ARISING PUBLIC ZEAL FROM RUSTY HERITAGE
SARAJEVO’S TRAM WORKSHOP INTENSIFIED

GRADUATION REPORT • S.H.R.M. OP DEN KAMP
RMIT SARAJEVO GREEN DESIGN • 2013 - 2014
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COLOPHON

Student
Simone Op den Kamp
Student No.: 4003187

Supervisors
Job Roos
Frank Koopman
Gerdy Verschuure

External Examiner
Christian van Ees

Graduation Studio
RMIT Sarajevo Green Design
Faculty of Architecture
TU Delft

Thanks to
Nasiha Pozder & Architecture Students
School of Architecture, University of Sarajevo

Lay-out
Denise Op den Kamp

Content
Simone Op den Kamp
INTRODUCTION

In this magazine an overview of the process and the results of my graduation project "Arising Public Zeal from Rusty Heritage – Sarajevo’s tram workshop intensified" will be presented.

In September 2013 I went to Sarajevo as part of the graduation studio RMIT Sarajevo Green Design. After spending three weeks in the city, I found the perfect location for my graduation project. Now, a year later, I am very proud to present the end result of my graduation project in this magazine.

The magazine currently consists of three chapters: preparation, destination and memories. In the first chapter Sarajevo as city will be introduced, focusing in particular on the site chosen. My position paper is included in this chapter as well. In the destination chapter the proposed design will be introduced with the help of images. In the final chapter my reflection paper will be presented. *

I would like to express my gratitude to Job Roos, Frank Koopman & Gerdy Verschuure as my supervisors. On top of this, I would like to thank Nasiha Pozder and the architecture students of the School of Architecture of the University of Sarajevo for being so hospitable and for providing me with the information needed .

Simone Op den Kamp
Delft
November 2014
Preface

Sarajevo is a city that integrates many different stories. It is a place with a long and complex history; starting from prehistoric settlements, to a difficult recovery from one of the most recent and violent wars. It is a place of unique landscape, as it develops along a river valley, in a constant ‘battle’ with the dominating surrounding mountains. It is a place where religion and politics blend-in; a place where culture unites people, as well as divides them. Today, the city is under transformation. Foreign Investments on one hand and relatively low living standards on the other hand, are responsible for the co-existence of new high-rise administrative glass towers and malls, competing in height to the steep hills packed with illegal private housing.

Therefore, the task of this studio is to (re-)define the direction in which the city of Sarajevo will be developed. Taking into account the huge gaps of urban activities within Sarajevo’s fabric, like its ex-industrial site, and the recent establishment of initiatives, like the Green Design Festival, the assignment focuses on sustainable transformation strategies, which will not only address everyday life, but also boost economic, technological and societal growth and plurality. Adaptability becomes, therefore, an anchor point in this research as the main principle of approach.

How can the (ex-) industrial zone of Sarajevo act as an incubator for an adaptable city?

Research and design are connected and dependent on each other through the aforementioned research question: The vision (‘the adaptable city’) will be achieved through the development of a strategy (‘incubator’) that applies on the specific place and time (‘the ex-industrial zone of Sarajevo’). This report will try to specify each of those elements and justify their choice and use towards the re-definition of the city’s identity.
Introduction to the Balkans + BiH

Records of Bosnia’s existence go back to the Prehistoric times, however written proof is to be found during the Roman empire. The land of Bosnia used to be part of the Roman empire. After the empire fell a long period of mismanagement followed, where various tribes ruled over the area. That situation changed in the 6th century when Slavic tribes arrived from the north-east of Europe. These tribes were mainly agrarian colonists, but succeeded to take over the entire area.

During the 15th century, the dynasties came to an end. The Ottoman Empire started to rule the land of Bosnia. Sarajevo developed greatly during this period. The Ottoman Empire was defeated by the Habsburg (Austria-Hungary) empire. During the country’s occupation by Austria-Hungary, there was a huge influence by the Western culture. In 1908, Austria-Hungary decided to annex whole Bosnia Herzegovina. Much to the dismay of the Yugoslavs.

During the 1920s and 1930s a king called Alexander (Serbian) changed the system and renamed Bosnia into “Kingdom of Yugoslavia”. The whole Balkan area was under his control.

During WWII, Bosnia Herzegovina became a part of Croatia since the Germans wanted to create one big Croatian state. After WWII, Bosnia Herzegovina became part of the newly formed Socialist Republic of Yugoslavia. A whole new society was formed and based on socialistic principles. The wealth grew enormously and the inequality levels decreased.

