



rijksuniversiteit  
groningen



Spatial Planning and Design | Bachelor Project

---

# Transforming inner cities into Cities for People: How Zero Emission Zones and Futuring can influence this process.

---

By Charlotte Breunis  
Spring of 2021

# Colophon

Title: Transforming inner cities into Cities for People: How Zero Emission Zones and Futuring can influence this process.

Author: Charlotte Breunis

Contact: c.s.breunis@student.rug.nl

Student Number: S 3426025

Programme: Spatial Planning and Design

Degree: Bachelors of Science

Faculty: Spatial Science

University: Rijksuniversiteit Groningen

Version: Final

Date: June 24<sup>th</sup>, 2021

Supervisor: Ward Rauws

Cover photo: Groningen city center (RTVNoord, 2020).

# Table of Contents

- Colophon ..... 1**
- Table of Contents ..... 2**
- Abstract ..... 4**
- 1. Introduction..... 5**
  - 1.1 Background and Societal Relevance..... 5*
  - 1.2 Theoretical Relevance..... 5*
  - 1.3 Research Objective ..... 5*
  - 1.4 Research Questions ..... 5*
  - 1.5 Reading Guide ..... 6*
- 2. Theoretical Framework ..... 7**
  - 2.1 Cities for People..... 7*
  - 2.2 Zero Emission Zones; a Substantive Policy Instrument..... 8*
  - 2.3 Futuring; a Procedural Policy Instrument..... 8*
  - 2.4 Conceptual Model..... 9*
- 3. Methodology ..... 10**
  - 3.1 Phase 1 ..... 10*
  - 3.2 Phase 2 ..... 11*
  - 3.3 Phase 3A..... 12*
  - 3.4 Phase 3B..... 13*
  - 3.5 Phase 4 ..... 14*
  - 3.6 Ethical Considerations ..... 15*
- 4. Results..... 16**
  - 4.1 ZEZ in Groningen..... 16*
  - 4.2 Groningen as a CfP ..... 17*
  - 4.3 The Impact of Futurings..... 18*
- 5. Conclusion ..... 24**
  - 5.1 Recommendations for City Planning ..... 25*
- 6. Discussion..... 26**
  - 6.1 Research Outcomes ..... 26*
  - 6.2 Research Process ..... 26*
  - 6.3 Future Research..... 27*
- 7. References..... 28**
- 8. Appendix ..... 30**
  - 8.1 Appendix 1..... 30*

Consent Form ..... 30

8.2 Appendix 2 ..... 32

    Interview Guide ..... 32

8.3 Appendix 3 ..... 34

    Coding Tree..... 34

8.4 Appendix 4 ..... 35

    Survey ..... 35

8.5 Appendix 5 ..... 37

    Flyer ..... 37

8.6 Appendix 6 ..... 38

    Document analysis ..... 38

8.7 Appendix 7 ..... 39

    Time planning ..... 39

# Abstract

The Municipality of Groningen has the goal to regain public space for pedestrians and cyclists and to create clean air. One of the means to accomplish that goal is a Zero Emission Zone, which will be implemented in 2025. Therefore, the inner city of Groningen will drastically change. This research aims to identify what the effect of the Zero Emission Zone is on the transformation of the city towards Cities for People. Additionally, the effect of Futuring on this transformation is researched. According to the findings of this research, the realization of a Zero Emission Zone is expected to contribute towards a city within the idea of Cities for People. Additionally, Futurings could catalyze this process by creating a bigger support base for spatial change. The recommendation is to use landscape architects more often in participation processes in order mobilize people for spatial change. In addition, the theory of Cities for People could be integrated into the policy plans of Zero Emission Zones.

Keywords: Cities for People, Zero Emission Zone, Futuring, Groningen.

Abbreviations:

Used in text	Meaning
ZEZ	Zero Emission Zone
CfP	Cities for People
OKJ	Oude Kijk in het Jatstraat
OS	Oosterstraat
GZ	Gedempte Zuiderdiep
I1	Interviewee 1
I2	Interviewee 2
SQ	Sub question(s)
MQ	Main question

*Table 1 Abbreviations used in this research.*

# 1. Introduction

## 1.1 Background and Societal Relevance

For decades, the car has been the main point of attention in city planning (Gehl, 2010), and in recent years, freight transport in city centers has increased strongly (Ministerie van IenW, 2021). Not only do the delivery vans cause increased greenhouse gas emissions, but there is also a shortage of space on the street for them to park and deliver (Behrends et al., 2008). From 2025 onwards, Zero Emission Zones (ZEZ) are planned in 30 to 40 municipalities in the Netherlands in order to clean the air of cities (Klimaatakkoord, 2019). For example, Rotterdam (City of Rotterdam, 2019) and Amsterdam (City of Amsterdam, 2019) have developed plans to clean the air and, consequently, create a more livable city. Groningen is also planning such a ZEZ for its city center (gemeente Groningen, 2020). Transforming a car-focused city into Cities for People (CfP) is a challenge, but necessary for a lively, safe, sustainable and healthy city (Gehl, 2010).

## 1.2 Theoretical Relevance

Because the implementation of ZEZ is quite new, not much research has been conducted on the effects of the implementation of ZEZ on the public space. However, Mudway et al. (2019) have researched the impact of a low emission zone on air quality and children's health. This research aims to supplement the definition of ZEZ as they are insufficiently defined in scientific literature, although it has been used in some policy documents. This research will explore the effects of ZEZ on the public space in the context of the city center of Groningen.

With regards to CfP, Jan Gehl has written two books surrounding this topic (Gehl, 2010; Gehl, 2011). Thus, the theory on itself has been defined and researched but empirical research on the topic has been given less scholarly attention. More specifically, CfP in combination with the ZEZ has not yet been investigated and this research will decrease that research gap.

## 1.3 Research Objective

This research aims to investigate the transformation of a city towards a CfP and how the implementation of a ZEZ and the use of Futuring can influence that change. The city center of Groningen will serve as the research context, where the concept of ZEZ will get a deeper meaning, and Futuring as a method for raising a support base will be examined.

## 1.4 Research Questions

### 1.4.1 Main question

The following main question will be answered in this research:

“What is the effect of the implementation of a Zero Emission Zone on the transformation towards Cities for People on street-level, and how can Futuring help this process?”

### 1.4.2 Sub Questions

1. What is meant with Cities for People and why and for who is this transformation towards these cities beneficial?
2. What are Zero Emission Zones and how can they help to transform inner cities towards Cities for People?
3. How can the implementation of the Zero Emission Zone in the inner city of Groningen cater the transformation towards Cities for People?
4. What is the potential role of Futuring in this transformation?

## 1.5 Reading Guide

This research is divided into ten chapters. The first chapter functions as an introductory chapter that states the research problem. Chapter two presents the theoretical framework, which functions as a lens through which this research can be seen. Additionally, this chapter takes the described concepts (CfP, ZEZ and Futuring) and explains their connection to each other in the conceptual model. In chapter three, the methodology is explained. Here, also the phases on which the research is based and their explanations can be found. The results, structured according to the research questions, are displayed in chapter four. After that, the conclusions are stated in chapter five which also includes the recommendations. Chapter six describes the discussion, divided into outcome and process discussions, and future research.

# 2. Theoretical Framework

## 2.1 Cities for People

In his book 'Cities for People' Gehl (2010) describes a human centered city as he explains why the human-scale in cities is important. In order to create a lively, safe, sustainable and healthy city - the city of the future - human interaction is key. Although cities are here for people to live in, the human scale is often neglected as cars are often placed central in city design. Gehl (2010) urges planners and architects to transform cities into places for pedestrians instead of cars, and to create social interaction to increase social sustainability. To achieve the city of the future there should be space for pedestrians, cyclists, and greenery. Space for pedestrians and cyclists is important since these are non-emitting modes of transport which is better for the air quality of a city and for the health of its citizens (Vardoulakis et al., 2017). Greenery is important because it increases the water storage in cities (Claessens et al., 2014), reduces noise pollution (Kropp et al., 2016), increases mental well-being (Andreucci et al., 2019), and lessens the urban heat island effect (Chàfer et al., 2020). On top of that, it increases the attractiveness of public space (Kellert & Wilson, 2013). In addition, Gehl (2010) created design quality standards concerning the pedestrian landscape (Figure 1). In order of importance, protection, comfort and delight are defined as the headings of the quality standards.

