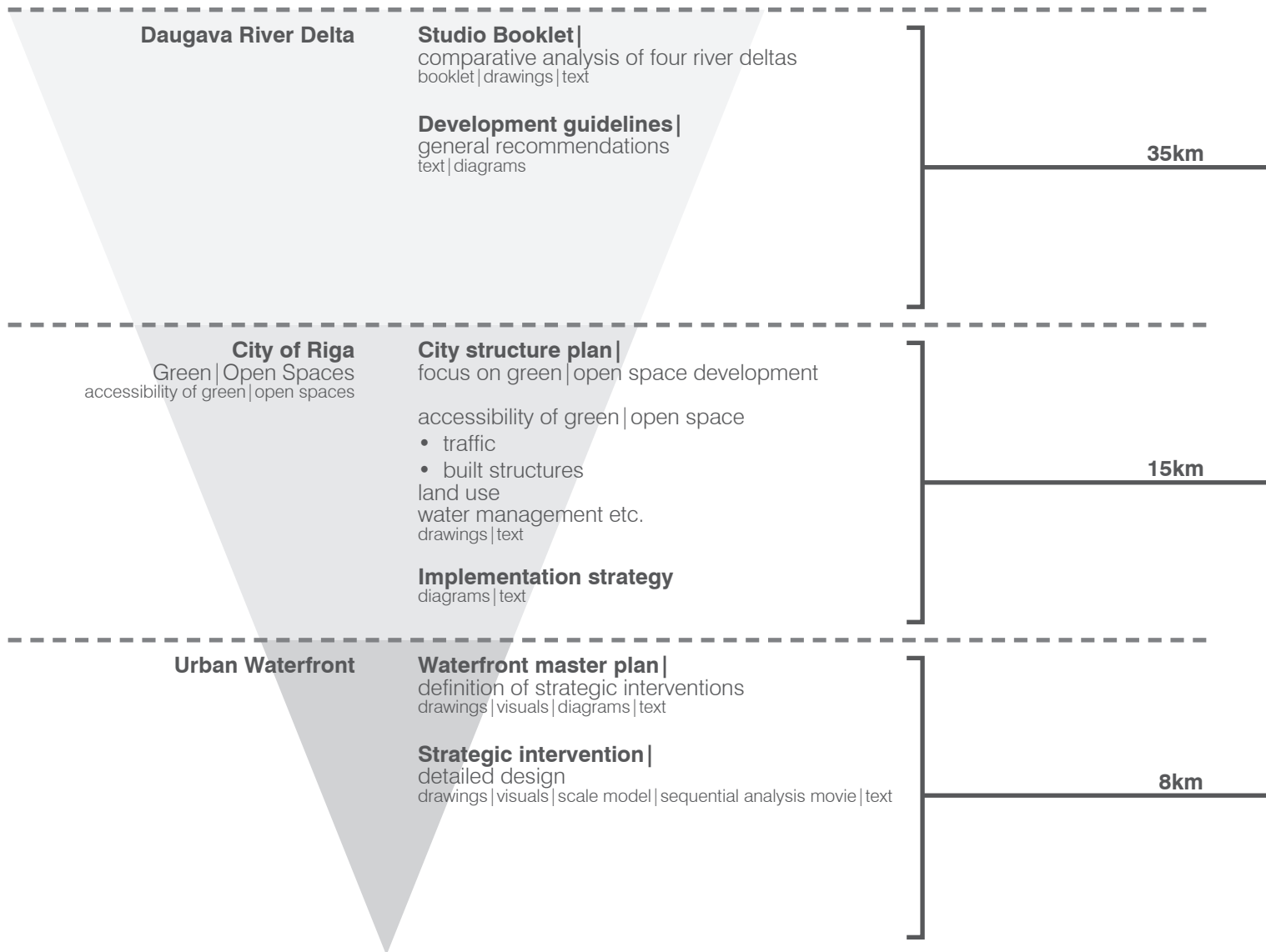
urban quay
(Author: Thomsen M. (above), JDS Architects (below))

Fig.9.2 Case studies, design

For the design related case studies the cities of Oslo and Copenhagen were chosen (fig.9.2). Indeed, these cities have the same capital status as the city of Riga and similar climate conditions. Furthermore, the waterfronts in both cities are full of life the whole year long. Besides, it was possible for the author to visit the both cities for the fieldwork.

The objective of these case studies is to list seasonal functions and weather-proof design features which could be implemented in case of Riga. In addition, it was important to understand how do these cities solve riverside accessibility problems if there are any and how does the waterfront spatial structure and activities respond to the changes in the city pattern and functions.

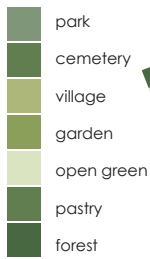
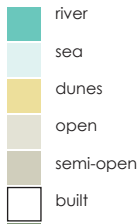
[10]Output | Deliverables



[10]Output | Location



[11] Green | Open Space Structure | Development



3km

1860

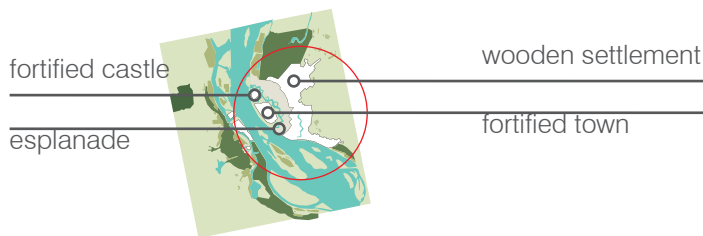
Fig.11.1 The city of Riga, green | open spaces, 1860



9km

1899

Fig.11.3 The city of Riga, green | open spaces, 1899



3km

1798

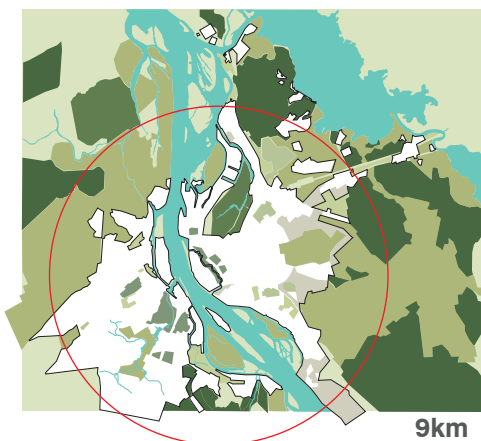
Fig.11.2 The city of Riga, green | open spaces and the city structure, 1798

Until the middle of the 19th century military requirements defined the city structure. The city consisted of a fortified town and a castle, surrounded by bastions, ravelins and a moat. All the buildings outside the city walls had to be wooden because they had to be burned down in case of a military attack. Between the fortress and the wooden settlement there was a large esplanade.