A referendum was held for Bosnia Herzegovina’s independence in 1992. The outcome, the majority voted for independence, caused the war in Bosnia Herzegovina during the 1990s. This was because the Serbian Bosnians boycotted the referendum, as they did not want Bosnia Herzegovina to become an independent state. The idea of the Serbian Bosnians was to split up Bosnia Herzegovina into two, adding one part to Croatia and the other to Serbia.

The war ended in 1996 because of the interference of the NATO. The war in Bosnia ended in 1995, when a peace agreement was reached. This agreement is called the Dayton Accord. According to this agreement, Bosnia and Herzegovina is an independent state, which consists of two entities: the Federation of Bosnia and Herzegovina and the Republic of Srpska. A third entity, the Brcko district, situated in the north of the country was established in 1999. The Brcko district is an area about which the two parties could not agree. Brcko has therefore its own local government but still serves under the sovereignty of Bosnia Herzegovina.

The Federation of Bosnia and Herzegovina is further subdivided into 10 cantons, each of which have an independent local government and a certain degree of autonomy. Each canton is also divided into various municipalities. The city of Sarajevo and the surrounding area together form the Sarajevo canton.
In the Neolithic age, there was a settlement of the Butmir culture on the grounds of suburb Ilidža. Unique ceramics and pottery were found there. The next prominent inhabitants were the Illyrians. In Roman times Ilidža was called ‘Aqae Sulphureae’, referring to the spring of the river Bosna.

Sarajevo was founded by the Ottoman Empire in 1461. Isa-Beg Isakovic transformed villages into a city by building a mosque, marketplace, public bath, hostel and the governor’s castle, the ‘Saray’. This is where the name Sarajevo comes from. With 100,000 residents, Sarajevo became to be the largest and most important Ottoman city in the Balkans after Istanbul itself. Many christians converted to Islam in that period.

Prince Eugene of Savoy attacked the city in 1699 and set the city on fire. Sarajevo was nearly completely destroyed. Numerous other fires weakened the city too and the population shrank to 60,000 residents by 1807. In the 1830s there were battles of the Bosnian rebellion led by Husein Gradalacvic. A major street is called ‘Dragon of Bosnia’ in his honor.

In 1878 Bosnia was occupied by Austria-Hungary. Sarajevo was rebuilt as a modern European capital. Because fires burned down parts of city, a unique blend was formed with the Ottoman context. Various factories, other buildings and institutions were built and westernized. The citizens started writing in Latin script.

In 1914 Archduke Franz Ferdinand of Austria and his wife were assassinated by the Serbian nationalist Gavrilo Principo. This event caused the beginning of World War I. After WW I, Sarajevo was part of the Kingdom of Yugoslavia and was not as significant as in the past. Virtually there were no contributions. During WW II it was the territory of the Independent State of Croatia and was bombed from 1943 to 1944.

The communists invested heavily in the city. Novi Grad and Novo Sarajevo were born. The city’s industry grew rapidly. It was one of the Balkan’s chief cities. The crowning moment was the Winter Olympics of 1984.

Modern Sarajevo starts with the declaration of independence of Bosnia and Herzegovina from Yugoslavia. Between 1992 and 1995 the city was besieged. Not only economical and political, but also many cultural sites were destroyed. 12,000 people got killed, 50,000 wounded.

The years after the siege were a period of heavy reconstruction. Nowadays Sarajevo is hosting international events again and it is one of fastest developing cities in its region.

ARISING PUBLIC ZEAL FROM RUSTY HERITAGE

Welcome to Sarajevo

Sarajevo’s cultural heritage is mainly located in the old city centre. Most of the heritage of the Ottoman times, more than half of the Habsburg times and even some of the Yugoslav heritage is located there. Demolition by city fires and battles in the Ottoman period made place for projects of the Habsburg Empire. The most important Yugoslav heritage is more or less scattered across the valley, but can mostly be found in the Habsburg part of the city centre. However, most Yugolavic building blocks of less importance can be found in the west part of Sarajevo. The centre is still the place where cultural activities and events are happening.

Ottoman heritage

Habsburg heritage

Yugoslav heritage

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Sarajevo is the centre of a wider metropolitan region that constitutes the Canton of Sarajevo, one of the ten administrative Cantons of the Federation of BiH. It hosts in total approximately 400,000 residents (2013) in all nine municipalities. The city of Sarajevo - the urban area - is divided into four condensed municipalities: Stari Grad, Centar, Novo Sarajevo and Novi Grad. The rest of the Canton’s municipalities are: Ilidža, Vogošća, Hadžici, Ilijaš and Trnovo. It is evident that the urban municipalities have a greater degree of density. Those four administrative areas are therefore heavily populated, within limited space. The urbanisation of Sarajevo is expected to continue, while Novi Grad is and will be the most densely populated municipality.

