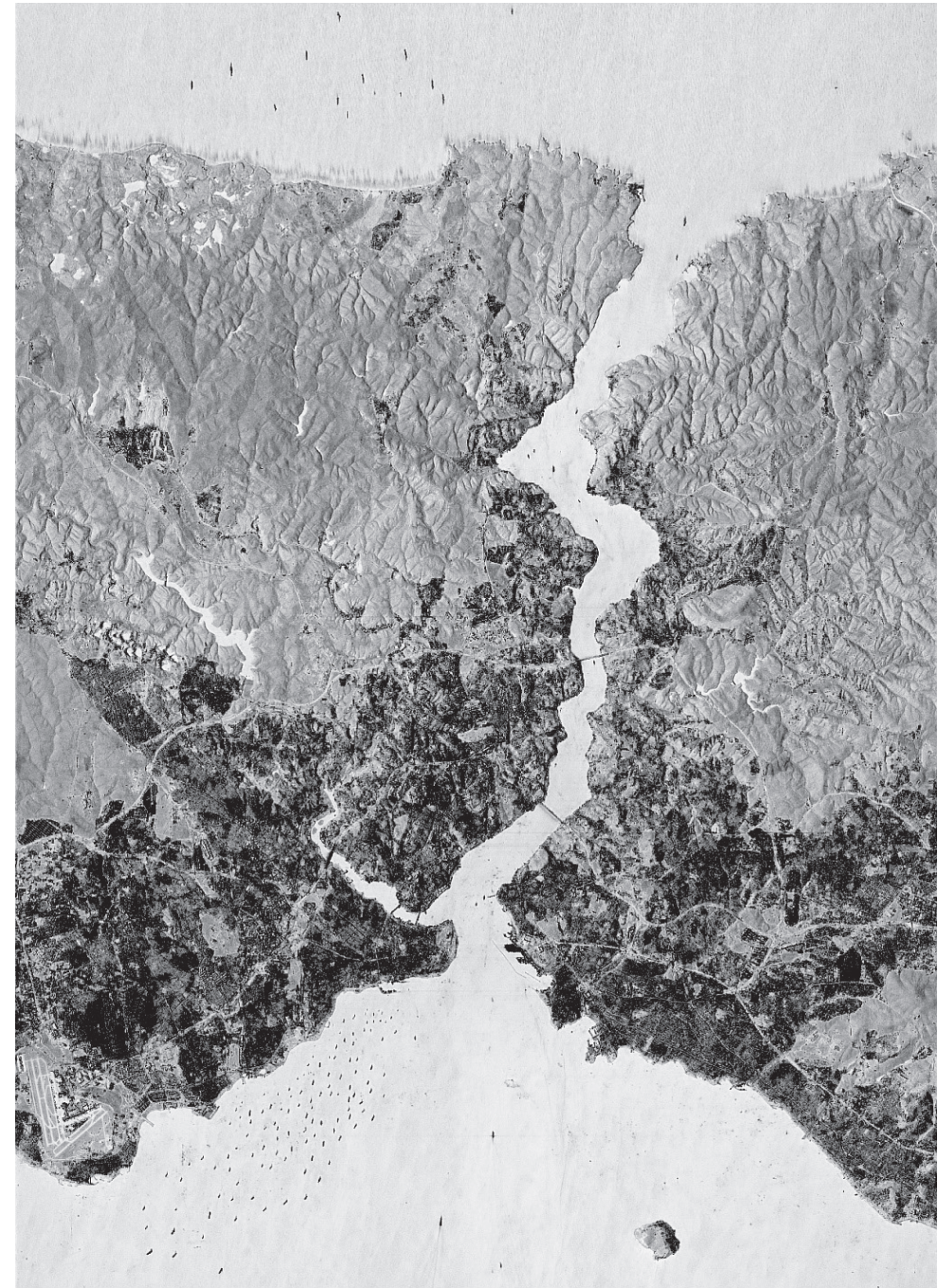


BOSPHORUS GATEWAYS

Infrastructural
monuments in
Istanbul



master thesis
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This thesis is about the understanding and reframing of different elements in urban landscapes, taking Istanbul as a case. It is also an attempt to overcome the emotional fascination and to look at the city through the eyes of a critical observer.

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FOREWORD

Urban structures are highly conditioned by infrastructural and monumental elements traditionally dissociated one from the other. The introduction explains these contrasting concepts and how they are translated into spatial objects. However in the urban context the line between infrastructures and monuments is often blurred, especially in Istanbul. As much as we need to understand the concepts of infrastructure and monument we need also to understand the specific current context of the city in order to develop an idea for future developments. Based on a selection of historical and geographical background information we will discover the intersection of a north south-directed system along the Bosphorus and the urban fabric expanding east west. This intersection of the two urban frameworks structuring the Bosphorus results in a veritable congestion, an immediate confrontation between infrastructures and monuments; even the processes of conversion from one into the other can be captured. In order to decipher this congestion, different natural as well as cultural monuments and the infrastructural systems occurring on the Bosphorus strait I apply the selective reading methodology¹. The focus on specific urban frameworks by blinding out others allows me to visualize the direct interaction of infrastructures and monuments becomes. The analysis of the superimposition of the different layers offers therefore an alternative lecture of the Bosphorus landscape. It uncovers the lack of synergies between the different actors. But it also shows the potential of the Bosphorus as a place for public interaction.

With the created vision I intend to re-establish the relationship between the city, its population and the Bosphorus. The narrative of this spectacular landscape told in this vision is the basis on which I develop an urban project. This urban project, materializing the vision, sees the Bosphorus as new public place, framed by a network of gateways. These gateways are located in urban centralities on the shores of the waterway. They are connected physically as much as visually. I will describe six of these gateways on a smaller scale, classified according to their urban environment. This last part of the thesis approaches questions like what would be the nature of a network on the Bosphorus? What type of new conceptual synergies for architectural and urban designs –the infrastructural monuments – can be imagined?

TABLE OF CONTENTS

Introduction - 06	Territorial Reading - 31	Vision - 56	Appendices - 77
01 - relevance of theme06 011 - monumental vs. infrastructural 011.1 - definition <i>monumental</i> 011.2 - definition <i>infrastructural</i> 011.3 - classical dichotomies 011.4 - the question of the object 011.5 - representation of the functional 011.6 - abstract landscapes 011.7 - infrastructure in the urban landscape 011.8 - the case of istanbul	04 - monuments33 041 - natural monuments 041.1 - topography 041.2 - hydrography 041.3 - forest 042 - cultural monuments 042.1 - historical buildings 042.2 - parks 05 - infrastructure45 051 - north south networks 051.1 - shipping 052 - east west networks 052.1 - roads 052.2 - rail systems 052.3 - power lines 052.4 - ferries	06 - infrastructural monuments: gateways56 061 - infrastructural monuments 061.1 - exposing the urban landscape 061.2 - infrastructural monuments 061.3 - portrait of the european side 061.4 - portrait of the asian side 062 - the network 062.1 - connectivity 062.2 - gateways 063 - downtown gateway 063.1 - kadiköy 063.2 - sirkeci 064 - periphery gateway 064.1 - ortaköy 064.2 - sarıyer 065 - seaside gateway 065.1 - anadolu kavağı 065.2 - poyrazköy	07 - image credits77 08 - references and sources78

p.07	monumental vs. infrastructural
p.07	definition <i>monumental</i>
p.08	definition <i>infrastructural</i>
p.08	classical dichotomies
p.08	the question of the object
p.09	representation of the functional
p.10	abstract landscapes
p.10	infrastructures in the urban landscape
p.11	the case of istanbul

The earthly home becomes a world only when objects as a whole are produced and organized in such a way that they may withstand the consumptive life-process of human beings living among them – and may outlive human beings, who are mortal. Hannah Arendt, Culture and Politics

Monumental vs. Infrastructural

Monumental and *infrastructural* are two conditions that, in a traditional way of thinking, are quite far away from each other and therefore they form opposites. The separation of these concepts is profoundly anchored in the classical understanding of the city as a hierarchized space where representation of power and religion prevails. The infrastructure was seen as the serving part, it was less valued. Obviously this was also the way the society was structured, in a hierarchical logic of served and servants. This hierarchy and the clear division of the classes are represented in physical architectural forms. Traditionally monuments represent some sort of power, political or religious, and therefore they form major symbols for a ruler and for his people. Infrastructure has no face, no symbol and therefore no representation of power. In very hierarchical societies this opposition is very clear, in more horizontal and democratic societies this opposition fades such as the traditional powers (religion, royalty and the state) fade. Exemplary the postmodern society has overcome this traditional opposition by taking into consideration social differences and accepting pluralism. Through this process the individual became significant in the last century and the hierarchy faded away and therefore representation was replaced by abstraction (the accumulation of the individuals results in a abstract mass). So abstract monuments, such as infrastructural masses gain prominence and, despite of their monumental form and despite of their monumental meaning. The point is that Infrastructures and monuments are normally not converged but declared as two things apart. In order to question this opposition and to think of synergies — the hypothesis of monuments as infrastructures, or *infrastructural monuments* — we need to understand this distinction by analysing their separate meaning, their translation into physical objects, and thus their impact on the landscape.

Definition: *Monumental*

Monumentality describes the quality of a building that is seen as a monument. The Latin word *monumentum* comes from the verb *monere* – to remind'. A monument is therefore linked to the past; its function is to remind the society of an achievement or a person. Monumental is often used to describe a building by its scale and massif appearance. But can't it meaning go deeper and be more diverse? This extract of *Nine points on monumentality* by José Loui Sert, Francois Léger, Siegfried Giedion describes monuments as follows:

1. *Monuments are human landmarks, which men have created as symbols for their ideals, for their aims, and for their actions. They are intended to outlive the period, which originated them, and constitute a heritage for future generations. As such, they form a link between the past and the future.*

This first description highlights the relation of monuments and the society. Memories and achievements of the society are expressed in this case through built objects. The expression of a common symbol through a landmark links it to a specific place, so we understand that monuments are not only linked to the society but they're also rooted in space. The second point goes beyond *the link between the past and the future*:

2. *Monuments are the expression of man's highest cultural needs. They have to satisfy the eternal demand of the people for translation of their collective force into symbols. The most vital monuments are those which express the feeling and thinking of this collective force - the people.*²

Progressive societies archive their cultural achievements by translating them into monuments. Accomplishments require aspiration and needs and

mark only a transitional stage of an on going progress, and therefore they – the cultural monuments - express *man's highest cultural needs*. The memorialization of these collective aspirations appears in form of impressive buildings or imposing sculptures³. Often they are staged by a certain disposition of its environment or through its situation in the landscape.

However, monuments are not always deliberate, and it can happen that a building or a place becomes unintentionally monumental due to the development of its surroundings. The same applies to very spectacular natural phenomena, especially where nature has been extremely urbanised. There, natural monuments work as a reminder and express society's nostalgia for a lost natural past. By becoming souvenirs in a completely artificial world, they become as well *human landmarks*, artefacts that need to be preserved and managed in a responsible way, as much as built monuments.

Definition: *Infrastructural*

Infrastructure is a rather new word with French origins. It is composed of the Latin *infra* - under and the word *structure*⁴. The Dictionary of the English Language defines infrastructure (as a spatial object) as follows:

1. *An underlying base or foundation, especially for an organization or system.*

To specify the two very vast concepts organization and system the second point will help us.

2. *The basic facilities, services, and installations needed for the functioning of a community or society, such as transportation and communications systems, water and power lines, and public institutions including schools, post offices, and prisons.*⁵

In this specific case the infrastructural frameworks that structure the landscape are the transportation and communication systems, water and power lines. As we will see further on, the Bosphorus is a chokepoint for both land and water transportation and communication, resulting in a literal congestion of infrastructure. The birth of the city and, later on, the development of the urban, have been fuelled by the emergence and growth of infrastructure as tool for interregional communication⁶. We must understand that these are the primary mechanisms that influence the development of the landscape and, therefore, they need to be in the focus of the architects and planners⁷.

Monumental	-	Infrastructural
Object	-	System
Image	-	Abstract
Representative	-	Functional
Memory	-	Anticipation
Identity	-	Anonymity

Classical dichotomies

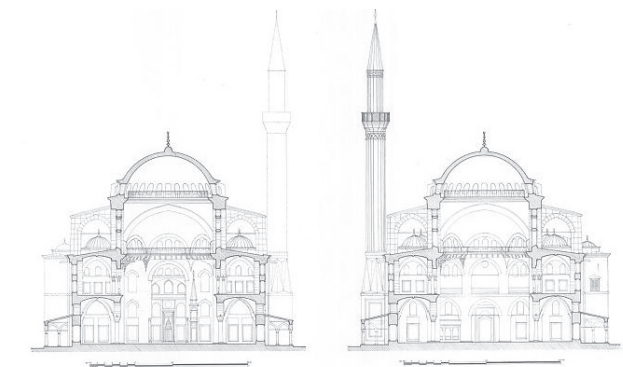
The definition of the two terms as opposites propounds the fact that a monument is a symbolic *object* whereas the infrastructure is conceived as a *system*. These symbolic objects remind the humans of a certain thing and evoke *images*. In that case a monument can be related to a certain concrete fact and it works as a *representative* placeholder for this *memory*. On the other hand is the system a very *abstract* construct with a purely *functional* reason to be. Its primary aim is to answer to a lack of connection or communication; the planning of infrastructure needs *anticipation* and has an impact on social, urban and landscape development.

The difference can also be observed in the way that monuments and infrastructures are represented in conventional photography. Monuments are framed as a specific object that anybody would recognize due to its specific *identity*. Infrastructure is represented through an instant shot taken on an arbitrary place. Everybody would recognize what kind of infrastructure it is, but it's not related to a place nor to a person nor an event. It's *anonymous*.

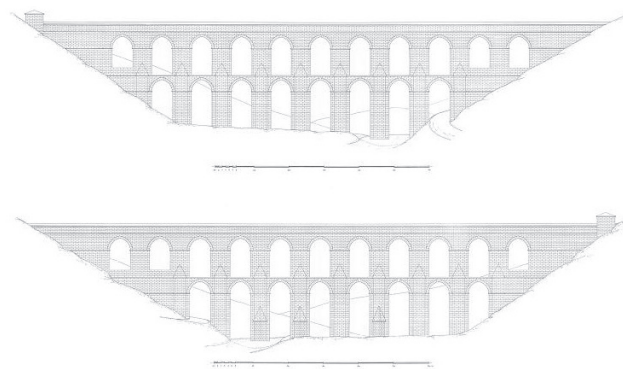
The interesting thing about these classical dichotomies is the fact that, in reality, they get blurred and that sometimes the distinction between monuments and infrastructure is not that clear. This conceptual ambiguity creates new urban potentialities and dangers, which will be explored in the present work. Furthermore, we will argue why Istanbul is the perfect place to examine relationship of the two urban frameworks.

The question of the object

The link we make between a monument and what it stands for is due to the fact that the monument is a unique object, always framed and represented the same way moreover it is named and therefore it has an identity. But if we look at this example of the 16th century, we can observe that also infrastructures were



Kılıc Ali Paşa Camii, Mimar Sinan, Istanbul, 1580



Istanbul Cebeciköy Aquaduct, Mimar Sinan, 16th century

treated in a similar way. Master builders, like Mimar Sinan, not only constructed important religious or political edifices but also infrastructures. Mimar Sinan, the head-architect of the Ottoman Empire, who designed buildings like the Selimiye Mosque in Edirne or the Blue Mosque in Istanbul, was also in charge of several bridges and aqueducts. So even though that these infrastructural elements are part of a system and part of an abstract supply network they become an object. By giving the commission of these infrastructures to the head architect their importance to the rulers becomes obvious. These infrastructural objects can therefore be described as monuments, a symbol for the progress and innovation of the Ottoman Empire and as representative building for an entire network.