From the maps of 1798 and 1860 (fig.11.1, 11.2) is clear that the structure of the city did not change and the expansion of the city was relatively slow.

Until the 1860s there were no green parks within the city. However, the city was surrounded by a variety of green spaces, namely villages, gardens, pastries and forests. Taking into consideration the small size of the city, approx. 3km, the green was accessible to all the citizens.

In the middle of the 19th century with the change in military strategies fortifications were demolished. The esplanade was redeveloped into a landscape park, but the wooden settlement - into a ring of boulevards with perimetral building blocks. In addition, the construction of a railway and a floating bridge stimulated the



1916

Fig.11.4 The city of Riga, green | open spaces, 1916

urbanization of the left bank of the river. From this point on the city started to expand rapidly into the open landscape.

As the city grew, cemeteries, forests and pastries which used to be outside the city, were incorporated into the city (fig.11.3). The former villages and gardens developed into suburban settlements. As the left side of the city stayed relatively green, the inner city on the right bank due to its large size became detached from the open landscape.

As the forests and pastries were gradually built up, the suburban settlements merged together (fig.11.4). The open landscape around the city was divided into large green country estates. At this stage of the city development, both sides of the city became detached from the open landscape. However, there were still some large parks and an urban pastry within the city.

After World War II the size of the city doubled. Large green areas around and inside the city were built up (fig.11.5). The amount of green spaces within the city diminished. Remaining green spaces are small and scattered. Because of the large size of the city, approx. 15km, peripheral green is out of reach for many citizens.

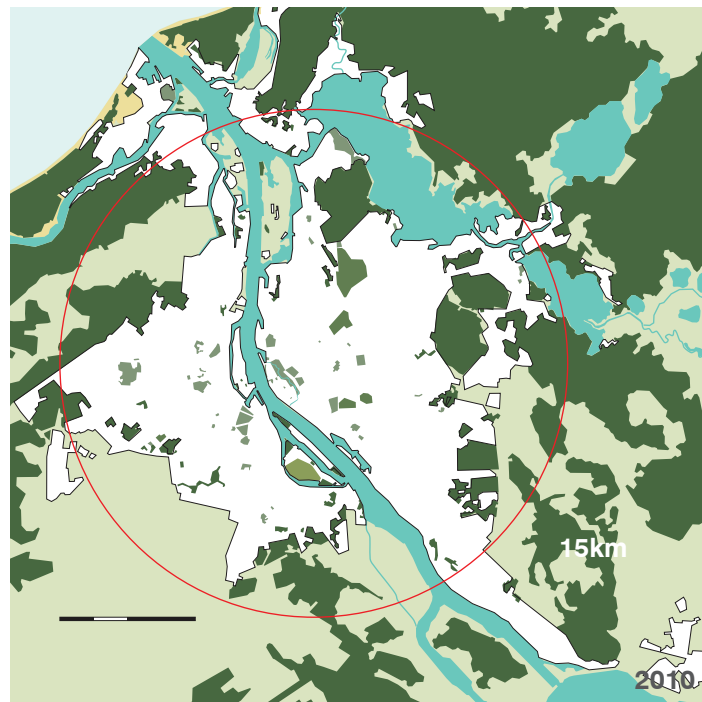


Fig.11.5 The city of Riga, green | open spaces, 2010

To conclude, starting from the middle of the 19th century the city has expanded on the account of large green areas. The amount of green/open spaces within the city diminished, the open landscape around the city became inaccessible. The variety of green spaces, which used to include landscapes of different character, such as village, garden, forest, pastry and park decreased. The city became detached from the 'green' landscape.

[11] Green | Open Space Structure | Analysis

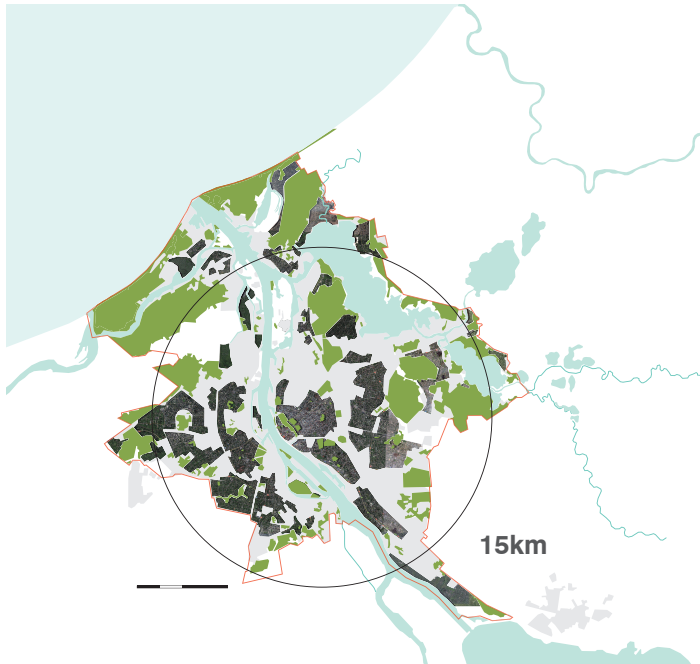


Fig.11.6 Neighbourhoods, industries and green | open spaces, Riga, 2010

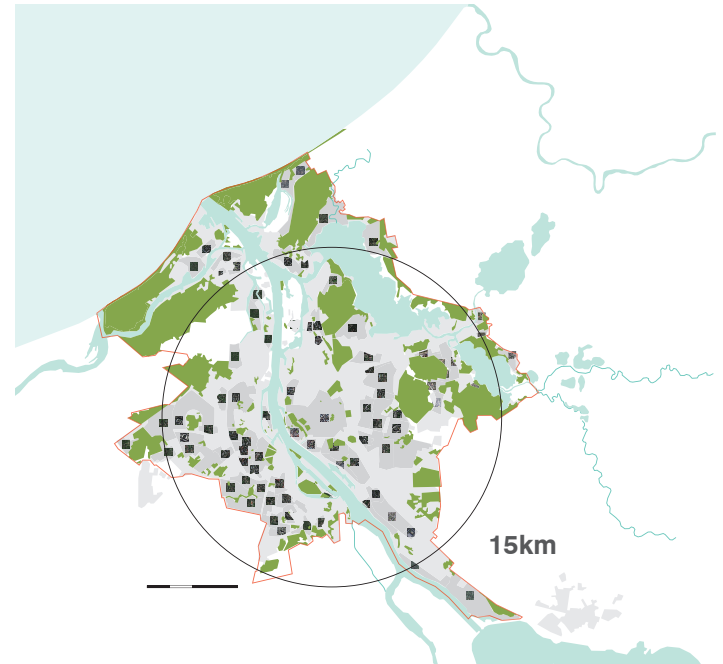


Fig.11.8 Built and green | open space patterns, samples, Riga, 2010



Fig.11.7 Neighbourhood building types and street patterns, samples, Riga, 2010



Fig.11.9 Built and green | open space patterns, samples, Riga, 2010

According to the green/open space development analysis (fig.11.1-11.5), the city has little green spaces in the center and large green areas on the periphery. Besides, suburban green spaces are out of reach for city center inhabitants.

