The inclusiveness of children in urban high-rise neighbourhood policies
A case study of post-war neighbourhood 'Kanaleneiland'

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Abstract

After the second world war, a major housing problem arose in the Netherlands and a popular way of responding to this shortage was to build large spacious neighbourhoods with a lot of urban highrise apartments. During the development of these so-called post-war urban highrise neighbourhoods children's needs and wants were hardly looked after. Children living in these neighbourhoods are facing many issues. Dutch municipalities are trying to revitalise these post-war neighbourhoods. This research provides an answer to the research question "To what extent do spatial policies in post-war urban high-rise neighbourhoods support children's wellbeing?", by studying the neighbourhood Kanaleneiland, located in the city of Utrecht. In Kanaleneiland qualitative interviews are conducted with policy makers, advisors and with involved citizens, parents and volunteers. Also a policy analysis of the environmental vision of Kanaleneiland, which is published in 2022, is done. The results showed that safety, greenspace, accessibility and integration are crucial factors for creating child-friendly environments. These factors are taken into account by policy makers for the revitalisation of Kanaleneiland. However there is a lack of coordination between the different factors, there is no holistic approach.

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1. Introduction

1.1. Background

Children's health is the foundation of lifelong health (National Scientific Council on the Developing Child, 2020). Many different kinds of health- and social problems which adults suffer from, (such as obesity, diabetes, depression, criminality, unemployment, poverty and violence), have their origins in childhood (Moore, 2006). Creating a good living environment for children is an important factor to prevent these problems. The urban form is strongly related to the health and well-being of children (McAllister, 2008 ; Van Loon & Frank, 2011). Therefore it is needed to keep children in mind when developing new building environments. During the development of new areas, planners have a responsibility to take into account children's wants and needs (Whitzman & Mizrachi, 2011). However, following Ceuster (2017) city makers often pay too little attention to the needs of children. Especially when new urban (high-rise) neighbourhoods are built as a response to housing shortages or city growth, planners tend to become child-blind and children are not institutionally prioritised (Woolcock et al. 2010).

After the second world war, there was a major housing problem in the Netherlands and a popular way of responding to this shortage was to build large spacious neighbourhoods with a lot of urban highrise apartments (Dalhuisen, 2006). During the development of these neighbourhoods children's needs and wants were hardly looked after.
Nowadays these types of urban form built after world war II, between 1950 and 1970, are associated with a number of social problems in relation to the health of residents (Hameed et al. 2011). Several studies indicate that there are certain challenges for children living in urban dense highrise neighbourhoods (Hird, 1966 ; Van Vliet, 1983 ; Al-Kodmany, 2018) and this was already known early on (Hird 1966).
Nevertheless, these kinds of neighbourhoods are built frequently over the years.
In many parts of the world, there is an increasing demand for people to live in dense urban areas and therefore a major demand for more housing availabilities in cities. Just like during the period after the second world war, many cities are still responding to this demand by developing high rise buildings (Meijer, 2020) and these new developments are often based on the post-world war II neighbourhoods built in Europe. For example, the urban expansion of Arabian Gulf cities includes many multi-story housing projects of urban form that are highly influenced by those built in Europe during the post-World War II period of reconstruction (Mushtaha, 2017).
Nowadays, many Dutch municipalities are trying to revitalise the post-war neighbourhoods by introducing new policies. It is of societal importance to gain insight into how children are included in these new policies, with great understanding of their wants and needs, as this is crucial for children's well-being.
In the academic literature, much research is done about the relation between urban form, urban policies and the inclusiveness of children and their wellbeing. Also the liveability and revitalisation of post war urban highrise neighbourhoods is researched extensively.
However, little research has been done about specific groups, such as families with children, in relation to post-war neighbourhoods and the revitalisation of these neighbourhoods with the help of policy makers (Van der Wijk, 2016).

This thesis will give insight to what extent children are included in the policy of the post-war neighbourhood 'Kanaleneiland', located in the city of Utrecht.

1.2. Problem analysis

The urban form of these post-war urban highrise neighbourhoods have turned out to be challenging for children to live in. These highrise neighbourhoods were built from a car using perspective, with many major roads and large parking spots between the flats. The 'car-first´ perspective of planners has a negative effect on the relation of people (including children) with their building and nature environment (Wolff, 1987). Major roads and parking spots take in space for people to socialise and car based neighbourhoods limit the physical activities people undertake (Nieuwenhuijsen & Khreis, 2016). People living in car-based areas are unhealthier and are more likely to be socially excluded and isolated (Nieuwenhuijsen & Khreis, 2016).

Another aspect of these post-war neighbourhoods, which comes along with several problems, is vertical living in apartment blocks. Physical inactivity and limited social contacts are problems seen frequently by children living in apartment blocks (Oda et al. 1989). For children, flats could feel like 'vertical prisons'. Children lack spontaneous play and exploration (Al-Kodmany, 2018). There is a vertical distance between the living area and the outside area which causes children to go outside less in comparison with people living directly at the ground floor (Blom et al. 2004). This lack of outdoor activities lead to more obesity (Mortimer, 2018). Children living in highrise neighbourhoods experience less mental, social and physical development during their stage of growing up (Oda et al. 1989 ; Andrews et al. 2018). Parents living in apartments with their children struggle more in their daily life, they experience space/storage restrictions, noise limitations because of (upstairs/downstairs) neighbours and a lack of sunlight exposure (Andrews et al. 2018).

These problems are seen frequently in the Dutch post-war urban high-rise neighbourhoods. In 2007 the minister of housing, neighbourhoods and integration at the time, Ella Vogelaar, made a list of the 40 most problematic neighbourhoods of the Netherlands, which includes many post-war high-rise neighbourhoods such as,'Kanaleneiland', 'De Kruiskamp', 'Rivierenwijk', 'Pendrecht', 'Hatert', 'Overvecht' (Van Essen, 2007). For children too, these neighbourhoods are far from ideal (Reinders, 2007). It is possible to increase the wellbeing and health of children, but child-focused policies are needed. Adopting family friendly design-guidelines for high-rise inner city housing is crucial to improve the well-being and development of children (Andrews et al. 2018). Besides, the focus on a child-friendly environment with good facilities and services (think off playgrounds and parks) can improve the social contacts between neighbour children (Karsten, 2015).