Protection	<p><b>PROTECTION AGAINST TRAFFIC AND ACCIDENTS — FEELING SAFE</b></p> <ul style="list-style-type: none"> <li>Protection for pedestrians</li> <li>Eliminating fear of traffic</li> </ul> 	<p><b>PROTECTION AGAINST CRIME AND VIOLENCE — FEELING SECURE</b></p> <ul style="list-style-type: none"> <li>Lively public realm</li> <li>Eyes on the street</li> <li>Overlapping functions day and night</li> <li>Good lighting</li> </ul> 	<p><b>PROTECTION AGAINST UNPLEASANT SENSORY EXPERIENCES</b></p> <ul style="list-style-type: none"> <li>Wind</li> <li>Rain/snow</li> <li>Cold/heat</li> <li>Pollution</li> <li>Dust, noise, glare</li> </ul> 
Comfort	<p><b>OPPORTUNITIES TO WALK</b></p> <ul style="list-style-type: none"> <li>Room for walking</li> <li>No obstacles</li> <li>Good surfaces</li> <li>Accessibility for everyone</li> <li>Interesting façades</li> </ul> 	<p><b>OPPORTUNITIES TO STAND/STAY</b></p> <ul style="list-style-type: none"> <li>Edge effect/ attractive zones for standing/staying</li> <li>Supports for standing</li> </ul> 	<p><b>OPPORTUNITIES TO SIT</b></p> <ul style="list-style-type: none"> <li>Zones for sitting</li> <li>Utilizing advantages: view, sun, people</li> <li>Good places to sit</li> <li>Benches for resting</li> </ul> 
	<p><b>OPPORTUNITIES TO SEE</b></p> <ul style="list-style-type: none"> <li>Reasonable viewing distances</li> <li>Unhindered sightlines</li> <li>Interesting views</li> <li>Lighting (when dark)</li> </ul> 	<p><b>OPPORTUNITIES TO TALK AND LISTEN</b></p> <ul style="list-style-type: none"> <li>Low noise levels</li> <li>Street furniture that provides "talkscapes"</li> </ul> 	<p><b>OPPORTUNITIES FOR PLAY AND EXERCISE</b></p> <ul style="list-style-type: none"> <li>Invitations for creativity, physical activity, exercise and play</li> <li>By day and night</li> <li>In summer and winter</li> </ul> 
Delight	<p><b>SCALE</b></p> <ul style="list-style-type: none"> <li>Buildings and spaces designed to human scale</li> </ul> 	<p><b>OPPORTUNITIES TO ENJOY THE POSITIVE ASPECTS OF CLIMATE</b></p> <ul style="list-style-type: none"> <li>Sun/shade</li> <li>Heat/coolness</li> <li>Breeze</li> </ul> 	<p><b>POSITIVE SENSORY EXPERIENCES</b></p> <ul style="list-style-type: none"> <li>Good design and detailing</li> <li>Good materials</li> <li>Fine views</li> <li>Trees, plants, water</li> </ul> 

Figure 1 Design quality standards (Gehl, 2010).

Thus, this research will use Gehl's concept of Cities for People that includes space for pedestrians, cyclists, and greenery, as a goal which creates qualitative urban public space. In order to achieve this goal, this research investigates one substantive and one procedural policy instrument. According to Howlett and Mukherjee (2018), substantive policy instruments are "those that are aimed at the delivery of certain goods and services to society" (2018, p.80). In this research, the ZEZ will take the place of the substantive instrument, since it delivers the service of ZEZ to society. Procedural policy instruments are "those that govern state-society relations and affect the support for and participation of actors in government initiatives" (Howlett and Mukherjee, 2018, p.80). An example of a procedural policy instrument would be an advisory body or a stakeholder participation process. In this research, Futurings will be the procedural instrument, since Futuring could be a form of residents participation and connects these stakeholders to the government.

## **2.2 Zero Emission Zones; a Substantive Policy Instrument**

As stated earlier, ZEZ have been used in government policy documents, but not yet in scientific literature. This research approaches ZEZ as a combination of the following two definitions. According to Mudway et al. (2019), low emission zones operate to restrict some of the most polluting motorized vehicles from entering a specific urban area. According to Quak et al. (2016) zero emission vehicles are used to reduce the negative effects of urban transport while keeping the efficiency of urban freight transport. In order to define ZEZ for this research, Mudway's and Quak's definitions are combined. Therefore, this research will define ZEZ as areas in inner cities where only vehicles that reduce the negative aspects of urban transport are allowed. These negative aspects of urban transport include a reduction of air quality due to carbon emissions and public space reduction. This public space reduction occurs as a consequence of the reduced traffic flow when delivery vans park in front of e.g. stores to deliver goods. Additionally, public space is reduced due to the fact that parking spaces and driving lanes are needed for urban traffic (Niels et al., 2018). With less urban traffic, more urban space can be used for different means.

## **2.3 Futuring; a Procedural Policy Instrument**

When initiating a big spatial change such as described above, extra tools can come in handy. In order to contribute to long-term urban planning, the concept of Futuring can be used. Futuring entails sketching possible futures to make plans more concrete and enlarge the support base. This process is used to broaden agenda-setting by identifying these alternative futures. According to Gudowsky et al. (2017), participatory foresight studies can make use of Futuring. It is described as an often visual representation of opinions of citizens or experts. Futuring can create ownership, empowerment, capacity building, accountability, and it can mobilize stakeholders. Wiek & Iwaniec (2014) use the term visioning, instead of futuring, but give the same definition for visioning as Gudowsky et al. (2017) do. Wiek & Iwaniec (2014) state that visioning about a society's future can be an important catalyst for change. They define visioning as identifying a "desirable state in the future" (2013, p.500). These thoughts of utopian visions can provide direction and long-term goals.

Wiek & Iwaniec (2014) also provide a framework on how to properly create visions. Qualitative visions need to be visionary, sustainable, systemic, coherent, plausible, tangible, relevant, nuanced, motivational and shared. In Table 2 below, the key features of each criterion are stated. Applied to this research, Futuring can get more people on board when transforming an inner city. This framework will provide a guide in designing the futures for this research.

Quality Criterion	Key Feature
visionary	Desirable future state; with elements of (aspirational) surprise, utopian thought, far-sightedness, and holistic perspective
sustainable	In compliance with sustainability principles; featuring radically transformed structures and processes
systemic	Holistic representation; linkages between vision elements; complex structure
coherent	Composed of compatible goals (free of irreconcilable contradictions)
plausible	Evidence-based—informed by empirical examples, theoretical models, and pilot projects
tangible	Composed of clearly articulated and detailed goals
relevant	Composed of salient goals that focus on people, their roles, and responsibilities
nuanced	Detailed priorities (desirability)
motivational	Inspire and motivate towards the envisioned change
shared	Display a critical degree of convergence, agreement, and support by relevant stakeholders

Table 2 Quality criteria and their key features by Wiek & Iwaniec (2014, p.500).

## 2.4 Conceptual Model

As can be seen in the conceptual model in Figure 2 and according to the literature, ZEZ can increase the public space and the air quality. In this new space, design quality standards are 'protection', 'comfort' and 'delight' which might influence the transformation towards a CfP. This could be seen as a substantive policy instrument. Futurings could be seen as a procedural policy instrument and could engage stakeholders and catalyze change. Both ZEZ and Futuring could be seen as tools towards a CfP. The conceptual model will be used to represent the abstract relationships between these concepts and will guide this research.

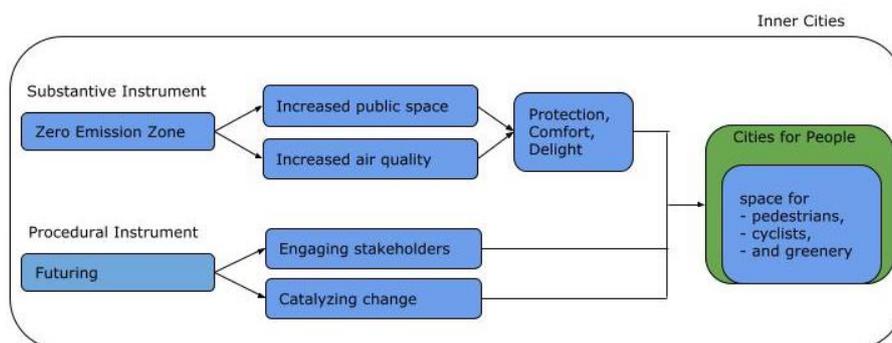


Figure 2 Conceptual model on the transformation into a CfP and the influence of a ZEZ and Futuring on that transformation.

## 3. Methodology

This research has made use of a combination of methods, which is called mixed methods and makes research more reliable and will strengthen the validity of the outcomes (Clifford et al., 2016). To keep a good structure, Figure 3 shows how this research was divided into four phases. The research has started with an academic literature review (phase 1), followed by a policy document review (phase 2). Interviews have been held with experts (phase 3A) after which, according to the gained knowledge, Futurings have been made (phase 3B). These Futurings are used for surveys conducted at residents (phase 4). Appendix 7 shows the timeline of this research.

