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Introduction

The Master thesis in Spatial Planning, held at the Blekinge Institute of Technology, was done at the “Projectbureau Hart van Zuid” in Hengelo in the Netherlands.

The work with making this diploma work has been very educational and interesting. It has however been a lot of work, approximately 1800 hours of labour, involving everything from the searching for information, the reading of it, investigations, drawing conclusions, working with the proposals and writing the text etc.

The result of all this work is a 100 pages (A3 layout) thick scientific but reader friendly text with many explaining charts, plans and illustrations. This summary is the published version of the diploma work.

Goal

The goal for the diploma work is to give overall proposals and a concrete plan proposal, based on scientific investigations and analysis of the Hengelo inner-city strengths and weaknesses, for how to make the city core of Hengelo more attractive 24 hours a day.

Background

Location

Hengelo lies in the landscape of Overijssel, in a region called Twente in the very eastern parts of the Netherlands. The Twente region is famous for its nice nature in its countryside surroundings and for having a number of small and medium sized industrial cities.

Hengelo markets itself, together with its close neighbouring cities Enschede, Borne and Almelo, as the “Network cities”. They can very well do so because of the distance between them being so small that their urban structures almost grow together. The distance between the inner-city of Hengelo and the inner-city of Enschede is for instance not much more than ten kilometres. Enschede is the most populated city of the four and has 152 200 inhabitants. The second largest is Hengelo with 80 900 inhabitants closely followed by Almelo with 71 300. Borne is the smallest of the four and has a population of 20 600 inhabitants.

In the Twente region as whole there live 613 100 people, spread out over a number of cities and villages of small and medium sizes. The German side of the border is less populated than the Dutch, but the Ruhrgebiet in Germany, which is one of the densest populated regions in Europe, is only two hours away by car. This gives an indication on that Twente lies in one of the most populated parts of Europe.

Competition

Although the “Network cities” collaborate on a national level they compete on the local and regional ones. This is especially true in the case between the Hengelo- and the Enschede municipalities, who both want their city to be the centre of the region.

Enschede’s advantages are that it is the biggest out of the four cities and that it recently has done a major successful inner-city renewal, resulting in giving it the most attractive inner-city of the four cities. Hengelo however, has a better geographical location than Enschede, lying in the geographical centre of the “Network city” area. It also has direct access to two Highways as well as a major international train station. Enschede has a regular train station and only one highway in direct connection to the city.

What this competition will lead to in the future is hard to predict. Dr. Ir. Architect Pieter van Wesemael, from the “de Architechten Cie” in Amsterdam, who has been working a lot with these issues for the municipality of Hengelo says that future success for Hengelo probably lies in focusing on fewer issues than today and to specialise in some of these.

The history of the city of Hengelo

The place Hengelo was first mentioned in writings from the 15th century. Excavations have however shown that its location has been a residential area for thousands of years.

Hengelo became a municipality in 1802 but kept the shape and size of a village until the middle of the 19th century when it started to become industrialized. Still it was not until 1881, when the railroad and the first train station in Hengelo were founded, that the industrialization of the city really escalated.

By the end of the 19th century Hengelo had transformed from a little agricultural village into a wealthy industrial city.

The Twente kanaal (Twente Canal) was done as an employment project during the deep depression and was completed 1930. It also contributed to escalating the industrialization of the city. Today the channel is still an asset for the industries located there who use it for shipping and as a water reservoir.

The city was heavily bombed during World War II. Many inhabitants got killed or injured and over 3000 buildings were damaged. The city therefore had to go through a second transformation when the heavily damaged inner-city of the 19th century was renewed into an early post-war architectural city of the 20th century.

Further city renewal has been done ever since and new is being planned as this work is being written.
**The rebuilding of the city**

The restoration and rebuilding of the city, which followed World War II, led to small scale and often rather poorly built buildings. This is something that is pretty typical early post-war city renewal in the Netherlands. The way they built had to do with the poor financial conditions, due to the war, that the nation and private investors were in at the time. Another reason was the lack of new building material.

The renewal of the city has been going on continuously ever since the war. Significant for most late city renewal, in the city centre, is that the scale of the buildings both height- and width-wise are larger than the early post war architectural ones.

**The city of today**

If it first was the roads that were adapted to the changes of Hengelo, or Hengelo that was adapted after infrastructural changes, depends on how long back in time you are willing to go and how you weigh the arguments for the different explanations. Hengelo's urban structure today is however a result from its industrialization, the World War II bombings and of how changes of the building structures and changes of the infrastructure have brought forward changes to and of each other.