Tightly related to Sarajevo’s landscape and history is the development of the city’s infrastructure. Sarajevo was the first city in Europe and the second in the world (after New York City) to have a tram network, crossing the valley parallel to the river. The investments on public transport continued ever since but faced abrupt difficulties due to the Bosnian war.

The star of Sarajevo’s commercial activities is undoubtedly the city centre. The traditional street market of the Ottoman part attracts many tourists besides residents.
In the previous paragraphs we’ve discussed some facts about Sarajevo on city scale, like its history, geography and climate. The awareness of the city’s position in time, its location on earth and of its scale, helps to understand the tangible characteristics of today.

The following is an analysis of the contemporary city on a human scale. How do the Sarajevans live? Ten sketches, each guided by only one or two pictures, try to grasp the main topics of Sarajevo’s city life, from the experience of the landscape to the appearance of the man made environment.

The mountains form a visual limitation of the city’s space, especially in the old part of Sarajevo. The steep slopes on both north and south side of the valley increase the sensation and dominance of these landscape features. Going westwards, along the river, the surrounding changes from higher mountains to shorter hills. To the south the valley extends. That’s where merely the man made environment forms the limitations of the urban space.

Urban space is not only defined by its physical limitations. The elements scattered across the city have influence on its experience too. In Sarajevo three of these elements are the stray dogs, the gypsy boys and the Sarajevo roses that symbolize memories of the recent past.

The way people move through Sarajevo is very much influenced by its geographical features. The steep mountains complicate vehicle transport. That is why most people walk in north-south direction. The main connections of public and private transport are in the valley and find their way along the river, in east-west direction.

Public interaction takes place on different scales. In the city centre in the valley, people gather on squares, in shopping streets or in cafes or restaurants. Even the steep streets onto the hills and mountains also form places where people meet, when walking back home or towards the centre. In the residential areas in the west of the valley, people meet in smaller spaces that are defined by greenery and benches.

In Sarajevo public space and private cores are often separated by several intermediate layers. The value the Sarajevans attach to privacy most probably has its origin in the Ottoman time. The Ottoman architecture has many intermediate places like courtyards, halls, and corridors. Typical are the wooden shutters in front of the windows that offered the inhabitants a view outwards, but prevented passersby to see through.

Many of the traditions of the Sarajevans also date back to this time, when most citizens converted to Islam. Taking off shoes, streaming water and flowers as symbols of life are only few out of many examples.

Intermediate spaces between public activities and private life can be found in all parts of the city. The courtyard of the Gazi Husrev-beg mosque is a good example. People passing by can have a look inwards, but would only enter the space if it was on purpose. The fountain gives shade and forms a smaller space were people can wash themselves, which is a more private activity. Then before entering the mosque, columns form an intermediate space where shoes can be taken off before entering the core of the complex. Another example of intermediate spaces are the balconies of the communal buildings. The fences in the industrial zone create an intermediate space between the public street and the buildings’ entrances.
In both the private housing and the collective ones, the private cores are very closed and are only to be seen or entered when personally invited. Most of the times curtains are closed and block the view inwards. On the other hand you will regularly encounter Sarajevans watching public life from their window, if you look up so now and then when walking through the city.

The presence of religion in the city differs much from east to west. In the old city, the courtyards of the mosques are hidden and quiet places. In the Habsburg part of the centre, the streets form a wide sightline to the Cathedral. In the west, there are fewer, but bigger mosques, that are clearly visible in the open urban space.

Though many Sarajevans are not practicing religion, many of their habits derive from religious traditions of the last centuries. Before entering a private place, shoes have to be taken off for example. Cats are allowed as pets, whereas dogs not, because they are not as clean. A completely different habit is the one to drink a lot of coffee, which is one of the most common ways to socialize.

The heritage from Ottoman times is mainly made of stones, wood, clay and plaster as a cover. The wood is often used to express richness and beauty made as a craft. More recent structures are mainly made of concrete skeletons filled in with the cheaper and lighter bricks. By adding plaster or concrete panels together with insulation material, the appearance of the bricks is mostly covered. In the industrial zone this is not the case. Here the concrete, bricks and steel form the main appearance of the built environment.

The appearance of the various human interventions is influenced by the available material at the time of construction and the legacy of time. The attached colours are not always natural, but often applied to enhance recognition or for mere esthetical reasons. Thereby light, of course, is an important and versatile factor in the appearance of the environment.