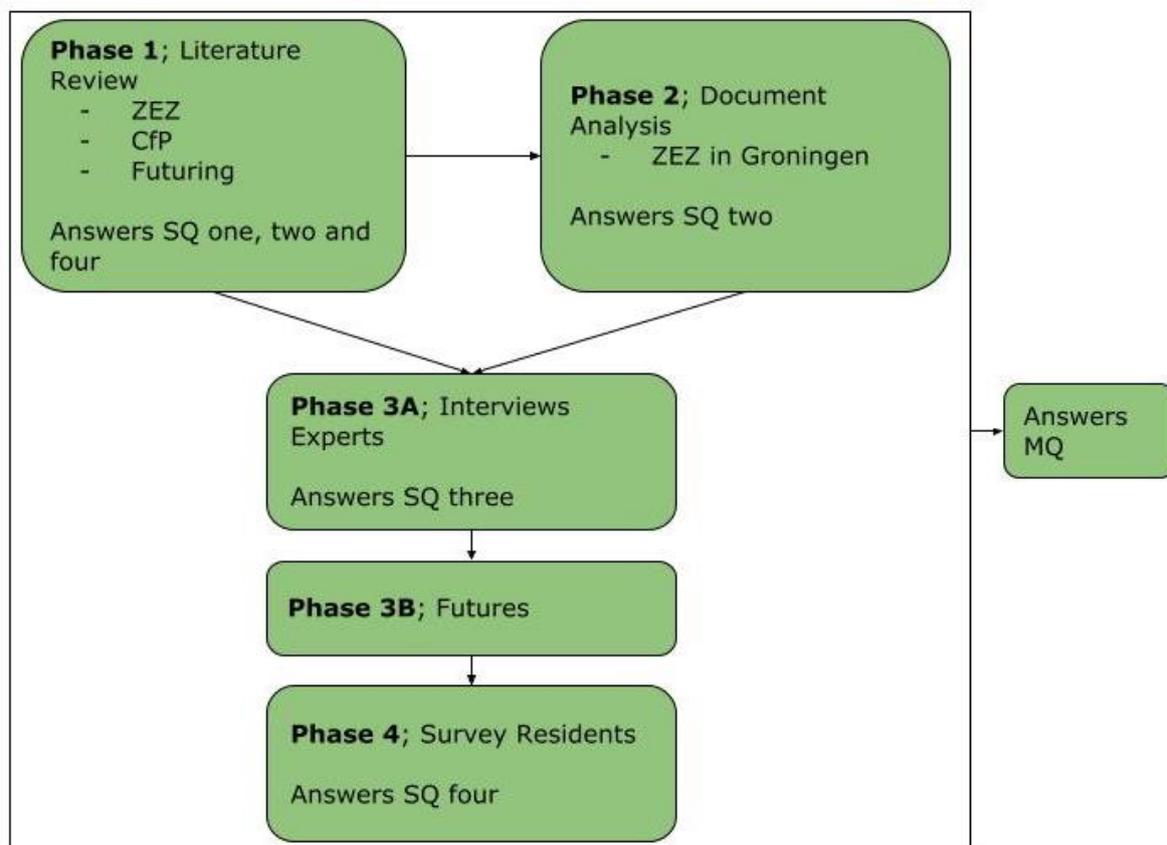


Figure 3 Structure of this research, divided into four phases.

### 3.1 Phase 1

Phase 1 is the literature review, where the key concepts of this research are defined and the theoretical framework has created a clear focus based on those concepts. The key concepts are Zero Emission Zones, Cities for People, and Futuring. The literature has been collected via SmartCat and Google Scholar and the articles have been selected on several criteria. First of all, the geographical location was important. Where the articles with case studies outside of Europe were less often chosen for this thesis, the articles with Dutch cases were chosen the most, so that it best represented Groningen. Also the year of publication was important; closer to 2021 was more often used for this research. Keywords to find

the articles included "city building", "zero emission", "urban transport", "greenery", "sustainability", "human-centered cities" and "car-centered cities". This literature review has provided the opportunity to test the research results to the existing literature (Clifford et al., 2016) by comparing the outcomes of both sources. In Figure 4, the analysis scheme is added.

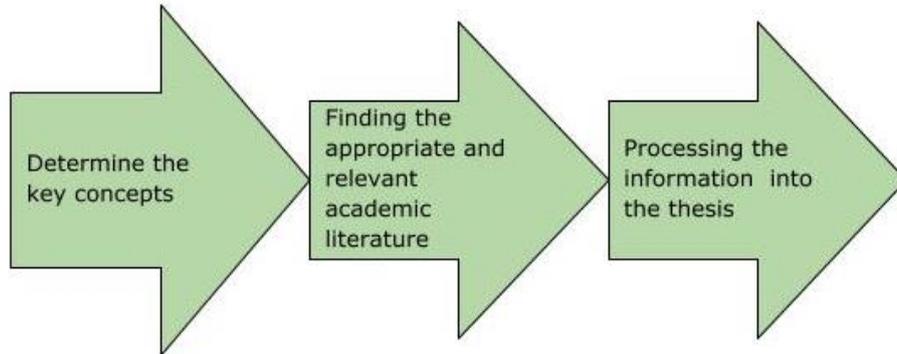


Figure 4 Analysis scheme of phase 1.

### 3.2 Phase 2

Phase 2 is the document analysis. In phase 2, the gained knowledge from phase 1 has been used in the context of the inner city of Groningen, where a ZEZ is planned for 2025. The document 'Ruimte voor zero-emissie stadslogistiek' (gemeente Groningen, 2021) has been analyzed.

#### 3.2.1 Analyzing Tool

The findings of this document analysis has been transferred into tables as can be seen in the example in table 3.

Document 1: '...'		
Page	Quote	Information
1	This is ... an example.	The information in this table is meant as an example.

Table 3 Example of the document analysis.

The analysis scheme (Figure 5) shows that the first step is to find the appropriate and relevant policy document. Afterwards, putting the information in the table and transferring the gained information into written text is needed. Finally, the data needs to be processed into the thesis.

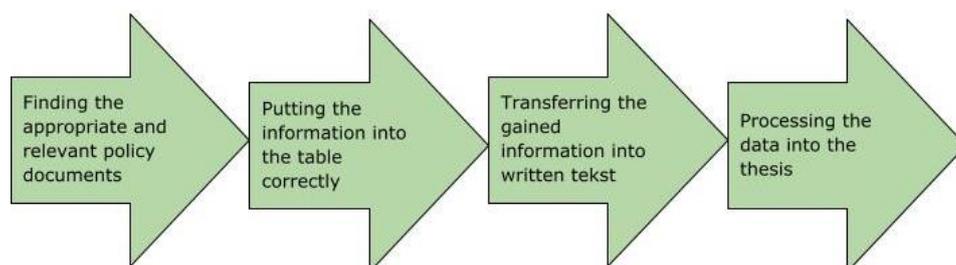


Figure 5 Analyzing scheme of phase 2.

### 3.3 Phase 3A

In phase 3A the interviews with the experts have been conducted as a means for primary data collection. When thinking about transforming the city center of Groningen, asking experts in the field of planning that have an affinity with Groningen center is preferred. These experts can look beyond the current situation in the city center. Their knowledge is built over the years as well as their expertise. Also, they might already have ideas on how to change the inner city of Groningen. These interviews have been in the form of in-depth semi-structured interviews. This form of interviewing enables a structured interview with a predetermined interview guide but leaves space open for discussing topics that arise during the interview (Clifford et al., 2016). This is important for this research, because of the fact that my knowledge only spreads as far as the literature and experts have practical, maybe different knowledge. Before the start of the interview, the interviewee has been asked to fill in the consent form (appendix 1). The interview has been divided into four blocks (Table 4). The interview guide can be found in appendix 2.

Block ..	Information
Block 1	In block one, the introducing questions have been asked. Information to identify the interviewee and their job as well as to identify their field of expertise are asked. The introductory questions are also meant to make sure that the interviewee feels at ease.
Block 2	In block two, questions have been asked about the current situation of the public space in the inner city of Groningen.
Block 3	In block three, the interviewee is asked to describe what he or she thinks the indirect impacts of the implementation of the ZEZ are.
Block 4	In block four, the interviewee is asked to describe what he or she thinks the inner city of Groningen would look like if it was a CfP.
Block 5	Block five states the concluding questions. The interviewee is asked if there is anything that he or she still wants to mention and if everything is discussed.

*Table 4 The structure of the experts interviews.*

#### 3.3.1 Recruiting Interviewees

The aim was to conduct two interviews in order to hear different aspects on the same topic. The interviewees have been selected according to their field of expertise and their current job. This is called criterion sampling and is used to select the cases with the most valuable information (Suri, 2011). This research aimed to interview one person with a background in policymaking and one with knowledge of urban planning and/or landscape architecture. A person with a background in policymaking is relevant because urban change often starts with policy. On the other hand, the more practical, visual part of urban change can be covered by an urban planner or landscape architect. Both persons should work in or around the city of Groningen so that their expertise can be more easily applied to the area. The candidates have been contacted via email, telephone, or LinkedIn.