The infrastructure connections to Hengelo are very favorable. The reason for this is that it has a regional main head train station and direct access to two highways.

Hengelo has the regional head station because of its geographical location and because of national- and regional train tracks crossing each other in the middle of the city. The infrastructure in the city is also good and takes high consideration to pedestrians and bicyclists.

The city core lies in the middle of the city just north of the train tracks and the train station. It is all surrounded by housing areas except for on its south side where there, just south of the railroad, is a large industrial area stretching all the way down to the Twente Canal.

Hengelo's largest industrial areas are centered to the Twente Canal in the south and to the cities northwest parts. In the cities southwest outskirts is the F.B.K stadium which is the place were the annual Thales F.B.K Games take place every year. This is the largest athletic event in the Netherlands and is renowned both nationally and internationally.

Outside the urban border of the city there are open farm landscapes, forests, villages and nearby lying cities.
The inner-city of today
In many European cities it is common to have at least one pedestrian street in the city centre. Hengelo however, has a city core where almost all streets are closed off to motor vehicles. A majority of the streets in the core of Hengelo are either pedestrian streets or bicycle-pedestrian streets.

The inner-city of Hengelo is dominated by low scale early post war buildings. The buildings of later architectural design are however highly visible because of their larger scale and different architectural style. All buildings, old as new, are bound together with the modern stone flooring that the inner-city of Hengelo is lain with.

The lack of elder cultural historic buildings is a result of the youth of the city, the heavy bombings during the Second World War, and the city renewal taking place ever since.

Income sectors
Even though the industry is still very important for Hengelo its importance has decreased a lot since the glory days in the 19th century. The number of people working in the agricultural area has also decreased. The numbers employed in all other sectors have either increased or stayed on about the same level compared to a 20 year period.
Today Hengelo has a more balanced income between different sectors than before which could be interpreted as the city being less sensitive to fluctuate changes within its main income sectors.

**Identity**

Hengelo is nationally known for being an industrial city and is in particular famous for its steel industry. The Twente region, in which Hengelo lies, is nationally known for its nice nature.

The city has a regional reputation for being the best city out of the “Network cities” to buy clothes in because of its significantly large number of clothing stores. It is also known for having good nightlife in the weekends.

Hengelo’s three largest festivals “De Nacht van Hengelo”, “Het Straattheaterfestival” and “De Tropical Night”, all take place in the summer and attract people from all over the Twente region.

Locally, Hengelo is known for its weekly markets on Wednesdays and Saturdays and for the “Koop Avonds” on Thursdays when the shops are open until nine o’clock at night instead for to six as on other weekdays.

The annual Thales F.B.K Games take place at the F.B.K Stadium in Hengelo. This is the largest athletic sport event in the Netherlands and is shown by national as well as international broadcasting channels. This event puts Hengelo on the international map.

**City renewal projects in the city today**

There are many big ongoing renewal projects in the city of Hengelo as this is being written. A new library and a 10 floor apartment house are for instance being built in the east parts of the city core. Many dwelling are being built around the city core and in the city outskirts. In an area close to the neighboring city Borne, a new office- and industry-park is being planned.

The housing projects that are being done will be enough for covering the needs for housing in the city for the next five years. The demands for comfortable, small, central lying apartments will however grow in the future. One of the reasons for this is the growing number of elderly people of which many want to live close to services and have easily cleaned homes.

The largest of the planning projects in Hengelo is the “Hart Van Zuid” project. It is about transforming a 50 hectare industry dominated area between the railroad and Twente Canal into a mix-use town area with focus on offices, housing and entertainment.

Through the “Hart van Zuid” project the use of the old industrial area will change from being dominated by heavy industry with mostly blue-collar and technical white-collar labour, into an area focusing on offices, education, leisure, living, hotel, conference facilities, shopping and fast services. It will therefore be a much more mix use area than today. The number of people using the area will increase and the area will be used during a longer period of day in the future.

A planned new education centre, the ROC, Community College Ost Nederland (a regional educational and polytechnic centre), will alone offer 1000 new jobs and have around 8000 students. This will bring another type of people and more city life into the area then before and will therefore be an incredible asset for the “Hart van Zuid” area.

The use of the passages connecting the inner-city to the north of the railroad with the part on the south will increase and so will the number of travellers using the train station. This puts a higher demand on the urban spatial structure around the train station and on better connections under the railroad than today.
The Problems
A city centre with interesting urban spaces but with few old buildings, like in the Hengelo city core, can give the visitor the impression of an interesting but artificial city. This reaction would sprout from all the varied and exciting views and impressions not feeling anchored in history, as a result of the inner-city environment, in many places, not being older than sixty years.