The man made environment is shaped in several ways and with different purposes. Differences in appearance make the various places recognizable within their common environment. Examples of recognition in Sarajevo are the building style of a certain empire, the damage of buildings by war or the colour palettes of companies.
During the 1970s Sarajevo had a rapid economic and cultural development, mainly focused on population and industry. Novi Grad was a direct result of this heavy growth. Many acres were transformed into socialist urban centers of residential buildings. Since Novi Grad was first considered a municipality, it had 60,000 citizens in 18 neighbourhoods.

For the Winter Olympics in 1984, two villages were built within the municipality to host the athletes and the press. The Olympic village of Mojmilo was built to the south of Alipasino polje and the press village Dobrinja next to the airport.

In 1991 Novi Grad had 136,616 citizens, but four years of warfare brought this number down tremendously. Novi Grad was the first municipality to be occupied by the aggressors and to be showered by mortar shells. Almost 92% of the 33,517 residential buildings were damaged. Novi grad has since made an enormous recovery, and today is the ground for many re-developments. Nowadays, Novi Grad presents a quite diverse and complex urban environment that in a certain degree corresponds to its history. The influx of people after WWII was related to the rising number of jobs created with the implementation of the industrial zone of Sarajevo, also located in this municipality. Parallel to those processes that were centrally planned and executed, settlements of private houses started occupying illegally the bottom of the surrounding hills. Those family housing neighbourhoods grew to be a huge urban sprawl that looks over the valley to the high-rise socialist flats and the industrial zone.

Novi Grad is facing today a complex situation that triggers strong transition forces. From one hand, the high-rise flats suffer from lack of care and maintenance, which makes the socialist housing experiment look failed and inadequate to adapt to time. On the other hand, the industrial zone is changing: heavy industry is being replaced by warehouses and offices, and the train, and road network seem insufficient for the growing needs of the municipality. Consequently, it is evident that there is a clear need to understand and interpret the existing conditions, in order to be able to draw guidelines and visions for a potential future.

Under this frame of thought, the industrial zone offers the ground for a new urban experiment leading to sustainable design choices. This part of Novi Grad maintains a degree of independency and if well connected, could become the incubator of change for the rest of the city, and the surrounding neighbourhoods.

In this chapter, the different neighbourhoods of Novi Grad are presented in an attempt to introduce the character, challenges and potentials of the area. The analysis and outcomes of the Green Design Festival Workshop are used to assist this approach. The aim is to reinforce the arguments for the new role of the industrial zone.

**Population and demographics**

- **Bosnians**
- **Serbs**
- **Croats**
- **Yugoslavs**
- **Others**

<table>
<thead>
<tr>
<th>Year</th>
<th>Bosnians</th>
<th>Serbs</th>
<th>Croats</th>
<th>Yugoslavs</th>
<th>Others</th>
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</thead>
<tbody>
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<td>116.588</td>
<td>122.636</td>
<td>136.616</td>
<td>111.811</td>
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<tr>
<td>2002</td>
<td></td>
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<tr>
<td>1991</td>
<td></td>
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<td>1971</td>
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</table>
Layered analysis of an ex-industrial area

Change versus stability

The topography and geology of the ex-industrial zone and its surroundings show that it is an area of movement and changes. The river flows from the mountains in the east to the valley to the west in between the hills that ‘embrace’ the ex-industrial zone.

Climate patterns

All climatologic diagrams together form certain patterns. Rain water streams downwards from the mountains. The sun enlightens the area, shining over the mountains and the wind comes from the valley. Important are the changes during the day and with the seasons. These variables (sun, rain, wind) continually change and are not adaptable, which means that it has to be adapted to.

Networks

The overall network connections are east-west oriented. In that way there is a lack of connection from the north to the south. The only way for cars to reach the other side is from the left side of the terrain or the right side. Also for pedestrians there is only one bridge over the train track. That is why pedestrians just walk over the track at other places.

Vacant Green Zones

A lot of the green areas do not have any connection with the surrounding activities. There is a strict border notable, at the place where the companies terrain starts. There is no real transition. The first big green zone is along the train tracks. There are huge areas of ‘nowhere lands’.

The other green zone also has the east-west direction and follows thereby the main roads and the overall direction.

Green
Buildings
Terrain
No relation
Certain patterns can be revealed in the combination of the function maps.

E.g., the commercial functions are most of the time situated along the main roads, so that they benefit from the road visibility.

For the warehouses that is of less importance and they can be found in or near the centre of the zone. Some industry still remain on the main road, but most of them are related to the railway.

Most of the terrains are fenced. On the contrary, most of the residential and commercial functions are open to the surroundings. Since a lot of industrial and storage activities are concentrated next to the river there is no public and optical relation to the water.

