SAGA
SQUARE

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READING GUIDE

This report is the result of a project for a Master's of Urban Design (MSc02) at Aalborg University, Department of Architecture, Design and Media Technology. The theme of the project is Designing Urban Mobility, with a secondary theme being that of history and urban environments.

The report is divided into six chapters, which should be read consecutively. The first chapter gives an overview of the theoretical concepts that have influenced this project, specifically in relation to history and mobility in urban design. This chapter concludes by defining several general principles, which guide the application of the knowledge in the remainder of the report. The second chapter explores the history of the city of Aarhus, where the project site is located, and identifies core aspects of the city's history that have helped to define its identity. The third chapter details the analyses and observations that have been conducted on the site and its context, and concludes with an assessment of the site's potentials and limitations from a design perspective. The fourth chapter examines the design process that has been devised for this project, and the fifth chapter presents the results of that process, in the form of a masterplan and related material. The sixth chapter encompasses a post-design analysis that has been conducted on the design proposal to test whether it has resolved the issues identified during the earlier stages of the project. Finally, concluding remarks are included at the end of the report, with reflections on the entire process. Appendices with additional material are attached at the end of the document, and a glossary of terms can also be found at the back of this report..

This report follows correct referencing procedure, applying Harvard referencing style. As such, all text and images contained in the report have been created by the authors unless otherwise indicated, and all resources obtained elsewhere are acknowledged in the list of references.

Lastly, we wish to acknowledge the support and advice provided by Aarhus Kommune in the preparation of this report.
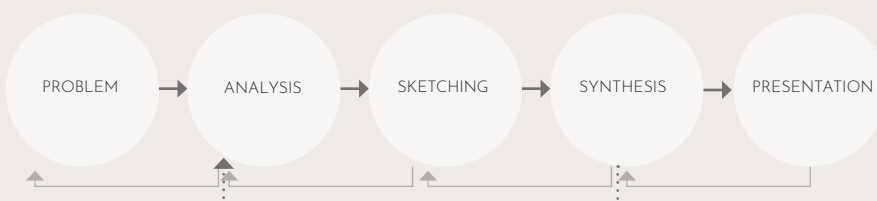
The Integrated design process

PROBLEM → ANALYSIS → SKETCHING → SYNTHESIS → PRESENTATION

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ABSTRACT

As urban populations expand, cities are confronted with a riddle: how can they adapt their existing infrastructure in order to meet the needs of their growing populations, while also preserving, celebrating and enhancing the historic character that gives them their identity? As the second largest city in Denmark, and growing at a rate of 1.3% per year, Aarhus is facing the pressure more than most parts of the country.

This project explores design solutions at Banegårdsplads, a large public square located at the entrance to Aarhus central train station. In addition to the train station, this site serves as a major mobility hub in the city, with busses, cars, taxis, bicycles and pedestrians, and a soon-to-be (re-)introduced light rail route all jostling amidst the heritage-listed buildings. Aarhus municipality is currently investigating ways to enhance this key public space, and has provided a number of guidelines that have been applied throughout this report, including mobilities requirements, heritage goals, and strategic policies.

Through analysis of the site and exploration of the literature, a greater understanding of the particular problems facing this site can be obtained, as well as approaches that can be applied to the design solution. In particular, the issue becomes one of judicious use of space. The solution proposed here is developed from the historic feeling of a classic plaza, with defined boundaries and accommodating a variety of uses, while also facilitating the movement of people via multiple methods.

This report, therefore, delivers a design proposal that meets the goals and requirements of the municipality, while also introducing an important new element to this historic square: a unique identity, in which history and modernity can complement one another. This is Saga Square.

INTRODUCTION

Public urban spaces are a vital part of any city. They symbolise and embody public life and civic engagement; they are focal points for activities and social interactions. Through urban design, public spaces can be created or modified to facilitate these different functions, and, in so doing, directly impact on the quality of life and social capital of the city as a whole. This report examines the design process and solution for one public space in the city of Aarhus.

The site for this report, Banegårdsplads, is located at a key location within the city: it is adjacent to the central train station, and therefore serves as a welcome mat for many new visitors to the city; this location also makes it a mobilities hub, as commuters will often visit or pass through the square on their way to and from somewhere else. In an area of approximately 0.8 hectares, Banegårdsplads hosts cars, taxis, busses, pedestrians and cyclists, with the additional arrival of light rail in the near future confirmed by the municipality. Furthermore, this site lies at the edge of the historic city centre of Aarhus, within easy walking distance of many of the city's historic quarters. Aarhus itself is one of the oldest cities in Denmark, as well as being the second largest city in the country and the largest in Jutland. For all of these reasons, therefore, the potential of this site should not be disregarded by urban designers or policy-makers.

The process of design does not follow a linear path; it is frequently necessary to revisit older ideas and concepts, to allow them to evolve and mature. The process can, however, be loosely divided into several phases, beginning with research into urban design theories that are pertinent to the themes of the project, while simultaneously conducting analyses that identify features of the site itself (such as what works well, what can be improved, and how does it function in various ways). These two phases contribute to the articulation of a particular design problem or problems. These phases are followed by the design phase, in which ideas are generated and undergo a process of refinement and trimming, in order to reach a final design proposal. Lastly, the final design is subjected to similar analyses as the pre-designed site, in order to test whether or not the design has resolved the issues identified.

Denmark

Aarhus

Aarhus

CHAPTER I:
THEORY

INTRODUCTION

As with any profession, urban design builds upon a body of knowledge and theory, derived from both practice and academia, to substantiate the design principles that are implemented in urban design projects. This chapter provides an introduction to two of the themes of this report: mobilities and history, as they are applicable to the realm of the built environment. In the following pages, mobilities will be explored from the perspective of staged mobilities, mobile affordances, and the concept that life is experienced on the move. After the discussion of mobilities, history and urban environments will be examined by asking why history is important in cities, how historic processes have shaped cities in the past (with particular emphasis on historic mobilities), and how can urban designers explore history through their work. Each of these discussions will contribute to a set of general principles which can guide the design decisions of this report.

"The story of every city can be read through a succession of deposits: the
sedimentary strata of history"
- (Mumford Lewis The Culture of Cities 1938:223)

"A city is sensed in motion" - (Lynch 1960:107)

MOBILITIES

More than A to B

Mobilities is the study of the way things move (people, goods, information, signs), the systems built to facilitate that movement, and the interactions and experiences that are embodied by it. The concept of 'more than A to B' is at the core of mobilities theory, and describes the idea that life is experienced on the move. Travel is not (or should not be) simply a practical or functional activity, often imagined as boring and monotonous, but rather an experience that fits within a wider context of associated meanings, and socio-cultural and political interactions, in which the traveller is an active participant. As Kevin Lynch states: "travel can be a positive experience; we need not consider it pure cost" (1981: 274).
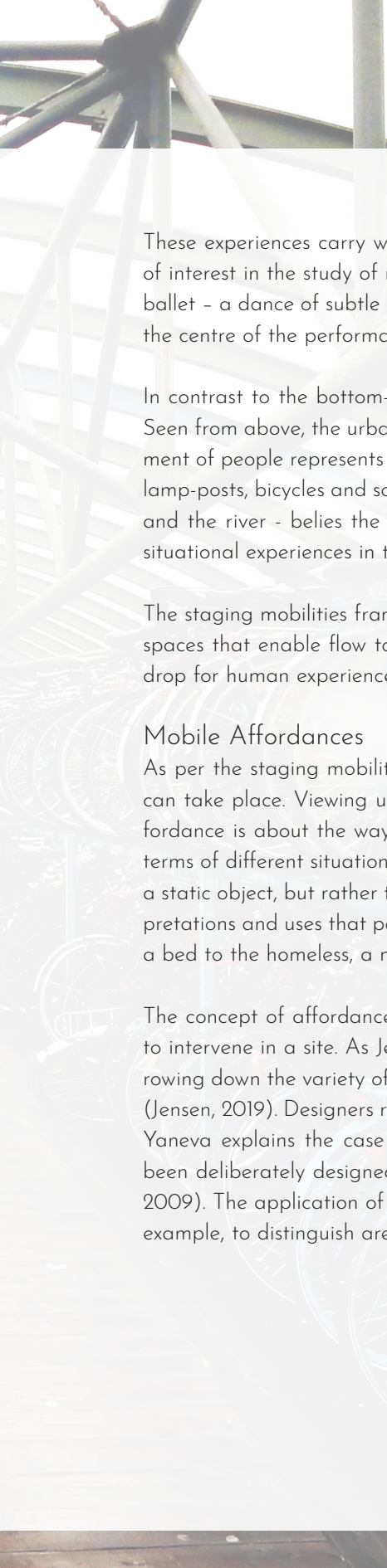
This concept invites urban designers to consider the 'user' of a site as more than simply those who come and stay; it also encompasses, for example, those who visit a site in transit, and via different modes of transport. This approach to urban design – namely, being inclusive of users who traditionally are not given high priority – focuses particularly strongly on the experiential aspect of an urban design intervention: how does the site make the visitor feel at any given point, within a framework of social, cultural, and political interactions? (Lanng, Wind, Jensen; - 2017, Pg:73) . Through direct interventions, urban designers can seek to make a journey through a site more playful, relaxing, interesting, surprising, and enjoyable.

Urban designers may achieve the results of incorporating mobilities into design by orchestrating changes in direction, changes in speed or pace, changes in the environment or mode of transport, intersecting paths or causing them to diverge – each of these types of intervention brings about an interaction between the traveller, the environment, and other travellers.

It is also interesting to consider the ideas of lived experience and efficiency: do urban designers have to sacrifice efficiency of movement (i.e. travelling with minimal delays and obstructions) in order to facilitate more engaging journeys? Incorporating choice into the mobilities design is one way to enable both to be present at once; for example, having both a 'fast lane' and a 'slow lane' can allow people in a hurry to move without being hindered by those at a more leisurely pace.

Staging Mobilities

Using the language of theatre, the staging mobilities framework presents the city as the backdrop or stage, against which people (actors) engage in a range of performative lived experiences.

These experiences carry with them a variety of social and cultural meanings, which are of interest in the study of mobilities. These embodied interactions can be imagined as a ballet – a dance of subtle gestures and negotiations, where the dancer (or dancers) is at the centre of the performance. (Jensen 2010; Pg 20)

In contrast to the bottom-up 'ballet, urban design is usually an imposition from above. Seen from above, the urban environment can be portrayed as a river, in which the movement of people represents the flow of water, while objects in the street - such as benches, lamp-posts, bicycles and so forth - form eddies in the current. This comparison - the ballet and the river - belies the need for urban designers to also consider the micro-scale of situational experiences in the spaces that they design.(Jensen 2010; Pg 20)

The staging mobilities framework, then, comprises two aspects: the top-down creation of spaces that enable flow to be sustained and streamlined, while also creating the backdrop for human experiences to be enjoyed and facilitated at the level of the street.

Mobile Affordances

As per the staging mobilities framework, cities are stages upon which lived experiences can take place. Viewing urban space in this way raises the concept of affordances. Affordance is about the ways in which the materiality of a space can facilitate people in terms of different situations – the city is not what prescriptive policies may describe it as, a static object, but rather they are dynamic environments that are imbued with the interpretations and uses that people give them. For example, a bench to some people may be a bed to the homeless, a memorial to others, and a plaything to children.

The concept of affordances raises some questions when urban designers are preparing to intervene in a site. As Jensen notes, affordances are about both opening up and narrowing down the variety of activities and uses that can be performed on the urban stage (Jensen, 2019). Designers routinely manipulate the world for a desired result; for example, Yaneva explains the case of a university lecturer working in an environment that has been deliberately designed to 'facilitate' and 'oblige' his or her daily activities (Yaneva, 2009). The application of different materials and textures in pavement can be used, for example, to distinguish areas intended for cyclists from those intended for pedestrians.

HISTORY & URBAN ENVIROMENT

A key theme of this design is the historic urban environment, and in particular the ways in which history, urban design, and mobilities intersect. In order to better understand the role of history in urban design, it is important to answer three questions:

- Why does history matter in cities?
- How have historic processes and historic mobilities shaped cities?
- How can urban designers explore the role of history through modern interventions?

By answering these questions, we are able to develop some general principles that can guide historically-sensitive urban design.

Why history matters in urban design
History is an important component of cities in that it contributes to a sense of group iden-tity. It is not unreasonable to propose that cities are the ultimate expression of society, as described by philosophers such as Rousseau (1762) and Proudhon (1851): they represent assemblages of people in numbers too large for anyone to be personally acquainted with everyone else, and thus are dependent on the social contract that underpins social structures. Within this framework, group identity serves the purpose of facilitating the communication of shared values, symbols and information (and, in this way, presents an interesting connection to mobilities theory), establishes trust between strangers, and connects people across spatial and temporal boundaries. The history of a city is a 'shared good' in which all inhabitants of the city – past, present and future – have a common stake.

History, mobilities and urban environments
For this discussion, it is important to establish that urban history is not simply the story or stories of a city's past; it is present in every aspect of a city's built environment, from the shape, names and arrangements of the streets, the locations of key landmarks, the form of its buildings, and the materials and textures of its surfaces. It is therefore useful to consider the processes that shape cities, and, given the second theme of this report, the mobilities history is of particular interest.

Cities take form as responses to the needs of their inhabitants; it is not unfair to say that a city 'evolves'. Often, mobility plays a vital role in this process. For example, the street pattern of a city reflects historic paths, and road hierarchy can be used to understand the priorities of historic people. Public squares are often located outside churches and impor-tant buildings, or close to markets, because these were places that held special social and cultural significance, and where multiple paths would frequently converge.

City size and modes of transportation are intimately linked; as travel shifted from foot to horseback, and then to trains and cars, city limits expanded to reflect the greater distances that could be covered. Furthermore, the growth of a city (including immigration, trade, reputation and status) can also be seen within the framework of the city's wider mobile network, and so mobilities infrastructure (such as ports, airports and train stations) can play a vital role in shaping the urban form.

The patterns of growth of a city, then, can be seen as the history of motion within the city, and from beyond the city. Within this framework can be added the evolving forms of mobilities and technology; in Denmark, for example, water and land transport has shifted towards air mobility, and the means of movement has moved from slow and human-powered to fast and motorised. In the present situation, transport in Danish cities may encompass fast and slow, public and private, old and new, physical and digital.

History and urban design
Urban design projects are, by definition, modern interventions into historic landscapes. This is particularly noticeable at sites like Banegårdsplads, which is torn between the very historical architecture and context, and the highly functional nature of the square as a mobilities hub. This presents urban designers with the challenge of creating spaces that represent and explore history, without compromising on their contemporary needs.

In a study of Tokugawa-era post stations in Japan, Mateo-Babiano suggests that history and urban design do not need to be opposed; instead, history can deliver insights for urban design to understand contemporary concepts (Mateo-Babiano, 2018). This conclusion is supported by Whittemore's findings from Watertown in Boston, USA, that "history demonstrates the validity of a vision of denser, mixed-use, transit-oriented town centres" (Whittemore, 2016, Pg:107). History, therefore, can help urban designers to justify decisions about form and density, as well as inspiring 'new' solutions to current design problems.

Urban designers can also manifest history in more direct ways, however should be careful to maintain subtlety and sensitivity when doing so. History is, of course, local, and will therefore reflect local events, values and identity. This approach, however, runs the risk of distorting the very history that is being explored; creating a theme park or museum, rather than a functional public space. In Newcastle-upon-Tyne's waterfront regeneration, O'Brien observes, history is explored through the use of mental associations rather than direct communication (O'Brien, 1997). The 'feeling' of history comes from the textures, materials, shapes, and scales, and is often designed to generate a sense of awe (sublime aesthetics). Using shapes and textures to conjure an image of history, rather than copying (faking) historic landmarks or forms.

CONCLUSION

The themes of mobility and history are broad and resist a simple definition. However, for the purposes of this report, the above discussion can allow certain conclusions to be drawn that may then be articulated as general principles of mobilities and history in urban design.

First, all journeys are lived experiences, and should not be treated as only a means to an ends, but as an ends in their own right;

Second, the urban environment exists for people, and is the environment in which most people experience their lives;

Third, designers should avoid prescriptive solutions which inhibit flexibility, and should design spaces that afford multiple uses;

Fourth, history should be treated with sensitivity and used in design with subtlety to avoid compromising authenticity, while also ensuring a connection to the context and locale;

Fifth, a feeling of history can be achieved through the judicious use of symbols and associations.

CHAPTER II:
HISTORY OF AARHUS

"The past is intelligible to us only in light of the present; and we can fully understand the present only in light of the past". -
Edward Hallett Carr, Robert William Davies (1986: 55)

THE GROWTH OF AARHUS

Aarhus is one of the oldest cities in Denmark, dating back to the Viking era (ca. 770). The original settlement was located north of the Aarhus River, which served as a safe harbour for both trading vessels and warships.

Several churches and monastic buildings were constructed during the early history of Aarhus, the largest of them being the cathedral (dedicated to St Clemens, patron saint of sailors) being constructed in the centre of the town, above a pagan burial ground.

Aarhus remained an important town in Denmark throughout both the Viking and medieval periods (ca. 700-1500), serving as a port and military harbour, as well as a bishopric seat in the form of the Diocese of Aarhus. This period saw the city suffer from economic stagnation and military occupation on several occasions, which can help explain why the city did not expand far beyond its initial boundaries until the arrival of Industrialisation (ca. 1800) and the first railways of Jutland were constructed.

During the 19th century, Aarhus expanded to encompass large areas on both sides of the historic river. This was a period of significant growth for Aarhus, with the arrival of the first railway, the movement of the city's port from the river to the coast, and the establishment of numerous manufacturing and commercial enterprises.

The 20th century saw the city continue to expand at a much greater rate, absorbing a number of the surrounding villages and towns into its orbit, despite the destruction of occupation and resistance during the Second World War. Today the city is host to a wide variety of educational and cultural institutions.

AARHUS, c. 980

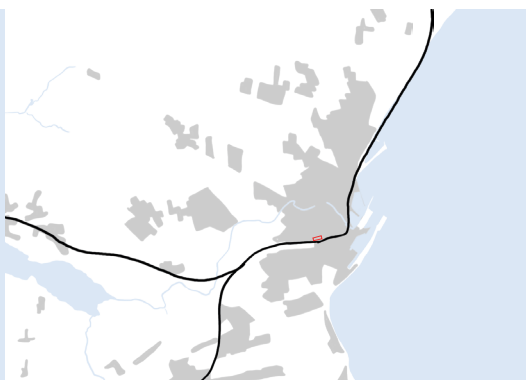AARHUS, 1796

AARHUS, 1953-1976

AARHUS, c. 1100

AARHUS, 1675
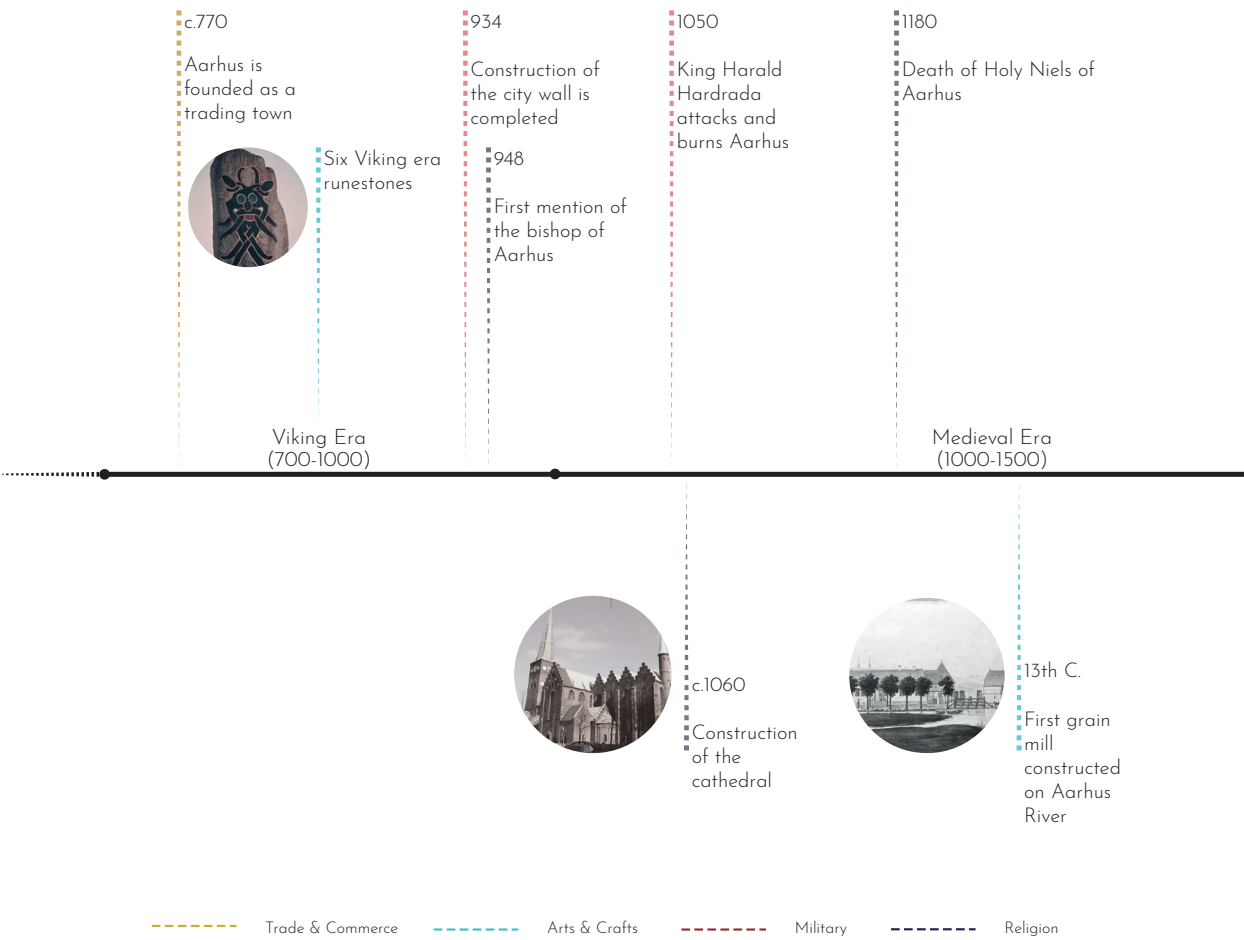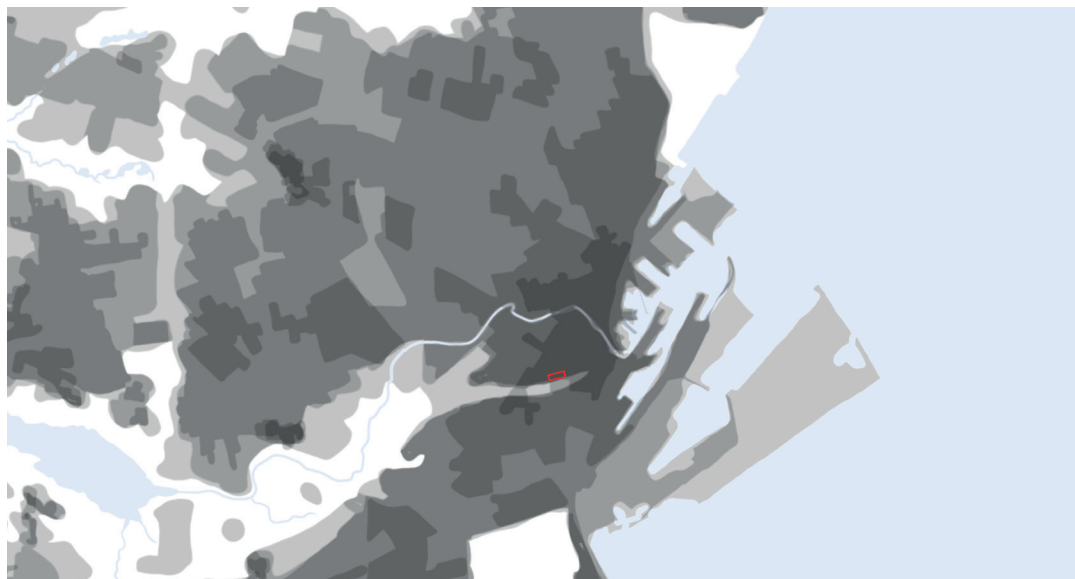
AARHUS, 1842-1899