1.3. Research questions

This thesis tries to give insight into what extent and how children are included in policies. The main research question is: "To what extent do spatial policies in post-war urban high-rise neighbourhoods support children's wellbeing?" In order to answer this main question, some sub-questions are formulated.

Sub questions:
-   What are the main spatial characteristics of a child-friendly environment?
-   What effect on the wellbeing of children does the spatial design of post-war urban high-rise neighbourhoods have?

- How are factors influencing children's wellbeing included in spatial policies in urban highrise neighbourhoods?

1.4. Thesis structure
Chapter 2 discusses the theoretical framework of this study. With the help of academic literature, the theoretical foundation is laid in order to do further research. To visualise and clarify the different concepts, information and theories used in this chapter, a conceptual model is provided. Subsequently, in chapter 3, there will be explained how qualitative research is undertaken in this study. The interview method is introduced and the focus on neighbourhood 'Kanaleneiland' is explained. The results of the qualitative research will be discussed in chapter 4. A critical reflection of the research is given in chapter 5. Also in chapter 5 suggestions for future research are provided.

2. Theoretical framework

In this chapter, the relevant theories and concepts are discussed with the use of a literature review. At the end a conceptual model is presented to visualise the relationships between the different theories.

2.1. An urban high-rise neighbourhood
When exactly do we speak of an urban high-rise neighbourhood?
In the Netherlands, we have a Building decree (bouwbesluit) stating that buildings with a height exceeding 70 metres can be officially addressed as highrise (RIVM, 2012). However only around 200 buildings in the Netherlands exceed this height and many Dutch municipalities use other (height) criteria to determine and identify highrise. Most municipalities talk about highrise when buildings are exceeding the range of 15 - 30 metres or have at least 4/5 storeys with multiple people/families living on top of each other (van Galen, 2020 ; Gemeente Breda, 2021).
In the academic literature no hard criteria are given on the height. Jean Gottman, one of the first geographers researching highrise, simply stated that a highrise building is a building with multiple storeys (Gottman 1966, cited by Ceuster 2017). The perception and form of high-rise can also change over time (Gifford, 2007). Several studies (Karsten 2015, Gatley & Walker 2014, Eizenberg & Shilon 2021) therefore talk about vertical living, the concept of (unrelated) people and families living above each other. In the last few decades there has been an extension in vertical living spaces, especially in urbanised areas, which results in vertical urbanism and vertical urban neighbourhoods (Harris, 2015). The extent to which people experience an area as urban and dense is related to cultural and local features (Seema, 2010). In the Netherlands, generally speaking, an area with a density of 3000+ inhabitants/km2 and several facilities nearby is considered to be a dense urbanised place (CBS, 2018).

2.1.1. A typical post-war neighbourhood

Due to the housing shortage, which arose during the second world war, it was necessary to build homes as soon as possible. In order to realise this, residential areas were built in a schematic way. Rectangular apartment blocks of 4-7 storeys were built serially (Dalhuisen, 2006). Major roads and open low quality green spaces and facilities such as shopping centres were (and in many cases still are) dividing these series of blocks. These elements ensure that the urban highrise neighbourhoods have a monotonous character, as is visible in figure 1.

Figure 1: The monotonous character of post-war neighbourhood Kanaleneiland, Utrecht (Het Utrechts Archief, 1983).

2.2. Factors for creating child-friendly cities

The general health and well-being of children is a combination of physical, mental and social well-being (World Health Organization, 2007). The built environment has a significant impact on these three states of wellbeing. Child-friendly cities are cities that take specifically the well-being of children into account and have a positive effect on the physical, mental and social well-being of children (Malone, 2009). There are four main factors that are crucial for creating child-friendly cities: safety, greenspace, access and integration (McAllister, 2008). This is supported by the research of Malone (2009) and UNICEF (2007) who stated that these are crucial factors for realising child-friendly cities.

Safety is an important factor for creating a child friendly environment. A focus on safety can improve the feeling of safety and security of both children and their parents. Safety concerns can result in more tension, anxiety and fear (Blakely, 1994). These emotions have a negative impact on the mental well-being of both parents and children. With safety concerns, parents are more likely to restrict the free mobility and outdoor activities of their children(van Vliet, 1983). This can be problematic because undertaking physical activities is crucial for the development and (physical) wellbeing of children (Santos & Silva, 2017).

Besides safety, the proximity and quality of greenspaces is another major factor for developing child-friendly cities. The exposure to greenspace can have major mental and physical health benefits of all citizens, including children (Kardan et al, 2015). Dinnie et al (2013), stated that urban green areas such as parks can also contribute to the social well-being of people. Children are aware of the positive possibilities of greenspaces and natural areas are often children's favourite places to visit (Adams et al, 2019). In the perception of children, parks are places to play with friends, run, sport, ride bikes and explore (Victoria et egli, 2020). The proximity of parks has a positive relation to the physical activities children undertake (Barlow et al. 2021). While the lack of green spaces has a negative mental and

social health effect for children. Good access to a variety of greenspaces and playgrounds are crucial for the well-being of children, but good access to schools, homes, and friends is positive for children's well-being as well. Also easy and frequent access to other (adult) neighbours, social facilities and events not specifically meant for children can contribute to better mental health and more social wellbeing (Van Os et al. 2003). Great access to a variety of places and people can make children feel more engaged and integrated within their neighbourhood. The integration and engagement of children in their neighbourhood is another important factor which can have a great influence on children's wellbeing. There is a need to involve children in planning and creating their living environment (Woolcock et al. 2010).

