Confluent spaces for the public
A new connection with the waterfront for Mannheim

AR3LA010 - Flowscapes
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Preface

We can all remember the moment of our first cycling experience without training wheels. After years and years of cycling on tricycles and on small bikes with training wheels, the moment is there where you feel free at last. For me, this first experience ended at the end of the driveway against a tree, but many great adventures followed. Cycling to school with friends, mountain biking in the Ardennes, cycle racing through Germany, and a lot more.

David Byrne, lead singer of the Talking Heads and writer of the book Bicycle Diaries said “Cycling can be lonely, but in a good way. It gives you a moment to breathe and think, and get away from what you’re working on.”

And this is what cycling can be for me. A small moment of rest. A small moment of joy. A small moment of experiencing the world around you fully.

Combining this passion for cycling with landscape architecture is amazing. All over the world new plans and ideas for cycle friendly cities pop up, but only a few really succeed. That being said, changing a car oriented city into a bicycle friendly city is not the easiest thing to do. A few new bikeways will not do it. There needs to be an enthousiasm all over the city. The new bikeway structures should raise an enthousiasm for cycling just like the highways and big roads did for cars just after World War Two.

In my plan for Mannheim I tried to design a plan that fits the city and evokes this new enthousiasm for cycling. I tried to put a piece of my passion for cycling

Mike Tomassen
Introduction
An introduction to the city and project
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1.1 Post war cities

A few years before the war, in 1933, the architecture congress CIAM was held in Athens, Greece. This congress and the CIAM movement itself had a huge impact on urban planning at that time. The CIAM movement advocated for the modernization of the existing cities. One of the main ideas was the zoning of functions in the city. Also functionality played an important role in their ideas. This movement led to utopias for the future. Everywhere new plans for cities popped up that should make them cleaner and better for everybody. Before WW2 started, already new ideas were formed about ‘cleaning’ the old cities for a better and healthier future.

The bombings during WW2 left behind devastated city centers in Germany. At the one hand, the bombings led to huge numbers of casualties and enormous losses of historic city centers. On the other hand they gave urban planners a chance to work with an almost tabula rasa like situation. Most of these cities were so crowded and compact that it led to unhealthy situations. Something new had to happen. With the beliefs coming forth out of the CIAM movement and other factors came the idea that the cities should be rebuild regarding the modern ideas. Next to this, there was the belief that the historic facades of the 19th century contrasted with the ideas about modern buildings, mainly under the young architects. This led to the fact that not only the ruins of the bombed cities were demolished, but also some old historic buildings that had to be replaced to fit the new modern standards.

These modern plans mainly focused on the use of cars in the city. Existing structures were widened to fit more cars, and new roads were built. This, together with the continuing industrialization in cities like Duisburg, Mannheim and Dusseldorf lead to problems in today’s world. Big highways and roads cross through city centers making them fractured and hard to get through for cyclists and pedestrians. Because of industrialization, city centers, originally located next to rivers, are disconnected from their surroundings by big transportation infrastructures and industrial areas.

Urbanists and landscape architecture of today have to cope with these problems created in the past, so is this project. Fred Kent from Project for Public Spaces once stated, “If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places.” (2005) The postwar reconstruction cities were without any doubt designed for cars. By introducing a new layer of greenways, designed for people and places, one can actually get people and places.
1.2 Greenways

According to Searns, a number of greenway definitions have been given, but a precise description of the concept is lacking partly because greenways exist in many forms. According to him, “perhaps the best way to find a definition is to look at the two root words, ‘green’ and ‘way’. ‘Green’ suggests areas that are left vegetated and in most cases appear or at least strive-to be natural. The word ‘way’ implies movement, getting from here to there, from point to point. This is the important distinguishing feature of greenways - they are routes of movement - for people, for animals, for seeds, and, often, for water” (Searns, 1995). Greenways should not be confused with the concept of ‘green infrastructure’. These two concepts differ in three different ways. Where greenways focus upon recreation, green infrastructure focuses on ecology. Also the scale of greenways is smaller than the scale of green infrastructure. And furthermore, where green infrastructure could provide a framework for growth, greenways cannot. (Benedict and MacMahon, 2002) These differences make that the concept of greenways is a better fit for the postwar car friendly city than the green infrastructure.