AARHUS, 1901-1971

AARHUS, 1980-2001
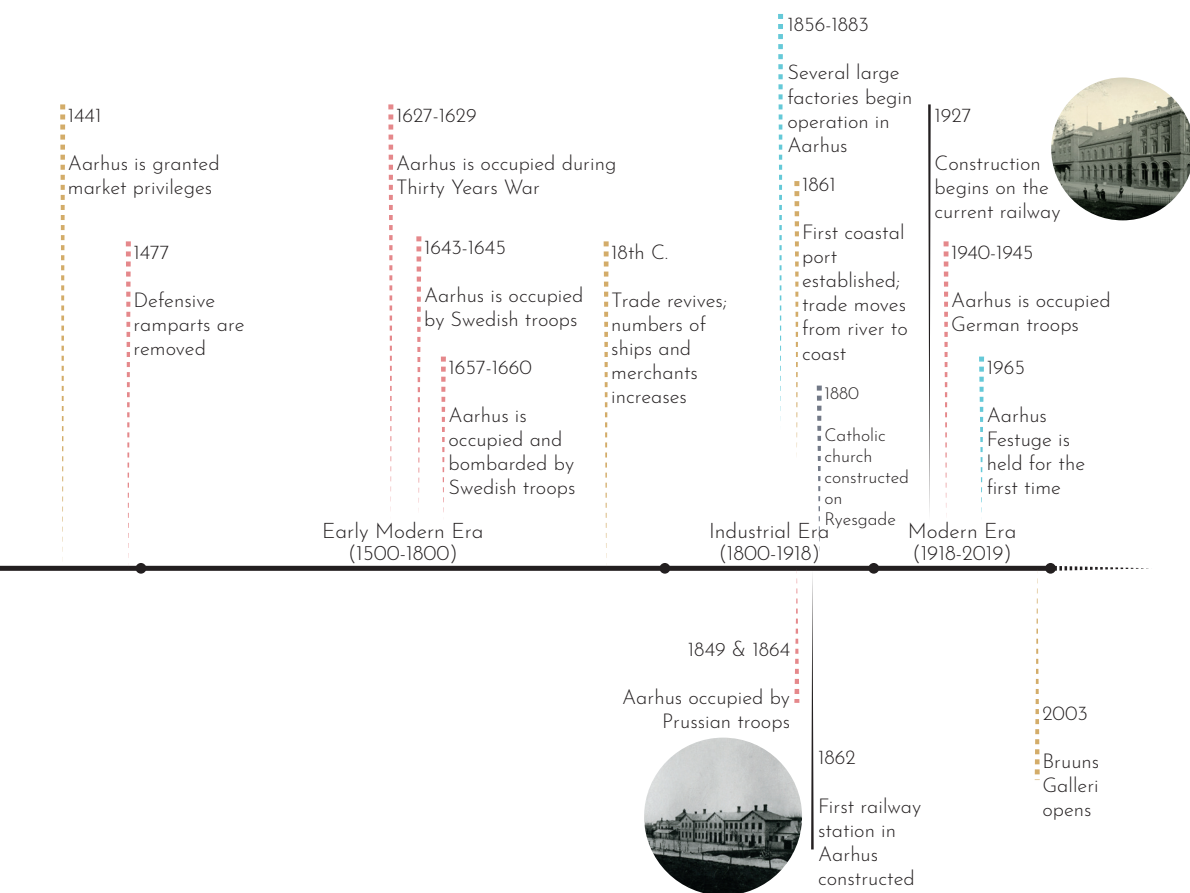
AARHUS, 2019

Sources: See references in the back

THE HISTORIC TIMELINE OF AARHUS

In this report, four aspects of Aarhus' history have been identified as being of particular interest or importance to the growth of the city, the themes of this report, and the context of the design site. These four aspects are: trade and commerce, arts and crafts, religion, and military. The timeline below divides Aarhus' history into five distinct eras, reflecting changes in society, culture, and technology: Viking, Medieval, Early Modern, Industrial, Modern. The four aspects chosen are arrayed along the timeline, indicating the persistent role each has played throughout Aarhus' history.

c.770

Aarhus is founded as a trading town

Six Viking era runestones

934

Construction of the city wall is completed

948

First mention of the bishop of Aarhus

1050

King Harald Hardrada attacks and burns Aarhus

1180

Death of Holy Niels of Aarhus

Viking Era (700-1000)

Medieval Era (1000-1500)

c.1060

Construction of the cathedral

13th C.

First grain mill constructed on Aarhus River

- - - - - - - Trade & Commerce   - - - - - - - Arts & Crafts   - - - - - - - Military   - - - - - - - Religion

Map of Aarhus Growth, from Viking to present

1856-1883

Several large
factories begin
operation in
Aarhus

1441

Aarhus is granted
market privileges

1627-1629

Aarhus is occupied during
Thirty Years War

1927

Construction
begins on the
current railway

1861

First coastal
port
established;
trade moves
from river to
coast

1477

Defensive
ramparts are
removed

1643-1645

Aarhus is occupied
by Swedish troops

18th C.

Trade revives;
numbers of
ships and
merchants
increases

1940-1945

Aarhus is occupied
German troops

1657-1660

Aarhus is
occupied and
bombarded by
Swedish troops

1965

Aarhus
Festuge is
held for the
first time

1880

Catholic
church
constructed
on
Ryesgade

Early Modern Era
(1500-1800)

Industrial Era
(1800-1918)

Modern Era
(1918-2019)

1849 & 1864

Aarhus occupied by
Prussian troops

1862

First railway
station in
Aarhus
constructed

2003

Bruuns
Galleri
opens

CHAPTER III:
ANALYSIS

"The work was done in the conviction that analysis of existing form and its effects on the citizen is one of the foundation stones of city design". -
Lynch, Kevin (1960: 14)

INTRODUCTION TO ANALYSIS

This chapter presents the results of various analyses conducted on the site. Urban design relies on a clear understanding of the site, encompassing its physical characteristics, its connection to the wider context, and its experiential qualities for different users. Each analysis shown in this chapter contributed to the creation of an opportunities and constraints plan (presented at the end of the chapter) which directly influenced the final design proposal. The analyses that follow begin at the widest scale (the municipality as a whole) and zoom into a much more focussed area (the site specifically).

The analyses that are included in this chapter come from data that has been collected through several methods. During a site visit, pedestrian and cyclist numbers were counted, observations were made about flow and the overall atmosphere, and interviews were conducted on passersby. Additional analyses made use of online and printed material, and data supplied by the municipality.

FACTS ABOUT AARHUS

POPULATION

Second Largest City

HISTORY

First settled by Viking in 7th century

QUALITY OF LIFE

450,021 meters of cycling lanes!

Population: 345332

Students: 60,000

Aarhus -> 'Aros' = Old Norse 'river mouth

"One of the happiest Cities in the World"

STATISTICS:

Aarhus is both the second largest city in Denmark, and also the second fastest growing. Between 2009 and 2019 the population of Aarhus increased by 14%, and this trend is reflected in the city's generally youthful age profile. Unsurprisingly for a metropolitan centre, Aarhus has higher numbers of homeless people, unemployed, and traffic accidents than smaller municipalities, but none of these figures are disproportionate to the city's size.

Aarhus also serves as a key transportation destination and hub within the Danish transport network, and Banegårdsplads plays a key role in facilitating this movement as a gateway to the city. Thanks to this status, Aarhus has experienced growing visitor numbers in recent years.

Population Growth (2009 - 2019)

Number of people Vs Age
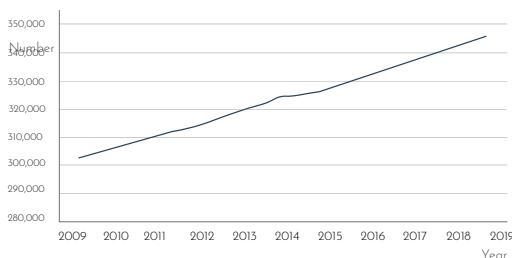
Source: www.statbank.dk

Source: https://www.dst.dk
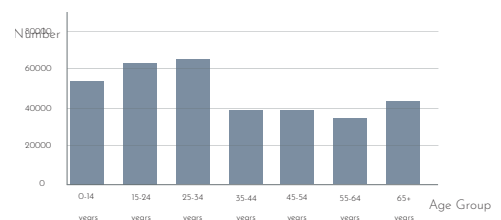
STRATEGIC ANALYSIS

When considered at a strategic level, Aarhus shows a concentration of landmarks between the railway station and the Aarhus River, close to the focus site of this report. These landmarks encompass cultural institutions such as the ARoS art museum, business centres such as the Scandinavian Centre, transport hubs such as the railway station and cruise terminals, and historical sites, such as the cathedral and medieval village.

Eastern and western ring roads and highway systems carry traffic north-south along Spanien and Vestre Ringgade respectively, and the railway tracks connect the city to the wider Danish network.

By connecting a range of mobilities options, therefore, and being located within walking distance of the city's major landmarks, Banegårdsplads is positioned perfectly to act as a gateway for visitors arriving to Aarhus, as well as serving the everyday needs of commuters and residents.

Vestre Ringgade

University of Aarhus
Latin Quarter
Boulevarden
Cathedral
Endless Connection
Aarhus Harbour
Botanical Gardens
Den Gamle By
Boulevarden
ARoS
Salling
Music House
Radhul
Bus Terminal
Culture Centre
Godsbanen
Scandinavian Centre
Food Market & Cinema
Bruuns Galleri
Sankt Pauls Kirke
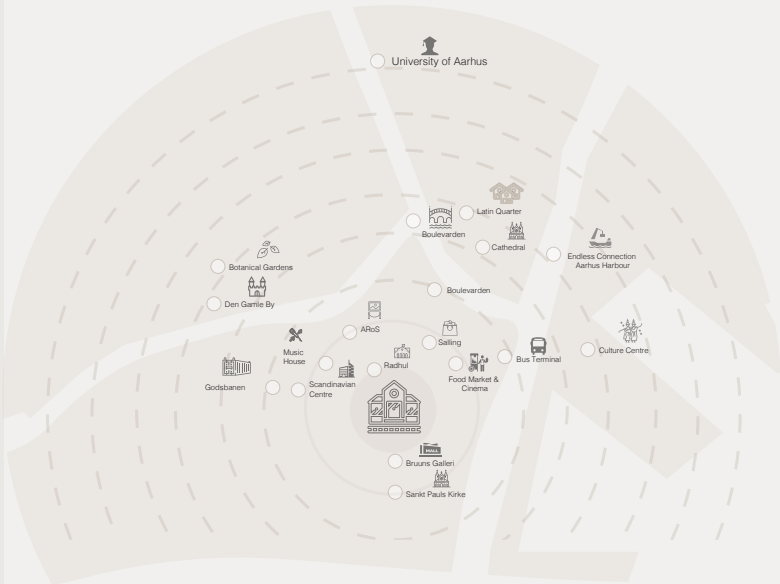
Each ring is spaced ~250 m intervals and centred on the site (Measured in Google Earth)

Botanical Gardens

Spanien

Latin Quarter

Den Gamble By
Medieval Village

Boulevarden   Cathedral

ARoS

Godsbanen
S. Centre
Music House

Salling

Cruise Ship Terminal

Cinema&
Food Market

Bus Terminal

Cultural Centre

Railways

Aarhus Railway Station

Bruuns Galleri

Sankt Pauls Kirke

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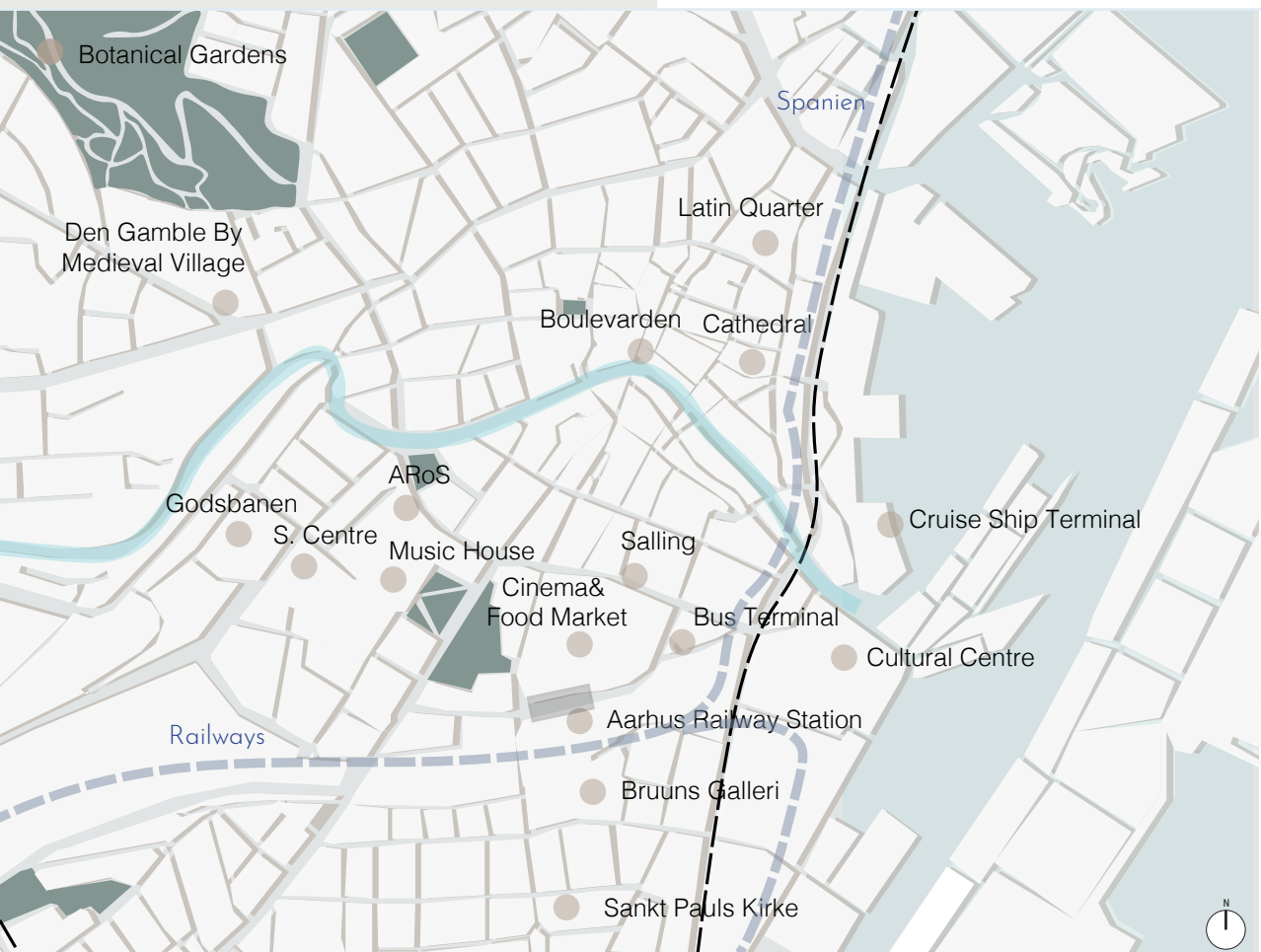
PUBLIC & GREEN SPACES

Aarhus has numerous public spaces across the city, serving a variety of functions and hosting different types of events. As such, some of Aarhus' public spaces are used for sports, music or art events, others are more focussed on shopping and dining, and some are simply places to relax and socialise.

Several of the public spaces in the city have a distinctly historical character, notably Bispetorvet, Store Torv and Klostertorvet, while others are more green in nature, such as City Hall Park and Mølleparken. At present, Banegårdsplads serves exclusively as a mobilities hub, connecting several forms of transportation, with no additional functions taking place on it (the only exception to this is a small seasonal market that takes place in December).

Rådhusparken

Åparken

Møllepa

VoxHall

Lille Torv

St. Olof
Cemetery

Bispetorvet

Klostertorvet

Øboderne

Store Torv

Vadestedet

Music House
Park

Havnefronten

Clemens Torv

City Hall Square

Food Market
Square

City Hall Park

Sankt knuds
Square

Aarhus Train
Station Square

1:50000
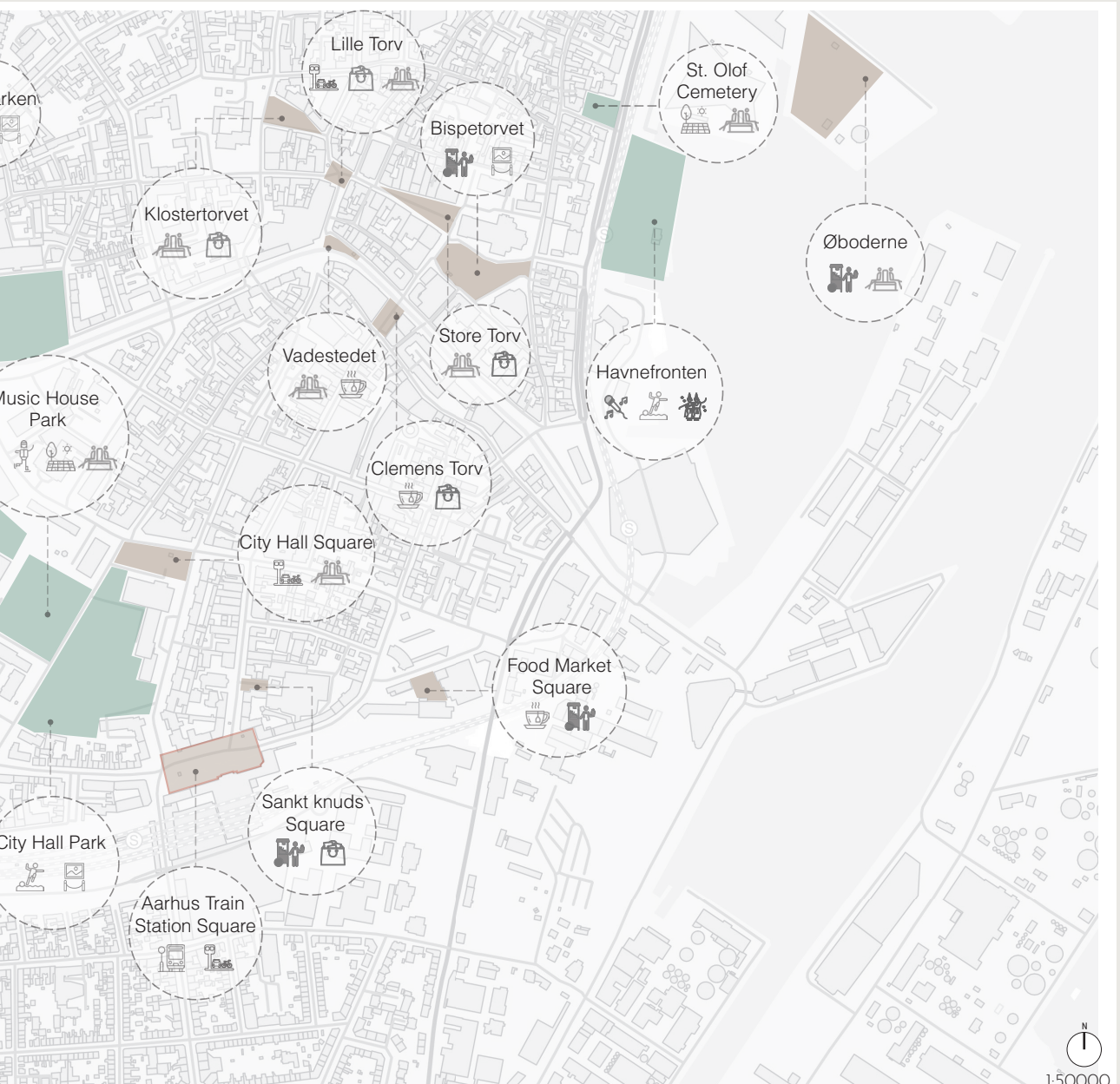
HERITAGE BUILDINGS & ARCHITECTURAL STYLE

The architecture around Banegårdsplads and the surrounding streets has a distinctly historical character, which has been recognised and protected under Danish heritage laws. The area has a relatively young urban history, being primarily rural land until the 19th century. Three railway stations have occupied the southern edge of Banegårdsplads, including the current one that was designed by architect Axel Høeg-Hansen - responsible for numerous other buildings in the neighbourhood - and completed in 1929. Mostly neoclassical in style, the architecture of this part of Aarhus provides a relatively unified aesthetic.

This map depicts the heritage-listed buildings in the surrounding area, and, given the architectural quality and character, these buildings have a profound effect on the materiality of Banegårdsplads.