2.3. Wellbeing of children in relation to urban highrise neighbourhoods

To create child-friendly neighbourhoods within an urban highrise environment is a challenge (Al-Kodmany, 2018 ; Evans, 2003). Children growing up in these neighbourhoods are more likely to have problematic disadvantages on multiple aspects later on in life (Bakker, 2021). Creating safety and accessibility for children within these neighbourhoods are oftentimes seen as quite difficult to do (Zurinah et al. 2016). In a large part of urban highrise neighbourhoods the supervision by adults is lacking. The design of tall buildings need to be adjusted so that direct supervision on play areas by parents is possible (Zurinah et al. 2016). Another safety and access issue (as mentioned before in the problem analysis), is the dominance of cars. Especially in the post-war neighbourhoods large and broad streets are blocking children's independent movement (Nieuwenhuijsen & Khreis, 2016). With regards to access, it is not only about being physically able to get somewhere, but social access is important as well. Eizenberg & Shilon (2021) say that it is much more difficult for children to be spontanous socially active with other children if they are living in a vertical living environment. Children living at the ground floor can see and hear other children play in their streets or a park nearby. For children living at height it is much harder to recognise other playing children. However, following Eizenberg & Shilon, with the rise of whatsapp this accessibility has become better. *"The sound of a WhatsApp message, which can be heard even from the highest floor (all one needs is her smartphone around), signals to our body that there is something going on in the playground."* (2021, p.133).

2.3.1. Children within urban highrise policies

The general assumption of many city makers is that high rise buildings are built for starters, elderly and singles (Ceuster, 2017). Even though it was known that a significant part of the apartment flats available would be occupied by families with children (Ceuster, 2017). The general view on traditional family housing has never changed and while this type of living requires extra attention for children, this extra attention to children within urban highrise policies is almost never given (Woolcock et al. 2010). However, slowly a shift can be seen as more and more people begin to see the need for specific child planning fitting these urban highrise environments.

2.4. Conceptual model

Accessibility, safety, greenspace and integration are crucial factors for creating child-friendly environments and are crucial to include in policies. The existence and implementation of these four factors in a highrise urban neighbourhood will have a major influence on the physical, mental and social wellbeing of children, and, with that, the general wellbeing of children. See figure 2.
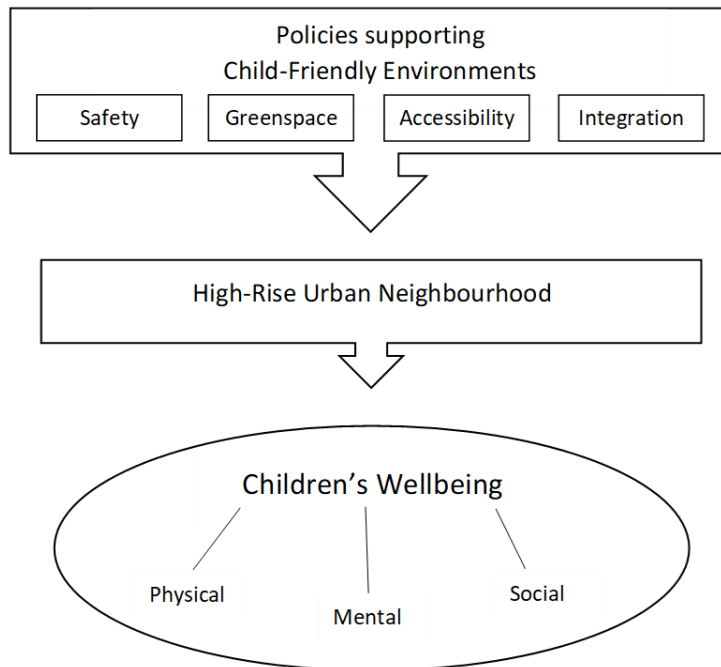

Figure 2: Conceptual model

3. Methodology

The methodology is following a single case study research approach. This approach is chosen because it gives the opportunity to research multiple aspects and actors regarding the same case and this can lead to a more in-depth and clearer image. Besides, researching or comparing multiple neighbourhoods appeared to be quite impractical because different neighbourhoods are not identical. The case chosen needed to be a typical post-war highrise neighbourhood within an urban environment. In addition, it is interesting to study a neighbourhood for which recently a new developed policy plan for revitalising the post-war urban highrise neighbourhood was released.

In this research, the focus will be on the neighbourhood 'Kanaleneiland', located in the city of Utrecht (The Netherlands). A policy analysis of the new environmental vision ('Omgevingsvisie') of the neighbourhood Kanaleneiland is undertaken. Additionally, several interviews of policy makers, advisors and involved citizens, parents, and volunteers living in Kanaleneiland are conducted as well. For conducting the interviews, a qualitative approach is chosen. Quantitative research is based on the idea that there is an objective reality independent of human perception. Qualitative research is based on interpretivism and stems from an idealistic standpoint in which reality is intertwined with human perception. This standpoint emphasises that there is no one truth but there are always multiple realities based on different interpretations by people (Slevitch, 2011). A qualitative approach fits the thesis more. Each individual interprets their living environment differently. And although many similarities between what people experience as child friendly environments exist, it is not all uniformity (Nordström, 2009).

3.1. A focus on Kanaleneiland

Kanaleneiland is a typical post-war highrise urban neighbourhood. They started building the neighbourhood in 1955 as a response to the housing shortage at the time. Nowadays it is the home of 17500 people of which 20% are children (0-18) (Gemeente Utrecht, 2022). Kanaleneiland, as told previously, is one of the most problematic neighbourhoods of the Netherlands and children living in Kanaleneiland are facing many challenges. In 2005, the municipality of Utrecht made a policy for Kanaleneiland in order to improve the neighbourhood (Gemeente Utrecht, 2022). However Kanaleneiland is still considered to be a vulnerable neighbourhood (Tasseron, 2020). The municipality of Utrecht recently came with a brand new policy for the neighbourhood, which is called the environmental vision ('De Omgevingsvisie' in Dutch). The start of the writing process was in 2019 and they finished in 2022.
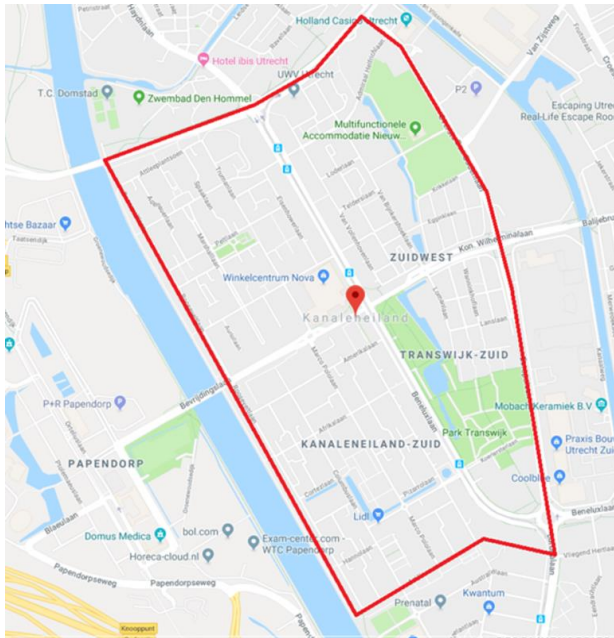
Figure 3: Case study area, Kanaleneiland (Gemeente Utrecht, 2022).