### 3.3.2 Analyzing Tool

First of all, the interview guide and the consent form have been finalized. After the interviews were conducted, they have been transcribed. Fourthly, they have been put into Word and analyzed through coding, according to the coding-tree in appendix 3. After that, the information has been both transferred to written text and to a Futuring. The written text has been processed into the thesis as it is used to analyze the effect of ZEZ on the transformation towards a CfP. The Futuring has taken its place in phase 4 (Figure 6).

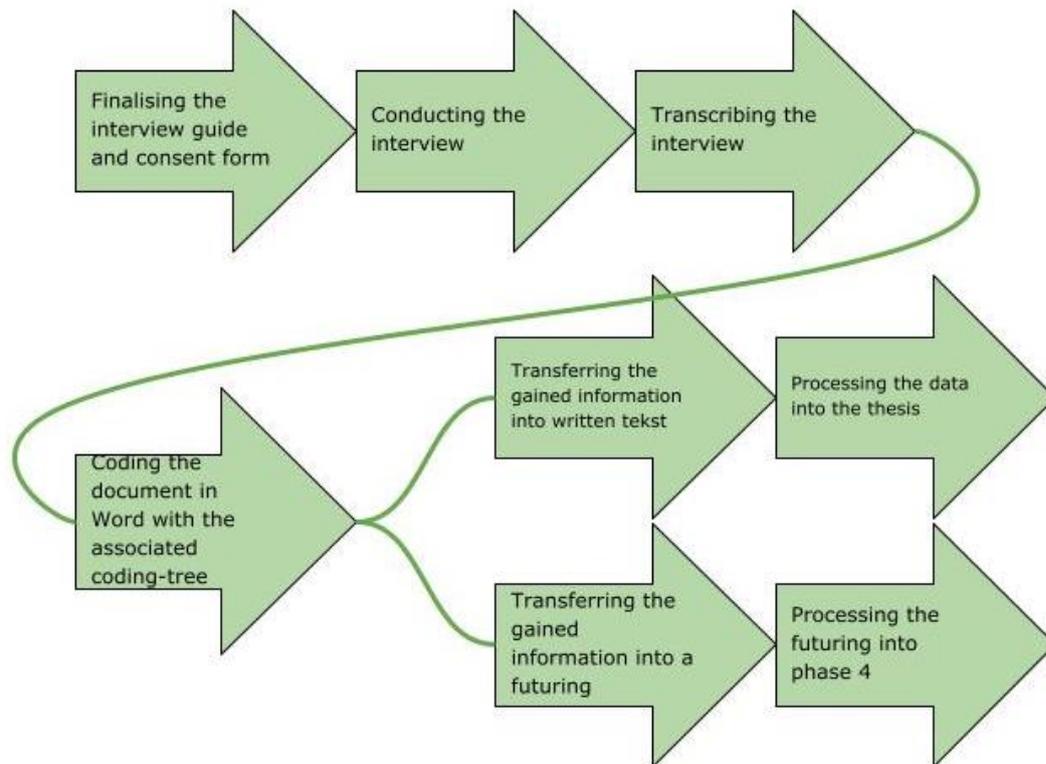


Figure 6 Analyzing scheme of phase 3A.

### 3.4 Phase 3B

Phase 3B includes the making of the Futuring with the gained information from phase 3A, where experts were interviewed. Pictures from the current inner city of Groningen were made, after which they have been altered through photoshop (Figure 7) in a way that it presents elements that would be present if Groningen was a CfP (Figure 8). The framework developed by Wiek & Iwaniec (2014) was consulted during the making of the Futurings.



Figure 7 Current situation in the OS and the Futuring made from the picture.

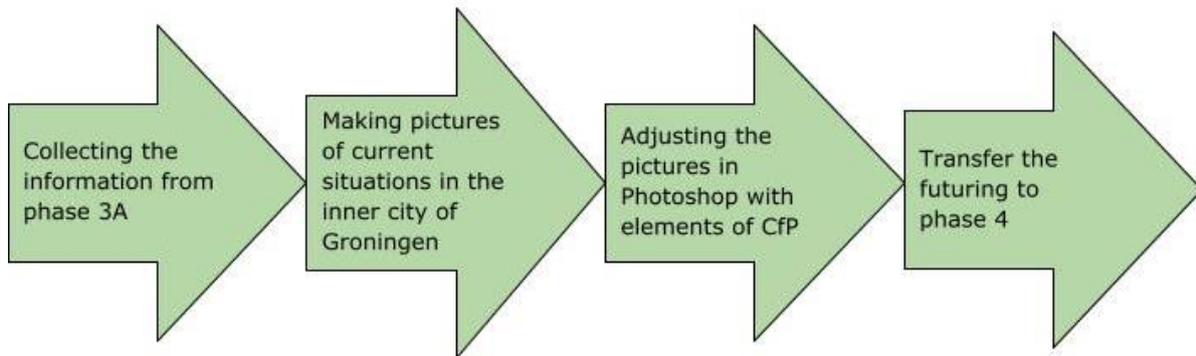


Figure 8 Analyzing scheme of phase 3B.

### 3.5 Phase 4

In phase 4, the Futurings made in phase 3B were showed to residents through a survey. Because taking the entire inner city of Groningen as a case study takes too much time, this research has been focusing on three streets that represent the inner city. These streets are the Oude Kijk in het Jatstraat (OKJ), the Oosterstraat (OS) and the Gedempte Zuiderdiep (GZ). The GZ can be characterized by its bus lanes, its wide sidewalks, and the combination of retail and catering industry, big and small. The OKJ can be characterized by its narrow street, small businesses, and liveliness. The OS is as narrow as the OKJ but also has busses driving through it. The OS also has a variety of retail and catering businesses (Figure 9). The three streets together represent the inner city of Groningen with all its diversity.



Figure 9 The OKJ (purple), OS (yellow) and GZ (red) and their current situation.

The survey has had four blocks of questioning (Table 5). The full survey can be found in appendix 4.

Block ..	Information
Block 1	In block one, the introductory questions have been asked. Information to identify the resident’s street, while preserving their privacy, is asked. The introductory questions are also meant to make sure that the interviewee feels at ease.

Block 2	Block two was to ask the residents about the current state of the street.
Block 3	In block three, the Futuring was shown, and the resident is asked to indicate whether they would support the change or not.
Block 4	Block four states the concluding questions. The interviewee is asked if there is anything that he or she still wants to mention and if there are questions still unanswered.

Table 5 Structure of the survey.

### 3.5.1 Spreading the Survey

The aim was to reach a minimum of ten residents per street to get a good diversity of insights. This goal was reached when 36 responses were documented. This research was interested in the individual reactions of the residents and would like to know what the Futurings do with their willingness to take action. This is therefore not bound to the streets they live in. The survey did, however, ask for their street in order to show the corresponding Futuring and make it more personal. Because of the current corona crisis, human contact has to be minimized, which is why the survey needs to be filled in online. A flyer has been delivered at every house in the named streets. This flyer can be found in appendix 5.

### 3.5.2 Analyzing Tool

After the surveys were spread and the information was known, the answers have been analyzed through descriptive statistics. Finally, the results have been processed into the thesis (Figure 10).

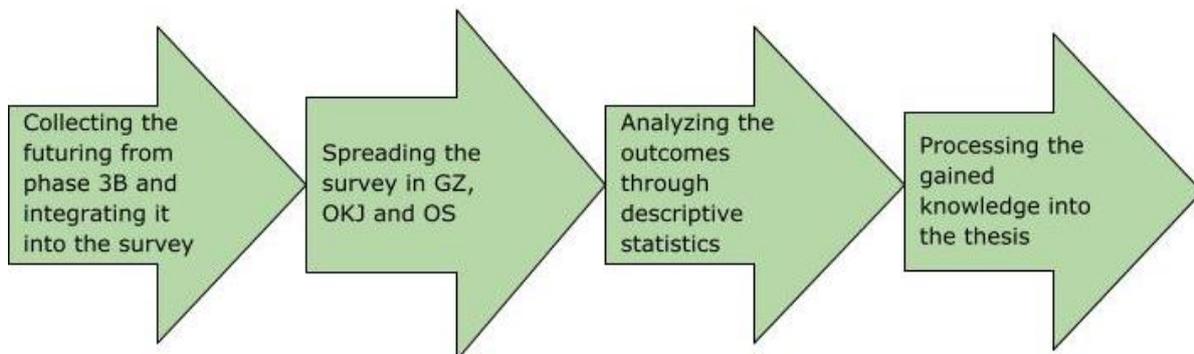


Figure 10 Analyzing scheme of phase 4.

## 3.6 Ethical Considerations

It is important to be fully transparent about the methodology, the data, and the analysis. At the beginning of both the interview and the survey, privacy and consent are stated. Before conducting the interviews, the interviewees had to sign a consent form (appendix 1) in which they agree to the privacy statements and in which they could find their rights. The interviewer will not influence, nor turn the answers given during the interview and thus will ask open-end questions. The interviewer will be emotionally distant from the subject discussed and will make sure the interviewee feels free to speak their mind (Clifford et al., 2010). Above the survey for the residents, the following is stated. "All your answers will remain anonymous and will be deleted upon completion of the research. If you have any questions, please email c.s.breunis@student.rug.nl" (appendix 4).

