

Brăila- The tale of a city (re)defined by water

The redevelopment of the old harbour for a sustainable future



Master thesis in Sustainable Urban Design 2018

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Brăila- The tale of a city (re)defined by water

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Master thesis in Sustainable Urban Design

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Abstract



The city of Brăila, Romania, has been undergoing a lot of changes in the last two decades, but as the city is shrinking there is a new initiative to change the current paradigm and to reinvent the city. This process starts with the creation of an urban system with the neighboring city of Galați that will attract more funds from a regional and national level.

The first steps have been taken in this direction through the green light that was given for the built of a bridge over the Danube and an airport between the two cities. In this context, the cities will attract new business and will become an intermodal node for transportation.

My project aims to address the challenges

that the city will be confronted with as all the new developments are planned for the northern part of the city, as well as, to provide sustainable ways of living in a flood-prone area. It tries to offer solutions to the challenge of recreating the local identity in a forgotten and neglected part of the city.

The rich and diverse history of this city is intertwined with the river Danube and it needs to remain visible in a forever changing world.

Source credits: Catalin Voinea, <https://braila-portal.ro/diverse/braileni-si-pasiunile-lor/braila-vazuta-din-nori-by-catalin-voinea-part-viii.html>

Introduction

My project is located in Brăila, Romania on the banks of the Danube River. The city has a long history as an important commercial harbor, but during the communist period, it became an industrial city. After the revolution, the harbor activity slowly decreased. At this point in time, the major industrial plants have shut down and the majority of the qualified workforce has migrated.

The overall population of the city has lost about 20.000 inhabitants in the last 20 years and the age distribution pyramid is showing also a trend of aging in the remaining citizens.

In this context, there is a need to look outside the city limits and to implement a larger scale set of strategies. Only 15 kilometers away from Brăila to the north is the city of Galați which is going through the same difficulties. The two cities together have a population of about 700.000 inhabitants. There have been studies commissioned by the government on what an urban system composed of the two cities would mean and

why it is the best solution for a sustainable future. This future merger is inspired by similar situations in Holland, Germany, and France where a regional government has managed to create a positive result for declining cities. At the basis of this union are two large-scale infrastructural projects: a bridge over the Danube and an airport.

The study area chosen for the thesis is located on the site of the old commercial harbor and has a history of being a cosmopolite and active area of the city. The area is now poorly connected to the city due to a steep slope and a discontinuation of the waterfront promenade. The site is also predisposed to flooding which requires certain measures to be taken in order to prevent damages to the existing buildings, as well as, for the new proposed solutions for the inhabitation of the area.

In conclusion, this thesis will deal with: urban recycling, urban landscape and urban dynamics on one site while trying to answer the following questions:

Key questions

- Can the city stop the shrinking with regional strategies?
- How can one use the water course to rethink the region as a cross-border region?
- How will the local identity be conserved after the implementation of a urban system?
- Why is the chosen site relevant in the future development of the city?
- What is its current situation of the site?
- What can be improved for the citizens of the area and of the city?
- How can the site be more connected to its surroundings?
- How can one change the public perception of the area?
- How can one deal with floods along the waterfront promenade?
- Which of the current buildings add value to the area and which can be recycled?

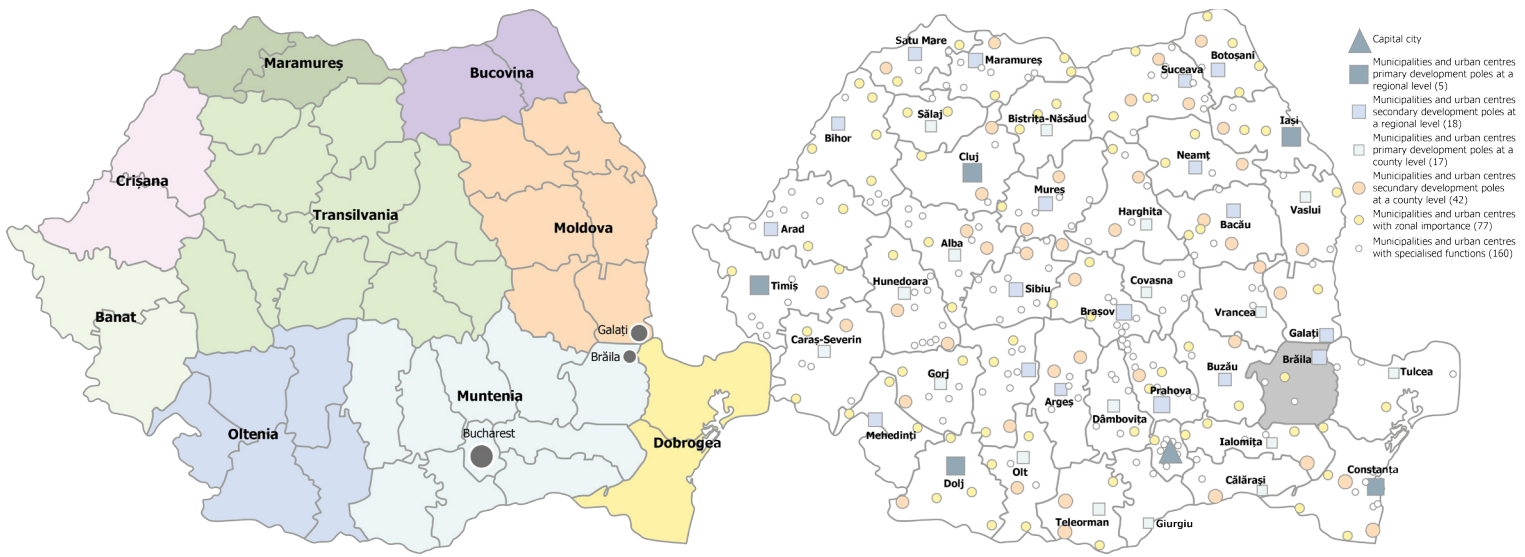
Context

A. Analysis

Location



The city is located in the country of Romania, which is at the eastern border of the European Union, on the left bank of the Danube river. At a country level, it is placed at the jointure of three historical regions and near the border with the Republic of Moldova. The closest major city is at approximately 15 kilometers to the north. It is also at around 200 kilometers away from the capital city of Bucharest and the seaside. Unfortunately, due to poor infrastructure, the trip takes roughly 3 hours.

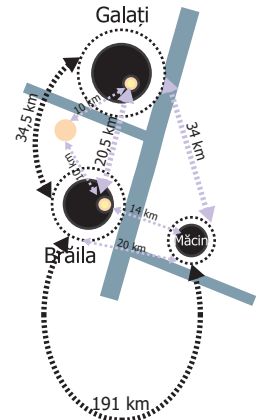


The Danube



The location on the Danube river ensures the city a global connection through naval transportation means. The major setback of this way of transportation mode is the dependability on the level of the water, so it makes it vulnerable to extreme weather conditions.

At a national level, there is a challenge regarding the lack of sufficient connections across the river and, therefore, a new bridge in the northern area of the city will shorten traveling times, as well as, it will provide the possibility of establishing an intermodal node between land, air and water transportation.



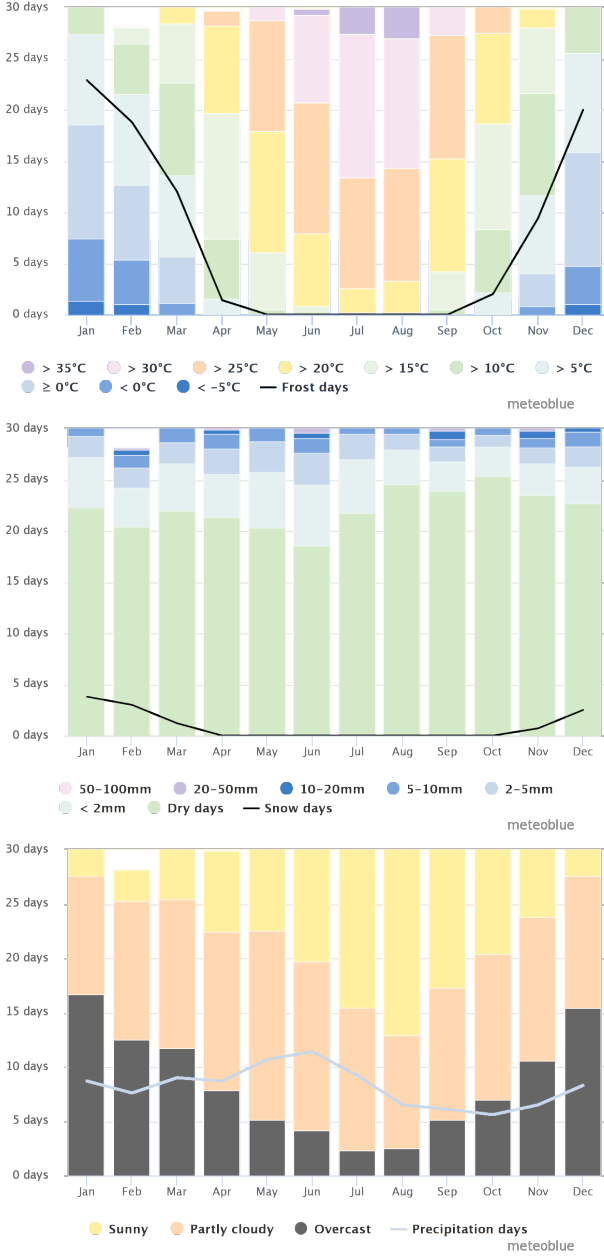
At the moment the connection with the other side of the river is ensured by ferries. The width of the river bed, upstream of Braila, is of 420 m and it widens as it flows to a width of 463 m. A section through the river bed is of 7 270 m². These numbers are important for its navigation capacities.

Riparian State	Length of the river (river kilometres)	Number of bridges	Bridge density (bridge / river kilometre)
Germany	687	89	7.7
Austria	351	46	7.6
Slovakia	172	8	21.5
Hungary	417	20	20.9
Croatia	138	4	34.5
Serbia	450	10	45
Romania	1 020	6	170
Bulgaria	472	2	236
Republic of Moldova	0.6	0	0
Ukraine	54	0	0

Source: Rechnitzer, J. (ed.) (2009), p. 17.

The multiannual medium debit is of 5.989 m³/s, but during summer, and sometimes winter, the debt can decrease at values of 2.030 m³/s.

Climate

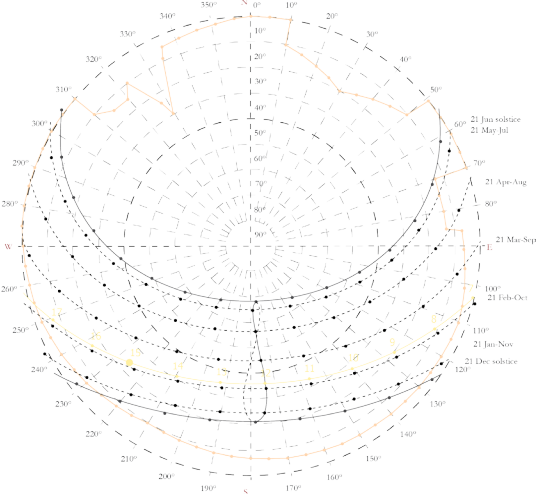


Brăila has a moderate continental climate and it is characterised by a plain field type of climate.

The differences between summer and winter are very big, as summers are hot and dry due to the continental air masses that are under solar irradiance of high values (125 Kcal/cm²), whereas winters are very cold with strong snowstorms without a stable and continuous snow layer.

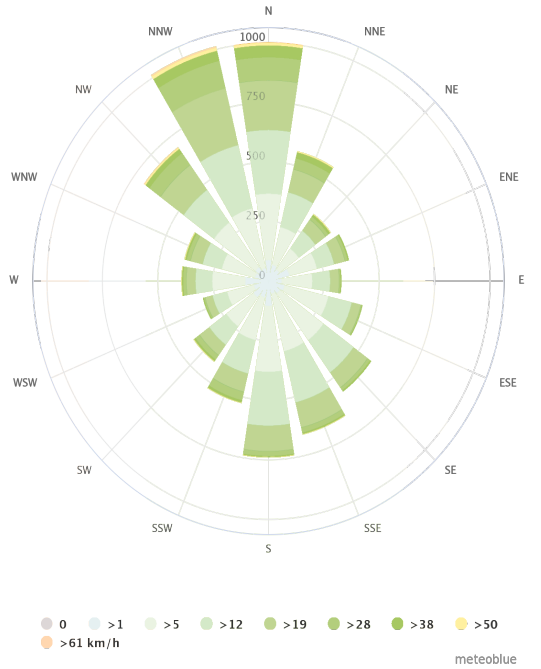
The annual average temperature varies between 10,3°C and 10,5°C. The monthly averages indicate that January is the coldest month with an average of -2,1°C and July is the hottest with an average temperature of 23,1°C.

The level of precipitations in one year is under 500 mm. Out of this quantity, 60% is recorded to be in the warmer quarter of the year and out of the rest the majority is usually as snow. The snow layer thickness is usually under 10 cm and that is due to the plain terrain that allows for the snow to be transported by the wind outside of the city or to create blockages where it encounters an obstacle.



The strongest winds come from the north with an annual frequency of 21,3%, afterward are the ones from the north-east 18%, west 16% and south-west 12,8%. The winter winds are the strongest as they can have speeds that exceed 100 km/h.