At the same time city maps do not show how green are the neighbourhoods. Therefore, it is not clear whether citizens have to use peripheral green spaces or there are recreational opportunities within the neighbourhoods.

To understand the supply and accessibility of green spaces in the city, it was important to evaluate the amount of green in the neighbourhoods. For that a detailed sample analysis of the nei-

bourhoods was carried out.

The area of the city was divided into three basic categories: neighbourhoods, green/open spaces and industries (fig.11.6). Since the borders between the different neighbourhoods and industries were not clearly defined in city maps, it was essential to establish these borders on the basis of building type and street pattern (fig.11.7). Once it was done, typical samples showing the amount of green/open versus built space were picked in each neighbourhood (fig.11.8, 11.9).

Relying the two source sample maps (fig.11.6, 11.8) the conclusion table and maps were developed (fig.11.10, 11.11, 11.15,

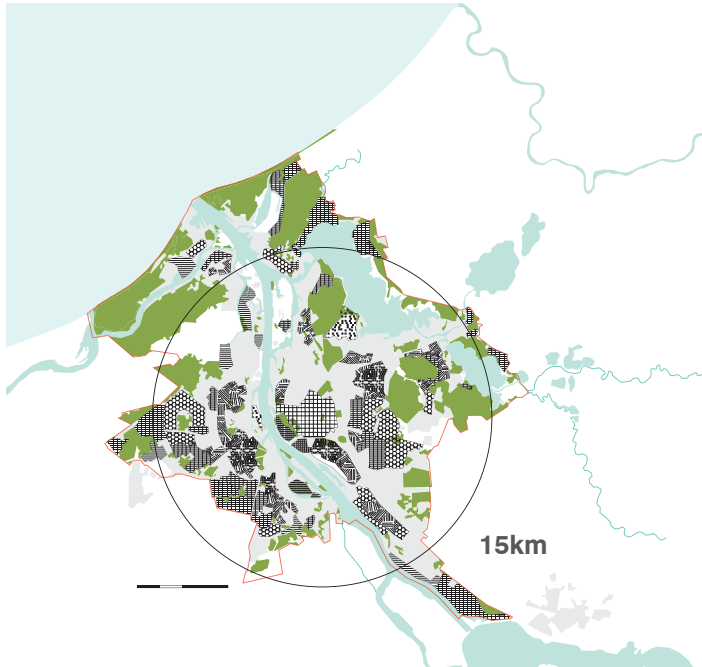


Fig. 11.10 Neighbourhood types and street patterns, Riga, 2010

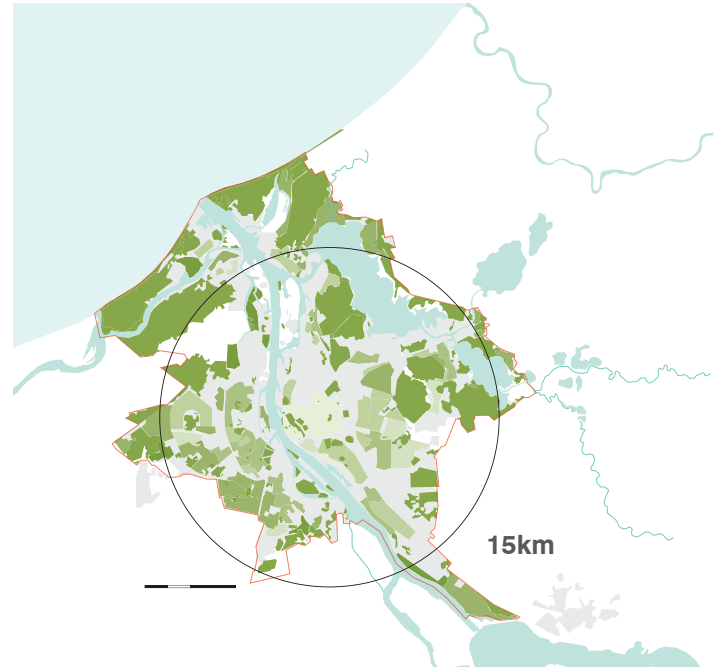


Fig. 11.11 Greenness of neighbourhoods, Riga, 2010

table 11.1), where the neighbourhoods were divided into types and ranked according to their greenness.

It turned out that there is an interdependence between neighbourhood types and greenness. Indeed, medieval and 19th century neighbourhoods have low amount of green spaces, while contemporary suburban neighbourhoods have high amount of green spaces. In modernist 20th century neighbourhoods the amount of green spaces varies from low to moderate (table 11.1, fig.7.15). Indeed, the periphery of the city is ‘greener’ than the dense inner areas (fig. 11.12). Besides, the left river bank is less urbanized and has more green than the right one.

It means that the inhabitants of the inner city do not have access to the green/open spaces neither on the periphery, nor within the neighbourhoods. At the same time the inhabitants of the suburbs have access to both.

The peripheral green and the asymmetry between the left and the right parts of the city can be explained by the historic development of the city and its green spaces. The settlement on the right

bank used to be a fortress which concentrated all the most important functions of the city, while settlements-villages on the left bank used to be suburban extensions. Despite the latest notions of urban planners to equalize the both parts of the city by introducing new sub-centralities on the left bank, the historic center on the right bank is still dominant. Furthermore, the city expands from the urban core into the open landscape, therefore the suburbs due to the lower density maintained their greenness.

Although, inner areas of the city have less green/open spaces, the quality of these spaces is much higher than of those on the periphery (fig.11.12, 11.13, 11.14). Green/open spaces in the city center tend to be well-designed and maintained and attract a lot of visitors, while suburban green/open spaces are often natural, with no design and maintenance and little visitors. The typology of these spaces is different. The central green/open spaces are parks and squares, while the peripheral are forests and meadows. Although, the wilderness of suburban spaces is valuable, these spaces need to have at least minimum design and maintenance to make them safe and walkable.