Most of the companies located in the industrial zone have easily accessible information. This relates to the businesses along the main road and the cluster of smaller companies gathered in the heart of the industrial zone. Here their logos are displayed accordingly to the size of the land in which they operate.

The area is clearly in transition. Here, the future developments are portrayed that vary from business centres to housing estates and shopping buildings. A new conference centre is planned to be located along the main road, whereas the military camp will probably be reallocated to a different site, releasing a huge area that is now not accessible. Finally, the housing schemes are concentrated at the borders with Novo Sarajevo municipality, where housing is more intense.
ARISING PUBLIC ZEAL FROM RUSTY HERITAGE

Planning strategy and potential scenarios

PRINCIPLES
1. Activate bottom-up planning
2. Discover and meet the local needs and ideas
3. Strengthen networks and communications
4. Reclaim nature and landscape
5. Re-invest in the existing building stock
6. Boost diversity in all levels
7. Set the ground for a civic economy
8. Use technology to accommodate visions

THE ADAPTABLE CITY
Adaptability is the key to unlock the future of cities. Derived from the theme of Europan 12, places should ‘adapt in change, without losing their identity, slow down and speed up, adjust to cycles and transformations in the context of an uncertain future.’ (Europan Brochure, 2013)

The brief of Europan 12 becomes the brief of this assignment: ‘It is about anticipating the inevitable impacts of change, allowing a plurality of uses, but also being capable of making creative use of what already exists. And therefore, adjusting to what is already there while developing visions of the possible that take account of both permanence and variation.’ (Europan Brochure, 2013)

Urban thinkers and designers take all that into account when they talk about sustainable, smart or resilient cities. While resilience has to do with the capacity of a place to recover from shocks and stresses (Bulkeley, H. 2003), adaptability focuses more on the quality of space itself. It is not a matter to be as flexible or farsighted as possible, but a way to work on ‘scenarios for appropriate transformation between legacy (history of places), invention (innovation to accommodate a plurality of uses) and reversibility (temporary developments). [...] It is a method of establishing links between natural and cultural environments and finding compensations and connections, [...] by adding meaning and purpose (re-connections)’ to buildings. (Europan Brochure, 2013)

The challenge of this assignment is to make spatial concepts that boost the strengths of the place and at the same time increase its adaptability. For this cause, a strategy should be investigated that is based on joining forces with possible stakeholders, accepting own limitations and recognizing the potentials of a place. (Ovink, H. Wierenga, E, 2011)

RE-IMAGINE SARAJEVO
The scope of this study is to re-imagine Sarajevo, and show the city and its citizens the possibilities of their future. Therefore, a strategy is essential to be developed that will not only reflect on the current European climate, but will also address the potentials and needs of the city and its people. The context, consequently, is as crucial, as the vision.

Our plan of approach further reinforces this potential, as it focuses on the existing values of the place. It should be clear through this document that the adaptable future perspective is suitable and necessary for the city and its character. The previous chapters of this report support as much as possible this idea, and conclusions are made regarding this potential. Adaptability and Sarajevo are tightly related in this research. Accordingly, this approach on adaptability should contribute to the ‘distinctiveness of place’, and ‘combine economic development with the preservation and enhancement of spatial qualities’. (Ovink, H. Wierenga, E, 2011)

Making Sarajevo adaptable, and especially its (ex-) industrial zone, is a potential that needs to be further supported and developed in order to answer all the possible implications. This is the task for the next steps of this studio, through the investigation of the individual locations and topics. At this stage, the effort was to come up with a strategic transformation model that could be applied in the whole industrial zone, become the starting point, and produce design principles for the definition and development of the individual projects.
The words 'preserve' and 'create' which are contradictions here below, are synonyms in heaven’. - Jorge Luis Borges

The outcome of the analysis showed that Sarajevo’s current challenge is to redefine its large non-functional urban gaps caused by de-industrialisation (RMIT studio SGD, 2013). Sarajevo is a city in transition, just like other European cities (Sassen, 1991). The future looks unreliable and very much centred around the networked development of the urban environment. That is why a strategy that focuses on the adaptability of the city is needed. Adaptability is the key to unlock the future of cities. Derived from the theme of Europan 12, places should "adapt in change, without losing their identity; slow down and speed up, adjust to cycles and transformations in the context of an uncertain future" (Europan, 2013).