Aarhus Railway Station

Heritage Buildings

1:7000
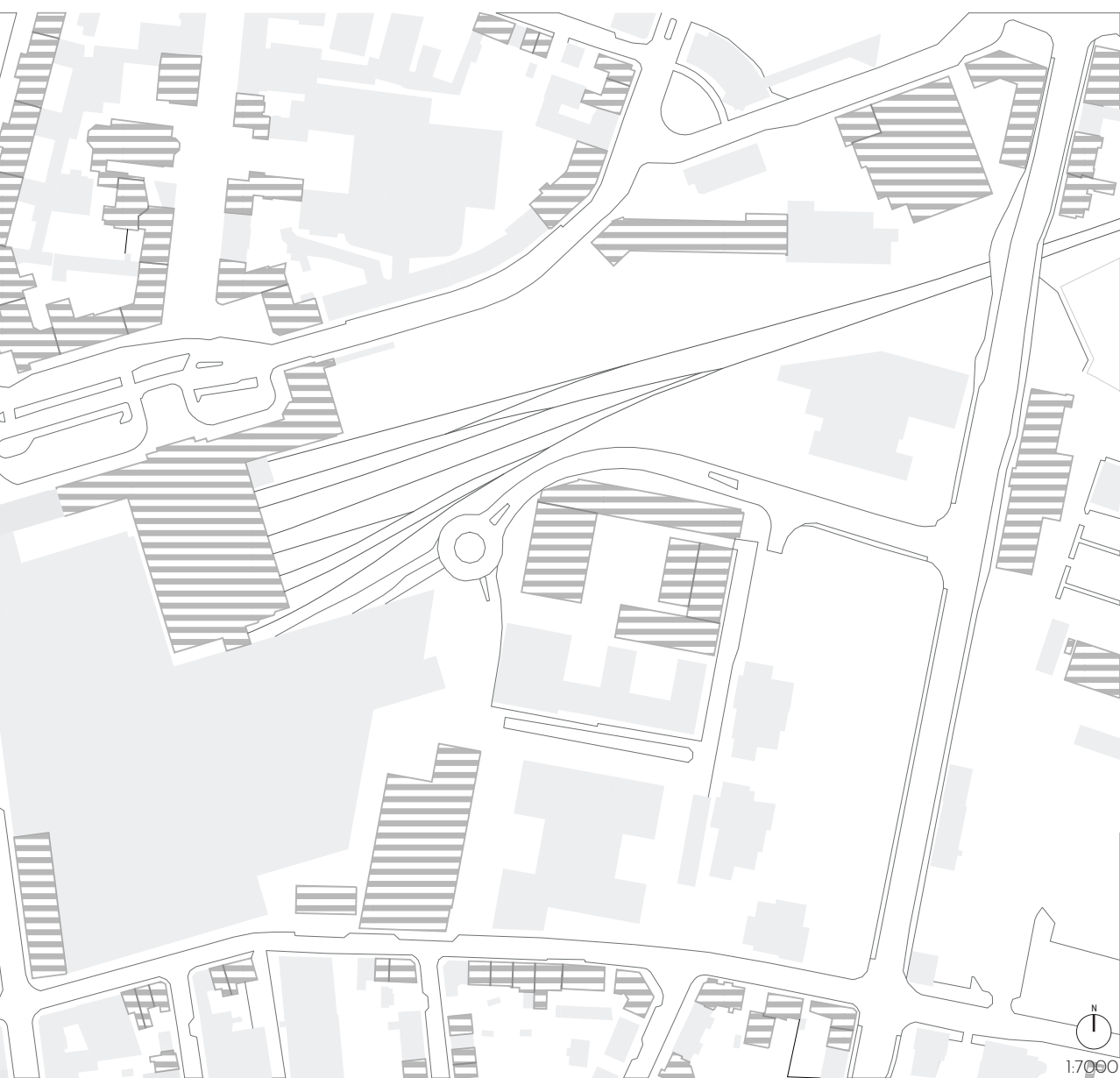
Source: Aarhus Kommune

LAND USE

Given the close proximity of the site to the centre of Aarhus, it is not surprising that a mixture of land uses can be found in the area, with a particularly large number of mixed-use buildings represented (usually comprising shops and services on the ground level and residential units above). There is also a large and dedicated commercial complex behind the railway station, in Bruun's Galleri. It is also notable that several hotels are located close to the site, with two being positioned at Park Allé and one a bit further way at Spanien. Lastly, to the south of the site, and on the other side of the tracks, the land use map shows a much more residential character.

This analysis supports the conclusion that Banegårdsplads is used by a wide variety of people, including tourists, commuters, shoppers, and residents. Hence, it is difficult to say that the site has a singular purpose, but rather that it caters to many uses.

Ryesgade, Mixed Use

Source: Google Maps

1:7000

Commercial   Residential   Hotel   Church

Institutions   Mixed Use   Buildings under construction
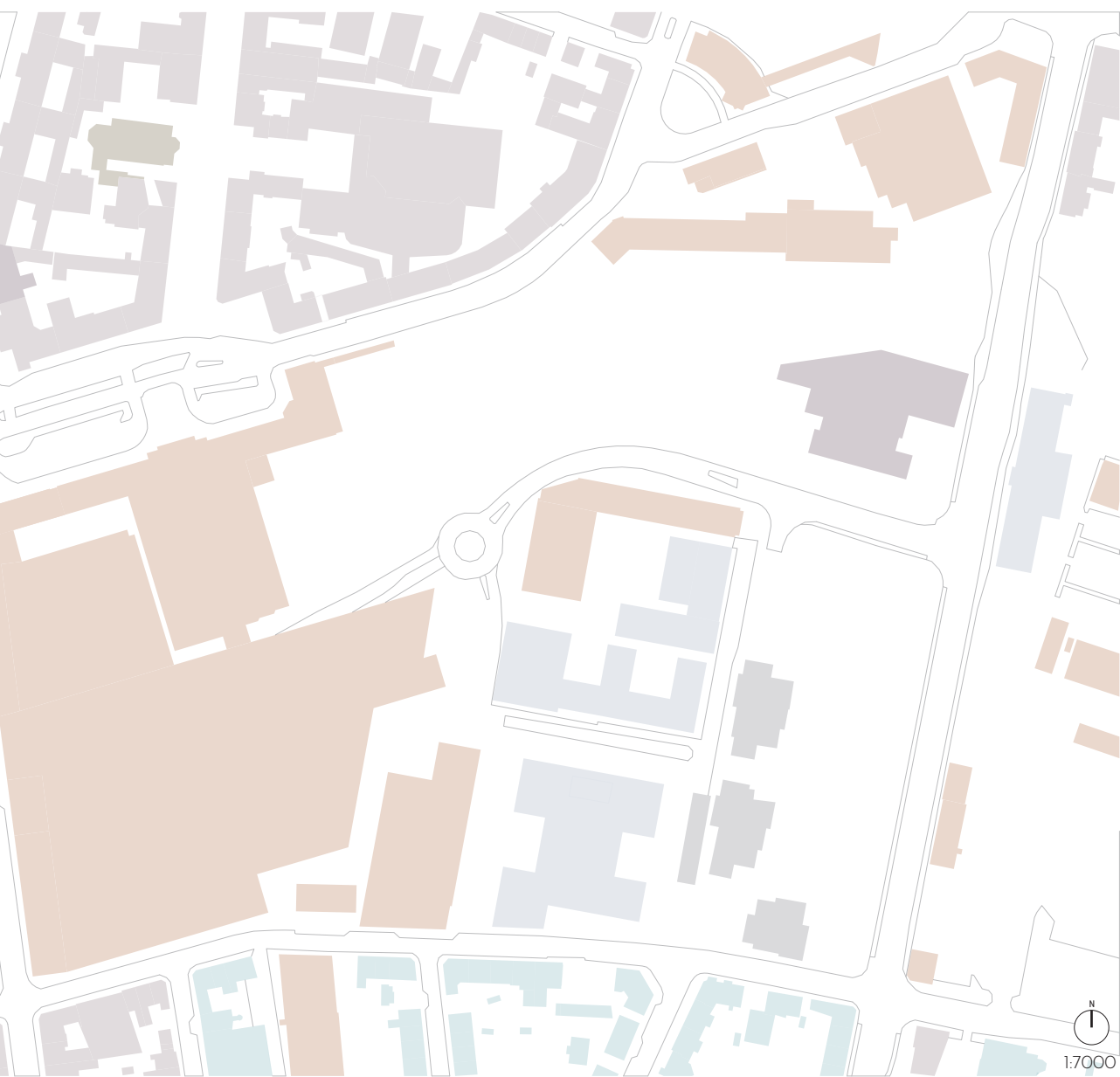
DENSITY & SCALE

In this report, density relates to the general mass or volume of buildings, with particular reference towards building heights (measured in number of floors). Scale refers to the relative proportion of public open space - for example, streets, plazas, parks - compared to the built environment. For urban design, these two traits can have a large impact on how people will experience a place; a site that has very tall buildings and narrow streets can feel imposing and claustrophobic, while somewhere that has much smaller or fewer buildings can feel empty and lifeless.

The buildings around Banegårdsplads are, on average, quite tall, standing about 6 storeys high. However, due to the wide area of the square, and the broad streets of Ryesgade and Park Allé, the sense of scale produced at this site is generally good, with the visitor being given a sense of a comforting environment, rather than an enclosed or exposed one.

Ryesgade

1:7000

Source: Google Maps

1-3 floors   4-6 floors   7-9 floors   >9 floors

FRONTAGES

One of Jane Jacobs' biggest contributions to urban design thought is her emphasis on the quality of the street as it is experienced, particularly by pedestrians. The analysis of active frontages has evolved from this concept, with input from many other theorists, such as Newman (1973) and Gehl (1994) (Heffernan, Heffernan & Pan, 2014, p. 93). The terms active- and inactive frontage describe the extents to which a building's ground level facade attracts or inhibits the interest of the passerby.

For this analysis, the activity levels of building frontages were examined for both day- and night-time. The buildings encircling Banegårdsplads demonstrate relatively high levels of activity over these time periods, as do nearby streets such as Ryesgade (the pedestrian shopping street) and Park Allé. From this analysis, then, it is reasonable to suppose that visitors to the square will find the buildings to be engaging and interactive. This, in turn, makes for a more interesting and safe experience in Banegårdsplads.

Cinema & Food Market

1:7000

Source: Google Maps

Low Activity (≤ 6h)   Moderately Active (7h -10h)   High Activity (11h -14h)

Intense Activity (≥ 14 h)

CONTEXTUAL APPRAISAL

The purpose of the contextual appraisal plan is to identify key aspects of the way in which the site interacts with its surrounding area. This is particularly useful for locating areas that are missing a connection, or where the potential exists to enhance the relationship between the site and its context.

In this plan, the large numbers of nearby landmarks are immediately apparent, highlighting the importance of strong connections to knit the landmarks together. The pedestrian network is also visible, particularly from Ryesgade to the train station (and onwards to Bruun's Galleri) as well as from the bus terminus to Park Allé. The train tracks represent a major barrier to movement, dividing the southern part of Aarhus from the central area, with only the train station and Bruun's Galleri buildings connecting the two.

City Hall

Aarhus Bus Termina

Katolsk Vor
Frue Kirke

Food Market &
Cinema

Ritz Hotel

Aarhus Railway Station

Bruuns Galleri

N

1:7000

Traffic Roads

Nodes

Historical Buildings to be
Reinforced
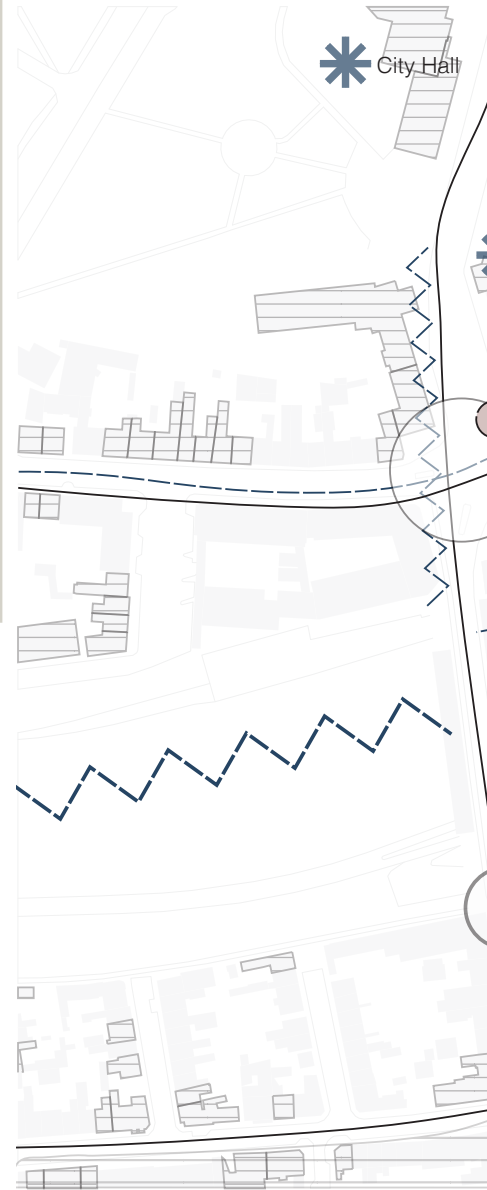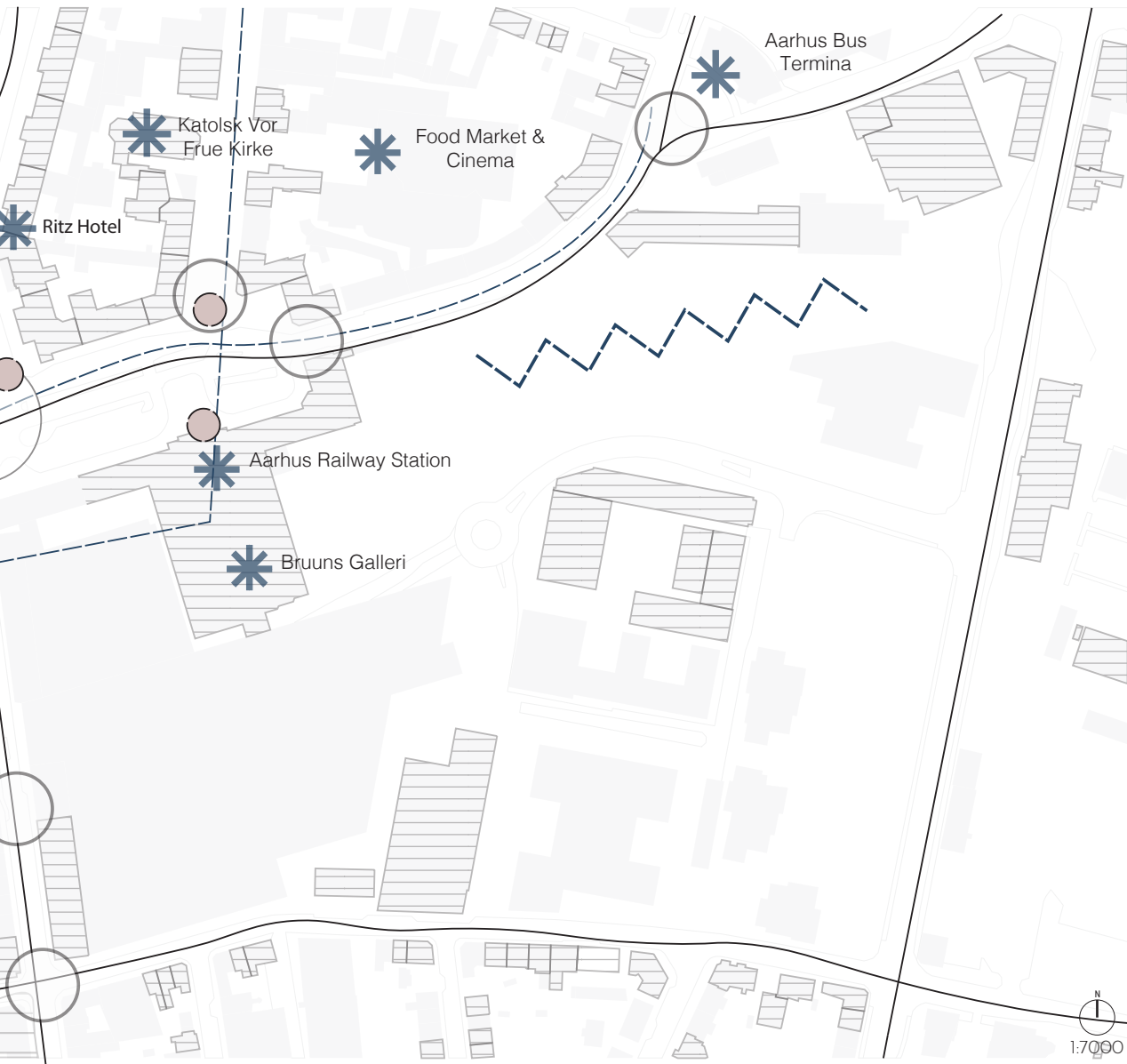
Major Edges

Pedestrian Paths

Minor Edges

Landmarks

Potential Gateways to be
improved

FLOWS ANALYSIS

In urban design, flow generally refers to the directions and volumes of movement of various forms; in this analysis, flow has been applied to pedestrian and cyclist movement across the square. The data for this analysis was collected during observations carried out during field visits to the site, and the actual values for different flows can be found in the appendix.

For pedestrians, several paths across the site stand out as being much more active than others. Most prominently of these is the path between Ryesgade and the station entrance, which demonstrates a very high volume of pedestrian movement in both directions (more than 2500 people in each direction). Each other entrance to the square recorded approximately 500-1000 people entering or exiting over the course of the day, and most paths observed converged on the station entrance. It is interesting to note that, where available, pedestrians would take shortcuts towards their destination, rather than a more circuitous route; this behaviour was observed at car parking places, but not at the main traffic road.

This analysis reveals some important features of Banegårdsplads. First, the railway station (and Bruun's Galleri) are key destinations for most pedestrian visitors to the square, many of whom either go towards or come from the pedestrian street of Ryesgade. Second, the existing traffic road obstructs the free movement of pedestrians across the site to some degree. While these conclusions are relatively obvious, it is nonetheless valuable to see them confirmed through this analysis.

March 7, 2019 @ 7:00-9:00

March 7, 2019 @ 11:00-13:00

March 7, 2019 @ 15:00-17:00

1:700

Primary Pedestrian Route

Secondary Pedestrian Route

Primary Cycling Route

Secondary Cycling Route

Shortcuts
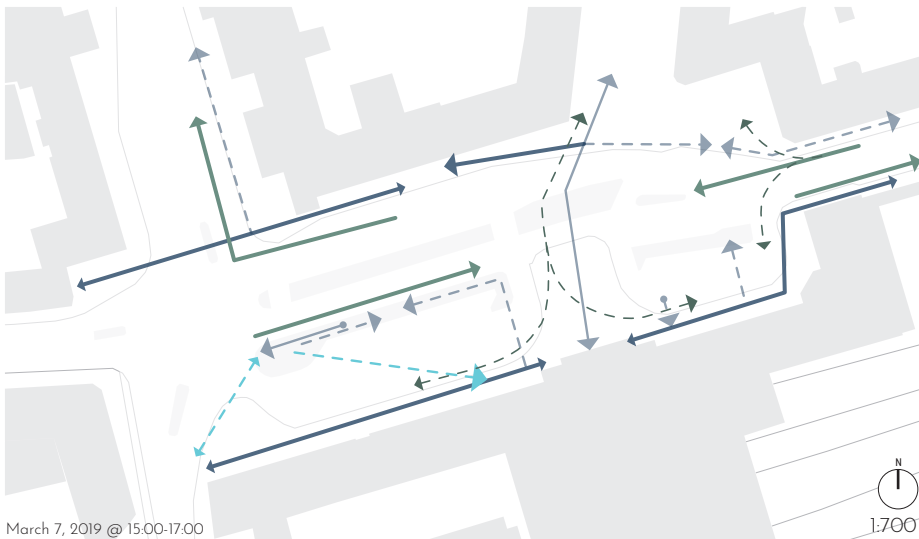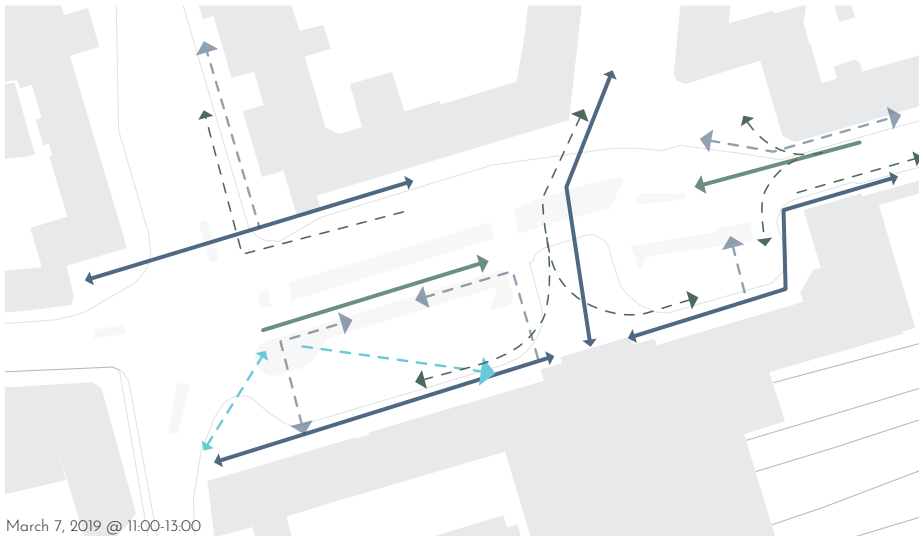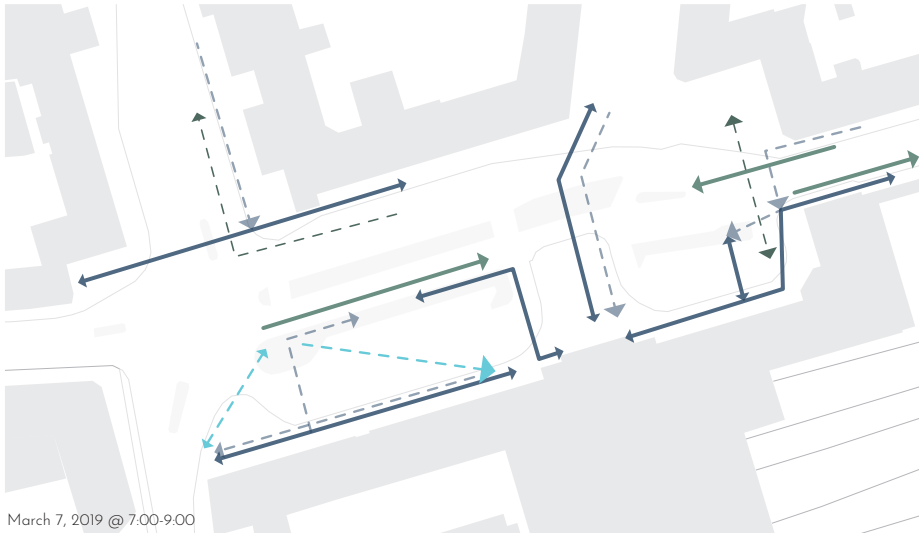
ACCESSIBILITY-
NON MOTORISED

Cyclists visited the square in much smaller numbers than pedestrians (as shown on the previous page), and followed somewhat different paths. For example, cyclists rarely used Ryesgade, and instead entered from either the eastern or western sides of the square, and in many cases passed straight through without stopping. Observations were made during the site visit that many cyclists would also enter the square in order to park their bikes, and would then either proceed on foot or - more often - enter the train station. Provision of bicycle parking, therefore, is an important consideration for the design, and should be spatially located for cyclists' convenience.