[11]Green | Open Space Structure | Problem Statement

<i>type of neighbourhood</i>	<i>street pattern</i>	<i>typical greenness</i>
medieval townhouses	irregular	very low
19th-20th c wooden townhouses	regular	very low low
19th-20th c perimetral housing blocks	regular	very low
19th-20th c villas	organic	high very high
19th-20th c townhouses	regular chaotic	low moderate
contemporary suburban single-family houses	regular	moderate high
gardens	regular chaotic	very high
modernist housing blocks	chaotic cauliflower	very low low moderate
industries	chaotic	very low

Table 11.1 Neighbourhood types, typical street patterns and greenness

There are little green spaces close to the river quay in the city center and no directly adjacent spaces at all. However, there are plenty of industrial and open spaces along the waterfront which can be redeveloped into green spaces.

To sum up, the analysis clearly shows that green/open spaces are unequally distributed within the city. On the one hand, the city center has high quality green/open spaces, but there are too few of them to supply all the city center inhabitants. On the other, the suburbs have plenty of green/open spaces, but the low quality of these spaces limits their use.

In addition, the river quay does not use the advantage of being on an edge between the 'green' and the 'blue' landscape.

It is obvious, that there is a need for an open/green space strategy with an emphasis on the areas along the waterfront and in the city center.

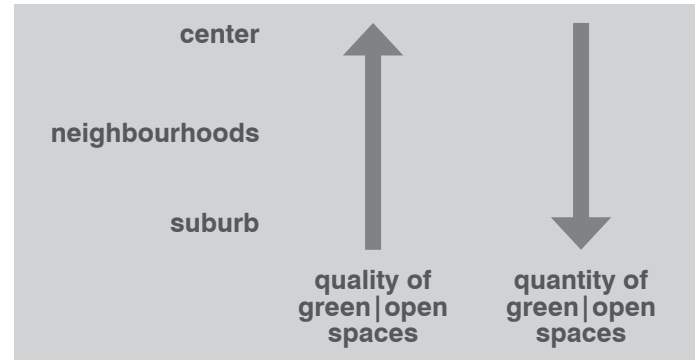


Fig. 11.12 Interdependence of location, quality and quantity of green space



Fig. 11.13 Bastejkalns, city park in the center, Riga, 2010 (Author: Buks A.)



Fig. 11.14 Anninmuizas parks, city park on the periphery, Riga, 2010 (Source: www.panoramio.lv)

Problem statement | green | open spaces

in the city center

- quantity

in the suburbs

- quality

along the river quay

- quantity & quality

general

- detachment from 'green' & 'blue' landscape

Need for

- green | open space development strategy

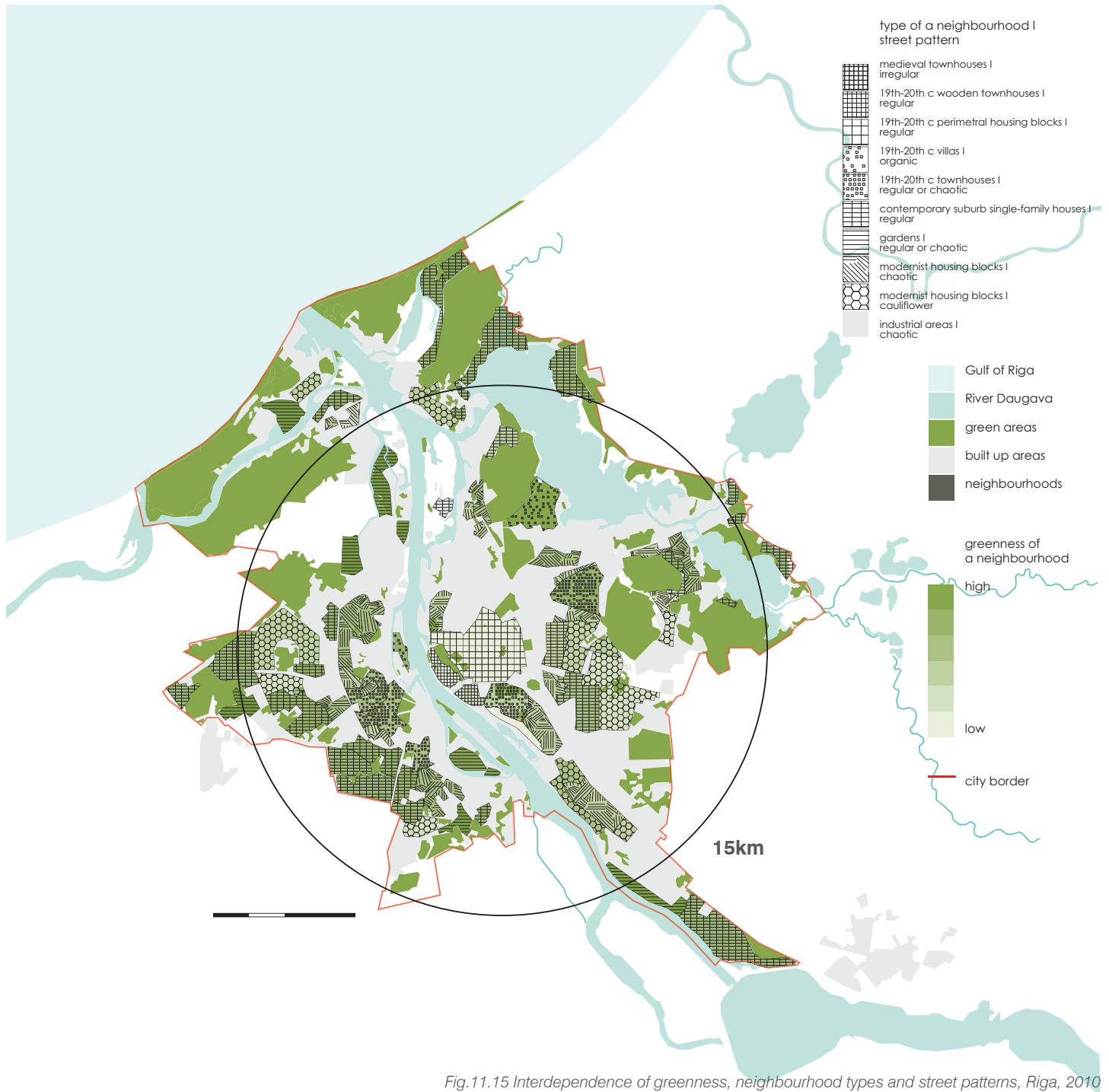
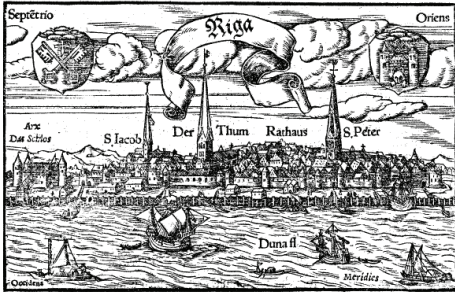
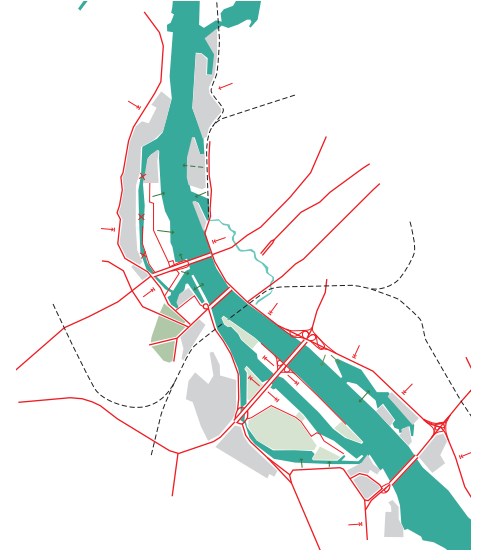
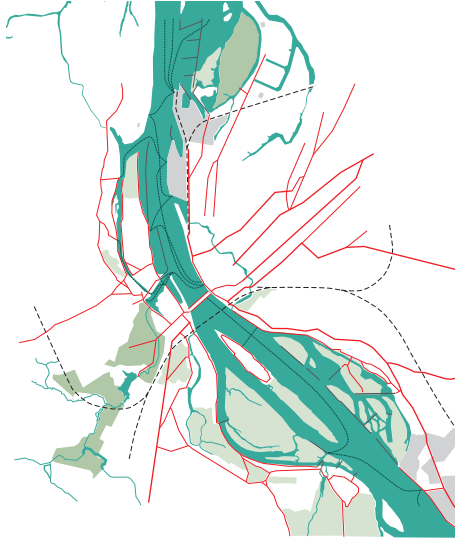
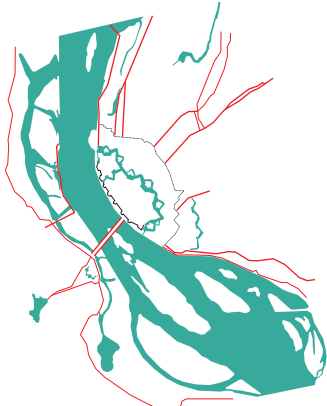