Sarajevo wants to become a ‘green’ city, but lacks the knowledge and awareness to develop in this direction. The (ex) industrial zone is now a gap in the urban fabric, but has a lot of potential to become a ‘second’ centre for the city, figure 1. By educating, developing and producing, it can provide the knowledge and awareness that is needed. The common research question is therefore: How can the (ex) industrial zone of Sarajevo act as an incubator for an adaptable city? To be able to answer this question with three justified and interrelated individual projects, eight principles were set up to define the strategy of an adaptable city. With the focus on one of the three themes, all of these principles will be researched in relation to the chosen locations.

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My individual topic is ‘Arising public zeal from rusty heritage’ and is defined by the following research question: How can the heritage tram infrastructure of Sarajevo be a tool to raise social awareness by increasing citizens’ participation? This indicates my thesis statement: the underused service site/sleeping zone of the trams has to be opened up to the city by reviving the tram infrastructure, adding transparent activities and involving citizens’ participation, figure 2.
My thesis focuses on society as a theme of development and positions my research and design between different epistemes. In this paper I will reflect upon the epistemes semiology, phenomenology and praxeology as they are related to the elements of my thesis: the tram infrastructure as a (former) symbol of the innovative and developing city, transparent activities/social awareness and citizens’ participation. I will draw parallels between my methodology, the theories of Gordon Cullen, Kevin Lynch and Christian Norberg-Schulz on phenomenology, of Robert Venturi and Denise Scott Brown on semiotics and on Jan Gehl’s emphasis on praxeology.

**Use of Heritage**

In the individual research question the heritage tram infrastructure is chosen as a tool to enhance the adaptability of the city. Tram infrastructure is not a convenient tool, because it is not easily adaptable itself. The use of the tram as a symbol of the innovative city is not evident either. It refers to the attached meaning in the past and does not adapt itself in its meaning today.

Being a symbol for the city’s development, it can also become a symbol for future innovation.

**Society**

‘Networks, social awareness and citizens’ participation are only part of what makes a city adaptable. The thesis is positioned between semiology, phenomenology and praxeology. However, in this case typology is an important episteme too. Tram service buildings as well as adaptable buildings have a certain typology. How these typologies can merge, should be included in the studies.’

Defining the assignment for my individual location, it became clear that its values can mainly contribute to the societal aspect of Sarajevo’s development to become an adaptable city (RMIT studio SGD, 2013). For this reason I chose to focus on the related epistemes semiology, phenomenology and praxeology. To what extent my thesis is positioned to these epistemes is justified in the next chapter. Typology is indeed of importance as well. It is studied, but only has a supportive role to the aforementioned epistemes. The adaptability of the building stock itself will serve the aims of transparent activities, citizens’ participation and the revival of the heritage tram infrastructure.

**ARGUMENT**

**Principles**

My individual location to redevelop is a crucial point within the common strategy for the (ex) industrial zone of Sarajevo. It is relevant because of its connectivity, its visibility, its direct relation to the river and its current function that is of importance for the connections within the whole city. Together with the existing values of the location, the thesis can answer all principles of the common strategy:

1. Activate bottom-up planning (citizens’ participation)
2. Discover and meet the local needs and ideas (social awareness and citizens’ participation)
3. Strengthen networks and communications (tram infrastructure)
4. Reclaim nature and landscape (river and awareness)
5. Re-invest in the existing building stock (tram infrastructure)
6. Boost diversity in all levels (social awareness)
7. Set the ground for a civic economy (citizens’ participation)
8. Use technology to accommodate visions (tram infrastructure)

(RMIT studio SGD, 2013).

**Methodology**

Every research or design is performed from a certain position. Architects can take a wide range of different positions when designing. And designs from two opposite positions can offer an equal quality. Important though is to be aware of the chosen position and to justify it. My position as an architect is strongly related to the context of the assignment. The context of space, time, and everything related to that (such as culture and economy) shows what is needed in the environment. This means that the position I take with the researches and
designs I perform, is not always related to one and the same episteme. My approach as an architect leads to a position that fits the specific assignment.

In this case the general analysis of the city shows a lack of connectivity and planning as an important problem to be solved. At the moment many ‘top down’ projects are developed in Sarajevo without any relation to their environment or to a future vision for the city. High speed corridors are taking away the city’s street life, and public interaction is difficult to encounter. The city does not only need better connections, but also more public space and social awareness to be able to adjust to its needs in the future, without losing its identity. The outdated tram infrastructure of the city can play a relevant role to improve its connectivity and to raise the awareness the society needs for the city to become adaptable. The epistemes related to these topics are phenomenology, semiotics and praxeology. That is why my methodology is related to all three of them.

Phenomenology
My position is closest related to phenomenology. This episteme addresses all aspects of the thesis: the tram network, social awareness and citizens’ participation. The tram network offers a perceptual experience of the city and its development and can enhance the social and environmental awareness that is required. Focusing on the improvement of the experience of and from the new tram infrastructure and service site, citizens’ participation can be stimulated.

