A Cohesive Downtown from a Knowledge City Perspective – A Study in Urban Planning

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Preface

The interest for the topic of this thesis was awakened as a result of a lecture held by the Urban Planning Director of Malmö City, Christer Larsson. This lecture discussed new trends in urban planning and shed light on the concept of the Knowledge City. Larsson is also the chairman in the Nordic City Network, which became a source of inspiration throughout this project. Long before the initiation of this thesis, many hours were spent on Nordic City Network’s website. Almost every publication and pilot study was studied. Special attention was however given to the structure of cities and the social experience in them, why the issue of urban cohesion became interesting. Previously I had reflected on the level of coherence in the city of Jönköping. During my three years as a student in Jönköping I had always felt a great absence of a true downtown area and experienced the city core as a lifeless one, where little social activities occur. This made me wonder what could be done in this particular case…

I would like to take this opportunity to thank all who have somehow contributed to this work. First I would like to thank my supervisor Bernth Jirvén for his guidance and patience with my occasional frustration. Thanks also to Ulf Mattsson at Jönköping municipality. On our brief meetings, he managed to always fill me with motivation and new energy. I would like to dedicate special thanks to Kaj Granath. Although we have had our differences he has always been a great mentor and influenced and stimulated me in many ways on his unique and inspiring lectures. Thank you Nicci for bearing with my calls every other minute. Many thanks go also to Jon for his support and wonderful cooking. Last but not least, I would like to thank my mother Netanela, for always supporting me in all my decisions and for being the best mother anyone could have. Although we are separated by thousands of miles it feels like you are always standing by my side. Hopefully we will get to see each other more often in the future…
Abstract

The escalating urbanization process has given rise to various complications in the urban structure. One of the major issues is the one concerning urban cohesion. As modern cities are facing a transformation from industrial to knowledge societies, many aspects have to be taken into consideration in the planning of cities.

This thesis aims to study the significance of a cohesive city centre from a social and spatial point of view, and to understand modern cities’ development towards innovative Knowledge Cities. The objective is to present proposals for how a unification of a fragmented downtown can be made possible seen from a Knowledge City perspective. The two main research questions of this thesis are answered by literary reviews of existing theories in urban planning, by a case study of the downtown area in the Swedish city of Jönköping, and finally also by a design proposal showing on how urban cohesiveness can be obtained from a Knowledge City perspective.

If cities are to become successful knowledge cities they have to promote culture, attractiveness and above all an innovative urban environment. Innovation is mainly achieved by so called “innovation engines” – simple urban elements, such as a café or a library. For innovation to emerge, human interaction and meetings have to occur in the urban environment, why innovation engines are key factors in the development towards knowledge cities. As human interaction is maximized in the simple meetings between people, added interaction possibilities are enabled in public spaces such as a square or a pedestrian street.

Public spaces are used as a tool for assembling people in the city. They have positive impact on the city only when they are part of a whole, and works as a network system in the urban structure. This is why urban cohesiveness is essential in the planning of modern cities. Public space is a fundamental feature in the urban structure, endorsing coherence, urban quality and human affiliation, making it an essential element if a city is to be coherent. Cohesion in public spaces can be regulated by the design and planning of cities and either stimulate or dampen the public areas. Gathering people creates opportunities for people to interact on an individual level and thereby stimulate each other, and it is people that need to be gathered rather than buildings.

Urban activities and the complementarity between public spaces needs to promote social dynamics, which in turn enhances the urban experience, enables urban cohesion and minimizes social exclusion and urban fragmentation.

Key words
Urban Cohesion, Knowledge City, Urban Planning, Innovation Engines, Public Spaces, 4th Urban Space, Copenhagenization, Jönköping
Contents

1 Introduction ........................................................................................................... 6

1.1 Background ............................................................................................... 6
1.2 Aim ............................................................................................................. 7
1.3 Objectives ................................................................................................ 7
1.4 Research Questions ................................................................................... 7
   1.4.1 Research Question 1 ....................................................................... 7
   1.4.2 Research Question 2 ....................................................................... 8
1.5 Method ........................................................................................................ 8
   1.5.1 Research Question 1 ....................................................................... 8
   1.5.2 Research Question 2 ....................................................................... 8
1.6 Delimitations ............................................................................................. 8
1.7 Disposition ................................................................................................ 8

2 Theoretical Background ..................................................................................... 10

2.1 From Industrial City to Knowledge City ....................................................... 10
   2.1.1 The Industrial City – Urban Planning for Automobiles .................. 10
   2.1.2 A New Urban Epoch - A Human Perspective in Urban Planning .... 12
   2.1.3 The Fragmented City ....................................................................... 13
   2.1.4 The Knowledge City Definition ...................................................... 13
2.2 Examples of Knowledge Cities ................................................................... 15
   2.2.1 Melbourne – The Arts and Culture Metropolis ......................... 15
   2.2.2 Barcelona – Knowledge as Culture ............................................... 17
   2.2.3 Norrköping – A Cohesive Knowledge City .............................. 18

3 Method and Implementation .............................................................................. 21

3.1 Literary Study ............................................................................................ 21
   3.1.1 The Three Pillars of the Knowledge City ..................................... 21
   3.1.2 The 4th Urban Space – a Space for Innovation ......................... 22
   3.1.3 Innovation Engines ...................................................................... 23
   3.1.4 Public Spaces – The Way to Urban Cohesion .......................... 25
3.2 Case Study – the City of Jonköping ............................................................ 32
   3.2.1 Urban Design Vision 2.0 ................................................................. 35
   3.2.2 Downtown Jonköping ................................................................. 36
   3.2.3 The Missing Link – Site Analysis ............................................... 37
   3.2.4 New Proposals and Improvement Actions – Creating a Cohesive Downtown from a Knowledge Perspective 45
3.3 Sketching ................................................................................................... 48
   3.3.1 Design Proposal – Connecting the City Together ..................... 48

4 Findings ........................................................................................................... 55

4.1 Research Question 1 .................................................................................. 55
4.2 Research Question 2 .................................................................................. 55

5 Discussion ....................................................................................................... 58

5.1 Discussion of Findings .............................................................................. 58
   5.1.1 Research Question 1 ...................................................................... 58
   5.1.2 Research Question 2 ...................................................................... 58
5.2 Discussion of Methods ............................................................................ 59
   5.2.1 Literary Study ................................................................................ 59
   5.2.2 Case Study ...................................................................................... 60
   5.2.3 Sketching ......................................................................................... 60

6 Conclusions and Recommendations .............................................................. 61

7 References ...................................................................................................... 62
Contents

7.1 BIBLIOGRAPHY ........................................................................................................................................62
7.2 ILLUSTRATIONS .....................................................................................................................................65

8 Search Terms .............................................................................................................................................68
1 Introduction

Modern cities are constantly developing, and a higher level of consciousness concerning the development of modern cities is noticeable. Many aspects have to be taken into consideration in order to achieve successful urban planning that promotes a stimulating environment.

This thesis is a result of a Bachelor degree of Science in Civil Engineering, with a major in Building Projects with Architectural Design. The paper studies the different methods and approaches in urban planning that can be applied in order to obtain a cohesive downtown that promotes stimulating urban spaces. Moreover, this thesis studies the qualities that are required to be found in a city in order to create an innovative downtown from a Knowledge City perspective. The paper includes theoretical studies as well as conceptual proposals for how two city districts can be unified in order to achieve a cohesive and knowledgeable city.

1.1 Background

Urban planning plays a significant part in our society and to its development. It covers many different aspects and can be looked upon from various perspectives, such as economically, socially and environmentally.

In the 19th century the society in the Western world was transformed from an agrarian into an Industrial Society. Today’s society, in turn, faces a conversion from an Industrial Society into what is known as the Knowledge Society. The transition to the 21st century has meant a global evolution, which has led to a new Knowledge-Based Urban Development (KBUD). Professor Tan Yigitcanlar’s studies this approach and highlights successful Knowledge Cities such as Barcelona and Melbourne. KBUD is noticeable also in the Nordic countries, where many cities still have influences from the urban structure of the Industrial Society. As modern cities are changing from industrial to knowledge-oriented cities it has become necessary to change the way in which they are planned. This necessity has resulted in the emergence of a new network – Nordic City Network (NCN). Their mission is to develop the Nordic cities from Industrial Cities into attractive, innovative and competitive Knowledge Cities.

The Swedish city of Norrköping is one of the 13 member cities of Nordic City Network. Norrköping has had a recognizable urban development towards what is called a Knowledge City (KC), and works persistently with various projects in order
Introduction

to maintain their statues of a KC. The “3K-route” is a current project that aims to develop a cohesive urban structure. Its purpose is to combine the three elements of knowledge, culture and commerce along a route that stretches over large areas of the downtown area in order to interconnect different parts of the city.

The phenomenon of cities having spread out city districts is common and creates difficulties regarding the public urban experience. It is challenging to define what qualities that are needed if a successful city centre is to be obtained and in what way it can be perceived as cohesive. The Danish capital Copenhagen has for many years been an object of study for architect and urban planner Jan Gehl. In his book Life Between Buildings he studies various phenomena in the urban life, including the issue of urban cohesion.

In the Swedish city of Jönköping the issue of urban cohesion can be found, where the downtown area is divided into two districts – a Western and an Eastern district. Previously, several attempts have been made in order to unite these two districts. However, there are still actions to be made if urban cohesion and an improved city core are to be obtained.

1.2 Aim

This thesis aims to study the significance of a cohesive city centre from a social and spatial point of view, and to understand modern cities’ development towards innovative Knowledge Cities.

1.3 Objectives

The objectives of this thesis is to present proposals for how a unification of a fragmented downtown can be made possible from a Knowledge City perspective.

1.4 Research Questions

This study revolves around two main research questions that have been named “Research Question 1” and “Research Question 2”.

1.4.1 Research Question 1

What qualities are required to be found in a city in order to create an innovative downtown from a Knowledge City perspective?

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1.4.2 Research Question 2

What methods and approaches in urban design can be used in order to create a downtown that contributes to a cohesive urban experience?

1.5 Method

The key method of this thesis is literary studies. An analysis of the collected data is thereafter undertaken in order to answer the research questions. These parts represent the theoretical part of this paper. Furthermore a case study of downtown Jönköping is completed, which represents the practical part of the thesis. The case study includes a design proposal that is attained by a sketching process, and results in conceptual drawings and models. All outlining is created in 3D the modelling software SketchUp.

1.5.1 Research Question 1

“What qualities are required to be found in a city in order to create an innovative downtown from a Knowledge City perspective?”

This question is answered by literary studies and theoretical reviews regarding the concept of the Knowledge City. Existing projects are observed and reviewed in order to find out what the general features of successful Knowledge Cities are.

1.5.2 Research Question 2

“What methods and approaches in urban design can be used in order to create a downtown that contributes to a cohesive urban experience?”

Also this question involves a comprehensive literature study, where existing theories in urban planning are reviewed and analysed. Previous urban planning projects are studied, and in addition a case study of downtown Jönköping is completed in order to demonstrate how a case of urban fragmentation can be solved. A sketching process realizes a way of implementation of the studied theories.

1.6 Delimitations

This thesis is composed from a Knowledge City perspective, meaning that primarily these criteria are taken into consideration. The analysis focuses on social and spatial perspectives. Sustainability aspects are reviewed on a basic level, mostly from a social point of view. Economical aspects are not included.

1.7 Disposition

Chapter Two: Gives a historical review of urban trends and developments. The theories that form the basis for this thesis are all presented in this chapter, including the main concept of the Knowledge City and the issue of urban cohesion.
Chapter Three: Describes the chosen methods of implementation and how they have been used throughout the project. This chapter also gives a detailed description of how the work has progressed, and what the outcome was.

Chapter Four: Answers the two main research questions of the thesis, using the previous theoretical background and implementation as a basis.

Chapter Five: Discusses the methods that have been used as well as the findings of the thesis.

Chapter Six: Briefly summarizes the main results. Moreover, suggestions and recommendations for a continued work are presented.
2 Theoretical Background

The theoretical background reviews the historical evolution within urban trends, from the emergence of the Industrial Society and up to today’s Knowledge Society. Further on, the definition of The Knowledge City is reviewed, and three examples of current successful Knowledge Cities are presented.