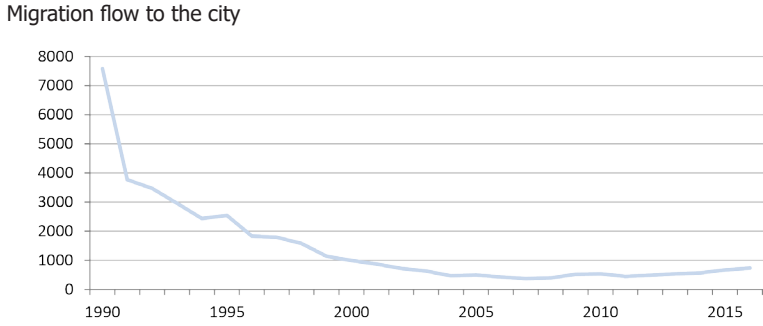
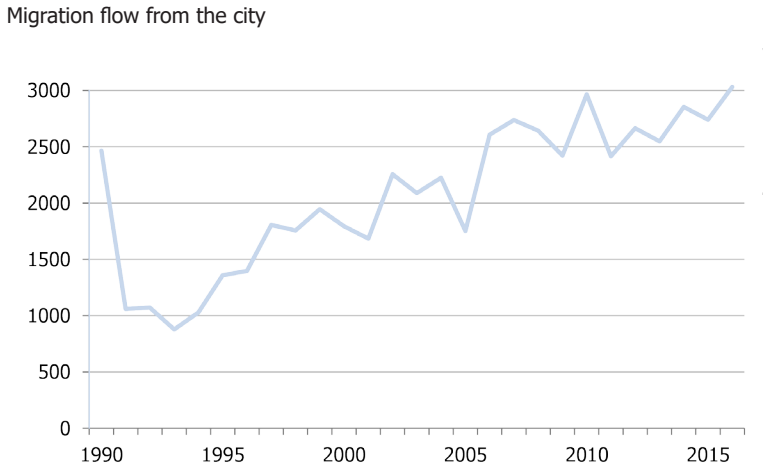
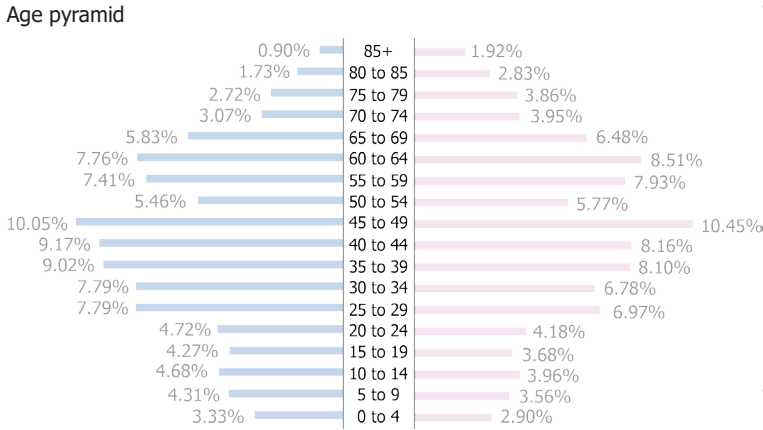
The extreme weather phenomenon is due to the presence of the East European Anticyclone that causes the big temperature differences between seasons (summer-winter), but also other extreme weather conditions such as: polar or arctic waves of cold, heavy snowfall, strong winds and snowstorms in the winter and tropical heat waves, drought and dry and hot winds in the summer.



The biggest weather-related risk in the city and in the county is the possibility of a snowstorm as it is composed of high wind speeds and heavy snowfall. Therefore, during a blizzard, the wind can have a speed that exceeds 15 m/s and can form a continuous snow layer of 20-50 cm or an add up of 1-4 m tall.

This, in the context of the city, raises the problem of street orientation and the distribution of green space within the city borders. At the same time, the quality of the city life is altered in summer too by the extremely high temperatures that create discomfort while being outdoors.

Demographics



Currently, Brăila has a population of approximately 210.000 inhabitants according to the National Statistics Database.

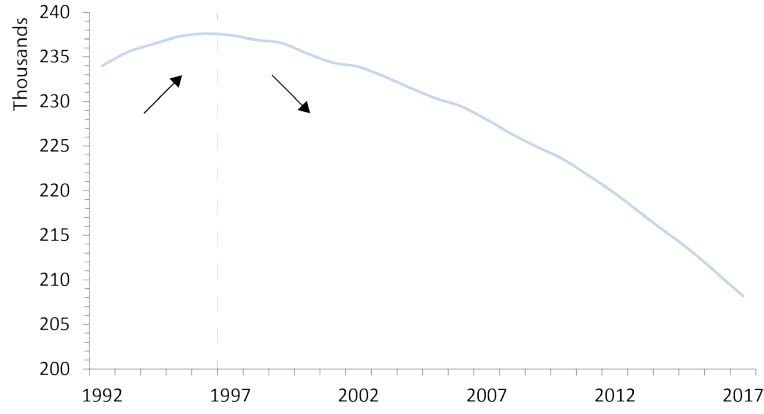
According to the age pyramid the biggest age groups are between 35-49 years old and there is a tendency of an aging population. In this case, the focus of the cities strategies should be on attracting a younger population.

The rate of migration from the city to other countries spiked after entering the European Union, but, there is also, a migration to the biggest 5 cities in the country. One can, at the same time, notice a slight rise in the migration to the city in the last couple of years. This is due to the rural-urban migration as the city is attractive for the rural inhabitants of the county.

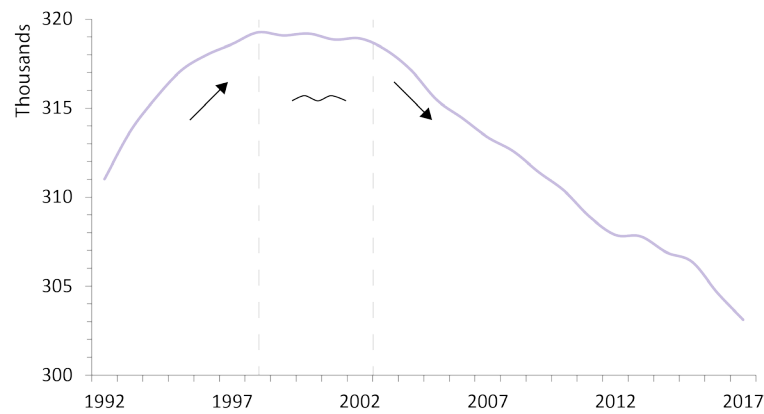
One can also observe the same downfall in the population evolution for the city of Galați in the last two decades. This is due to the decrease of industrial activity in both cities.

The privatization of the largest industrial plants after the revolution lead to a big rate of unemployment between 1990 and 2000. At the moment, the rate has stabilized and it is decreasing year after year.

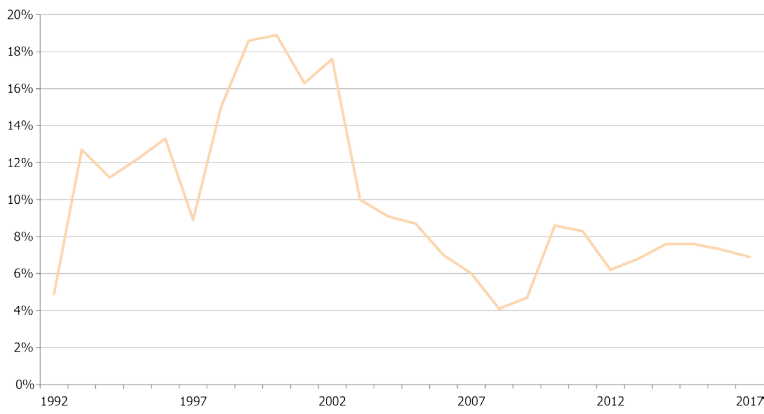
All these taken into account, there is a need to create alternative ways of living and working in both cities. The current population of both cities, together, is of almost 700.000 inhabitants.



Brăila- Population evolution

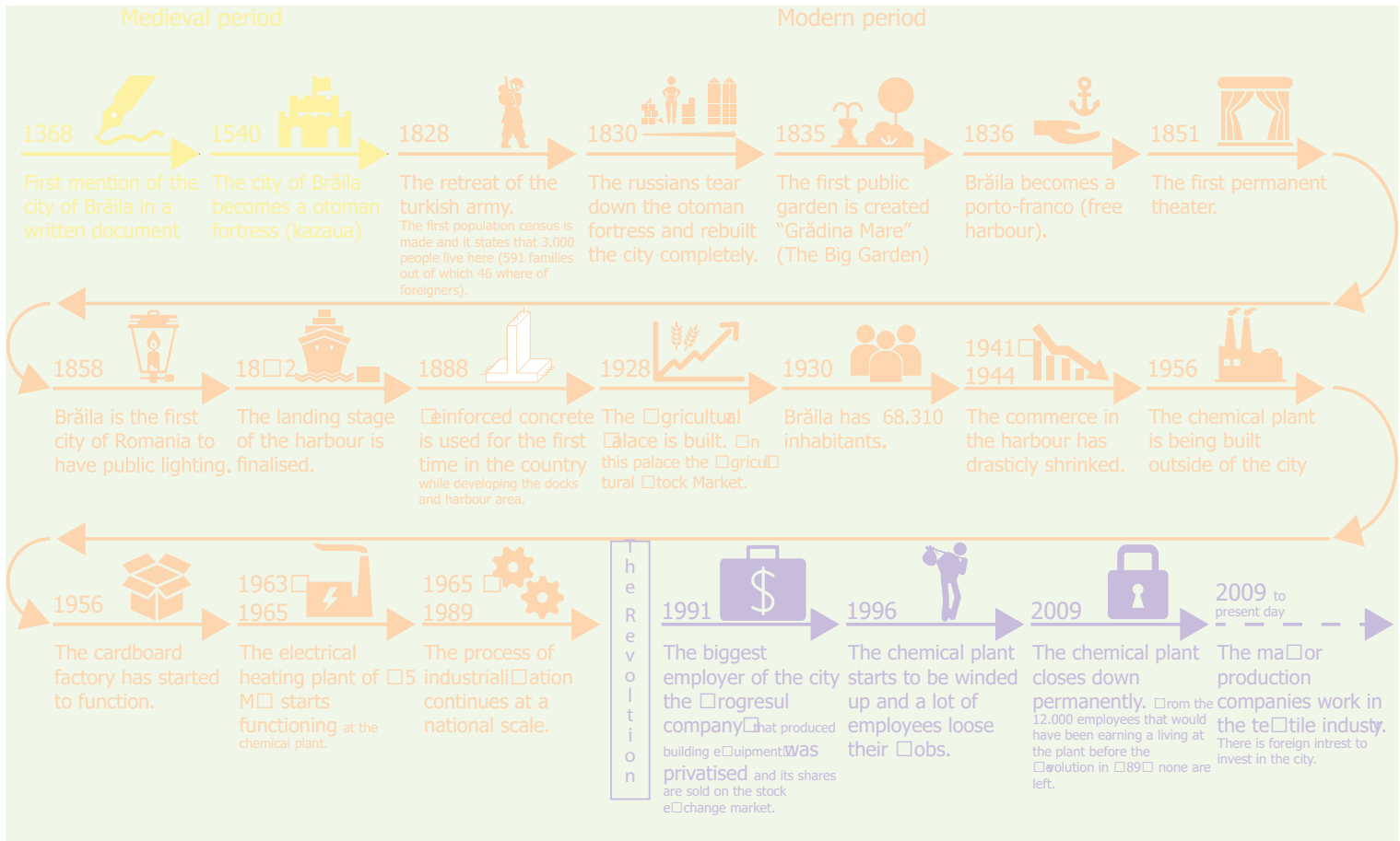


Galați- Population evolution



Rate of unemployment

Historical timeline



Brăila has a rich history with times of incredible growth and times of stagnation or decline. After the retreat of the Turkish occupation in 1828, the city was completely rebuilt as the fortifications were torn down by the Russians. The harbor had an intense activity with imports of Mediterranean wines, cotton and silk, coffee, cinnamon, pepper and southern fruits that are transported from here inland towards Braşov or Bucharest.

The year of 1834 marks the first passenger voyage on the Danube from Wien to Brăila.

In 1836, the city becomes a porto-franco and, therefore, could store all kinds of merchandise without taxes and the Commercial Merchandise Court is created. At this time there are in Brăila 25 corporations (streamers, carpenters, skimmers, roofers, fishermen, etc.) and 5 viceconsulats (Austria, Russia, Greece, England and Piedmont).

In 1847, a cruise-ship starts to make the course: Odessa (Ukraine)-Galaţi-Brăila.

After 1900, the life in the city of Brăila is marked by country level premiers and innovations (the electric tram, public lighting with gas lamps, meteorological station etc.). This is a very bohemian time when the cultural life plays a very important role in the multi-ethnic city.

After the First World War, industrialization starts to become present in the city through a French-Romanian factory named Progresul. During and after the Second World War the commercial aspect of the harbor has suffered a decline in activity, but the industrial plants grow and employ the majority of the workforce of the city. This marks another golden age for the city when a lot of housing is built and there is a migration trend from the rural to the urban.

In 1989, there was the Romanian Revolution that signifies the end of the communist leadership and the start of the Democratic Republic of Romania. Up to this point, all the production was controlled by the state and the industry, as well as, the land had been national property.