# 4. Results

In this chapter, the results will be shown. The results are based on the document analysis, the interviews, and the survey. The chapter will be structured according to the sub questions (chapter 1). For sub question one, the answer can be found in the theoretical framework (chapter 2) and will thus not be discussed in this chapter.

## 4.1 ZEZ in Groningen

Sub question two reads as follows: 'What are Zero Emission Zones and how can they help to transform inner cities towards Cities for People?' This question is partly answered by the literature review which can be found in the theoretical framework and is partly answered by the document analysis (appendix 6).

### 4.1.1 Deepening the Definition of ZEZ

The document analysis of 'Ruimte voor zero-emissie stadslogistiek' (gemeente Groningen, 2021) gives information about what a ZEZ is when applied to the Groningen city center. Firstly, the exact geographical boundaries of the ZEZ in Groningen are mentioned (Figure 11). Additionally, the term city logistics is described as the movement of freight transport within the city borders. Thus, this document analysis deepens the definition of ZEZ by placing it into the specific urban area of Groningen. This area is the same for both the ZEZ and the window times<sup>1</sup>. Expanding the window times is necessary because the use of the inner city is changing from shopping only to also meeting and interacting.



Voorstel voor venstertijdengebied (2022) en zero emissie zone (2025).

Figure 11 The geographical boundaries of the ZEZ in Groningen city center (gemeente Groningen, 2021).

---

<sup>1</sup> A window time is defined as 'freight and delivery vans are only allowed on specific streets between a specific time frame. An exemption is required outside these times' (gemeente Groningen, 2021). From 2022 onwards, the loading and unloading can only be done between 05.00 and 12.00. From 2025 onwards, the loading and unloading can only be done in the same time frame but with a zero emission vehicle.

### 4.1.2 The Goal of the ZEZ in Groningen

Through the ZEZ, Groningen aims to save one megaton CO<sub>2</sub> per year. Both the literature (Quak et al., 2016) and this document confirm the expected positive reaction on the air quality of the implementation of the ZEZ. However, the main goal of the municipality of Groningen is *to give space to cyclists and pedestrians in a clean city*. The coalition agreement of the municipality 'Gezond, Groen, Gelukkig Groningen' (Healthy, Green, Happy Groningen) states that *regaining the public space and giving pedestrians space* is the goal. The ZEZ is one of the more than fifty projects of 'Binnenstad 050 – Ruimte voor jou' in which they aim to achieve this *human-focused city*. Altogether, the document discusses regaining the public space of the city center of Groningen through implementing the ZEZ. The literature states that implementing a ZEZ can provide extra space (Niels et al, 2018) and defends the desirability of a CfP (Gehl, 2010). Thus, the literature and the document both agree that through the implementation of a ZEZ, the public space of the inner city of Groningen is a step closer in the transformation to a CfP.

Table 6 shows the expected outcomes of the implementation of the ZEZ, as they are mentioned above. Additionally, the characteristics of a CfP (Gehl, 2010) are linked to them and the overlap between them is explained.

Expected outcome of ZEZ	Condition for CfP (Gehl, 2010)	Overlap
Give space to cyclists and pedestrians	Safe city	By prioritizing slow modes of transport, safety increases
A clean city	Healthy city	Good air quality is healthier for citizens
Regaining the public space	Lively city	Using public space for people, instead of cars, requires human interaction
Human-focused city	Sustainable city	Social sustainability increases when people can stay in a place and are able to talk and interact

Table 6 The connection between the expected outcomes of the implementation of a ZEZ and the conditions of a CfP.

## 4.2 Groningen as a CfP

Sub question three is as follows: 'How can the implementation of the Zero Emission Zone in the inner city of Groningen cater the transformation towards Cities for People?'

### 4.2.1 Elements Belonging to a CfP

In phase 3A, two in-depth semi-structured interviews with experts were conducted. The interview guide can be found in appendix 2. The interviewees' suggestions for Groningen as a CfP are structured according to the headings of the design quality standards by Gehl (2010).

#### Protection

First of all, interviewee one (I1) suggested that everything should be organized on one level, with which I1 meant that the street level should be the same as the pedestrian area. Consequently, the space can be used more freely (I1).

Additionally, both I1 and Interviewee 2 (I2) mentioned that asphalt does not belong in Groningen as a CfP because it suggests the singular use of motorized vehicles. The commonly used yellow stones in Groningen suggest a shared space and increase its flexible use. This also means that Groningen should not have demarcated bus lanes. Both I1 and I2 compare this sort of road with a shared space, although I1 would still prefer a loosely defined place for cyclists on the road for the safety of both the pedestrians and the cyclists. I1 stated that demarcated parking spaces for bikes are necessary because of the biking problem in Groningen (DVHN, 2020).

This information is adding to the design quality standards by Gehl (2010) by adding the notion of same-level streets. Additionally, the suggestion of shared space and a separate bike lane are new.

### Comfort

Secondly, I2 stated that the inner city of Groningen could use more space for fun. According to I2, in a CfP with nature in the streets children are given more freedom to play with urban nature instead of playing with singular use playing objects like seesaws. Although the 9<sup>th</sup> quality standard of Gehl (2010) does discuss opportunities for play and exercise, mentioning children is new. Lastly, non-commercial seating is mentioned by both I1 and I2. Benches or flowerpots for sitting and places to not only transfer through but spend time in are needed. People need to be able to sit without spending money because it is more inclusive towards different incomes (I2). This is in agreement with the 6<sup>th</sup> and 8<sup>th</sup> quality standards from Gehl (2010) that describes opportunities to sit, talk and listen.

### Delight

Thirdly, additional greenery is wanted by both I1 and I2. Although planting trees is often not possible due to the infrastructure in the ground, plants and planters can be realized more easily (I1). I2 mentioned that more integration of nature into the city center would be valuable. Greenery also creates shade, which is important according to I1 and the 11<sup>th</sup> quality standard of Gehl (2010), opportunities to enjoy the positive aspects of climate. Also, awnings could help to create shade (I1).

## 4.3 The Impact of Futurings

Sub question four is: 'What is the potential role of Futuring in this transformation?' The full survey can be found in appendix 4. This survey can give an understanding of whether and how futuring has an impact on the willingness of residents to support spatial change.

### 4.3.1 Futurings and Spatial Change

From the three hundred flyers that were put in mailboxes from residents in the OKJ, the OS, and the GZ, 36 responses were collected. The OKJ resulted in 11 respondents, the OS in 12 respondents and the GZ in 13 respondents.

Figure 12 shows the answers to the second question ("Which of the following elements of your street would you like to see gone or less?"). 17 respondents would like the lane for cars to be removed from their street, making 30% of the 36 respondents. This corresponds with the experts' idea to create one-level streets without a designated space for cars. 19% would like to see the parking spaces for

cars be removed and 16% does not like parking spaces for bikes. This is in conflict with what the experts think about parking spaces for bikes. I1 suggested that defined parking spaces for bikes are a necessity. From the 12 people who responded with 'different', five responded with 'nothing'. Some other answers were 'smaller trucks for loading and unloading' and 'bus lane'. These answers are relevant, since they correspond with the plans of the municipality for smaller delivery vans and with the plans of both experts to reduce the number of bus lanes in the city of Groningen. The literature (Gehl, 2010) states that cars should indeed have less priority in cities. However, Gehl (2010) does state that facilities for cycling and public transport are important and should be implemented, which is in conflict with the wishes of the residents.

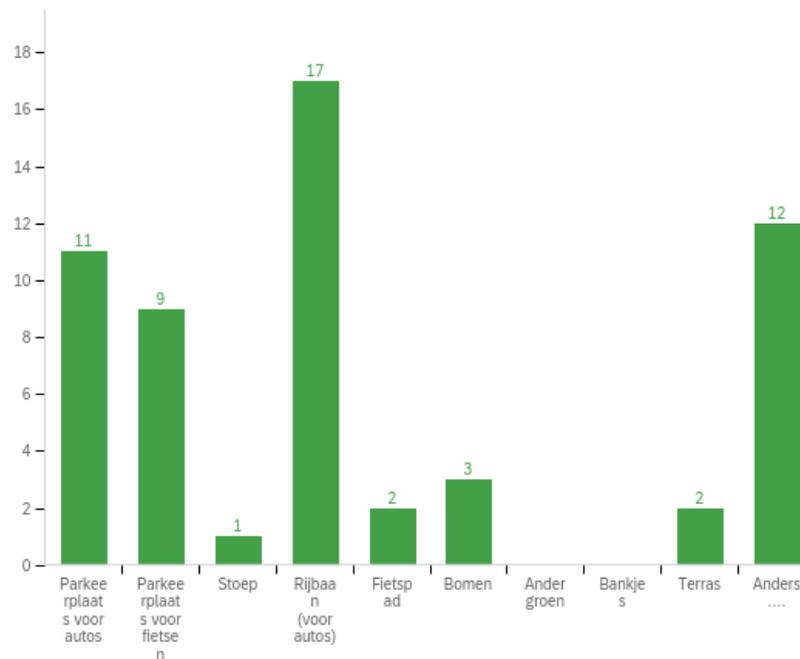


Figure 12 What people want to see less in their streets.

