In this section I will answer the research question and the sub research questions of this thesis. Social spatial segregation is one of the main themes in this research and an attempt is made to come up with a measurement tool to indicate segregated areas within a metropolitan area. This tool can also be used in other cities, with other parameters.

Urban vitality is a widely discussed topic among urban planners and can be a way to mitigate segregation. Vitality is perceived differently during the day, so we have to include time zones when analyzing vitality.

There are many elements in this research which are transferable to other urban areas. Themes such as livability, urban vitality and social segregation are relevant for many urban environments across the world.

The role of the urbanist and my position as urbanist in this process is explained in this chapter.
Post-socialism

The collapse of the Iron Curtain influenced many countries and cities in Europe. The transition from the socialist regime to the capitalist ideology brings forward different problems, which are frequently discussed. Deindustrialization is one of the inevitable consequences of this transition. The effects of deindustrialization are strongly visible in the steel industry. Scientists acknowledge the huge impact of deindustrialization, but the spatial component of this is often lacking. Especially the centrally planned steelwork towns (Figure 173) have to deal with tertiarization of the economy. This research on Nowa Huta may be applicable for the other post-socialist steel towns (Eissenhuttenstadt, Dunaujváros and Onesti) and maybe even other cities or neighborhoods strongly related to one certain company.

Segregation

Social segregation is a largely discussed and debated topic. However, this is mainly focusing on Western and Southern European countries. There are some academic papers about social segregation in post-socialist countries, but they are quite generic. Besides, most research indicates segregation as an index (Gini-index) without the actual spatial consequences. In that case we cannot distinguish which neighborhoods within urban areas are segregated. This research aims to contribute to actually map where and to measure till what extend certain neighborhoods are segregated. The analysis of the vicious circle of segregation (Tammaru, 2018) is a contribution to the existing research on the spatial implication of social segregation. This research also bridges -scientifically- the indicated problem of segregation to possible solutions. Creating public spaces where co-presence can occur seem to be a method of mitigating segregation for urban designers.

Vitality

Vitality in the urban environment is a popular subject among academics. Where are potentials for vitality? This research aims to contribute to the general understanding of urban vitality by introducing the physical form – program – movement method in analyzing and evaluating public spaces.

Livability

There are many different understandings of livability. Some call it quality of life, others livability. This research has discovered that the terminology and the concept of livability is very subjective and differs depending on the audience. Criteria defining livability are ranked differently by various target groups, resulting in a different understanding of which places are livable and which are not. The on-site interviews and the interactive workshop are two ways of getting to know the important criteria for measuring and understanding livability.

Safety

Some places are experienced as being more safe than others. But how do we know which places are more safe than others? Mapping anti-social behavior on different places and linking them to spatial (dis)qualities using Space Syntax is one way of analyzing them. The implication and usage of Space Syntax was already known by urban planners, but using the software for analyzing urbanism at a micro-scale is rather new.
Social segregation is a vicious circle (Tammaru, 2018). The main ‘losers’ are the inhabitants of a certain neighborhood or town, but it affects a whole city or region. The political marginalization Nowa Huta is facing within the Krakow Metropolitan Area can be described as unevenness, eventually possible resulting in social inequality. The residents are having a lower quality of life in the area mainly due to a decline of the urban environment. Cities are built for all the people who live, work and spend their time here, and this uneven distribution leads to unsatisfied situations among the people. This research thus tries to bring more social justice and social equality in the KMA.

This thesis aims to mitigate the social segregation and tries to overcome the ‘vicious circle’ of segregation by improving the quality of life from the inhabitants. This is mainly done by local design interventions which revitalize the public spaces. By this, we give the city back to its inhabitants. Current tourism trends, such as the Crazy Communist Tours, represent the inhabitants of Nowa Huta as ‘apes in the zoo’ (Stanek, 2016). This is mainly due to its historical background as socialist utopian city, which is almost 30 years ago. This representation is unfair and does not do justice to the situation and generates frustration among inhabitants.

The design interventions in this research are done with help of local stakeholders. The process in the strategy implies cooperation between several stakeholders, which can create stronger communities and increases the social sustainability.
The choices made in the conceptual framework and the methods used to achieve an actual design are limited due to the time span of the research. The research has to be executed in one academic year, which is reason not to dig too deep into for example literature about some topics. Important topics in this research such as segregation, livability, post-socialism and vitality can easily be a book by itself. It is difficult, sometimes tricky, not to spend too much time researching those topics and make choices in an earlier stage than we want to or that we are more comfortable with.