Source: http://webgis.aarhus.dk & Google Maps

1:1200
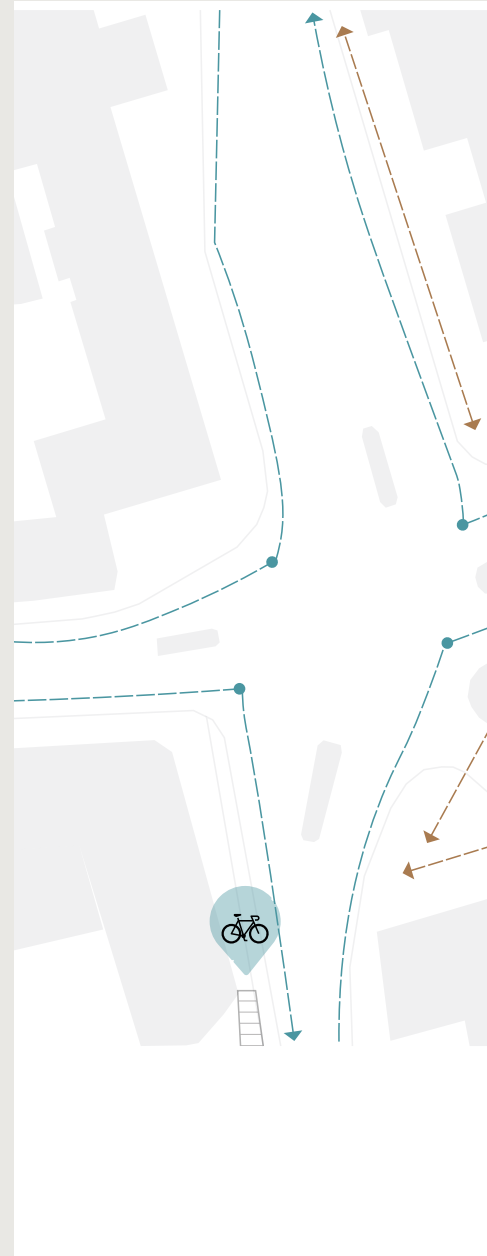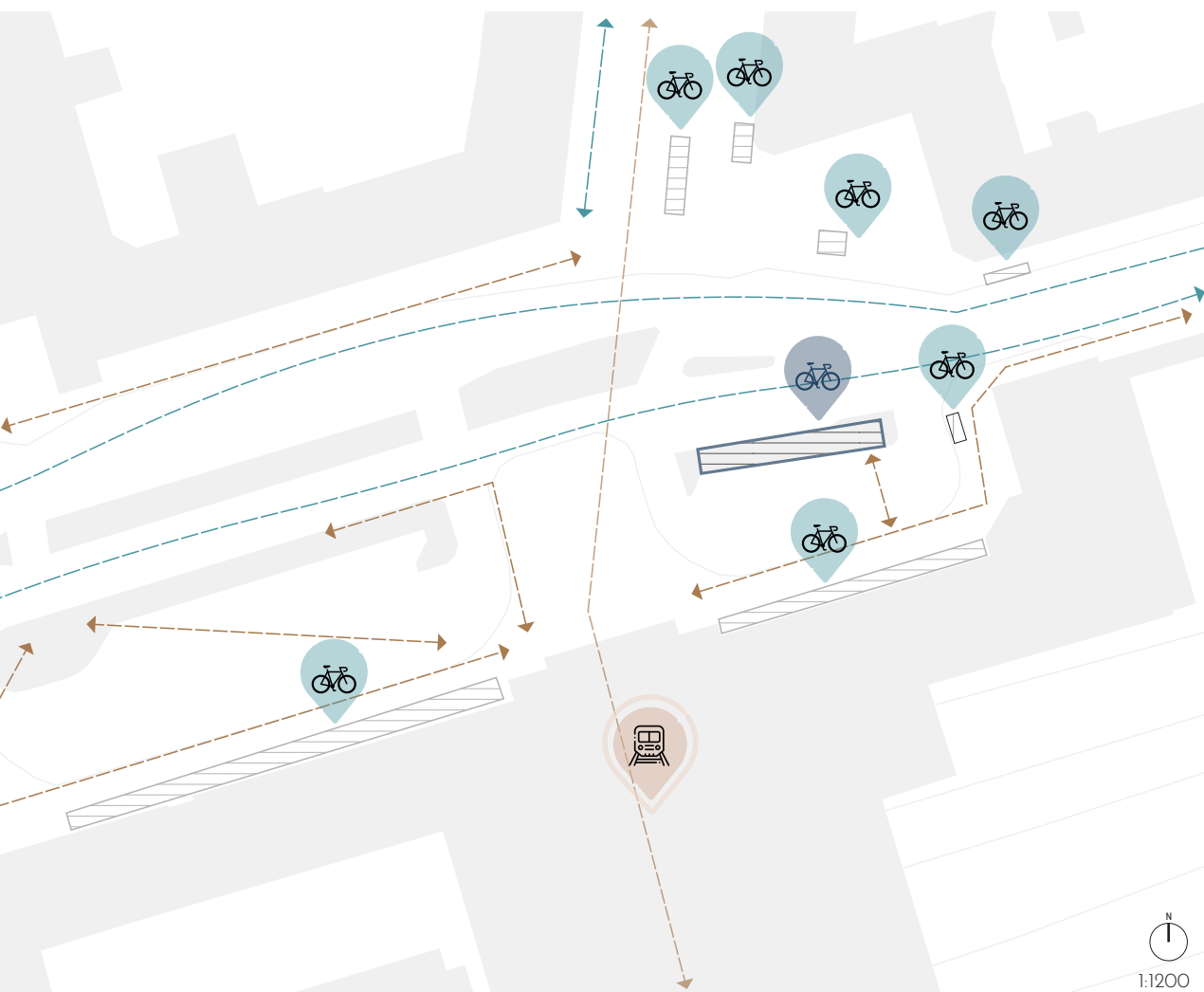
←-----------→ Bike route   ←- - - -→ Pedestrian Route   Bike Parking   Sharing bikes

Railway Station

ACCESIBILITY - MOTORISED

At the moment, the western end of the square is the site of a major traffic intersection, with vehicles - cars, trucks, busses and taxis - travelling in multiple directions from Park Allé, Banegårdsgade and Ny Banegårdsgade. This results in a noisy and chaotic junction with very high traffic volumes. The activity levels are even further increased by the large numbers of bus stops that are scattered in the vicinity of Banegårdsplads, causing busses to stop frequently, potentially delaying vehicles behind them.

Additionally, the front of the station entrance includes spaces for cars to stop for short periods, so that people can be picked up and dropped off, as well as for taxis. This further amplifies the confusion of moving vehicles across the site, while also impacting the pedestrian areas by establishing 'waiting zones' close to the station entrance.
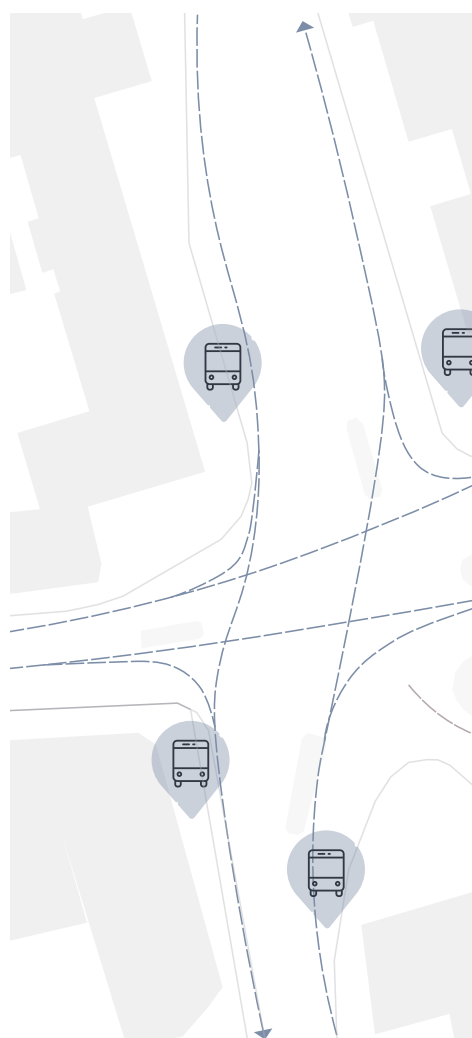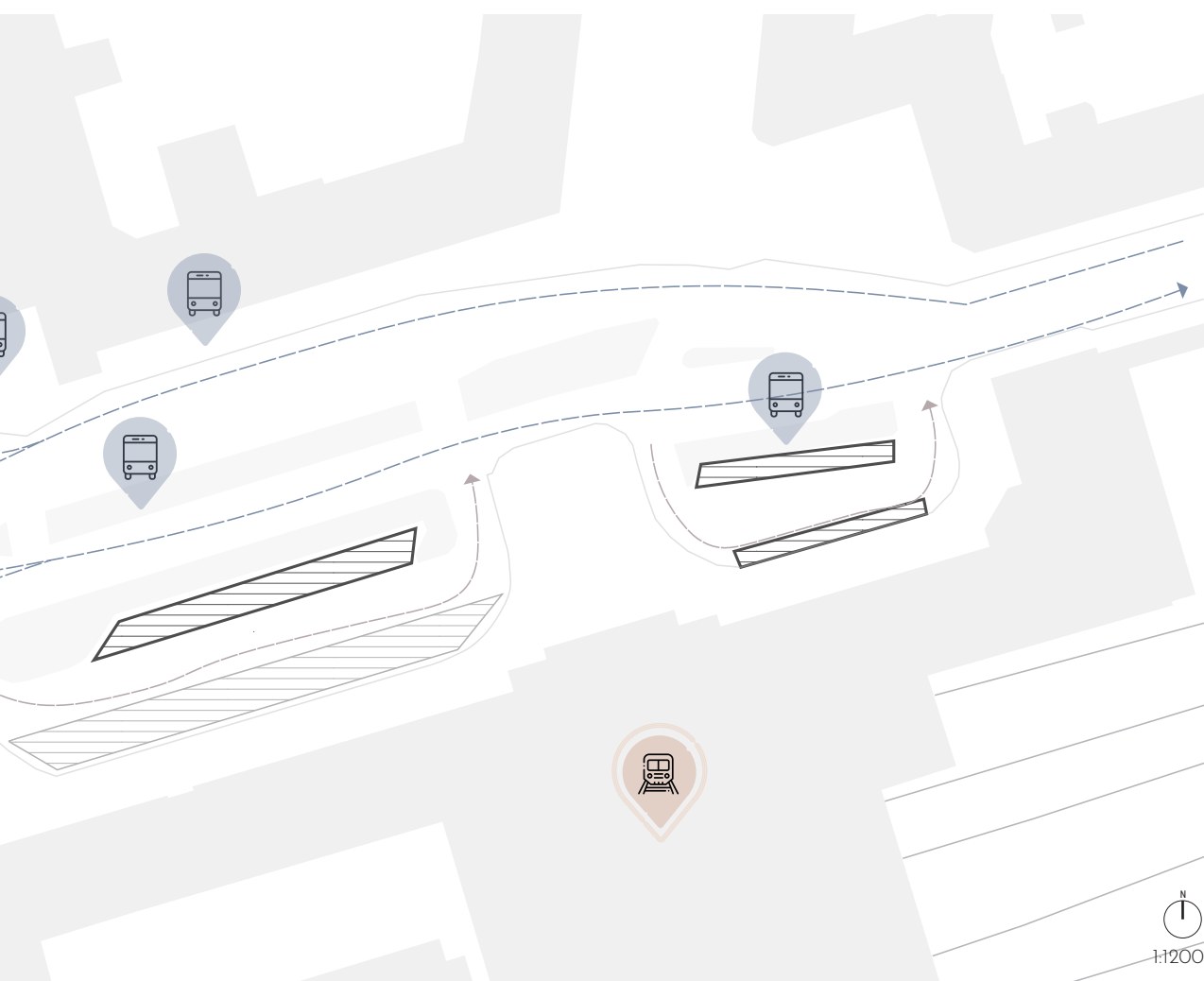
1:1200

| | Taxi's area | | | Car Parking | – – – Cars+ Busses Routes | ——— Drop-off space |

| | Bus Stop | | | Railway Station |

ATMOSPHERE

Analysis on the atmosphere of a space is a useful method for understanding the experience of visitors. In this report, 'atmosphere' refers to the general character of the area, and the sensation of being in and passing through it. As this definition implies, atmosphere is highly subjective, and so the atmosphere that is presented here reflects the interviews carried out during a site visit.

Overall, Banegårdsplads does not give a favourable impression on many visitors. The key issues that are observed in this analysis are the lack of a clear identity for the square (illegible), and a sense that it is very busy and crowded (chaotic).

The entrance of train station

The traffic intersection

Northwest corner

Post office with bike parking

What a CHAOS

- This place is little bit UNSA

Metal

Bricks

Glass

MATERIALS & TEXTURES

The materiality of a site, in particular the range of materials, colours and textures that are employed in both and ground surfaces, has an important role in conveying a historic feeling. The yellow bricks and red tiles of the buildings surrounding Banegårdsplads, which, as previously noted, are from a 1920s neoclassical design, help to give visual unity to the square, which is maintained through later additions. Additionally, the pedestrian areas of the pavement are comprised from cobblestones - a very historic paving type - and cement pavers, which are more modern. This feeling, however, is somewhat reduced by the large amounts of asphalt that currently occupy the square.

Stone

Roof tiles

Asphalt

Bricks

LEGIBILITY - PEDESTRIANS

Legibility analyses have become a staple in urban design work, building on the ideas of Kevin Lynch, who proposed that a place should be legible, in that it should evoke a strong image with a clear structure in the observer [Lynch, 1960]. Lynch's work examined the ways in which cities are perceived and navigated, employing a more experiential and abstract approach than other types of analysis, that look instead towards physical characteristics. Lynch presented five elements that create the 'mental map' or image of a city: paths, landmarks, nodes, edges, and districts.

In this report, the legibility analyses have been divided into two separate diagrams, representing the different perspectives of pedestrians and vehicle-users. This has been done because of the importance of different modes of mobility on the site.

The pedestrian legibility analysis is significant because of the two major paths - from the station entrance to Ryesgade and along the northwestern edge of the site from Ryesgade towards Park Allé and Banegårdsgade. Despite the importance of these paths in the mental map, the movement along the first of these paths is limited by physical and perceived barriers to movement in the space directly in front of the station entrance.

Another significant feature of this plan is the presence of waiting areas, which are located at several places across the site, and correspond with bus stops and short-term parking (for cars and taxis).

Post Office

Aarhus Railway
Station

N
1:1200
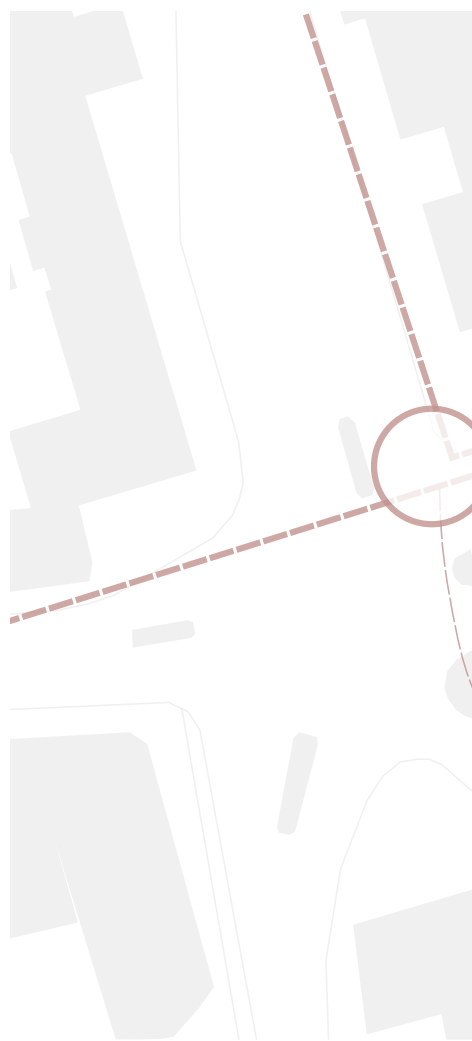
Major Pedestrian Paths   Minor Pedestrian Paths   Edges   Landmarks

Nodes   Staying Areas

LEGIBILITY - VEHICLES

The mobilities turn introduces the concept that people can experience spaces in different ways, and that the mode of movement or transport can be a key factor in that perception. A simple example of this could be traffic signs: pedestrians will often ignore them, while motorists are obliged to pay keen attention. It stands to reason, then, that motorists will possess a different image of the city than pedestrians.

The traffic intersection at the western end of the site dominates this image. It is an area where motorists must be very attentive, as it contains many vehicles moving in different directions, often at speed. In particular, Park Allé stands out as a major thoroughfare, whereas Banegårdsgade and Ny Banegårdsgade have a generally lower volume of traffic. The train station has been marked as a landmark in this analysis as it serves as a strategic landmark, by which motorists are able to navigate around the city.

It should be noted that this analysis is speculative, as no first-hand experience of driving in this area was obtained.

Aarhus Railway
Station

N

1:1200

Primary Routes   Secondary Routes   Edges   Staying Areas

Vehicle Node   Landmarks

TOPOGRAPHY

Topography is an important factor when it comes to matters such as water drainage and sightlines. Additionally, topography has the potential to have a profound impact on the final design - a very steep site may prohibit certain activities from being included. The topography at Banegårdsplads, however, does not present any significant design limitations. The terrain slopes very gently across the square, with the lowest point being at the eastern exit (onto Ny Banegårdsgade) and the highest point on the western side (at Banegårdsgade). Due to the scale of the square, the effect of this slope is negligible.

Beyond the immediate environs of Banegårdsplads, however, the topography is more pronounced. The overall layout of the area is a downwards slope from west to east, with the highest nearby point being located at Rådhusparken. Immediately south of the site the land falls to a lower level, with steep edges creating a barrier. This lower ground is occupied by the railway tracks. This topographical context reveals that the area is safe from flooding, and also relates to the historic reason that this site was originally chosen for the city's train station (this hill is also visible in a 1675 map of the city).
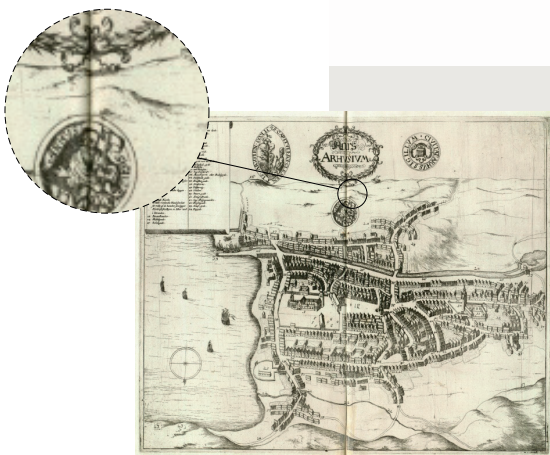
Resens Atlas Danicus 1675

Source: https://sdfekort.dk/spatialmap

1:7000

3m 3.5m 4m 4.5m 5m 5.5m 6m 6.5m 7m 7.5m 8m 8.5m 9m 9.5m 10m 10.5m 11m 11.5m 12m 12.5m 13m 13.5m 14m 14.5m 15m 15.5m 16m 16.5m 17m 17.5m 18m
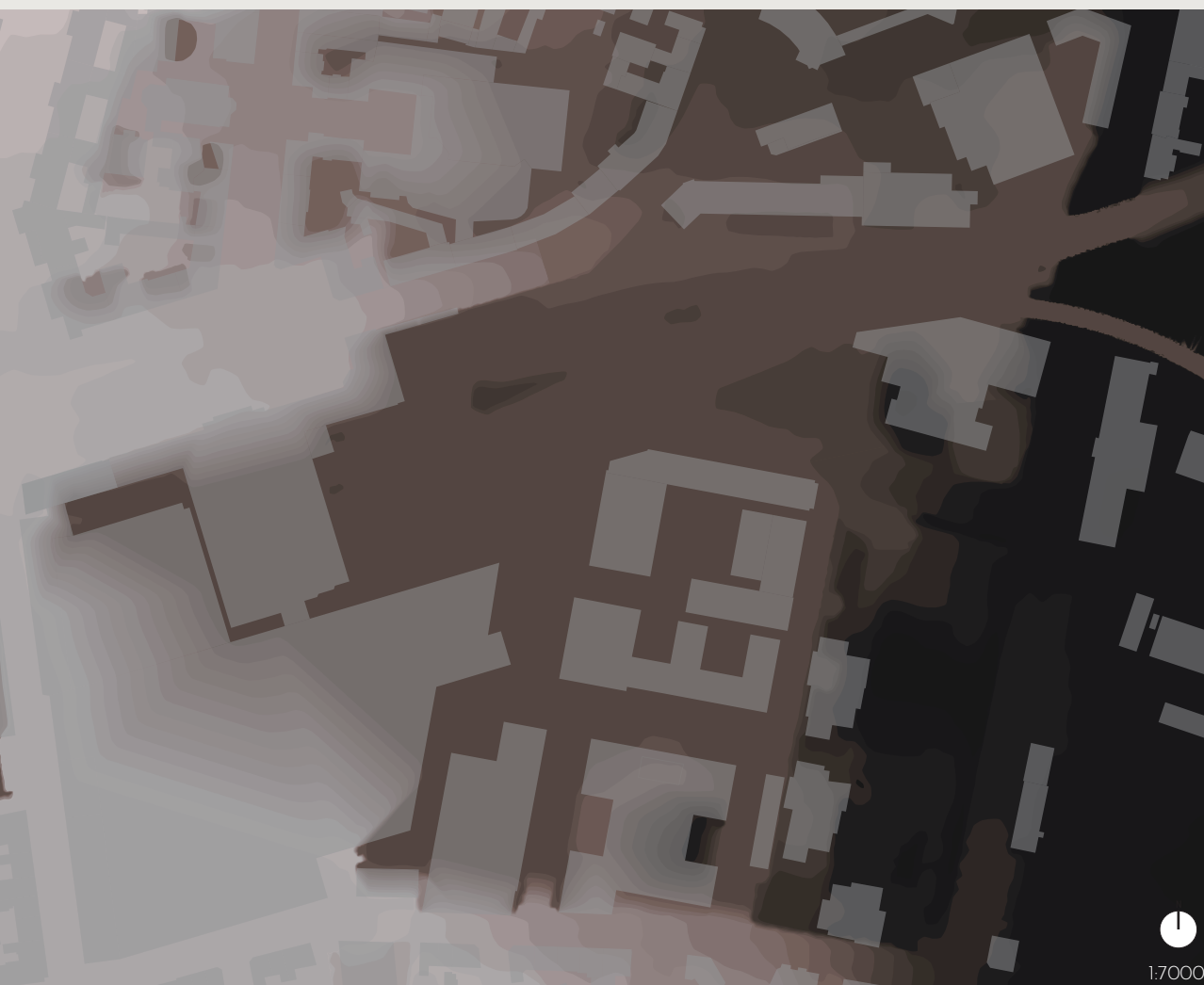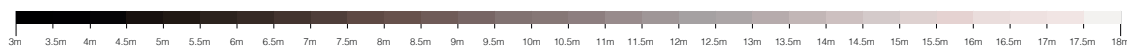
SUN & WIND

The Danish climate is not one that is highly conducive to spending time outdoors throughout the year, and so it is important in this design to consider factors such as sun and wind, as they can make a place more or less desirable to spend time. Areas which receive plenty of sun are attractive for both the light and warmth that are provided, while areas that are in shadow are generally colder and less attractive. Similarly, areas that are exposed to strong winds are colder and less hospitable than areas that are more sheltered from the wind.