Fig.11.15 Interdependence of greenness, neighbourhood types and street patterns, Riga, 2010

[12] Waterfront | Development



1798



1916



2010

- water body
- fortification wall
- esplanade
- road/path

- water body
- industrial area
- city park
- forest and/or private garden
- railway
- road
- maritime route within the city
- groyne

- water body
- industrial area
- city park
- forest and/or private garden
- railway
- highway
- X no access to the water
- good access to the water
- possible access to the water in the future

Fig. 12.1 The waterfront, city of Riga, 1798
(Picture source: Munster S. 1575. Cosmographia Universalis.)

Fig. 12.2 The waterfront, city of Riga, 1916
(Picture source: www.russkije.lv)

Fig. 12.3 The waterfront, city of Riga, 2010
(Picture source: www.apollo.lv)

Being a political, economic, culture and transport center of the country gives the city of Riga certain advantages, such as relative independence from the central government and larger financial opportunities than the ones of other cities.

However, the dominant position results into a dense urban environment with heavy traffic congestion and all kind of nuisance from vehicles and industries. During the warm season citizens suffer from urban heat island effect, noise and air pollution. At the same time the huge potential of the city water landscape, which constitutes 15.7% of the total city area, is not being used (Rigas Dome, 2003-2011). There are hardly any areas within the city centre with public amenities at the river quay and an easy access to the water (fig.12.3). The urban beach in the North of the city is poor connected to central and south areas of the city and does not have any public amenities and safe swimming places. Instead of recreation within the city, the citizens go either to the satellite coastal town Jurmala to the West from the capital or to small villages in the East. Because of travel time issues and poor public transport, the citizens go to the beach on weekends only for the full day, while the working days they have to spend in an unhealthy urban environment with no recreation opportunities nearby.

The city of Riga is located over the both sides of the River Daugava and has a concentric road structure with all the major traffic routes going through the city centre. Therefore the urban waterfront should be the most accessible and lively recreational area in the city. However, this is not the case. Highways and industrial zones cut off the river from the city. There are no public amenities, such as cafes and restaurants or green public parks or squares by the water (fig.12.3). The quality of public spaces at the quay is low. Although, the river embankments are used time to time for big city events, such as summer festival, they are abandoned for the most time of the year. There is hardly anyone at the quay in winter. At the same time city of Jurmala is lively the whole year long despite having the same climate conditions as Riga.

The current segregation of the waterfront from the city is rooted in the historical development of Riga. The relationship between the city and the river has changed with time. The three phases can be distinguished:

[Ph1] defense (fig.12.1)

The city of Riga emerged as a trade center at the cross point of maritime routes. The Baltic Sea connected Riga to the Northern

Europe and Germany, while the Daugava-Volga and Daugava-Dnieper waterways provided access to Russia and through the Black Sea to the Byzantine Empire. The strategic location of the city turned it into an apple of discord between the neighbouring countries. Being in a constant state of war Riga developed into a fortified town with defensive walls facing the river.

The river was a successful waterway and at the same time a source of danger, therefore there was no waterfront. The city and the harbour outside the city co-existed as the two separated entities. The riverbanks with no permanent structures served as a North-South connection.

[Ph2] integration (fig.12.2)

In the middle of the 19th century following the advances in European politics and military strategies the fortifications were demolished and the city experienced a rapid growth and dramatic urban changes. The river quay became an integral part of the city housing important public functions such as the port and the market. The boat service connected all parts of the city. With the construction of multiple dams the flow of the river was under control. The newly reclaimed land was turned into industrial sites, housing port related activities.

[Ph3] ignorance (fig.12.3)

Starting from the middle of the 20th century the city adapted the policy of industrialization. With the construction of HEP upstream from the city the risk of snowmelt floods was abolished and the areas adjacent to the river became safe. The vacant sites including green/open spaces and the river banks were redeveloped into factories. The construction of three permanent car/pedestrian bridges over the river decreased the intensity and changed the profile of the boat traffic which turned into occasional leisure activity. As the city became dominated by car/public transport traffic the port and the market were relocated and the highways cut off the city from the river. Despite the attempt to improve the quality of the waterfront replacing the old wooden river quay by a new stone one, the absence of functions, the inaccessibility and the public space with no identity made the area abandoned for the most time of the year.

To sum up, the highways and large industrial sites which block the access towards the river are the result of historic development of the city. Furthermore, the waterfront degraded as the important city activities, such as the port and the market, were relocated.