In question three ("Which of the following elements of your street would you like to see more of, or are missing right now?"), alternative green was most chosen with 28 respondents (23%) that wanted to see more green other than trees in their street. This corresponds with the experts' wishes and with the literature. Both the options 'trees' and 'benches' were checked 24 times and 'terrasses' were checked by 14 respondents (Figure 13). Although literature (Gehl, 2010) advocates for a busy and lively atmosphere in cities, 12 states that too much commercial seating (terrasses) will segregate residents and visitors in terms of wealth.

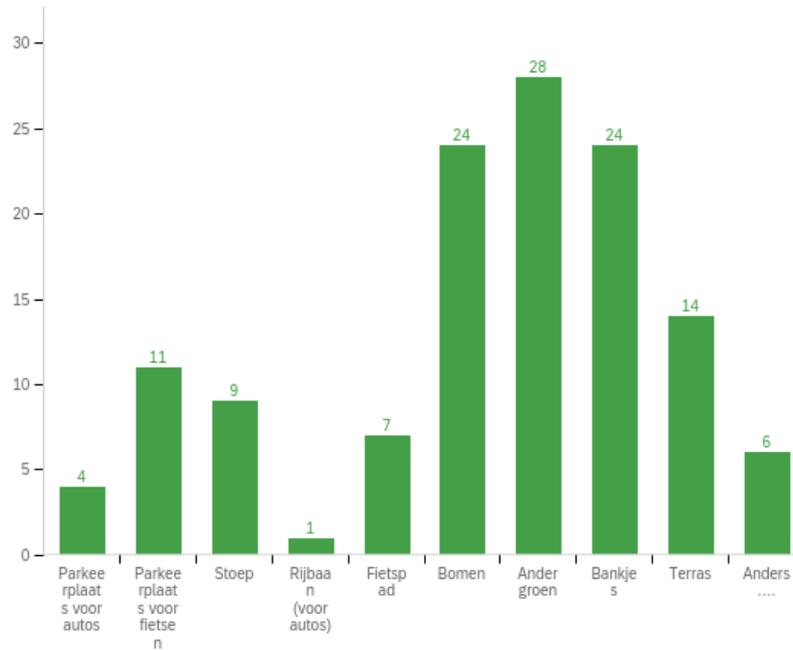


Figure 13 What people want to see more in their streets.

Then, the Futurings were shown to the corresponding respondent. For example, a person who said to work or live at the GZ saw the Futuring of the GZ. One was made for the OKJ (Figure 14), one for the OS (Figure 15) and one for the GZ (figure 16). The framework made by Wiek & Iwaniec (2014) was used as a guideline during the making of the Futurings (Table 7).



Figure 14 Futuring of the OKJ.



Figure 15 Futuring of the OS.



Figure 16 Futuring of the GZ.

Quality Criteria	How it was used to make the Futurings
Visionary	Overlapping points with the utopian idea of Gehl (2010). Holistic perspective in the combination of these elements.
Sustainable	Both the priority for slow modes of transport as well as the added urban green show sustainable principles.
Systemic	The elements are not just put together, but are presented as a new complete design in which the elements complement each other.
Coherent	The Futures are presented as a whole, without contradictions.
Plausible	The Futures are primarily based on the experts interviews. Literature played a role in the design of the interviews.
Tangible	The elements are clearly visible.
Relevant	The elements are showed together with the people that are using these elements.

Nuanced	Priorities came forward through the interviews with experts and were translated into the Futurings.
Motivational	The Futurings look attractive and inviting.
Shared	The Futurings are based on the support of expert in the field of spatial planning.

Table 7 How the quality standards of Wiek & Iwaniec (2014) were used as a guideline to create the Futurings.

The respondents were asked if they would support the plans/developments if their street would look like the pictures of the Futurings. In figures Figure 17, | Figure 18 and Figure 19, the reactions are displayed. The number of people that would support the changes range from 45% at the OKJ until 58% at the GZ.

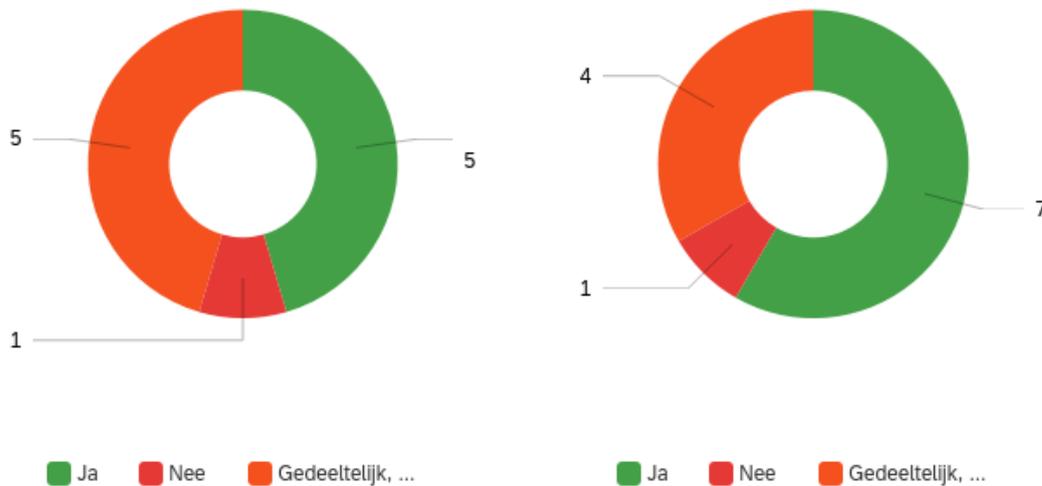


Figure 17 Support for change in the OKJ. | Figure 18 Support for change in the OS.

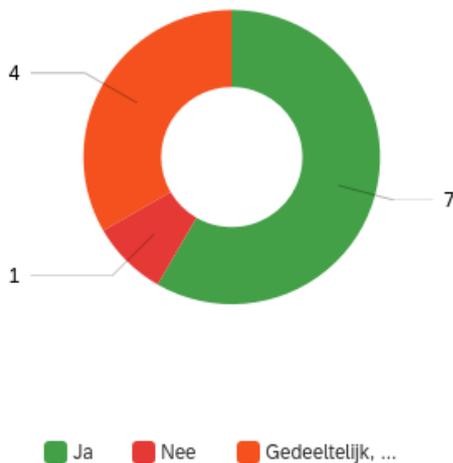


Figure 19 Support for change in the GZ.

When looking at the reactions to the Futurings of individual respondents, a few things stand out.

Firstly, it could be expected that people who check few boxes in the questions 'What would you like to see more/less in your street' do not want to change much to their environment. Consequently, it would be expected that they would not support the Futuring that was shown to them as it shows much change. However, in seven cases where four or less boxes were checked, respondents were still willing to support the

proposed spatial change. Moreover, in four of these seven cases, the changes that were supported were contradictory to the Futuring that they wanted to support. Both respondents 12 and 19 wanted to see less parking spaces for cyclists, but the Futuring specifically showed a parking space for cyclists. Additionally, respondents 6 and 10's answer on what they wanted to see less in their street was 'nothing'. Contradictory, they did support the Futurings in which a few elements that are currently in the street were gone. This could be an indication that Futurings could be able to broaden agenda-setting and increase the support base. This outcome is

in line with Gudowsky et al. (2017) and Wiek & Iwaniec (2014) who show that Futuring can have a potential catalyzing effect on spatial change.

Secondly, it stands out that 14 respondents would like to see more terraces in their street. In the book of Gehl (2010), terraces are mentioned as a means for a lively city. The experts, however, suggested that commercial seating is not part of Groningen as a CfP so it does not appear on the Futurings. The same is true for the element 'trees', since the policy makers state that the infrastructure underground does not allow trees with big roots. However, the residents do indicate this as an element that they would like to see more of (24 times). This shows a friction between policy makers and residents.

## 5. Conclusion

In this research, the main question was: "What is the effect of the implementation of a Zero Emission Zone on the transformation towards Cities for People on street-level and how can Futuring help this process?" The topic of CfP is important in response to car-centered cities. Implementing ZEZ is a form of a substantive policy instrument and this research shows how ZEZ could influence the transformation toward this CfP. Additionally, this research has hinted on the possible effect of the use of Futurings as a procedural policy instrument that might have a catalyzing role in spatial change.