3.2. Policy Analysis

In 2022 the municipality of Utrecht published an environmental vision for the neighbourhood Kanaleneiland en Transwijk. These are by name two separate neighbourhoods, in practice they are one neighbourhood called 'Kanaleneiland'. The environmental vision of 'Kanaleneiland en Transwijk' is a joint ambition about the direction in which Kanaleneiland can develop. What will Kanaleneiland look like in 2040? What does this area mean for the city and its surroundings? That is stated in this environmental vision. For this thesis, in order to answer the research questions, an extensive policy review of the Environmental Vision Kanaleneiland is done. The document is schematically analysed by looking into the inclusion and appliance of four factors with regards to children: safety, greenspaces, accessibility, integration.

3.3. Interviews

Besides the policy review, qualitative interviews of both policy makers, advisors as well as involved citizens, volunteers and parents living in Kanaleneiland are undertaken. All participants interviewed are made anonymous in this thesis.

3.3.1. Policy makers and advisors

In total 4 policy makers and advisors are interviewed. These participants are selected because they all played a role in the revitalisation of the neighbourhood and the development of the environmental vision. They either work(ed) at the municipality of Utrecht or they work(ed) on behalf of the municipality.
The policy makers were asked about Kanaleneiland and its new environmental vision in place. They also gave their take on child friendly environments and the effects of high-rise on this.
- Policy maker 1: Ex-policy maker for the municipality of Utrecht (2020-2022), specialised in housing, liveability and vulnerable groups. Was involved with the writing process of the environmental vision of Kanaleneiland.

- Policy maker 2: Social geographer working by RIGO (RIGO focuses on creating a better living environment). Also the cofounder of 'wijkcoöperatie Kanaleneiland' (neighbourhood cooperation Kanaleneiland) and 'Ruimtemakers Utrecht' (An organisation advocating for people participation in design making). As cofounder of these organisations he is closely involved with Kanaleneiland and worked together with the municipality on the environmental vision.
- Neighbourhood advisor 1: works for the municipality of Utrecht as a special neighbourhood advisor for Kanaleneiland. Not directly involved with the writing process of the environmental vision itself, but indirectly he advised other policy makers of the municipality which were involved in the writing process. He also is the connection between the municipality and the citizens of Kanaleneiland.
- Neighbourhood advisor 2: works for the municipality of Utrecht as advisor for Kanaleneiland. He is involved in the writing process of the environmental vision. He is an important connection between the municipalities and other organisations, such as primary schools and day-care, present in Kanaleneiland

3.3.2. Involved citizens, volunteers, parents

Next to policy makers, several involved citizens and parents living in Kanaleneiland are interviewed about their opinion of Kanaleneiland in relation to a child-friendly environment. 3 citizens are interviewed. These three were approached because there were already warm contacts or actively involved on social media. They are questioned about their living environment, their opinion on child-friendly environments and about the municipality and the new environmental vision.

- Citizen 1: Involved in organisation Dock as a 'sociaal makelaar jeugd 0-12'. Dock is an organisation/foundation for sustaining and improving the general well being of a neighbourhood. As social worker youth ('sociaal makelaar jeugd' in Dutch) she helps children (age 0-12) in Kanaleneiland and tries to improve the liveability of Kanaleneiland specifically for children.
- Citizen 2: A mother of four children from age 4, 13, 15, 17. She works as a volunteer at the playground 'Speeltuin Anansi'. Which is a free accessible playground in the Northern part of Kanaleneiland.
- Citizen 3: A (grand)father born in Kanaleneiland and still living there. Has raised one daughter and is now babysitting his grandchild in Kanaleneiland regularly.

4. Results

4.1. Environmental vision

The environmental vision of Kanaleneiland provides a future picture of what the neighbourhood will look like in 2040 and which adjustments are needed. The goal of the vision is to improve the liveability/quality of life in Kanaleneiland. Following the municipality the key elements to improve the liveability in Kanaleneiland are:

- Better safety, especially for pedestrians and cyclists
- More greenery, contiguous green and 'cool' green.
- Making the neighbourhood climate proof with (affordable) sustainable energy
- Healthy urban living in mixed neighbourhood with new housing, appropriate facilities and work locations
- Public space equipped for meeting each other in an appealing environment
- Participation and involved citizens
- Better accessibility for slow traffic and a good connection to other parts of Utrecht

The four key elements for creating child-friendly environments are addressed (greenspaces, safety, accessibility and integration), although not always directly.

Especially safety and accessibility in relation to car restrictive measures are deeply discussed in the document. For the coming years, there will be a look into redesigning the streets and making car-traffic cuts. Car-traffic cuts will force cars to use the main roads at the borders of the neighbourhood. The connections within the neighbourhood are primarily accessible by foot or bike. Also, with the redevelopment/redesigning of the streets it is checked whether certain streets can be changed into 'woonerven' (residential areas). Where streets can't be changed into 'woonerven' the 30km/h speed limit will be made clearly visible and asphalt will be changed into pavement, because this is less inviting for cars to drive fast. Following the municipality, these measures are likely to have a positive effect on the safety and liveability of children. In the environmental vision it stated that the citizens especially want the municipality to pay extra attention to the traffic situation around the schools.