Representation of the functional

Catherine Opie, the photographer of the *Freeways Series* calls the freeways *our monuments to Southern California*. It seems to be a provocation for the viewer to reconsider the value of these freeways emphasized by connecting them to the early photographs of the Egyptian pyramids taken by Maxime Du Camp in the

mid-nineteenth century. In fact these structures played an important role in the formation and development of the American suburbs and are symbolic for this demographic process. But furthermore there is also an ambiguity in their appearance; these structures are a pure result of a calculation and have no aesthetic ambition nevertheless their shapes and forms are fascinating and have a same effect on us like the pyramids. As the pharaoh's pyramids were monuments for a certain époque these freeways are icons of southern california. Of course we won't be able to identify these freeways (and in that sense their pictures have numbers and no names) and even though they have a very abstract appearance we can classify them and we note a collective appreciation of their beauty. Another common notion between the monuments and the infrastructures is their endurance through history. The lack of human presence in the pictures stages the freeways in a post-apocalyptic scene as monuments of a glorious lost civilization.⁸



Freeways, Catherine Opie, 1994 - 1995



Photo of the Egyptian monuments by Maxime Du Camp, 1849/50



Watercooling Plant, Bas Princen, Dubai, 2009

Abstract landscapes

Photographers like Bas Princen or Edward Burtinsky, who stepped among others in the footsteps of the New Topographics movement that became known through the exhibition *New Topographics: Photographs of a man-altered landscape*. The idea of these photographers is to challenge the ideology of the myth of the untouched nature and the civilization. It questions the supposed distinction between natural and cultural landscapes⁹, and moreover it questions the hierarchy and the common perception of aesthetics. They frame objects that have not been designed to look beautiful and that only have an utilitarian purpose, like the *Watercooling Plant*. Through these pictures these objects get an identity and their inherent aesthetic is revealed. At the same time these pictures frighten us because we know what they stand for and we are unconsciously aware of the damage the world takes for our success. As seen before and as we see here, the way these utilitarian objects are framed they get an identity and their inherent aesthetic deriving from their function is exposed. Therefore they create landscapes. These landscapes are intimidating and frightening. They are fascinating and at the same time we feel uncomfortable.

Infrastructure in the urban landscape

Albert Pope states that *one can escape bad architecture, but one can never escape infrastructure*¹⁰. Infrastructure is a primordial framework of the city. Actually it is a driving force in the urban development. In any case there are infrastructural systems operating in cities. But in traditional vision of the city infrastructure is part of the secondary; things we don't want to see.

We hide or cover it with decoration because as such it is something we don't want to have around us and want to hide it. Two extreme cases demonstrate the status of infrastructure in the urban landscapes. On one hand we have Venice, a place where infrastructure is seen as a scar that pollutes the romantic landscape. Everything that is not part of the Venice's image is subordinated and neglected¹¹. This distinction happens strongly in the spatial layout of the city. All transportation infrastructures are concentrated at the edge of the city, an area that is unlikely to be seen on postcards of Venice. In contrast to Venice, Istanbul is a city where infrastructure is omnipresent. Contrary to Venice where the different urban frameworks are separated horizontally in Istanbul infrastructure is a layer vertically integrated into the urban pattern. The spatial proximity makes harbours, bridges, terminals, highways, tankers, and cruise ships part of the urban landscape. *Flattened* into the picturesque of the Bosphorus they even function as landmarks¹².

The case of Istanbul

Therefore Istanbul is the perfect place to explore interfaces of infrastructure and the city. In addition historical monuments and residential neighbourhoods around the Bosphorus makes the waterway very well suited to research consequences of this interaction. Accelerated growth of the city and its population results in a seemingly unstoppable need for new infrastructures. This bares a constant risk for accidents and pressurises the natural environment. Moreover it exposes potential for social segregation and exclusion. Knowing that the layout of infrastructural frameworks has immediate urban and socio-political consequences they need to be designed by urban-planners and architects. The following questions constitute therefore a guiding line for this thesis:

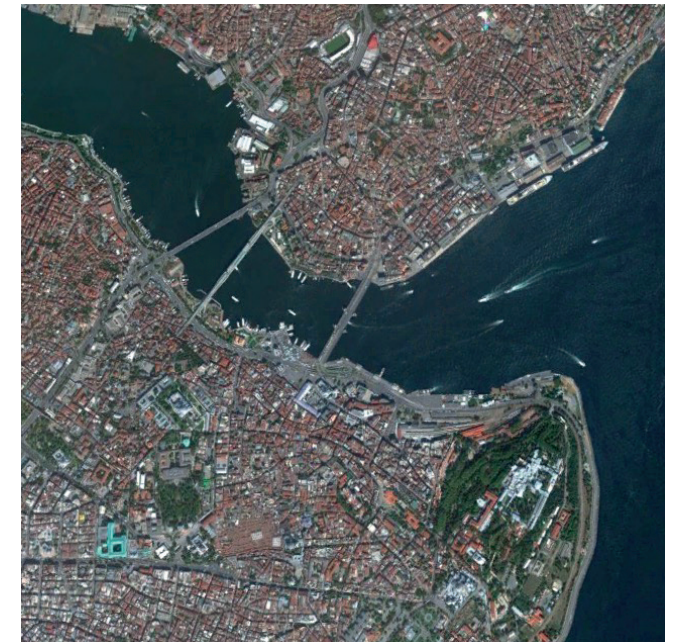
+ Can infrastructures become monuments themselves?

+ How does infrastructure integrate into the urban fabric?

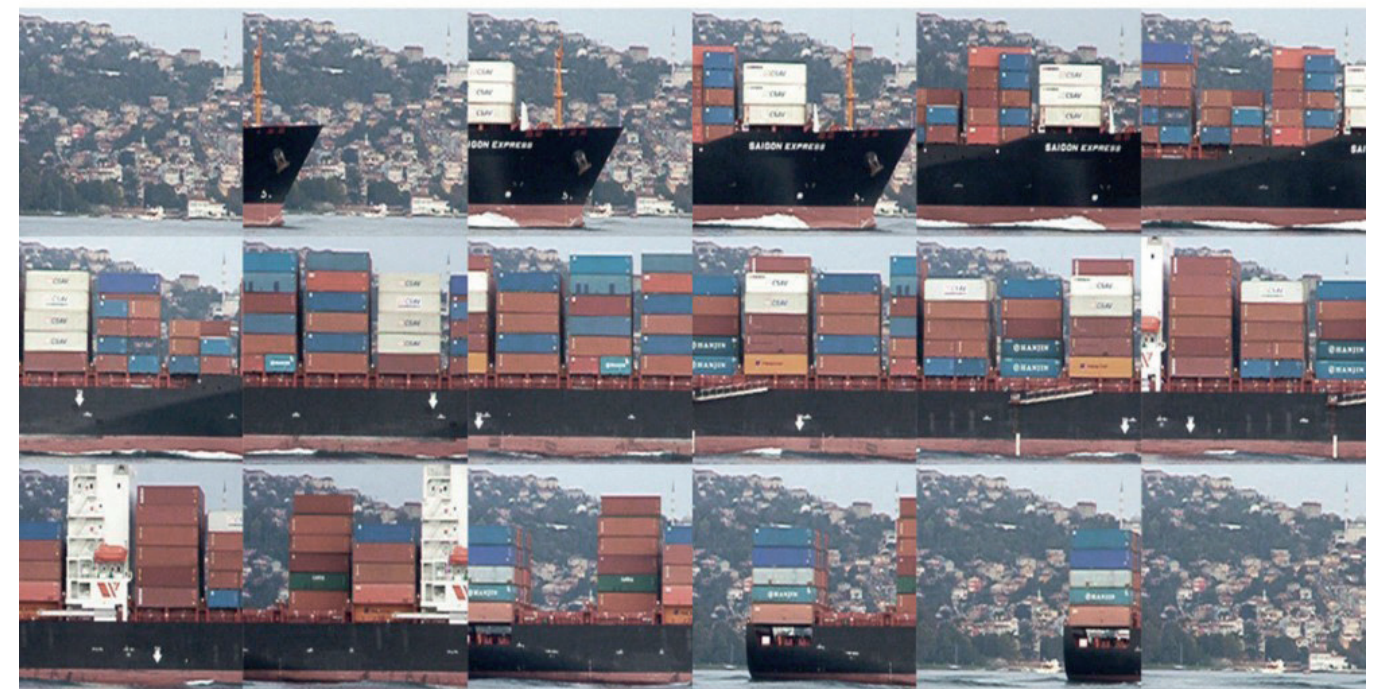
+ What is the role of infrastructure in a place with a high cultural and historical value?



Venice, satellite image, 2015



Istanbul, satellite image, 2015



Colossal Flattened. Spatial proximity of the cargo ship passing through the Bosphorus.¹³

p.13	between asia and europe
p.13	geographical data
p.15	climate
p.17	seismicity

Prince Dimitrie Cantemir (1673-1723) said, that in the year 1621 *the frost was so great that the inhabitants of Constantinople safely went to and from Scutari on foot*. I can scarcerly reconcile myself to the belief of this fact, tough some extraordinary instance of the climate can alone justify the application of the ephitet *icy* to the current of the Bosphorus. Thomas Thornton, The present state of Turkey (1809)

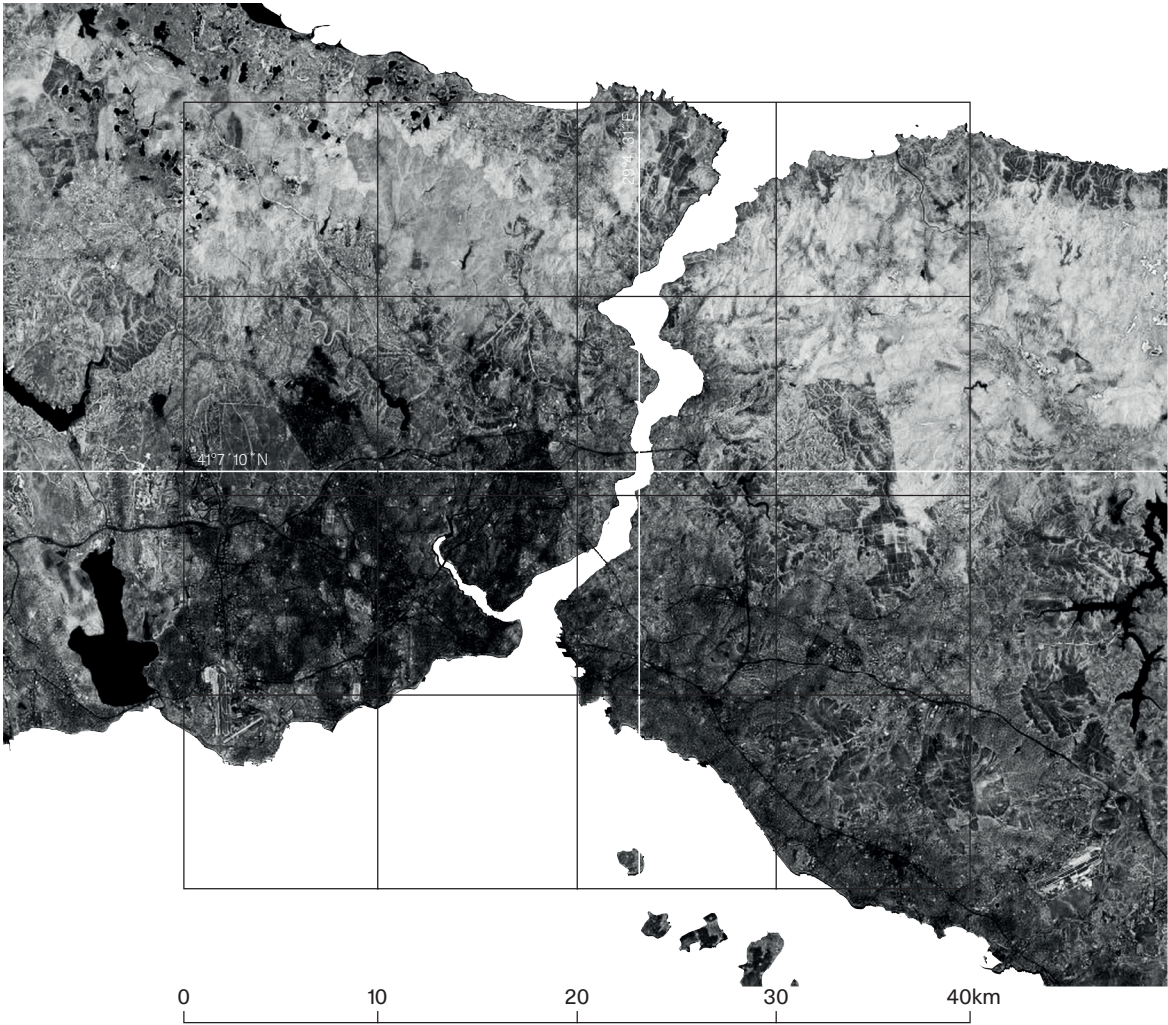


Between Asia and Europe

The Bosphorus connects the Black Sea with the Marmara Sea, and via the Dardanelles with the Mediterranean Sea in the South. The Bosphorus seperates the Asian Turkey (Anatolia) from the European Turkey (Tracce), the UN declared it the border between Asia and Europe. The formation of the Bosphorus is still a discussed issue among geologists. However the most credible

theory is the *Black Sea Deluge Theory* established by researchers of the Columbia University in 1997. They assume that the worldwide rising seawater level in 5600BC made the Mediterranean Sea and the Marmara Sea overflow to the Black Sea. At that time the Black Sea was only a low-lying body of fresh water. However it remains unsure if this was a long-term evolution or a dramatic flood.

geographical data



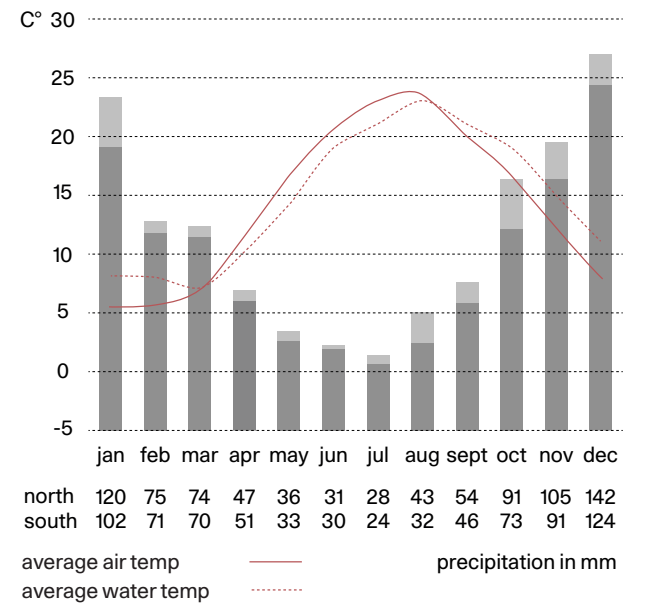
Bosphorus

coordinates	41°7'10"N, 29°4'31"E
length	31'000m (17nmi)
width max	3'420m (1.85nmi)
width min	700m (0.38nmi)
depth	13m - 124m
municipalities	5/3 (Europe/Asia)
neighbourhoods	39/29 (Europe/Asia)
crossings	Bosphorus Bridge (1973) Sultan Fatih Mehmet Bridge (1988) Marmaray Tunnel (2013) Yavuz Sultan Selim Bridge (2016) Eurasian Tunnel (2016)
vessel/year	50'000 (5'500 tanker)

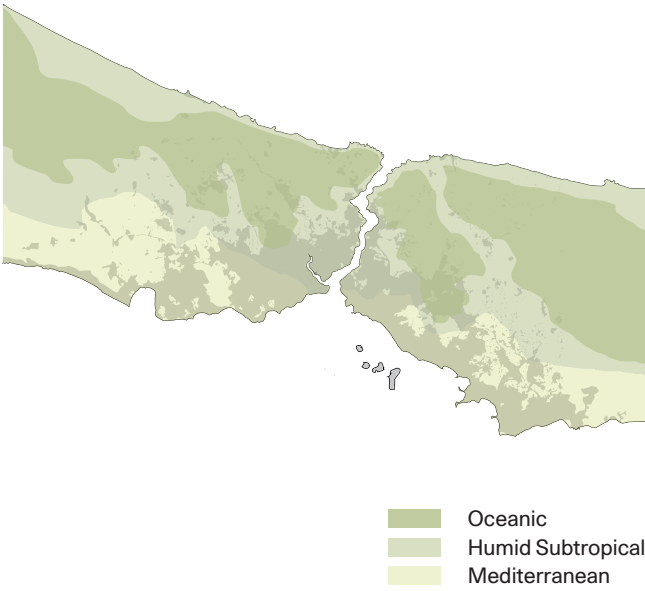
Istanbul

population	14,025,646 (31.12.2014)
area city	1,830 km2
area metro	5,343 km2
density metro	2,691/km2
municipalities	39 (Europe and Asia)
neighbourhoods	782 (Europe and Asia)
int. airports	Istanbul Atatürk (51.2 m passengers per year) Sabiha Gökçen International (25.0 m passengers per year) Yeni Havalimanı (under construction)

climate



Weather chart Istanbul (precipitation north and south entrance Bosphorus)



Microclimates around Istanbul

Due to its size, hilly topography, maritime location and most importantly having a coastline with two seas to the north and to the south, Istanbul has different climatic zones. The north, as well as the Bosphorus coastline, are located within oceanic and humid subtropical climate zones, mostly due to humidity from the Black Sea. This results in a relatively high concentration of vegetation. The air in the urban areas of the city in the south, at the coast of the Marmara Sea is warmer and drier. As a consequence participation is higher in the

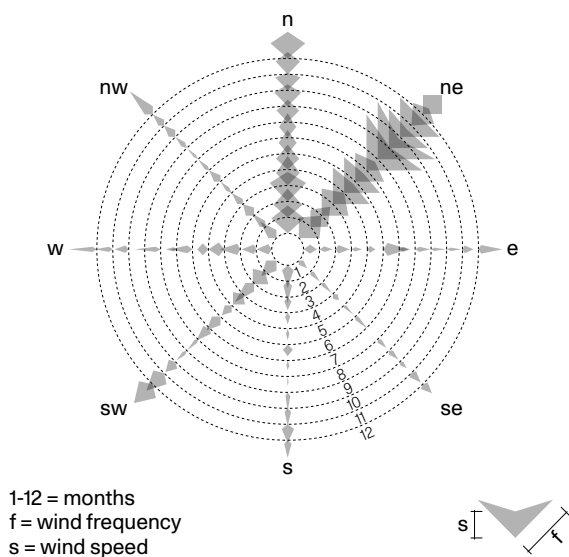


Summer months have the highest concentration of thunderstorms



Highway traffic in Istanbul, December 2015

north than in the south. However due the persistent high humidity around the Bosphorus (yearly average 80%) fog occurs often in the morning, a potential for dramatic scenes. The small amount of rain in the summer months is mostly due to the big thunderstorms caused by the high air humidity. Due to the cold air coming from the Black Sea in winter temperature can drop below zero. Snow fall leads most of the time to chaos on the roads.