[12]Waterfront | Analysis

The project deals with the green/open space development in the city of Riga and the waterfront is chosen as a strategic intervention place. The prime objective of green/open space design is the space made for people, namely, pedestrians and cyclists, but not for the cars. Therefore, to intervene it was important to evaluate how walkable/cycleable the current river quay is. The author has performed a fieldwork experiment and cycled along the both sides of the river between the Cable-stayed bridge and the Island bridge. The experiment resulted into a sequential analysis of the waterfront and into the diagnosis map (fig.12.6).

Here are some of the most characteristic snapshots of the waterfront in Riga (fig.12.4, 12.5).

In general, the left bank of the river has a uniform character, while the right bank consists of multiple segments of various section and spatial quality. Furthermore, compared to the right bank the left bank is well-maintained and has several high-quality public spaces, whereas many sections of the right bank are completely degraded and not safe. Besides, bad road surface makes some parts of the right bank completely unsuitable for cycling.

However, the spatial uniformity of the left bank makes it monotonous, while the spatial diversity of the right bank makes it interesting and, therefore, should be maintained.





Fig.12.4 Sequential analysis of the waterfront , Riga, 2011

[12] Waterfront | Analysis

During the experiment a number of criteria for walkability/cycleability were established. The most important criteria are:

- 1) access to the water,
- 2) pedestrian crossing across the highway to the river quay,
- 3) visual link with the river (wayfinding),
- 4) how easy/hard it is to pass under the bridge,
- 5) how easy/had it is to get on/off the bridge,
- 6) quality of the road surface,
- 7) safety.

It turned out that in many places, especially on the right river bank, there is no access to the water either because of spatial barriers, such as fences and high quays, or because of private estates directly adjacent to the river.

Furthermore, there are too few pedestrian crossings across the highways on both river sides. On some segments of the waterfront the distance between the crossings is up to 3km. It means, that there is no opportunity to safely cross the highway and go from the city to the river and *vice versa*.

Besides, on several stretches of the waterfront there is no visual link with the river and the pedestrian road structure interrupts which makes the wayfinding very difficult.

On the examined segment of the river quay there are four bridges. Three of them are car/pedestrian. However, it is often hard to pass under the bridges because the pedestrian path is on one side of the passage only and the path itself is very narrow. Moreover, for cyclists and physically challenged people it is hard/impossible to get on/off the bridge because there are no ramps and the only way to get there is via a steep staircase. Besides, the pedestrian paths on the bridges are narrow or there are no paths at all. Therefore pedestrians and cyclists have to use the unsafe passage under the bridge with no visual control from the outside.

In addition, the road surface on both sides of the river is unsuitable for bicycles, children prams and wheelchairs because it has a lot of pits and kerbs. There are no separate lanes for cyclists and the existing pedestrian paths are often too narrow to be divided into several lanes.

All these findings are displayed graphically on a waterfront diagnosis map (fig.12.6).

is | no access
to the water



is | no pedestrian crossing
to the river quay



pedestrian | cyclist
safe | unsafe



is | no visual link
with the river



easy | hard to pass
under the bridge



easy | hard to get
on | off the bridge



Fig.12.5 Sequential analysis of the waterfront , Riga, 2011

[12] Waterfront | Diagnosis

Apart from poor spatial quality, the urban waterfront has programmatic problems. First of all, there are few public spaces directly adjacent to the river quay and most of them are segregated from the waterfront by highways.

Furthermore, the waterfront has a very limited number of functions. These functions are:

in summer

- a promenade,
- an informal city beach;

the whole year long

- passenger and private yacht ports,
- informal fishing places,
- industries (some of them - abandoned),
- private parking lots and gardens.

It is obvious, that such functions as industries, private parking lots and gardens are unsuitable for an urban waterfront, because they block the access to the water and degrade the space. Besides, it is not rational to use the precious land on the river banks for the functions which do not require the proximity of open water.

In addition, there are no public amenities, such as cafes, restaurants or any other kind of indoor public activities, which would intensify the use of the river quay during the cold season. Moreover, there are very few special public events, such as, for instance, city summer festival.

Finally, there is no link between the city and the respective segment of the waterfront, namely, the functions and the spatial character of the waterfront is relatively uniform over the whole length, while the functions and the spatial character of the city vary, for example, the old town gives place to the market which is followed by a neighbourhood.

To sum up, the waterfront has multiple spatial and programmatic problems related to accessibility and lack of functions. To solve these problems an integrated waterfront development strategy is required.

Problem statement | urban waterfront

spatial

- no access to the water
- no pedestrian crossing to the river quay
- no visual link with the river
- difficult wayfinding
- hard it is to pass under the bridge
- had it is to get on/off the bridge
- poor quality of the road surface
- poor safety

spatial | programmatic

- few public spaces
for example, parks | squares | city beach

programmatic

- limited number of functions
- unsuitable functions
- no seasonal functions
for example,
swimming | sunbathing in summer
restaurants | cafes in winter
- few special activities
for example, summer city festival
- the waterfront does not react
as the different parts of the city
change function and spatial character