The municipality also wants to improve the safety and feeling of safety in the neighbourhood by 'adding' more eyes on the streets and creating more social security. Apartments located on the ground- and first floor need to have an open character with more and larger windows. Also more facilities such as restaurants and cafés will be developed at the ground floor of large flats. This will contribute to more social security and to a more mixed and lively neighbourhood. Whether these adaptations are also beneficial for children remains to be seen. These adaptations seem to be in line with statements Woolcock et al. (2010) made previously: contemporary strategic planning has almost become child-blind, with higher density areas being built essentially for the childless in mind. The talk is of 'vibrant' and 'liveable' mixed use urban areas, characterised by pavement cafes, restaurants, shops, offices and entertainment precincts. These facilities are not good accessible for children. Woolcock et al. also stated that contemporary strategic planning often lacks in developing sufficient natural adventurous play areas for children. However this latter aspect is not true for Kanaleneiland. In the environmental vision the need for adventurous playgrounds close to the living areas is clearly addressed. "*Also there is a need for more adventurous playgrounds*" (2022, p.89).

Also the green space in Kanaleneiland, following the vision of the municipality, has to get a significant improvement. The municipality strives for a shift from 'green areas to watch' to 'green areas to use' (van 'kijkgroen' naar 'gebruiksgroen'). This shift can in potential contribute to an adventurous green neighbourhood in which children can play and discover.

A potential weak point of the vision is the absence of child participation. No effort is done at all to include children in the development of the vision of their own neighbourhood.
And whereas the youth (15+) are integrated in the vision and are seen as a group, with special needs and wants. (Younger) children are not included as an apart group with special needs and wants.

Especially, there is no real attention paid to children living in an urban high-rise environment in relation to their wellbeing. Although some effects and problems of a post-war urban neighbourhood are addressed (e.g. (car) traffic situation), other problems are not addressed and the origin of these problems are not clearly mentioned. For example, as can be read in the article of Eizenberg & Shilon (2021) , children living in high-rise environments have more difficulty to be spontaneously socially active with other children. Children do not have the opportunity to be triggered by seeing and recognizing other children play. Besides, supervision by adults is lacking, which leads to parents restricting their children to go outside. The design of tall buildings needs to be adjusted so that direct supervision on play areas by parents is possible (Zurinah et al. 2016). The municipality did not pay attention to these issues. However, in the interviews that were conducted, altering the design to improve children's visibility is mentioned by employees of the municipality. A reason why it is not mentioned could be because the vision itself covers the whole neighbourhood and does not elaborate in extreme detail about really specific subjects. In the vision, many crucial factors for creating a child-friendly environment are covered, however there is not a full clear, coherent and detailed story about how to create this child-friendly environment in Kanaleneiland.

4.2. Policy makers and advisors

In contrast to the environmental vision, the interviewed policy makers do have a more clear and detailed vision of what a child friendly environment encompasses. The environment needs to be inviting for children to be active, play and meet.
"It's about the possibilities for sports, recreation, it has to be challenging." - policy maker 1
Children must be able to move freely within their neighbourhood. The policy makers agree with safety, accessibility, greenspace and integration being crucial factors. Nevertheless another extremely important factor they pointed out is the social and cultural aspect. This is not elaborated on in the environmental vision, other departments and working fields are addressing this more extensively.
The policy makers and advisors especially address the importance of a safe environment, which is challenging in Kanaleneiland. Traffic safety is an enormous issue in the neighbourhood.
"For children, this neighbourhood is not so safe when it comes to car traffic"
"The area is characterised by very long asphalted streets, which lead to many people driving way too fast."- policy maker 1

This traffic safety issue is addressed in current policies and in the environmental vision. Following policy maker 1, this issue is well covered in the environmental vision by implementing traffic cuts, and putting slow traffic before car traffic, creating 'woonerven'. However, following policy maker 2 the measures need to be way more strict and drastic and is therefore not satisfactory with what is stated in the environmental vision. Giving priority to cyclists and pedestrians instead of cars and creating 'woonerven' would not make a difference, but will make the situation for cyclists/pedestrians even more dangerous. Fast and dangerous driving is not only caused by the urban form, but there is an important behavioural component in play as well. This behavioural component is not included in the new policy of the municipality.

"There is a lot of antisocial driving behaviour, especially youth are driving way to fast and cars are seen as a status symbol" "Many accidents occur in Kanaleneiland and the municipality is making stupid traffic interventions in this area." - policy maker 2

To change this antisocial behaviour, speed undermining interventions are necessary.

"Speed undermining interventions must be introduced, think of more speed bumps, road narrowings, concrete blocks". - policy maker 2

Even though these undermining interventions as policy maker 2 proposes are not included as a component for the revitalisation of Kanaleneiland, they are however supported by academic literature. Wald et al. (2004), for example, determined the high effectiveness of speed bumps, especially for reducing child pedestrian injuries.

The lack of possibility for adults to supervise their children is another safety issue and related to the urban form of a highrise environment. There were many 'blind' spots in the neighbourhood and unsupervised alleys, squares, (partly) abandoned buildings. However over the last 10/15 years it is included in policies to make these places more visible and transparent. In the new environmental vision this line will be continued. This leads to more safety on the one hand, but it makes places for children to explore less accessible. A balance needs to be found, and care must be taken to avoid overregulation.

"It's also good if an area is sometimes a little less organised, it is nice for a child to have the possibility to hide, explore and play in 'secret' passages.
This is in contrast to what I told previously about the safety of unsupervised places, but it is necessary to find a balance. Places tend to look too orderly nowadays.
There is nothing more fun for children to visit abandoned places, alleys and even construction sites. The overregulation doesn't promote the child's fantasy and adventure." - policy maker 1

In addition, Neighbourhood advisor 1 says that it is truly sad for children that literally every tiny space is planned and organised.

"It's sad. What you notice is, that due to the pressure of the city every piece of land is built up"- neighbourhood advisor 1

According to policy maker 2, this overregulation is a perfect example of trying to make the situation for children better, without including children itself. There are not many neighbourhood designs in which children have had their say.

The quality of greenspace and playgrounds will be improved significantly over the coming years. More adventurous, and a mixed variety of activities. An example is the 'kanaalzone' which has already started to develop as a multifunctional park in which both adults, youth and children can sport, relax and play. An issue which is not fully covered, following policy

maker 2, is the accessibility of these greenspaces and playgrounds. The streets which children use to walk to these places have very small sidewalks and there are no benches on the route. Advisor 1 agrees with this part. He argues that it is not safe for children around age 12 or younger, to go to for example the large park called 'Park Transwijk' by themselves, because children need to cross a major main road to enter the park.