The prevailing direction of winds in Aarhus is from the southeast. The position and scale of the railway station and post office structures are thus able to block a large amount of incoming winds, and consequently reducing the negative effect that those winds would cause. Indeed, the southeast corner of the square, between the post office and station entrance, is almost completely free of wind. The strongest winds on the site are located at the western end, where the large open area provides very little shelter, and at the entrance to Ny Banegårdsgade and Ryesgade in the eastern end of the site, where the buildings act as wind channels.

The sun analysis reveals that the northwestern side of the site reveals the most sunlight throughout the year, with a reasonable expectation that it will receive at some sunlight even in the cooler months.

Average temperature
of Aarhus :
7.8 °C

Average wind
speed :
7 m/s

Average rainfall :
605 mm annually

June @ 12:00

September @ 12:00

1:1000

Source :https://www.dmi.dk

1:1000

Source : https://www.meteoblue.com, https://en.climate-data.org

OPPS & CONS

The final analysis in this chapter is the opportunities and constraints plan. This plan serves to combine various findings from previous analyses to give spatial recognition to areas of the site that may be subject to design interventions. This analysis can serve as the first step towards the design process, as the results are necessarily subjective.

In this plan, the central part of the square is represented as a suitable area to locate various activities, and may thus serve as the focal area for the design. Several points around the edge of the square are identified as potential gateways to be reinforced, or new gateways to be created. Gateways are an important component of a design, as they serve to invite people into the site, and strengthen the connection to the surrounding context. Lastly, the establishment of key viewpoints, against which the experiences of the square's visitors are staged, can help to unite the square within a single cohesive design.
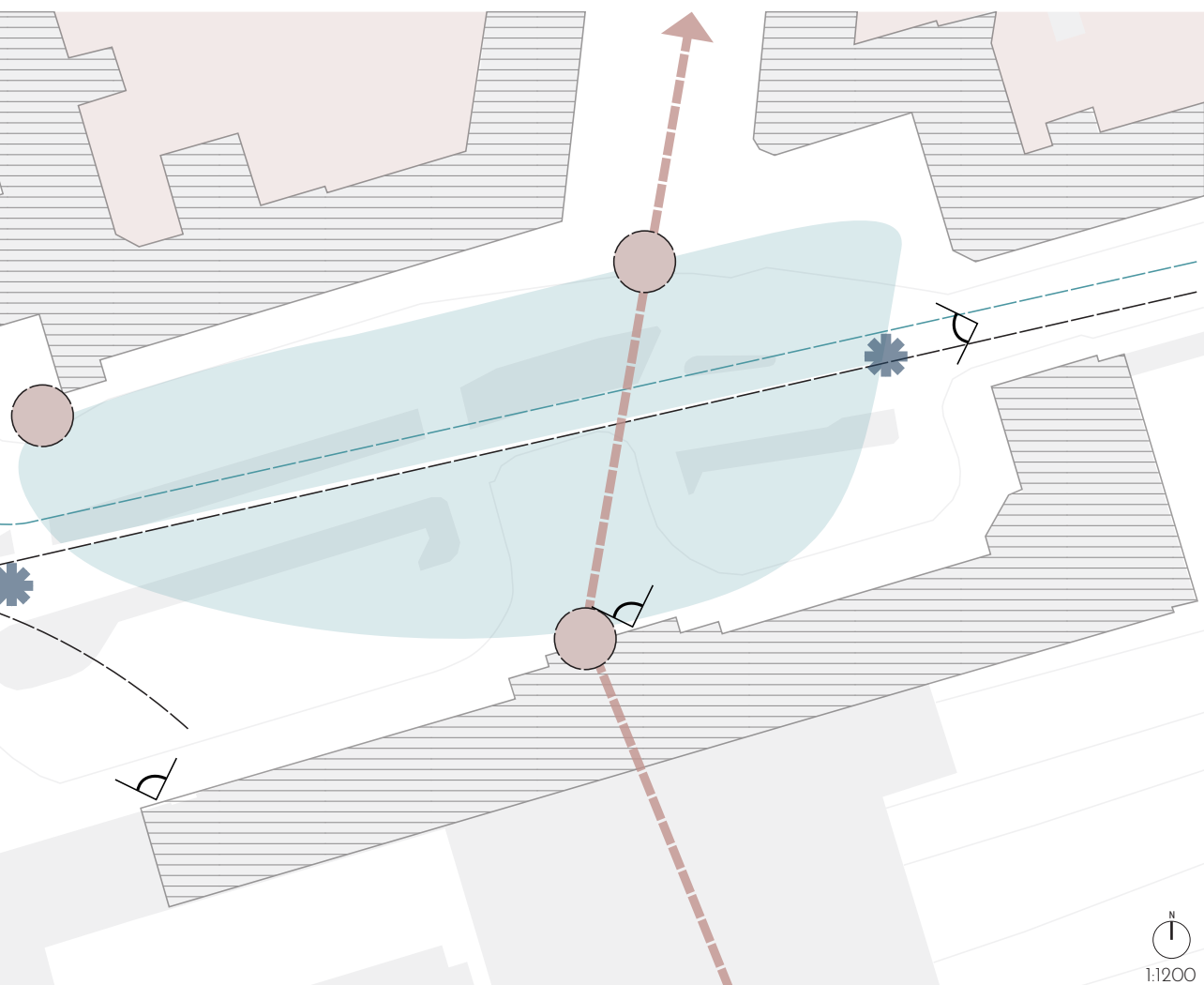
Light Rail Route

Preserved pedestrian Crossing

Potential Connection

Potential Gateways to be created

Potential Gateways

Potential Visual Connections

Historical Buildings to be reinforced

Potential Activities Area

N
1:1200

CONCLUSIONS-
PROBLEM FORMULATION

The purpose of conducting these analyses is to gain a greater understanding of the site, and in particular the existing characteristics that work well, those that can be improved, and the way the site as a whole functions. By taking this information, in conjunction with the themes of mobility and history, three design problems can be clearly articulated.

HOW CAN WE GIVE THE PLACE
IDENTITY THAT IS LINKED TO
HISTORY & CULTURE?
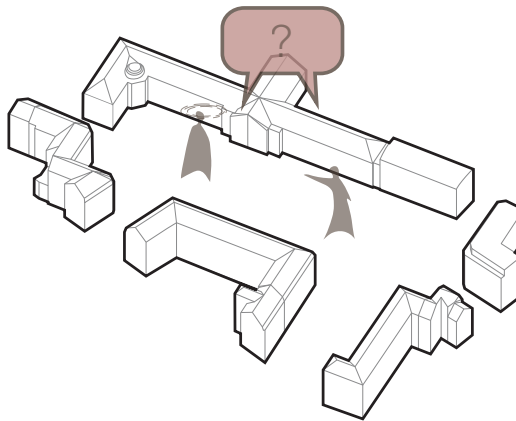
HOW CAN WE DESIGN A
LIVEABLE URBAN SPACE THAT
AFFORDS DIFFERENT MOBILITIES
OPTIONS ?
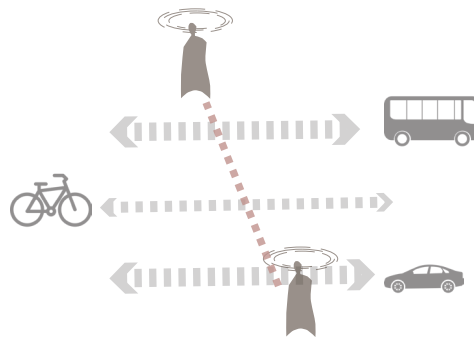
HOW CAN WE UNITE MOBILITIES & HISTORY
IN A PEDESTRIAN FRIENDLY SQUARE?

CHAPTER IV :
DESIGN PROCESS

INTRODUCTION

This chapter explains how the conclusions reached from site analysis and theoretical discussions allowed the design proposal to take shape. To understand the design process for this project, an analogy to spaghetti can be useful: instead of a single linear path represented by one spaghetti noodle, the process has constantly gone backwards, forwards, sideways and over, like an entire bowl of pasta. There are, nonetheless, general stages to the process that can be defined:

First, the problem was reconfigured into a design vision;

Second, inspiration from existing precedents around the world, each possessing a quality or ambience that was consistent with the vision;

Third, design parameters helped to establish priorities and tangible goals; and
fourth, a variety of concepts were generated, discussed, and refined.

This entire process can be characterised as a matter of refining and narrowing things from a larger perspective (general and abstract) to a smaller one (precise and specific).

"Clearly there is a desperate need for professionals who are conservationists by instinct, but who care not only to preserve but to create and manage"
Ian McHarg, Design With Nature (1969: 151)

VISION

In this design proposal, Banegårdsplads will be transformed into a public square for everyone: a place where people can sit and relax, and also a place that facilitates easy movement and navigation in Aarhus. Additionally, the square's existing historical character will be reinforced and used to establish a distinct identity for the space, one which keeps history alongside the future urban growth of the city, and remains relevant without becoming outdated. This design has the ambitious goal of making Banegårdsplads into one of Aarhus' most distinctive, unique, and enjoyable squares, and a celebration of Aarhus' identity.

Upper Barrakka Gardens, Malta

Piazza del Duomo, Milan

Spanish Steps, Aarhus

Fujimi Chiyoda-Ku, Tokyo

INSPIRATION

What makes a place feel historical, and how can that feeling be incorporated into a modern design? This question guided the design process, and allowed inspiration to be sought from existing locations around the world. This page details some of the precedents that influenced the design, however not all can be included here (for a more complete list, see Appendices).

As discussed previously, establishing a sense of history can be achieved through the use of imagery and associations. The Piazza del Duomo in Milan, like many pedestrian-centric public squares in historic cities, applies order and geometry on the urban form. The application of these features gives definition and identity to the space, and establishes presence and monumentality. The 'classical' feeling of order and geometry can also be demonstrated through permeable vertical elements, as in the Upper Barakka Gardens in Valletta, Malta, which permit movement but also form well-defined edges.

The Spanish Steps (located in Aarhus, adjacent to the river) serve as a useful precedent, as it employs the historical construct of an amphitheatre - rows of seats rising in level - but twists the convention so that the seating is not entirely unidirectional, allowing a more flexible use of the space. The image of the amphitheatre has strong historical associations, but this particular example highlights the ways in which a historical form can be modernised and adjusted for new purposes. With this morphology, the 'amphitheatre' becomes a more communal and social space, while still affording use as a performance venue.

The input of historical associations can also include more subtle forms, at much smaller scales than the classic square and the amphitheatre. Textures and materials can be used to tell the story of a place; for example, Fujimi Chiyoda-Ku in Tokyo combines historic maps and timelines in the fabric of the pavement, allowing people to experience the history of the city in subtle and artistic ways.

More than A to B
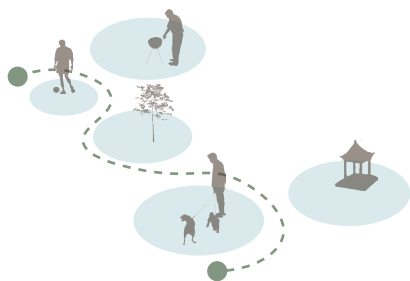
Diversity of Functions
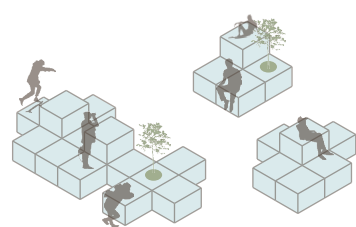
Connecting Past & Future
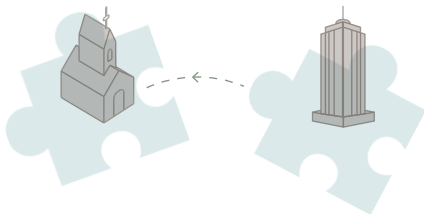
Defining Idenity
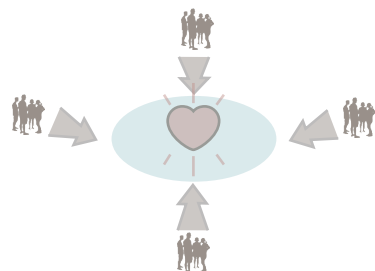
Diversity of Movement
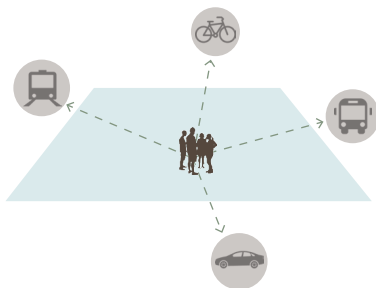
Materiality
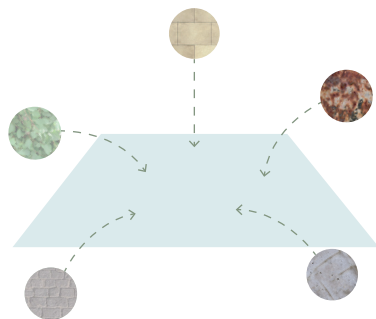
DESIGN PARAMETERS

Design parameters are an important part of the design process, as they establish criteria that the final design should meet. In this report, the design parameters have been devised as a result of the previous analyses, the theoretical discussion, and the precedents, and so reflect the interest in historical urbanism and mobilities design. The six parameters of this report are:

First, journeys are more than just movement, and the space should be designed to give travellers a pleasant experience;

Second, combining different functions helps create vibrancy and attracts more people to the space;

Third, the site should serve as a bridge between the past and future, and should introduce the historical feeling in a relevant and engaging way, without becoming outdated;

Fourth, defining identity is a key requirement in place-making - that is, somewhere that has its own distinct character, and so invites people to explore and enjoy the site;

Fifth, providing and facilitating movement in a variety of forms, and designing the interactions of these networks so that they complement each other, rather than competing or clashing; and

Sixth, paying attention to materialities in order to indicate the affordances of the site and enhancing the imageability of the space.

CONCEPT

Design concepts allow abstract ideas about how the site may be designed to be articulated and spatially arranged. In this report, there is not one single design concept, but rather layers of concepts that build off each other to form a final design.

The first concept ('base concept') is that of a grand plaza, inspired by classic squares from other historical cities, such as Rome and Paris, and taking the form of an open space with defined boundaries and a geometric ordering.

On top of this concept, the mobilities requirements of the site were added ('mobilities concept'), forming a crossroads in which pedestrians primarily move in one direction, and public transport moves in an almost perpendicular direction.

The 'functions concept' overlays a sense of speed and movement, by dividing the site into a moving zone and a static zone. These zones are not prescriptive, but the intention is that the moving zone is an area in which people are frequently moving through or past, and so exudes a more dynamic character; the static zone, by contrast, is more removed from the active parts of the site, and so enables a slower pace of life to be enjoyed - sitting and relaxing, meeting people and observing the square.

The fourth concept is 'detailing the zones' and applies more specificity to each zone, further dividing each into two more zones. The further division of the zones takes into account factors such as sunlight and proximity to services and pathways.

Finally, after the site has been divided into four zones, the square is knit back together in 'telling the story'. This concept not only brings all parts of the site together, it also examines the way that Aarhus' history can be told and explored, and in particular the four themes of the city that were identified previously: trade and commerce, arts and crafts, religion, and military.
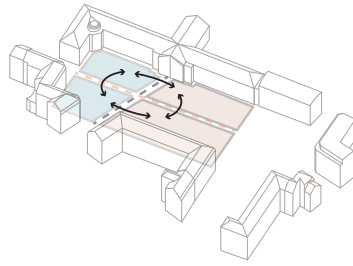
TELLING
THE STORY
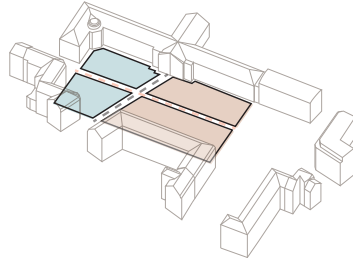
DETAILING THE
ZONES
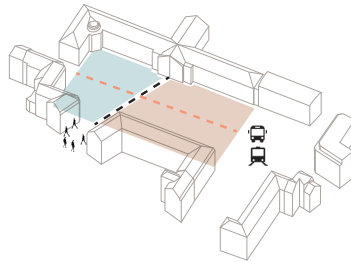
STATIC & MOVING
HISTORY
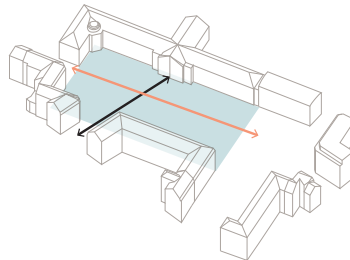
MOBILITIES
CONCEPT
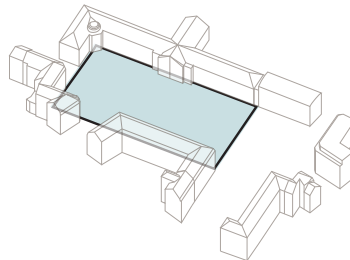
BASE CONCEPT-
THE GRAND PLAZA
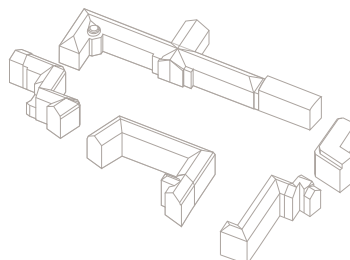
SITE

CHAPTER V: PRESENTATION
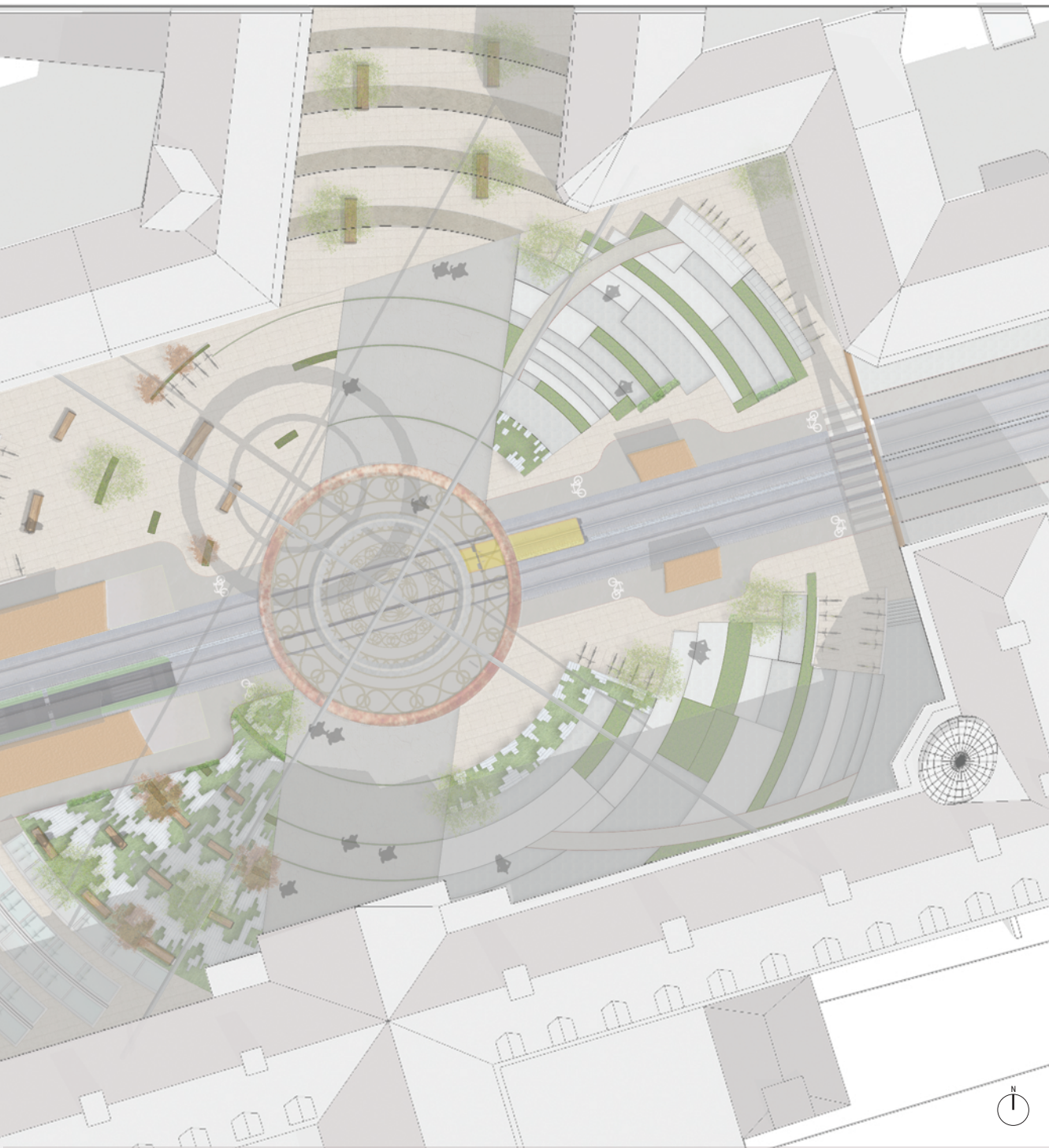
Masterplan - Saga Square

The masterplan is the culmination of the design process, and the final representation of the design proposal. Encapsulating the story-telling elements of history, and taking inspiration from Viking tradition, this design is called Saga Square. The following pages describe the features of this design in detail, starting with the technical solutions proposed for the mobilities infrastructure, and then taking a tour through the site, looking at each part in turn.

MOBILITY : TECHNICAL SOLUTIONS

The provision of mobilities options on Banegårdsplads represents a technical challenge to the design proposal. This page outlines key details of the solution provided as it relates to all of the mobilities forms: bicycles, busses, light rail, private vehicles (kiss-and-ride parking), and pedestrians.

BIKE PARKING

Adequate bicycle parking is required to avoid bikes being parked haphazardly across the square. Aarhus municipality estimates a minimum of 500 spaces are required, which have been strategically placed at every corner, with a particularly large number at the southwest corner.
Total capacity of bicycle parking: 500
Total capacity in southwest corner: 334
Capacity of double stacked parking in SW corner: 142
Capacity of single stacked parking in SW corner: 192
Capacity in other parking areas: 166

BUSSES
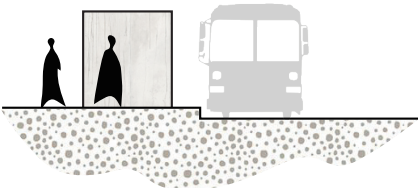
Busses will drive in the same lane as light rail, and will stop in the same lane. It should be acknowledge that there is potential that this solution can cause delays, as vehicles behind busses will be unable to pass. This solution has been adapted from the proposal provided by the municipality.
Rush hour: 8.5 busses per 10 minutes
Normal hours: 5 busses per 10 minutes
Daily: 550 busses going both directions

LIGHT RAIL

Light rail will travel in both directions on separate tracks, stopping at platforms that are 40m x 4 m on either side of the tracks.
Rush hour: 2.7 trains per 10 minutes
Normal hours: 2.15 trains per 10 minutes
Daily: 300 trains going in both directions
Platform capacity: more than 160 people
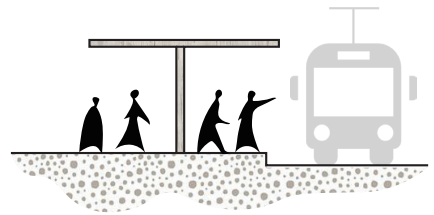
OTHER VEHICLES & KISS AND RIDE

The site will eliminate all private and commercial vehicles within the defined public square. Public transport (busses) and emergency vehicles (eg. ambulances and fire engines) will be able to use the central lane, which is shared with the light rail tracks.