It is actually first when you visit the industrial area south of the railroad, just south of the city core, and see the old industrial buildings there, you get the feeling that there is an authentic environment in the town centre.

The first thing you realize when visiting Hengelo is that there is no obvious way to choose for going into the city core. The second thing you might realize is that the city has very few spectacular or symbolically loaded places. There is actually no obvious place in the city where you feel that you are in the city heart or where it would be natural to take a picture. The lack of symbolically loaded places, nice environments and spectacular objects and of an obvious way into the city core are some of the most remarkable weaknesses of the city.

These are serious remarks. They do not only have to do with tourism. They have to do with the identity of the city. This is an issue that strongly has to do with everyone living in this area. A good identity has to do with good quality of life and is also a good trademark. A good trademark is an excellent way of getting new firms interested of settling down here, which gives better growth for the city, which affects the quality of life for the inhabitants.

A strong identity is always, in one way or the other, important for every issue concerning the success of an urban area.

Hengelo has about 80 000 inhabitants today. The scales of the buildings in the inner-city however are often of the low scale that you see in villages. This low-scale environment of the city core is however appreciated by the inhabitants.

It is a common view that the inner-city has a cold feeling. Some say that it has to do with all the stone streets and all the bare brick stone building facades. Everybody says it has to do with the feeling of to little greenery in the city core.

Although the streets in the inner-city of Hengelo seem to be full of people in the daytime they also seem to be deserted as soon as the shops close. Not having an inner-city city life at all times of the day must be considered yet a weakness for the city.

The advantage of having good train connections in the middle of the city has in Hengelos case led to the side effect of the railroad cutting the city in halves. The railroad is today, even though there are tree central lying passages under it, a barrier between the north and south parts of the inner-city and the parts of the inner-city south of the railroad.

Having the neighbouring cities so close by as Hengelo has is an asset when marketing the city and the region nationally. However, in Hengelos case, it is now leading to negative effects on the local commerce because of the competition between the cities cores in the region. This is especially the case in the situation with the neighbouring city Enschede which markets itself as the heart of east Netherlands.

The major weaknesses of the Hengelo inner-city of today are:

- Hengelo has to few elder elements in the city core, resulting in an unauthentic feeling when visiting it
- There is a lack of symbolically loaded places, nice environments and of spectacular objects in the city core
- The scale of the buildings in the inner-city do not match the size of the city’s population
- The cold feeling the city gives the visitor partly as a result of all the stone laid streets, the bare brick stone facades but especially because of the feeling of to little greenery
- The streets of the city core seem deserted whenever the shops are closed
- The railroad is a barrier between the north and south parts of the inner-city
- The competition between the city cores in the region lead to negative effects for the commerce in the city centre of Hengelo

The task of coping with these weaknesses is the base on which this diploma work is built.
The Goal, Problem and Tool Model

Introduction
The goal for the diploma work is to analyze the weaknesses of the inner-city of Hengelo and make a proposal that deals with the problems and focuses on the main goal of how to make the inner-city of Hengelo a more attractive place.

For this reason a model was made to structure up the goal, the problems and the means for dealing with these problems in a good way.

In this case the problems in the ring furthest out are both related to both of the problems in the ring inside of theirs. This is why they have the position they have. There is no restriction to how many problems or rings of problems that is possible to enter in this model. There can however only be one Goal.

If you have more then one goal and still want to use the model you first have to make a new goal, which has things in common with all the other goals. An alternative is to determine the most important goal, and then redefine the remaining goals into problems and put them in the outer rings.

The tools are the overall means through which the problems can be tackled and ultimately the goal reached. The closer to the centre the tool group is, the more important it is as a mean for tackling the problems and achieving the goal.

Case model explanation
In this diploma work the goal is a more attractive city centre 24 hours a day. The two most important problems that have to be dealt with are "How to have a city core with city life at all times of the day" and "How to make the inner-city of Hengelo more beautiful".

The other two almost as important problems that have to be dealt with are "How to bridge the barrier effect in the inner-city better than today" and "How to strengthen the unique identity of Hengelos city core".

The situation in the project area and the problems mentioned above has been investigated in the chapter called “Investigations and analysis” which is not stated for in this summary.

The tool groups with which these problem can be tackled are, ranking from the most important one, “events and activities”, “accessibility”, “attractive environment” and “marketing”.

Through actions done within these tool groups the goal of making the city centre of Hengelo more attractive 24 hours a day can be reached.

In spatial planning the focus often lies on the on the “attractive environment tool” when tackling a problem.