Windrose of Istanbul

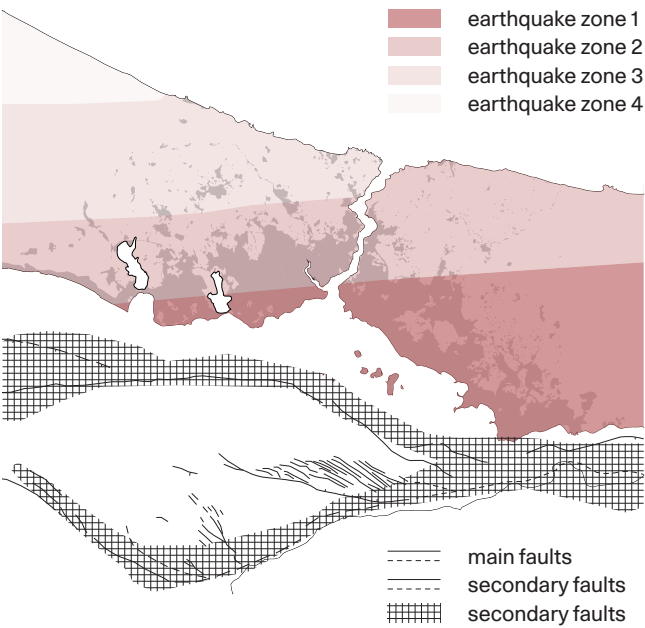
The dominant winds blow from north east and north, they're called *Poyraz* and *Yıldız*. They're coming from the Black Sea through the Strait. This can impact the navigation of sea traffic, even though less serious than at the time of 18th century writer Thomas Thornton:

The winds have a periodical constancy from the beginning of summer to the equinox of autumn: they blow, through the day, from the north and north east, and temper the heat of the sun and the climate by their delicious freshness. It is owing to this disadvantage of the wind blowing through so long a period in the same direction as the currents that Constantinople is frequently inaccessible to ships coming from the Mediterranean Sea, or the Archipelago.

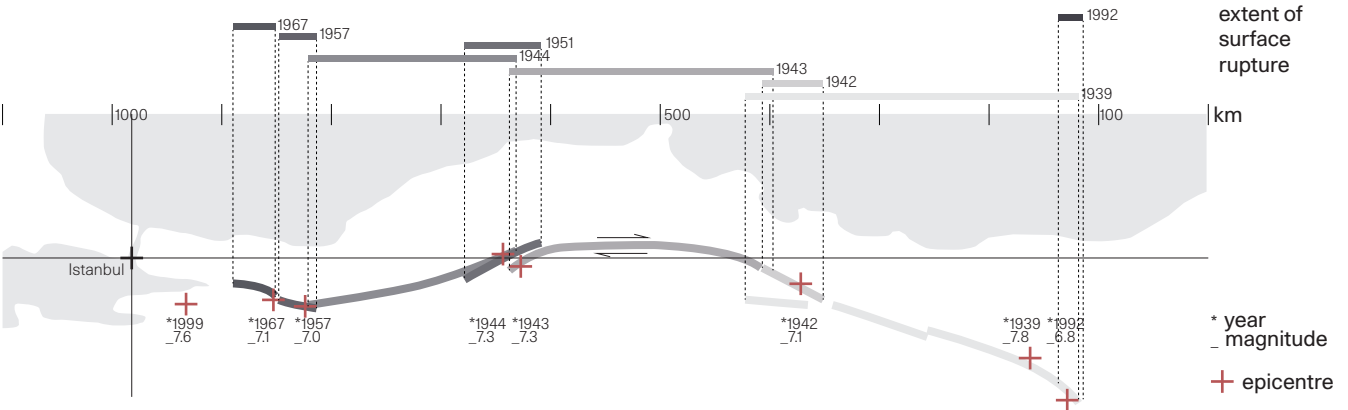


Foggy morning

seismicity



Earthquake danger zones: The zones define the estimated damage in the city (zone 1 would be the most affected).



History of earthquakes along the North Anatolian Fault: the big earthquake of Izmit in 1999 was only around 50km away from Istanbul. Since 1939 several severe earthquakes occurred along the NAF, moving east.

Located on the North Anatolian Fault line (NAF), Istanbul and its surrounding areas have been hit by an estimated 120 earthquakes over the last 2,000 years, according to the Istanbul municipality's Disaster Coordination Center. Most recently, in 1999, an earthquake outside of Istanbul resulted in over 17'000 fatalities and served as a reminder of the city's vulnerable position near the fault. There is a 65% chance of Istanbul experiencing a 7.6 Magnitude earthquake by 2030. Because the soft soil on the European side this area is particularly vulnerable. According to the local authorities of the one million buildings in Istanbul, two percent would be damaged beyond repair (either collapse fully or be on the verge of collapse), five percent would suffer extensive damage, 20 percent would be moderately damaged, and 30 percent would be lightly damaged in an earthquake. Therefore the government implemented in 2005 the

Municipal Law 5393. It grants the Istanbul municipality the right to *adopt urbanisation and development projects in order to [...] take measures against the earthquake risk or to protect the historical and cultural structure of the city*. Under Law 5393, only neighbourhoods designated as historical areas could be renovated. In the context of this law the government retrofitted 700 public buildings, rebuilt 21 others, and provided more than 450,000 people with disaster training by October 2013. This makes Istanbul *one of the most proactive cities in the world in terms of safeguarding against seismic risks* (World Bank). However critical urban planners say that while earthquake risk in Istanbul is real, it is used as a pretext to justify urban regeneration projects. The local communities should be more involved in this process. But most of time it ends with the displacement of the lower income groups.

p.19	historical background
p.19	first settlements
p.20	the question of the straits
p.21	east west expansion
p.22	north south shipping
p.23	intersection of infrastructural networks

When they announced the construction of the First Bridge, everybody was furious, writing letters to the government saying that they're going to spoil the beautiful landscape of the Bosphorus. Today we couldn't live without it. It's so beautiful. Ayşe Kulin, writer, interview with BBC

First settlements

Yet it can't be certainly said when the first people settled around the Bosphorus. During the excavation for the new Marmaray metro line archaeologists in Istanbul have discovered a grave that proves that the city is at least 6000 years older than they previously thought. These settlements in the West of Istanbul date from between 6400BC and 5800BC, at a time when the Bosphorus hadn't been formed yet¹ (see p.13). There is a legend that tells the story of the first incarnation of the City. Around 700 BC a Greek colonist named Byzas founded Byzantium. Oracles told him to establish his new colony opposite to the blind. Once the colonists sailed up the Bosphorus and discovered a settlement on the Asian shore they could understand the message of the oracles. Looking west Byzas and his fellows saw a small fishing village built on a magnificent and easily fortified natural harbour of the Golden Horn. This convinced them that the settlers on the Asian side must have been blind to oversee such a superb position and they founded the new town here. The new city prospered due to its ability to control the Bosphorus that was already then an important waterway. Marketplaces were established, and thanks to trade and abundant fish stocks in the surrounding waters the Byzantium became a very wealthy place². In 324 AD Constantine won the civil war in the Roman Empire and he became sole emperor, the also was the first Christian emperor at all. He decided to move the capital of the empire to the shores of the Bosphorus and renamed the city Constantinople. He widened the circle of walls around the site and rebuilt parts of the city³. As the crossing point between the Europe and Asia Constantinople played an important role in terms of commerce, culture, diplomacy and politics. After the death of Constantine other emperor followed and left their traces. Monumental churches like the Saint Sophie are reminders of these times⁴.



Constantinopoli, Simon Pinargenti, Venice, 1573

In 1453 Sultan Mehmed II conquered Constantinople. He made it the third capital of the Ottoman Empire. The first thing he did after entering the city was to turn the Saint Sophie from a Greek basilica into an Ottoman mosque, solidifying the Ottoman rule in Constantinople. Furthermore he built fortresses at the Bosphorus' narrowest point in order to control its entrance. From 1520 to 1566 Suleiman the Magnificent reigned over the Ottoman Empire. It was a period of great artistic and architectural achievements. Thanks to the excellent services of Mimar Sinan, new magnificent buildings, like the Blue Mosque crowded the city⁵. In the 19th century the misruling of the Ottoman emperors led to growing ethnic nationalism among the different communities living in the Ottoman Empire. The Serbs, Bulgarians, Romanians, Albanians, Armenians and Arabs followed the Greek seeking their independence. As the sultan's empire broke up, the European powers were ready to annex the regions left over. During the Ottoman Empire the Bosphorus was a space completely enclosed and controlled by the empire.

This lasted until 1774 when the Russian –Turkish conflict ended with a treaty privileging Russian merchant ships to pass the strait⁶. This treaty was another step in a process in which the control of the Bosphorus was regulated. On 13 July 1841 the London Straits Convention signed by Russia, the United Kingdom, France, Austria and Prussia reaffirmed the traditional power of the Ottoman Empire by closing the Turkish straits (the Bosphorus and the Dardanelles) from all warships whatsoever, except those of the Sultan's allies during wartime⁷.

The question of the Straits

The Bosphorus, as a natural canal linking two important seas and as one of the strategic connections of the Asian and European continent was since the first settlements constantly shifting in its geopolitical position. To rule over the Bosphorus promised the emperors wealth and political power, not only in the surroundings of the city itself but in a global scale. However the settled area stayed concentrated around the historical peninsula, the Galata neighbourhood in the north of the Golden Horn and some small areas on the Asian side.

As mentioned before by the end of the 19th century the Ottoman Empire has lost power and at the same time the city's population was decreasing from 1 million to about 500'000 in the 1920s⁸. This was mostly due to the exodus of the upper class; including foreign departures during World War I. On top of that economic pressure caused by the war Turkish people moved to Anatolia. In addition the government was relocated from Istanbul to Ankara, which became the new Capital of the Turkish Republic.

Neyran Turan explains how private enterprises such as the first inner-city maritime transportation company attracted people to settle the area of the Bosphorus: *To promote settlement in the area they called on the government to build housing and infrastructure such as schools, sport clubs, and other facilities. It was also repeatedly announced in the journal that for people building new houses along the Bosphorus, construction material would be transported free of charge.*⁹ First the government's emphasis was on the development of the new capital Ankara. In 1933 however it organised a competition to select an urban planner for Istanbul. Even though no project from this competition has ever been realised it was certain: *new development was desired on the unrivalled hills of the Bosphorus.*¹⁰ This was not just a typical modernist reflection opposing nature versus city. According to Turan this desire was linked to a broader agenda. It was a highly political strategy. Peyami Safa, a Republican author wrote in the article titled *The Defense of the Straits and the Bosphorus*:

*Not embracing the Bosphorus and not appropriating it suggests the idea that we do not deserve to live in its magnificent nature and inflates others' ambitions with great hope. The defense of the Strait is possible with fortification, war and arming; but as for the defense of the Bosphorus, it can only be possible by embracing, appropriating, settling and living in it.*¹¹

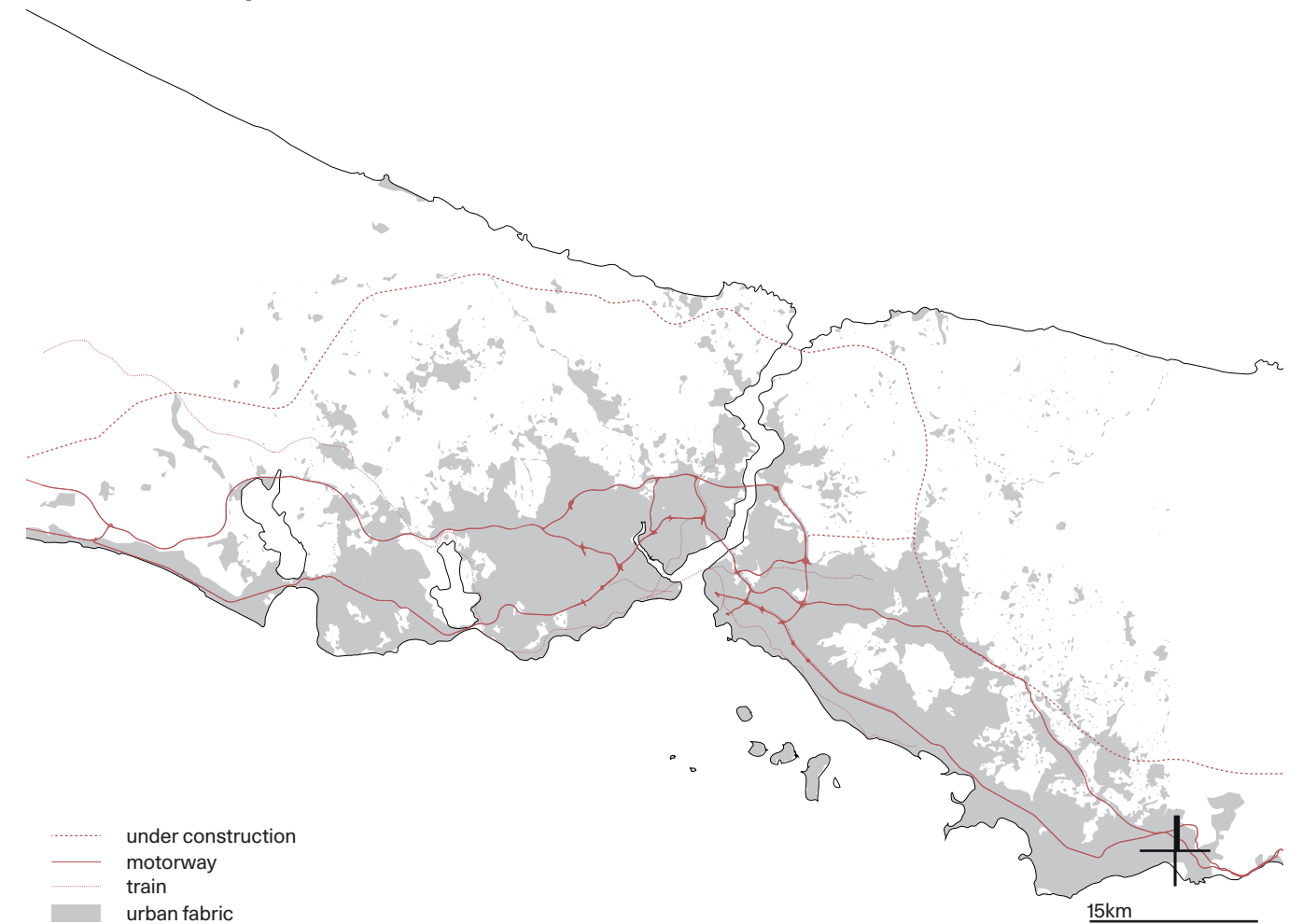
This statement brings a new understanding of the call for settlement in the Bosphorus area. It shows the geopolitical positioning of the strait. A couple of years earlier in 1936 the Montreux Convention Regarding the Regime of the Straits was signed. The treaty gives Turkey the sovereignty over the Bosphorus Strait and the Dardanelles and regulates the transit of naval warships. Still valid today the treaty was very important for the Turkish Republic at the time because it put end to the everlasting question of the straits¹². After the World War I there was an agreement that the area around the Bosphorus had to be demilitarized on land and water. It was the Montreux Convention, which gave the Turkish government the right to remilitarize it and the government started modernizing the fortifications on the straits only one month later. Although the Bosphorus is remilitarized the Montreux Convention declares the passage as an international waterway within Turkish territory as in Section I Art. 2:

*In time of peace, merchant vessels shall enjoy complete freedom of transit and navigation in the Straits, by day and by night, under any flag and with any kind of cargo, without any formalities, [...]. No taxes or charges other than those authorized by Annex I to the present Convention shall be levied by the Turkish authorities on these vessels when passing in transit without calling at a port in the Straits.*¹³

These conventions implying territorial changes had also spatial consequences on the development of the Bosphorus landscape¹⁴.