2.1 From Industrial City to Knowledge City

The following chapters describe the urban evolution, from the Industrial City to the Knowledge City.

2.1.1 The Industrial City – Urban Planning for Automobiles

The Industrial Society emerged from the development of the Industrial Revolution, starting in the United Kingdom in the late 18th century and continuing throughout the 19th century. The Industrial Revolution was a turning point in the western society regarding political, economical, social and demographical aspects. The revolution was made possible owing to numerous reasons, one of them being the open-mindedness and liberal society that arose in the United Kingdom during this period. The industrialization laid the foundations for our modern society. It changed the structure of the society, and as a consequence also the urban structure of cities, enabling an urbanization process.

In Sweden, the industrialization process was not to have actual consequences until the later half of the 19th century. Here, the industrialization led to a slow urbanization. The society developed from an agrarian society into an industrial one, creating new types of social classes, such as the working class. The industrialization changed the approaches in urban planning and the use of spatial space in cities. The 19th century’s urban planning had an almost entirely economical focus, and great emphasis was put on solving the infrastructure network, in order to contribute to an improved commerce. Profitable buildings such as factories and housing were prioritized while other substantial urban features such as social ones were neglected.

The industrialization was in fact the origin of today’s modern urban planning. Although conscious urban planning existed in the past, the industrialization process led to an urban expansion of unprecedented dimensions. New expressions such as “town planning” and “city planning” were first coined around 1890. By the start of the First World War in 1914, “city planning” was already deeply rooted and at this time highly topical.

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7 T Paulsson, Stadsplaneringen under 1800- och 1900-talet. Eidos, Almqvist & Wiksell, Stockholm, 1970
9 Paulsson
10 Sutcliffe, p.1-9
The Industrial Revolution led, in turn, to a technical revolution. A mechanical development was made possible and machines such as the automobile were to become increasingly used. The railways, being one of the greatest innovations of the Industrial Revolution, were to be outclassed by highways and motor roads. Urban planning had to adapt to this mechanical progress, and emanate from these inventions in the future planning of cities. This mechanical transformation was highly adopted by one of the foremost visionaries and revolutionaries in urban planning and modern architecture, Charles-Édouard Jeanneret, better known as Le Corbusier. He embraced this progress to such an extent that he even designed houses that fit the exact turning radius of an automobile.\footnote{Le Corbusier, \textit{Deu nya staden – Planer, analyser, visioner}. Rabén & Sjögren, Stockholm, 1969}

The urban planning of the Industrial Society has left its mark on today’s society and is still highly vivid. Cities were designed with automobiles in mind, rather than humans. Today’s urban design carries the opposite philosophy. As a reaction to the prevalent level of car use, a more human-oriented approach has emerged. We nowadays use expressions such as “walkability” and “pedestrian communities”. Pedestrian streets were first introduced in conjunction with the rebuilding of European cities after the Second World War. During this time cars ruled the cities and occupied squares, roads and sidewalks, making it impossible for pedestrians to dwell in the city.\footnote{The Ottawa Citizen, \textit{The Strøget Solution}, Canada, retrieved 6 March 2012 \url{http://www.canada.com/ottawacitizen/news/story.html?id=d47ce45e-4f47-4b2b-b947-ab95578e2e8a}}

From the industrialization and up to today’s society many transformations have been made. The Knowledge Society revolution is a result of various social transitions. Phases such as post-industrialism, information society, postmodernism and network society have taken place previous to what we today refer upon as the Knowledge Society. In particular, the globalization, escalating in the 1990s, has played a significant part in the development towards a Knowledge Society.\footnote{D Barney, \textit{The network society}, Polity, Oxford, 2004, p. 5-26}

The 21\textsuperscript{st} century has in fact been recognized as the “century of Knowledge Cities”, and a clear transition from a material-based to a knowledge-based society is noticeable.\footnote{F.J. Carrillo, \textit{Knowledge Cities; Approaches, Experiences, and Perspectives}, Butterworth-Heinemann, Oxford, 2006, p. xii}
2.1.2 A New Urban Epoch - A Human Perspective in Urban Planning

The transformation of cities has no limits. It is constant and develops in a way that reflects on the changes in our lifestyle, the social structure and economic progress in our society. Social structure and urban structure is related to each other, which has been proven by history. The agricultural society related to the village, the trading society to the market town, the industrial society to the industrial city, and the Knowledge Society to the Knowledge City.\(^{15}\)

The \emph{urbanization} process continuously causes further growth of metropolitan areas. As a chain effect, the population of rural areas continues to decrease. In Sweden, 85% of the population lives in cities, even though they cover a land area of only 1.3% of Sweden’s total area.\(^ {16}\) This progress can be recognized worldwide, and the population living in cities is projected to reach 75% by the year of 2025.\(^ {17}\) Modern cities have to meet these issues in order to manage the current urban progression. “The major battles in the years to come will be in the urban arena”, claims Nordic City Network.\(^ {18}\)

Unlike the \emph{Industrial Society}, the knowledge-based society values the process in which knowledge is created, advanced and exploited rather than features such as industrial production. The \emph{Knowledge Society} depends on interaction between humans and the platform in which it is created, putting the individual in focus. Hence, the society is transformed into being based on human and social capital rather than on industrial capital.\(^ {19}\)

The ideal \emph{Knowledge Society} is an integrated one, creating opportunities to gain knowledge for all individuals. For this to be enabled characteristics such as openness, tolerance and diversity have to be incorporated in commerce, buildings and in the urban spaces of the \emph{Knowledge Society}. A different type of urban structure and form is required if these values are to be enabled.\(^ {20}\)

The logic and organization features that were characteristic for the industrial revolution made its mark on the modernistic urban development after the Second World War. The rational zoning of this era takes little account of the human scale, which is most obvious in the traffic planning hierarchy. During the 1980s globalization further accelerated, targeting the focus on human capital. Humans are now more than ever valuable for economical development, and the interaction between humans is a key factor in this progress. Also the working environment is

\(^{15}\) Paulsson
\(^{16}\) Statistics Sweden, \textit{Fortsatt stor ökning av befolkningen i tätorter}, retrieved 10 March 12, \url{http://www.scb.se/Pages/PressRelease_____317009.aspx}
\(^{17}\) F.J. Carrillo, p. xi.
\(^{19}\) Ibid.
\(^{20}\) Nordic City Network, \textit{Nordic network for city planning} 2011, p. 6
in transition towards a network and project-oriented structure rather than a hierarchical, which in turn also affects the standards of urban development.21

Today’s society values entirely different qualities than during the industrial revolution. City life and urban environment are today more important than for example local access to hydropower. A vivid and stimulation urban life is more important for people’s well being than rational traffic solutions.22

2.1.3 The Fragmented City

The urbanization process during the 20th century led to a rapid growth in urban regions. As people moved to cities, buildings had to be established at a rate that was too rapid for their own good. Various issues in the urban structure arose in conjunction with the urbanization process. The major issue was perhaps the one dealing with urban cohesion. Today’s cities suffer of spatial fragmentation that has major adverse impact regarding urban cohesion. The topic of the planning of public spaces and urban cohesion was discussed at the ISOCARP (The International Society of City and Regional Planners) Congress in 2010. A study dealing with urban cohesion was published in conjunction with the congress, where the problems related to fragilities were identified. These problems include: 23

- A lack of physical and social connectivity in the urban structure
- Loss of identity
- Social exclusion and marginalization problems
- Economical disparities

Spatial fragmentation causes problems in the city’s urban structure. Urban mobility is affected, restricting the movement patterns in the city, which in turn decreases the use of various activities in the city. Using suitable urban planning methods can however diminish these problems and allow cohesive urban spaces.24

2.1.4 The Knowledge City Definition

The definition of a Knowledge City (KC) is complex, and various definitions have been recognized. The World Capital Institute presents several definitions, but summarizes the definition of a KC as follows: “A KC is one that searches for the creation of value in all its areas and develops high standards of life, cultural support and economic development, among other aspects.”26

21 Nordic City Network, 25 Examples from a knowledge city
22 ibid.
23 PA Júlia, R Antoni, B Pedro, NS Fernando
24 ibid.
25 ibid.
26 World Capital Institute, Knowledge City (KC), retrieved 4 April 2012
   http://www.worldcapitalinstitute.org/knowledgecities/glossary/knowledge-city-kc
Definitions such as the one above emphasize the economic aspects of the KC. Definitions that are formulated from an urban planning perspective are such as the one established by the Nordic City Network (NCN). Only this definition covers the urban planning aspects in their widest extent.

**The Nordic City Network definition**

The NCN has defined the term “Knowledge City” by applying the following 8 fundamental characteristics:

- Urban innovation
- The attractive city
- Culture and competence
- University and city
- Knowledge regions
- The human community
- Urban governance
- Confetti city (urban design)

These 8 characteristics form the bases for the KC as such and describe each feature in a fundamental way.

As stated by the NCN definition the Knowledge City is to be based on knowledge in terms of urban inquires such as social, economical and cultural innovation. The surroundings in which we find ourselves in our everyday life need to be stimulating, innovative, and attractive to reside in. The citizens of the KC are to be looked upon as part of a massive network that allows social interaction, acceptance and creativity.  

In order to become a successful KC it is essential that easy access to information and knowledge is provided. Given these conditions the citizens are able to obtain knowledge and exploit their full potential. A platform for exploiting this knowledge and creativity is necessary, which is why the universities are a key factor in the KC. The universities shape the knowledgeable and highly educated people that are required in the KC. Therefore, the university and city needs to be highly integrated and in symbiosis with each other.

The significance of the relationship between the city and its regions has increased and integration between the two is essential in order to achieve the standards of a

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28 ibid.

29 ibid.
The urban governance of the city has to enable various types of cooperation between local governments, the private sector and citizens.\textsuperscript{30}

The KC is highly complex in comparison to the structure of the Industrial City. It is a fusion of various features that forms an integrating structure. This stimulates an interactive environment with natural human meetings, knowledge sharing, multiplicity and creativity. The urban design of the KC is a key element and contributes to a stimulating environment for innovation, creating public spaces and surroundings that are attractive and allows integration. The complexity and diversity of the KC can be described as a “confetti city”.\textsuperscript{31}

\section*{2.2 Examples of Knowledge Cities}

In the following chapters three examples of existing and successful Knowledge Cities are presented.

\begin{itemize}
  \item Melbourne, Australia – a global Knowledge City
  \item Barcelona, Spain – a European Knowledge City
  \item Norrköping, Sweden – a Nordic Knowledge City
\end{itemize}

\subsection*{2.2.1 Melbourne – The Arts and Culture Metropolis}

The transition to the 21\textsuperscript{st} century has meant a spatial urban change, one that has been visible in the city of Melbourne. The city has embraced a new urban approach, inspired by the current Knowledge-Based Urban Development (KBUD). A new city plan, “The 2010 Melbourne City Plan”, was initiated with the aim to contribute to a city that is prosperous, innovative, culturally vital, attractive, people focused, and sustainable. The new plan discussed how the Melbourne is to be planned as a KC, including the following objectives:\textsuperscript{32}

\begin{itemize}
  \item Developing a gateway for biotechnology in the Asia-Pacific region
  \item Redressing skill shortage and building reputation as “the ICT capital” of Australia
  \item Attracting strategic knowledge-based industry businesses to support and facilitate innovative start-up businesses
  \item Promoting growth in the tertiary education services
  \item Developing and promoting as a place that understands, respects and operates successfully with other business cultures
  \item Developing and promoting diverse and highly skilled workforce to attract global projects
  \item Enhancing and promoting liveability and lifestyle options, including affordable, high quality housing and educational centres, and rich and diverse culture\textsuperscript{33}
\end{itemize}

\textsuperscript{30} Nordic City Network, A Nordic Knowledge City\textsuperscript{31} ibid.\textsuperscript{32} Yigitcanlar\textsuperscript{33} ibid.
The Metropolitan Strategy Plan for Melbourne, “Melbourne 2030”, is yet another tool that the city uses for KBUD. This strategy plan is similar to “The 2010 Melbourne City Plan” and focuses on the following nine key points:  

- A more compact city  
- Better management of metropolitan growth  
- Networks with the regional cities  
- A more prosperous city  
- A great place to be  
- A fairer city  
- A greener city  
- Better transport links  
- Better planning decisions and careful management

Melbourne 2030 advocates a solid and innovative economy where all sectors are necessary for an economic prosperity, having a KBUD that is depending on knowledge clusters. Melbourne’s development towards a KC and KBUD started already in the early 1990s, and the city’s visions on knowledge-based development where already at that time believed to provide effective solutions to economic problems.