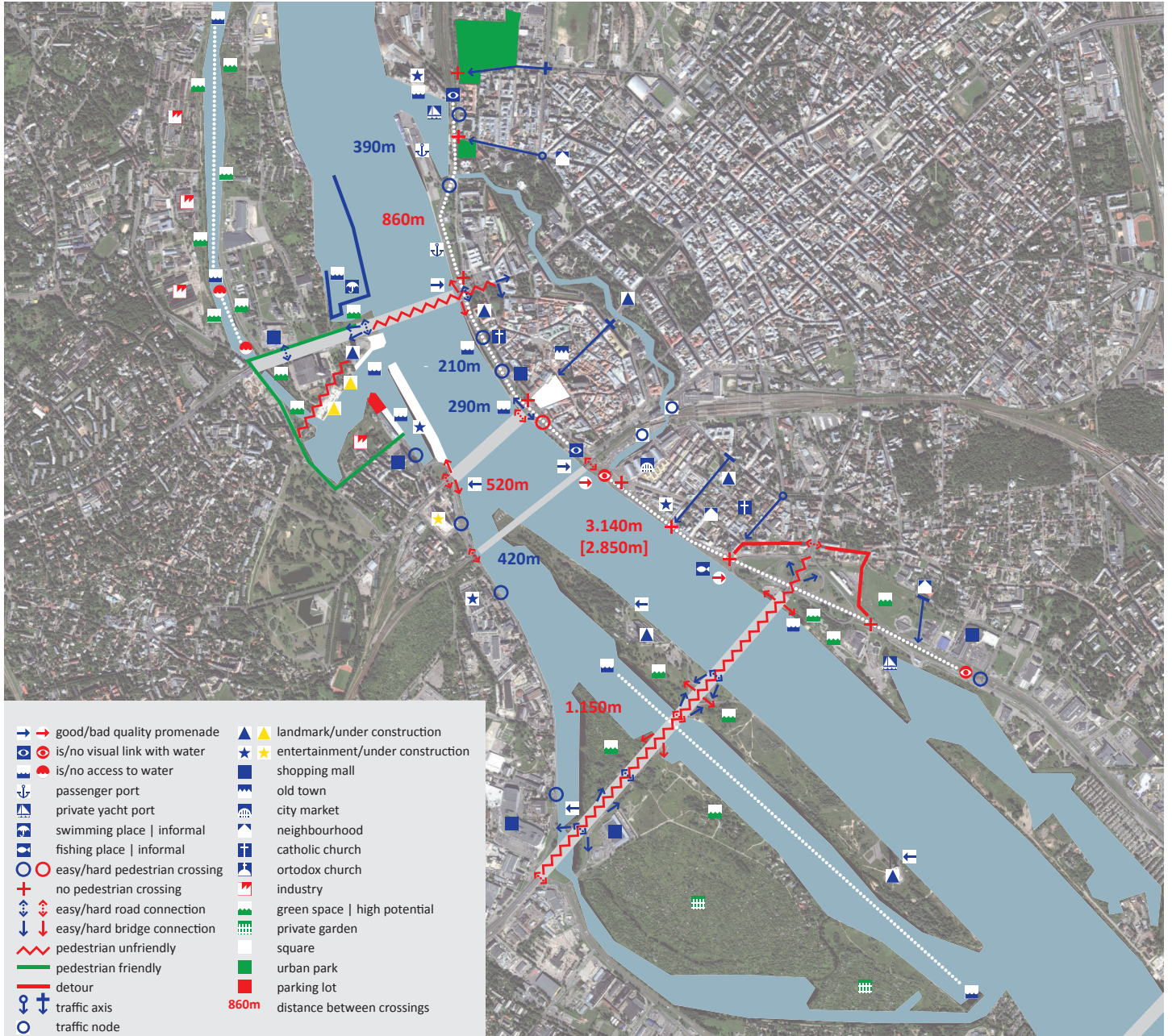


Fig.12.6 Waterfront diagnosis

[13] Vision | Waterfront - Green Spine of the City



13.1 Frankfurt am Main, the park along the river
(Author: Chambers J.)

To solve the Riga waterfront problems stated in the previous chapter the following vision is proposed (fig.13.5).

The river quay is envisioned as a linear continuous public space through the dense part of the city from the Island bridge to the Cable-stayed bridge. The riverside park will provide the citizens with qualitative recreation, sport and entertainment spaces and will connect the city in North-South direction via a pedestrian and cyclist friendly green corridor, similar to the waterfront in Frankfurt am Main (fig.13.1). However, in contrast to the reference project, the riverside park in Riga will house many more functions and have different character on each segment.

Besides, the waterfront will be connected to multiple small-scale neighbourhood public spaces and in this way provide a link between these neighborhoods.

Furthermore, the project will stimulate the integration of the islands of Lucavsala and Zakusala into the city.

The waterfront will be redeveloped to meet the following requirements:

1) accessibility

to the inhabitants of adjacent neighborhoods and all the citizens simultaneously;

2) multi-functionality/flexibility

which would intensify the waterfront use in all the four seasons and by various weather conditions;

3) smart design

which, firstly, provides access to water in drought periods and protection against high-tide during storm surges,

and, secondly, mitigates an urban heat island effect in summer and protects against wind in winter;

4) high architectonic quality of the public space;

5) win-win strategy,

t.i. ability to be developed in phases and in small interventions with immediate benefits for the city and the inhabitants;

6) connectivity,

t.i. ability to improve physical and mental link between the both banks of the river Daugava and the islands;

7) coherence,

t.i. spatial and functional harmony and correlation between the segments of the city and stretches of the waterfront;

8) variation,

t.i. spatial diversity among the segments of the waterfront.



13.2 Akker Brygge, Oslo
(Source: www.pps.org)



13.3 Urban waterfront, Zurich
(Author: Noel, V. A.A., Assoc. AIA)



13.4 Urban waterfront, Belleville
(Source: bayofquinte.com)



Fig.13.5 Waterfront vision

[14]Relevance | Social

Before the 2008/2009 financial crisis there was an active debate about the development of Daugava river quay and the islands (fig.14.5). Multiple architecture visions were created and competitions were held. Foreign and local architecture offices came up with their proposals (fig.14.1, 14.2, 14.3, 14.6, 14.7). There were multiple visions of island and riverside development, including the floating constructions attached to the quay (fig.14.7). However, as it is obvious from the drawings and impressions, all the visions generally involve architectural dimension and do not propose any substantial changes for improvement of the urban environment. Indeed, the location by the water is advantageous for real estate commercial development as it allows to make fast and high profits, but involvement of public interests might slow down the building process and reduce the benefits.

After the financial crisis the urban development slowed down, but there is still a debate going on. The Riga City Architect's office has commissioned to the local architecture office 'EgG' the strategy for the waterfront development (fig.14.4). At the same time a slow, but steady regeneration of a former port area on the peninsula of Andrejsala is going on (fig.14.6).

It is clear, that the waterfront is an ongoing topic of public debate and urban visions. Besides, the riverside has a large future development potential and is capable of attracting significant private investment.



Fig.14.1 Island of Zakusala development proposal (Space Group & Arup, 2005)

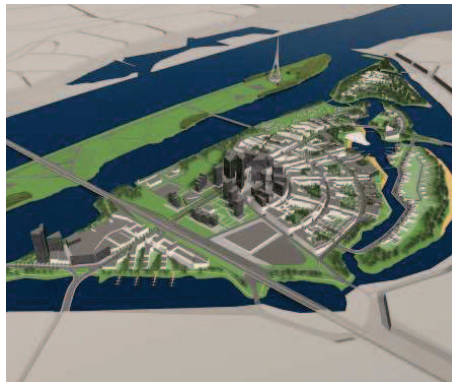


Fig.14.2 Island of Lucavsala development proposal (Arhis, 2005)

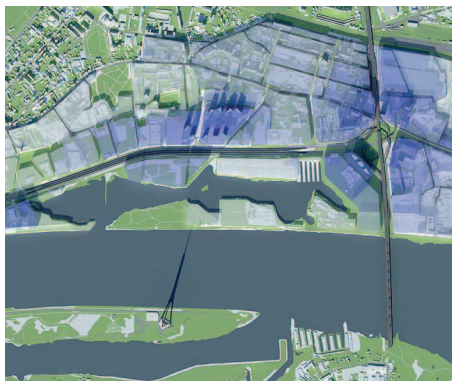


Fig.14.3 Daugava River waterfront development proposal (Kubs, 2005)

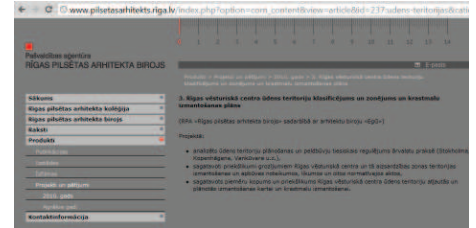


Fig.14.4 City Architect's office web-page

Rīgas ūdensmalu apbūves perspektīvas

Ārvalstu arhitektus un pilsētas plānotājus, kas neseno pucējās plašajā "Waterfront Expo 2005" konferencē Rīgā, pārsteidzīs cilvēkiem nepieejamo un neizmantojamo piekrastes teritoriju daudzums mūsu valstī.