Due to the modernization of the agriculture the rapid increase in migration from rural areas to the big cities was one important feature of the 20th century in Turkey. This implied the formation of informal housing (*gecekondus*), increased individual mobility and contributed to a very rapid urbanization of Istanbul. The government started extensive development plans during the 1950s involving the implementation of a new highway network system.

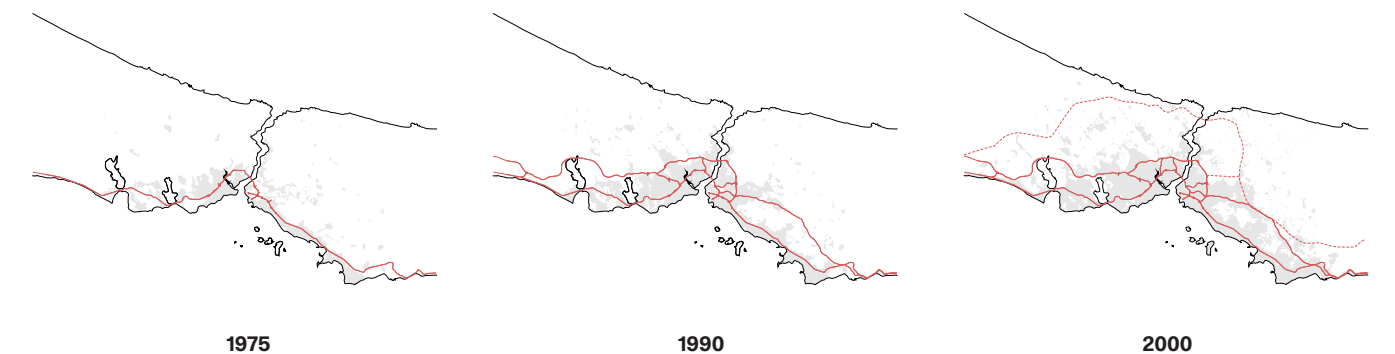
east - west expansion



During this modernization the city underwent radical urban development marked by infrastructural monumentality and planning pragmatism. The new highways running along the Marmara Sea east and west of the Bosphorus were accompanied by an urbanization of the coastal areas. The construction of the first and the second bridge in 1973 and 1988 were key to the east-west expansion. Because of the mono-centric urban structure of Istanbul the suburbs in the east and the west stayed underdeveloped. The highways pointing in direction of the historical centre underline the mono-centrality, which has resulted in masses of com-

muters travelling everyday over the Bosphorus into the city centre on the European side. The transportation network and the urban fabric were mostly concentrated along the coasts of the Marmara Sea working in an east-west direction. This divides the mainland on both sides horizontally in half.

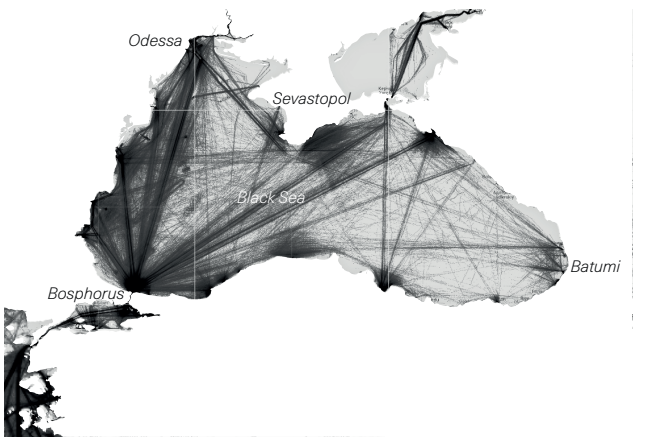
However urban sprawl spreading towards the north due to the ignorance of planning strategies and investment projects challenge heavily the forest areas in the north. There is a high risk that the new third bridge crossing the Bosphorus will accelerate this expansion and endangers the important ecosystem even more.



north - south shipping



After the dissolution of the Soviet Union in 1991, when the new states opened up their oil and gas resources to the world the Bosphorus gained importance as a natural canal for energy transport. Although the Bosphorus had already been a an energy corridor for oil products from the Caspian Sea since 1892, the critical aspect of this new situation is the extreme density of the current tanker traffic¹⁵. Although the Strait does not directly connect to the Caspian Sea, the oil travels via pipelines to the Black Sea ports from where it is ship-



ped through the Bosphorus into the Mediterranean Sea. Today the Strait is one of the six busiest and important oil-shipping routes so-called *choke-points*¹⁶. The accelerating tanker traffic through the Bosphorus means an ever-increasing risk of accident. A delicate moment in the history of the Strait was a tanker accident in 1994. Not only for oil traffic the Bosphorus is an important waterway, as mentioned before its control has a strategic importance of geopolitical nature. Declared as international Shipping Lane, the Strait is completely open to any kind of passage, military or commercial, and Turkey has no right to oppose¹⁷. This means that the land of Istanbul is actually separated by one of the most densely used international waterways, with all its risks and dangers. Running north south this shipping route characterises the landscape of the Bosphorus and the city and shows how the Bosphorus shapes the image and structure of the city until nowadays.

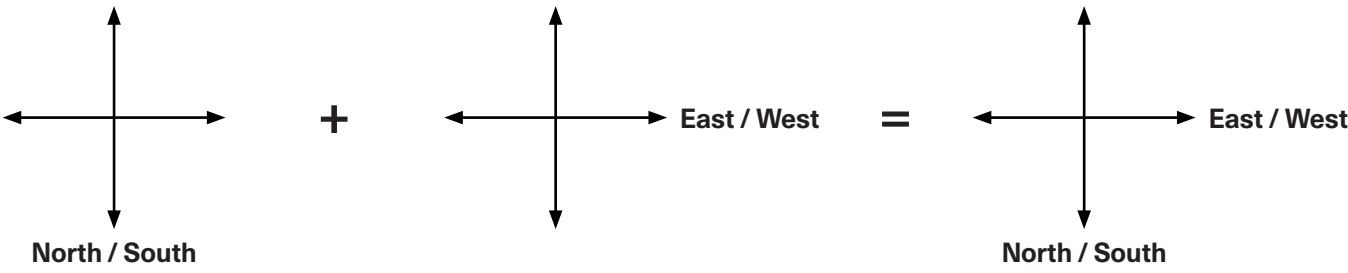
The Bosphorus is a chokepoint for international water traffic between the Black Sea and the Mediterranean sea

intersection of infrastructural networks



One hand the Bosphorus separates the city into two, at the same time it connects two seas. Two infrastructural systems are meeting at this spot, one crossing the Bosphorus (east-west) and the other one passing through it (north-south). Looking at the Bosphorus in the context of these two fluxes we understand the impact of the historical and geographical context on the urban landscape of the Bosphorus. The consequence of this juxtaposition of frameworks is a high congestion of transportation and communication infrastructure attending his peak on the south of the Bosphorus where it kisses the Marmara Sea. Moreover the same area hosts a number of cultural and historical monuments, which are a valuable cultural heritage. This intersection

and congestion of infrastructural systems working on different levels, the city as a milieu with cultural value, and the geography merge into a unique landscape, a landscape marked by confrontations of different scales, movements, and functions. Whereas the generic urban fabric spreads continuously east west without a defined end, its density degrades clearly towards the north. The Bosphorus cuts through the land with the dense east west fabric in the south; the shores work as screens exposing the out fading urban morphology. The only thing that crosses the Bosphorus physically, are the infrastructural systems, the city's DNA¹⁸.



- + seperating/connecting
- + infrastructural vs. monumental
- + intersection of infrastructural systems



A commuters ferry in front of the maiden's tower



Harem Cargo Port and the historical military academy in the background



Ship traffic on the Bosphorus



Rumeli Castle



Construction of Yavuz Sultan Selim Bridge



Cargo ships waiting in the Marmara Sea



The pillar on the asian side of the Bosphorus Bridge

TERRITORIAL READING

The reading of the different systems along the Bosphorus allows us to understand its landscape. In order to be able to represent the Bosphorus in a new way as a spatial object we need to understand what are the elements it is constituted of and how they are located and perceived. First of all we should understand the concept of landscape in relation to the city and what is meant by this concept. As James Corners describes it very well it is not merely about the interest in vegetation, earthworks but more in the landscape's conceptual capacity to theorize sites, territories, ecosystems, networks and infrastructures and to organise large urban fields¹. The reading is needed to analyse the complex programmatic diversity of systems, the cultural expression and ecological construct on a territorial scale. So by extending the field of analyse we also shift the scale, which gives us the ability to locate the urban fabric in their regional and biotic context². By overlaying these frameworks their interacting relations appear which is necessary to understand the city and to work with it. As we discussed earlier monuments and infrastructures are two actors with very different natures, yet we recognize paradox similarities in their layout on the Bosphorus, the regional and biotic context. We can say that the strait is the geographical motor for the development of this particular urban landscape.

p.34	natural monuments
p.34	topography
p.36	hydrography
p.38	forest
p.40	cultural monuments
p.40	buildings
p.42	parks

MONUMENTS

topography



Northern entrance of the Bosphorus

Known as the *City on the Seven Hills* Constantinople was built following the model of ancient Rome. Today Istanbul has spread over three distinctive geographical regions, divided by the Bosphorus and the Golden Horn. The Bosphorus separates the old city on the historical peninsula and the Northern part of the Golden Horn on the European Side from the Asian Side. Geographically the European part of the city is situated on the *Catalca Peninsula* and the Asia part on the *Kocaeli Peninsula*.

The hilly shores are shaped by rivers flowing into the Bosphorus. The sometimes very steep hills, the valleys and the sinuous curves of the Bosphorus determined the city's urban patterns. In order to carry out large-scale constructions it was necessary to build retaining walls and terraces. Furthermore it is impossible to build the streets on a grid system, roads and streets tend to be curved and follow the topography. However the topography creates also a sense of orientation, as you're constantly aware of the water or its proximity. The constantly changing topography creates a notion of a vis-à-vis between valleys or over the water and makes the city a visual experience.



Istanbul, Svetlana Eremina, Istanbul, 2008

In Istanbul the topography stages monuments on different levels so they can be seen from far away. This is also way to put symbols for religious and political power into scene, a practise still used by the President for his controversial project for a mosque. Even though the topography is a big challenge for transportation infrastructures it entails also advantageous for bridges and transmission lines crossing the Bosphorus. They are built on high platforms to gain the necessary height to cross the Bosphorus.

As the territory in the Northern part of the Bosphorus is still quite untouched, the topography and the geography underwent constant changes in the urbanised areas of the South. The soil has been strongly artificialized and also the coastline is an element of constant adaptation, due to depositions, landfills, and the construction of quays and wharves.

25m bathymetry
5m topography



hydrography

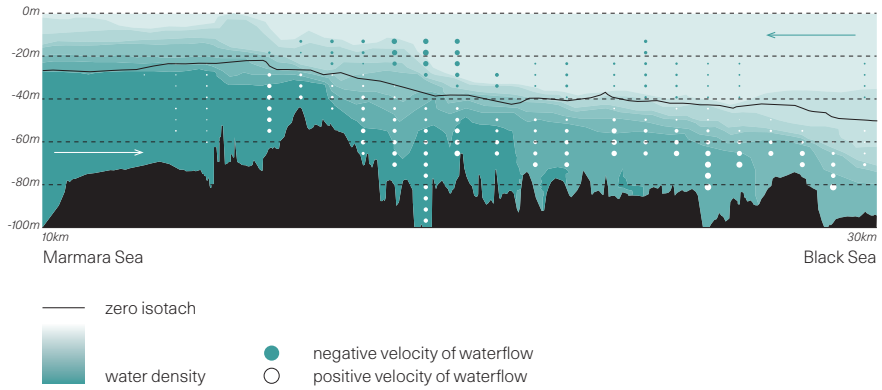


A fisherboat in the northern part of the Bosphorus

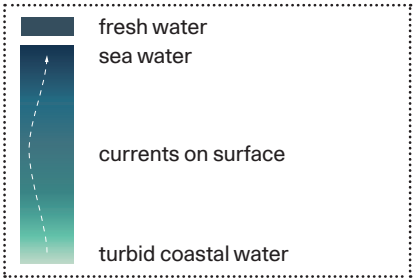
The Bosphorus as a pathway between the Marmara and Black seas connects two seas of very different hydrographical systems. The strait is a strongly stratified two-layer system: Water level in the Black Sea is higher than the Marmara Sea and generates a flow on the upper level. The lower-level flow is generated by differences in salinity between the two seas. These currents are mainly controlled by water density and depths differences. A turbulent interface layer separates the upper and the lower currents.

The two-level flow system in the Bosphorus provides a diverse marine habitat and supports a wide variety of marine life. It is a transition of the high saline environment of the Mediterranean and the Marmara Sea and the brackish surface water of the Black Sea. Species acclimated to both saline and low-saline environments are found in the Bosphorus. Fish species found in the Bosphorus can be divided in three categories: Fish from the Black Sea that occasionally migrate through the Bosphorus, Mediterranean fish, undertaking seasonal migrations and the local fish, resident in the Bosphorus. Disruption of the flow regime has negative consequences on the fish species, as they

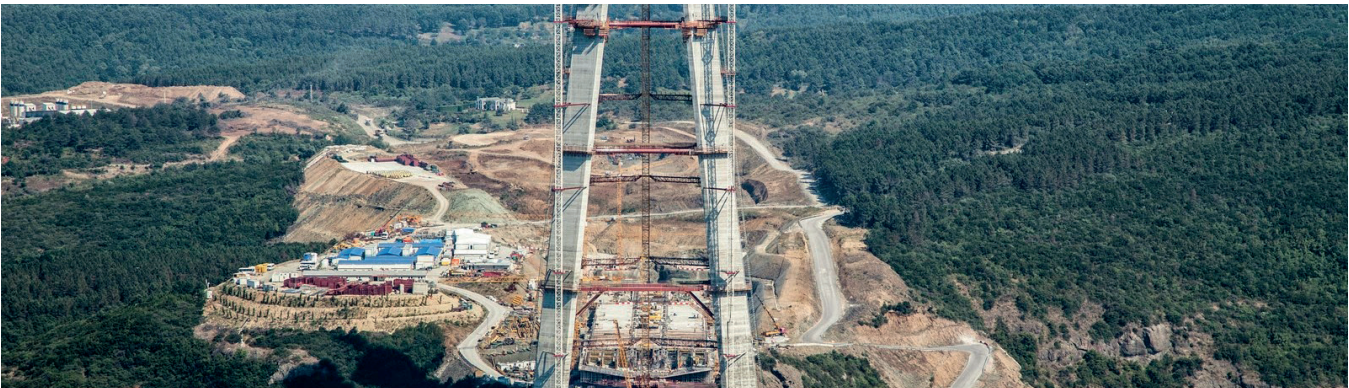
Flow, water mass, and hydraulics in the Bosphorus



are adjusted to these particular environments. The new Marmaray tunnel, constructed partly underground partly covered with earth fill, interfere with the circulation of the Bosphorus. But also noise pollution caused by the construction and sediments released to the water by the dredging have consequences on the ecosystem. Therefore studies like “Hydrography of the Bosphorus Strait, and the Effects to Submarine Constructions” search to investigate the long and short term effects of marine construction, taking into account the seasonal but also the daytime timing of dredging and mining, the location of disposal materials in order to minimize environmental impacts.