"It (Park Transwijk) is relatively far from home and sight and there are large and busy roads surrounding the park. It is fine for a group of children around age 13/14, but younger children shouldn't go by themselves." - neighbourhood advisor 1

According to neighbourhood advisor 2, over the last few years Park Transwijk has already had a significant quality upgrade. It is the plan, also included in the environmental vision, to transform this park even more to an enjoyable place for children to play and be around.

However, the improvement of the park's accessibility is not included in the environmental vision. It is even likely to get worse as in the vision it is stated that new car-traffic cuts will be made, which will force cars to use the main roads at the borders of the neighbourhood. The road 'Beneluxlaan' next to the park is an important main road as it connects Kanaleneiland with other parts of the city. Neighbourhood advisor 2 stated that in the long term, even though it is not included in the environmental vision yet, we as a municipality want to tackle the traffic situation of these major surrounding roads as well.

"We are planning on transforming it into an urban-like boulevard, with greenery." "This is really a plan for the long term future" - neighbourhood advisor 2
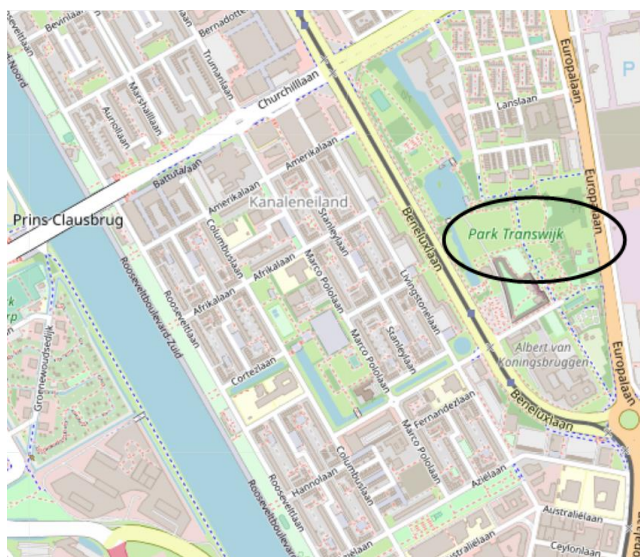

Figure 4: Kanaleneiland and Park Transwijk are separated by a main road, called 'Beneluxlaan'.

4.2. Citizens

The citizens pointed out something quite similar to the case of Park Transwijk.

A large and modern playground is located in the northern part of Kanaleneiland. Following the citizens this playground is an extremely valuable place for children. The municipality invests in this playground a lot and therefore it is well maintained. This is one of the few places in Kanaleneiland where children can play freely and safely in an enjoyable environment.

"It is a challenge to find places where children can play safely. *Children from surrounding hihgrise make good use of playground 'Anansi'."* - citizen 1 / social worker youth

The problem is the accessibility of the playground for children living a bit further south from the playground. They have to cross a major road ('Churchilllaan' it is called) to reach the playing spot. This is not addressed in the environmental vision.

"Children living in the southern part of Kanaleneiland have to pass the Churchilllaan and many children are not allowed to go independently to playground Anansi" - citizen 1 / social worker youth

This leads to limited play options for a significant number of children in Kanaleneiland.

"There are too few options to play for children, especially children living south from the Churchilllaan" - citizen 2

According to the citizens, the municipality can do more about this problem by making the existing places more accessible and by creating more places for children to hang and play throughout the neighbourhood.

Another citizen advocates for less space for cars within the neighbourhood itself and more open natural space for children to discover and build fortresses for example.

"The neighbourhood has to become a way less inviting environment for cars, that is the solution for the future. There is simply no space for all these cars and parking lots."
"When I was young there was space for building fortresses, making campfires, and playing football somewhere. This is now all gone unfortunately" - citizen 3

Even though he never heard about the new environmental vision, he had picked up that the municipality also aims for more green and less parking spots. His issue is elaborated on in the environmental vision. The implementation of traffic cuts and the focus on adding more adventurous greenspaces are elements present in the environmental vision and are in line with the issues and wishes of this citizen.

Other key elements for revitalising the neighbourhood which are likely to account on approval by the citizen participants are the emphasis on creating more social security and developing more suitable and inviting places for meeting each other.

"Because of the lack of private gardens and indoor space, many people like to come together at a playground or square for companionship and fun. "The municipality could make more effort to provide qualitative and safe places for this" - citizen 2

Following citizens 1 and 3 social security and social cohesion has not only to do with suitable space, but also an important cultural and behavioural aspect is in play here.

"There is too little parental control" - citizen 3

In addition, citizen 1 explains that lack of control and behaviour has negatively affected the accessibility of playground Anansi.

"At first the playground was always freely accessible for everyone, but now, already for some years, there is a fence around the playground and in the evening it is closed. It is annoying that a fence is needed to keep the environment safe" - citizen 1

All citizens argue for more parental involvement with their children and with the environment they live in. Warm contacts between the municipality, the neighbours and the environment is necessary. All three participants are moderately positive with the municipality, but think they could do more, especially regarding integration and participation of their own inhabitants. For instance, all three did not know about the new environment vision. Even though participation was and still is a basic principle of the municipality and is considered crucial for the revitalisation of Kanaleneiland.

5. Conclusion & Reflection

The main research question of this thesis is; "To what extent do spatial policies in post-war urban high-rise neighbourhoods support children's wellbeing?"

In order to answer this main question, it was important to gain knowledge about what the main spatial characteristics of a child-friendly environment are. The results of this research showed that safety is an extremely important factor for children's wellbeing. Also a green environment with a variety of accessible places for children to play and hang out is seen as a necessary element. Children should be included and integrated in the neighbourhood and move around safely. This is supported by the academic literature, which addresses safety, greenspace, accessibility and integration as the four most crucial factors influencing the child-friendliness of an environment. Realising a child-friendly environment in a post-war urban highrise neighbourhood comes with its challenges. The car focused design of the neighbourhood with many wide and open streets makes it challenging for children to find accessible greenspaces and playgrounds. The supervision of children makes it more difficult as well, due to the highrise buildings. Multiple nearby spaces for children are needed and they need to be accessible without disturbance of automobile traffic.