Searns gives a more detailed description of the greenway later on in his article. “A vital aspect of the ‘way’ notion is the human fascination with following a path, be it a road, a trail, or even a storyline. This is especially true if there is a sense of change; even mystery, and new experiences, perspectives and information are revealed sequentially along the way. More importantly, greenways put people in touch with the natural environment, and, it is hoped, foster new values and attitudes. Finally, a greenway is a ‘place’, albeit a linear place, that is an amenity offering solace and opportunities for exploration and play, sometimes adorned with special architecture or furnishings, and with a sense of nature preserved, restored or interpreted.” (Searns, 1995)

In his paper, Searns suggests, “that greenways are an established human endeavor, with roots that go back several centuries. More than just parks or amenities, greenways represent an adaption – a response to the physical and psychological pressures of urbanization. They help mitigate the loss of ‘natural space’ owing to development and provide a counterbalance to an expanding human dominated landscape.” (Searns, 1995) To explore the possibilities and the future of the greenway, a short historical description will provide us some guidelines.

1.2.1 History of the greenway

Roughly, there are three generations of greenways to be found. (Searns, 1995). The first stretches from the pre-1700s to circa 1960. The axes, boulevards and parkways characterize this period. The main functions of this period were movement, use vision experience, and linkage were joined with the attempt to reintroduce nature into the city. An important person in the development of greenways is Frederick Law Olmsted. With his parkways, he tried to extend a part of the arcadian landscape into the city.

Whereas the first generation mainly focuses on the transportation modes of the horse and carriage, and later the car, the second generation greenways are mainly designed for the cyclist and pedestrian. This second generation goes from 1960 till 1985. When the car became more and more dominant, pedestrians and cyclists...
looked for cleaner ways to get out of the city, greenways provided the answer. The trail-oriented recreational greenway did not only provide a way to get out of the city, but also a way to reconnect with nature while moving through the system of parks and open spaces. The third generation, the greenways from 1985 till nowadays, add upon another layer to the concept of the greenway. The first two generations were mainly about providing aesthetic and recreational needs of city dwellers. Although the third generation also has these goals, it also has a broader mission. “The notions of land and resource stewardship are now integral components of this new iteration of the greenway concept. These new greenways pursue multiple objectives such as habitat protection, flood hazard reduction, water quality, historic preservation, education, interpretation, and other purposes.” (Searns, 1995)

1.2.2 Urban greenways
In general, three different categories of greenways can be found among all the greenways. This division is based on the context of the greenway. First of all, there is the rural greenway. These types mainly focus on the conservation of natural and cultural connections (Miller, 1998 cited in Lotze, 2007). Then there are the suburban greenways. These are the places where also most people are living, so not only the commuter, but also the recreationalist should have a place here. Furthermore, it connects the rural and, the last category, the urban greenways. These urban greenways are increasingly viewed at as a way to connect schools, parks and neighborhoods within the community (Furuseth, 1991 cited in Lotze, 2007). In these greenways, often the commuters play the most important role, leaving behind the role it can have for recreationists (Lusk, 2002 cited in Lotze, 2007).

But of all the three types of greenways, urban greenways are also the ones facing the biggest challenges. Often the urban area is the area with the highest dynamics when it comes to the change of functions and built objects. This is one of the reasons it is very hard to actually find land for a greenway. And if the greenway is finally there, it faces a lot of problems connected to these high urban dynamics. Furthermore, because these urban greenways are located in very dense areas, they have to cross obstacles like major transportation routes and industrial areas. These problems form a few of the biggest issues for the design of new urban greenways. But chances can be found everywhere in the urban tissue, even in the most dense areas. As Whyte states, “There are all sorts of opportunities to link separate spaces together and while plenty of money is needed to do it, ingenuity can accomplish a great deal. Our metropolitan areas are crisscrossed with connective strips. Many are no longer used, or only slightly used for their original purpose, and they are so ugly it is hard to visualize their being transformed into an amenity. But they are there if we only look” (1968). This means that even in the postwar cities that are overwhelmed with cars, industry and big roads, there are opportunities to be found for new green structures that can bring back people and places.

1.2.3 The benefits of urban greenways
Already in the first generation of greenways, a lot of benefits of greenways became clear. Olmsted already knew that the bond between nature and people was one of the best things that a greenway could provide.
Nowadays, more and more research has been done to clarify this relation and its effects on people. Not only the wilderness far away from human influence, but also just a tree outside a window can have restorative effects on people (Kaplan and Kaplan, 2005). “The natural world is not determined by distance from human influence, but instead can be found in everyday, often unspectacular natural environments all around us” (Lotze, 2007). Thinking like this, greenways in the urban areas could have these restorative effects to people. Also, instead of designing one big park, greenways have the advantage of being a linear structure. This way, the greenway is more accessible and most people do not have to spend a lot of time to reach them (Hellmund and Smith, 2006 cited in Lotze, 2007).