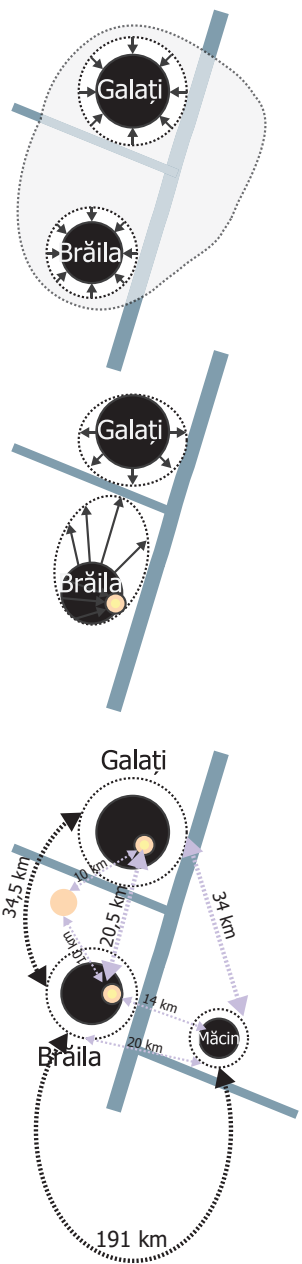
What followed after this change of leadership lead to the present state of the city and its demise. All the major employers were privatized either as a whole or by bits and pieces and that caused a huge destabilization for these big industrial plants that lead to their shutting down, in the majority of cases.

In the present day, the city still has active textile, food, chemical, and utility machinery building industries, but their activity has been reduced.

Context

B. Regional strategies

The urban sytem of Brăila-Galați



At the moment both cities are shrinking, but a union of interests and capital with help from the national level, the region can prosper and grow.

As the two cities unite, the development are going to be centred in the northern area of Brăila. Therefore there is a need to strenghten the core of the city as not to loose the local identity.

The existing infrastructure is dependent on the weather conditions to ensure the link between the 3 neighbouring region. In a winter scenario when the Danube is frozen and no longer viable for navigation, the only route to the city of Măcin, which is only 14 km away, is by going south to the nearest bridge over the Danube. The bridge will ensure an all year long connection.

The cities of Braila and Galati are featured in the National Planning Plan as an urban system that has a population of approximately 700.000 inhabitants.

The distance between the cities borders is under 15 km (approximately 12km). The urban system is considered as being one of the growth poles of the South East Region of the country.

At the moment, the development strategies for the two cities are not in sync, but the plan is to stimulate economic growth through big infrastructure projects at a national and regional scale and importance.

Both cities face the same challenges: economic decline, pollution, and traffic congestion, so there is a need for a common set of actions that will determine the prosperity of the metropolis such as attractiveness for a qualified workforce, diversified living conditions and stimulation of the tourism sector.

An example of how these two cities can work together is the Arnhem Nijmegen Region in Holland.

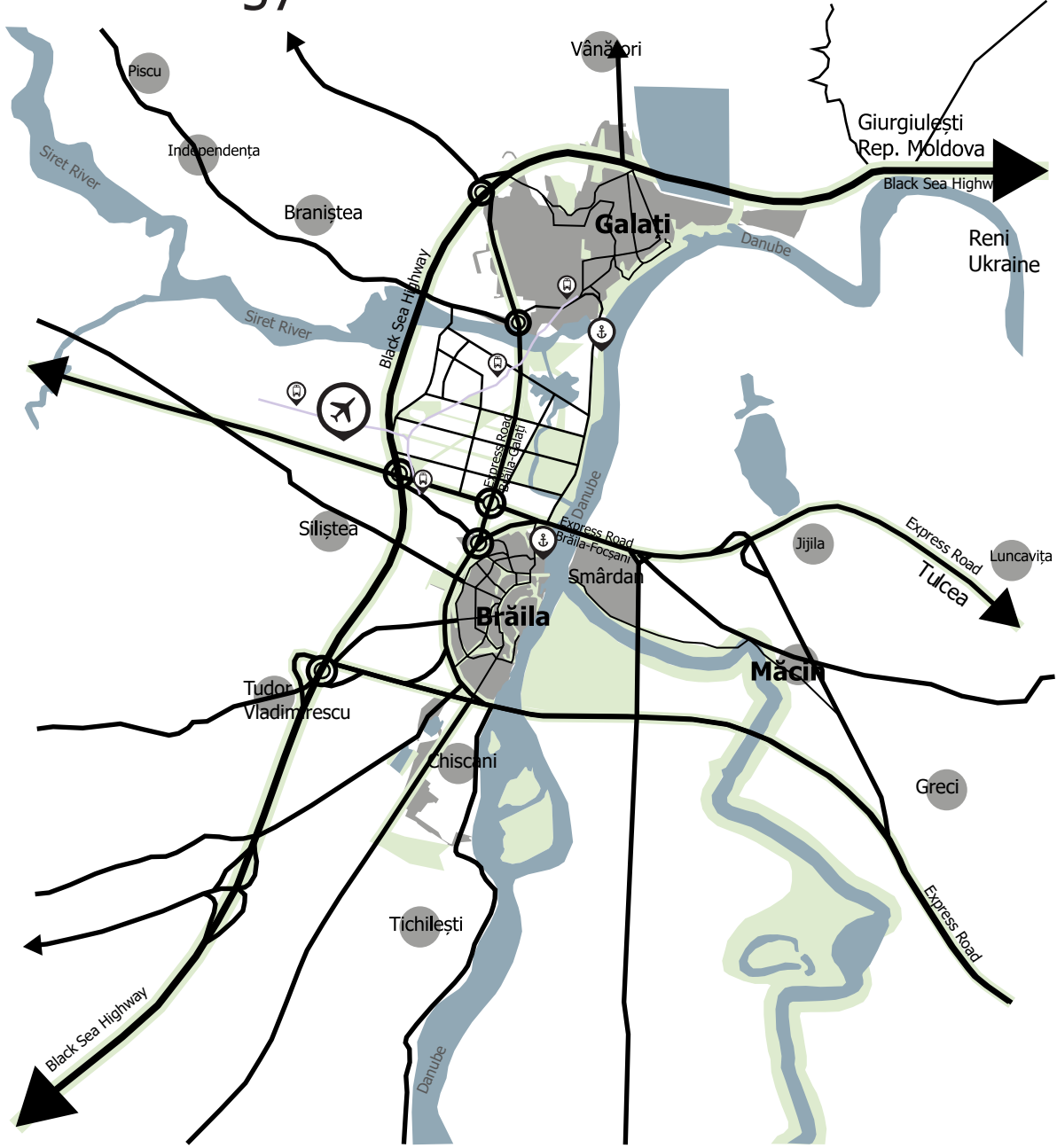
The purposes of the regional cooperation from the previously mentioned region are(according to the 2010 budget): mobility (public transportation, infrastructure, traffic management- 89 mil euros), housing (diversifying the price range and quality- 15 mil euros), spatial planning (a regional plan- 5 mil euros), economy (industrial sites and office buildings, regional branding – 1 mil euros).

The financing will come from the municipalities (3,15 euros/ inhabitant), European funds, national and regional ministries.

In conclusion, the successful cooperation in Holland is based on: the desire in the region to understand the added value of cooperation for a sustainable economic development, the capacity of creating a common vision and strategy for the development, the national legislation to sustain the institutional implementation, the relevant task transfer from the central government or the municipalities along with the adjacent funds, the cofounding of national importance projects through the central government or European funds.

The optimal functioning of the urban system Brăila-Galați forms a part of the main objective of the Strategical Concept of Development for Romania to confirm the country's identity as a node between north-south and east-west and as an intercontinental link. The two cities can hold the position of a beacon between east and west.

Regional strategy



Northern area development



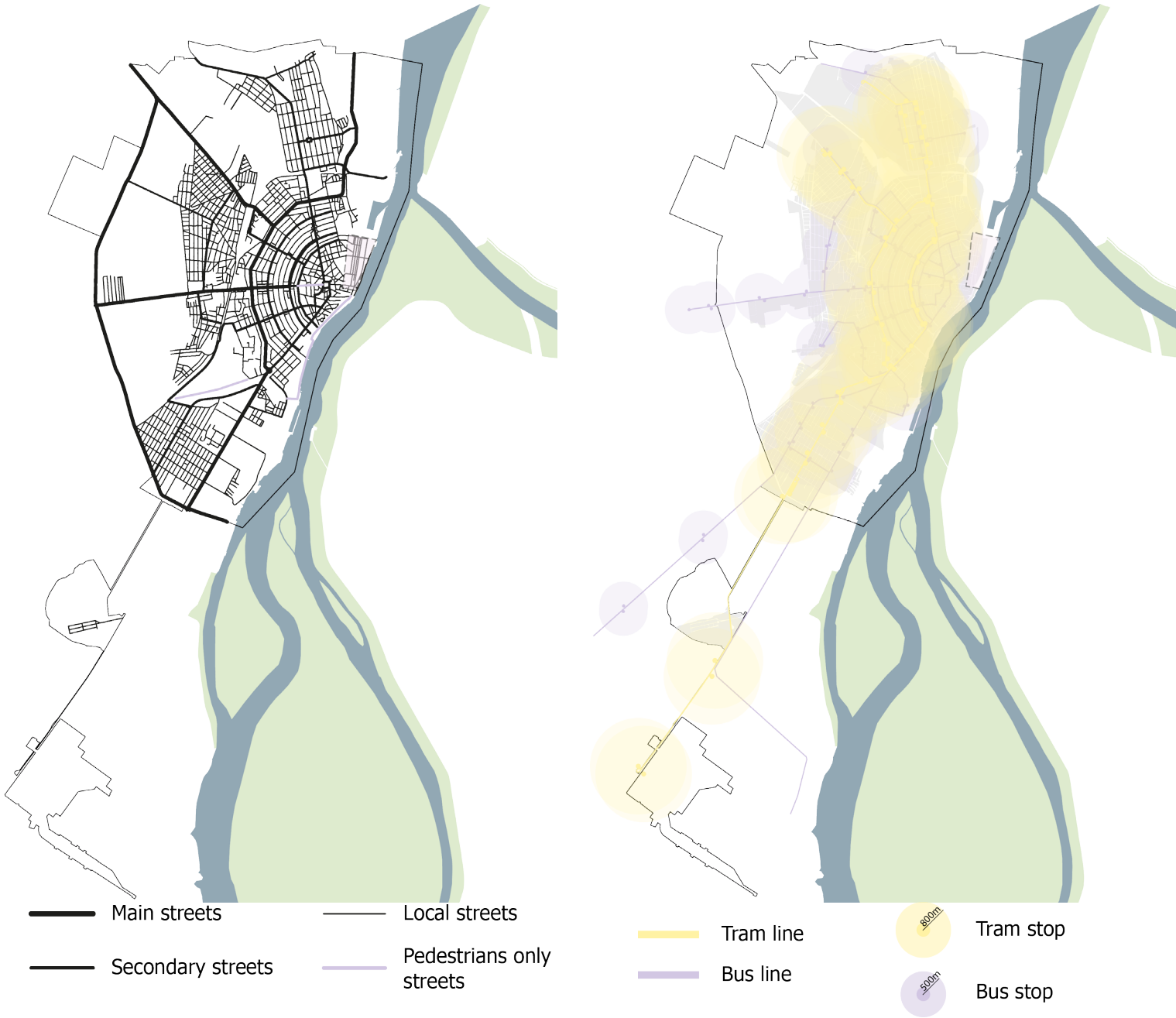
Legend

- Ore harbour
 New commercial harbour
 Siret harbour
 Recreation harbour
 International Airport
 Intermodal Node
- Metropolitan Agricultural Area
 Metropolitan Agricultural Area Specialised in technical plants and vegetables
 Protection area for the river banks
 Forest
 Metropolitan Park
 Production area for green energy (biogas, wind energy, photovoltaic panels)
- Recreation centre
 Regional Olympic sport centre
 Campus Area
 Regional Exhibition Centre
 Metropolitan Administration Centre
 Administration and business centre for the harbour
- Collective Housing Area
 Individual Housing Area
 Extension of the Housing Area
 Office and Services Area
 Extension of the Economical Area
- Commercial Area
 Regional Hospital
 Warehouses
 Specialised Industrial Park

Context

C. Analysis - City scale

Connections



The street network

The city has a semi-circular street network with three main boulevards and one outer-city ring that facilitates the heavy vehicles to avoid the inner city.

There are some areas that are rather poorly connected, including the studied site.

Also, there are three main pedestrian roads, that are shown in violet. One is alongside the waterfront; one is the main street of the old city center and it connects the main square with the first boulevard, and the last one is incorporated within the major city park. The biggest challenge for the pedestrian status in this city is the lack of continuity between the pedestrian-only zones.