First of all it is needed to discover and define the identity and existing values of the tram depot and service site. Therefore I study its Genius Loci as described by Christian Norberg-Schulz (1980). The individual location is analysed on an urban, architectural and technical scale. To be able to re-invest in the existing building stock (principle 5) it is important to recognize its current values and weaknesses. Pictures of the existing site and an interview with locals are tools to define how the site is experienced. By the interview local needs and ideas can be discovered (principle 2). They will be taken into account with the design.

The analysis also consists of sketching and diagramming different perspectives/perceptions similar to Gordon Cullen’s method in the book ‘The concise Townscape’. This way the experience of movement through and along the location will be addressed too. The perceptions to and from the tram network are analysed on city scale, learning from examples in the book ‘Mobility: A Room with a View’ from Francine Houben. “It appears to have escaped the attention of policy-makers that mobility is not just a matter of tailbacks, asphalt and delays, that the car or train is for the traveller not simply a means of getting from A to B but also ‘A Room with a View’ and that mobility routes are not only space for traffic but also public space, space to spend time in. [...] It is a call to be able to see how mobility is embedded in everyday life” (Houben, 2003). Understanding the current networks and communications and their relation to the surrounding landscape, will help to strengthen them by the design for the tram infrastructure (principle 3 and 4).

Additionally the legibility of the network and location is studied according to the theory of Kevin Lynch. Designing for the purpose of an adaptable city “we may even be wise to concentrate on the physical clarity of the image and to allow meaning to develop without our direct guidance.” [...] The perceptive observer would be well oriented, and highly aware of his environment (Lynch, 1992).

Semiotics and praxeology
The importance of the use of signs and symbols will increase by enhancing the city’s adaptability. “Complex programs and settings require complex combinations of media beyond the purer architectural triad of structure, form, and light at the service of space” (Venturi, 1977). That is why my position is also related to the episteme semiotics. Signs increase the awareness of the observer. By enhancing the communication and structure of the environment, citizens’ participation is stimulated. Bottom-up planning and diversity in all levels will be possible without losing clarity (principle 1 and 6).

Praxeology is the third episteme to which my position is related. Human action and conduct is also to be studied to know how to increase citizens’ participation and in what ways it would be possible to set ground for a civic economy (principle 7). It is relevant to be able to more or less predict how the locals will react to or interact with the proposed intervention. Jan Gehl’s book ‘Cities for People’ is used as a guideline for the analysis, focusing on social interaction and learning from reference projects on adaptable architecture. Reference projects are also studied to learn from other situations in which technology is used to accommodate local visions (principle 8).

CONCLUSION
Position
The extensive analysis of the city Sarajevo resulted in the conclusion that its direction of development is to become an adaptable city. Non-functional gaps within the urban fabric cause a lack of connectivity of the adjacent neighbourhoods. This is mainly the case in the (ex) industrial zone, which has great potential to become a ‘second’ centre for Sarajevo. It can offer education, development and production to provide the knowledge and awareness the city requires to adjusting to its needs in the future without losing its identity. Therefore, this area is chosen to become an incubator for the adaptable city. To specify a wider strategy for the city, eight principles are formulated and form the guidelines for the individual designs.

Focusing on the three main themes of development: society, economy and technology/ecology, three individual research questions are formulated. My research question focuses on the theme ‘society’ and the outdated tram infrastructure. The heritage tram infrastructure and the location of its service site in the industrial zone is crucial within the common strategy, because of its connectivity, its visibility, its direct relation to the river and its current function that is of importance for the connections within the whole city. It can contribute to the initiation of the adaptable city by enhancing its connectivity, raising social and environmental awareness and increasing citizens’ participation.

For these reasons, the position I take with my research and design is closely related to the episteme phenomenology, and complemented by the epistemes semiotics and praxeology. My approach as an architect is strongly related to the context of the assignment. Taking my position between the three aforementioned epistemes, I address all principles of the common strategy, formulated within the framework of the RMIT graduation studio Sarajevo Green Design.
DESIGN PROPOSAL
TRAM ZONE
ARISING PUBLIC ZEAL FROM RUSTY HERITAGE

Day

Diagram

Mobility

Development

Recreation

Interior

Intermedium

Exterior

Evening

Night

ARISING PUBLIC ZEAL FROM RUSTY HERITAGE

Day

Diagram

Mobility

Development

Recreation

Interior

Intermedium

Exterior

Evening

Night
This chapter will reflect on the graduation process. This reflection gives insight into the relationship of the design project to the performed research, the theme of the studio, the methodical line of the studio and the wider social context.