All the main child-friendly influencing factors and specific challenges are present in the recent neighbourhood vision. So in that sense children are included and taken into account with the revitalisation of the neighbourhood. However, in the vision for revitalisation these different factors are not synchronised or coordinated. The improvement of greenspaces, accessibility and (street)safety do not complement each other. At this moment there is no holistic approach.

5.1 Reflection

Because this study is a single case study it has certain limitations. It will not provide a complete story for all post-war urban highrise environments. However, Kanaleneiland is a representative neighbourhood and this type of research is reproducible for other neighbourhoods. In total 7 interviews were conducted. In Kanaleneiland and in many other post-war urban highrise neighbourhoods multiple cultures and people from diverse backgrounds live together. It turned out to be difficult to get a good reflection of society. One reason for this is a language gap between some inhabitants and the researcher. Nevertheless people from diverse backgrounds did participate in this research. Whether there are cultural differences in the same neighbourhood regarding child friendly environments can be interesting to research. A potential follow-up research could be to look more at the social and cultural features and differences of children and if this is included in policies for creating child-friendly environments.

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Appendix 1 - Vragenlijst beleidsmakers (Interview guide policy makers, advisors)

Voorstelronde

Als eerste wil ik u bedanken dat u de tijd heeft genomen om deel te nemen aan het interview. Ik zal mezelf even voorstellen: Mijn naam is Rowin en zit in mijn derde jaar van de opleiding Spatial Planning and Design aan de Rijksuniversiteit Groningen. Op dit moment doe ik (in het kader van mijn Bachelorscriptie) onderzoek naar in hoeverre er rekening wordt gehouden met kinderen in (gemeentelijke)beleidsdocumenten/visies van stedelijke naoorlogse flatwijken en hoe dit invloed heeft op de kindvriendelijkheid van deze wijken. Specifiek focus ik mij op de wijk Kanaleneiland in Utrecht en daarom zou ik u graag een aantal vragen willen stellen. Heeft u nog vragen over mij, mijn studie of mijn onderzoek?

Consent

Ik zal de informatie die u geeft alleen gebruiken voor het schrijven van mijn scriptie en niet voor andere doeleinden. Ik zal uw gegevens niet delen als u daar geen nadrukkelijk toestemming voor geeft. Mag ik uw naam en functie vermelden in mijn scriptie of wilt u anoniem blijven? Graag zou ik, om het analyseren van het interview te vergemakkelijken, dit gesprek willen opnemen. Vindt u dat goed?

Algemene informatie
- Wat is uw functie binnen de gemeente?
- Hoelang heeft u deze functie al?
- Op welke manier bent u betrokken bij de wijk en de beleidsvorming van de wijk?

Onderzoeksvragen
- Wat is een kindvriendelijke wijk volgens u?
- Welke factoren hebben, volgens u, invloed op
    - de fysieke welzijn van kinderen?
    - de mentale welzijn van kinderen?
    - de sociale welzijn van kinderen?
- Tot hoeverre en op welke manier zijn deze factoren meegenomen in de omgevingsvisie van de wijk? en op welke manier ziet u deze factoren wel/niet terug in de wijk?
- Welke specifieke uitdagingen ziet u voor het verbeteren van de welzijn van kinderen woonachtig in stedelijke flatwijken (zoals in Kanaleneiland)?
- Wat willen jullie bereiken met de huidige omgevingsvisie van Kanaleneiland?
- Welk effect heeft het ruimtelijk beleid van de wijk tot nu toe gehad op de algehele welzijn van kinderen?

Tijdens mijn literatuuronderzoek zijn er vier elementen naar boven gekomen die erg belangrijk blijken met betrekking tot het welzijn van kinderen. Dit zijn veiligheid, natuur- en groengebieden, toegankelijkheid en integratie & betrokkenheid. Ik zou u graag nu een aantal vragen willen stellen over de aanwezigheid van deze elementen in de wijk en de implementatie van deze elementen in het huidige beleid en omgevingsvisie van de wijk.

Veiligheid
- Hoe (on)veilig vindt u de wijk zelf?
- Hoe komt de veiligheid van kinderen naar voren in het huidige beleid? Is hier rekening mee gehouden/is dit specifiek uitgedacht?
- Welke aspecten in een wijk hebben een negatieve en/of positieve impact op de veiligheid? Welke maatregelen en aanpassingen worden er genomen?
- Is er voldoende toezicht op (buitenspelende) kinderen mogelijk wanneer de ouders en andere bekenden woonachtig zijn in flats?

Natuur- en groengebieden
- Vindt u dat er genoeg groenvoorzieningen in de wijk aanwezig zijn?
- Hoe is de voorziening van groen en natuur geïmplementeerd in de omgevingsvisie?
- Hoe behoudt je en creëer je hoogwaardig groengebied in de wijk?

Toegankelijkheid van kinderen
- Hoe bewegen kinderen zich voort in deze wijk (over het algemeen)?
- Op welke manier is de toegankelijkheid van kinderen geregeld in de wijk en is dit specifiek opgenomen in de omgevingsvisie?
- Zijn faciliteiten specifiek voor kinderen zoals scholen, opvang, speeltuinen etc. toegankelijk?
- Zijn faciliteiten en locaties niet specifiek gericht op kinderen wel makkelijk toegankelijk voor hen? en zijn ze ook welkom en geaccepteerd op deze plekken (door bijvoorbeeld volwassen buren)?
- Hoe toegankelijk zijn de groengebieden voor kinderen?
- Is er voldoende variatie en afwisseling te zien in de wijk (denk aan verschillende soorten straten, parken, pleinen, flatgebouwen etc.)?
- Hoe wordt het sociale contact tussen kinderen in de wijk gefaciliteerd? Zijn hier voldoende mogelijkheden voor? Zijn buurt vriendjes makkelijk en regelmatig te bereiken voor elkaar?

Integratie, betrokkenheid (en participatie) van kinderen
- Wie representeert de belangen van kinderen in de ruimtelijke beleidsvorming?
- Worden kinderen betrokken bij het maken van ruimtelijk beleid en zo ja hoe dan?
- Hoe belangrijk is de invloed van kinderen geweest op de omgevingsvisie van de wijk?
- Denkt u dat de kinderen van de wijk zich in het algemeen betrokken en verbonden voelen met de wijk?