Public transportation

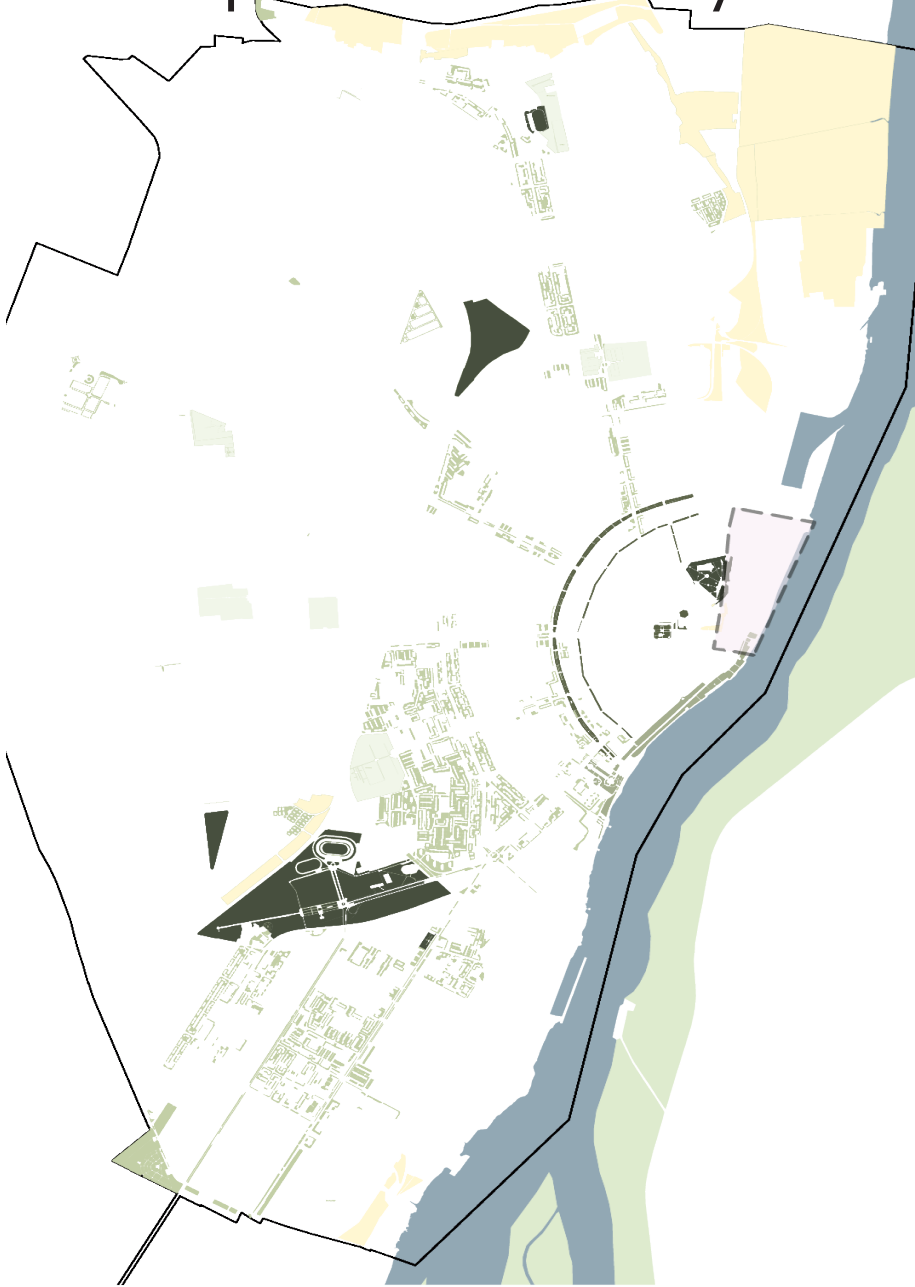
Regarding public transportation, it is mentionable the fact that it ensures a relatively good connectivity by the means of buses and trams.

There are a few intermodal nodes spread in the city that facilitate an easy commute in the city.

Commuting to and from the city is possible in the south and south-west areas, but there is a lack in the north.

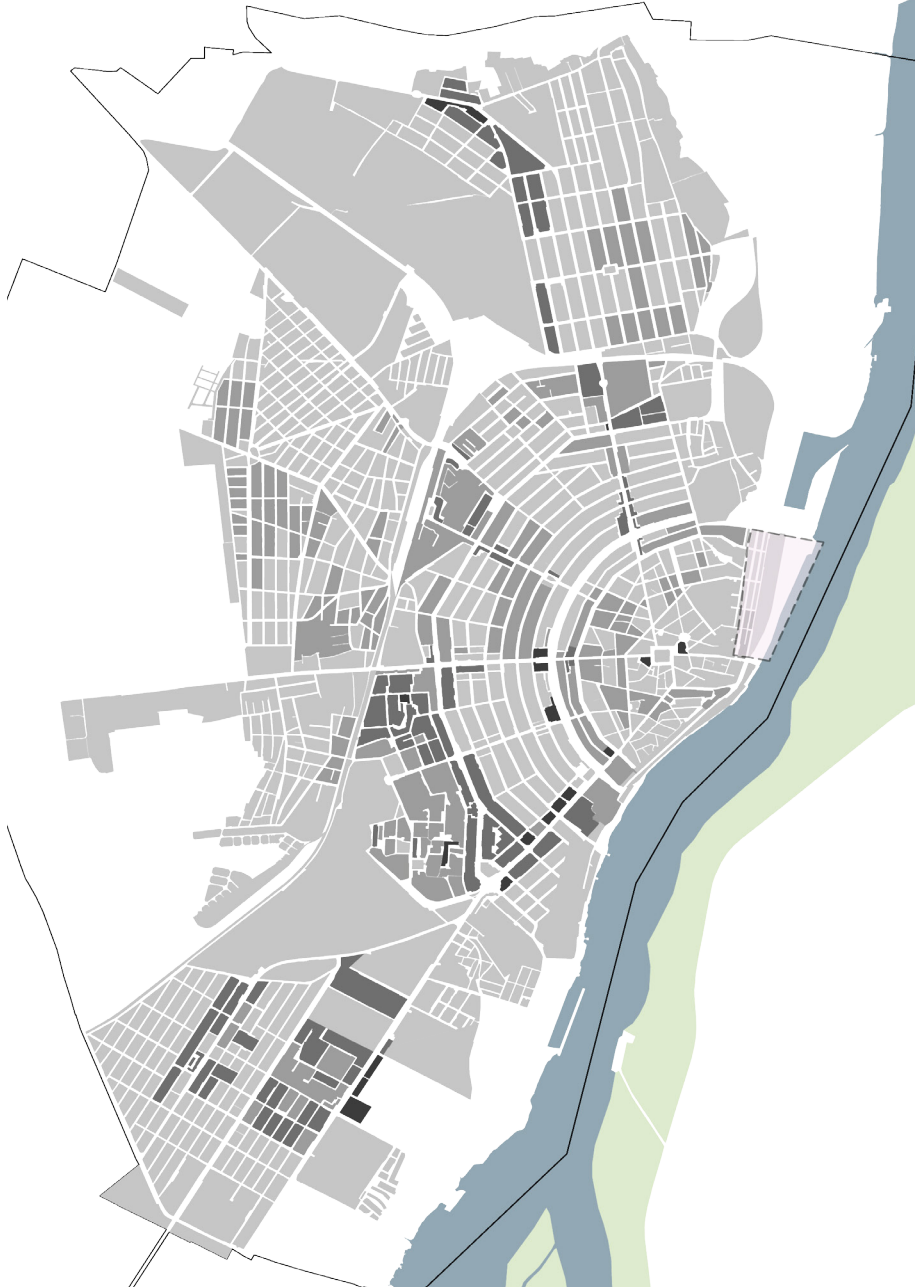
As far as the site is concerned, it is poorly connected to the bus network, as the height difference makes the bus stops not easily accessible by everyone.

Green spaces and Density



- Public Parks
- Boulevard or Squares greenery
- Riverside Promenade
- Collective housing greenery
- Cemeteries
- Unmaintained Green Spaces
- Forest

The green space within the city occupies a surface of 419,87 ha representing a percentage of 12,1% of the total surface of the city. If we divide the surface to the number of inhabitants from the year the area was measured, we obtain a surface of 18,94 m² per inhabitant, which would seem reasonable, but out of this surface, only 306,93 ha are considered accessible at all times. The difference represents green areas with limited access as they are part of public facilities (nurseries, kindergartens, schools, medical facilities or social protection, churches and cemeteries). In this way, the actual green area per inhabitant drops to 13,85 m² per inhabitant and if we consider the qualitative factor as well, probably the number drops under 10 m² per inhabitant.



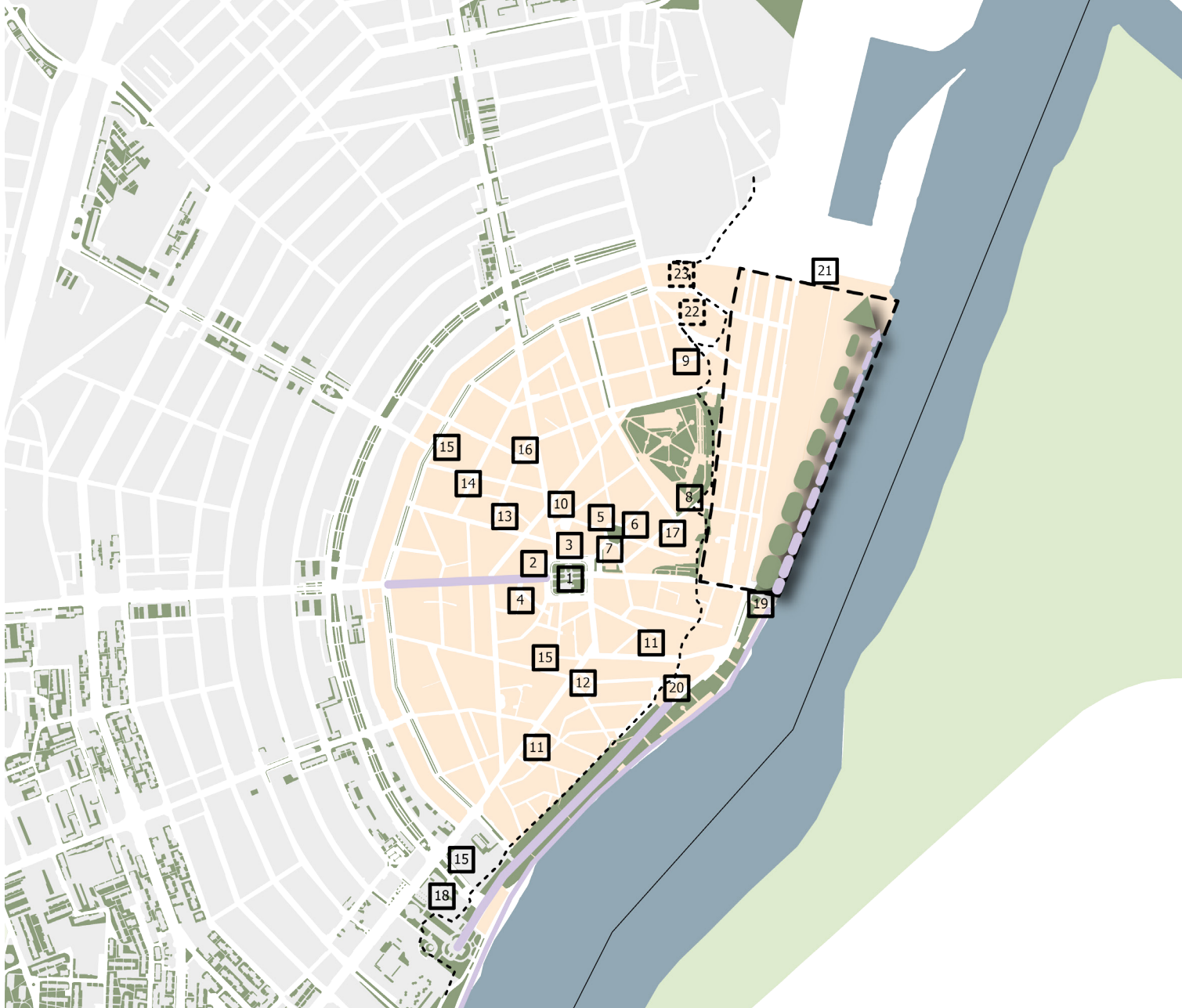
- High density area >100 inhabitants/ha
- Area with a density between 40 and 100 inhabitants/ha
- Area with a density between 20 and 40 inhabitants/ha
- Low density area <20 inhabitants/ha

The scarcity of the green space in the city raises also the problem of continuation of the green infrastructure as they are three main green spaces in the city with poor connections in between. Therefore there are areas of the city that are in the 30 minutes isochrone to a public green space and that is illustrated in the lack of interest in relation to green spaces.

The population is spread out almost uniformly within the city limits. The densest areas are the ones that are constituted of collective housing. The average density is of 4.450 inhabitants/sq.km.

The site has a low density as it has no housing.

Historical centre



- Historical centre
 - Green spaces
 - Slope line
 - Site line
 - Pedestrian Streets
 - Waterfront Boardwalk
- | | | |
|--|---|---|
| <ul style="list-style-type: none"> 1 Main square 2 "Maria Filotti" Theater 3 The city's museum 4 "Lyra" Concert hall 5 City's Culture House 6 County Library 7 Cultural Centre for Arts | <ul style="list-style-type: none"> 8 "Panait Istrati" Memorial House 9 "Perspecissius" Memorial House 10 Central Cinema 11 University Buildings 12 The Greek Church 13 The Puppet Theater 14 Arts and Crafts School 15 Highschools 16 Catholic Church 17 Baptist Church 18 County Hall 19 Old Harbour Station | <ul style="list-style-type: none"> 20 Violatos Mill 21 Old Docks Administration 22 City Hall 23 Congress and Conference Hall Proposed Continuation of the Promenade Proposed Continuation of the Waterfront Boardwalk |
|--|---|---|

The historical center has the majority of the city's attractions. In recent years, the municipality has started to invest in the rehabilitation of it. The main pedestrian street was renovated, so now during summers there are café's and there are some commercial activities on the ground-floor, but there the process is not over as there are still historical buildings that are endangered and need emergency interventions. At the same time, the county library was moved to its current location and a couple of new community centers occupied by old historical buildings.

Still, even with the new investments, the center needs more restoration and remodeling as to maintain the old charm, but, also, to answer to contemporary challenges.

Context

D. Analysis - Site scale

Location

The site is located on the waterfront between the existing esplanade and the current commercial harbor.

As the commercial harbor is going to be moved to the north, next to the bridge, the existing one will be converted into a private marina for leisure boats. This will encourage a continuation of the existing promenade towards this new leisure activity spot.

Another axis that defines the area is the continuation of the existing pedestrian street within the historical center. At the moment, the street ends in the main square, but if the connection would be improved it could ensure the connection to the waterfront.