At an early stage Melbourne’s metropolitan strategy recognized the importance of the city’s establishment in the global knowledge-based economy, and that it would reflect on the overall performance of Victoria as a state. In fact, one of the main reasons for Melbourne’s success as a KC has been due to the State and City administration’s regional development approach, and their support for the knowledge-based development of Melbourne as a creative urban region. Financial support has been provided to all types of companies through funds and other business development programs, which has made Melbourne to one of the largest concentrations of advanced industrial and scientific research in the Asia-Pacific region. Research and business is operated within various fields, including nanotechnology, biotechnology, automotive, aeronautics, financial services and design. This, along with Melbourne’s eight universities has contributed to the development towards a successful KC.

Melbourne is despite the success in clustering development in business, education, and research, better recognized for its tourism, sports, art and culture. The city is known as a leading art and culture capital in the Asia-Pacific region, attracting tourists mainly through major cultural and sports life activities. This development has marked Melbourne as a prominent global Knowledge City.

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34 Yigitcanlar  
35 ibid.  
36 ibid.  
37 ibid.  
38 ibid.
2.2.2 Barcelona – Knowledge as Culture

The city of Barcelona has worked determinedly in order to become a leading urban region in the information and knowledge-based society of the 21st century. In the transition to the new millennium Barcelona faced many challenges, and the rapidly growing technological and economical development forced the city to take urgent actions in order to reposition itself as a leading metropolis and a Knowledge City. This led to Barcelona’s City Council introducing a strategic plan that aimed to make Barcelona a “City of Knowledge”, where the cultural sector was seen as the key to success. The KBUD process involved numerous public institutions, residents, as well as private sector initiatives, and focused on developing infrastructures and knowledge businesses.39

Barcelona is now known as Europe’s culture capital, being one of the most prominent Knowledge Cities. One of the contributors for the cultural development in Barcelona is the “22@Barcelona” – a project focusing on urban innovation. 22@Barcelona has transformed 200 hectares of unused industrial land into a new central urban environment used for creation, transfer and attraction of knowledge. Now, this new district forms a creative urban core in the city of Barcelona. This KBUD approach has been referred upon as the “Barcelona model”, and is characterized by the following features:40

- Establishing a competent municipal leadership in the design and management of the development, even the investment is mainly of private origin.
- Receiving an unconditional support, as a result of good governance and mayor’s charisma, from public administrations, financial institutions and socio-economic entities.
- Keeping a global vision for the city in spite of large international projects and events (e.g. Olympic Games).
- Building the development on the basis of existing and unique tangible and intangible assets of the city (e.g. architecture, culture).
- Diligently working on strategic urban marketing and city branding including lobbying.
- Strictly following existing urban development plans and planning regulations so as to maintain coherence, credibility and legitimacy of the development.

39 Yigitcanlar
40 Ibid.
• Understanding the role of public spaces (e.g. streets, squares, facilities) as characteristic elements of generating identity and establishing social and cultural integration.
• Avoiding gentrification and introducing mixed land-use to avoid marginal social zones and to maintain social coherence.
• Creating a powerful coalition among professionals, technicians, developers, neighbourhood associations, and local councillors.
• Involving citizens in the planning and development processes with the role of urban volunteers.41

22 Barcelona is an exemplary case for KBUD that has undergone an urban transformation using a strategic urban policy along with engaging in dialogue and illuminating the need for knowledge in the city. The project was successful on a domestic level as well as on the global knowledge-based economy.42

2.2.3 Norrköping – A Cohesive Knowledge City

The city of Norrköping is also known as the “Swedish Manchester” and has over the last decades undergone a major transformation from being an Industrial City to becoming a Knowledge City. Norrköping has been a member of the Nordic City Network since 2010, and has ever since continued to develop the old industrial environment in the spirit of the Knowledge City.43

Norrköping’s transformation from an Industrial City was in many ways a challenging one. During the 1970-80s the industrial business was either shut down or moved from the downtown area, putting the city in a challenging financial situation. The city was left with unemployed industrial workers with low level of education, making it difficult for them to transfer their limited knowledge to other types of occupations. Since the beginning of this transformation Norrköping has been forced to deal with these difficulties as it has changed to become a Knowledge City.44

The old industrial zone was located in the centre of the city in connection to the waterfalls, which were used for power generation. Today, these waterfalls play a major role in the environmental features of the city and are an attraction themselves rather than an industrial asset.45

The industrial buildings promote an attractive setting, suited for knowledge activities. As the city was transformed, empty industrial buildings were utilized for new activities. The first establishments to move in were a new museum, “Arbetets

41 Yigitcanlar
42 ibid.
43 Nordic City Network, 25 Examples from a knowledge city
44 ibid.
45 Nordic City Network, Nordic network for city planning 2011, p. 41-42, retrieved 20 April 12
museum” (Museum of Work) and a concert hall. This action founded a strong cultural sensation in the new Knowledge City.\(^{46}\)

Yet a further step towards a Knowledge City was taken when part of Linköping University was established in Norrköping in the mid 1990s. This action advanced the up until that time low level of education and simultaneously welcomed thousands of new students to the newly established facilities in the city centre. Norrköping has since then continued the collaboration with their region neighbour Linköping, developing the communications between the two cities. They now have a joint work program that is based on the values of the Knowledge City. Characteristics that are important in this work include an attractive city centre, green communication methods, and public transports that promote a continuous city. This means that the urban structure needs to be better connected, which creates a more natural movement pattern between different areas in the city.\(^{47}\)

The transformation from an industrial city to a Knowledge City in Norrköping is perhaps better comprehended by the three examples below.

**Knäppingsborg**

The area of “Knäppingsborg” is located in the outskirts of the old industrial area. This previously closed block has in its transformation opened up, and now offers various activities such as shops, restaurants and cafés, making it a natural meeting point. The new activities in their preserved historical surroundings offer great cultural values. The diverse use with offices, shops, residential buildings, and a school is the ultimate embodiment of the mixed-use city.\(^{48,49}\)

**Visualization Centre**

In conjunction with the expansion of university activities, a new visualization centre was established in 2010. The buildings that house the visualization centre are an old power station and a wool-spinning mill that have been linked together by a new modern architectural element.\(^{50}\)

At the Visualization Centre, there are also exhibitions and a restaurant where staff,

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\(^{46}\) Nordic City Network, *Nordic network for city planning 2011*

\(^{47}\) ibid.

\(^{48}\) Nordic City Network, *25 Examples from a knowledge city*

\(^{49}\) Nordic City Network, *Nordic network for city planning 2011*, p. 41-42

\(^{50}\) ibid.
students, scientists and the general public can meet and interact. This new attraction promotes culture, science, entertainment, information and education, and works in addition as a public meeting place. Above all it enables knowledge, the keystone of the Knowledge City.51

**The “3K-route” – Coherence in a Knowledge City**

_Norrköping’s_ original city structure is complex in its nature, with a vaguely defined downtown area. Several squares are sporadically sited with no clear connection to the commercial areas of the city, which forms a complex urban landscape. This urban shape can be disadvantageous in many ways, but it also allows more room for creating urban spaces of a fourth dimension.52

The initial idea of the so-called **3K-route** was to create a route that runs through the whole city of _Norrköping_ and thus connect the city together. The 3 K’s stand for the three Swedish words _Kunskap, Kultur, and Kommers_, which translate to _Knowledge, Culture, and Commerce_. These three features where to be integrated along this particular route, and spread further in the city.53

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51 Nordic City Network, *Nordic network for city planning* 2011, p. 41-42
52 ibid.
53 ibid.
3 Method and Implementation

The completion of this study has required literary studies, a case study of The City of Jönköping, and a sketching process. In the following chapters the entire process, from start to finish is presented.

3.1 Literary Study

The topic for this thesis includes a wide range of theories and aspects why a substantial theoretical review has been necessary.

The Danish architect and urban planner Jan Gehl have studied various phenomena in the urban life, including the issue of urban cohesion. His theories are renowned and recognized in the field, and have for that reason been used in this thesis. Gehl’s book Life Between Buildings has been used frequently throughout this thesis.

Furthermore, the literary study includes the theories of Nordic City Network, the theories presented in the ISOCARP publication “Planning public spaces networks towards urban cohesion”, and the theories of innovation expert, Dr. Ron Dvir.

3.1.1 The Three Pillars of the Knowledge City

Knowledge cities are complex by nature and are difficult to define. The Knowledge City includes a diversity of features and promotes several forms of knowledge. In order for the Knowledge City to become a successful city it has to master three central pillars; attractiveness, culture and innovation.54

Attractiveness

A transition in the use of urban space is noticeable. Due to the increased car use during the 20th century cars have dominated the urban spaces of our society. However, this tendency is slowly fading out, and focus nowadays lies on creating urban spaces that are attractive for people to spend time in. Urban spaces are transformed into spaces that are suited for recreation. The

54 Nordic City Network, Nordic network for city planning 2011, p. 6-7, retrieved 3 April 12
American urban studies theorist Richard Florida has emphasized the meaning of a city’s attractiveness and how it is necessary in order to appeal to the interests of the workers that are needed. The attractive city cannot be obtained only by establishing top-modern architecture. The buildings that fill the urban spaces of our cities need to be integrated into their surroundings and provide an attractive urban atmosphere.

**Culture**

Culture is the second cornerstone of the Knowledge City. Modern cities should provide urban spaces that encourage and enable cultural activities, creating a platform where people can interact with each other and explore their potential as human beings. Knowledge Cities are also cultural cities that urge a creation of space where cultural as well as social innovation can be acquired. This development requires in particular openness, diversity and respect.

**Innovation**

An innovative environment creates room for the creation knowledge and interaction. One of the current trends is that companies are moving their activities to the cities rather than being in the outskirts. Values such as spacious offices and good parking space are replaced by features such as the access to urban life and the urban functions of the city. The qualities and the atmosphere that the city has to offer are priceless and are believed to stimulate business and economic growth. Businesses change their behaviour to being more transparent and inviting, creating a stimulating forum for an innovative urban environment. This new “productive” urban space is called the 4th Urban Space. It is an urban space that provides a setting for innovation and human interaction – the ideal forum for knowledge emergence and exchange. By the creation of the 4th Urban Space, urban structure is able to take different shapes, which enriches the entire society.

3.1.2 The 4th Urban Space – a Space for Innovation

The 4th Urban Space is a key element in the Knowledge City and is essential if urban innovation and stimulation are to be enabled. The term was first coined by Gehl Architects, and is a new type of urban space that is innovative and differs from the urban spaces of the previous Industrial City.