Model explanation
The Goal, Problem and Tool Model gives a good picture of the relationship between the goal and the problems. The closer to the goal a problem is located the more important it is to solve for obtaining the goal.

The position of the problems within each “outer ring” gives the information about which of the “inner ring” problem the specific problem is closest related to.
Common proposals to how to attain a more attractive city centre 24 hours a day

Based on the investigations, analysis and facts that have been done in the diploma work each problem in the “Goal, problem and tool model” has been dissected into a number of sub problems which are supposed to cover every weakness and problem mentioned throughout the whole project work.

Here follows a brief summary of these sub problems and the common suggestions to how to solve these problems;

**How to have a city core with city life at all times of the day**

**Summary sub-problems:**
- The streets may feel insecure at times when there are few pedestrians and bicyclists in them
- Many semi-public public uses in the buildings in the project area open and close at the same times leading to height differences in open semi-private space at different times of the day
- Although the low scale of the buildings in the inner-city is highly appreciated it does not reflect the actual size of the city leading to large fluxions in the number of people on the streets between different times of the day
- The uses in the project area are quite segregated
- The sitting facilities on the Stationsplein do not seem to be comfortable enough for elder people

**Summary sub-solutions (colour code after tool group):**
- Make more living area in the inner-city, by building denser, higher or by building on existing buildings, and thereby giving it more life at times when the shops are closed
- Make the city less segregated trough restrictions or subsidies
- Finding a balance between the old city centre and the planned newer parts of the inner-city south of the railroad that strengthens the whole inner-city
- Special champagnes for getting other services and activities than shopping into the shopping dominated area
- Build new facilities in new places with the ground floor reserved for gastronomic use
- Market the city as a nice place to live and be in, both locally, regionally and nationwide

**How to make the inner-city of Hengelo more beautiful**

**Summary sub-problems:**
- Few old historic buildings
- Many post war building in poor architecture
- Unique environment because of all the post war architecture

**Summary sub-solutions (colour code after tool group):**
- Appreciated village scale inner-city environment
- The city is too grey, some paving to slippery and there is to little green
- How to make it easier to find your way around in the city
- How to make it easier to find your way to the inner-city and to its parking lots

**How to strengthen the unique identity of Hengelos city core**

**Summary sub-problems:**
- How to make Hengelo inner-city more interesting
- How to bring forward Hengelos local identity in the inner-city
- How to bring forward Hengelos regional identity in the inner-city
- How to bring forward Hegelos international identity in the inner-city
- How to make the inhabitants prouder of their inner-city

**Summary sub-solutions (colour code after tool group):**
- Make the city reflect the regional and international identity it has in a better way that today, through art, architecture, lighting, greenery and events
- Market Hengelos strengths both regionally and nationwide and work with strengthening its weaknesses

**How to bridge the barrier effect in the inner-city better than today**

**Summary sub-problems:**
- The problem of the railroad dividing the city
- The big gap between the train station and the rest of the city on both the north and south side of the station
- No obvious way into the old city core when coming from the train station
• No obvious way into the old industrial area south of the railroad
• The underground water storage under the Stationspleins open area making it hard to build anything heavy on top of it
• A lot of exhaust fumes in the Europatunnel
• The train station passage is too narrow and dull
• Few activities offered in the passage areas and in their closest surroundings

Summary sub-solutions (colour code after tool group):
• The railroad could, if wished, be laid underground or outside of the city
• Change the urban structure so that there are obvious ways into the old inner-city and the “Hart van Zuid” area
• Make the connections under the railroad more attractive both aesthetically, size wise and through offering more services and activities in them and in their surroundings
• Make new traffic solutions concerning the motor vehicle traffic on the west side of the train station so that the passage and the surroundings can become more attractive
Final statement

A conclusion that you can draw from the “Common proposals to how to attain a more attractive city centre 24 hours a day” and the diploma work as whole is that there are many ways and endless combinations of ways of how to attain a more attractive city centre in Hengelo.

If you go down into detail, such as making different structure plans and using different architectural approaches, the numbers of different solutions are innumerable.

A large part of the diploma work describes in detail what such a detailed proposal could look like. The purpose with this is to give a concrete example in which physical changes are precisely stated for. This part will not be shown here partly as a result of it being hard to summarize without making it hard to understand but also because it is not needed in the summary for the understanding of what this diploma work is about.

The final conclusion that you therefore can draw from this Master thesis in Spatial Planning, which you will be able to apply in your own professional or private life when solving problems/ challenges, is that almost any action taken with the final goal and minor goals in mind is a step leading towards success.