In the vicinity of the site, there are tourist attractions such as the theater, the concert hall Lyra, the county library, the city's museum and various memorial houses. There are also plans to move the city hall to the place of the nearby high school and to repurpose the old grain mill as a congress and conference building.



Then and Now

The site used to be the busiest part of the city with a lot of tradesmen selling and buying goods. Many institutions regarding the commercial activities had their headquarters on these streets and various workshops were processing the imported goods and then prepare them for export.

The price for the grains was being established by salesmen on the street of Misișilor, which is part of the site, as it the city there was the Agricultural Stock Market.

The old harbor building was a busy naval stop with many tourists stepping through its doors. For many foreigners, at that point in time, Brăila was the most important city of the country after the capital.

As time passed, the workshops were transformed into warehouses or grain related industries and now the site is a neglected area with unmaintained green spaces and old, empty buildings.

There are some active businesses that deal with the storage and production of pastry products.

The area is considered by locals as a closed-off area, as there are two big fenced out properties: the agro-port and the free zone of the harbor.

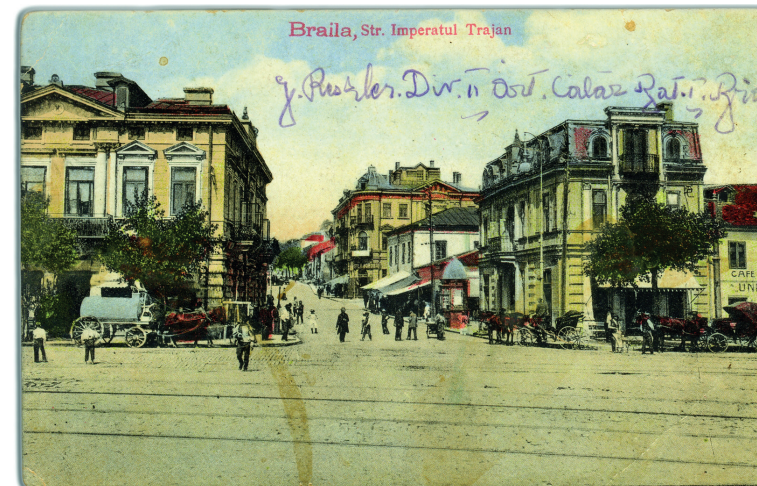
In the last couple of years, the only change that occurred in the site is the conversion of one of the buildings with a higher architectural value into a community center for grandparents and grandchildren.

2004



2017





Land use



- Housing
 - Restaurant
 - Hotel
 - Church
 - Warehouses / Abandoned Buildings
 - Medical facility
 - Education
 - Administrative & Banks
 - Gas station
 - Sport facilities
 - Active Businesses
 - Prison
 - Areas proposed for conversion by the municipality
- ① Water tower
 - ② Memorial house
 - ③ Cultural Centre "Nică Petre"
 - ④ County Library
 - ⑤ Municipal Cultural Centre
 - ⑥ Municipal History Museum
 - ⑦ Clock tower
 - ⑧ Old harbour administration
 - ⑨ New harbour administration
 - ⑩ Old grain mill
 - ⑪ Community centre for grandparents and grandchildren
 - ⑫ Old Administrative Docks Headquarters

The area analyzed and proposed for redevelopment measures about 30 ha. Zooming in on the site, we discover mainly an area of unmaintained green spaces, old buildings in bad shape that now serve the function of storage units for small businesses and fenced off areas that still have some harbor activity.

There are some active businesses, but they are small scale and do not attract a lot of people to the area.

Another particularity of the site is the sports facilities such as tennis courts and the municipal ice rink.

Some new public facilities have occupied some of the old buildings such as a community center for grandparents and grandchildren and the national administration for waters local department.

The main nearby attractions are the Public Garden, the old city square with the theatre, the municipal museum, the county library, the old harbor building, the old docks administration and other cultural buildings.

The site is separated from the rest of the city by a height difference of 17 meters. This aspect has a correlation to a unique feature that is that it has the main entrance to the Turkish underground tunnel network that was a defense mechanism since the 15th century.

There is an opportunity, also, in the municipality's plans to move the city hall next to the site and to transform the old mill into a congress and conference building. These initiatives were proposed

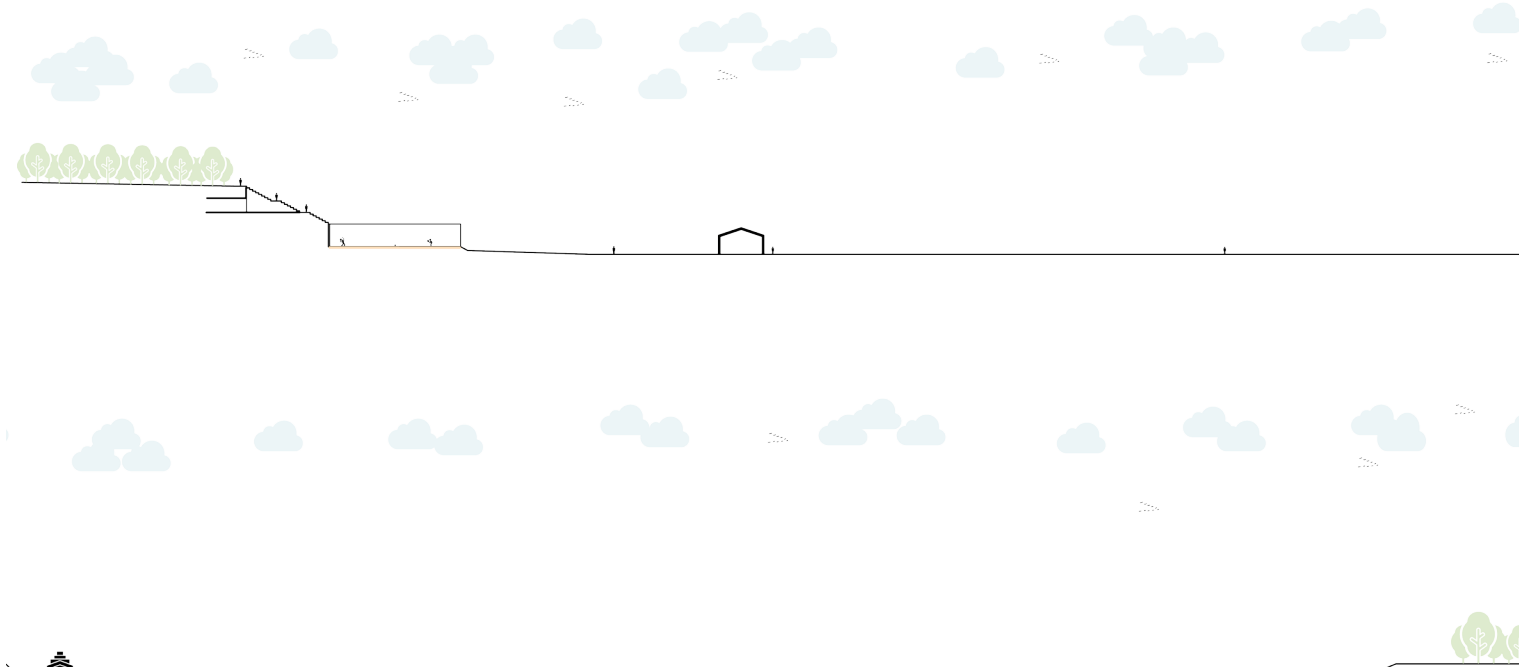
in the new General Urbanism Plan for the city that is now in its final stages of being approved, therefore it is very much in sync with the existing conditions, as well as, the new possibilities for the city.

The proposals for the area that are part of the local strategy include a park, a Danube Museum, a Philharmonic with a community center, a center for trading and exhibitions (creative industries) and a center for sustainable development.

In my opinion, the ideas are daring for an area that inhabitants do not really acknowledge as part of the city, but I can imagine how some big public functions would attract people to the area of all ages and financial capabilities. One can find numerous examples of how this could be a success recipe for re-branding or reinventing a city in this manner, such as Bilbao with the Guggenheim Museum, the Ruhr region with the Landscape Park Emscher and English cities such as Manchester and Liverpool that use the industrial patrimony as a tourist attraction magnet.

Section

Scale 1/2000



This section is a conceptual depiction through the central area of the site and it has the role of illustrating the steep difference in height that creates a rupture in the city's fabric, as well as, the flat harbor surface. What is also noticeable is the difference between the two banks of the river as the right bank is not impounded and during summers it becomes a wild beach. I need to mention that in

addition to the smooth, sandy slope, the other riverbank has a natural protection, the forest. As one can see on the next page, this natural barrier prevents the flooding of the agricultural land in case of a one in 10 years storm as it allows for a more permeable surface to manage the intake of water.

Flooding risk

In the case of one in 10 years storm



In the case of one in 100 years storm



Image source: <http://gis2.rowater.ro:8989/flood/>



The Brăila harbor is at a height of 7,40 m above sea level and the city of Brăila is at 25 m and, therefore, safe from any risk of flooding. The declivitous bank with a length of 450 m is interrupted in 19 points of passing along the city's waterfront.

The maximum level reached, before the impoundments, was of 7.926 m³/s. In 1897 the flooding elevation rose to 693 cm.

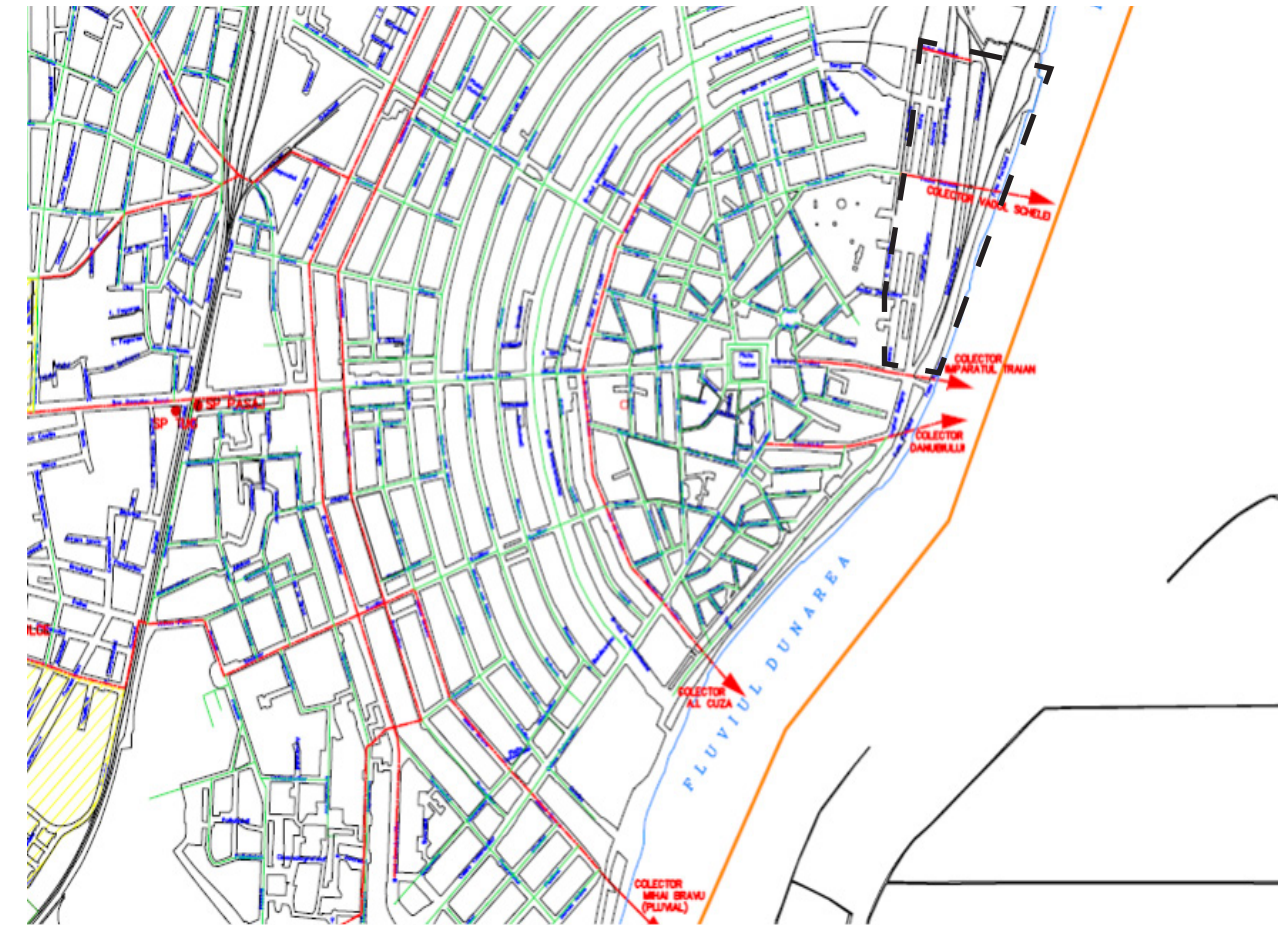
After the impoundments, as a result of the narrowing of the water-bed, the maxim debit was of 15.470 m³/s and the flooding elevation of 632 cm in 1970, and the minimum debit was of 1.490 m³/s.

The highest levels are approached during spring and summer (March-July). At the moment, the Danube is impounded on a total length of 225 km.

The reasons why the site floods almost yearly is a combination of three factors: overflow from the river during a rainy season, snow and ice melting and the streets that connect the site with the rest of the city which acts as water collecting corridors for the city's storm-water management strategy.

In order to manage storm-water, one needs to create ways for rainwater to be collected, channeled, retained and allowed to infiltrate. Options for this would be (Bio) swales and channels, detention and retention ponds, wetlands and permeable surfaces and de-sealing measures.