Next to the restorative benefits of greenways, they also provide economic benefits. Studies have shown that property values rise when they are in the vicinity of natural areas and linear parks (Lotze, 2007). Furthermore, new greenways have led to increased consumerism in the proximity of the area. Coffee shops, restaurant, bicycle retailers, and more, all benefit from new greenway structures (Benedict and MacMahon, 2006, Gobster, 1995, Lusk, 2002 cited in Lotze, 2007). Next to this, there are also the economic benefits caused by a change of transportation method. More people will cycle to work when the greenway is designed in such a way that it fits the needs of the commuter. This will lead to a decrease of car commuters, which eventually will lead to fewer problems with the infrastructure.
1.3 Brief history of Mannheim

Mannheim started as a small village of 500 inhabitants in-between the rivers Rhine and Neckar. It was one of the best places to be since it was high enough to be safe from flooding, and on the other hand, make use of the water by fishing. But at the beginning of the 17th century Pfälzer Kurfürst Friedrich IV decides that he wants to build a city with a fortress to underline his supremacy as head of the Protestant Union. He chose Mannheim as the best place because of its tactical location. Because of its situation in between three waterfronts, it was easy to defend. Also, the transport over the rivers could be controlled easily. On the 17th of March 1606 the construction of the new city of Mannheim starts. The fortress of Friedrichsburg has a typical radial structure. The connected city itself is planned by the Dutch as a ‘Barocke Planstadt’ with the concept of the ‘quadrate’.

After the ‘Dreißigjährigen Krieg’ (1618-1648) the city was heavily damaged. Ruling Kurfürst Karl Ludwig decided to rebuild the city of Mannheim and the fortress Friedrichsburg. This decision was partly due to the fact that Mannheim should still have a good status in the country, also on an architectonical level. New, high educated, religious refugees should be welcomed to the city. But new horror comes upon the city when Ludwig XIV decides to destroy Mannheim during the ‘Pfälzischer Erbfolgekrieg’ (1688-1697) in 1688. While rebuilding the city, it was decided that the fortress and city should be connected as a big whole. In 1709 the typical quadrant structure was continued on the old location of the fortress. In 1720 the catholic Kurfürst Karl Philipp decides to move the residence from Heidelberg to Mannheim. This gives the city a new boost as capital of the Kurpfalz. The construction of the new palace was finished in 1760 after 40 years of work and took an important place in the city. Behind this baroque palace, a formal garden was designed up to the walls of the fortification.

A big change in the city came in 1799. Mannheim had been under the rule of Bavaria since the 1770’s. For several periods, the French, the last of which was during the wars of the Second Coalition in 1798, occupied the city. It was in this period when it was decided that the fortification of the city should be removed. The government of Mannheim decided that the walls did actually not protect the citizens from enemies anymore, but in fact attracted enemies to this fortified and strategically...
“A working song of the free-willing dismantlers of the fortifications”

“Länger sollen diese Wälle,  
Diese Mauern nicht mehr stehn;  
Durch sie nie mehr unser Enkel  
Lebensfreuden untergehen!  
Laßt uns fern von feiger Ruhe  
Mit gestähltem Arm den Sand,  
Der uns so viel Leiden brachte,  
Stürzen von den Mauern Rand!  
Freut euch des vergossnen Schweißes,  
Achtet nicht der Sonnenglut,  
Wenn das Vaterland geböte,  
Gäben wir auch unser Blut.”

“No longer shall these walls,  
These city walls remain standing;  
No longer shall our grandchildren  
experience life’s pleasures walking underneath them!  
Let us, far from cowardly comfort  
and with armored hand, the sand,  
that brought us so much hardship and sorrow,  
remove from the wall’s edges!  
Rejoice in your running sweat,  
forget the burning sun,  
if the fatherland commands,  
we shall even give our blood.”

Figure ... The dismantling of Mannheim’s walls (Source:...
important location. The French themselves did not want to leave such an important place at the Rhine fortified in case of possible French evacuation. And so, it was decided that the walls had to come down. In several weeks, the walls came down and this meant a complete new relation with the landscape for the city. Where the wall once was, a new ring road was made, and where the palace once had a baroque garden, a new landscape park was designed that stretched all the way to the Rhine. In the area between the city and road there was some room for orchards and small gardens.