Kiss-and-ride parking facilities in the southwest corner provide 6 short-term parking spaces for pick-up and drop-off by private vehicles and taxis. Vehicles are only permitted to stay here for a short period of time (approximately 2 minutes) which also ensures taxis do not monopolise the space. It should be acknowledged that a backlog of cars could obstruct traffic on Park Allé, but the time limits and quantity proposed, as well as nearby longer-term parking facilities, are estimated to prevent this from happening.
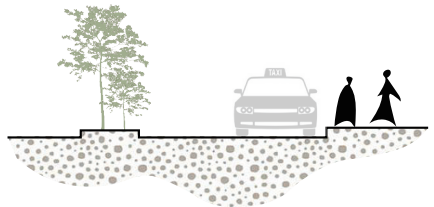
BEFORE AND AFTER

This page shows, through section views, how the site will look once this design has been implemented, as well as showing a comparison of the site before and after intervention.

Before

1:500

SHOPPING MALL   TRAFFIC ROAD   TRAFFIC ROAD   PEDESTRIAN ROAD

After

STATIC AREA

After

BIKE PARKING   BIKE LANE   TRAFFIC   LIGHT RAIL

                                      ROAD   STATION

1:500

BIKE PARKING

1:500
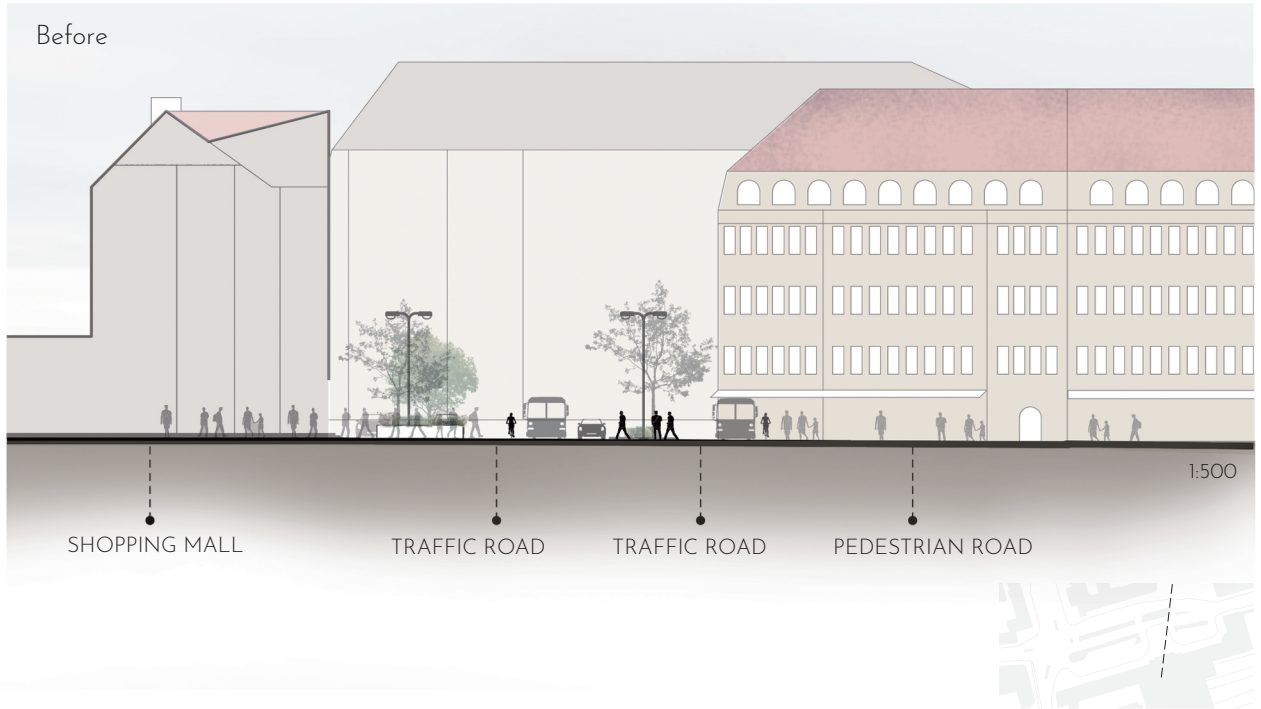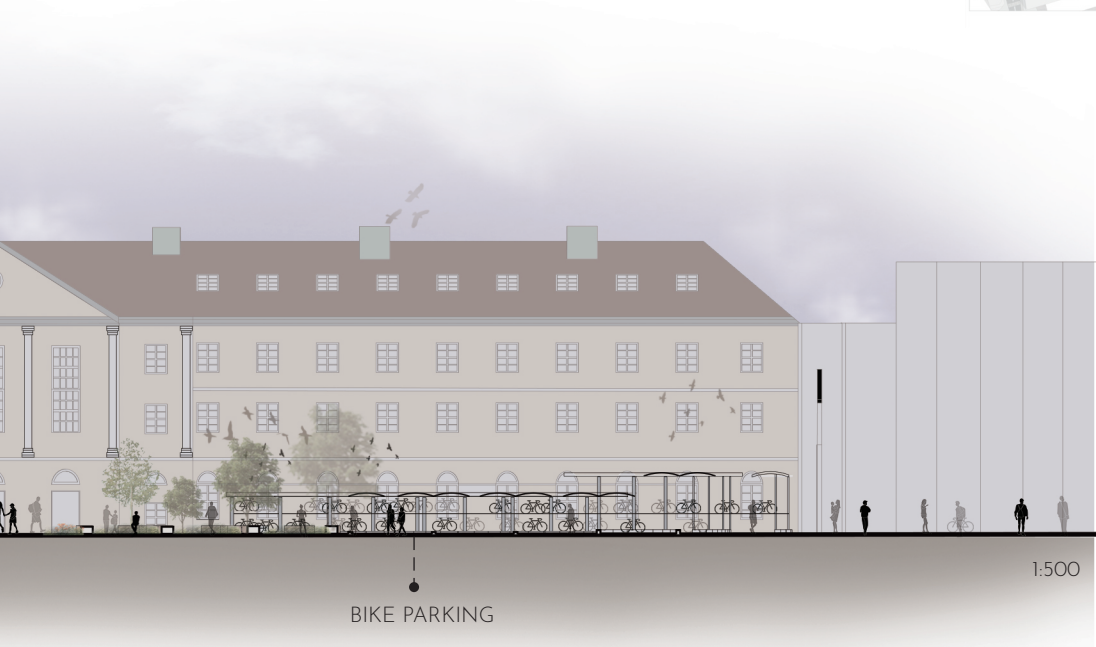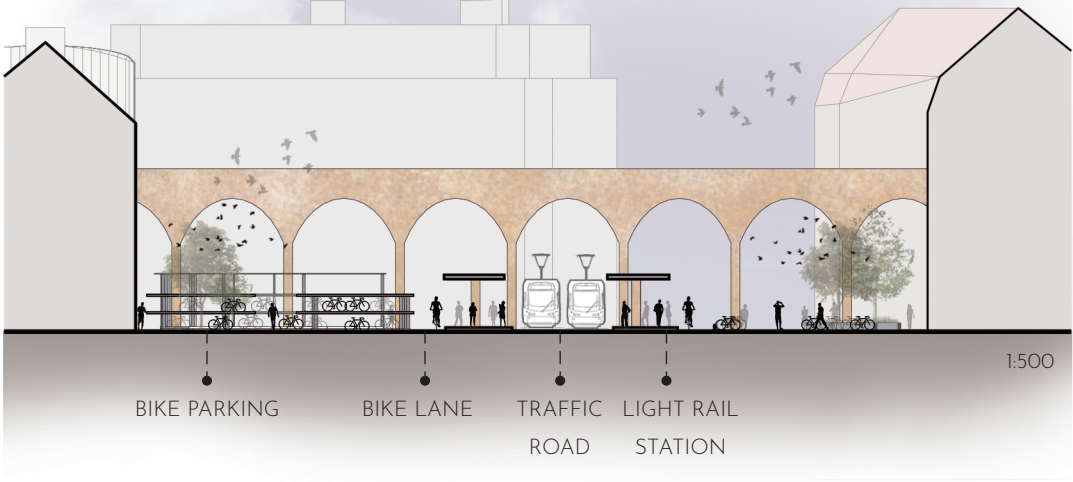
SAGA CIRCLE

The following pages will take a tour of Saga Square, high-lighting the major design details and features of each part of the square. The tour will begin at the station entrance, as that is where many people will first encounter the square. The tour will then move around the square, starting with the static area to the east, and the entering the active area, and ending at the western edge.

  As a person exits the train station, their eye will be imme-diately caught by the large ring suspended in the air above the central point of the square. The ring, known as Saga Circle, depicts the history of Aarhus through moving clock-work parts. Copper cladding and use of lights will make it spectacular, and enhance the uniqueness of the square. The positioning of the ring is significant: it is located at the inter-section of the bus/rail and pedestrian routes, thus serving as a centrepiece for all visitors to enjoy equally.
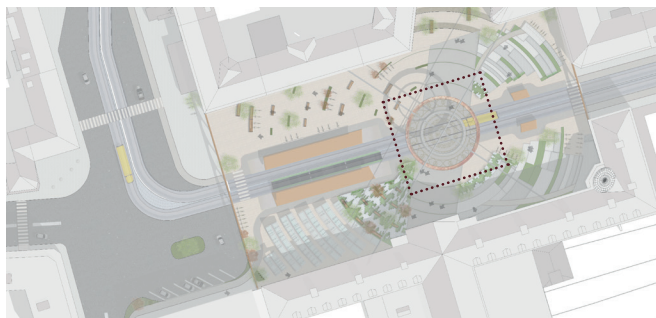
STATIC AREA

The eastern part of Saga Square has been designated as a 'static zone' to indicate that it is a place that enables a more leisurely enjoyment of the plaza. As such, the area will afford a mixture of activities and functions. The form of the area on each side of the bus/rail lane is inspired by amphitheatres, and so comprises a series of uneven and non-symmetrical steps rising away from the centre of the square (with ramps for disabled access), and applying mixtures of materials and textures. Bicycle parking is strategically infused with the seating spaces to maximise space efficiency.

In addition to providing an enjoyable place to spend some time on a regular basis, the static zone will also host events, exhibitions, markets and performances. This ensures that people are attracted to the area, and are able to enjoy the space in different ways. This also ensures that the square remains relevant, as the range of events changes throughout the years. While all parts of the static zone are able to host these events, the area close to the post office has been designated in particular, in order to bring new important to the historic structure.

Dividing the static area in two, the bus and rail line runs through the middle, and exits from a copper-clad archway above Ny Banegårdsgade. Adjacent to the seating areas will be two bus stops - one on each side, and both clad in copper, to match with other elements of the square.
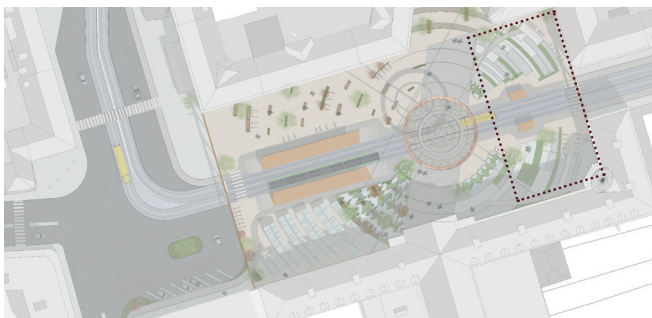
ACTIVE AREA

Continuing the tour to the northern side of the square - between Ryesgade and Park Allé - this area accommodates high levels of pedestrian movement, as well as close proximity to light rail and kiss-and-ride places. This zone also receives the largest amount of sunlight on the site, giving it a comfortable and warm feeling.

The design of the space is such that two speeds are accommodated: people who are in transit, and people who want to sit and enjoy the square. As such, the area affords outdoor seating for cafes and restaurants, without impeding the main access route of pedestrians. The materiality of the area has been chosen to ease movement, including consideration for people with disabilities, while also reinforcing a historical feeling.

The light rail platforms occupy most of the length of the interaction between the active zone and the rail/bus lane. These platforms are also clad in copper, to maintain the theme and aesthetic established earlier in the site.
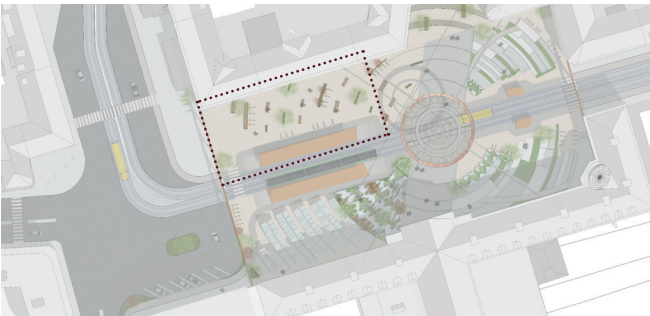
EDGES

Lastly, the tour reaches the western edge of Saga Square. This edge is sharply defined by a tall archway, clad in copper, that allows trains, busses, bikes and people to pass through unimpeded, while also presenting a visually striking landmark and gateway. The use of arches is to define the edge emphasises the historic nature of the plaza, while the copper cladding - as well as being an aesthetic choice - prevents the square from becoming a cliche and imbues a modern twist on the image of the classic square. It is intended that the copper used for the archways, as well as for other elements throughout the design, will develop a patina over time, symbolising the evolving nature of the square, and reinforcing connections to the past.

The tour will finish with the area between the arcade and the station entrance. This area has been designated as part of the active zone, due to the large volume of movement that is anticipated here - people rushing from the station to the rail platforms, people waiting for cars to pick them up, and people parking their bikes. A large bicycle parking area is provided, with space for some bikes to be stacked for extra capacity. An area of pavement between the bicycle parking and station entrance serves as a waiting place for commuters, as well as a pleasant area to sit or pass through, continuing the theme of the square in other zones.
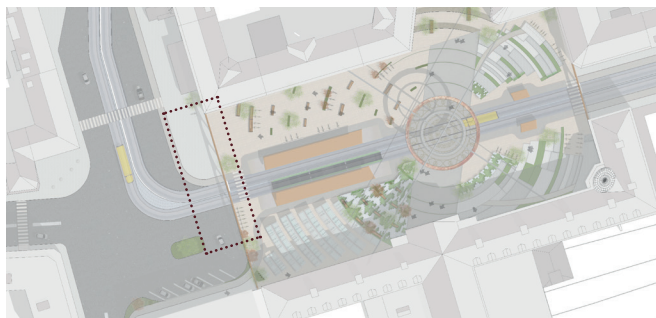
# CHAPTER VI :
POST DESIGN ANALYSIS

INTRODUCTION

Design is about solving problems. The conclusion to the analysis in this report articulated the problem being addressed, but it is important in any design project to test whether the solution does in fact resolve the identified issues. This post-design analysis chapter looks at four aspects of this design proposal: design detail , mobilities, affordances, and legibility.

"The future is always unknown, although there is much that we can predict with tolerable accuracy. The easiest way to deal with the unknown is to assume that tomorrow will be the same as today".

Jon lang,Urban Design Reader (1994 : 167)
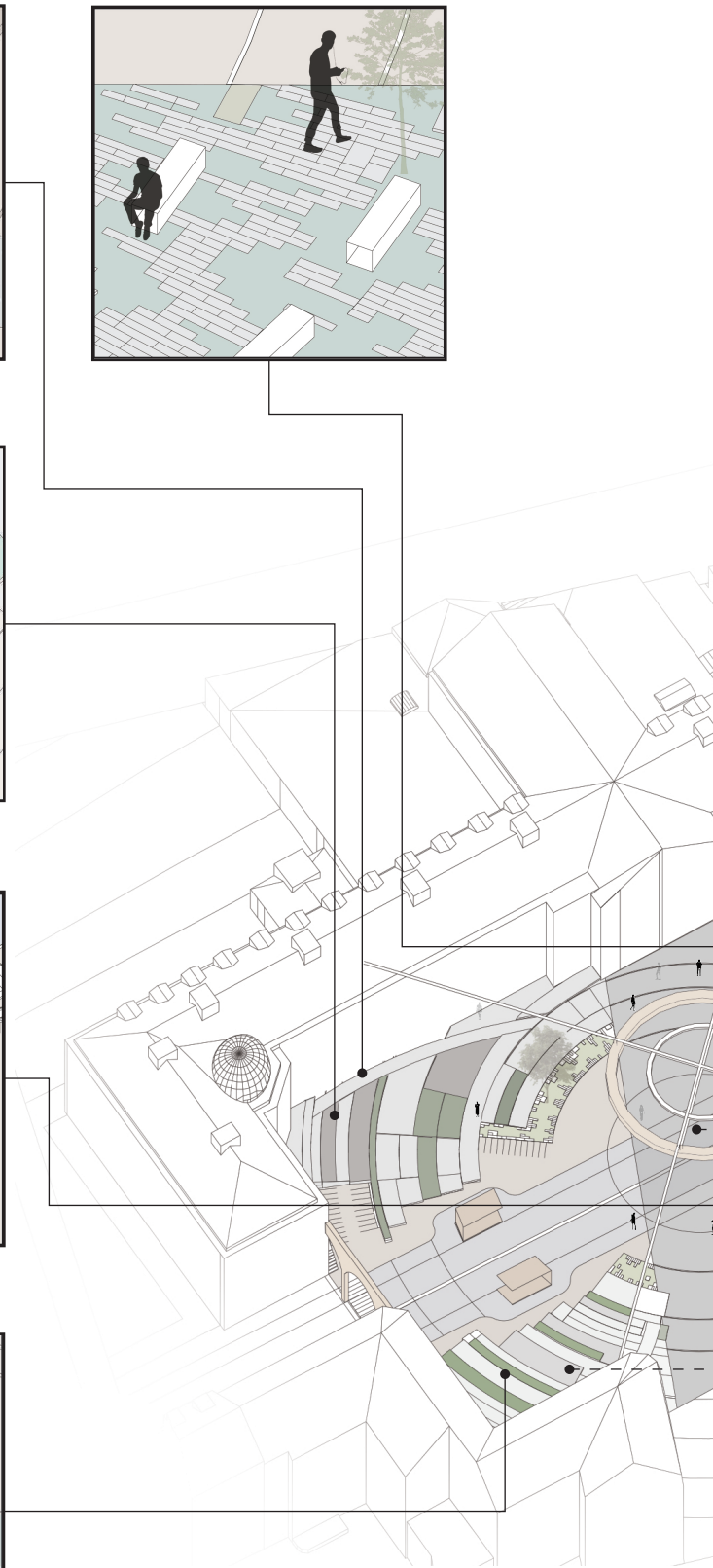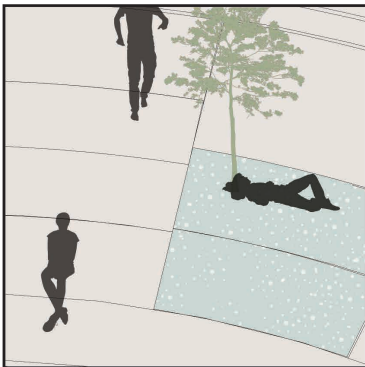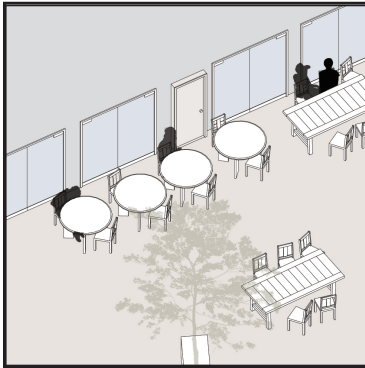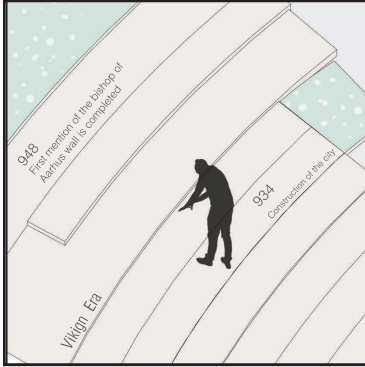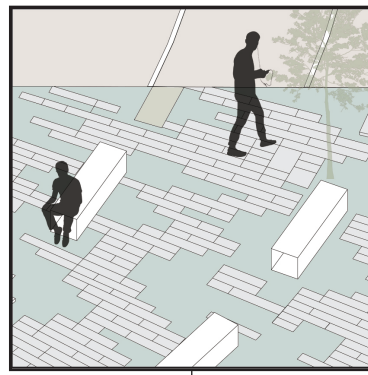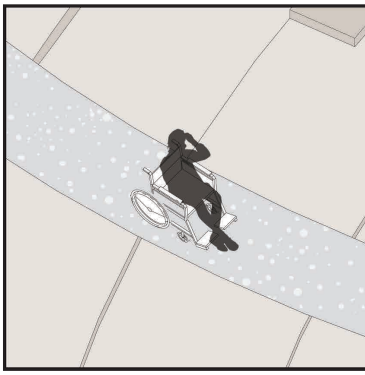
DESIGN DETAIL
MATERIALITY & FUNCTIONS

ASPHALT

COPPER

ASPHALT

GRANITE

TILE

MARBLE
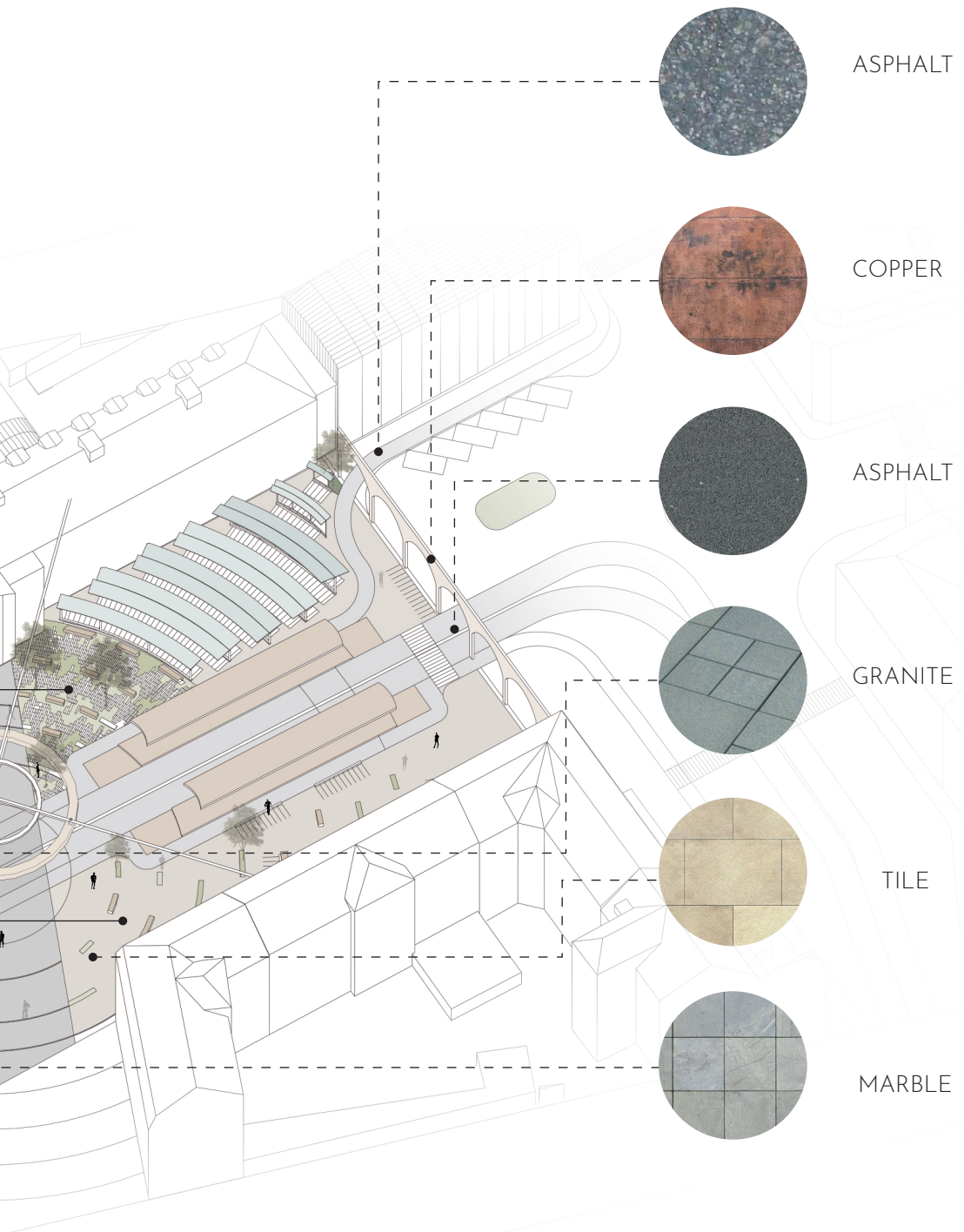
This diagram shows activities and materials that will be employed in this design.
The consistent use of materials helps to form a cohesive space.