Fig.14.5 Newspaper article



Fig.14.6 Peninsula of Andrejsala development proposal (Forma, 2008)



Fig.14.7 Daugava River waterfront development proposal (PVB, 2004-2009)

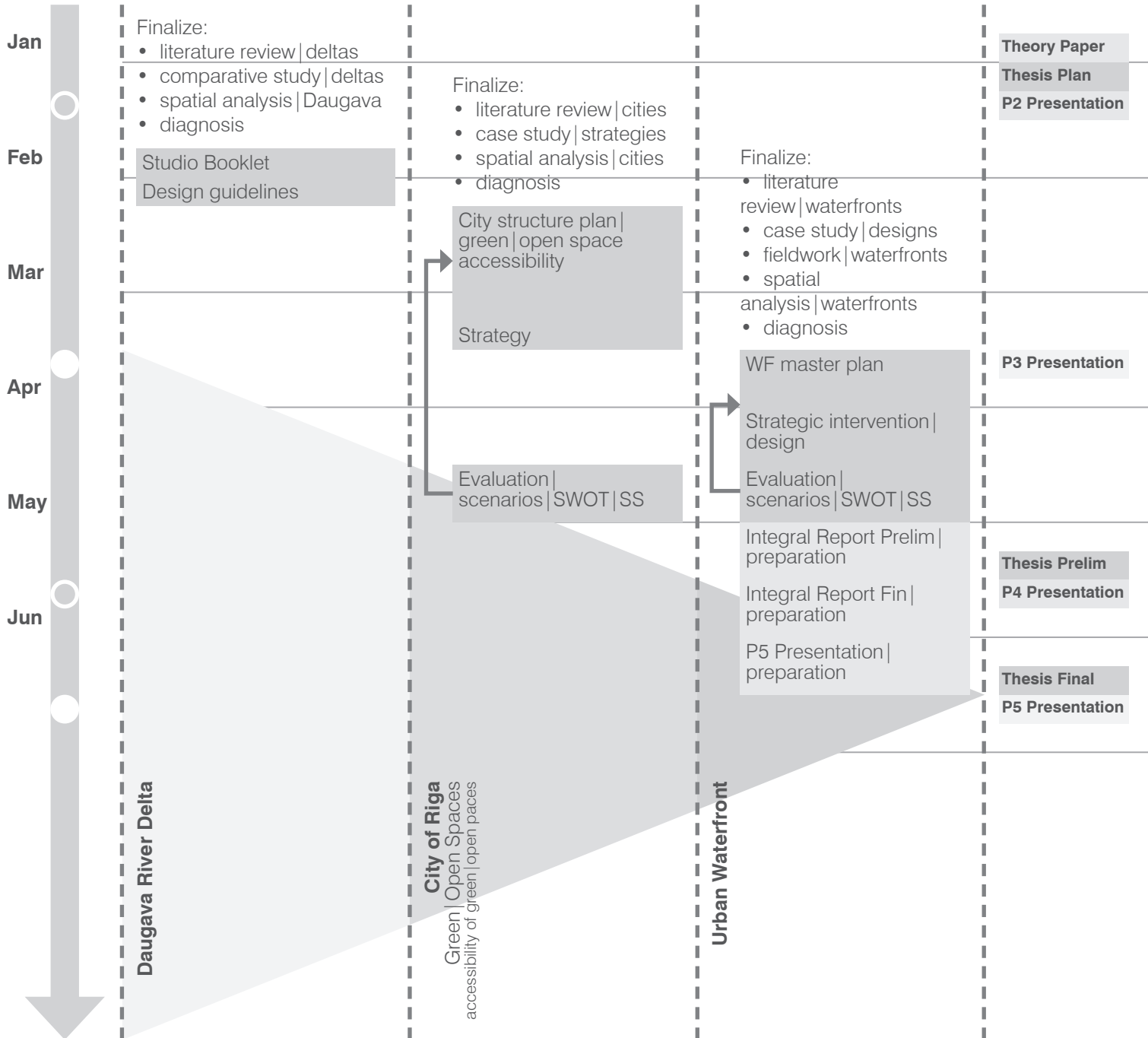
[15] Ethical Problems

Such an ambitious project as a waterfront redevelopment requires large investments. However, it is expensive to realize national and/or city funded projects in Latvia. The experience shows that such mega-projects as Southern Bridge (Dienvidu tilts) in Riga, for example, become a device for peculation of the state funds. According to the head of the state control committee Sudraba (LRVK, 2009) 27 billions lats (38 billions euro) out of 570 billions lats (803 billions euro) of total expenses were embezzled and 264 billions lats (372 billions euro) were spent on acquiring the funds. TV5 reporters argue that the construction of the Southern Bridge was much more expensive than the construction of Puente Rion (Greece) and Millau Viaduct (France) which are internationally recognized engineering wonders (Смирнов, 2009).

Private investors are much more money efficient, but it is impossible to realize such big projects with private sector funding only (Piterniece, 2006). Furthermore, private investors tend not to consider public interests. Anyway, due to a strong link between private companies and governance structures and lack of public control the realization of mega-projects for public needs turns out to be complex.

Besides, a large amount of land in Riga belongs to private land-owners which are interested to sell it for the highest price which becomes another source of speculation.

[16] Planning | Time-schedule & Deliverables



Keywords | Literature

Keywords:

Daugava river delta;

living with the water;
water management in the city of Riga;

city of Riga;

spatial quality of urban environment;

Riga city green/open spaces;
green/open space development strategy;
green/open space governance;
green/open space quality;
green/open space accessibility;

Riga city waterfront;
waterfront redevelopment;
waterfront regeneration;
climate-proof design;
waterfront year-round usage;
waterfront spatial quality;
waterfront accessibility.

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