In areas prone to flooding, there is a need to address materiality in order to have permeable and impermeable surfaces and to create height differences as to allow flooding in controlled areas only.



Partial image of the drainage system in Brăila- Extras from the Supporting Study concerning the public utilities equipment

Strategies

The city's strategy

The urban development of the city needs to be planned as to not affect the structural equilibrium at all levels of the city that exists at the moment, even though the city will take advantage of the good economic position in the region and in the urban system Braila-Galati.

In this hypnosis, there is a need for an intervention in preventing this disequilibrium in the internal current structure that will be probably attracted towards the new developments to the north-north-west through the airport and the anticipated area for periurban activities. This risk of disequilibrium is not only a functional and economical nature but also it can result in a loss of local identity, a degradation of the existing built environment and a decrease in the touristic potential.

Taking all these into account there is a planned action to rebalance the city on the center-south direction, opposing the polarization of the economic activities from the north-west, by creating a development focused on the old city center and the waterfront.

At a city scale, there will be created stronger links between the city and the water. I propose that the storm-water management system changes as bioswales are used as a tool for retaining and purifying water. The rate of absorption green spaces

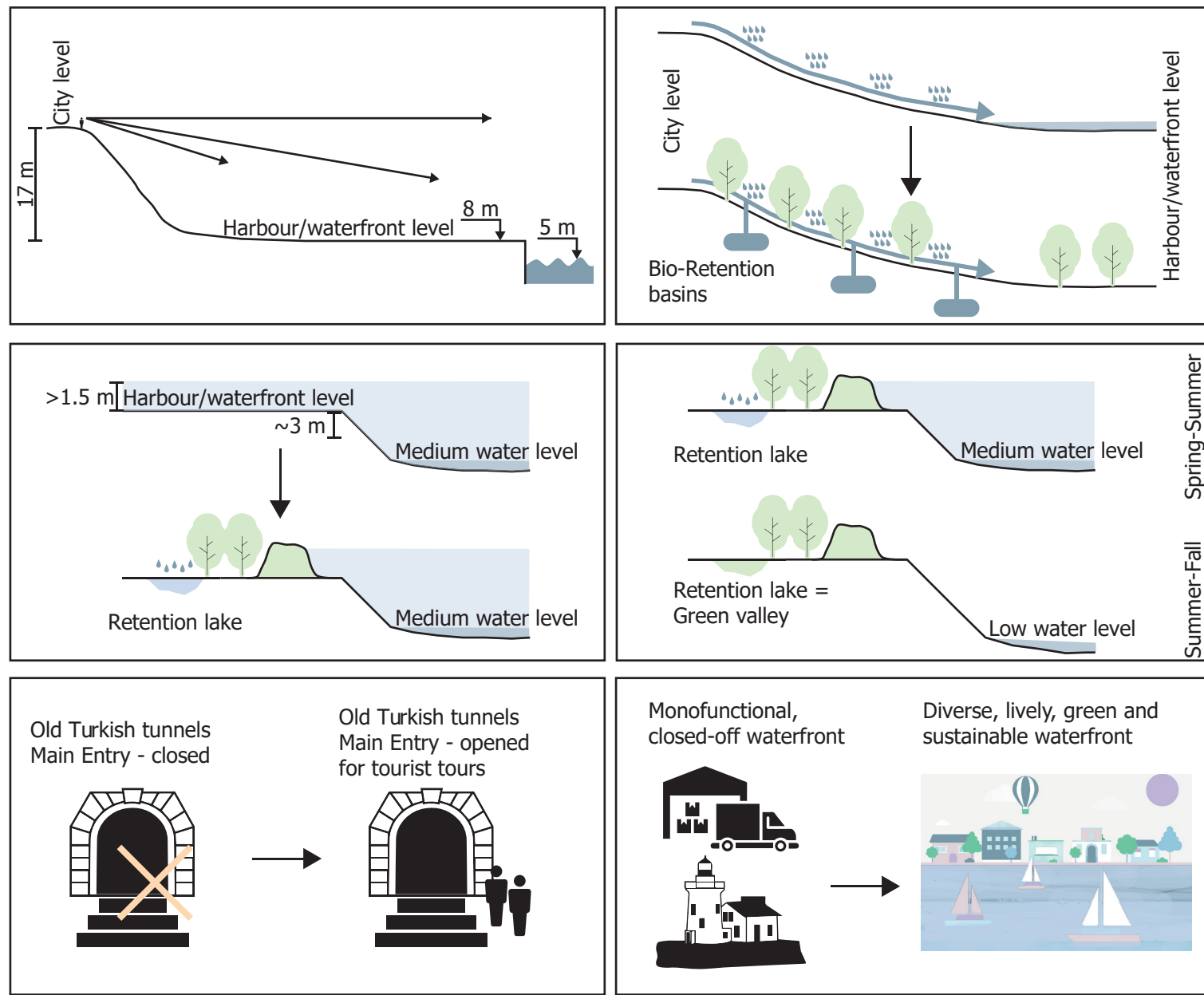
is as high as 89% depending on the relationship between the quantity of precipitation and time and it can be purified with a rate of about 95%.

The city has an underground network of tunnels dating back to the Turkish occupation. Some of them have been compromised and filled with sand or concrete, but if an accurate marking of this network can be done, then some parts of it can be opened for touristic reasons. The first one being the main entry from the Public Garden as it is the most visible one currently. They used to serve as a defense mechanism as to connect the old fortification with the harbor.

There is a potential in cultural tourism as yearly there are international and national festivals even without having a well-orchestrated touristic offer at the moment.

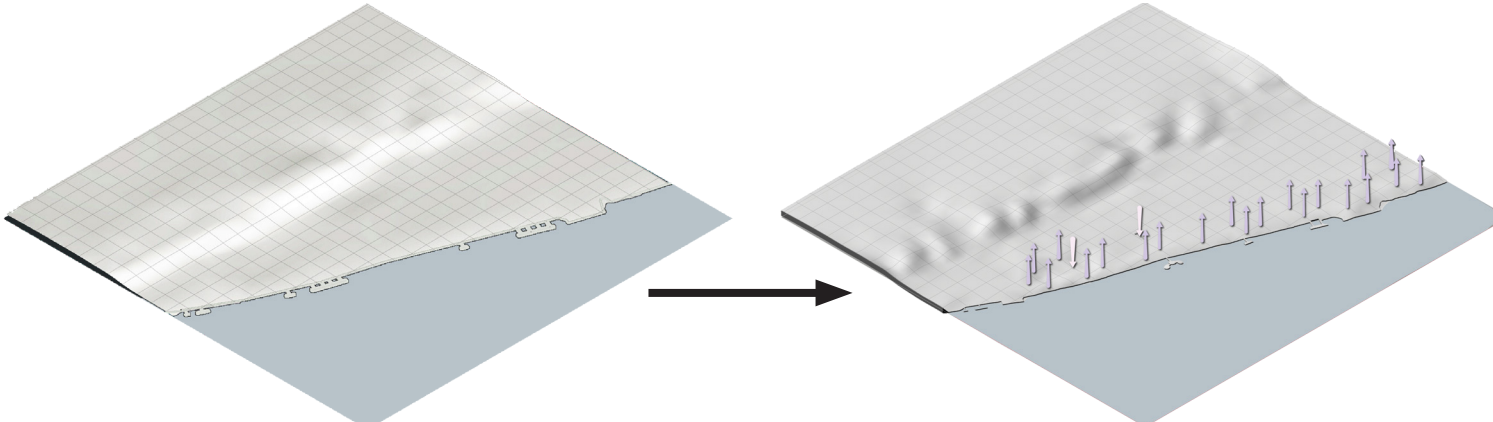
Another strategy that aims to attract more tourists to the city is the implementation of a daily route for passenger transportation boats that would connect the citizens to the opposite bank of the river, the biosphere reservation to the south and with the Danube Delta to the north in the first phases and then start international routes as they once were.

Toolbox



Strategies for the site

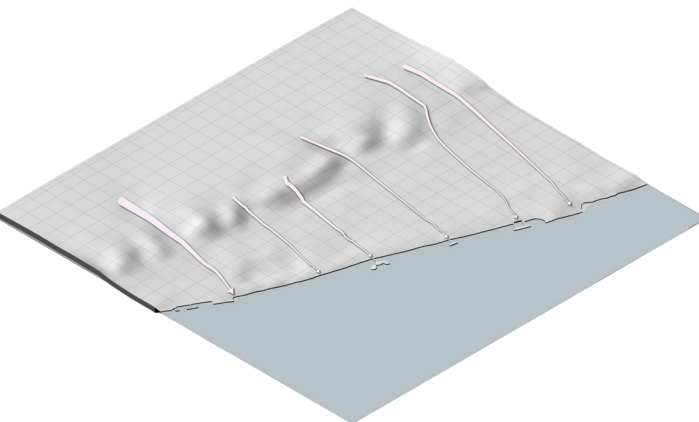
Remodeling the landscape



One of the challenges of the site is the constant danger of flooding, especially with the climate changing and water levels rising. By creating higher and lower areas we can control where water can be stored until it gets absorbed into the ground.

This will also create different experiences around the waterfront. The current promenade has this repetitive pattern along itself and it is lacking the element of surprise for the user.

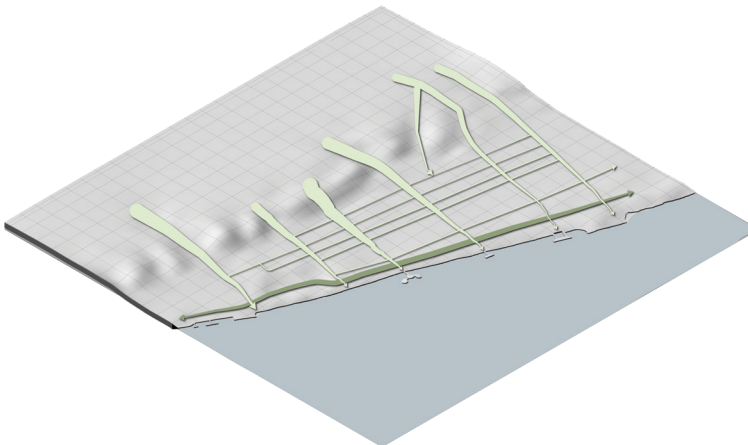
Connect the city with the water



At the moment the steep slope constitutes a barrier that separates the city from the Danube river. Therefore, I propose new connections between the two. They vary in width and the spaces they connect along the way.

By creating a more diverse waterfront there will be a more active water line that will contribute to the leisure options available in the city.

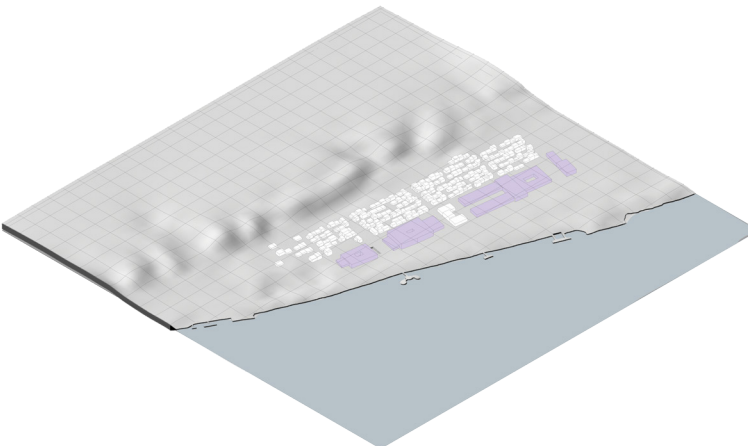
Creating green corridors



The green corridors serve three major functions: shade in the summer, water retaining and purification during the rainy season and leisure opportunities for the inhabitants. The proposed corridors are in the majority of the cases doubling the street network as to reinforce the connectivity between the city and the waterfront.

The continuation of the existing promenade with a park along the river will help with the north-south connection within the city and allow for a future connection to the new northern developments.

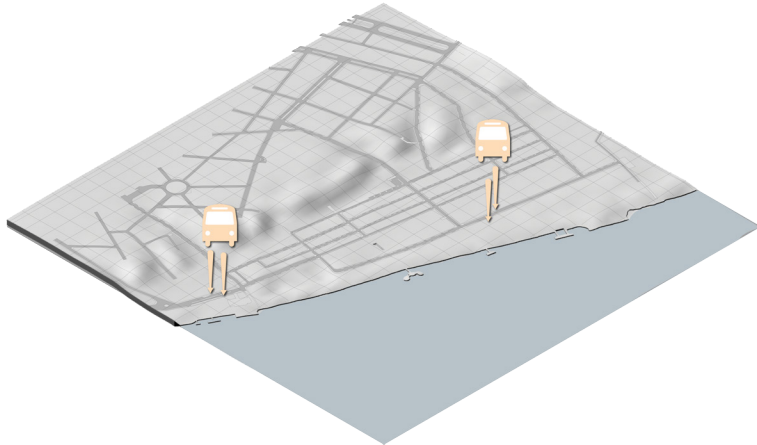
Adding public functions



In order to open the area to the public more, I propose a Philharmonic, a Danube Museum and a Market-hall. Their location and purpose are inspired by the municipality's proposals for the area.