NCN argues that this new type of urban space is a “productive urban interspace” and that it is a forum for meetings, knowledge sharing, inspiration, ideas,

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55 Nordic City Network, *Nordic network for city planning* 2011, p. 7-8
56 ibid., p. 8-9
57 ibid.
innovation, product development, and network creation. This type of urban space is a fusion of multiple urban spaces where the borders between different functions are disappearing. This tends to transform the urban structure, and as a result, an innovative urban infrastructure is created.\textsuperscript{60}

The cities of the \textit{Industrial Society} did not have a natural interaction of their urban spaces. As society has taken new forms, the need of other types of spaces has become a central issue. The barriers and the division of spaces are disappearing, and a 4\textsuperscript{th} dimension is created, which enables a unified spatial experience. The mixture and collaboration of urban spaces promotes a platform for urban interaction of new dimensions.\textsuperscript{61} This hybrid city structure has been referred upon as “Spaghetti City” or “Confetti City” by NCN, and is the very definition of the 4\textsuperscript{th} Urban Space. For this to be made possible, the various physical spaces in the city had to intersect each other, and all zoning has to be eliminated.\textsuperscript{62,63}

\textbf{3.1.3 Innovation Engines}

The process of innovation is what transforms knowledge into value. \textit{Innovation Engines} are crucial elements in the urban environment if innovation is to be promoted. They are systems that can trigger, generate, foster, and catalyse innovation in the urban setting. These engines include people, relationships, values, processes, tools, and technological, physical and financial infrastructure.\textsuperscript{64}

In the city there are many elements that can serve as \textit{Innovation Engines}; the Café, the Library, the Museum, the University etc. However, not all cafés or libraries have the features required in order to function as true \textit{Innovation Engines}. Various factors have to correspond for a certain urban element to function as an innovation engine, which usually requires conscious actions.\textsuperscript{65}

\textbf{The Café}

The café is an ultimate \textit{Innovation Engine} since knowledge origins and is spread through conversations and interaction. Over the last centuries the café setting has promoted a stimulating environment for great thinkers and philosophers, and created stimulating scenery for conversations and breakthroughs within arts,

\textsuperscript{60} Nordic City Network, \textit{The 4\textsuperscript{th} Urban Space}
\textsuperscript{62} ibid., p.11
\textsuperscript{63} Nordic City Network, \textit{A Nordic Knowledge City}
\textsuperscript{64} R. Dvir, E. Pasher
\textsuperscript{65} ibid.
philosophy, psychology and politics. The cafés of the 19th century functioned as actual platforms for that times ground breaking ideas.\textsuperscript{66}

The innovative influence of the café has given rise to concepts such as the “Knowledge Café” – a platform that aims to support innovative brainstorming sessions.\textsuperscript{67}

**The Museum**

Museums and libraries resemble each other in their exchanges of innovation. A museum or a library is not only cultural buildings, but also places for innovation and knowledge stimulation.\textsuperscript{68}

The city of Bilbao is exemplary in its development from an old industrial city into a *Knowledge City* by the opening of the Guggenheim Museum in 1997. This new urban innovation engine holds art event as well as conferences in business innovation, intellectual capital and other knowledge events.\textsuperscript{69}

**The University**

Universities are knowledge centres and are full of innovativeness that can be spread to the rest of the city. The university is not only a learning platform, but also a central *Innovative Engine* in the *Knowledge City*, forming a strong link between the university itself and the city citizens; children, teachers, business people, artists, industrialists etc.\textsuperscript{70}

**Other Innovation Engines**

In fact, all urban public places can be transformed into urban *Innovation Engines*. Parks, streets, plazas, libraries, shopping malls, and other urban elements are all places that are able to promote knowledge sharing and innovation opportunities. Some of the most obvious *Innovation Engines* are presented below.

\textsuperscript{66} R. Dvir, E. Pasher
\textsuperscript{67} ibid.
\textsuperscript{68} ibid.
\textsuperscript{69} ibid.
\textsuperscript{70} ibid.
3.1.4 Public Spaces – The Way to Urban Cohesion

_Urban cohesion_ is related to various factors, including environmental, economic and social aspects. An additional fourth aspect involves physical and functional factors and is highly related to the urban structure. This fourth factor affects the continuity and accessibility of space. Taking this factor into account allows better understanding of the urban space with its various functions, and makes it possible to influence movement patterns and links between the urban functions. In particular, the programming, planning and designing of urban _public spaces_ has a strong impact on the urban sustainability and thereby also the _urban cohesion._\(^{71}\)

_Public spaces_ and their meaning is a topic that has been discussed for some time now, and there is a desire to gain further understanding of its development potential as a key element in the city. Many authors within the field have highlighted the subject of public space and believe that “the city is the public space” and that it affects formal, economical, social as well as environmental issues in the city.\(^{72}\) _Public space_ is a fundamental feature in the urban structure, endorsing coherence, urban quality and human affiliation, making it an essential element if a city is to be coherent. The planning of public spaces as well as urban planning in general is therefore a way to solve structural issues such as spatial fragmentation. The planning of public spaces network is to be based on four types of indicators if _urban cohesion_ is to be enabled.\(^{73}\)

\(^{71}\) PA Júlia, R Antoni, B Pedro, NS Fernando
\(^{72}\) ibid.
\(^{73}\) ibid.
Using these four indicators enables evaluation of the urban structure and makes it possible to plan public spaces in a cohesive manner and as part of a network system. For urban cohesion to be enabled public spaces must be planned from a network perspective, seen as elements of a higher system.74

A Network Approach

The structure of the network city can be described as a continuous system where strings and knots are connected to each other. In the city structure, the “knots” symbolize the urban elements such as facilities, services and buildings. The “strings” on the other hand represent the movement in the city, including all types of roads. Nevertheless, the urban network is better describes by the use of two dimensions:

1. **Physical-formal**: includes all urban elements as well as the links between them.
2. **Formal-functional**: includes the citizens and hence the users of the city, and the relations and interactions that are obtained.

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74 PA Júlia, R Antoni, B Pedro, NS Fernando
These two dimensions have a symbiotic relationship and are central also from a social-cultural point of view.\textsuperscript{75}

Public spaces are not to be considered as single isolated spaces, as they are of value first when they create a network with the links that connects them. It is the actual links and complementary relations between them that control people’s urban experience and the movement patterns in the city. The planning of public spaces network is therefore a key tool if urban cohesion is to be promoted. By understanding the public city network’s features it is possible to enrich the continuity between spaces.\textsuperscript{76}

**Outdoor Activities**

Gathering people creates opportunities for people to interact on an individual level and thereby stimulate each other. In order to allow these human interactions, conscious urban planning has to be made, as it is people that need to be gathered rather than buildings.\textsuperscript{77}

In Jan Gehl’s studies of urban activities, four different contradictions are highlighted:

- Assemble or Disperse
- Integrate or Segregate
- Invite or Repel
- Open Up or Close In\textsuperscript{78}

These four antitheses can be used for achieving urban coherence, which in turn may contribute to social coherence.\textsuperscript{79} Gehl argues that the choice of outdoor activities depend on the quality of outdoor space, and he identifies three types of outdoor activities; necessary activities, optional activities and social activities.\textsuperscript{80}

Necessary activities take place regardless of the outdoor space, while optional activities depend on the quality of the exterior environment. When the environment invites people to spend time in it, the optional activities will increase.\textsuperscript{81} Social activities are those who include interaction with other people. Also passive interaction, such as just seeing people is included in this category. The social activities emerge in almost all cases from the other two categories, which is why they can be seen as “resultant” activities. They are in that sense dependent on the existence of necessary and optional activities.\textsuperscript{82}

\textsuperscript{75} PA Júlia, R Antoni, B Pedro, NS Fernando
\textsuperscript{76} ibid.
\textsuperscript{78} ibid.
\textsuperscript{79} ibid.
\textsuperscript{80} ibid., p. 9
\textsuperscript{81} ibid., p. 12
\textsuperscript{82} ibid
The city streets and centres usually allow a superficial type of social interaction, where people interact through merely seeing and hearing people. However, this type of social interaction can be as important and stimulating as other types of social activities, and is usually a gateway to more profound interactions between people. The spaces in which social interactions can take place therefore need to be carefully designed. Although urban planning cannot control social interaction, it can steer and enhance the potentials for interaction in the urban space. In the end, the urban environment’s most important function is to permit and raise the quality of social activities that takes place in the urban space, and it should operate as a platform for activities, inspiration, meetings and stimulation.\textsuperscript{83}

Regardless of the architecture and urban design, cities can only be perceived as vibrant and alive when they enable a high level of human interaction and activities. Such cities promote inspiration and stimulation due to the richness in experiences in the life between buildings. Where there are activities and happenings in the city there are as a rule also many people gathered – people attract people.\textsuperscript{84} People’s need of interaction is why city centres and pedestrian streets are such attractions. Human activities and people are the main attraction. Merely the presence of other people gives more satisfaction and stimulation than most attractions in the cities.\textsuperscript{85}

A number of surveys show that there is a direct link between the outdoor quality of the street and the activities in the street. The quality of urban spaces can in

\textsuperscript{83} Gehl, p. 12-14
\textsuperscript{84} ibid., p. 21-25
\textsuperscript{85} ibid., p. 26-30
many cases be improved only by small modifications. Actions which has been found to provide an improvement in urban spaces are traffic reduction, courtyard clearing, laying out of parks and other similar actions.\textsuperscript{86} It is obvious that the design of the physical environment affects the activity patterns in public spaces, and that it to a certain degree is possible to impact the amount, the duration and the type of activities in public spaces.\textsuperscript{87}

**Physical and Psychological Needs**

People have both physical and psychological needs that have to be satisfied. Although physical and psychological needs usually are satisfied together, the physical needs are usually the ones prioritized; eating, drinking and sleeping are such needs. This does however not mean that the psychological needs are less vital.

*Public spaces* are expected to satisfy our need for interaction, knowledge sharing and stimulation – needs that are psychological, but as important and sought for as the physical ones. When going out for some shopping it is usually to satisfy the physical and rational need, but in fact we are also looking to satisfy the psychological need, in terms of social interaction and stimulation.\textsuperscript{88}

As there are different types of needs that have to be satisfied, the urban environment has to be able to promote these features. A shopping area does for that reason not only need to promote the basic and rational needs; the stores and supplies, but also to promote an environment that enables stimulation, social interaction and knowledge sharing. Visiting a café meets both a physical need of actually having some coffee, but also a psychological need of social contact and interaction. The urban environment needs to combine use and pleasure in order to be an appealing environment.\textsuperscript{89}

*Public spaces* that enable integration also allow interaction between individuals and their activities. This interaction is necessary if people are to stimulate one another, and depends on an urban planning that abolishes mono-functional areas.\textsuperscript{90}

The conveyance from one point to another entails many impressions along the road. Integration between different types of transport such as vehicles and pedestrian makes it possible to get a richer urban as well as social experience. This

\textsuperscript{86} Gehl, p. 34
\textsuperscript{87} ibid., p. 37
\textsuperscript{88} ibid., p. 115
\textsuperscript{89} ibid., p. 115-120
\textsuperscript{90} ibid., p. 109-112
specific opportunity for getting a maximal experience is inhibited when separating
the different modes of transport.  

**Copenhagenization and Strøget – The Phenomenon**

In *Copenhagen*, the capital of Denmark, urban planning has contributed to the birth
of the expression “Copenhagenization”. This phenomenon is an urban planning
attitude that is bicycle and pedestrian friendly, where cars are no longer the focus
of the street network of a city. The Danish architect and urban planner Jan *Gehl*
is the founder of this expression, encouraging other cities to “Copenhagenize”.
*Gehl* has for many years studied urban spaces and tried to understand how they
function. His studies resulted in him being the initiator of the first and main
pedestrian street in Copenhagen, *Strøget*. This was Copenhagen’s first step
towards a car-free inner city and aimed to improve the conditions for pedestrians
and cyclists.

*Strøget* runs through the centre of Copenhagen and is a link between
two squares. Its 1.8 kilometres makes it Europe’s longest pedestrian street. *Strøget* is always
filled with people and promotes attractive shopping, cafés and
restaurants, and different types of social activities.

The concept of creating car-free zones turned out to be a success. It was
beneficial both for the people spending time in the city as well as for the merchants. Since *Strøget* was
transformed to a car-free zone the number of people walking the street has
increased by 40%. People enjoy the street-life both in summer as in winter. *Gehl*
claims that the main attraction of the street is the people in it. “When there are
other people, there are always surprises and interesting things to look at”, *Gehl*
says in an article by the Ottawa Citizen.