Welke van de vier bovengenoemde elementen ziet u als meest cruciaal en zijn er nog andere relevante elementen volgens u?

Appendix 2 - vragenlijst betrokken burgers en ouders woonachtig in Kanaleneiland

Voorstelronde

Als eerste wil ik u bedanken dat u de tijd heeft genomen om deel te nemen aan het interview. Ik zal mezelf even voorstellen: Mijn naam is Rowin en zit in mijn derde jaar van de opleiding Spatial Planning and Design aan de Rijksuniversiteit Groningen. Op dit moment doe ik (in het kader van mijn Bachelorscriptie) onderzoek naar in hoeverre er rekening wordt gehouden met kinderen in (gemeentelijke)beleidsdocumenten/visies van stedelijke naoorlogse flatwijken en hoe dit invloed heeft op de kindvriendelijkheid van deze wijken. Specifiek focus ik mij op de wijk Kanaleneiland in Utrecht en daarom zou ik u graag een aantal vragen willen stellen. Heeft u nog vragen over mij, mijn studie of mijn onderzoek?

Algemene informatie
- Wat is uw gezinssituatie?
    - Hoeveel kinderen heeft u?
    - Van welke leeftijd zijn uw kinderen?

- Wat is uw woonsituatie en de woonsituatie van uw kinderen?
    - In wat voor type woning woont u en uw kinderen?
    - Sinds wanneer zijn jullie woonachtig in Kanaleneiland?

Onderzoeksvragen
- Wat is een kindvriendelijke wijk volgens u?
- Welke factoren hebben, volgens u, invloed op
    - de fysieke welzijn van uw kinderen?
    - de mentale welzijn van uw kinderen?
    - de sociale welzijn van uw kinderen?
- Welke specifieke uitdagingen zijn er voor uw kinderen met betrekking tot het wonen in een (naoorlogse stedelijke flat wijk zoals) Kanaleneiland?
- Heeft u verandering in de (ruimtelijke aspecten van de) wijk gezien met betrekking tot kinderen?
- Bent u zelf op de hoogte van de nieuwe omgevingsvisie voor de wijk?
- Zijn uw kinderen op de hoogte van de nieuwe omgevingsvisie voor de wijk?
- Wat vindt belangrijk in een wijk om te wonen met kinderen? Wanneer is een wijk geschikt voor het wonen met kinderen volgens u?
- Wat verwacht u van de gemeente/beleidsmakers?

Veiligheid
- Hoe vind u de algehele veiligheid in de wijk voor kinderen?
- Welke invloed heeft dit veiligheidsgevoel op het gedrag en bewegingsvrijheid van uw kinderen?
- Wat voor veranderingen zou je op dit gebied in de toekomst graag willen zien?

Natuur- en groengebieden
- Vindt u dat er genoeg groenvoorzieningen (geschikt voor uw kinderen) in de wijk aanwezig zijn?
- Wat voor veranderingen zou je op dit gebied in de toekomst graag willen zien?

Toegankelijkheid van kinderen
- Zijn faciliteiten specifiek voor kinderen zoals scholen, opvang, speeltuinen etc. toegankelijk?

- Zijn faciliteiten en locaties niet specifiek gericht op kinderen wel makkelijk toegankelijk voor hen? en zijn ze ook welkom en geaccepteerd op deze plekken (door bijvoorbeeld volwassen buren)?
- Hoe is het contact met andere buren en buurtvriendjes?
- Wat voor veranderingen zou je op dit gebied in de toekomst graag willen zien?

Integratie, betrokkenheid (en participatie) van kinderen
- Hebben uw kinderen (ooit) deelgenomen en wijkgerelateerde projecten / participatietrajecten? Waarom wel/niet?
- Denkt u dat uw kinderen zich verbonden voelen met de wijk?

Appendix 3 - Consent Formulier

Informatie over het onderzoek
Dit interview zal bijdragen aan het onderzoek naar in hoeverre er rekening wordt gehouden met kinderen in (gemeentelijke)beleidsdocumenten/visies van stedelijke naoorlogse flatwijken en hoe dit invloed heeft op de kindvriendelijkheid van deze wijken. Specifiek wordt er gefocust op de wijk Kanaleneiland in Utrecht.

Toegang tot informatie
De informatie die de deelnemer geeft zal alleen gebruikt worden voor dit onderzoek en niet voor andere doeleinden. Alleen de onderzoeker en de onderzoeksbegeleider zullen toegang hebben tot de door de deelnemer gegeven informatie. Deze informatie zal alleen gedeeld worden als hier nadrukkelijk toestemming voor wordt gegeven door de deelnemer. De informatie die verwerkt wordt in het onderzoek zal geanonimiseerd zijn en er zullen geen persoonsgegevens in het onderzoek verschijnen.

Toegang tot uw informatie:
- Onderzoeker: R. (Rowin) Burhenne
  Bachelor student Spatial Planning and Design
  Rijksuniversiteit Groningen

- Begeleider: dr. F. (Femke) Niekerk
  Assistant Professor in Spatial Planning
  Rijksuniversiteit Groningen

Rechten deelnemer
Als deelnemer heeft u het recht om ten alle tijden te stoppen met het interview zonder opgave van reden en zonder verdere gevolgen. Na afronding van het onderzoek kunnen de resultaten van het onderzoek gedeeld worden met u als deelnemer, mocht hier belangstelling voor zijn.

Gelieve aanvinken bij akkoord
- Mijn deelname aan het interview is vrijwillig.
- Ik ga ermee akkoord dat het interview wordt opgenomen
- Ik ga ermee akkoord dat de gegevens van het interview in het onderzoek worden verwerkt.
- Ik begrijp dat ik mij op elk moment zonder het opgeven van een reden kan terugtrekken.
- Ik heb de informatie over het onderzoeksproject gelezen.
- Ik ben geïnformeerd over mijn rechten voor dit interview.

Deelnemer   **Onderzoeker**
Naam: Naam:
Datum: Datum:
Handtekening: Handtekening:

Bij vragen of opmerkingen kunt u mailen naar Rowin Burhenne: (r.d.burhenne@student.rug.nl)