But with the opening of the Rhine came big changes. Mannheim suddenly became one of the main economical centers, and in 1828 a harbor was opened. From 1834 till 1876, the harbors were expanded, giving the city an enormous economical boost. Also new train and tram connections were built in the city and to other surrounding cities. Till 1900, the city stayed within the main road, leaving this as quite a picturesque road. But after 1900, the city grew rapidly, transforming this road into a big urban boulevard. Mannheim's economical and industrial expansion seemed unstoppable with big companies like BASF and Benz settling in the city. But then war began.

During WW2, the bombings by the RAF demolished about 70 percent of the city. The city that seemed unstoppable in its development was in ruins. Huge new plans, with the new ideals partly formed during the CIAM, were made to rebuild the city as soon as possible. The old small roads and building blocks had to make way for big roads for cars, and clean housing blocks for better living conditions. A new optimism developed for the car, and Mannheim became one of the most car friendly cities. There were even postcards with an

Figure .... Mannheim in 1715 (Source:)

Figure .... Mannheim in 1910 (Source:)

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aerial view of the ‘Rheinbrückenkopf’ with adjacent baroque palace, showing how special this was. The infrastructure was a part of Mannheim’s pride. But this also led to the loss of some other qualities of the city, which are still applicable in today’s world. The next chapter will specify this.
In the decades following after the rebuilding of the city there has not been a real radical change like the ones in the past (defortification, change of Rhine, etc.). This has led to an outdated city, still standing on the foundations of the postwar period. Cars still dominate the center of Mannheim, and most public spaces lack real quality. The streets are made for cars, not for pedestrians and cyclists. Spatially, this makes Mannheim not a nice place to be.

According to the TU Dresden (2013), 33% of all the trips in the city are taken by car. The bicycle has a part in this of 18%. This has changed in comparison to the situation of 2008, where 36% of the trips were done by car. This has for a big part been due to the 21-Punkte-Programm. The municipality of Mannheim put these 21 points together to make the city more bicycle-friendly, and with the goal of a more frequent use of the bicycle by the inhabitants. So far it seems to be working since the percentages are getting bigger. Also, more employees of the city are working on this project, making it more important for the municipality. The ambitions and projects are there to transform the city from a car-friendly into a bicycle-friendly city. But it seems like a real big overall project is lacking.

Next to this, the city's public spaces are not of high quality. The city offers great potential with three different waterfronts, but the quality of these waterfronts is lacking. North of the city center lays the Neckar. Here, wide boring floodplains form the space. A small old path is going through the area, and there are some old playgrounds. But a space of quality is lacking. On the western side of the center lays the Verbindungskanal. This old canal used to connect the Rhine and Neckar, hence the name Verbindungskanal. Here, a small promenade is being constructed with different functions along it, a cultural center, the Popakademie, student housing and apartment buildings. But since this place lies mainly on the back of buildings, and is not really connected with anything, it has not been a big success. South of the city center is the biggest and most important river, the Rhine. The waterfront at the Rhine is split in two by the Rheinbrücke. East of the bridge is the Schlossgarten, once part of the palace itself, but now disconnected by infrastructural elements. West of the bridge are the harbor and some parking spaces. The buildings in this part of the harbor have lost their original function, but offer great potential for new functions like the Speicher7 Hotel shows. But it is these riverfronts that also hold part of the great potential the city has. The three waterfronts are all completely different in character, have a lot of space surrounding them, and could be easily connected to the city. Also, they could be easily connected to each other making it a continuous line along the river.

Another great opportunity for the city is the Bundesgartenschau, coming to the city in 2023. This event takes place every two years somewhere in Germany. Millions of people will come to the city, and so this is a big chance for the city to show itself in all of its beauty. Also, a lot of money will be invested in new public spaces, which should be great news for inhabitants. All in all Mannheim struggles with the problems from the past, but has the possibility of a bright future. A plan that connects the city, waterfronts and the BUGA could be part of the solution to Mannheim's problems.
1.5 Greenways for Mannheim

The benefits of the greenways are clear, but how these benefits are translated into a spatial plan is not. Now, a few guiding principles will be given to provide help with designing greenways as a solution to the current problems in the city of Mannheim. These guiding principles are divided in the greenway system as a whole, the cycling system, and the green elements.