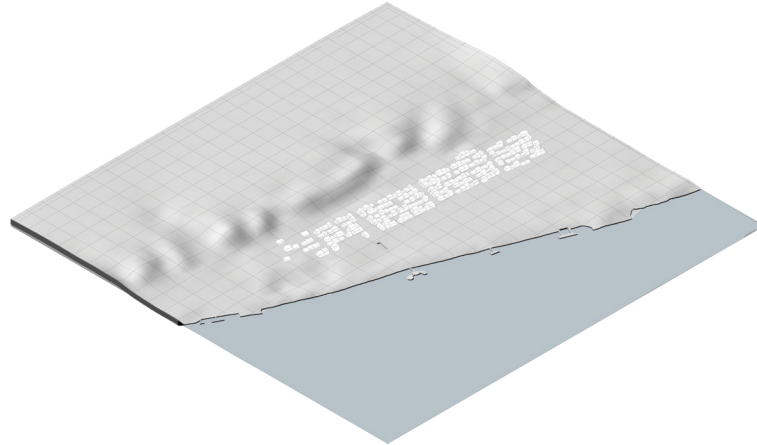
These functions will attract both inhabitants and tourists, both young and older people, as they will be an attraction point on the river banks.

Adding public transportation



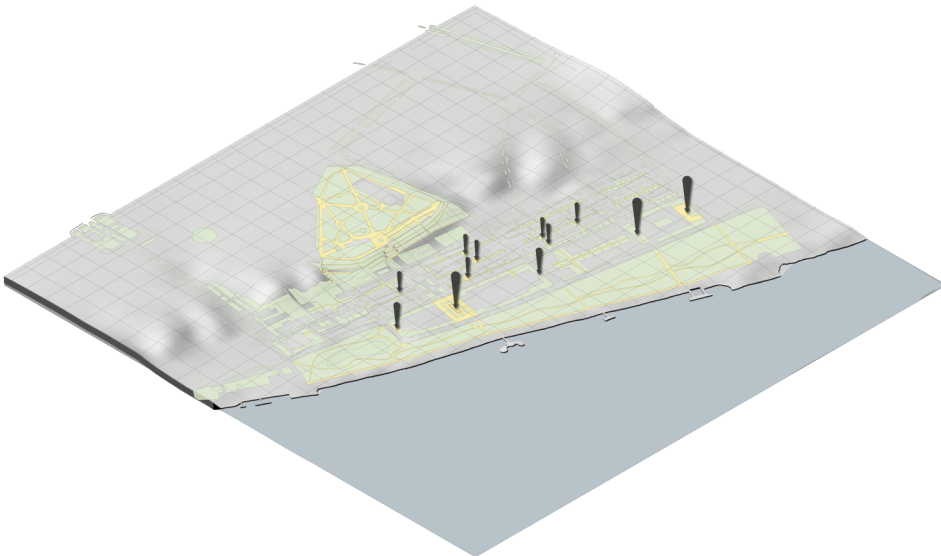
During the analysis phase, I have discovered that the area is poorly served by public transportation as the current bus stops are at the top of the slope and the slope is quite steep, therefore it creates difficulties for some disadvantaged categories. In order to make the site more accessible, I propose 2 new bus stops at the harbor level that will create the possibility for anyone to have access to the area.

Introducing a new typology



At the moment, the city is characterized by two building typologies: one or two stories individual housing or, more than 5 stories, collective housing. I propose for the area a solution in between that will provide a higher density and will also incorporate workshops/small business spaces. The idea of having a small workshop or office space in the ground floor and a residential area upstairs or part of the building is proposed as to attract young families to the area that enjoy this way of living.

Creating public spaces of different sizes



Alongside the green structure and the street network, I propose a network of pedestrian paths that have small enlarged spaces that would be suitable for community activities such as: ping-pong, out-door gyms, playgrounds etc. .

In front of the major public functions, I suggest larger plazas to mark the entrance and to offer the opportunity for street fairs, carnivals or any other temporary events.

In addition, I propose a greenhouse as part of the market-hall. By designing an in-door green corridor I aim to attract users no matter the season while still maintaining a connection to both the water and the city.

Proposal

Masterplan



The masterplan is the overlapping of all the strategies presented before and it tries to illustrate the green network, the building typologies, the street network and the public spaces.

The street orientation is preserved as to maintain the memory of the place as it once was a harbor area, but also for functional reasons regarding the wind flows. In this way, during summer the streets are channeling the wind which is much needed and during winter it allows the snow not to form piles and to block traffic. The street typology is one that can ensure good connections, but at a slow pace as the majority of the streets are one way and offer parking spaces, that can be used for other purposes as well, and bioswales to reduce the water quantity overall within the site.

The majority of the existing buildings are torn down or rebuilt as to fit the new typology due to their degree of degradation.

The idea of having one strong connection between the water and the Public Garden that broadens towards the water was a driver as I wanted to build upon the existing viewpoint. In addition to the existing connection, I proposed for it to be enlarged as it approaches the water in order to emphasize the view even more. Of course, when the water is low, one cannot actually see the water, but then the view contains the wild forest

with the small mountains on the other river bank.

Another important aspect in order to obtain the best possible outcome for the area, the terraces from the public garden. In the present day, they are a neglected green space with tall vegetation that needs maintenance, so I redid the staircases and the alleys as to create better connections.

One can argue that I should have broken down the big public buildings as to create more connections in between the city and the riverfront, but I consider that having bigger connections that are straight and obvious and then smaller paths that can lead one down to the water on a more winding trail through the communities.

On the next page, one can see two scenarios and how the site would react to them. When the water is low, the park is a green lush strip of grass, bushes, and trees, whereas, when the water is high the retention lake takes the majority of the inflow and the park helps retain and filter the water as not to affect the built structure. During the dry season, one can use the stairs and reach the water, but the Danube is not the best option if one wants to go and swim as it is a very fast river with many vertical currents that can endanger one's life.



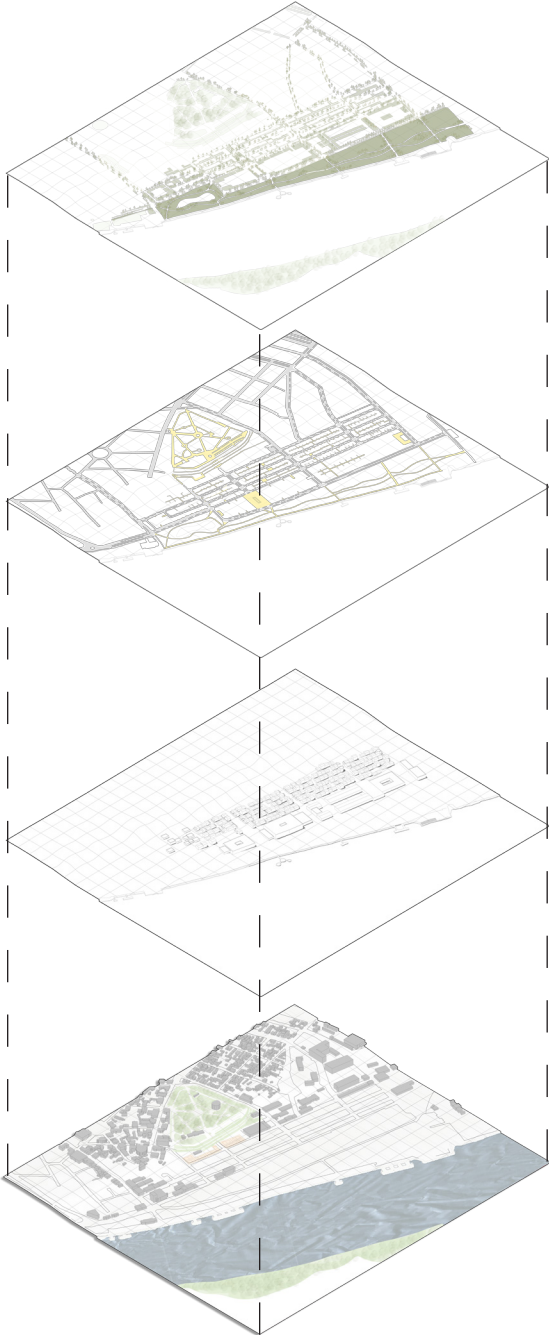
Layers

Adding 4,5 ha of green spaces

Creating 3,5 ha of public spaces

Proposing 425 units for work and living of 140 m²

Remodelling the plain typography



Phasing

Phase 0

Temporary activities
The beginning of the park



The project is planned in 4 phases, starting with phase 0 which will be going on at the same time with the bridge construction and it has as an objective the reintroduction of the area to the current inhabitants of the city and to get them involved in the rehabilitation of this particular area. In this time frame, the first part of the park will be completed and the retention lake will be created.

At the same time, starting from the top of the hill, the streets that link to the site will start to be equipped with bioswales as to decrease the amount of water that reaches the harbour. In this phase nothing is tore down and but the abandoned buildings will

be open to the public for temporary activities such as: workshops, theatre plays, food courts and other activities of this sort.

This is also the moment when the site is completely cleaned of garbage and other debris from the ruins of old buildings as to prepare the are for what is to come.

Phase 1

The first public buildings
The continuation of the park
The first units



Phase 1 consists of moving the agroport in the near vicinity of the newly built bridge along with the commercial harbour and therefore freeing a big part of the waterfront.

In this stage, the park is being expanded to the north and the green corridors along the streets are continued on the site.

At this moment in time, the two big public functions: the museum and the philharmonic along with the square in between are built and small units start to rise on the free areas on the site and some old buildings are being torn down.

Also, the naval station and the bus stops are

ensuring a good connection between the site and the surroundings.

This phase is crucial as it will provide the infrastructure for the reintroduction of tourism to the area and it will offer a new way of living in this city. If the new units are built in a collaboration between the government, the regional government, the municipality and private investors, then a long-term strategy can be implemented as to have low rents in the beginning as an incentive to move here and then start raising the rents gradually as the land value rises, but under certain terms and conditions established from the beginning.

Phase 2

Completion of public buildings
The completion of the park
The second row units



During Phase 2, the park is completed, the other public buildings are built, the site is cleaned of the buildings in poor conditions and a new layer of units is built.

The new market-hall is composed from several parts: a fish market, a fruits and vegetables market, a dairy market and a house-whole market, as to offer a diverse range of local products, but it can also have incorporated a food market where local restaurants can make weekly demonstrations in order to attract customers. All the parts are joined together by a greenhouse that plays a role also in the connectivity of the site while offering an alternative

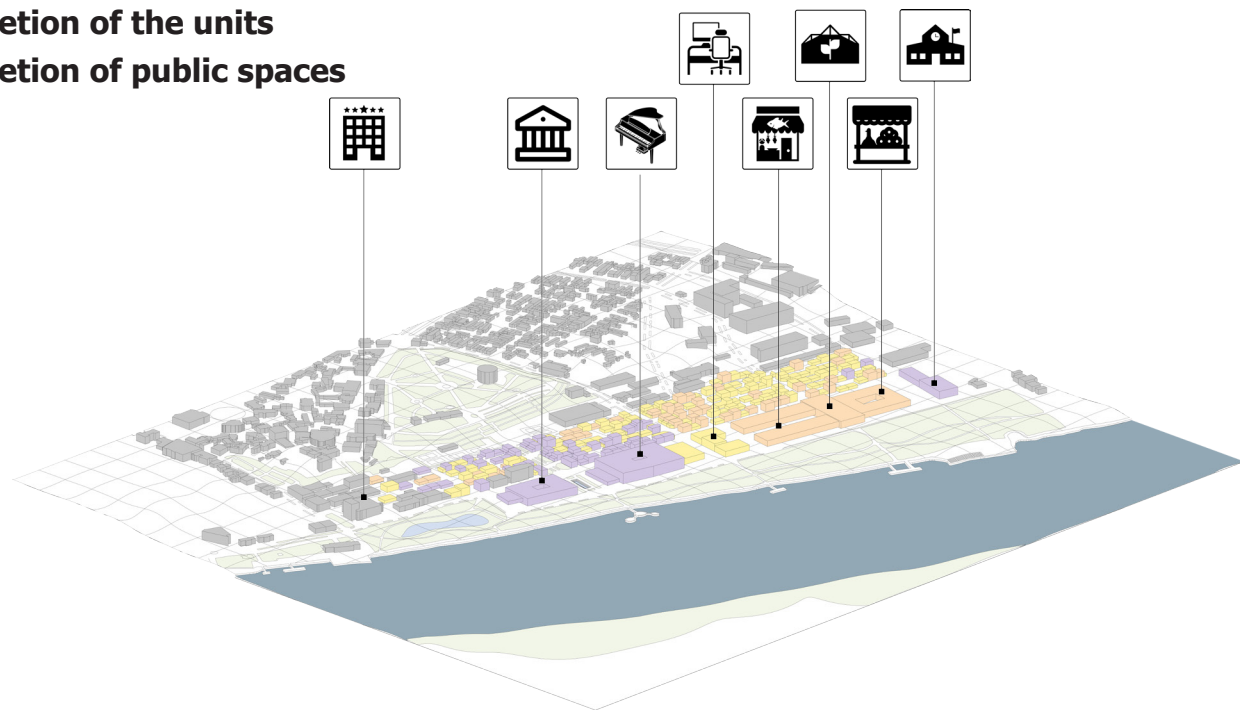
to the out-door spaces during periods of time with bad weather.

The buildings that are kept are reconditioned and some go through a change in function, such as this old office building that is converted into a hotel in the near proximity of the naval station.