The topic already described in the conceptual framework, socio-spatial segregation, was also part of my hypothesis. I assumed there was segregation in the metropolitan area, which makes it easier to already think ahead, about how to design a revitalization strategy and how to mitigate the segregation. However, when you start a research with the assumption that something is there, it is tempting to prove that this phenomena is happening instead of researching if this phenomena is happening.

Another topic in my research is livability. First part was how to define livability. Soon I found out that this term, by definition, is subjective. Therefore I questioned how current and future inhabitants of Nowa Huta define livability and how this differs between those groups.

In Figure 174 I set out the selected seven criteria in defining livability; housing, neighborhood, transportation, health, environment, engagement and opportunity. I translated those terms and asked people on the streets of Nowa Huta what they like and dislike about their neighborhood. There are limitations in this approach. First, the people questioned on the street are maybe not representative for all the inhabitants of Nowa Huta. It is very difficult, especially for foreigners, to question people on the street. In my case, there were a lot of elderly on the street. It was extremely hard to approach and question them, while they are the main group of current inhabitants. Given this fact, there are little elderly questioned than I thought beforehand. Second limitation is the understanding of the definitions. The interviewees probably have a different understanding of the criteria. Again, language is an extra barrier here. Another limitation is the way the questions were asked. Most of the time I pointed at the question “What do you like about Nowa Huta?” or “What do you like about Nowa Huta?”, both translated into Polish. Some people immediately understood the question and started pointing at one or more icons. However, some were asking me questions I could not answer due to the language barrier. Then comes the problem in the question itself. If people were pointing at, for example, transportation, as a criteria they like in the neighborhood, I noted this. And vice versa for what they disliked. This quantitative research has the limitation that we do not know what the inhabitants thought of the criteria they did not point out. I realize that, due to this fact, this
part of the research can be limited. Another approach would be to rate the criteria, but I expect that the language barrier would even be bigger then. So there was a choice to make, either choose a qualitative approach and get very little responses probably from a not-representative selection of inhabitants from Nowa Huta, or choose a quantitative approach a get more limited data from a more representative group of inhabitants.

The third element I want to address in my evaluation is the approach of measuring or indicating vitality in the urban environment. In Figure 175 you find the diagram of how this research tried to indicate and measure urban vitality. It has three elements; activity, program and form. Program seem to be based on facts, but the vitality of program can be perceived differently by different target groups. Form is both based on facts and based on personal interpretation. The movement is purely based on on-site observations, videos and educated guesses. Urban planners and designers have published and written a lot about movement and about when to tell a place vital. It is a lot about counting people within a certain timeframe. However, crucial information is often lacking. Whyte (1980) notes the specific conditions in his famous work, but additional information is required in some cases. For example, religion is still very important in Poland and public spaces are often always empty during church times. So counting people passing by on public spaces during church time can result in the conclusion that these public spaces are not vital, while they can be very vital on other times. This information is therefore required when analyzing vitality in the urban environment. In my observation, I always noted the time of the day, the weather and the day of the week.

All the observations are done several times with different (weather) conditions and different times a day to get a better picture of vitality. However, two or three observations can still be insufficient when analyzing vitality. Some places in the public realm can be very vital in some seasons, while they are very inactive during other seasons. Other information you can think about when looking at vitality is working times, school times, protests, traditions, unhealthy environmental conditions and many more.

To get a better picture on vitality, more observations would be very useful. However, the time span of the research gives limitations to site observations.

![Figure 175. Criteria used to measure urban vitality. Image by author](image-url)
This graduation research focusses on a specific site at a specific time, but some analytical tools I have developed can be translated to be used in other research. First of all, the understanding that measuring social segregation is different for each city is key for applying this in other cities. The data set developed and calibrated for measuring segregation are probably different for other cities. Krakow is a city where students are crucial in the urban dynamics and for economic opportunities. This was one of the reasons of looking at universities when measuring educational inequality/segregation. In The Netherlands, for example in Amsterdam, primary schools form an important part of indicating and measuring educational segregation.

The measurement method can even be applied for regions in the hinterland, such as smaller municipalities without dense urban areas. The indicators and weighting factors for the socioeconomic data doesn’t have to be the same for every city. We are here dealing with a city in Central Eastern Europe, and these cities have another economic model than metropolitan cities such as London or Paris. Every domain can be handled in their own site-specific matter. The preferences in leisure can also be substituted for actually counting the annual visitors of different leisure activities.