*Copenhagen* has been transformed from being a car-oriented city to becoming a
human-oriented city. Although car ownership has increased, the number of
parking spaces in the downtown area has been reduced in number and replaced
with either pedestrian or cyclist zones. The car-free spaces in the city have been
reduced by seven times since 1962, making transport by foot or bicycle the easiest
and fastest way to travel. Moreover, it is cheap, noise-free, and environmentally

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91 *Gehl*, p.109-112
92 The Ottawa Citizen, *The Strøget Solution*
93 Business 360, *Future Cities*, CNN, “Copenhagenization” in the Danish Capital
94 The Ottawa Citizen, *The Strøget Solution*
95 ibid.
friendly to walk or cycle. *Copenhagen* has thanks to this *pedestrianization* process been able to transform into a safer, more attractive, sustainable and healthy city, where pedestrians are prioritized.\(^96\)

The way in which people use the city has undergone a major transformation according to *Gehl*. What used to be a necessity has now changed to being optional. People used to go downtown only when they had to, rather than for experiencing the many benefits that the city has to offer. "Today, they will say they are there for leisure, to find a nice urban environment and enjoy the diversity and culture that you can only find in a city. They will also shop on the side, but they want experiences and enjoyment rather than shopping for goods which they can get many places", *Gehl* explains.\(^97\)

The design of the city space should encourage people to become part of the city life and invite walking, cycling and staying. It is noticeable that the quality of city life is enhanced as the quality of the urban spaces is improved.\(^98\)

Jan *Gehl* highlights 9 general tips that can be applied in the making of pedestrian zones:

- Create a network of public streets, squares and parks; don't leave isolated parcels
- Create pedestrian priority streets as well as pedestrian only zones
- Link the pedestrian street system together
- Make it a public policy to encourage people to spend time in the city, especially after hours
- Use simple and elegant designs and good materials for street paving and furnishing; emphasize natural materials rather than concrete
- Demand good design for ground floor façades and shop fronts
- Ensure adequate off-street parking
- Make the streets work well in winter by emphasizing the distinctive qualities of that season
- Enhance and interpret the streets' and the city's unique physical and cultural qualities\(^99\)

**Urban Design**

Studies have revealed that people’s pattern of movement by foot is within a radial distance of 400 to 500 meter per excursion, meaning that every single meter and square meter are crucial in the urban planning of *public spaces*.\(^100\)

\(^96\) The Ottawa Citizen, *The Stroget Solution*
\(^97\) ibid.
\(^98\) ibid.
\(^99\) Gehl, p.83-91
\(^100\) ibid.
Cohesion in *public spaces* can be regulated depending on the dimensions and relationships between spaces and the people that use the spaces. Over-dimensioning areas that are used by a small scale of people and activities can create a human segregation, while doing the opposite can contribute to a cohesive environment. Human interaction and meetings are more likely to occur if *public spaces* have rational and balanced proportions in relation to their projected area of use. Where oversized spaces are encountered, an intimate atmosphere can be obtained by creating smaller spaces in the large ones. A row of trees can promote an intimate experience of the original large space.\(^{101}\)

The design of buildings and the relationship between street and façade affect the level of cohesiveness in the city. People’s experiences in *public spaces* are affected by factors such as the length of the façades, the size of the buildings, the number of entrances and the distance between them. These types of features can depending on their design either stimulate or dampen the public areas. Walking along a street that has no entrances facing the street, or only a few entrances with long distances counteracts a vibrant urban atmosphere, since the entrance zone is where most events along the street take place. The same effect is obtained by so called passive unites – a building filled of office units inhibits the street life. Generally, “gaps” of all types, in the street space should be avoided.\(^{102}\) Another relevant factor is the amount of windows on ground level and the chosen façade material. For example, a glass façade or many windows creates a greater interaction between street and building. It creates a curiosity of what takes place inside the building, and increases the chances for an enhanced experience.\(^{103}\) Therefore, all boring things should be placed on the second floor, while the ground floor should be kept visible from the street.\(^{104}\)

### 3.2 Case Study – The City of Jönköping

The ideas of the *Knowledge City* and *urban cohesion* were best implemented by an actual case study. The city of *Jönköping* was selected as case study object, aiming to apply the theories of the literary studies in this thesis. Guidance has been received from supervisor Ulf Mattsson, at *Jönköping’s* municipality.

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\(^{101}\) Gehl. p.92.  
\(^{102}\) ibid., p. 93-100  
\(^{103}\) ibid., p. 121  
\(^{104}\) The Ottawa Citizen, *The Strøget Solution*
Why Jönköping?

The city of Jönköping is located by Lake Vättern, Lake Munksjön and Lake Rocksjön. Jönköping’s 128,305 inhabitants make it the county seat and centre of the region of Jönköping.\(^\text{105}\) The city has become a key transport interchange due to its given location on the European highway 4, and is today one of Sweden’s ten largest urban regions.\(^\text{106}\)

Figure 22. The City of Jönköping - The city by the lakes

Jönköping is one of Sweden’s fastest growing cities and is in an expanding phase, constantly establishing new buildings and businesses. The city is well known for its commerce status, and has become a commercial centre in Sweden.\(^\text{107}\)

The city of Jönköping was selected as case study object mainly due to its two divided city centres that creates a problematic urban fragmentation. The current development of Jönköping was studied carefully in order to determine which direction the urban structure of the city is moving in and to what extent it coincides with the objectives of the Knowledge City. The main goal of the case study was to satisfy the objectives of a Knowledge City and merge them with the aspects of urban cohesion.

\(^{105}\) Jönköpings kommun, Befolkningstastistik, retrieved 4 April 2012  
\(^{106}\) Nationalencyklopedin, Jönköping, retrieved 4 April 2012  
\(^{107}\) Jönköpings kommun, Fakta om Jönköping, retrieved 4 April 2012
**Jönköping – A Knowledge City?**

Parallels where instantly drawn between the objectives of Jönköping’s Urban Design Vision and the theories of The Knowledge City. One of the outcomes was that the two coincides in terms of the objectives of culture and commerce. However, the word “knowledge” is not mentioned at all in the work of the Urban Design Vision 2.0, and dedicated work efforts on making Jönköping into a Knowledge City has not been made.108

Many elements in the current urban structure of Jönköping are in line with the elements required in the Knowledge City, and the city provides many of the most central Innovation Engines.

**Jönköping University**

*Jönköping University* consists of four different faculty’s; School of Health Sciences, School of Education and Communication, School of Engineering, and Jönköping’s International Business School. On campus there is also a University library, which is a leading research library in entrepreneurship, small business and innovation. It was awarded “Library of the Year 2005” in Sweden.109 The University campus stands out with its central location in downtown Jönköping. Here there are 11000 students, of which 1000 are international students – all contributors to innovation and knowledge sharing.110

**Spira Performing Arts Center**

*Spira* was completed in 2011 and has a central location in downtown Jönköping. The building is situated on an artificial peninsula, overlooking Lake Munksjön.111 Jönköping County Council, aiming to provide cultural experiences for all citizens, initiated the project. *Spira* offers theatre, music, dance as well as culinary

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108 Jönköpings kommun, *Stadsbyggnadsvision 2.0*, retrieved 4 March 2012 - [http://www.jonkoping.se/download/18.1cf0d8713183de6d9680004588/Stadsbyggnadsvision+2.0+%282.008%29.pdf](http://www.jonkoping.se/download/18.1cf0d8713183de6d9680004588/Stadsbyggnadsvision+2.0+%282.008%29.pdf)
109 Högskolebiblioteket, *Om biblioteket*, retrieved 18 April 2012 - [http://hj.se/bibl/om-biblioteket.html](http://hj.se/bibl/om-biblioteket.html)
sensations in the restaurant and café, making it a natural meeting point for all citizens.\textsuperscript{112}

\textit{Jönköping} is full of other \textit{Innovation Engines} that are able to advance the city towards becoming an innovative \textit{Knowledge City}.

These \textit{Innovation Engines} are among others:

- Public library
- 45 cafés and restaurants in the downtown area
- Elmia Fair – hosts exhibitions and congresses
- Jönköping Science Park
- Jönköping Concert Hall
- Jönköping County Museum
- Matchstick Museum
- John Bauer Museum
- The City Hall Park

\subsection{3.2.1 Urban Design Vision 2.0}

The city of Jönköping has presented an \textit{Urban Design Vision}, with the purpose to develop Jönköping city from a holistic perspective.\textsuperscript{113}

The actual development of the city core has been narrowed down to a few areas. Focus has been put on four key areas:\textsuperscript{114}

- The city’s \textit{life and substance}
- Renewal of the \textit{town centre}
- Renewal around Lake Munksjön
- The city’s sustainable transport

\textbf{Objectives}

The development of the downtown is based on a few fundamental ideas.\textsuperscript{115}

- The city centre should be sustainable from a social, environmental and

\textsuperscript{112} Kulturhuset Spira, retrieved 18 April 2012, \url{http://www.kulturhusetspira.se/mat-och-dryck/}
\textsuperscript{113} Jönköpings kommun, \textit{Stadsbyggnadsvision 2.0}, retrieved 4 April 2012 \url{http://www.jonkoping.se/download/18.1cfa0d8713183de0d9680004588/Stadsbyggnadsvision+2.0+%282008%29.pdf}
\textsuperscript{114} ibid.
\textsuperscript{115} ibid.
The city centre should serve as a natural meeting point for people of all ages, origins and genders. It should be an environment that is safe to be in at all times.

The city centre should provide a variety of accommodations, jobs, education, culture, commerce, entertainment and other activities.

The downtown should have a high quality of architecture and design of public spaces.

The city centre should provide good accessibility for all.

The city centre is to provide sustainable and profitable conditions that are long-term, in order to stimulate the development and operation of various activities.

Jönköping aims to have Scandinavia’s most attractive city centre in its size. The Urban Design Vision 2.0 is designed to contribute to a sustainable urban development, forming an attractive city that is characterized by creativity, openness and tolerance. The city of Jönköping is to have urban spaces that provide an attractive, safe and experiential environment. One of the main duties of the Urban Design Vision is to further regenerate the downtown area and to enhance the interaction of the Eastern and Western centres.\(^1\)

### 3.2.2 Downtown Jönköping

Jönköping’s downtown is divided into two districts – a Western and an Eastern district. On the eastern flank is the main commercial street “Östra Storgatan”, where most of the shops are located. The western flank, on the other hand, offers cafés, restaurants and nightclubs. In total, there are 200 stores, 45 restaurants and cafés, and 5000 parking spaces to be found in the downtown area.\(^2\)

Jönköping City AB is a corporation that focuses on how to stimulate the downtown area in Jönköping. In 2008 Jönköping City AB requested a survey regarding the urban experience in Jönköping’s downtown. The survey was targeted at people living in Jönköping as well as in the outskirts of Jönköping municipality. The questions were posed to 707 people between the ages of 18-75.\(^3\) The results of this study show that even though many experience the downtown as being centred it is nevertheless perceived as stretched out and that there is a missing link between the Eastern and the Western districts. Another outcome that is worth attention was that many people preferred to visit the A6 Shopping Centre instead of going downtown. A6 is located more than three kilometres from the downtown area and offers 80 stores, 12 cafés/restaurants, and 3600 parking spaces.\(^4,5\)

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\(^1\) Jönköpings kommun, Stadsbyggnadsvision 2.0
\(^2\) Jönköping City, Shopping i Jönköping City, retrieved 17 April 2012 \(\text{http://www.jonkopingscity.com/bunker}\)
\(^3\) Mohlin Marknadsinformation AB, Centrumundersökning Jönköping City AB 2008
\(^4\) Google Maps, Vägbeskrivning – Radhusparken till A6 Center, retrieved 17 April 2012 \(\text{http://g.co/maps/h6g2s}\)
\(^5\) A6 Center, Information A6 Center, retrieved 17 April 2012 \(\text{http://a6center.se/information/}\)
**Jönköping Downtown vs. A6 Shopping Centre**

The statistics presented in the survey that was conducted in 2008 on request of Jönköping City AB were analysed through a comparison of the assortment in stores, restaurants, cafés and parking lots. The survey clearly revealed that many preferred to do their purchases at A6 due to the high concentration of stores and the high number of parking lots.\(^{121}\) The relationship between the two rivals has been compiled and is shown in the chart below.

**Chart 1. A6 vs. Jönköping City**

The statistics presented in Chart 1 show that the downtown area is by far the leader in quantity in all three categories. Still, many expressed that it was more convenient to do the shopping at A6 due to the fact that everything was under one and the same roof.\(^{122}\) These fallouts clearly indicate that it was in fact not the quantity but rather the quality of the surroundings that determine the overall experience. Therefore, it is of utmost importance that the location, distance and coherence of the various activities in the downtown area are well implemented. In a shopping centre many individuals are gathered in a limited area, which might contribute to a cohesive and stimulating environment. However, in the city, this atmosphere needs to be achieved by the use of conscious urban planning.

### 3.2.3 The Missing Link – Site Analysis

Jönköping’s downtown is divided into two districts – a Western and an Eastern district. The connection between these two districts is vague, and has been referred upon as “the missing link” by the architect Lars Ågren\(^{123}\). The area transecting the two city districts consists of a large park zone, forming a barrier that creates a disintegrated urban experience.

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\(^{121}\) Mohlin Marknadsinformation AB, *Centrumundersökning Jönköping City AB 2008*

\(^{122}\) ibid.