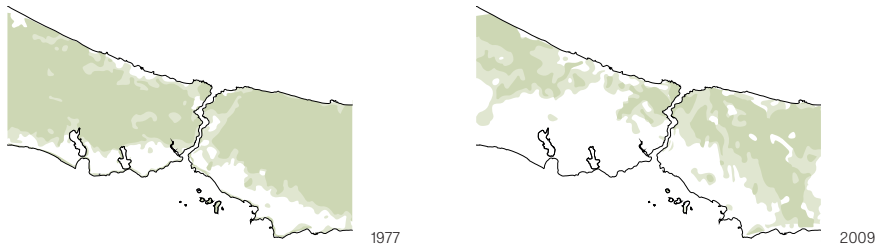


forest



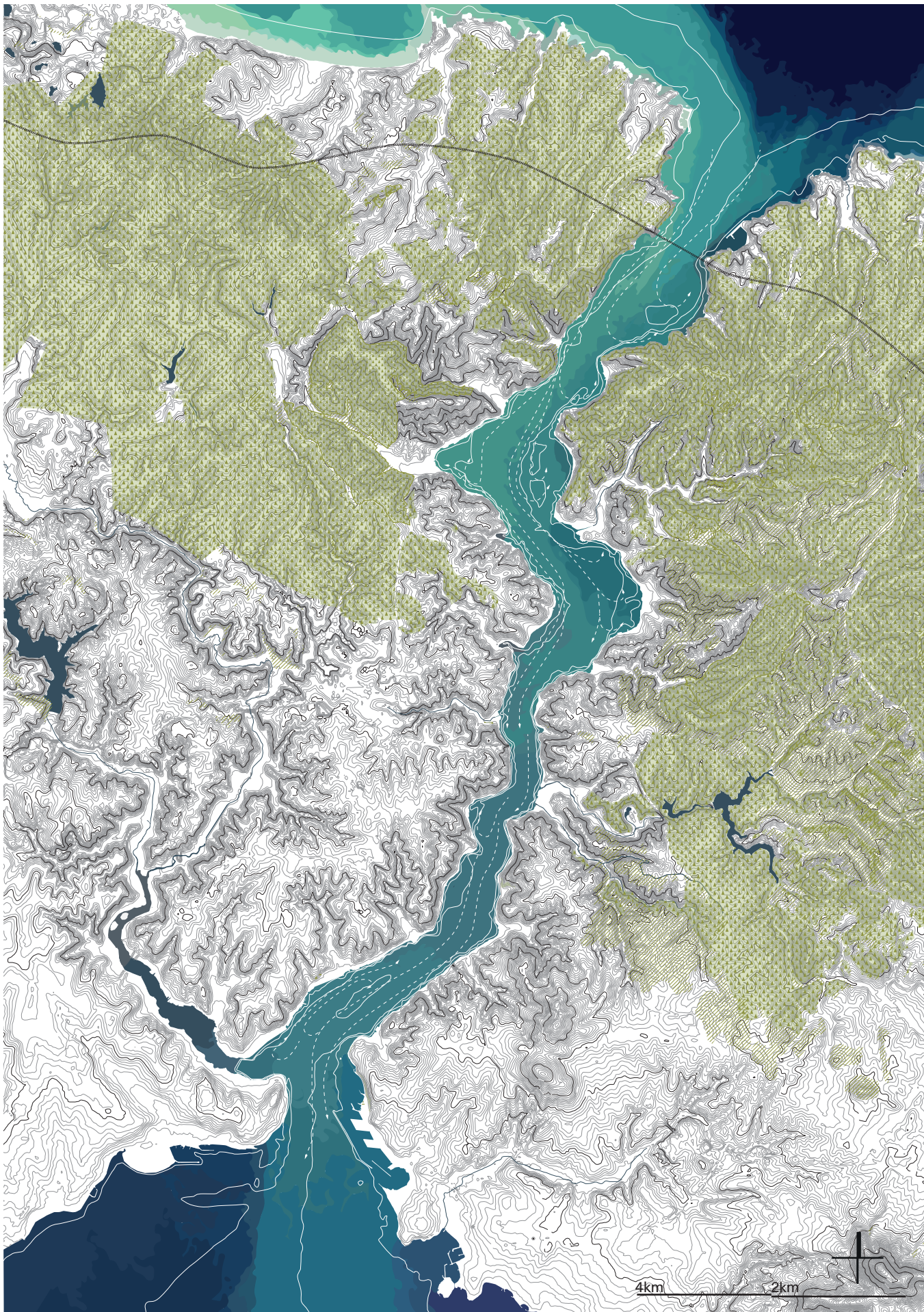
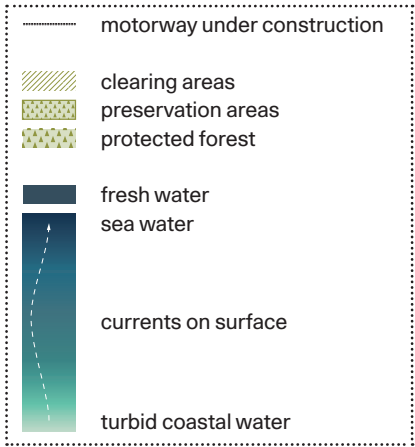
Construction site of the Yavuz Sultan Selim Bridge (third bridge)

In the region between the north shore and the northern neighbourhoods of Istanbul, there exist important areas of forest. There are around 2'500 different species of plants in an area of around 511'000ha, which is compared to other places a high number (Holland has 1200 and its area is eight times larger; England has 2290 and its area is 47 times larger). The high degree of variety in Istanbul's landscapes, topography, centuries-old traditional land-use methods and climatic patterns allows this extraordinary biological diversity. 23 out of 40 endangered plants in Turkey are endemic in the Istanbul region. There are several protection areas in this region, all of them host a great number of endangered plant species. Generating clean air along the Bosphorus, these forest offer as well an escape from the urbanised south to a calm and green landscape. Since the forests around Istanbul had to face urbanization, industrialization and agricultural processes over a very long time period, they underwent excessive changes. The city has been growing for a long time driven by ruthless urban development projects or not planned extension. Yet until now the city's northern forests have miraculously avoided



Deforestation around Istanbul over the last 40 years

ded development. However the new bridge over the Bosphorus and the highway connecting it to the city have huge impacts on these forests. They clear big aisles in the forest for the roads, and even though officials say that there will be no further development than the highway, environmentalist and local organisations fear that there will be no escape from the urban sprawl. The highway runs contrary to the Istanbul Provincial Environmental Plan (represented to the right) and the Istanbul Master Development Plan. But to control the effects of these huge development projects, urban projects need to include rural preservation strategies and be aware of ecological consequences endangering the natural lungs of Istanbul.



historical buildings



Dolmabahçe Sarayı

In 1856 the first palace, the Dolmabahçe Sarayı was built right on the shore of the Bosphorus. It served until the end of the Ottoman Empire as the Sultan's residence. Some kilometres northward they built a second big palace on the European side and another one on the Asian side. Two of the palaces can be visited as museums and one was turned into a luxurious hotel. But also smaller villas, so-called yalis are part of the waterfront of the Bosphorus. Built out of wood by the rich families their architecture dialogues strongly with the landscape. They were only accessible by water and their windows were at a very low level to allow an undisturbed view on the landscape. Together with the palaces and the fortresses - built on strategically points to control the Bosphorus - the villas have turned the Bosphorus into a real open-air museum. Around 620 yalis can be identified, the majority dating from the 19th century. Parts of this museum are also the world famous monuments on the historical peninsula, particularly the Saint Sophie, the Sultan's Palace (Topkapi Sarayı), and the Blue Mosque. Even Le Corbusier praised the skyline of these buildings as an architectural wonder. To protect this representative skyline



The living area with view on the Bosphorus

the government doesn't scruple to demolish entire skyscrapers that were disturbing this picture. There are a lot of codes and plans to protect the historical buildings; however due to high-income class residence demands and populist policies the waterfront has been victim of investment projects and destruction.

- + historical monuments
- museums
- religious sites



parks



Topkapı Sarayı (Sultan's Palace)

The traditional waterfront was characterised by an integration of water, buildings, and green spaces. According to Mansel these gardens surrounding the historical monuments along the Bosphorus have a higher meaning; a garden with an everlasting flowing river and fountains is symbolic for the paradise for Muslims. Travellers from the 18th century report how the Bosphorus shores were covered with royal gardens, especially on the Asian side. Old engravings and paintings of the Bosphorus often represent these gardens as an interface linking land and water. Although many of the gardens were private there were still public parks offering popular recreational areas for the inhabitants. With the modernization processes and because of radical urban transformations a lot of these parks were destroyed. As a reaction to the need of public space on the coast due to the rapid growth of the city the municipalities built huge public parks in the 2000s. Even though the new parks are frequently used their potential to offer a place to interact with the Bosphorus has never been fully exploited. In addition to that Birge Yildirim reveals two other dominant uses of the waterfront: roads and private dwellings occupying the coast,



Scene on in a garden on the water during the Ottoman times

both separating everyday life from the water. During the last century the water is being transformed from an active space contributing to the everyday life of the city into an object which one could only gaze at. Her explanations confirm the importance that any future planning of waterfront related projects should enhance the relationship between the water and the people and facilitating interaction.

- public parks
- historical monuments
- museums
- religious sites



INFRASTRUCTURE

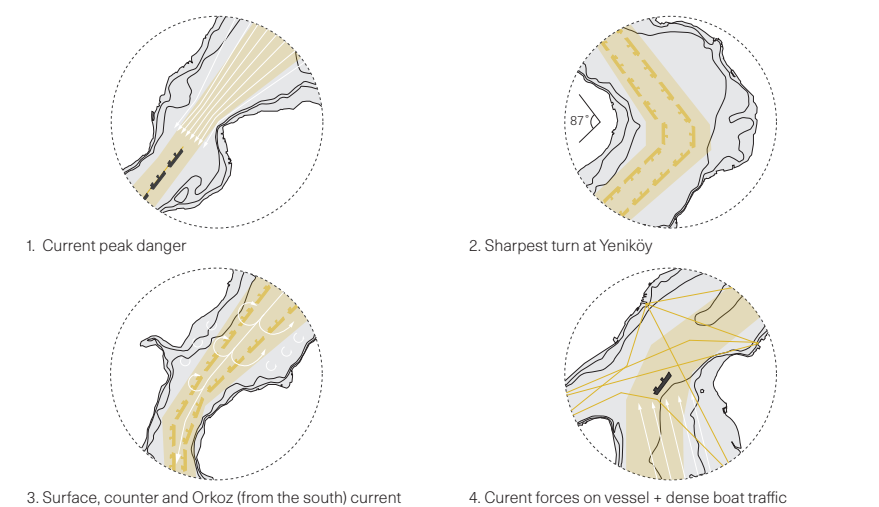
reading two

shipping



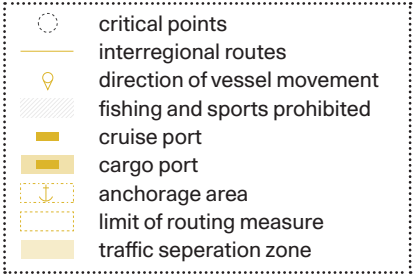
A tanker under the Sultan Fatih Mehmet Bridge (second bridge)

About 50'000 ships, including 5'500 tankers are transiting through the Bosphorus each year, which is close to the maximal capacity. 2013 2.9 million barrels per day (Mb/d) flowed through the passage in 2013 This makes the Bosphorus the one of the sixth busiest oil chokepoints in the world (Strait of Hormuz 17 Mb/d; Strait of Malacca 15 Mb/d; Cape of Good Hope 4.9Mb/d; Mandeb Strait 3.8 Mb/d; Danish Straits 3.3 Mb/d; Suez Canal 3.2 Mb/d). Compared to other choke point the Bosphorus presents a very problematic geographical situation. The dense oil traffic bears a high risk of accident. A very delicate issue as the strait passes right through the heart of Istanbul, a city of 12 million citizens. A tanker explosion in the city centre would cause irreversible damages to the city, its population and the ecosystem. The sharp and narrow turns and the strong currents make the waterway very difficult to navigate and complicate the matter even further. In order to decrease the heavy shipping traffic through the canal, the president wants to build a new canal connecting the two seas. However experts raise huge concerns about consequences for the ecosystem. The construction of the so-called crazy project is one



Four critical moments for tanker navigation, from north to south

of the targets of the government for 2023, the 100th anniversary of the Republic of Turkey. Yet there is no tender for the project of which nobody can estimate its consequences. Istanbul is also an important destination for cruise tourism. The cruise port is situated in front of the historical peninsula; huge cruise ships anchoring in the city centre are not unusual. With controversial Istanbul Salipazari Port Area project, the cruise port is planned to increase the number of cruise tourist from 650'000 to around 2 million per year.



roads



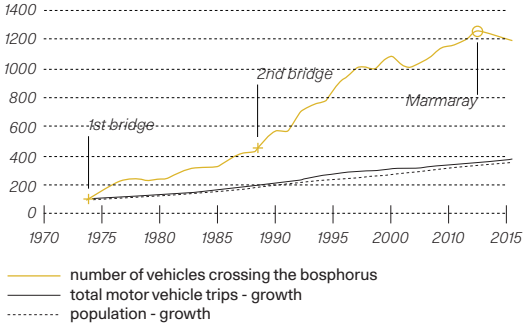
Traffic on the Bosphorus Bridge (first bridge)

The impressive bridges over the Bosphorus are often used as post-card motifs. Their size and their huge pillars holding the thin table are a symbol for technical achievements. They are truly monumental. However they stand also for major traffic problems the city faces.

Surveys point out that Istanbul is one of the cities with the worldwide highest congestion ratio. The road network points out the lack of interdisciplinary planning of the authorities in terms of transportation but also in relation to the inhabitants. The widespread response to the fast population growth in the urban areas is simply to build more roads – and Istanbul is no exception.

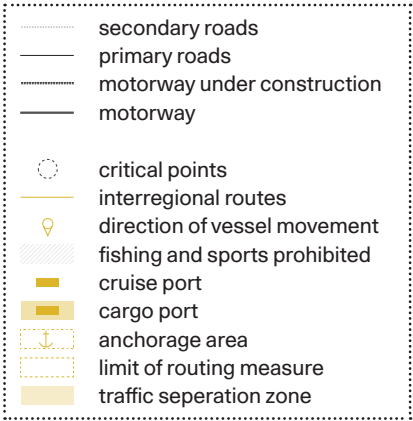
Urban planning policies are prioritizing highways and are therefore encouraging the use of private vehicles. The current situation in the city is characterized by a huge problem of urban transportation. This is mainly due to the fact that planning strategies are neglecting public transportation namely railway and seaway infrastructure. Furthermore lacking coordination between the different systems of transportation is an additional facet of the traffic problem.

Instead of addressing the real causes of the problem and to find



Comparison of the number of vehicles crossing the Bosphorus, the growth of total motor vehicles trips and population growth

solutions based on public transportation, the government seems to be more interested in building more roads and even a third bridge crossing the Bosphorus. Even though it is larger, higher and longer as the other two bridges it can't be expected to resolve the congestion problem of Istanbul as the evidence of other fast growing cities shows. The problem is that people respond to such decisions by using even more individual mobility. Solutions based on reorganising public transportation around other means to limit the individual mobility need to be pushed by the government and are therefore political. Furthermore equal distribution of qualities in the urban fabric would reduce the daily commuter's traffic.



rail systems



Haydarpaşa Station

There are two emblematic stations on the Bosphorus, one on each side. 1890 was the year when the Sirkeci Station was completed, the ultimate destination of the Orient Express that connected Paris with Konstantinople. On the Asian Side the Haydarpaşa Station was completed in 1908, it was the starting point of the Baghdad Railway. Both stations were symbols of progression and architectural statements at the time. A lot of symbolism was attached to these stations, not only should they connect the East and the West physically but also in terms of architecture they present a combination of European eclecticism with Ottoman influences.