Besides the segregation measurement model, other elements can be transferred and translated for using it in other urban environments. The way I have approach livability – by both asking the current and the potential citizens how they rank different criteria – are easily be applicable in other cities and in other regeneration/revitalization projects. The results will be different in every other city, and the target group will be different as well. In this way, one can use the method of analyzing livability in other urban areas.

Observing and mapping negative behavior in public spaces is a helpful tool in analyzing (un)safety in urban areas. My research has shown that places where individuals perform negative behavior are mostly places with low integration and low intervisibility. The position of entrances also play an important role. When designing interventions, these tools can be useful to evaluate the design. Does the design increase the integration? Does the design increase the visibility and the relation between building and public realm? The way this is done in my research can easily be implemented elsewhere. Post-war neighborhoods in European cities are often subject to negative behavior and this method can thus be helpful in redeveloping or rethinking the design of these urban environments.
The role of an urban designer or urban planner can be different in each project. During the four projects in the first year of the master, we have positioned ourselves differently each time. In design projects we have a different role then in urban revitalization of regeneration projects, in which more actors are in stake and the process is more complex and have a longer duration.

This research has several components in which the role of urban designer can be altered. First of all, it is the urban planner who researches if and up until what extend a certain neighborhood is segregated within a metropolitan area. The planner is the collector, he/she gathers and weights data and information to come up with a measurement tool. After that, the urban planner can function as a consultant in advising governmental bodies. Scenarios can be a tool in persuading decision-makers to act. In the process of revitalization the urban planner can take the role of guardian. Who is the architect for the kiosks? What kind of artwork is painted on which osiedla? What program has to be placed at what public spaces? This is the role of the urban planner as supervisor in the process. If certain things do not go according to the strategy, the urban planner is there to act and respond.

The wide range of topics fit very well in the Urbanism program and especially in the Complex Cities studio. In this studio, the region is the scale of researching and the design interventions are more acupunctural and pattern-based. This very much aligns with my research.

In decision-making we cannot escape some ethical dilemmas. A well-known one is gentrification when revitalizing or regenerating an urban environment. In this process, where lower valued social profiles are substituted by higher valued profiles, social justice is juxtaposed. Displacement of lower valued socioeconomic groups does not align with the definition of sustainable planning. In my research, I have indicated that Nowa Huta is in need for those higher valued socioeconomic groups in order to mitigate segregation and intergenerational inequality. But how does this balance? Is it worth to have displacement to achieve another goal? These are difficult ethical questions which can arise in this research. I do believe it is for the good of Nowa Huta to attract those higher valued socioeconomic groups. First of all, the population of Nowa Huta is aging. If we do not intervene, the neighborhood is facing serious problems in the coming years. New inhabitants are a necessity. Secondly, in the phasing I have taking into account both current and future inhabitants of Nowa Huta. You can find this also in my livability chapter, in which both groups are questioned about their criteria regarding livability. In the first phase, current inhabitants of Nowa Huta are involved in design and decision processes. And opposite to projects suffering from huge gentrification as in London or New York, this project aims to have a mixed neighborhood by transforming existing residential blocks instead of demolishing and replacing them. Finally, I do believe intergenerational inequality outweighs the possible displacement of some individuals.
This chapter aims to answer the stated research question and the sub research questions. The sub research questions are answered first in order to answer the main research question.

How can we design an urban revitalization strategy to mitigate socio-spatial segregation in Krakow Metropolitan Area and improve livability in Nowa Huta?

The main research question has different components and implies a multi-scalar approach. Both Krakow Metropolitan Area and Nowa Huta - neighborhood - are mentioned. Livability, revitalization and socio-spatial segregation are other urban planning definitions that need further explanation before we can answer the main research question.

Socio-spatial segregation is the uneven distribution of socioeconomic groups throughout an urban area. Additionally, segregation means there is a limitation in getting exposed to other socioeconomic groups. We all know that we get exposed to other people at more places than the place we reside. Therefore, this research adds the workspace, educational place and leisure domains to get a more realistic measurement of socio-spatial segregation.

As urban planners we strive to have a mixture of these socioeconomic groups in neighborhoods. This allows social mobility and is per definition more social sustainable.