MOBILITY

The mobilities plan is divided into five sections, showing the different types of mobility present at Banegårdsplads: from the bottom, they are pedestrians, bicycles, light rail, busses, and private vehicles/taxis.

The first quality that can be observed is the very large amount of pedestrian space that this design provides, and, although the space is divided by the rail and bus routes, numerous crossings ensure that the two sides of the square remain accessible. Another feature of this plan that is worth noting is that bicycle parking is available at many places within the square, and always close to a cycling route, ensuring that cyclists can have maximum convenience in parking their bikes and then moving towards their next destination.

Lastly, the intersection of Park Allé and Banegårdsgade remains a complicated network of paths and crossings, however it is made easier to navigate owing to the fact that vehicles will now move in only one direction along Park Allé, and private vehicles will no longer be joining the intersection from Ny Banegårdsgade. To avoid collisions, the pedestrian crossing (with associated traffic lights) has been moved further north on Park Allé than the existing crossing.
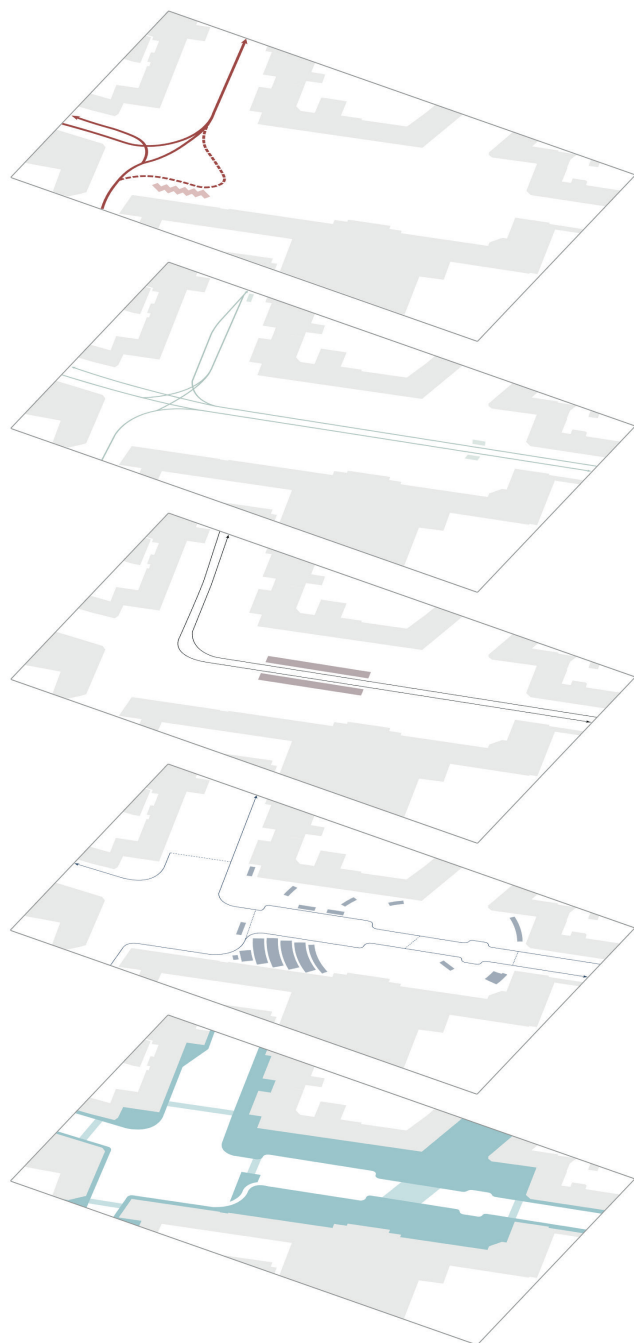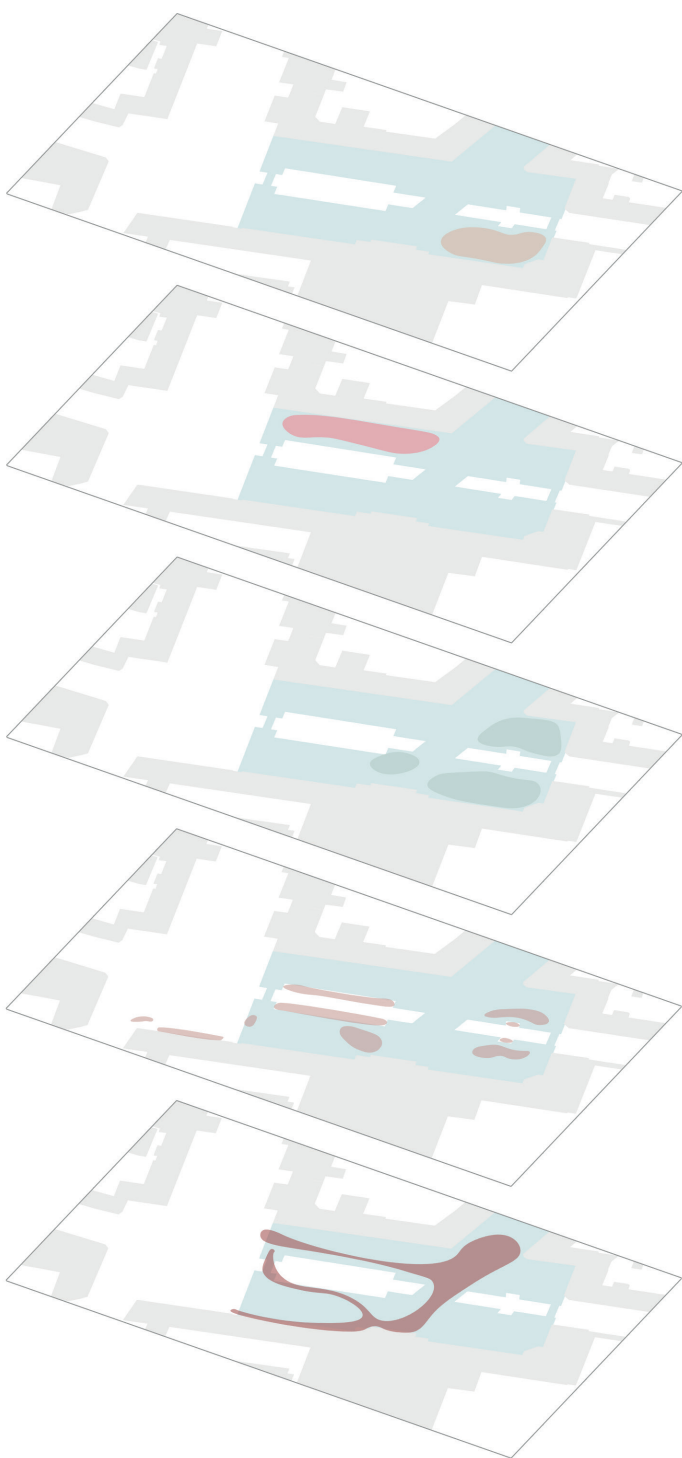
CARS & KISS AND
RIDE

BUSSES

LIGHT RAIL

BIKE ROUTES &
BIKE PARKINGS

PEDESTRIAN AREA

ENGAGING

LEISURE

RESTING

WAITING

TRANSITING

*THE BLUE AREA IS PEDESTRIAN FRIENDLY

AFFORDANCES

The staging mobilities framework posits that cities are the backdrop for social interactions. From this concept, then, an affordances plan has been created, with the following categories:

Transiting: areas that facilitate people passing through with minimal inconvenience or obstruction, particularly en route between the station entrance and the various exits to the square.

Waiting: areas for people who are waiting for a specific purpose, such as the arrival of a bus, train or car/taxi. These are located in conjunction with the related transport modes.

Resting: areas where people can stay to relax, socialise, meet and play. These are concentrated at the eastern end of the site, in accordance with the design concept that the site shall move from slower-paced (or static) towards a faster-pace (or dynamic) as one moves from east to west.

Leisure: areas that support business activities, such as outdoor seating for cafes and restaurants. The area to the north of the light rail platforms has been designated for this purpose, as it fits the dynamic nature of the area, as well as benefiting from sunlight for the longest period.

Engaging: areas that can host temporary events, such as concerts, exhibitions and gatherings. This category is located in the southeast corner, as that area can benefit from additional activities to draw people into the space, and so avoid it becoming neglected.
It should be noted that, following the non-prescriptive philosophy of affordances, these uses are indicative only, and do not prohibit alternative uses in any of the areas.

LEGIBILITY

It is difficult to gauge the 'imageability' of a design that has not yet been implemented, however a speculative legibility analysis can be used to depict the intended mental map that the space will possess.

The districts plan illustrates that four new districts are created within the site, however these districts will not suffer from being isolated from one another as the creation of pedestrian-centric paths across the site will serve to knit the entire area together.

It is also interesting to observe that several nodes - two major and two minor - will be created along the axis from the station entrance to Ryesgade; these nodes will reinforce the pedestrian-centric goal of this design, and counter the effect of the edges that will occur along the rail and bus route.
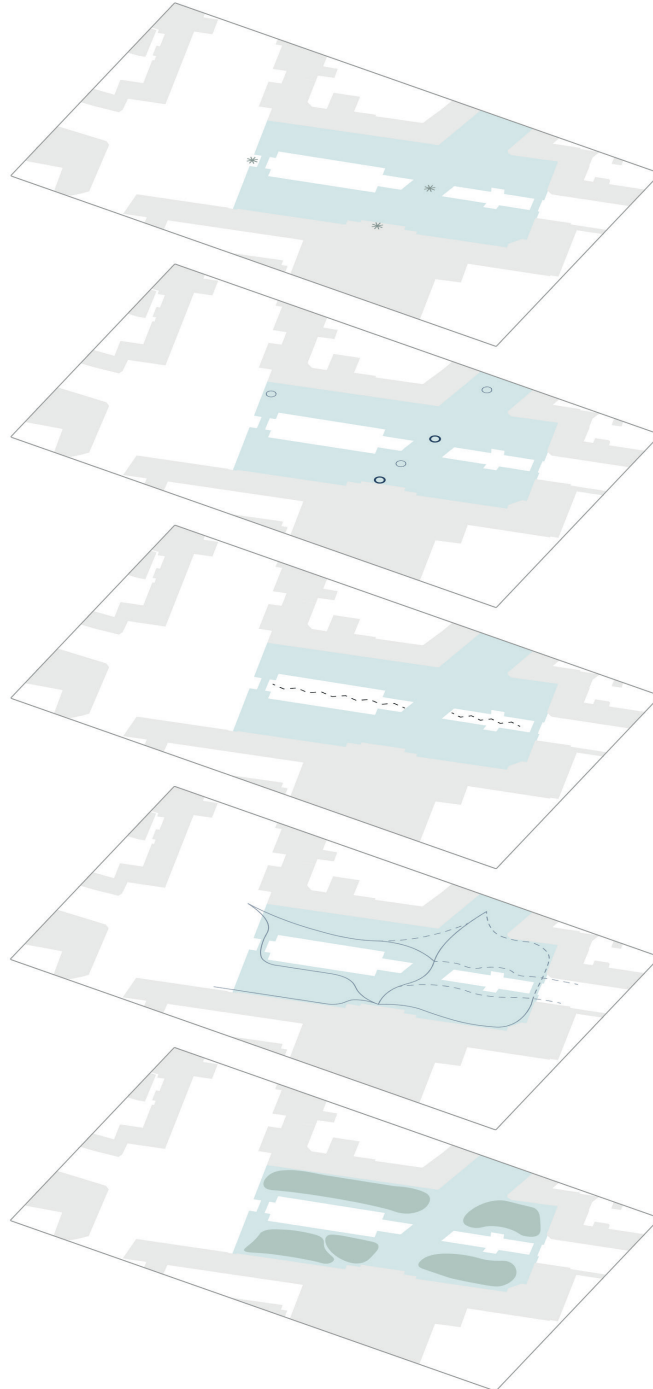
LANDMARKS

MINOR & MAJOR
NODES

MINOR EDGES

MAJOR & MINOR
PATHS

DISTRICTS

*THE BLUE AREA IS PEDESTRIAN FRIENDLY

CONCLUSIONS

Historic urbanism and urban design are strange companions. History cannot be artificially made for a place, and nor can it be imposed upon it. Instead, history develops on its own, inevitably, and becomes attached to a place through the stories that have unfolded there.

The mobilities turn imagines the urban environment as a stage, against which social interactions play out, at different scales, and all times. The social interactions thus enacted are reflections of the time and place in which they occur, rich with cultural and political meanings.

From these two threads, then, a single narrative can be presented: design imposes new forms and possibilities on the urban environment, and these interventions become the backdrop for the life of the city. That life, when acted out by countless people, merges into a historical story that forms the identity and culture of the city.

This reports presents a new vision for the appearance of Banegårdsplads, renamed Saga Square, in which the conventions of classic historic squares are emulated to create a place with a unique identity, and which can contribute to the setting for the stories that Aarhus is yet to tell.

REFLECTIONS

Design is an evolving discipline, and so can gain significant benefits by reflecting on the themes and processes that it employs. The themes of this report are history and mobility, and the ways in which they intersect with urban design. These are not easy themes to explore, as both are obscure subjects that defy easy definition. Furthermore, the scopes of both history and mobility are so broad that they present challenges in narrowing the fields down to a more manageable and comprehensible form.

The focus site of this report also presented numerous challenges. While the location undoubtedly holds enormous potential for improvement, the small scale of the site made the task of arriving at a single finished design solution difficult. Compromise was a necessity for this project, as was the ruthless elimination of ideas and concepts that could not fit comfortably in the space, or in conjunction with more desirable options. Furthermore, the requirements of the municipality - particularly in regards to the range and numbers of mobilities infrastructures desired on the site - reduced the flexibility with which the design team could work.

Despite these limitations, however, this site highlights the value that design adds to urban environments, even at small scales. This project was approached with a high level of ambition, and the realisation was made during the process that ambition is not expressed through the scale of a design, but through its coherence of vision, sensitivity towards context, and communication of ideas.

APPENDIX

PRECEDENTS

Park 258, China

Floating Figurines in Corten Columns of Light . Lebanon
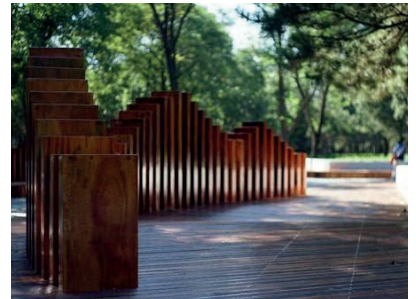

Largo do Chiado, Lisbon, Portugal

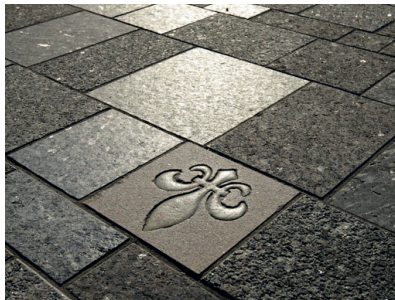Piccadilly Square, London

University of Milan, Milan

Amir Avenue, Israel

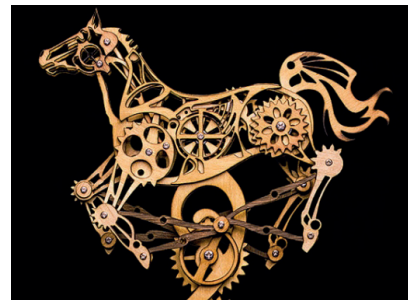Wire Mesh Installation , Abu Dhabi

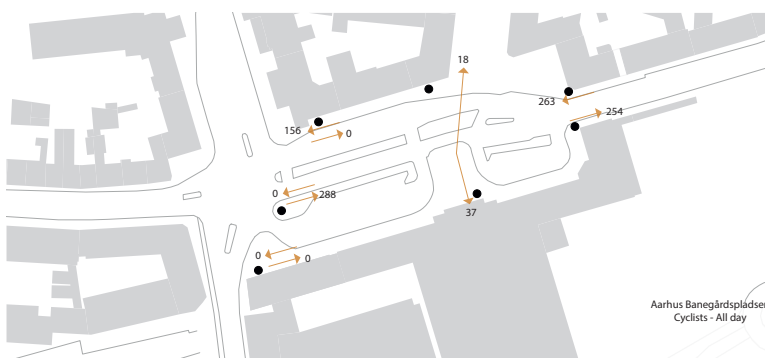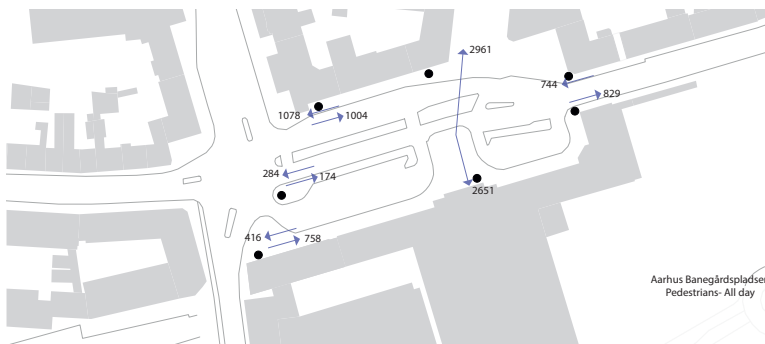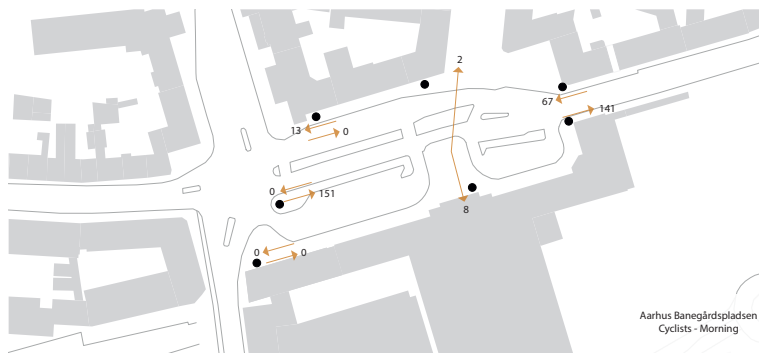Place D'Armes, Montreal, Canada

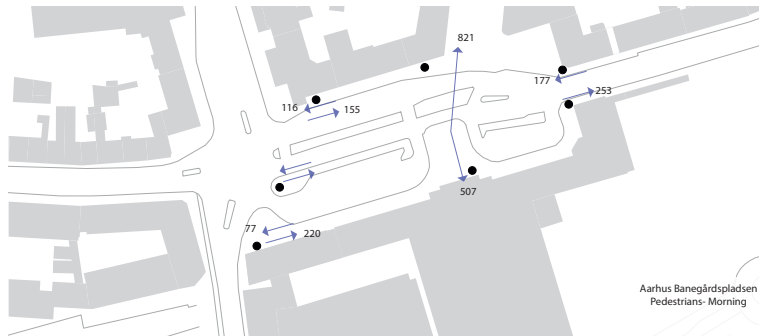Kaohsiung Station, Taiwan

Trylletromler, Copenhagen ,Denmark

City Thread, Tennessee, United States

Clockwork Horse

SITE VISIT- FIELD WORK

Aarhus Banegårdspladsen
Pedestrians- Evening

Aarhus Banegårdspladsen
Cyclists - Evening

Aarhus Banegårdspladsen
Pedestrians- All day

Aarhus Banegårdspladsen
Cyclists - All day

Aarhus Banegårdspladsen
Pedestrians- Morning

Aarhus Banegårdspladsen
Cyclists - Morning

Aarhus Banegårdspladsen
Pedestrians- All day

Aarhus Banegårdspladsen
Cyclists - All day

WORKSHOP - FIRST CONCEPT

FORWARD TO THE PAST

PAVEMENT — CULTURE — TEXTURES — MATERIALS

MOBILITY

VERNACULAR

CLASSICAL

HISTORY — ATMOSPHERE

IDENTITY

TRADITION — RESPECT FOR HERITAGE

MODERN

TECHNOLOGY

FOR PEOPLE NOT CARS

GREEN — FUN — MEETING PLACE
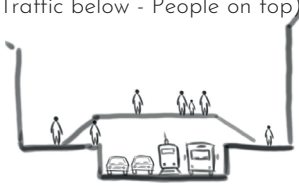

Option 1

Option 2

Draft Masterplan

Option 3

Option 4

MOBILITY OPTIONS

1. Level Change
(Traffic below - People on top)

PROS

- interaction for pedestrians
- Adding new layers to the city
- Pedestrian friendly space
- Organized/Clean
- Easily accessible
- Safe

CONS

- interaction for pedestrians
- Adding new layers to the city
- Pedestrian friendly space
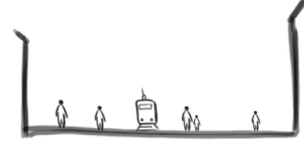- Organized/Clean

2. Bridge

PROS

- Legible
- Safe
- Pedestrian friendly space
- Space for reflexible use
- Green
- Safe

CONS

- Expensive
- Not easily accesible
- Reduce sun
- Noisy

3. No cars in the plaza,
Only Cyclists and Light Rail

PROS

- Less noisy
- Nice atmosphere
- Safe
- More space for green
- more flexible use of the space
- connections for pedestrians

CONS

- Impact on traffic
- Chaos
- Less legible/ accessible
- Unrealistic . hard to be aprooved
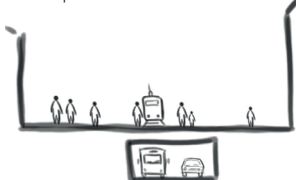
4. As it is - with some changes

PROS

- Cheap
- Legible
- Easy for aprooval
- Mobility Hub

CONS

- Messy
- Causes barrier
- stops movement

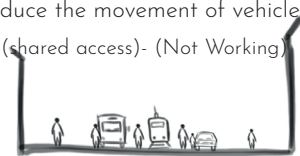### 5. Cycling lanes + Light rail
Underpass for cars and busses

PROS

- New layer to the City
- free space- pedestrians
- no pollution
- more legible
- more green

CONS

-Too Expensive
-Not easily accesible
-Hard for aprooval

6. Priority for pedestrians and
reduce the movement of vehicles
(shared access)- (Not Working)

PROS

- Compromise
- Easy movement of people
- more legible
- more green

CONS

- Less legible
- Not a lot of flexibility
- Restricted movement of vehicles

BUS & LIGHT RAIL CALCULATIONS

BUS :

Current number of busses crossing the station - 1100 (including rush hour)
(L1, L2, 1A, 2A, 4A, 16, 17, 18, 22, 100, 103, 3A, 11, 12, 13, 14, 15, 23, 200, 202, 302, 912X, 925X, Re, IC, ICE, ICL)

During Rush hour - 17.5 buses per 10 minutes
Normal hours - 7.5 buses per 10 minutes.