In 2013 the first tunnel under the Bosphorus was built. The Marmaray Project, a part of the metro system is the first rail tunnel under the Bosphorus. Compared to other cities the metro system in Istanbul was a late development (first metro in Istanbul 1989; Paris 1900; London 1863); today its expansion is quick as it needs to keep up with the rapid growth of the city. Consequently it brings along the stratification of the public space. Traditionally life took place in the streets, from the peninsula until the suburbs, they were all connected on the same level. The sociocultural



Poster advertising the Orient Express (1888)

consequences of putting the public transport in the underground are to be taken in consideration. Nevertheless it seems important that rail transport is developed in order to disburden the roads. If we take again the two stations we see that this opens possibilities for investment. The Sirkeci Station is getting fully renovated, as it is one of the Marmaray station on the European side. Haydarpaşa Station on the contrary will no longer part of any transportation system and it will be turned into a luxury hotel and a small museum. Once a symbol for individual freedom of movement becomes an object for speculation and investment.



ferries



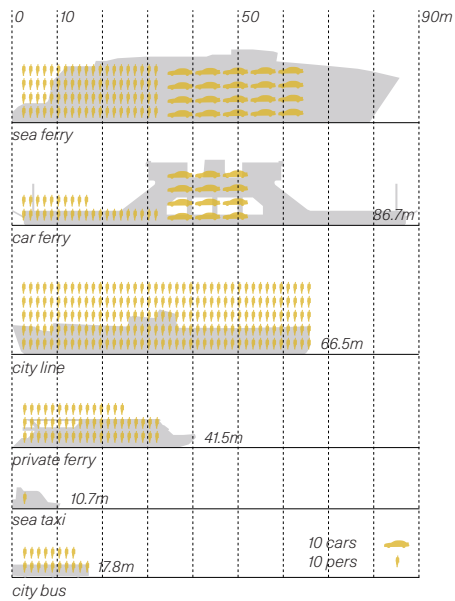
Ship traffic at the mouth of the Golden Horn

Until the opening of the first Bosphorus Bridge in 1973 ferries had been the only mode of transport of the Bosphorus. Today around 20% of the people crossing the Bosphorus use the ferries. There are three different types of ferry companies:

+ The city line (*sehir hatlari*), the oldest establishment based on passenger transport on the Bosphorus exist since 164 years. It's composed of a Bosphorus line, a Golden Horn line and a Marmara line. The vehicles have historical value and are easily recognised by their orange chimney. It's the sole line serving all the Bosphorus harbours.

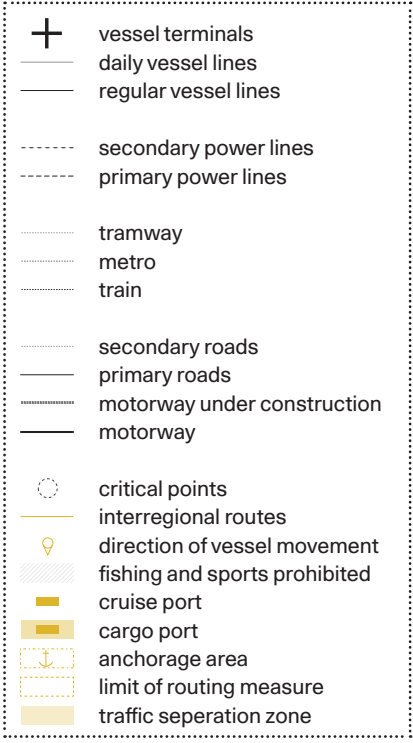
+ IDO (sea busses), the private enterprise owns around 25 sea busses and 28 car ferries. Adding the conventional commuter ferries IDO is with its 87 passenger ships one of the biggest commuter ferry operators in the world. The ferries run mostly between the city centre and the Marmara region.

+ Private ferries, operated by a range of smaller ferry companies they provide frequent services on routes among different harbours on the Bosphorus.



Capacity and length of the different ferries

Tourists as much as local residents enjoy crossing the Bosphorus by ferry. It provides a possibility to escape the traffic jams in the city and to breathe the clean air of the sea, rare qualities for the centre of a megacity. Some say it's the best way to feel the soul of the city and it offers a first class seat to gaze at the skyline of Istanbul and its historical monuments. Being on a ferry gives people the ability to appreciate the Bosphorus as a distinctive urban space and interact with it.



p.56	the narrative of the bosphorus landscape
p.58	exposing the urban landscape
p.58	infrastructural monuments
p.60	portrait of the european side
p.61	portrait of the asian side
p.62	the network of gateways
p.62	connectivity
p.62	gateways
p.64	downtown gateway
p.66	kadıköy
p.67	sirkeci
p.68	periphery gateway
p.70	ortaköy
p.71	sarıyer
p.72	seaside gateway
p.73	anadolu kavağı
p.74	poyrazköy

NETWORK OF GATEWAYS

the narrative of the bosphorus landscape

Exposing the urban landscape

Travelling by boat from one end of the Bosphorus to the other you can observe an arrangement of changing sequences. This urban landscape can be divided according to its urban density into three main parts.

The very southern part of the Bosphorus is where most of the historical monuments are situated and where infrastructures are literally congested. There are only a few bits along the waterfront, which are not occupied by a palace, a museum, a park, a pier or a terminal. In this dense occupation of the downtown waterfront we can however recognize major nodes, mainly situated close to the ferry terminals connecting other means of public transport. Moving north and passing the first bridge the scenes on the shore start to change. We can identify a sequence of smaller centralities with ferry terminals, mosques or a palace surrounded by a park, roads. Going northwards the neighbourhoods are crystalizing around such small centres. Having passed the second bridge the forest as a natural monument represents a new element in the setting. The peripheral neighbourhoods become more and more isolated from the urban fabric. Their characteristics of rural fisher villages let us forget that they are part of Istanbul suburbs. Only small harbours and a few historical fortresses and Ottoman mansions are marking this sequence of the Bosphorus. Going more northwards it is the predominance of the sea and the hills covered with forest that is fascinating. Nevertheless you can never forget that this is still part of Istanbul being remembered as soon as the third bridge becomes visible. It's a clash of scales between the villages and the bridge, a brutal encounter of the metropolis and the remote area of the north.

Looking at the map it becomes obvious that the Bosphorus represents a line cutting this city, exposing the different sections. But this line has a thickness; it is a living space characterized by two linear systems: the infrastructural networks and the monuments on the waterfront. A new narrative of the Bosphorus should emphasize this intensity of the space, reflecting the different sequences as a continuous degrade of the urban density. New projects should be based on this understanding of the Bosphorus as a integrated system rather than a sectorialized approach.

By overlooking the traditional dichotomies of the *infrastructural* and *monumental* condition we create an alternative entry point permitting the exploitation of a new world of possibilities. This calls for a changing perspective, which permits the conception of monuments and infrastructures as an interrelated whole though, and not as two separate concepts.

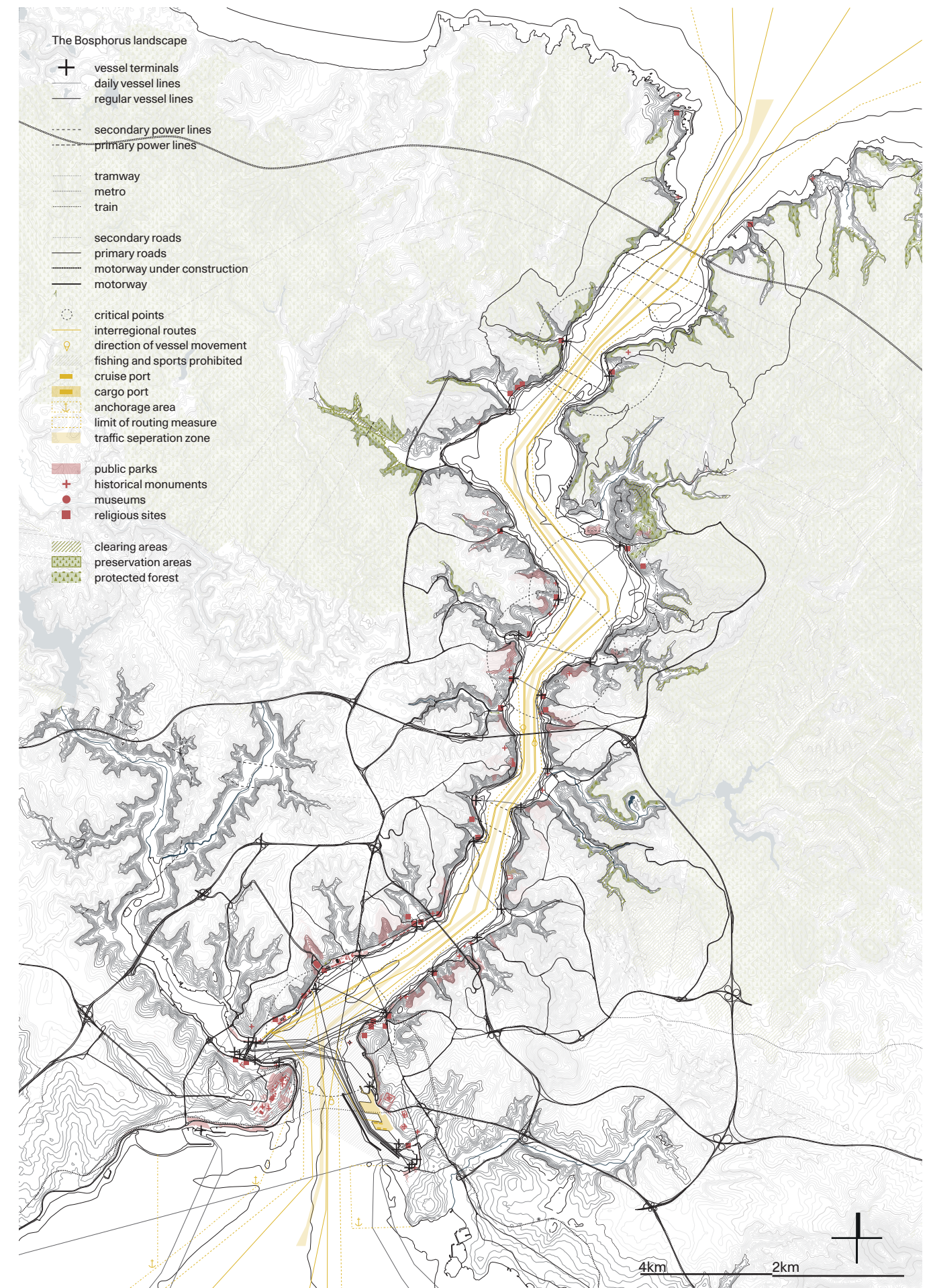
Infrastructural monuments

The cartographic analysis of the regional monumental and infrastructural conditions reveals interchanging nodes that offer strategic opportunities. These infrastructural nodes along the coastline have great potential to thicken their world of possibilities. They are spaces of public life where local residents come together, encounter commuters or meet tourists. But they are more than just infrastructural, they embody centrality and they structure entire neighbourhoods. Therefore they should surpass their purely utilitarian function and become infrastructural monuments. The spatial proximity of infrastructure and monuments in Istanbul requires a new approach in the thinking of designers. The way how infrastructures assimilate the conceptual character of monuments is specific for Istanbul. Whereas representation of power and symbolic meanings are commonly attributes of monuments in Istanbul, infrastructures assimilate some of these concepts. Therefore the design of any new infrastructural monument should reveal its broader function in the urban system.

New projects with such an approach could reorganize the Bosphorus as an open space and strengthen thereby the local identities; they facilitate access to this collective resource.

Working as an interface between the land and the water the infrastructural monuments on the Bosphorus are *gateways*. They are not simply ports of arrival and departure but also spaces of public life where local residents enter into dialogue with other people, and more generally with a broader cultural territory. Moreover their role is actually to articulate the monumental and infrastructural environment, also in terms of aesthetics. New *gateway* projects are inserted in a landscape full of architectural masterpieces and a sensible natural context. The various actors creating the Bosphorus landscape need to dialogue and new projects should synthesize the infrastructural and the public needs. The idea is that people see this vast water, hold together by the two hilly shores, as an expansion of the public space. And therefore it is important that both sides are considered equally.

In order to reveal these qualities of the Bosphorus the gateways need to be knitted together to a network. Such a network of gateways can be understood as a medium to articulate continuously the relations between infrastructure, monuments, public space and the ecological environment. It spreads through the very diverse landscape of the coastlines and embraces all the different urban sequences. The Bosphorus becomes a horizontal and democratic space; it overcomes physical boundaries, isolated urban patterns, and helps to prevent social exclusion.



portrait of the european shore



Marmara Sea

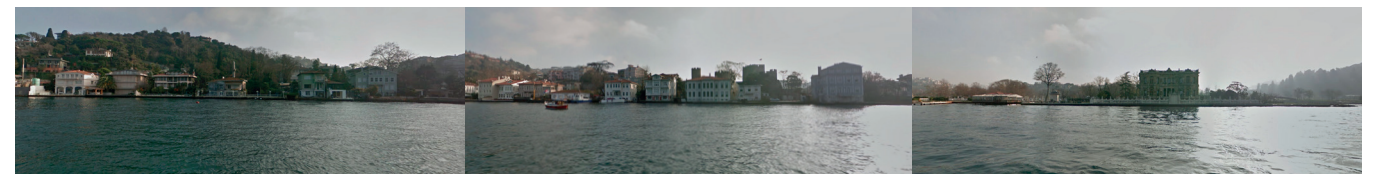


Black Sea

portrait of the asian shore



Marmara Sea



Black Sea

network of gateways

Introduction

The Bosphorus exposes the urban landscape of Istanbul and is at the same time part of it. It is a physical condition that unites three identifiable stages of the urban density that fades out towards the north. The idea of a network of gateways unites the Bosphorus as a common ground for one horizontal public space. Bearing in mind that the city is still growing rapidly and that new infrastructural projects are announced every year it seems important to develop new strategies. Any projects should be understood as a specific intervention with a high transformative potential, which synthesizes

Connectivity

The connections of this network are primordial to understand the continuity. The connectivity is not only about transportation but also about access and communication in general. The design of a network intends to connect different actors and spaces to overcome physical boundaries, isolated urban patterns, and social exclusion. The Bosphorus is like an animated piazza embraced by the two shores. Physical as well as visual connectivity sews both sides together like a rope in a zigzag movement and they converge notionally.

Physical connection

The transportation system connecting different places on the Bosphorus needs a high diversity if congestion and traffic problems should be reduced. Of course the connectivity is important for commuters moving between the centres. At the same time it enhances the relationship of the people to the Bosphorus landscape with all its natural features even in the remote areas. We can distinguish two types of physical infrastructural systems that structure the network:
+ One system connects the network to the surrounding city via trains, metros, roads, and tramways. Furthermore they connect several terminals together. It draws

Gateways

The gateways are the key element of the network. The terminals for infrastructural systems such as ferries, trains, metros, buses, and tramways need to take advantage of their optimal location as urban centralities. They offer great potential to host programmatic diversity and to add new spatial and public qualities to the different situation of the waterfront. New projects shall not only focus on transportation but also develop synergies and include development of multiple public functions for the local residents. Simultaneously acting as infrastructural nodes and as a contemporary acropolis

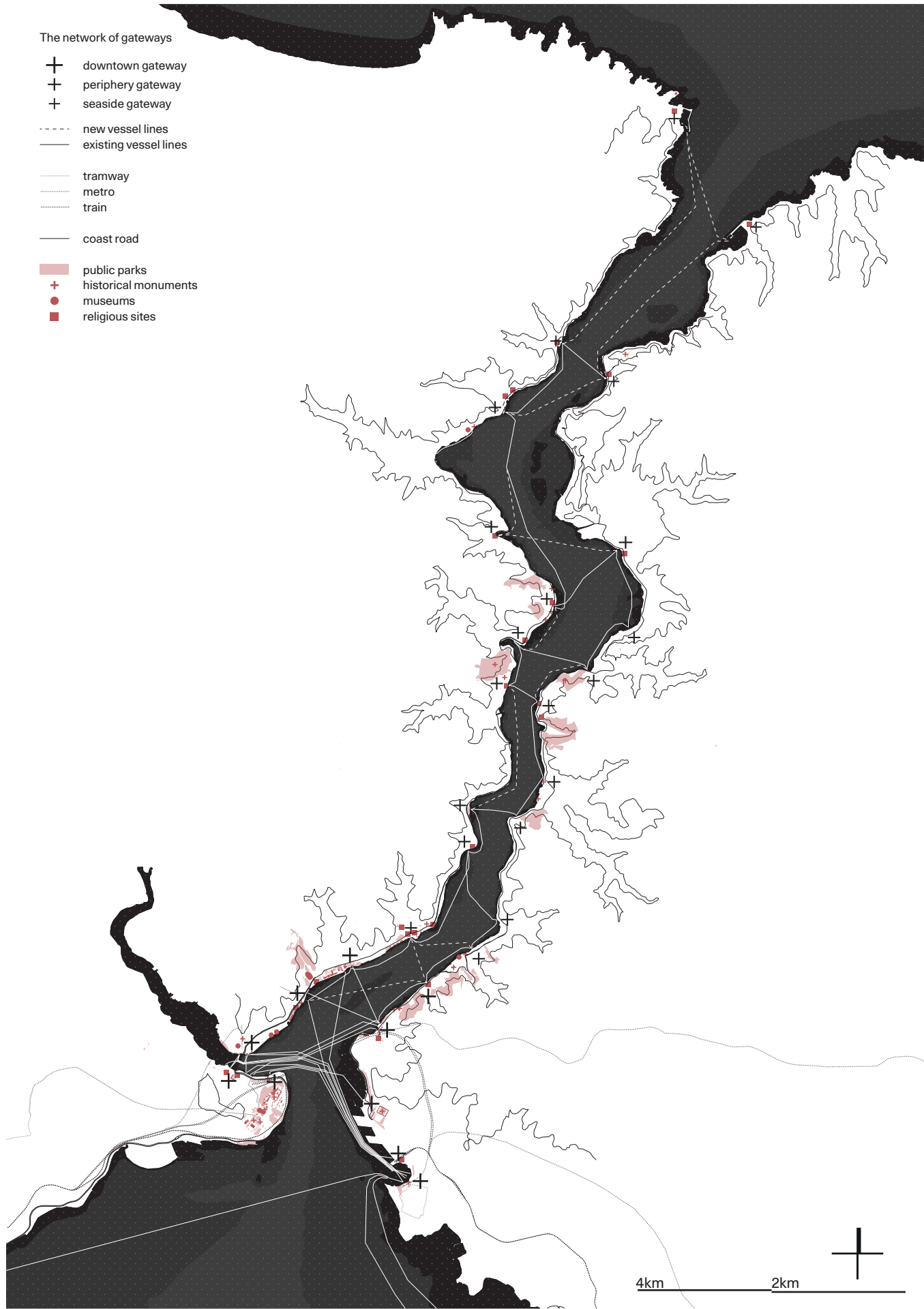
infrastructural necessities and public interests and at the same time endorses the project potentials of inclusiveness. Projects would offer new programmatic opportunities for people to interact in new ways with the city and the Bosphorus. Based on inclusion and participation rather than exponential profit and exploitation future projects point towards a democratic participation of multiple actors. As follows I will introduce the two main features of the network, namely the connectivity and the gateway.

not only on the local residents of the neighbourhoods but also the population of the entire city and its visitors. + The second system refers to the network. As the sole means of transport connecting all gateways the ferries work as a guiding structure of the network. In order to establish the new network, ferry lines shall expand and service also the northern villages. Reacting to the urban degrade the south offers of course a denser schedule than the north. Not simply connecting different terminals, the ferry lines are part of the public live.