1.5.1 The greenway system
A lot of greenway projects focus upon a neighborhood scale. These projects are often the result of bottom-up initiatives later taken over by the municipalities. But the problem with these small systems is that they focus too much on the local needs and objectives and not on the bigger whole. The opposite of these projects are the greenway systems that are too big. These projects are often the result of top down initiatives. A well-designed greenway system is a combination of these two. On the one hand, it will provide connections between the more important places like universities or larger parks, and on the other hand it will link the more local needs like kindergartens and small parks. So important for the design are both the big scale and the small scale.

As stated before, the greenways have the advantage of being a linear structure as opposed to a big park when it comes to accessibility. But this does not mean this is evident in every case. Some linear elements will be hard to reach like heightened railways and abandoned canals, especially in an industrialized area. So important is that, just like the system, entrances to the greenway are designed in both big and small scale. These access points should be recognizable not only from the outside, but from the inside as well as exit points.

Of course, access points for more secluded structures have to be clearer than the ones that are interwoven into the urban tissue.

Furthermore a third important aspect is the variety. A necessary aspect of greenways is that they can host a lot of different groups of people. Not only the daily commuters should be able to use it but also the recreationalists. Variety also means a variation of different environments along the linear structure. This will lead to a more interesting place and this will lead to the fact that people are willing to cross a bigger distance to reach something (Lusk, 2002). Here as well there are differences between the big and small scale. Where the visitors on the smaller scale will be mainly from the neighborhood, the big scale visitors will be passers-by. So where the functions on small scale mainly refer to the neighborhood needs, the passers-by will really notice the variety on their way.

We can translate these few basic principles to the situation of Mannheim. On a bigger scale the city has some important functions that could be connected by the greenway. The university plays a big role in this. The students will not all live in the close surroundings of the university so they have to travel some distance by bike to get to school. On the other hand, smaller functions like kindergartens and cultural places will bring in people from a smaller distance. Although these things are quite different, they could all benefit from one big system if it is well designed.

Earlier said, the complexity of infrastructural elements leads to the fact that people will sometimes feel lost in space. This is on the one hand caused by the size of the elements, but on the
other hand by the lack of clear entrance points to parks and waterfronts. The size of the current systems cannot be changed easily, but the entrance points can. When people are given clear directions and clear viewpoints of where to go in a maze, they will find their way, this is the same for the situation around Mannheim. The fact that the floodplains of the Neckar are situated lower in comparison to the city leads to some accessibility problems. On the other side, at the Rhine, clear ways through the infrastructural maze are missing, which leads to the fact that the Schlossgarten is hard to find.

When we look at variety, the waterfronts have a lot to offer. The three different rivers and canals differ totally in atmosphere and character. The Rhine meanders through the landscape like the visitor meanders through the landscape styled Schlossgarten. The Verbindungskanal has the rough feel of industry to it. The old buildings show the character of Mannheim as an old harbor city and make you feel the history of the place. The Neckar is canalized and is situated lower then its close surroundings. The big open floodplains provide great views and great spaces right next to the city center. When these three waterfronts are connected, there will be a clear variety moving through the greenway.

1.5.2 Bikeways
Important in the battle against the problems of the postwar car friendly city are the bikeways. New well-designed bikeways will trigger the people to leave the car and cycle to work, school, or somewhere else. In her article, Scheltema describes the pyramid for successful public space for cyclists (2002). This pyramid is a result of a combination of different theories. Four conditions are set apart according to their importance.

The most important one is safety. This safety refers to social, environmental and personal safety. Important design guidelines are that the cyclists should be in some way protected from the other big traffic and that the cyclist will feel most safe if other people are around him as well.

The second condition is directness. Coherence and constancy play important roles with this condition. Also linearity, continuity and orientation are important. This basically means that the bikeways have to be logical to understand. This condition mainly focuses on the daily commuter who wants to be at their destination as soon as possible. This also means that, although going through varies surroundings, the bikeway network has to be recognizable as one big whole. Together with safety, directness forms the basis of a successful bikeway. If these two are not met, the bikeway will not work. If they are though, the bikeway has a big chance in succeeding.

The third condition is comfort. This is one of the two so-called satisfiers. This means that the bikeways will be more appreciated if this condition is also met, but will probably also work without it. Key elements of comfort are the right of way for cyclists, bicycle amenities like parking, and the use during the day in the surroundings.

The fourth and last condition is attractiveness. This condition has a great impact on its surroundings of course. Also alternative routes play a role in this, this means that cyclists have the opportunity to find other nicer ways. Also as said before, a more interesting environment will lead
to the fact that people are willing to travel longer.