Figure 176 shows us the spatial segregation in the Krakow Metropolitan Area. We can distinguish certain areas which segregated.

A. What is socio-spatial segregation and up until what extend is Nowa Huta segregated within Krakow Metropolitan Area?

Figure 176. Segregated Nowa Huta. Image by author
B. What are the current developments trends in the region and how do they affect Nowa Huta?

The complex Krakow Metropolitan Area has many developments and trends. Nowa Huta for example has to deal with urban neglect, an aging population and a high unemployment rate. Regional trends are the growing tourism, growing population and the railway development.

The analysis shows that many positive developments are going on in the city center of Krakow, while Nowa Huta has to face ongoing negative trends. If we take into account the segregation and the low quality of life, we can conclude that - without interventions - Nowa Huta will continue to experience those negative trends and that it will look like a post-apocalyptic urban environment in some years (Figure 177).

Nowa Huta is highly segregated and has a significant lower quality of life, resulting in limited possibilities for current and future generations.

The map highlights the hexagons which are part of the neighborhood of Nowa Huta. We can see that the 5 hexagons forming Nowa Huta are segregated in all the domains of life. With the higher population density, this affects more individuals than in urban areas with a lower population density.

Figure 177. Nowa Huta as a ghost city. Image by author
What is main criteria to generate urban vitality and what are potential intervention areas in Nowa Huta?

Vitality in urban areas is a widely discussed topic among urban planners and designers. Many academics have an opinion about this and about the criteria or conditions to generate vitality.

We can subdivide those criteria into physical environment, program and movement. Architecture and permeability are part of the physical environment, while mixed-use an important feature of program is. The potential vital areas in Nowa Huta are set out in the diagrams using those 3 categories, added with three different time zones. Potential areas are indicated using for example Space Syntax (physical environment) and the vitality of functions. Figure 178 shows which areas are potential intervention areas which are explored further in the design.

How can we improve the livability in Nowa Huta?

This research has proved that livability is a subjective term; every individual has other priorities when it comes to defining livability. Polish students have higher rankings for some criteria than current inhabitants.

Overall, there are some criteria which seem to be more important in improving livability in Nowa Huta. Transportation, housing, neighborhood and opportunities are those categories. Those categories all have different ways how they can be improved. Safety is an important element of the category neighborhood and is a crucial aspect in revitalizing the district. The housing seem to be crucial, so this research has indicated which dwellings can be improved by transforming or which estates has to be demolished.
There is socio-spatial segregation in Krakow Metropolitan Area and this is perceived especially in Nowa Huta, the post-utopian neighborhood. The analysis and research regarding segregation have indicated four domains in which urban areas can be segregated; the residential, the workspace, the educational and leisure domain. When segregated in all domains, the inequality become seriously problematic. Nowa Huta is suffering segregation and inequality in all these domains.

To mitigate this, urban planners and decision-makers can add value in all the domains. So we can choose to build an university in the neighborhood, or we can upgrade the leisure spaces. However, it seems very unlikely to just plan these actions. We also have to deal with Nowa Hutians and strong stakeholders, which are blocking developments. In the redevelopment process, we have to make sure the blocking stakeholders will shift to backing stakeholders. Small, low-cost interventions in the first phase can activate those stakeholders and can already increase the vitality in the neighborhood significantly. New groups of people can be attracted, both as visitors (tourists) and inhabitants (students, higher valued socioeconomic individuals), to appeal stronger stakeholders to invest in Nowa Huta in later phases.

This increase in vitality is a necessity for inhabitants to encounter those ‘new people’. The self-development and social mobility can increase.

The low quality of life or livability is primarily due to the lack of safety, while other important criteria of livability can be improved relatively easily. The problems of low livability are especially tangible in the osiedlas, the neighborhood units of Nowa Huta. Small interventions can ensure that the potential qualities (community feeling, serene place, high density) of those units will be fully utilized while improving the livability. Mixing socioeconomic groups is one method of doing so.

In short, Nowa Huta can increase the vitality by adding program and restructure public spaces. With the increased vitality, segregation can be mitigated due to the achieved higher co-presence. Value can be added in the domains of life, but this is highly dependent on strong stakeholders. Phasing the development can make that powerful blocking stakeholders shift to backing stakeholders. With strong stakeholders on board, developments will increase impact and segregation can be mitigated (or even counteracted) with the new railway station, a faculty, high vitality urban centers and mixed groups inhabitants.
Bibliography