\(^{123}\) I. Ågren, *GudmundsGillet Årsbok*, Jönköpings Hembygdsförening, 1992, p. 31-34
Critical Areas

The first natural step in the progress of the case study was to identify the zone where the Western and Eastern areas are disjointed, where cohesion is thwarted. This zone was defined as the “critical area” of the city centre, and therefore the area that were to be processed in the case study. The structure of the city centres was observed and analysed by actual field studies as well as comprehensive analysis of existing drawings. The critical areas were easily spotted on site as well as in the printed site plan.

At an early stage of the work progress the “critical areas” were determined as the park zone and the area surrounding them. Especially The Harbour Park and The City Hall Park were believed to cause the fragmented structure. These two parks are located along the main streets “Östra Storgatan” and “Västra Storgatan” and it was obvious that this particular park area separated the two city districts.

Once the “critical area” was identified the obvious action was to primarily improve this area and try to change the structure of it in order to achieve a stronger link between the two city centres. Naturally there where many other areas in the city that possibly could enhance the cohesiveness of the urban spaces, but these specific “critical zones” were believed to be the culprits and the key factors of the fragmented city core.

The two city centres are separated by three parks; The City Hall Park, The Harbour Park and The Brahe Park. These parks are located just in-between the Eastern and the Western city cores. Inventory of the area showed that these parks clearly left a gap in-between the Western and the Eastern districts – a gap that lacks of activities and vividness.

124 Jönköpings Kommun, Centrala parkstråket, retrieved 9 April 2012
http://www.jonkoping.se/toppmeny/fritidochkultur/naturochfriluftsliv/naturochfriluftsliv/objekt/centralaparkstraket.4.7f63fd9f127b9a4a4ca80007841.htmlb
The Brahe Park is located on the outskirts of the “critical area” and does not have a direct connection to the two main-streets “Östra Storgatan” and “Västra Storgatan”. Therefore it was not considered to be the main factor of the divided downtown area, why it was not further studied and treated in the final proposals.

The City Hall Park is the largest in size and has a centred location. Currently it is used mainly as a passage for pedestrians rather than as an area for staying, although it has good qualities as a park. Together with The Harbour Park it has a major impact on the coherence of the downtown area.

The Harbour Park became the primary object for improvement due to its location and prerequisites. The park is located exactly in the zone were the two main streets coincides, which makes it a natural link between the two city centres. For these reasons The Harbour Park in particular became the main focus of the case study.
In the downtown area there are many areas that should be addressed in order to contribute to a cohesive city centre. As the case study was narrowed down to a defined zone, the area along the canal was in addition to the parks also seen as a problematic area due to the parking space that occupies the lot.

**“Hamnparken” - The Harbour Park**

The Harbour Park has a central location and forms together with the City Hall Park a link between the Eastern and the Western city centres. The park was established in 1848-49, making it Jönköping’s oldest park. When The Harbour Park was founded it was the land of the Crown and stretched all the way down to Lake Vättern and up the Harbour Canal. First when the railroad was extended in 1863, the current appearance of the park was gained. Later on, at the end of the 1930s, the Crown gave away the land to the city with the condition that it would only be used as a park. Nevertheless this treaty has ever since it was concluded been overlooked. Up until the 1960s,
there was a pavilion in the park, which was used a café but also for other various activities.\textsuperscript{125}

Today there is a restaurant located in the park’s eastern corner. However, the park itself is poorly utilized, and is currently used only as a passage between the two city districts. “It is a central park that ties together our Eastern and Western centres with each other, but it is used poorly. Now we hope to make the area more attractive”, said municipal councillor Ann-Mari Nilsson in an article published in \textit{jnytt} magazine.\textsuperscript{126} The statement refers to the new development of transforming the park into a “Fantasy Playground”. The proposal includes [1] a Fantasy Playground, [2] renewal of the existing park, [3] renewal of the square area, [4] a new café and [5] improvement of lighting.\textsuperscript{127}

![Site Plan of Hamnparken](image)

\textbf{Figure 29.} "Hamnparken" - The different improvement areas can be observed in the site plan.

The introduction of the “Fantasy Playground” aims to enrich the already existing play area and to make the square area more functional.\textsuperscript{128}

\begin{itemize}
\item \textsuperscript{125} \textit{Jnytt}, \textit{Förbjuden verksamhet i hamnparken}, 2011, retrieved 20 April 2012 \url{http://www.jnytt.se/nojesnyhet/38688/forbjuden-verksamhet-i-hamnparken}
\item \textsuperscript{126} \textit{Jnytt}, \textit{Hamnparken rustas upp}, 2011, retrieved 20 April 2012 \url{http://jnytt.se/nyhet/38970/hamnparken-rustas-upp}
\item \textsuperscript{127} Jönköpings kommun, \textit{Förnyelse av Hamnparken} (2011), retrieved 15 april 2012 \url{http://www.jonkoping.se/download/18.7687fe0c132a53be0fe800010156/Fornyelse+av+Hamnparken+n+%282011%29.pdf}
\item \textsuperscript{128} Jönköpings kommun, \textit{Förnyelse av Hamnparken}
\end{itemize}
Before *The Harbour Park* was reduced in size as the railroad came into place, the park had entirely different preconditions. Had it at this point still been stretched out all the way to *Lake Vättern* the attraction level would be different than it is currently. Instead the park is surrounded by trafficked roads and has no activities that attract people. The existing site slopes to the north and has no shelter from the lake, making it a windy location and an unpleasant zone to dwell in. The park’s proximity to the lake could have been a great quality, were it not separated by a road. In wintertime, when icy winds are blowing, the closeness to the lake is most certainly not an asset but rather a disadvantage. *The Harbour Park* has in all ways an exposed and vulnerable location, why some kind of action must be taken in order to increase the attractiveness of the park.

The current development of *The Harbour Park* mainly revolves around the establishment of a “Fantasy Playground”. This proposal has in this thesis been analysed from a cohesive *Knowledge City* point of view, and it was found to be questionable whether this proposal could help to link the two urban centres and enhance the experience of the urban environment. The creation of a playground could certainly attract more people, but it is aimed only at a limited audience. Creating an urban space that has a limited audience might in turn alienate other target groups. A park that is filled with small children might drive back a teenage audience. Another issue is of the playground being a seasonal feature in the city structure. In wintertime when the play equipment is covered with ice or snow these will most definitely not be used. The open landscape does not provide any shelter that is sufficient in order for people to spend time in the park during windy weather. During times when the playground cannot be used the “gap” that was there from the very beginning would still contribute to a disconnection between the Western and the Eastern districts.

**Existing Street Pattern**

*Jönköping’s* downtown area is of a stretched out character, where the main streets have transitional zones in the centre of the downtown area.

The existing street pattern of the downtown area has been identified in order to obtain a clearer overview of the current movement patterns and the various city zones. The result showed that the downtown area included three different street
types; pedestrian streets, multi-lanes (traffic lanes and sidewalks) and public transport lanes.

The Eastern city centre is composed mainly of pedestrian streets. In the transition-zone between the Eastern and the Western districts, the pedestrian streets shift into bus-routes. Well on the Western district the streets are filled with automobiles, and all pedestrian movement is found merely on sidewalks.

The current street structure has however not always looked as it does today. Only a few years back the street pattern differed completely from today. Jönköping, as many other expanding cities have had a progress towards an enhanced pedestrianized structure.

The main pedestrian street “Östra Storgatan” has undergone a major transformation from previously being served by buses. After the conversion in 1991 the downtown area structure
has changed completely.\textsuperscript{129} People are now able to move around freely in the street and a higher level of human interaction is enabled in the street space.

In 2008 a further step was taken towards a pedestrianized city structure when bus services were removed from the street of “Lillsjögränd” that extends along the Harbour Canal.\textsuperscript{130}

![Figure 33. "Lillsjögränd" - Bus services are removed along the canal and a new café is established in the right corner\textsuperscript{31}](image)

The Harbour Canal has also been updated and the parking spaces that used to occupy the area along the canal were moved and replaced with a wooden seating area and an elevated stair-section. Now the space is utilized and can be used to contribute to human stimulation and interaction. People can now be seen lying in the sun, eating ice cream and using this new urban space as a gathering point.

![Figure 34. The Harbour Canal - Parking spaces where removed along the canal area\textsuperscript{132}](image)

The changes that are recognized in Jönköping City indicate a development not unlike the character of Copenhagenization.\textsuperscript{133}

\textsuperscript{129} Jönköpings kommun, Minns du hur det var förr?, retrieved 19 April 2012 http://www.jonkoping.se/ovrigt/stadsbyggnadsvision/stadsbyggnadsvisionen/meny/fyrautvecklingssom raden/fornyelsestadskarman/minnsduhurdetvarf6or4.34d09a5712f34a7e8608001972.html
\textsuperscript{130} Jönköpings kommun, Minns du hur det var förr
\textsuperscript{131} ibid.
\textsuperscript{132} ibid.
\textsuperscript{133} The Ottawa Citizen, The Stroget Solution
3.2.4 New Proposals and Improvement Actions – Creating a Cohesive Downtown from a Knowledge Perspective

The proposed improvement actions are based on the theories of urban cohesion, and the objectives of an innovative Knowledge City. As the current proposal of a “Fantasy Playground” was not believed to meet the requirements of a coherent urban environment, a new proposal was developed, including a new street pattern with an increased level of pedestrian zones, and a new development in the Harbour Park.

**New Street Pattern, New Urban Structure**

The current street structure needed to be transformed if coherence between the two city centres was to be enabled. A new proposal for the street structure was therefore established, one that would help link the two city districts together. This proposal was based on the importance of pedestrian streets and a human perspective. It was established in accordance to the development that was detected in Jönköping as well as globally; moving from trafficked roads to pedestrianized ones.

**Pedestrianization**

The transition zone between the two city districts was initially filled with bus-services and parking spaces. In the development towards a cohesive and sustainable environment this area has however been transformed into a pedestrian zone. A new urban space has been obtained by moving bus-services from the part of “Västra Storgatan” that lies in-between the two parks as well as from “Hamnplangsgatan”.
This new pedestrian zone would elongate the existing pedestrian street on “Östra Storgatan”, and the acquired pedestrian space between the parks would help connect the two districts and create a space that enables human interaction. By transforming this zone into a pedestrian street a more stimulating urban space has been obtained. This action would hopefully have the same positive impact on the urban structure as when “Östra Storgatan” was turned into a pedestrian zone.

The new bus-line was moved to “Södra Strandgatan”, which means that the entire eastern area and the transitional zone between the two districts are turned into a pedestrian area. This obtained urban structure would contribute to a smoother transition between the two districts and thereby be able to cause a higher level of urban cohesion.

A pedestrian zone between the Harbour Park and the City Hall Park would also contribute to a stronger link between the two parks, endorsing urban coherence and making the entire zone more attractive. As a higher level of human interactions would be able to take place on this new pedestrian street, the City Hall Park would be neighbouring a street full of activities, which might contribute to an enhanced level of activities also in this park.

**Car-free Zones – More Public Space**

The parking area that is situated by the Harbour Canal has also been removed as a step towards a pedestrian-friendly environment. This new surface could instead be used as a minor plaza, enhancing human interaction, and thereby also innovation
and urban cohesion. This, along with transferring the bus-lane would create a fully pedestrianized zone in the transitional area between the two city districts. This new pedestrian zone would also create a stronger link between the canal and the City Hall Park, as there would not be any interference between the park and the canal.

The removal of traffic also endorses a safe urban network that is sustainable and cohesive, where green transport is prioritized.

![Figure 36 The Harbour Canal, Jönköping - The parking spaces by the canal takes up place that can instead be used for meetings and social interaction.](image1)

![Figure 37. Hamnplansgatan - The existing bus-road and parking area disconnects the Harbour canal from the City Hall Park and inhibits urban cohesion and social activities.](image2)

**New Development in the Harbour Park**

As the current proposal of creating a “Fantasy Playground” was not believed to meet the requirements of a coherent urban environment, another proposal has been developed. This proposal included new development in the Harbour Park, giving it a completely new appearance.