The subject of the project is ‘Arising Public Zeal from Rusty Heritage – Sarajevo’s tram workshop intensified’. The aim of the project is two-sided: to boost the heritage tram infrastructure of Sarajevo as well as to offer the municipality Novi Grad a place for public activities. The main question was how to achieve this aim by means of an architectural intervention.

The relationship between research and design

Research and design were interrelated throughout the graduation process. The performed research can be classified by four categories:

1. Studio research to discover the assignment;
2. Research about the individual subject;
3. Research by design;
4. Research to elaborate the design.

The first type of research was needed to discover the unfamiliar city, its values and weaknesses, and to restrict the design assignment from city scale to a building site. This extra preparation was needed before starting the design process. For this reason, the concept design was not developed enough at the first P2 assessment. It did cost quite some energy to lift up the concept design to a satisfactory level in only two more weeks. However, it has been an enrichment for my personal development as architect: learning how to get familiar with an unknown situation relatively fast in order to create an appropriate design.

The three weeks visit to Sarajevo had the greatest influence on the design. During our stay we discovered the assignment for the studio, and I got fascinated for Sarajevo’s trams and their workshop area, figure 1. I stayed with an authentic Bosnian who taught me about the habits, the basic characteristics of neighbourhoods and the typical Ottoman house. This experience influenced the atmosphere, elements and materialization of the design, figure 2 and 3.

The first part of research was concluded with a strategy with design principles focusing on adaptability. On the basis of these principles a concept was developed for anchoring the location in the urban pattern and for the activities that should take place. A shortcoming of this research could be anthropological research; interviews with citizens. These interviews could have contributed to the justification of the choice of activities.

The rest of the research and its relation to the design (categories 2, 3 and 4) is described in the paragraph concerning the methodical line of approach.
The project answers the question with an architectural intervention, addressing its adjacent disciplines, urbanism/landscape and technology, as well. The aim of this intervention is raising public zeal in relation to the tram infrastructure, social cohesion, and the natural environment. The architectural answer to the research question is by:

- opening up Sarajevo’s tram workshop to the public, including students and creative industry;
- relating the urban interior, the park and the river, stimulating public activities;
- integrating a sustainable way of generating electricity, showing the advantage of traveling by tram, compared to the car that causes smog problems.

The intervention stimulates the visibility of interaction with and participation in the tram—and creative—developments. This will boost the innovation of the tram infrastructure.

The participation in the developments of the heritage tram infrastructure, the relation with the river and the visibly emphasized sustainable technology will raise social awareness. This social awareness is something the city—and especially this municipality—needs to develop in a sustainable direction. This is exactly how the design is related to the studio RMIT Sarajevo Green Design, figure 5.

Since the studio started with the search for the assignment of the city, the focus has initially been on the meaning of the design to the city. It cost relatively much time and this is why the architectural and technological design was not sufficiently developed at the first P4 assessment. Additional time was needed to develop all disciplines to reach an equal level at the second P4 assessment. In addition to the methodical line of approach of RMIT, the design and research was done by considering the following concepts:

- phenomenology by addressing mobility as a room with a view, and studying environmental psychology;
- semiotics by considering the tram as a symbol of innovation/creativity;
- praxeology by studying the use of public space.

The relationship between the project and the wider social context

The project is very much related to its wider social context as it is directly linked to the backbone of Sarajevo’s public infrastructure: the 10km-long tram line that crosses the valley. The aim of boosting the tram infrastructure is to decongest the car infrastructure and to decrease smog problems. The tram workshop area is opened up to the city in order to respond to the lack of networks and public activities: the relation to the river is intensified, and the bicycle path will continue along an extension of the park. The municipality Novi Grad lacks places for social and cultural activities, while the municipality Stari Grad is being congested for these activities. At the same time the geographical centre of Novi Grad is undergoing deindustrialization, creating an unsafe barrier between the neighbourhoods on the adjacent hills. This project offers a connection between the neighbourhoods instead. The workshop will be a place for social and cultural activities and a place for companies and students to interact and innovate.

In other situations the project would not be literally applicable, as it is designed from a place specific approach. The design represents a continuity of space and time. However, it can be used as a case study for cities with a modernist or socialist past, dealing with similar problems: top-down developed introverted buildings, the focus on car traffic, congestion of traffic, smog and empty, unsafe public space, individualism and a lack of public interaction, figure 7. It can also be used as a case study for the application of sustainable technology as an architectural element, projects that focus on adaptability or on the reuse of young heritage.
Literature


Filmography


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