1.5.3 Conclusion
Where the city has been mainly car focused the last decades, a change is coming. Greenways could be the spatial answer to the question that has been asked, how can we make the city healthy? Already since the first generation of greenways, they formed the tool to bring together humans and nature in an urban setting. Over the years, greenways got a bigger meaning by the addition of more functions. Different studies have shown the benefits greenways can have in urban areas. Different benefits are ecological, economical and salutary.

For greenways, there are three important main aspects; scale, accessibility, and variety. When implementing a system of greenways in the city of Mannheim, these are the three main aspects to work with. Scale refers to the connections between bigger knots on a bigger scale and smaller points on a smaller scale. The accessibility plays a big role in the existing situation of Mannheim. Bad accessibility is mainly the reason the waterfronts are not used as much as they could. The new greenway system could change this if the entrances are well accessible. The last point is variety. Variety is important on a small scale but also on a bigger scale. The different zones of the waterfronts play a big role in variety.

The bikeways will play an important role in the transformation of the city. For bikeways four characteristics are important to make it function, safety, directness, comfort, and attractiveness. The greenway could provide all of these four characteristics when it is well designed. This again is connection to the three points named earlier.

As a conclusion, greenways could be the solution for a healthier Mannheim, but also for other postwar car friendly cities that deal with the same problems. A change in thinking is necessary and planning with the concept of greenways in mind will help with this.
1.6 Project setup

This chapter has mainly been an introduction to the whole project. A problem statement, research goal, and research question will be given to give structure to the complete result, and these are also the ones that have to be tested at the end.

1.6.1 Problem statement
All over Germany post-war cities can be found. These cities all have their own problem, but seem to have some things in common as well. In general, they are car-friendly, modernistic, lack quality public spaces, and have an industrial image. This has led to problems in the world of today. Greenways could be a good answer as a part of the solution. The city should be reconnected to its waterfront and quality public spaces are necessary. Next to this, the dominance of the car should be reduced, for the purpose of creating a better and safer bicycle network.

1.6.2 Research goal
The goal of this project is to solve a part of the problems Mannheim is dealing with and to create a renewed optimism in the city. The BUGA in 2023 should work as a catalyst for this process.
Impacts of the Bundesgartenschau
2.1 Bundesgartenschau 1975

The Bundesgartenschau in 1975 might have been the biggest success of Mannheim in the last couple of decades. As many as 8.1 million visitors came to this event and gave a complete boost to the city. Former president Walter Scheel stated at the opening of the Bundesgartenschau that “Bei den Bundesgartenschauen geht es nicht nur darum, Blumen zu zeigen, sondern eine Stadt zu verschönern” (Morgenweb, 2011). The 8.1 million visitors was a record and this has never been broken ever since, which meant an enormous image boost to the city of Mannheim.

Today’s city would not exist in the way it does now without the Bundesgartenschau. The two core areas, the Luisenpark and Herzogenriedpark still exist, and are still two of the most popular parks of the city. Also the Fernmeldeturm, an icon in the city, would not have existed without it. But also the car-free shopping zone of the Planken existed from that moment on.

Of course, the Bundesgartenschau also had a lot of opponents. Some arguments were: it would be too expensive, the city should finance the necessary things first, the city would put an enormous debt on the future inhabitants, etc. But during the event, this opinion changed, since it was such a great success.

Looking at the city of today, it seemed like the words of Scheel did count for Mannheim. The city got a boost and was ready for a new bright future.
2.2 The impact of a Bundesgartenschau

To investigate the impacts of a Bundesgartenschau, a closer look is taken at the Bundesgartenschau of 2011 in Koblenz. This BUGA is seen as a big success for the region. The BUGA was visited by roughly 3.5 million people, 1.5 million more than the organization expected before. This meant enormous financial changes, not only for the BUGA itself, but also for the whole city. About 70 percent of the visitors said that they will visit the region again thanks to this event.

But the BUGA in Koblenz did not only lead to positive financial effects. During the whole process, it became clear that the whole city planning changed. The inhabitants became, thanks to design competitions and movies, more interested in their environment, and took a position in what they wanted the city to look like. This sparked interesting debates.

For the city itself the BUGA became a huge part of the city development. Other projects were picked up, and realized, thanks to the fact that they were connected to the BUGA. The BUGA project gave structure to the city planning.

Next to these benefits, the city of course got a great new park area for the inhabitants that also fitted the needs of the inhabitants of Koblenz. These points made the BUGA in Koblenz to a success.
2.3 BUGA23 Mannheim

The ideas for the BUGA23 all started with the need for a conversion of the former military grounds. These military grounds form a big opportunity to transform it into an economical and ecological new core area of Mannheim. With the Bundesgartenschau connected to this transformation, it should be connected on a higher level, to the whole city, and this way it should be a big investment for the future of Mannheim’s inhabitants.