**Innovation Engines as Stimulators**

The new development would host small boutiques, cafés and restaurants – perfect Innovation Engines for a main pedestrian street. The boutiques enhance the street environment with their intriguing storefronts, enabling window-shopping, and attracting more people to the street. The cafés and restaurants are optimal places for knowledge sharing and are stimulators in the urban life. Outdoor cafés and restaurants also contribute to a heightened atmosphere of the street space and are stimulators to the entire urban experience, as it is people that are the main attraction in the city.

**Shelter – An Inviting Urban Feature**

New development in the Harbour Park would create a street space that is defined and inviting, working not only as a link between the two centres but also as wind protection and shelter. The space that is obtained in front of the new development has to maintain its functionality even during the winter, as this season is the longest one. The walk from one district to the other is a painful one during poor weather conditions, which is why many choose to stay in merely one
of the two city centres or do their shopping at the shopping centre, where shelter is provided. Shelter from unfortunate weather conditions would contribute to more pedestrians wanting to spend time in the downtown are instead of **A6 Shopping Centre** being the obvious choice as soon as it rains or snows. The city needs to promote a pleasant stay during all conditions.

The design proposal for the new development in the *Harbour Park* was concluded through a conceptual sketching process, and is presented in the next chapter.

### 3.3 Sketching

The improvement actions and proposals for the “critical areas” in downtown Jönköping have been elaborated through sketching methods and have resulted in conceptual illustrations and proposals for the particular area. The sketches have been made in compliance to the theories of the background and literature studies. All outlining has been done in the 3D modelling program SketchUp. The case study and the rest of the background studies gave birth to design proposals that follow.

#### 3.3.1 Design Proposal – Connecting the City Together

The main aim of the sketches was to present an idea of how the transition zone between the Eastern and the Western city core might be exploited in order to achieve a cohesive urban experience. The proposals aim to reveal the outcome of new development on the *Harbour Park* site, and what consequences it would have from an *urban coherence* perspective and a *KC*-perspective. The design proposal was divided into five main areas and *Innovation Engines* that can enhance the quality of the urban activities. The Building, The Green Areas, The Public Stair, The Small Square and The Street are all sources for innovation and knowledge sharing.

**The Building – Eliminating the “Gaps”**

The new development in the *Harbour Park* is designed to fit the surrounding elements and is kept on a human scale. The building was designed to have a “light” appearance and seem transparent from the street in order to eliminate any borders between indoor and outdoor space. The building was placed in the central areas of the park, leaving the north area of the site as untouched as possible so that green areas and trees were preserved. The connection to the green areas that surrounds the site was obtained by the transparent design of the building. In addition, a passage across the site was retained so that the building would not prevent any of the natural movement patterns in this area. The passage also maintained the connection to the preserved green area on the northern side.
Figure 38. New Building in the Harbour Park - The red-marked building stretches along the previous "gap" between the two districts.

The architectural design of the building was given a modern appearance that is innovative and exists the people in the street. A semicircular shape was chosen for the south façade in order to maintain a space in front of that building that can be used as a minor plaza and host different types of events such as markets or cultural events.

Figure 39. Top South View - The X-ray shows the curves of the building.

The space in front of the building also leaves room for outdoor seating for the café and restaurant guests, enhancing the street life in general. The north façade of the building is shaped in the same way as the south, meaning that as much as possible of the green area on the northern side is preserved. The shape of the building also allows a varied range of shops and restaurants, as smaller activities can be located in the central areas of the building, while the larger ones can be placed at the edges. The building was given its shape also so that it could be divided into small sections, accommodating as many activities as possible in order to create a varied street life that is full of vividness and has much to offer.
The building has different levels and is in some places kept as a one-store building and in others elevated to a two-stored building. The sections in the middle consist of two floors so that urban spaces of a 4th dimension can be obtained on a higher level — literally. A stair leading up to a “lounge-area” is situated in the middle of the building. Also this area can be used as an Innovation Engine and inviting people to socialize and explore the urban spaces that the city has to offer.

The façades of the building consist of glass-walls in order to maintain a strong link between outdoor and indoor space. Recessed balconies as well as extended balconies helps create a vivid building that is believed to enhance the overall experience of the street.

As the building stretches along the entire site the previous “urban gap” that existed can now be eliminated. This would therefore endorse a stronger link between the two city districts, where the transitional zone might become unnoticed.

**The Green Areas – Playground and Recreation**

As the northern parts of the site are preserved, a small green area can be used for recreational purposes. A small playground is placed here, where children can play while their parents are doing some shopping. In comparison to the proposal of the “Fantasy Playground”, this proposal can offer a more attractive setting for children and their parents. Here parents can be close to their children while they are playing. The playground area is separated from the northern traffic-lane by a pedestrian and bicycle path, as well as by a lane of trees. For increased safety additional barriers such as fencing can be used.
The new development in the Harbour Park would make this an attraction and enhance the quality of the street. The connection between the new development and the City Hall Park would not longer be separated by a bus-line as the street is pedestrianized. This would in turn contribute to a stronger connection between the two zones and make the City Hall Park a more attractive place to be in due to the high level of activities on the new pedestrianized street.
The Public Stair – A True Innovation Engine

A public stair was designed to function as a complementarity in the urban environment. This type of arrangement can hold a large amount of people, and enables a variety of social gathering unlike the traditional bench that endorses interaction only between few individuals. It invites people to sit, stand, or even lie down, and functions as a true Innovation Engine.

The stair has a triangular shape and follows the line of the street, endorsing a well-defined street. The functions of the stair are unlimited and it can with a little imagination be used for numerous amounts of social activities; public speeches, dance performances, cultural events and much more. This type of urban space provides new 4th dimensions and can be a stimulator in the urban environment.

The Small Square

Where the parking area was removed a new intimate square was established, one that would endorse spending time in and enjoying the waterfront by the canal.

Small water fountains where placed in the centre of the square, in order to create a stimulating surrounding. The fountain arrangement could also be used for children’s play or for other recreational purposes.
The Street – Where Interaction is at its Best

It is on the street that most human interaction takes place, why it was important that the sketching process and proposals would have a positive effect on the street life.

By eliminating bus-traffic on “Västra Storgatan”, the paving could be improved from the previous asphalt material to a more intimate paving material. Complementarities such as benches, street lightning and bicycle racks have been used to enhance the experience of the street.
The new street structure that is obtained promotes a better connection between the two city districts, contributing to urban cohesion.
4 Findings

The two research questions posed in the beginning of this thesis are answered in the chapters below. The answers are based on the theoretical background, literary study, case study, and the sketching process that have been reviewed previously.

4.1 Research Question 1

“What qualities are required to be found in a city in order to create an innovative downtown from a Knowledge City perspective?”

In order to create an innovative downtown there has to be actual urban sources that produces and gives rise to innovation. These so called Innovation Engines can take different shapes and be simple urban elements such as a café or a library. Notably, for innovation to emerge, human interaction and meetings have to occur in the urban environment. The Innovation Engines are in fact places in the city that enable interaction, which in turn may result in the rise of innovation. These urban engines should in addition to innovation also promote culture and attractiveness to the city, if they are to meet the objectives of The Knowledge City according to the definition formulated by Nordic City Network.134

As human interaction is maximized in the simple meetings between people, added interaction possibilities are enabled in the pedestrian street rather than on a trafficked road. Urban spaces of 4th dimensions enhance the level of urban innovation and serves as a forum for meetings, knowledge sharing, inspiration, ideas, innovation, product development, and network creation. For this to be made possible, the various physical spaces in the city have to intersect each other, and all zoning has to be eliminated.

4.2 Research Question 2

“What methods and approaches in urban design can be used in order to create a downtown that contributes to a cohesive urban experience?”

Urban cohesion is related to various factors, including physical and functional factors, which are highly related to the urban structure and affects the continuity and accessibility of space. Taking these factors into account allows better understanding of the urban space with its various functions and makes it possible to influence movement patterns and links between the urban functions. The planning and designing of urban public spaces has a strong impact on the urban sustainability and thereby also the urban cohesion.135

Public spaces are used as a tool for assembling people in the city and are fundamental features in the urban structure, endorsing coherence, urban quality and human affiliation. Public spaces are essential urban elements if a city is to be

134 Nordic City Network, Nordic Network for city planning 2011
135 PA Júlia, R Antoni, B Pedro, NS Fernando
coherent. The planning of public spaces and urban planning in general is therefore a way to solve structural issues such as spatial fragmentation. According to the study concluded by ISOCARP, planning of public spaces networks should be based on four types of indicators, which promotes and enables urban cohesion:36:

- **Mobility/Accessibility/Connectivity**
- **Land Uses/Activities**
- **Social Dynamics**
- **Comfort/Safety**

Using these four indicators enables evaluation of the urban structure and makes it possible to plan public spaces in a cohesive manner and as part of a network system. For urban cohesion to be enabled public spaces must be planned from a network perspective as they are of value first when they create a network together with the links that connects them. It is the actual links and complementary relations between them that control people’s urban experience and the movement patterns in the city. The planning of public spaces network is therefore a key tool if urban cohesion is to be promoted, and by understanding the public city network’s features it is possible to enrich the continuity between spaces.37

All urban network and strings need to be safe and comfortable to travel. Pedestrians and cyclists, or other green transport are to be prioritized and deserves special attention. Making the green network safe and comfortable enhances social meeting, and thereby urban cohesion as well as social cohesion. Gathering people creates opportunities for people to interact on an individual level and thereby stimulate each other, and it is people that need to be gathered rather than buildings.38

The city needs to promote a multifunctional urban environment with public spaces and a wide range of commerce, services, facilities and recreational activities. All complementary elements should be places in human relationships, where distances between the mutual elements are short. The design of buildings and the relationship between street and façade affect the level of cohesiveness in the city. People’s experiences in public spaces are affected by factors such as the length of the façades, the size of the buildings, the number of entrances and the distance between them. These types of features can depending on their design either stimulate or dampen the public areas and thereby also inhibit urban cohesion. Generally, “gaps” of all types, in the street space should be avoided. All boring things should be placed on the second floor, while the ground floor should be kept visible from the street.39

Vibrant and vivid cities, where there is a high level of human interaction and activities promote inspiration and stimulation due to their richness in experiences in the life between buildings. Where there are activities and happenings in the city

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36 PA Júlia, R Antoni, B Pedro, NS Fernando
37 ibid.
38 ibid.
39 Gehl
there are as a rule also many people gathered – people attract people.\textsuperscript{140} Merely the presence of other people gives more satisfaction and stimulation than most attractions in the cities.\textsuperscript{141} Urban activities and the complementarity between public spaces need to promote social dynamics, which in turn enhances the urban experience, enables urban cohesion and minimizes social exclusion and urban fragmentation.

\textsuperscript{140} Gehl, p. 21-25
\textsuperscript{141} ibid., p. 26-30
5 Discussion

The following chapters discuss the findings and the methods of implementation that have been used in this study. The discussion is based on the aims, objectives and research questions, which were determined in the initiation of this thesis.

5.1 Discussion of Findings

The aim of this thesis was to study the significance of a cohesive city centre from a social and spatial point of view, and to understand modern cities’ development towards innovative Knowledge Cities. For this to succeed, the objectives were to present proposals for how a unification of a fragmented downtown could be made possible from a Knowledge City perspective.

The findings of the two research questions of this thesis are discussed and analysed below.

5.1.1 Research Question 1

“What qualities are required to be found in a city in order to create an innovative downtown from a Knowledge City perspective?”

Innovation is a vague term, why I in the initiation of this study thought that it would become quite challenging to determine the requirements that are needed in order to create this “innovative downtown”. However, this turned out to be an issue that had been carefully elaborated, and defined terms and definitions were easily retrieved.

The answer to this question turned out to be quite simple and not at all as complex and advanced as I had suspected. This was somewhat of a revolutionary finding in my eyes, as I came to understand the simplicity of the answer first at the end of this study, when I was actually about to answer it.

As the study was conducted it slowly took a direction that became more and more influenced by the innovation process, and it turned out to be a major factor in the structure of modern cities.

5.1.2 Research Question 2

“What methods and approaches in urban design can be used in order to create a downtown that contributes to a cohesive urban experience?”