After the Proposal of Light rail, Kommune has proposed that the frequency of buses will reduce to 50%.

Updated frequency of buses
Rush hour - 8.5 buses per 10 minutes
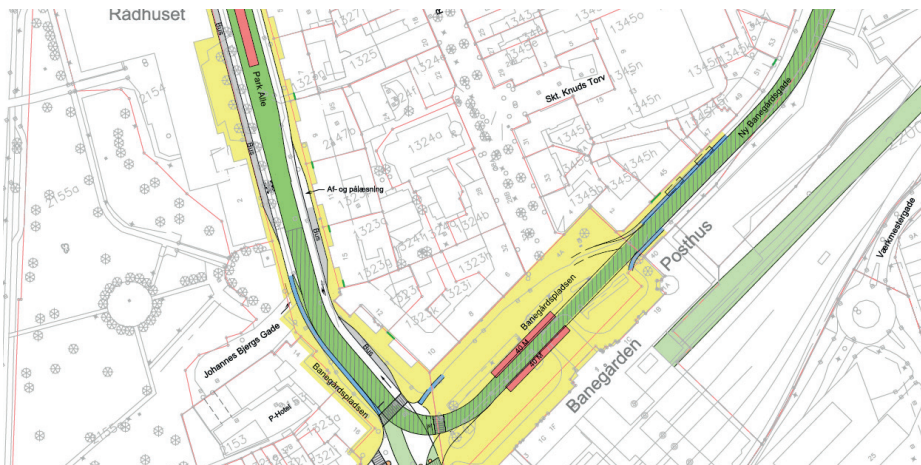Normal hours - 5 buses per 10 minutes

Considering the same frequency for Light rail at Randersvej.
The total number of light rail crossing the station - 300
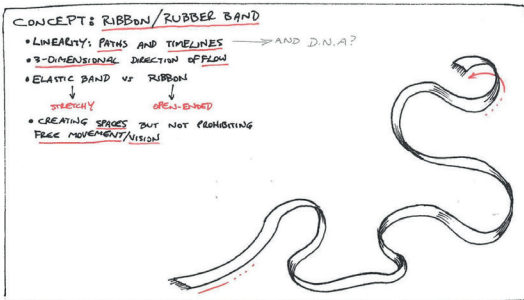
Frequency of Light rail

Rush hour - 2.7 trains per 10 minutes
Normal hours - 2.15 buses per 10 minutes

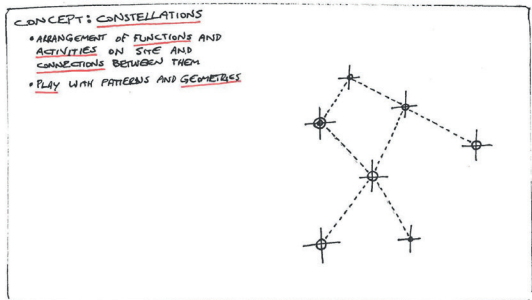Total number of buses and trains crossing the station in both direction -

Normal hours - 7.15 objects per 10 minutes
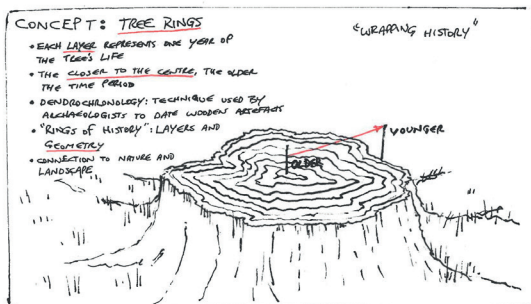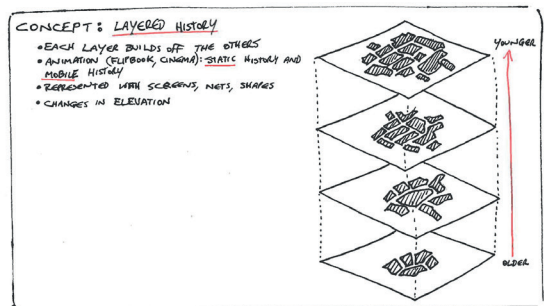Rush hour - 11.2 objects per 10 minutes.

FEATURES

CONCEPT: RIBBON/RUBBER BAND
- LINEARITY: PATHS AND TIMELINES ⟶ AND D.N.A?
- 3-DIMENSIONAL DIRECTION OF FLOW
- ELASTIC BAND vs RIBBON
    ↓   ↓
  STRETCHY   OPEN-ENDED
- CREATING SPACES BUT NOT PROHIBITING
  FREE MOVEMENT/VISION

- Timeline
- Open-end
-3D
- Free movement

CONCEPT: CONSTELLATIONS
- ARRANGEMENT OF FUNCTIONS AND
  ACTIVITIES ON SITE AND
  CONNECTIONS BETWEEN THEM
- PLAY WITH PATTERNS AND GEOMETRIES

- Different functions
- Connections
- Geometric
- Play

CONCEPT: TREE RINGS   "WRAPPING HISTORY"
- EACH LAYER REPRESENTS ONE YEAR OF
  THE TREE'S LIFE
- THE CLOSER TO THE CENTRE, THE OLDER
  THE TIME PERIOD
- DENDROCHRONOLOGY: TECHNIQUE USED BY
  ARCHAEOLOGISTS TO DATE WOODEN ARTEFACTS
- "RINGS OF HISTORY": LAYERS AND
  GEOMETRY
- CONNECTION TO NATURE AND
  LANDSCAPE

OLDER   YOUNGER

- Wrapping History
- Levels
- Green

CONCEPT: LAYERED HISTORY
- EACH LAYER BUILDS OFF THE OTHERS
- ANIMATION (FLIPBOOK, CINEMA): STATIC HISTORY AND
  MOBILE HISTORY
- REPRESENTED WITH SCREENS, NETS, SHAPES
- CHANGES IN ELEVATION

YOUNGER

OLDER
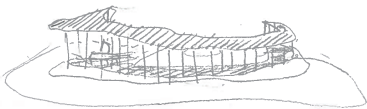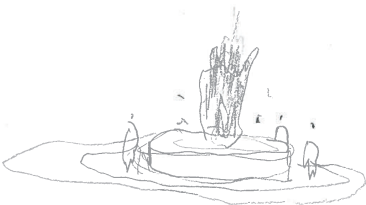
- Static & Mobile History
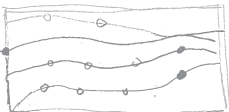- Flip Book
- Different Uses

CONCEPT

Tree ring
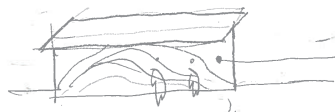
stony benches
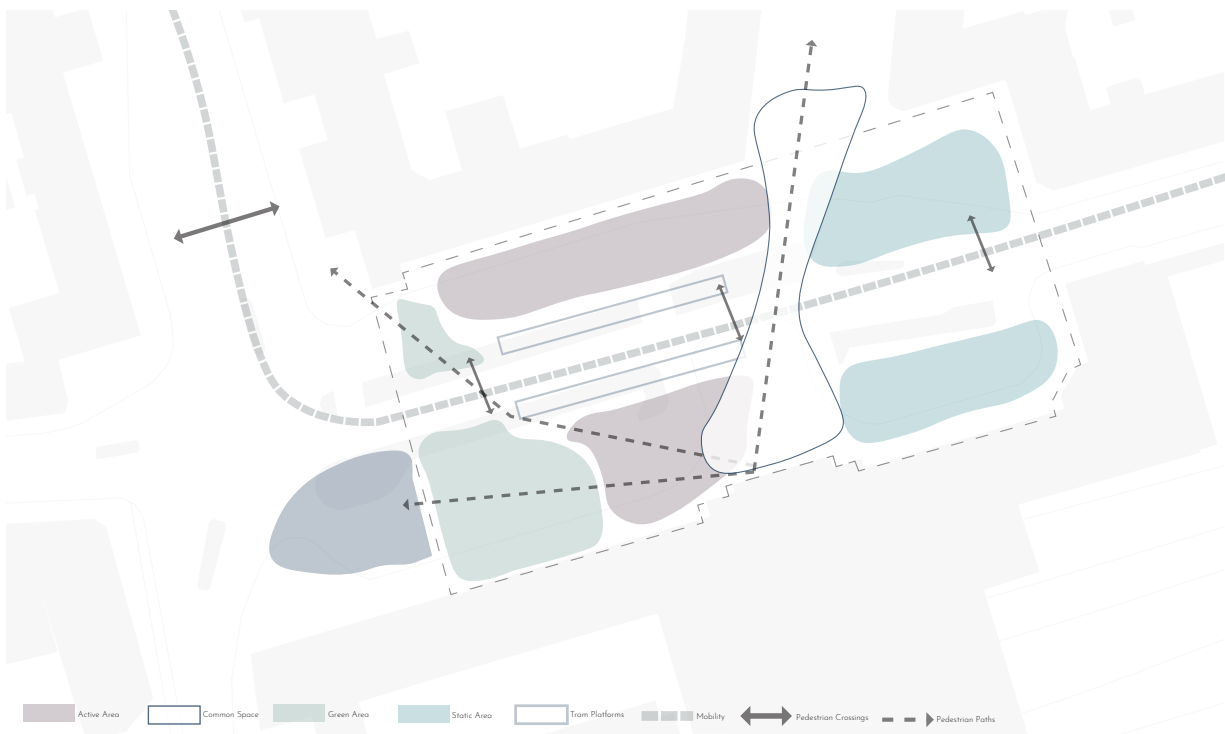

Green

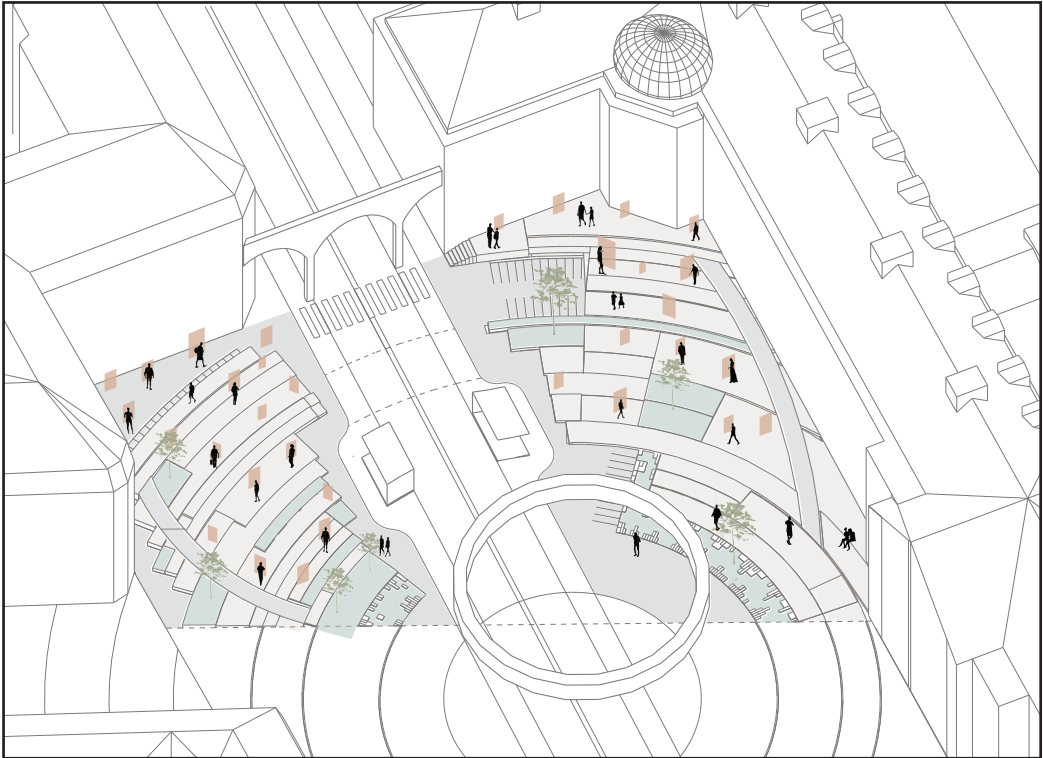light rail station / bus station.
reflected with texture of plaza ground.
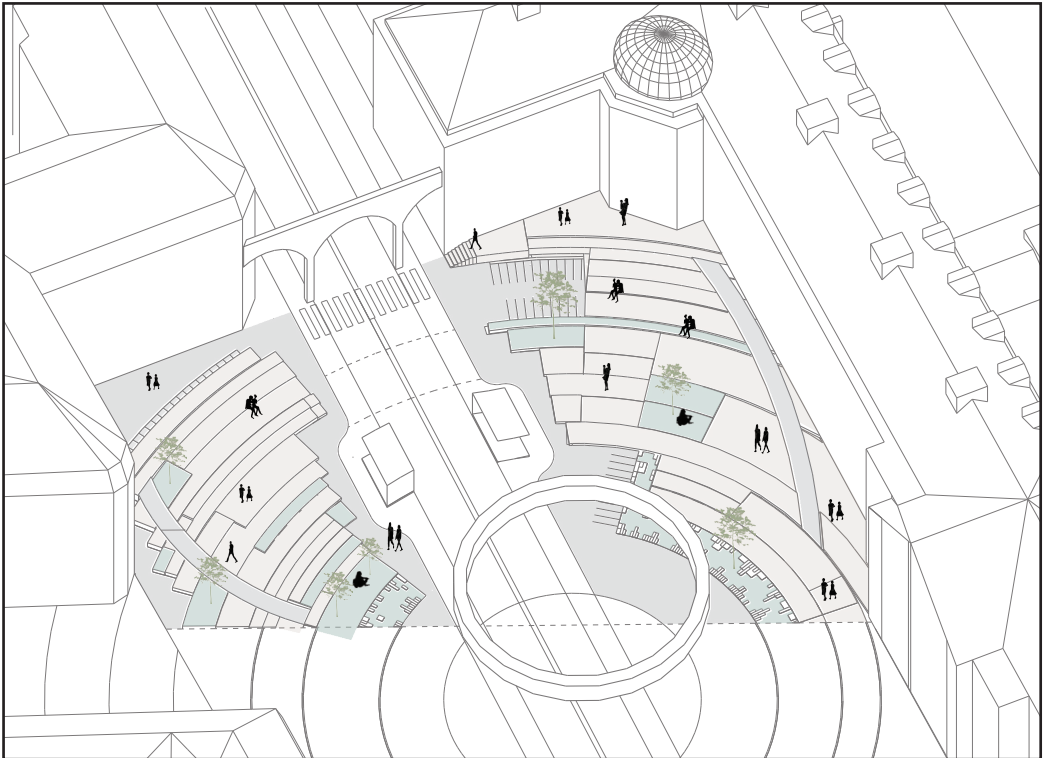
digital bus
board

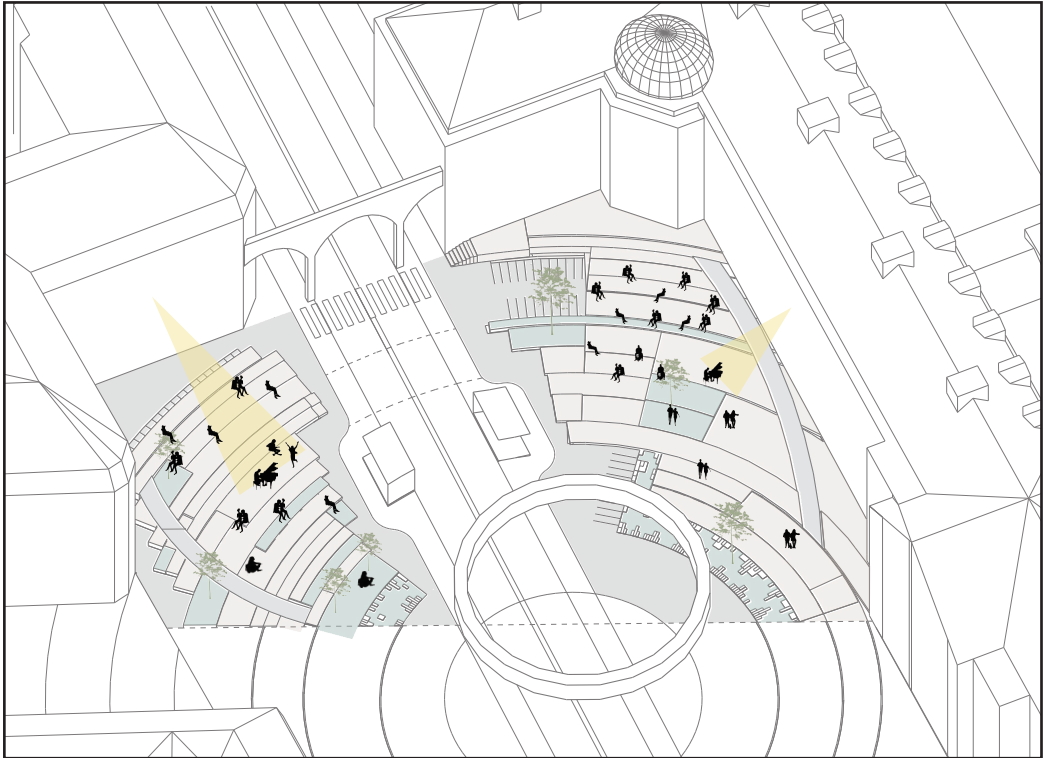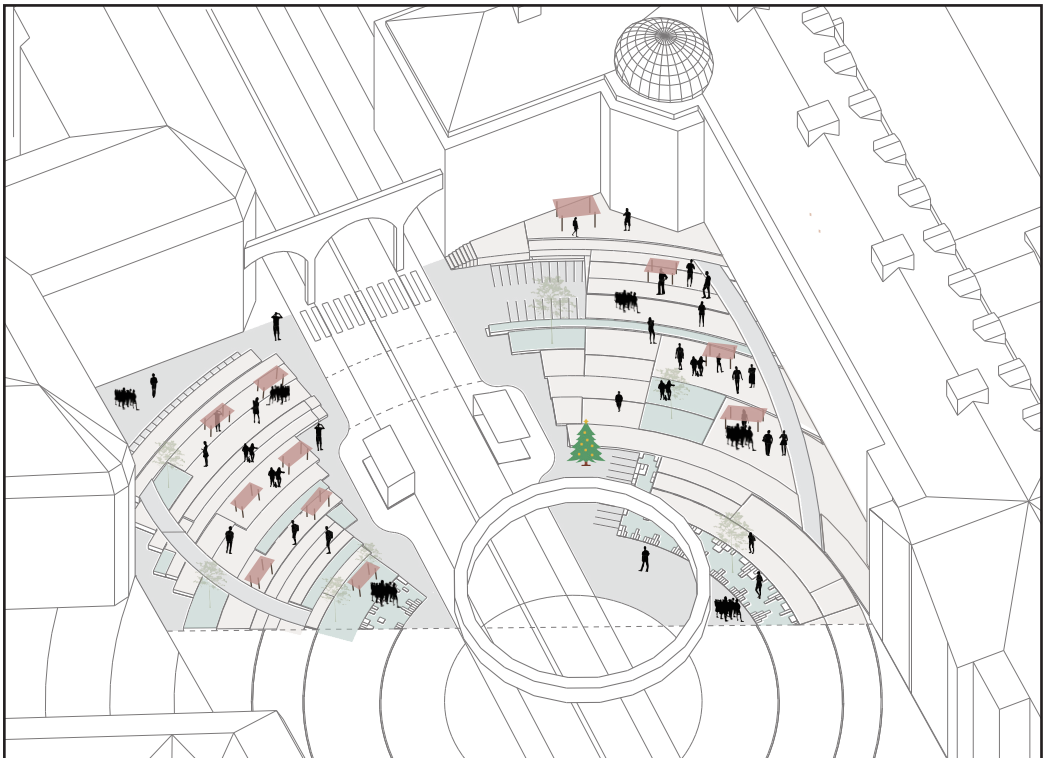|							
Active Area	Common Space	Green Area	Static Area	Tram Platforms	Mobility	Pedestrian Crossings	Pedestrian Paths

STATIC AREA- MULTIFUNCTIONAL USES

Exhibition Day

Normal Day

Concert day

Market Day

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GLOSSARY

Active zone: active zone is defined in this report as an area in which high levels of pedestrian movement are possible or anticipated, and where the speed that pedestrians move is higher or is expected to be higher.

Fast lane: this term has been used in the report to refer to a path designed especially for pedestrians in a hurry to reach their destination, and so the speed and volume of pedestrians is expected to be high.

Gateways: a gateway is defined in this report as an entrance to a new space, and can be a physical, mental or symbolic entrance, and may be both subtle or highly visible.

Landmarks: a landmark is a noticeable, usually standing out from the surrounding environment, feature that can be used as a reference point to assist people in navigating a space.

Materiality: the term materiality refers to the physical conditions of a space - particularly as it is experienced by individuals - and so encapsulates various elements of the environment, including colours, textures, materials, forms, scales.

Mobilities hub: the phrase mobilities hub applies to places where different modes of travel meet.

Shared good: this phrase applies to something that everyone within a community has a right to enjoy, and which cannot be used by one person or group of people to the exclusion of others.

Slow lane: the slow lane is used for areas that enable pedestrians to move with a slower pace of travel - for example, people who are not in a hurry, or have the time to enjoy their journey with leisure.

Static zone: this phrase has been used to define area where people can sit and relax, and where the movement of people will be at a slower pace than in other areas.