The theme of the BUGA is ‘Mannheim verbindet’. The old military grounds form part of the BUGA, and the BUGA forms part of an even bigger green connection going through the municipality of Mannheim. Necessary are new bikeways connecting everything together, and this will also be the main way to experience the BUGA.

The ‘Grünzug’ (greenway) around Mannheim will have different functions.
- Social: The open green areas close to the neighborhoods should serve as recreational areas for the inhabitants
- Ecological: Creating and securing important areas for flora and fauna and the connection between the different areas
- Climate: Fresh air streams should go through the area

Center of the Bundesgartenschau will be the Spinelli area. Here, a new modern environment should arise and connected to the city by a new bridge. Different competitions were held. This also gave chance for the inhabitants to see and discuss different options for their city. Different ‘satellite-events’ will arise all over the city to celebrate the BUGA and to bring life to the city. About 2.8 million visitors are expected to come to the BUGA, which will bring great opportunities for the city.

So far, so good. But the BUGA also has a downside. Opponents of the BUGA mainly speak about the financial consequences for the municipality. Mannheim is already in big debt, and opponents are afraid this number will even be higher, leaving big problems for the future generation. Already public spaces inside and around the city suffer from a shortage of maintenance. Also the critics fear that the open areas, now already valuable for ecology will suffer from activities of all the visitors and the construction of the core area. Other different arguments are about the traffic coming into the city and a move of the allotment gardens to different places.

Next to this, a new element has gotten to the attention. Just like in 1975, an idea is formed to transport visitors with hanging transportation. The problem is that the costs are high, and it will probably not be used after the BUGA anymore, since inhabitants will use other ways of transport.
2.4 Protests against the BUGA

As stated before, the BUGA coming to the cities means great opportunities. Although it costs a lot of money, it also generates a big boost to Mannheim’s economy. The BUGA of 1975 also had a lot of protests, also concerning finances. But the BUGA became a huge success, bringing a new wave of optimism in the city.

But so far this new optimism seems to be missing in the city. Expanding the ideas of the BUGA could be a solution to the critics. The main point of the critics seem to be about putting money into a project that is not dealing with real problems. What is necessary in the city is a durable network for not only recreation and the BUGA, but also for daily life, and the time after the BUGA.

This project supposes bikeways as a main line through the area around and inside Mannheim, connecting everything together. The bicycle network should bring change in daily life, and a decrease of car usage. Using the rivers, as main guidelines should help giving line for the network. Next to this there will be boat connections provided by the BUGABoats. These boats are more durable, and connect important places now covered by bridges in a fast way. These boats will not only be used during the BUGA, but also in the period following. Furthermore, the BUGABikes should be available at Mannheim Hauptbahnhof. Special bikes are able to bring luggage to the hotels, and the car will not be needed to get to the city.

All in all, the BUGA could be so much more for the city when it connects on an even bigger scale and is actually solving problems and giving change to peoples lives.
Figure ... The BUGABikes

Figure ... The BUGA23 project area

Figure ... BUGA23 Cycling route
A cycling city
A new bicycle network for Mannheim
A cycling city
A new bicycle network for Mannheim
Figure ... Mannheim in 1663 (Source: [34])
Southern part
Design elaboration
Figure ... Mannheim in 1663 (Source: ...
Figure ... Mannheim in 1663 (Source: ...)
5. Reflection

5.1 Relationship between ‘Flowscapes’ and the project

“The studio explores infrastructure as a type of landscape and landscape as a type of infrastructure” (Nijhuis and Jauslin, 2014). According to the introduction of the graduation lab ‘Flowscapes’, landscape infrastructures facilitate aesthetic, functional, social and ecological relationships between natural and human systems with movement and flows at its core, hence the name Flowscapes. The project fits in the spatial framework of the Rhine-Danube corridor because of its location along and in-between the rivers Neckar and Rhine.

Looking at the aerial view of Mannheim, one can immediately see the disconnection between the interesting grid city center and the three waterfronts. Big infrastructural elements and zones with industrial buildings block the water from the city. This, together with the fact of Mannheim being a car friendly city, forms an interesting case for the ‘Flowscapes’ graduation lab.