Visual connection

The Bosphorus has always been a place where political and religious forces staged their achievements in form of monumental objects. But the notion of visibility refers also to the distinctive topography of the coastline, another feature of the network of gateways. In order to emphasize the narrative of the Bosphorus as a public piazza and the dialogue between the opposite sides, the gateways should offer visual contact. This would reframe the imaginary of the visitors and the residents and helps to establish a mental map of the network in relation with its landscape.

for public life they become infrastructural monuments and work as interfaces between the city and the water. As new physical objects in the urban fabric they must articulate the different aesthetics. Responding to the three different stages of the urban degrade along the Bosphorus the gateways will be subdivided in three different types according to their urban and natural environment and their infrastructural complexity: The downtown, the periphery, and the seaside gateways. For each type of gateway I present two sites in order to illustrate and explain their potentialities.



downtown gateway

Specificities:

Transportation Systems:

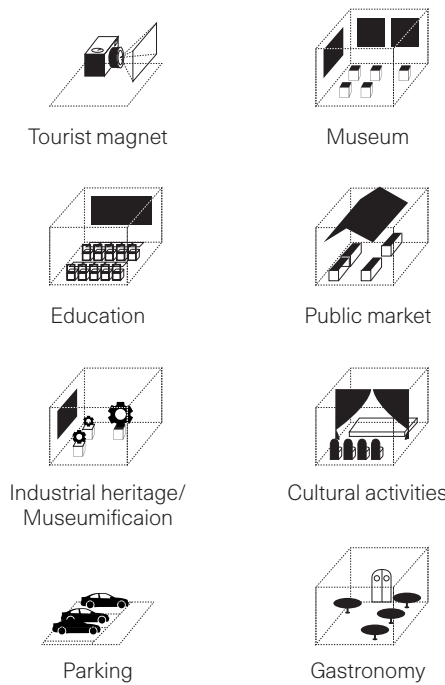
The gateway is a node of terminals for several of the following transportation systems:

- + Ferry (all types)
- + Interregional ferry
- + Train
- + Metro
- + Tramway
- + Bus

Urban fabric:

Situated in the downtown, the surrounding urban fabric is complex and a lot of actors are implied. Big roads and intersections form borders and divide the urban fabric. Even though the areas around the gateways are most of the time commercial, touristic or industrial some residential zones are also situated in the downtown. Historical monuments and museums are mostly close and within a 10 min walk.

Potential programs for synergies



Case studies



Kadiköy 40°59'36.8" N - 29°01'17.4" E

The coastline forms almost a circle around which several ferry terminals are situated. In addition to that other urban artefacts - a green area, a parking, a theatre, several restaurants, bus terminals - are scattered around this bassin. A big road cuts this waterfront area from the dense neighbourhood. On the other side of the ferry terminals the old train station. Not anymore used as so, its an object destined to be museumified.



Sirkeci 41°00'56.0" N - 28°58'34.4" E

The Sultan's Palace Museum is like the Acropolis on a hill and is well visible from far away. However the ancient walls form a border and cut it of from the urban fabric. The terminals of the different transportation systems are badly connected, even though their close. This is due to the walls, roads, and the train that fragment the space around the palace.



kadiköy 40°59'36.8" N - 29°01'17.4" E



- 1 Haydarpaşa Train Station
2 Haldun Taner Thater
3 Sultan Mustafa Harbour Mosque
4 Surp Takavor Armenian Church

Monuments

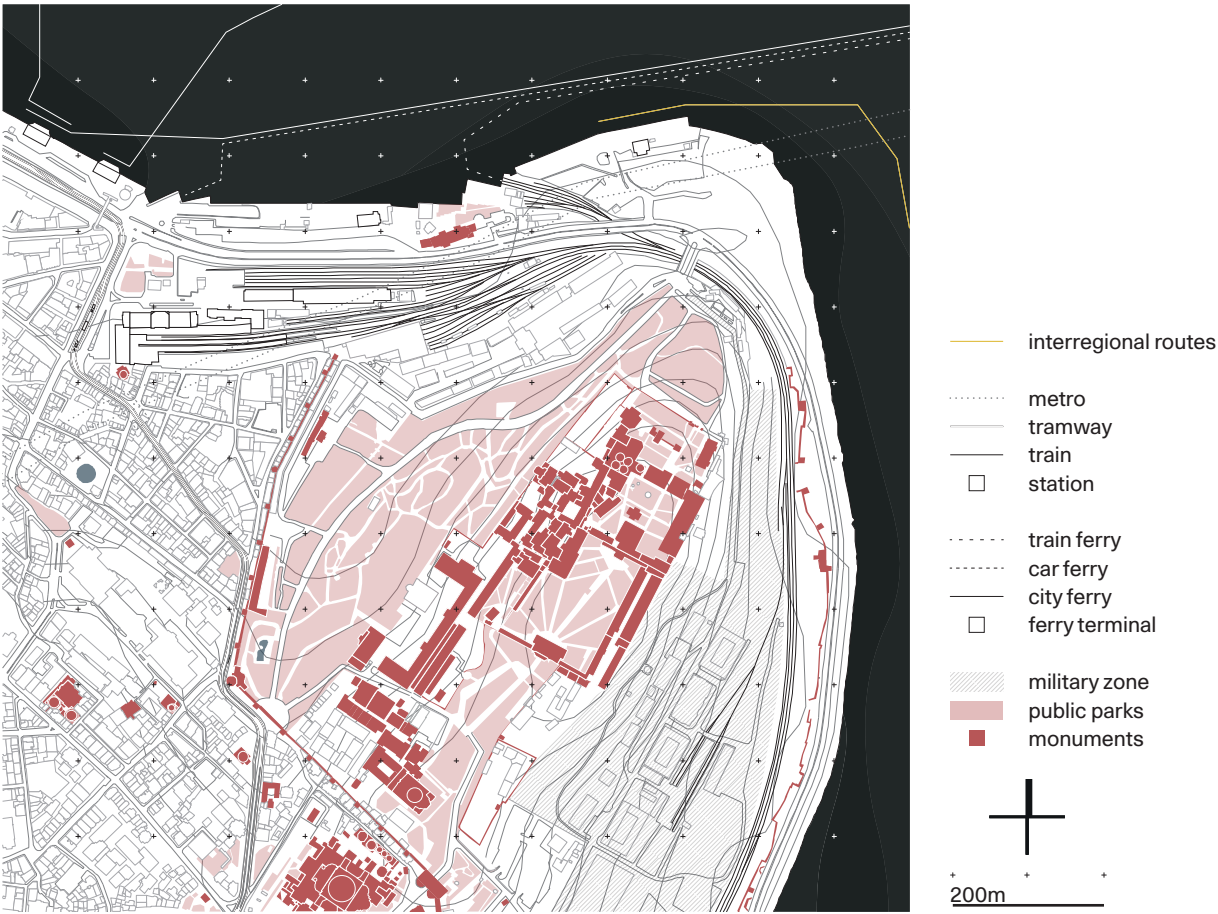


Site fragments



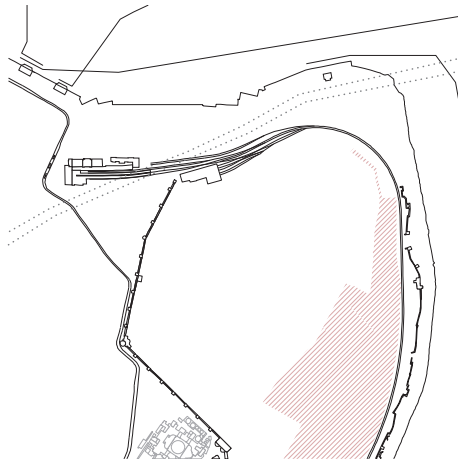
View on the waterfront area

sirkeci 41°00'56.0" N - 28°58'34.4" E



- 1 Sepetçiler Mansion
2 Vezir Mosque
3 Cağlaroğlu Public Bath
4 Archeological Museum
5 Sultan's Palace Museum
6 Saint Sophie

Monuments



Site fragments



View on the palace and the ferry terminal

periphery gateway

Specificities:

Transportation Systems:

The gateway is only connected to the ferry network and the city buses:

- + Ferry (private ferry and city line)
- + City bus

Urban fabric:

The residential neighbourhood is structured around the gateway, the major roads are oriented in its direction and the main bus terminal is also close to it. Sometimes there are some public parks with a tea house around the ferry terminal. Situated on the periphery of the city some of the gateways are next to factories. Mostly unused they take occupy large surfaces on the waterfront. Touristic highlights are less dominant than in the downtown, however some waterfront mansions are turned into museums and the big castles are also well visited.

Case studies



Ortaköy 41°02'52.4" N - 29°01'35.6" E

In Ortaköy the infrastructural and the monumental can't be distinguished anymore. The image of the bridge and the mosque is very symbolic for this blurred opposition. However there is a strong contrast in their form as objects, the familiar mosque on one hand and the abstract sculpture of pillars and cables on the other one. Together they form strong elements, which arises the question of the space around these elements.

Potential for synergies

Tourist magnet

Art galleries

Public park

Public market

Industrial heritage/
Museumification

Cultural activities

Gastronomy



İstiniye 41°06'50.3" N - 29°03'19.9"E

The coast road runs along the bay that is mostly occupied by the yacht harbour. A nice park is on the south side of the bay, but it doesn't come down the hill and has no contact to the water the water. It seems that the park is isolated from the harbour area, a huge closed military area occupies instead the waterfront.

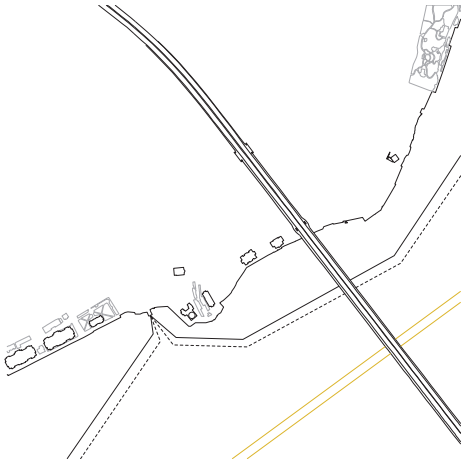


ortaköy 41°02'52.4" N - 29°01'35.6" E



- 1 T. Hacı Mahmut Mosque
- 2 Armenian Catholic Church
- 3 Meryem Ana Armenian Church
- 4 Etz Ahayim Synagogue
- 5 Hatice Sultan Mansion
- 6 Cultural Centre and University
- 7 Ortaköy Mosque

Monuments

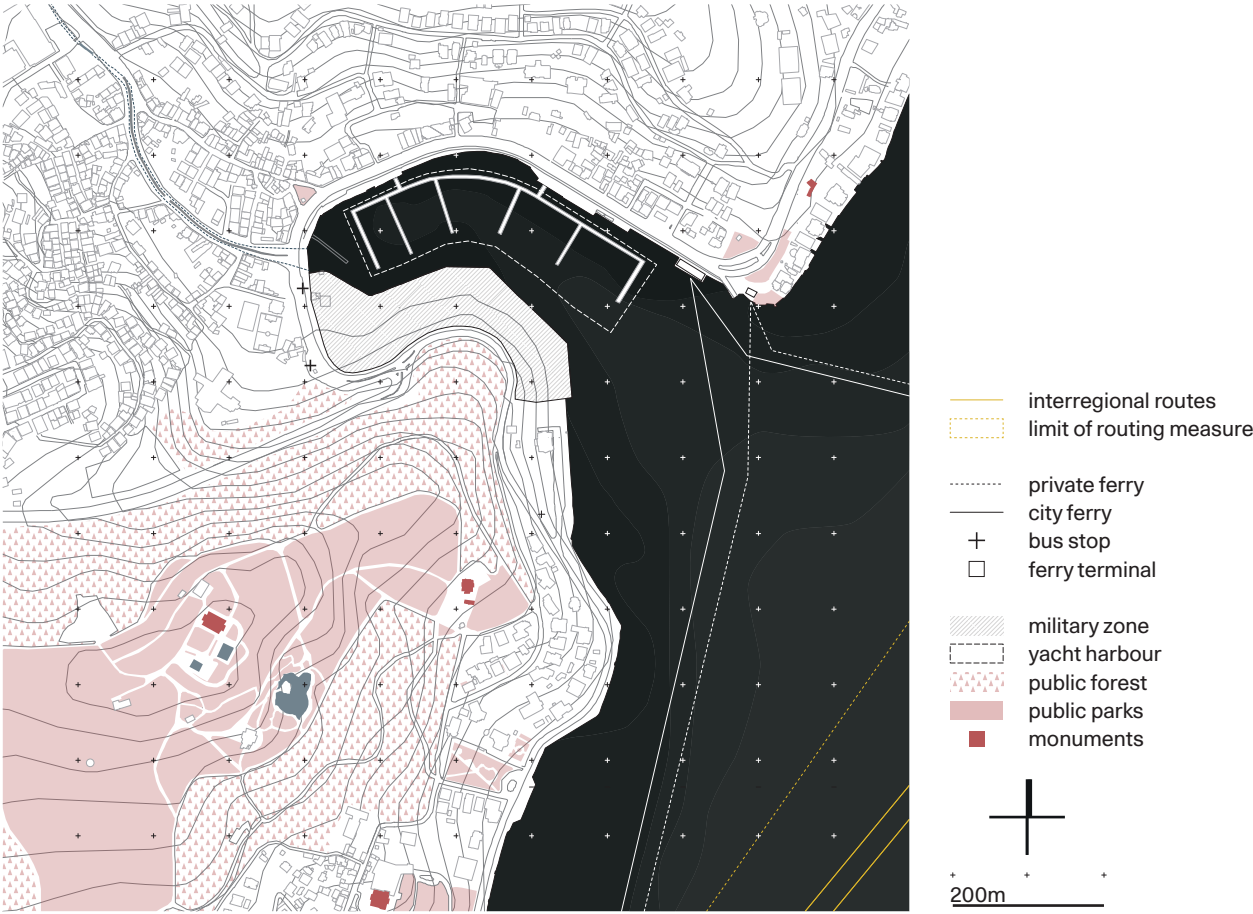


Site fragments



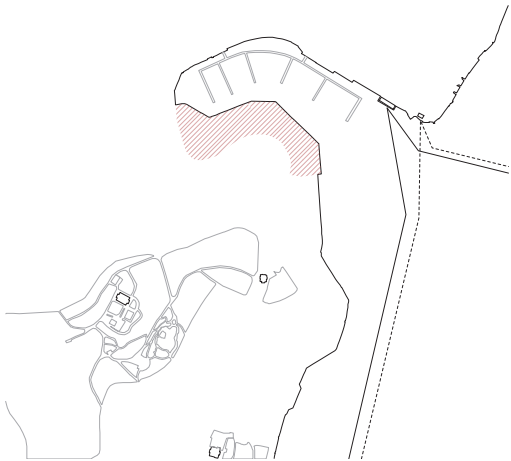
The Ortaköy Mosque with the Bosphorus Bridge in the background

istiniye 41°06'50.3" N - 29°03'19.9" E

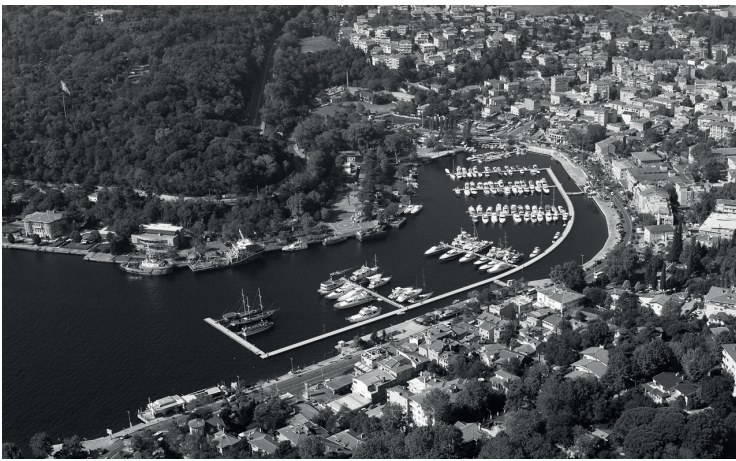


- 1 Osman Reis Mosque
- 2 Yellow Mansion
- 3 White Mansion
- 4 Sakip Sabancı Art Museum

Monuments



Site fragments



The harbour area

seaside gateway

Specificities:

Transportation Systems:

The gateway is only connected to the ferry network:

+ Ferry (city line)

Urban fabric:

The village around the gateway is not anymore part of the urban fabric. Situated in the north of the Bosphorus the villages are surrounded by forest and agricultural land. Daily trips from the city to the villages offer an escape and a place to contemplate the landscape. The villages benefit from these day tourists and offer host a number of places to eat. But there are people living in the villages that still fish, benefiting from the possibility to catch fishes in the Black Sea. The two villages up in the north have currently no ferry service. However due to the fact that these villages already have small harbours the construction of a ferry terminal doesn't seem problematic.