In this research, a ZEZ is defined as areas in inner cities where only vehicles that reduce the negative aspects of urban transport are allowed. According to the literature, the implementation of a ZEZ can have the effect of opening up space in inner cities (Niels et al., 2018). In Groningen, a ZEZ is planned for 2025 (gemeente Groningen, 2021). The goal of the municipality is to regain public space by giving priority to pedestrians, cyclists and greenery. In the book of Gehl (2010), this is overlapping with the description of CfP, namely a human-centered city. A ZEZ could potentially create space for pedestrians, cyclists and greenery and a CfP starts with those concepts. When asking experts in the field of planning on what Groningen would look like as a CfP, several elements were mentioned which were structured alongside the design quality standards of Gehl (2010): protection, comfort and delight. The experts added knowledge to the existing concept of CfP with, for example, the notion of playing children on the city streets. With this information, Futurings were made and residents from the OKJ, OS and GZ were asked to express their level of support for those plans. The literature states that Futurings can enlarge support bases, grow empowerment and ownership and can have a catalyzing effect on spatial change. The data showed that Futurings seem to broaden agenda-setting, although more extensive research is needed to confirm this. In addition, the data showed that there is friction between the vision of policy makers and residents regarding the specific elements that should be present in Groningen as a CfP. This could lead to difficulties in later stages of implementation.

Concluding, this study suggests that the expected effect of the implementation of a ZEZ in Groningen on the transformation towards a CfP is positive. The ZEZ can be used as a stepping stone or a substantive instrument to create the CfP, as some of the ideal outcomes of a ZEZ contribute to a CfP. Thus, some outcomes of a ZEZ overlap with some of the conditions of a CfP as can be seen in Figure 20. The literature suggests that creating Futurings to catalyze this transformation towards a CfP is effective. This study can be seen as an exploratory study for the effectiveness of Futuring, as further research is necessary to confirm these effects. The outcomes of this research can be used in city development processes where priorities need to be made between different forms of transport and the place these modes take in the city.

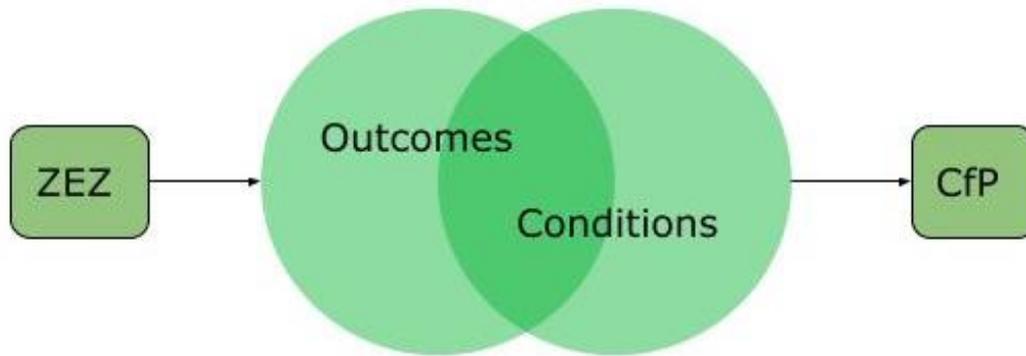


Figure 20 Illustration of the first conclusion; the potential outcomes of ZEZ overlap with the conditions of CfP.

## 5.1 Recommendations for City Planning

Since the results of this research, especially of the literature, are suggesting a positive influence of Futurings on spatial change, the recommendation is to use this tool more often. Ideally, a landscape architect can be utilized for these participation projects to create Futures. A landscape architect has the skills to digitally create landscapes such as the CfP out of pictures of the current city landscapes.

Moreover, the second recommendation is to integrate the theory of CfP into the policy plans of implementing ZEZ in cities. As stated before, cities such as Amsterdam and Rotterdam are in the process of implementing ZEZ, but only as a means to create clean air. This research suggests that especially in the transfer period into a ZEZ, the transformation towards a CfP could happen simultaneously due to the opportunities that a ZEZ creates for slower modes of transport such as pedestrians and cyclists.

## 6. Discussion

This research adds to the knowledge of CfP by combining the theory with the implementation of a ZEZ. In addition, this research creates further definition for ZEZ outside of its use in policy documents (gemeente Groningen, 2021; City of Amsterdam 2019; City of Rotterdam 2019). A scholarly definition has not yet been published. For Futuring, this research created a case study to identify its effectiveness for support base building in spatial change which adds to the current literature and knowledge.

### 6.1 Research Outcomes

The division of the main research question into different sub questions gave reason for a mixed methods approach. However, it should be noted that the generalization of findings into conclusions should always be done with caution. Additionally, this research predominantly took physical elements into account when discussing CfP. Yet, also societal elements are a part of the CfP, as was disclosed by the experts in phase 3A. Hence, they should be taken into account when making the Futurings. For example, the interviewees talked about inclusivity and flexibility in policies and policymaking. Therefore, it should be noted that the outcomes are not complete. In addition, the survey asked what residents wanted to see more and less of in their street. The elements that were given as an option could have more relation to literature or to the experts' interviews. However, this was not the case so the outcomes of those questions cannot be seamlessly connected to the follow-up question where Groningen as a CfP was shown. Therefore, it could be argued that some parts of the conclusion are not based on the correct arguments.

### 6.2 Research Process

In hindsight, I think the process of this research was successful. The methodology was divided into phases and every phase was dependent on the previous phase, which was challenging. Only at phase 3A, I experienced some delay as the interviewees were sometimes difficult to reach. However, I did not stop working during this period of delay, but corrected previous work and started with the next steps wherever possible. Additionally, I expected the current covid-19 crisis and measures to raise problems, but due to some small adjustments it did not become a problem. I did alter phase 4 a little bit due to the corona measures. Instead of personally asking the residents some questions, I decided to start with the flyer and see how many responses I would get without any personal contact. Since this turned out to be enough, I decided to not go by the houses personally anymore. The different methods used in the research complemented each other smoothly.

However, I did not ask the residents in the survey to identify themselves enough. The survey did ask for their street, but not their age, gender or profession. This could have helped to give the responses some context. Also concerning the survey, it should have contained a question about the willingness of the residents for spatial change, before showing the Futurings. This would have provided a baseline with which the influence of the Futuring on the choices of the residents could be compared.

Additionally, because I live in Groningen, a researcher Bias might have been present. I possibly have an opinion on how the public space in Groningen should look which could have influenced the process of this research by favoring some outcomes against others.

### 6.3 Future Research

Although this research has talked about the positive effects of implementing the ZEZ and the CfP, there could also be bottlenecks in this process. For example, slow modes of transport and a qualitative urban space are often associated with the compact city. However, the compact city is not always positive, as is described by De Roo & Miller (2020). Among other things, the dilemma of the compact city is investigated which argues that the environmental improvements of a compact city does not always increase the quality of life in cities. It can also have negative outcomes like environmental stress. Future research should be done to identify the most pressing bottlenecks in a city during the transformation towards a CfP, the implementation of a ZEZ, and the use of Futurings.

Additionally, it would be interesting to investigate what the use of individual elements in Futurings do to its effectiveness to catalyze spatial change. Does, for example, the use of greenery in the Futurings influence the willingness to support change more than benches do?

## 7. References

- Andreucci, M. B., Russo, A., Olszewska-Guizzo, A. (2019). Designing Urban Green Blue Infrastructure for Mental Health and Elderly Wellbeing. *Sustainability*. 11 (6425), 1-14
- Behrends, S. & Woxenius, J. & Lindholm, M. (2008). The Impact of Urban Freight Transport: A Definition of Sustainability from an Actor's Perspective. *Transportation Planning and Technology*, 31(6), 693-713.
- Chàfer, M., Pisello, A. L., Piselli, C., Cabeza, L. F. (2020). Greenery System for Cooling Down Outdoor Spaces: Results of an Experimental Study. *Sustainability*. 12 (5888), 1-12.
- City of Amsterdam (2019). *Clean Air Action Plan; emission free Amsterdam*. Amsterdam: City of Amsterdam.
- City of Rotterdam (2019). Roadmap ZECL; Moving towards a Zero Emission City Logistic). Rotterdam: City of Rotterdam.
- Claessens, J., Schram-Bijkerk, D., Dirven-van Breemen, L., Otte, P., Wijnen van, H. (2014). The soil-water system as basis for a climate proof and healthy urban environment: Opportunities identified in a Dutch case-study. *Science of the Total Environment*. 776-784
- Clifford, N., French, S., Valentine, G. (2016). Key methods in geography. Third edition, SAGE publications, London.
- De Roo, G. & Miller, D. (2020). *Compact Cities and Sustainable Urban Development A Critical Assessment of Policies and Plans from an International Perspective*. First edition, Routledge.
- DVHN (2020). Stukje bij beetje krijgt Groningen grip op fietsparkeren (en daar komt de lockdown niet slecht bij uit). Retrieved on the 3rd of may, 2021 from <https://www.dvhn.nl/groningen/Stukje-bij-beetje-krijgt-Groningen-grip-op-fietsparkeren-en-daar-komt-de-lockdown-niet-slecht-bij-uit-26311872.html>.
- Gehl, J. (2010). *Cities for People*. Washington: Island Press.
- Gehl, J. (2011). *Life Between Buildings: Using Public Space*. Washington: Island Press.
- Gemeente Groningen (2021). Ruimte voor zero-emissie stadslogistiek. Groningen: City of Groningen. Retrieved on the 3<sup>rd</sup> of April, 2021 from RuimteVoorJou-visiedocument-2021.pdf.
- Gudowsky, N., Sotoudeh, M., Capari, L., Wilfing, H. (2017). Transdisciplinary forward-looking agenda setting for age-friendly, human centered cities. *Futures*, 90, 16-30.