“The studio is concerned with the design of new topographies by integrating new programs into the ‘genius of place’ and time, and with regard to landscape processes, the continuation of spatial quality and cultural identity of the landscape. It does this through the development of landscape architectural concepts, methods and techniques for design research and research-by-design. Our landscape architectonic design explorations require a multi-layered understanding of landscape: its spatial structure or visual landscape, history, context, or relational system and involve the underlying the ecological, economic and social processes.” (Nijhuis and Jauslin, 2014)

This project puts forward the idea of movements and flows. It does not really focus upon the flows of nature, but rather on the flows of people and traffic, especially bicycle traffic. A new infrastructure is created that will change the flows, relationship to the surrounding landscape, and the daily life of the inhabitants of Mannheim. With the bicycle as an age-old tool, a new way of experiencing the land- and cityscape of Mannheim was formed.

5.2 From research to design

For me it was important that my plan formed a turning point for the city, and will lead to a new optimism. At the moment, Mannheim is known as one of the most ugly cities in Germany. That the city has come to this point is in interesting thing. Doing research, I found out that the city was once founded as the ideal baroque city with a radial fort attached to it. Later, it developed rapidly into an industrial harbor city, and Mannheim was up for a bright future. During WW2 75 percent of the city got destroyed. Although it was of course devastating to the city, in retrospective, it seemed that this was a good moment to give the city a new boost for the coming decades. New plans were made with the modernist ideals, the city had to become cleaner, better and healthier, with the car friendly city as an import idea. But in today's world, these beliefs are all outdated, and Mannheim needs another boost for the future, another ideal, and another optimism. My beliefs, and the beliefs of some city planners, lie with the bicycle as the tool to do this. This led to the fact that a part of my research also meant looking at other cities like Portland, Copenhagen and London, which are trying or succeeded changing the infrastructure of the city. This also meant for the cities, that there is a change in daily life, a change in the living qualities of the city, and a change of the future. Next to this, a part of my research consisted of finding out what makes good bikeways, this was partly done in the AR3LA020 course ‘Research methodology in landscape architecture’.
5.3 Methodical line of approach

During the process, a total of five presentations have to be given. The first presentation, the P1, consists of presenting the first few findings of the chosen location and analysis. With the P2, a good analysis and the research question were presented. Also the first design ideas were already shown. The third presentation was meant to present a design. This is the period that I was still trying to figure out what direction fitted the location and project, and this took me a long time. This is also the reason I did not present a P4 according to the regular schedule. Later, thanks to the help of my mentors, the puzzle pieces started to fall together.

I will now reflect on some personal aspects of the process.

Fitting in
Personally, I always found it important that the designs I make fit perfectly in the existing context. This has always led to decent plans, but not outstanding ones. For me the motto almost always seemed to be ‘doe maar normaal, dan doe je al gek genoeg’ (act normal, then you are already acting crazy enough). And I also started designing in Mannheim this way, and I did this for a long time. Daniel and Els were constantly trying to pull me out of this way of thinking, and eventually it worked. I found out that sometimes designs do not have to be modest to fit in. A city like Mannheim, with the plans and ambitions they have, needs a big plan. And a big plan could still perfectly fit in. I think this is one of the most important things that I have learned during the process.

Variants
Another important aspect is making variants, and trying other things than that you already have in your head. By sometimes hearing “No, this is not good” you realize that what is in your head is almost always not the solution. During the first part of the process (pre P3), I did not really do this, which led to a modest, but not amazing idea. By expanding my horizon, I started to realize places where getting better after testing different ideas.

Working through the scales
This is still something I have real difficulties with. The small detailed scale is hard for me. This is partly because of my previous education (landscape architecture at the Wageningen University), but also perhaps because of a lack of skills. I try to focus on the whole, not on a single spot. This of course has advantages, but more disadvantages.

5.4 A bright future

In the end I think the project manages to create a change in a way of thinking in Mannheim. But Mannheim is not the only city where the problems of the postwar car friendly city play a big role. Cities like Rotterdam, Dusseldorf and Duisburg are struggling with the same problems. In today’s world, these cities are outdated and need change. Good examples are the recently unveiled plans for the Coolingsel in Rotterdam. Here, cyclists are given more space and the car traffic is being slowed down. An other great example is Portland. Portland forms a sort of oasis for cyclists in the car-dominated culture of the US.

I really believe in a future where bicycle networks form the vital veins of the infrastructure of the city. Landscape architects could play a big role in this, combining not only infrastructure, but also history, experience, landscape, etc. All over the Internet, new plans are popping up for new bicycle infrastructures. Me, I just hope that I can play a role in this new future.