This second question of the thesis was far more multifaceted than the first one. The actual question was posed in a very comprehensive manner and included countless theories in urban planning.
After analyses of various theories in urban cohesion and the life between buildings it became obvious that consideration has to be taken first and foremost to humans rather than automobiles. Although it sounds like a matter of course, this was not the case and had not been for some time. Only now was a true transformation initiated towards a human-oriented urban development. Gehl’s theories of making cities that are adapted to people rather than automobiles played a major role in the completion of this work, and was a mind-set that I adopted and used throughout the process, which left its mark on the design proposal for downtown Jönköping.

As this thesis was initiated the connection between urban coherence and the Knowledge City where not established, and it was not clear that there even was a connection. As this study progressed, it became obvious that these two factors were highly connected and that Knowledge Cities in fact have to be cohesive and planned from a network approach if they are at all to be referred upon as Knowledge Cities.

In the search for urban cohesion one of the main outcomes was that the public spaces are those who control the entire urban structure and therefore are the main urban elements controlling the level of cohesiveness in the city. Naturally this was something that I suspected already before I came to this result, but the astonishing part was not the outcome itself but rather how little public spaces had been taken into consideration in many cases. For example, the Harbour Canal in Jönköping had a parking space as its neighbour, which I found somewhat remarkable. The area along the canal is an attractive urban element, where people love to spend time at, why it is odd that cars rather than humans utilize it.

5.2 Discussion of Methods

The following chapters discuss the methods of implementation that have been used throughout this study.

5.2.1 Literary Study

This thesis includes a wide range of existing theories and studies why a substantial theoretical review was required. The literature and theories presented have been critically assessed and are gathered from credible sources. The reference objects and sources of inspiration have been handpicked, and were based on recommendations from supervisors as well as own investigations in the field.

As data was compiled in the initiation of this thesis it was quite challenging to find literature and reference objects that had a desirable orientation and that were fully consistent with the criteria set for this study. Most literature had a comprehensive approach, and not much was found with an adequate delimitation. However, as the study progressed, more specific literature and urban studies were acquired, and it became easier to distinguish the valuable information. The resources and pilot projects available on Nordic City Network’s website have been of great importance and have had a positive effect on the progression of this thesis. As soon as I got
stuck along the process, I returned to the publications of NCN for further information, but above all inspiration.

5.2.2 Case Study

The case study required a background study of the city of Jönköping and analysis of its current urban structure in order to determine its development towards a Knowledge City. One of the key issues was to ascertain the critical areas and the actual reason for the existing urban fragmentation. This was by no means an easy task and it was difficult to obtain material to substantiate this. However, further investigations made it obvious that there was in fact a cohesion problem, and that it had been discussed for a long time.

The area that was investigated in the downtown area of Jönköping was a challenging area to work with due to its central and critical location. The parks of Jönköping have had a practically sacred status, and to change their character has been taboo. It was challenging to determine what approach should be taken in the planning of Jönköping as modern, innovative and cohesive knowledge city.

As the site of the “critical areas” was analysed, the initial vision was to only do small ambient changes to strengthen the link between the two city centres. At first there was a fear that a new design proposal would be too radical for this critical and sacred park-area. However, further analyses of the city centre led to completely different solutions, and it later became obvious that the main purpose of the case study would be fulfilled only if radical actions were taken. These “radical” actions included new development in a “sacred” park, total restructuring of the street pattern and the removal of a parking lot. These were however not the only actions that were taken. Several “smaller” interferences were made that played an important role in the final design proposal. When looking back on the work process it is quite fascinating that as small actions can contribute to such major improvements, and that it in fact requires very little actions in order to enhance the urban quality.

5.2.3 Sketching

The design process has had a most conceptual orientation, as the main purpose was to by building up simple volumes demonstrate the changes in the city structure and urban environment.

The 3D-modeling program SketchUp was used for all illustrations and its simple modelling tools were appropriate for this particular case. SketchUp has been very easy to use, especially as only rough drawings and illustrations were needed.
6 Conclusions and Recommendations

The entire urban evolution is taking huge steps towards entirely new urban structures, transforming into innovative Knowledge Cities. If this development is to be endorsed planning and designing of urban spaces has to be open-minded and take courageous and radical actions. Old patterns need to be broken if the urban evolution beneficial not only from an urban cohesion point of view, but also in order to break old patterns. It takes courage to undergo changes and to take new directions. Attractive cities have to be more than just areas for dwelling. They need to be places for inspiration, integration, and stimulation – places that are rich of experiences. If these features were promoted in the urban environment it would enrich the entire society and generate knowledgeable and innovative individuals. Additionally, more people would be satisfied and stimulated by the environment in which they live in and spend time in.

The topic for this thesis is a never-ending issue and can be debated, studied, and improved for all eternity. One of the outcomes of this thesis were that the level of cohesiveness in the innovative Knowledge City is highly dependent on the use of green transport such as pedestrians and cyclists. When people are able to interact on this level the social experience is enhanced, why green transport should be prioritized in all urban planning. This study has also illuminated the significance of public spaces and their role as perhaps the most important elements in the city that controls and influences the urban structure. Public spaces enable human interactions, connect the city together, and contribute to urban cohesion. The case study of downtown Jönköping clearly shows that the level of urban cohesion depends on the city structure and the interrelation of public spaces. These key elements in the city need to be planned with a network approach and seen as part of a massive urban organism rather than as isolated elements. Although urban planning cannot fully control social interaction, it can steer and enhance the potentials for interaction in the urban space, minimize social exclusion and establish vital links in the city structure. In the end, the urban environment’s most important function is to permit and raise the quality of social activities that takes place in the urban space, why it should operate as a platform for activities, inspiration, meetings, knowledge sharing and stimulation. Especially innovation is vital in the urban environment. It is a natural part of the urban structure and actually a part in human evolution. Had it not been for the innovative nature of humans, the human race would not be where it is today. Innovation is what drives us, develops us and in the end stimulates our very existence.
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In the following chapters a full list of references is provided, including books, electronic sources and illustrations. In chapter 7.2, where sources are not specified, figures/illustration belong to the author.

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7.2 Illustrations

Figure 1. Jacques Cartier Square, Montreal, about 1930
    Source: Musée McCord Museum 11

Figure 2. 22@Barcelona
    Source: Nordic City Network 17

Figure 3. Knäppingborg
    Source: Nordic City Network 19

Figure 4. Visualization Centre, Norrköping
    Source: Nordic City Network 19

Figure 5. The “3K-route”
    Source: Nordic City Network 20

Figure 6. "Theses on the Knowledge City"
    Source: Nordic City Network 21

Figure 7. The "Spaghetti City" vs. the Industrial City structure 23

Figure 8. Jean Paul Sartre at a café in Paris
    Source: Ron Dvir 24

Figure 9. Guggenheim Museum, Bilbao
    Source: Ron Dvir 24

Figure 10. New York - Columbia University Campus
    Source: I Photo New York 24

Figure 11. Strøget Square, Copenhagen
    Source: Abalon Hotel Photos 25

Figure 12. Seventh Avenue, New York
    Source: Andrey Bayda 25

Figure 13. Dolores Park, San Francisco
    Source: San Francisco Days 25

Figure 14. Shopping Mall, Dubai
    Source: Dubai-guiden 25

Figure 15. The new Bibliotheca Alexandrina, Egypt
    Source: Safed Hamed 25

Figure 16. Scince Park, Hong Kong
    Source: The Next Web 25

Figure 17. Indicators for programming, planning and designing public spaces networks, promoting urban cohesion
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Quality of physical environments</td>
<td>ISOCARP</td>
</tr>
<tr>
<td>19</td>
<td>People in a café, Copenhagen</td>
<td>Jan Gehl</td>
</tr>
<tr>
<td>20</td>
<td>Copenhagenization</td>
<td>Mattias Björlevik</td>
</tr>
<tr>
<td>21</td>
<td>Parkway</td>
<td>Cyclechat</td>
</tr>
<tr>
<td>22</td>
<td>The City of Jönköping</td>
<td>Joanne Van Hoof</td>
</tr>
<tr>
<td>23</td>
<td>Jönköping University Campus</td>
<td>Jönköping Municipality</td>
</tr>
<tr>
<td>24</td>
<td>Spira Performing Arts Center</td>
<td>Sveriges innovationsriksdag</td>
</tr>
<tr>
<td>25</td>
<td>Downtown Jönköping</td>
<td>Eniro Maps</td>
</tr>
<tr>
<td>26</td>
<td>The City Hall Park</td>
<td>Eniro Maps</td>
</tr>
<tr>
<td>27</td>
<td>The Park Area</td>
<td>Jönköping Municipality</td>
</tr>
<tr>
<td>28</td>
<td>The old Harbour Park</td>
<td>Jönköping Municipality</td>
</tr>
<tr>
<td>29</td>
<td>“Hamnparken”</td>
<td>Jönköping Municipality</td>
</tr>
<tr>
<td>30</td>
<td>3D-illustrations of The Harbour Park</td>
<td>Jönköping Municipality</td>
</tr>
<tr>
<td>31</td>
<td>Existing street structure, Downtown Jönköping</td>
<td>Eniro Maps</td>
</tr>
<tr>
<td>32</td>
<td>“Östra Storgatan”</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>“Lillsjögränd”</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>The Harbour Canal</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>New street pattern</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>The Harbour Canal, Jönköping</td>
<td>Eniro Maps</td>
</tr>
<tr>
<td>37</td>
<td>Hamnplansgatan</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>New Building in the Harbour Park</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Top South View</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Urban spaces of the 4th dimension</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>The new playground</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Top view, The Harbour Park</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>The Public Stair</td>
<td></td>
</tr>
</tbody>
</table>

References
References

Figure 44. Water fountains
   Source: Olivier Lerille 52
Figure 45. The New Square 53
Figure 46. The Street, Top View 54
Figure 47. The Street, East View 54
8 Search Terms

3K-route ........................................... 6, 20
4th Urban Space ......................... 3, 22, 23, 65
A6 Shopping Centre ............... 36, 37, 48, 62
Barcelona ........................................... 6, 15, 17, 18
Case Study ......................................... 32
City Hall Park ......................... 35, 38, 39, 40
City of Knowledge ....... See Knowledge City (KC)
Conclusions and Recommendations ............................................. 61
Copenhagen ........................................... 7, 25, 30, 31
Copenhagenization ...................... 3, 30, 44, 62
Design Proposal ......................... 48–54
Discussion ........................................... 58
Findings ............................................ 55
Gehl ................................................. 7, 21, 27, 30, 31
Architects .............................................. 22
Harbour Park ......................... 38, 39, 40, 42, 45, 46, 47, 48, 51
Industrial City ......................... 6, 10, 15, 18, 22
Industrial Revolution ............... 10, 11
Industrial Society ....................... 6, 10, 11, 12, 23
Industrialization ......................... 10, 11
Innovation Engines ..................... 3, 23, 24, 34, 35, 47, 50, 52, 55
Innovative Engines ....................... 24
ISOCARP ......................................... 7, 13, 21, 56, 62
Jönköping 2, 3, 7, 21, 32, 33, 34, 35, 36, 37, 40, 42, 43, 44, 45, 48, 60, 61, 63
Spira Performing Arts Center ........ 34, 35, 63
University ............................................. 34

Knowledge Cities See Knowledge City
Knowledge City (KC) .. 1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 32, 33, 34, 35, 42, 45, 48, 55, 58, 59, 61, 62, 64
Knowledge Society ......... 6, 10, 11, 12
Knowledge-Based Urban Development (KBUD) ... 6, 15, 16, 17, 18
Life Between Buildings .... 7, 21, 27, 32, 62
Literary Study ....................................... 21
Melbourne ........................................... 6, 15, 16
Nordic City Network (NCN) .... 6, 12, 14, 15, 18, 19, 20, 21, 22, 23, 55, 59, 63, 64
Norrköping .... 6, 7, 13, 15, 18, 19, 20, 63, 64
Pedestrianization ................. 31
Public space .... 3, 7, 13, 15, 18, 21, 25, 26, 27, 29, 31, 32, 36, 55, 56, 57, 61, 62, 65
Sketching ............................................ 48
The 4th Urban Space .......... 22, 23, 64
Theoretical Background ............. 10
Urban coherence See Urban cohesion
Urban cohesion 3, 7, 8, 13, 21, 25, 26, 27, 32, 33, 45, 46, 47, 54, 55, 56, 57, 59, 61, 62
Urban Design Vision 2.0 .... 34, 35, 36
Urbanization ......................... 3, 10, 12, 13