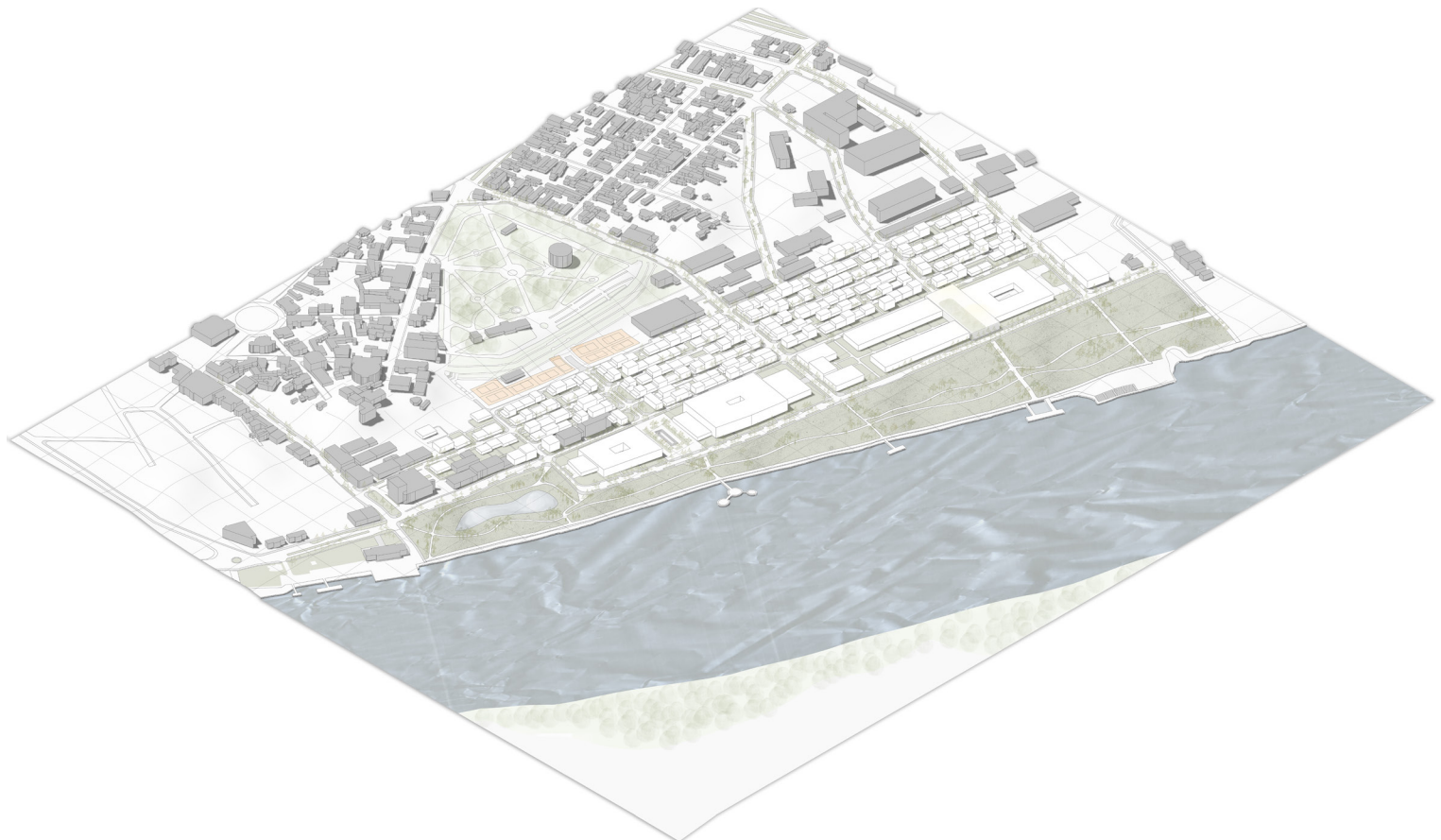
In addition, within this time frame, the perpendicular streets on the main green corridors are rebuilt as to improve the storm-water management system on site, as well as, to create enjoyable, low-speed, shaded streets.

Phase 3

The completion of the units
The completion of public spaces



Bird's eye view of the area

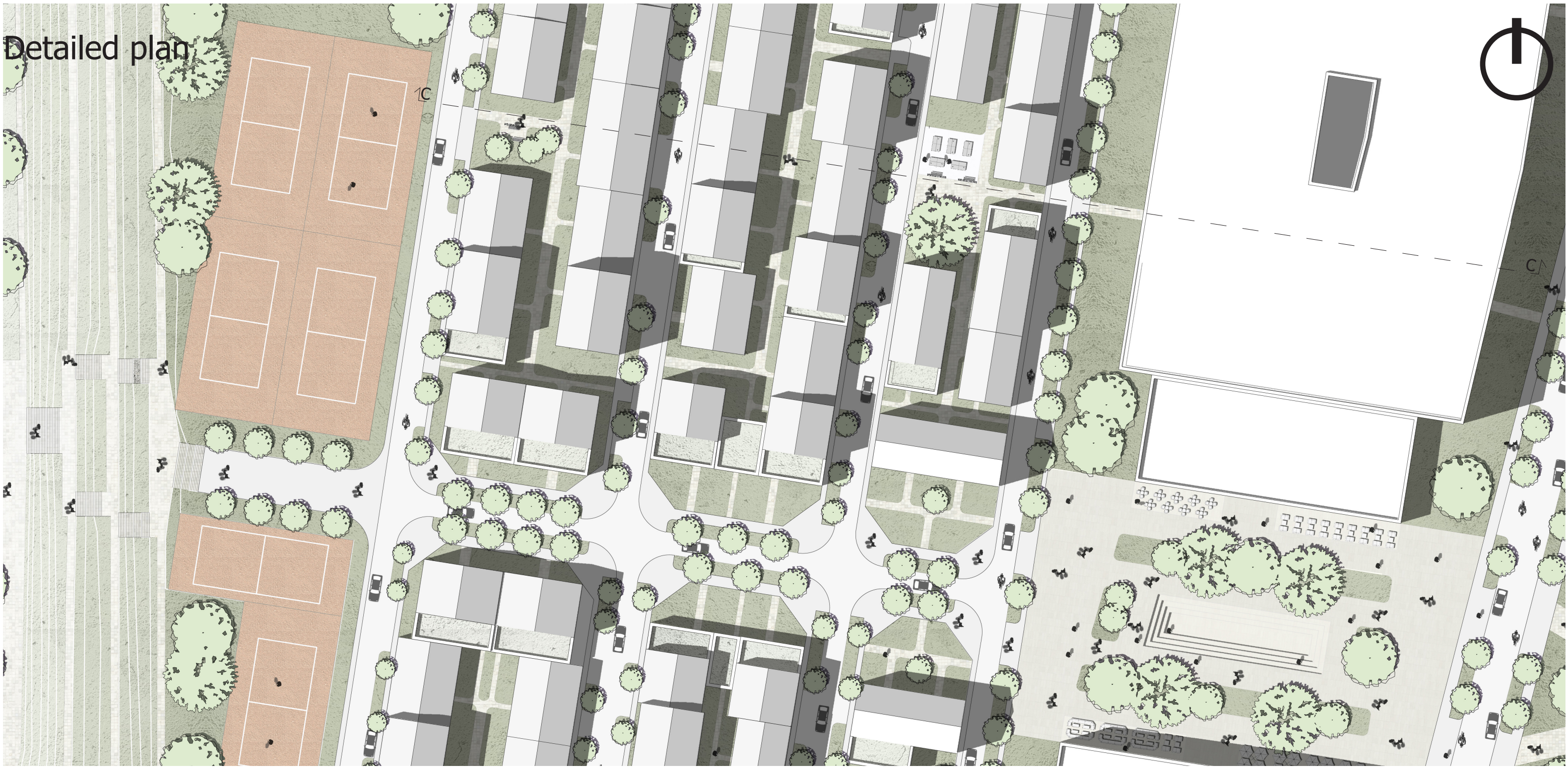


Phase 3 represents the last steps towards the finalisation of the project and it focuses on completing the built environment and on the small scale public spaces that play an important role the community life.

In my vision, at the end of this time frame the site is a diverse, active and cultural part of the city that creates a balance between the old and the new

city of Brăila.
I considered each phase to last between 5 up to 10 years, but it is all linked to the developments happening up north and their time evolution as major driver for this project. The project can be realised without the completion of all the proposals for the northern side of the city.

Detailed plan



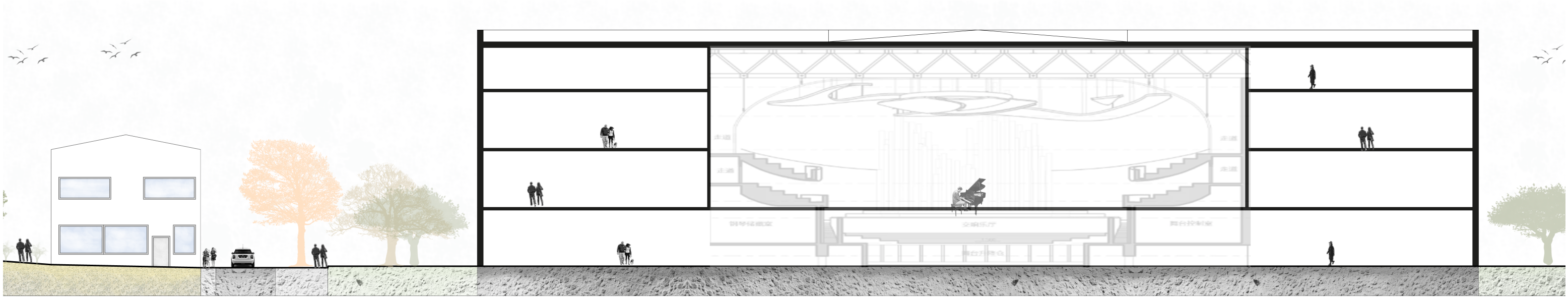
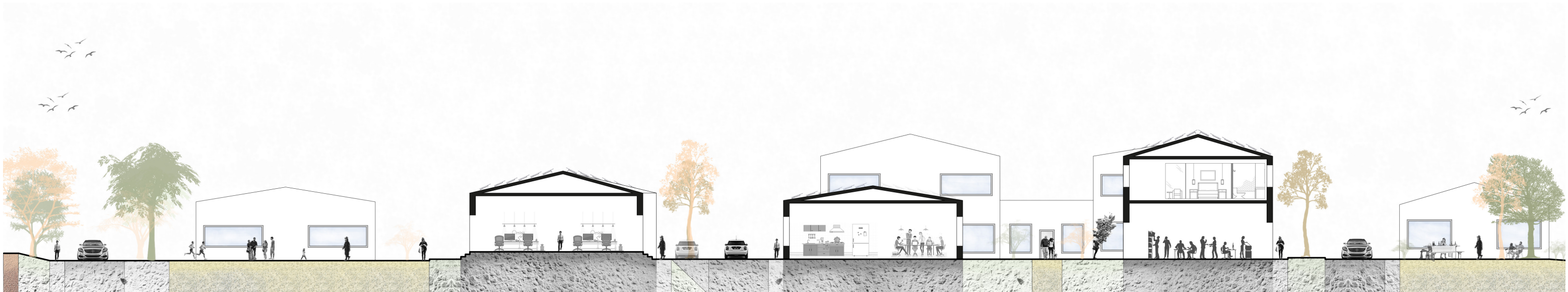
Section A-A'



Section B-B'



Section C-C'
Scale 1/200



Visualisations

View from the main square



View from the park



Street view



Conclusion

Like never before in history, the world is challenged by numerous factors at the same time. On one hand, we have the globalisation with everything that brings to the table: fast rise in urbanisation, social sustainability issues, political and economic interests etc.. On the other hand, we have a rapid change in climate that needed addressing since yesterday and, even if certain steps have been taken in order to try and remediate the effects on the human settlements, the processes need to be at a bigger scale and with everyone on the same side of the matter.

With this context as a frame for the project, the question of how can I came up with ideas that could improve my home-town that would provide solutions that take in all aspects that are particular to this country, this city, this site. It is easy for one to use the knowledge obtained during the studies and replicate one successful example on every site, but that is a practice that lies at the root of the problem of urban planning and design in present times, as many of the existing built environment was not site specifically proposed.

The country of Romania has its own particularities as its recent history is tied up in a communist regime that limited the people's freedom in many ways. Therefore, one must bear this in mind while trying to understand the phenomenon that happened after the Revolution of '89 and propose something that reacts to that reality at the same time as it offers the younger generations, that did not have contact with this living conditions, solutions for their way of living.

At a city scale, it is important not to forget the city's history and to try and promote the local identity more. There is a need for big scale interventions, as well as, bottom-up initiatives in order to create the best possible outcome. It is important for the authorities to understand the stakes of their actions and their repercussions on the city itself as to start working with all the strategy that the city has, but did not go through with. One can not comprehend all the layers of this city without being fully submerged into its history, its climate, its demographics, its location, its street network, its built environment, its economics and many other aspects that are all intertwined and create the base for all

future developments.

Going further on and looking at the site, one needs to address the matter of flooding, which is currently behind 54% of all natural disasters in the world, and that is a site-specific challenge. At the same time, one needs to understand the particularities of this river, which differ from sea or ocean characteristics, as it fluctuates more between seasons and it has a fast speed which does not encourage swimming at any time of the year. Moreover, the site is disconnected from the city by a 17 meters height difference, that contributes to the flooding of the site as well.

As I started my design process, I aimed to create a proposal that would be holistic for all the issues presented. Bearing this in mind, I worked with storm-water management solutions that have a role also in the leisure and connectivity of the site, such as green corridors, bioswales, retention lake, flood-able plaza, public and accessible green space. In order to attract and promote the city at a regional, national and global scale, I proposed a new living and working units typology, a museum, a philharmonic,

a market-hall, new public transportation stations. As to improve the connectivity between the site, the city, and the waterline, I created better connections and emphasized the existing viewing point from the Public Garden. With regard to the history of the site and of the city, I suggested maintaining the street orientations as to build upon them rather than proposing something completely new and to open the Turkish underground tunnel network for touristic purposes.

To conclude, there is no such thing as a perfect solution for any site in the world, but this proposal aims to be a sensitive and site-specific response to a global context in a previously communist country that now struggles with the challenges of a capitalist economy.

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