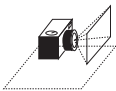
Case studies



Anadolu Kavağı 41°10'25.4" N - 29°05'17.8" E

Exploring the ruins of the Yoros Castle offers an escape from the city. It is situated on the hill surrounded by forest and offers nice views over the Bosphorus. The village at the coast benefits from the visitors and tourist. There are two possibilities to reach the castle: By ferry, but then one needs to walk up a steep road. The other one is to drive and leave the car next to the castle.

Potential for synergies



Tourist magnet



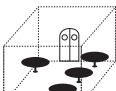
Landscape



Public park



Leisure

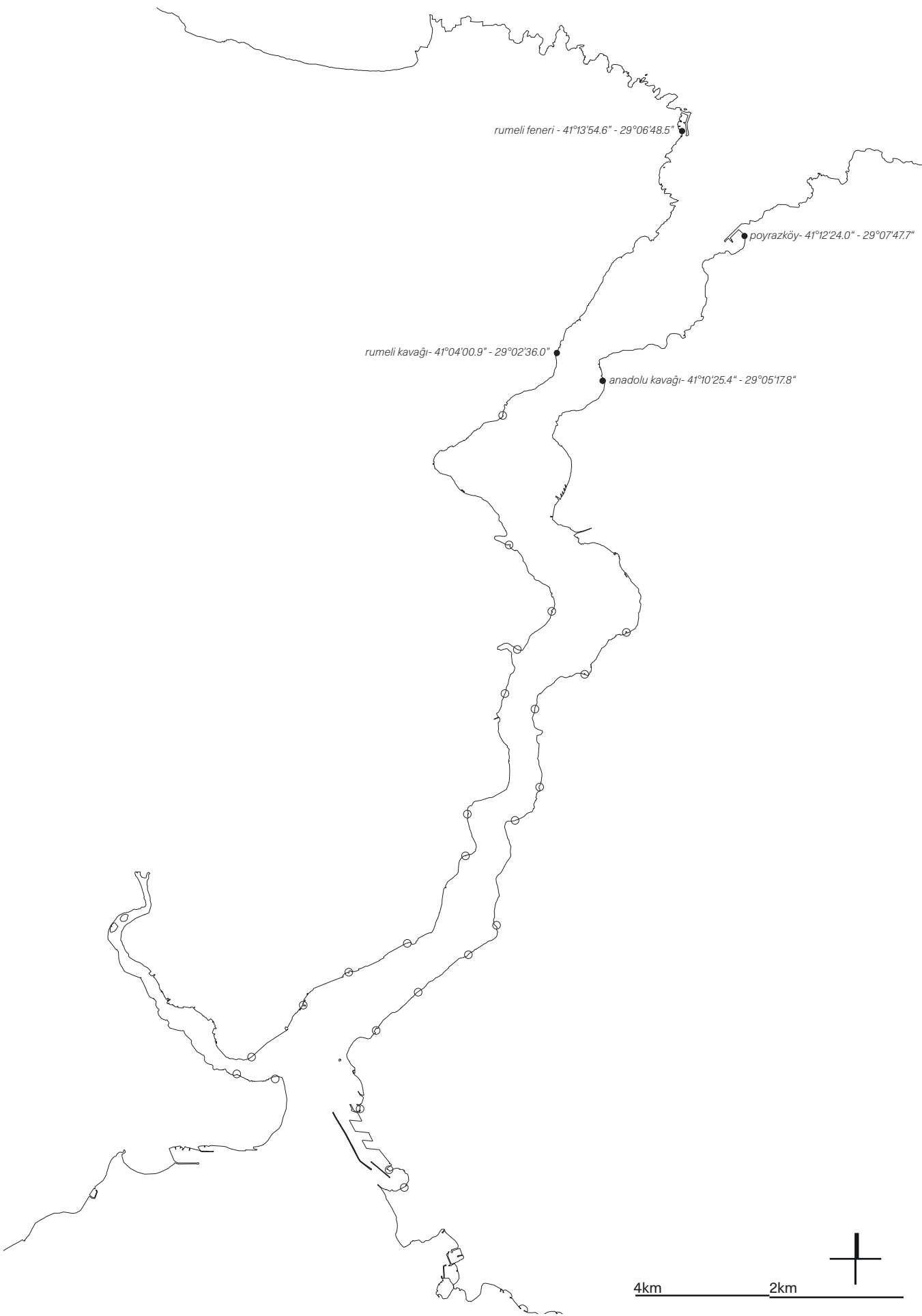


Gastronomy

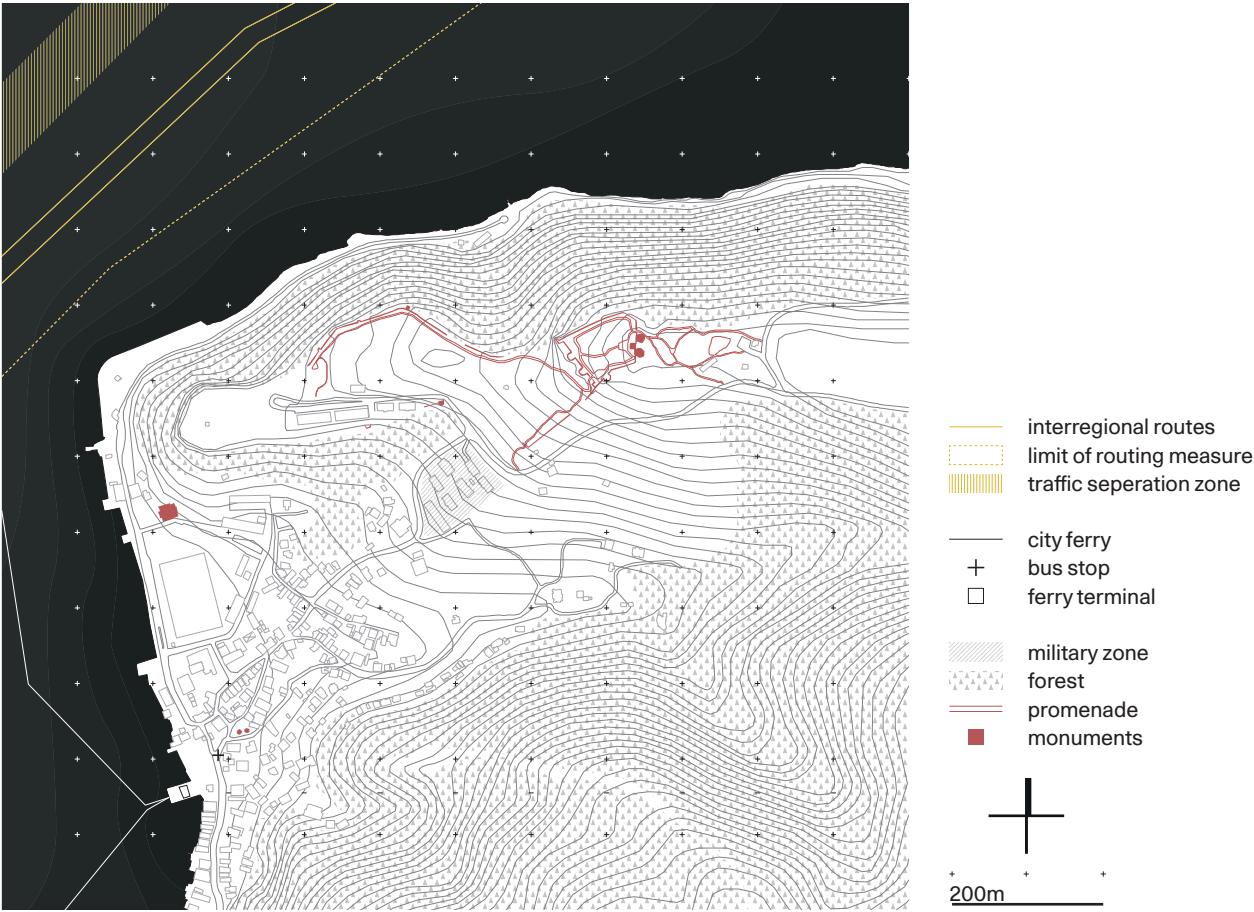


Poyrazköy 41°12'24.0" N - 29°07'47.7" E

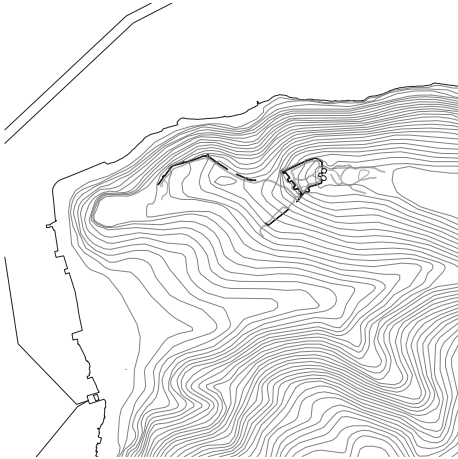
The beach and the view are major attractors to visitors. As it is situated at the tip of the land it offers a nice place to contemplate the rough Black Sea and to observe the tankers pilot into the open sea. In summer Istanbulites drive north to enjoy the beaches in the bay. The network of gateways proposes to extend the city line and to include Poyrazköy, a new terminal would be needed but it would also offer an alternative to the car.



anadolu kavađi 41°10'25.4" N - 29°05'17.8" E



- 1 Yoros Castle
- 2 Marko Paša Mansion

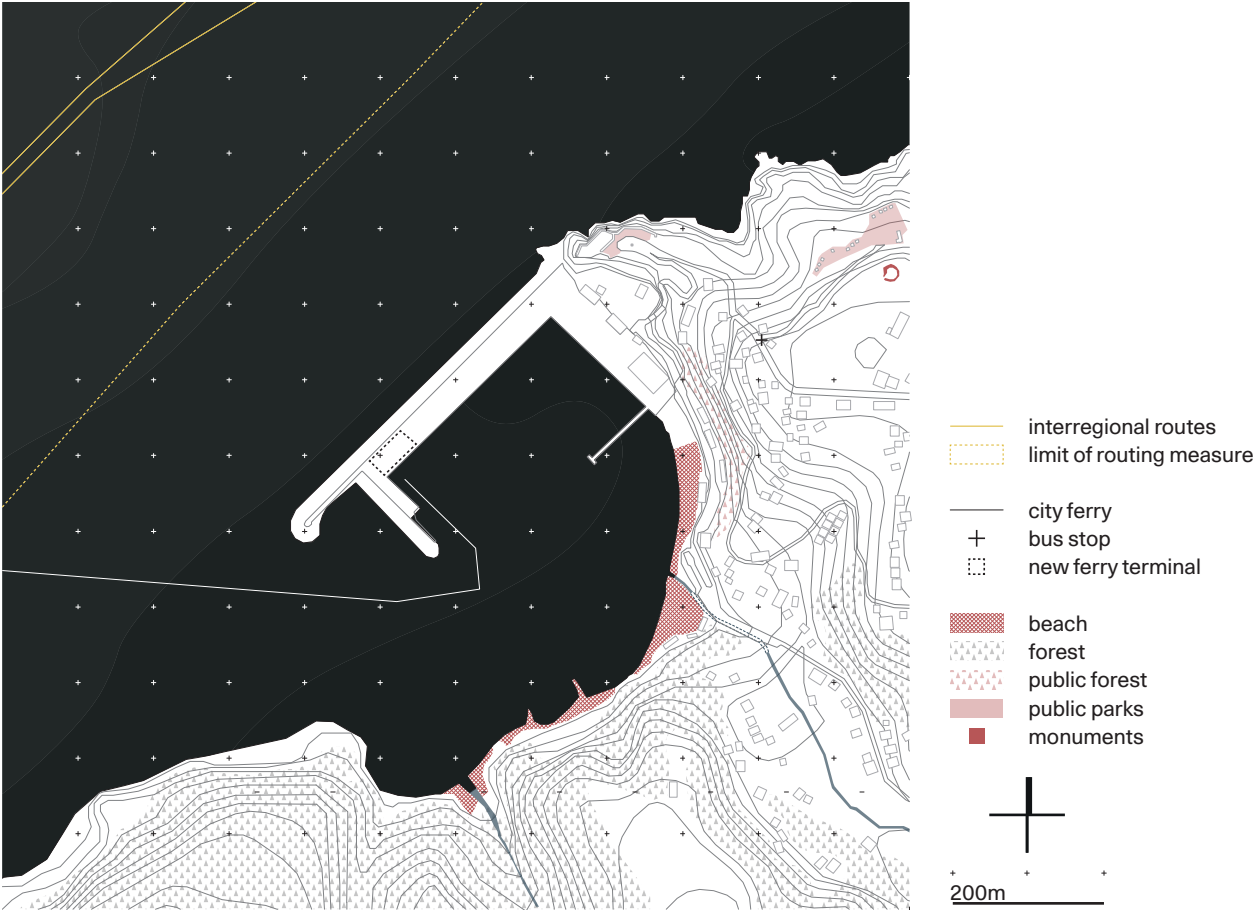


Site fragments



The Yoros Castle

poyrazk y 41°12'24.0" N - 29°07'47.7"E



- 1 Castle Panorama Park
- 2 Poyraz Village Beach



Site fragments



Where Black Sea and Bosphorus meet

p.78	image credits
p.79	references and sources
p.81	acknowledgements

APPENDICES

image credits

p.01	Aerial view: The Bosphorus, Source: www.dlr.de/dlr/en/desktopdefault.aspx/tabid-10212/332_read-784/#/gallery/1587, Copyright: DLR
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p.29	Photo: The first bridge, Source: www.flickr.com, Copyright: Bernardo Ricci Armani
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p.46	Icon: A tanker under the Fatih Sultan Mehmet Bridge, Source: blog.admiralty.co.uk/2013/06/07/in-the-news-61/#.VohHF5PhBE6
p.48	Icon: Traffic on the Bosphorus Bridge, Source: www.theguardian.com, Copyright: Design Pics Inc/Rex Shutterstock
p.50	Icon: Haydarpaşa Train Station, Source: www.flickr.com, Copyright: Yavuz Halıcı Image: Poster advertising the Winter 1888–89 timetable for the Orient Express, Source: en.wikipedia.org/wiki/Orient_Express
p.52	Icon: Power lines near Sarıyer, Source: unknown. sorry.
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