Howlett, M., Mukherjee, I. (Ed.) (2018). *Routledge Handbook of Policy Design*. 1<sup>st</sup> edition. New York: Routledge.

Kellert, S. R., Wilson, E. O. (2013). *The Biophilia Hypothesis*. First edition. Washington, DC: Island Press.

Klimaatakkoord (2019). *Nationaal Klimaatakkoord*. Den Haag: de Rijksoverheid.  
Kropp W., Forssén, J., Estévez Mauriz, L. (2016). The SONORUS Project. *Urban Sound Planning*. Chalmers University of Technology: Sweden.

Ministerie van IenW (2021). *Uitvoeringsagenda Stadslogistiek; Op weg naar zero-emissie*. Den Haag: Ministerie van IenW.

Mudway. I.S. et al. (2019). Impact of London's low emission zone on air quality and children's respiratory health: a sequential annual cross-sectional study. *Public Health*, 4, 28-40.

Niels, T., Hof, M.T., Bogenberger, K. (2018). Design and Operation of an Urban Electric Courier Cargo Bike System. *21st International Conference on Intelligent Transportation Systems (ITSC)*, 2531-2537.

Oxford City Council (2020). *Oxford Zero Emission Zone, Summary of January 2020 consultation results*. Retrieved on Mach 11th, 2021 from file:///C:/Users/Charlotte%20Breunis/Documents/uni%20year%204/THESIS/handige%20artikelen/oxford%20questionair%20before%20implementing%20ZEZ,%20about%20charging%20system.%20incl.%20suggestions%20-%20pedestrianizing.pdf.

Quak, H., Nesterova, N., Rooijen, van T., Dong, Y. (2016). Zero emission city logistics: current practices in freight electromobility and feasibility in the near future. *Transportation Research Procedia*, 14, 1506–1515.

RTVNoord, (2020). Woonlasten huurder in Groningen blijven op hetzelfde niveau. Retrieved on the 7th of may, 2021 from <https://www.rtvnoord.nl/nieuws/217742/Woonlasten-huurders-in-gemeente-Groningen-blijven-op-hetzelfde-niveau>'.

Ruparathna, R., Hewage, K., Sadiq, R. (2017). Rethinking investment planning and optimizing net zero emission buildings. *Clean Techn Environ Policy*, 19, 1711–1724.

Suri, H. (2011). 'Purposeful sampling in qualitative research synthesis', *Qualitative Research Journal*, 11 (2).

Vardoulakis, S., Kettle, R., Cosford, P., Lincoln, P., Holgate, S., Grigg, J., Kelly, F., Pencheon, D. (2018). Local action on outdoor air pollution to improve public health. *International Journal of Public Health*. 63, 557-565.

Wiek, A., Iwaniec, D. (2014). Quality criteria for visions and visioning in sustainability science. *Sustain Sci*, 9, 497–512.

# 8. Appendix

## 8.1 Appendix 1

### Consent Form

*Project:* Bachelor scriptie Spatial Planning and Design (Technische Planologie)  
Rijksuniversiteit Groningen

*Naam onderzoek:* "Transforming inner cities into a Cities for People after the implementation of a Zero Emission Zone, and how Futuring can catalyze this process"

*Auteur:* Charlotte Breunis

*Het doel van dit onderzoek is om de transformatie van steden naar een Stad voor Mensen te onderzoeken, en de invloed die de implementatie van een Zero Emission Zone heeft op die transformatie. Ook wordt de impact van Futuring als middel om stakeholders bij dit proces te betrekken onderzocht voor de context van de binnenstad van Groningen.*

Beste meneer/mevrouw,

Bedankt dat u mij wilt helpen bij mijn onderzoek naar de invloed van zero emissie zones op de transformatie van steden naar een Stad voor Mensen. Met deze brief zou ik u graag willen informeren over het verloop van het interview.

Wegens de huidige corona maatregelen zal het interview online plaatsvinden. Het interview zal ongeveer 30 minuten duren. Tijdens dit interview bent u vrij om op ieder gewenst moment te stoppen of om geen antwoord te geven op een vraag wanneer u dit niet wenst. Het interview zal deels een open structuur hebben, wat ervoor kan zorgen dat het iets uitloopt wanneer u extra uitleg wenst te geven bij een bepaalde vraag.

Het interview zal opgenomen worden, waardoor deze achteraf getranscribeerd en gecodeerd kan worden. Na afloop van het onderzoek zal de audio-opname en het getranscribeerde document verwijderd worden. Als u dit wenst, heeft u na het interview de mogelijkheid om het transcript te controleren op onjuistheden. Het doel van het transcript is om achteraf de mogelijkheid te hebben om de verkregen informatie goed te kunnen analyseren en te verwerken in het onderzoek. De verkregen gegevens van het interview en het transcript zullen vertrouwelijk behandeld worden en zijn enkel toegankelijk voor mij en mijn begeleider, Ward Rauws. De scriptie zal na afronding opgenomen worden in het archief van de Rijksuniversiteit Groningen. Het transcript is hierin niet opgenomen. In de scriptie zult u volledig anoniem blijven, tenzij u dat anders wenst.

Met het ondertekenen van dit formulier verklaar ik dat:

- Ik het doel van het onderzoek begrijp.
- Ik begrijp dat ik volledig anoniem zal blijven in de uitwerking van dit onderzoek, tenzij ik zelf anders aangeef.

- Ik begrijp dat deelname aan dit onderzoek volledig vrijwillig is en dat ik mij op ieder gewenst moment tijdens het interview kan terugtrekken en dat ik de mogelijkheid heb geen antwoord te geven op een vraag wanneer ik dit wens.
- Ik begrijp dat de verkregen gegevens volledig vertrouwelijk behandeld zullen worden en dat, zonder mijn schriftelijk bezwaar, deze gegevens gebruikt kunnen worden in de scriptie (in het algemeen of in de vorm van citaten) en presentatie.
- Ik begrijp dat alle verkregen informatie vertrouwelijk wordt opgeslagen op een met wachtwoord beveiligde computer.
- Ik begrijp dat ik na afloop van het onderzoek het transcript kan controleren op feitelijke onjuistheden en daarbij enkel deze feitelijke onjuistheden kan wijzigen.

Wanneer u verdere vragen heeft, kunt u contact opnemen met:

Charlotte Breunis (auteur van onderzoek)  
C.S.Breunis@student.rug.nl

Of

Ward Rauws (begeleider)  
w.s.rauws@rug.nl

Wanneer u akkoord gaat met hetgeen wat bovenstaand is beschreven, graag het volgende invullen:

Naam deelnemer interview: .....

Datum: .....

E-mailadres (als u wenst het transcript te ontvangen om deze te controleren op feitelijke onjuistheden):

.....

Handtekening: .....

## 8.2 Appendix 2

### Interview Guide

#### Introductie:

Ten eerste wil ik u nogmaals bedanken voor uw medewerking aan dit onderzoek. Ik heb u gevraagd voor dit interview omdat u werkzaam bent als [insert huidige beroep] in Groningen. Ik doe mijn onderzoek namelijk naar CfP en hoe het implementeren van een ZEZ daar invloed op heeft. Daarnaast wordt er onderzoek gedaan naar de invloed van Futuring op de transitie van een stad naar CfP. Ik zal kort beschrijven wat CfP, ZEZ en Futuring betekenen in de context van mijn onderzoek.

CfP houdt in dat de stad ingericht wordt op de mens. Volgens deze theorie hoort de stad een plek te zijn waar men elkaar kan ontmoeten, waar interactie wordt gestimuleerd en waar plek is voor mensen om te zijn en te bewegen (Gehl, 2010). ZEZ is een gebied in een stad waar emissie uitstotende voertuigen niet of minder mogen komen. In Groningen wordt in 2025 zo'n ZEZ geïmplementeerd tussen de Diepenring, inclusief de Westerhaven. Naast dat ze dit doen voor een schonere lucht, wil de gemeente Groningen ook zorgen voor een betere leefomgeving door een kwalitatief betere openbare ruimte (gemeente Groningen, 2020). Futuring is een methode om stakeholders beter te betrekken bij een ontwikkeling. In het geval van dit onderzoek gaat het om een visuele omschrijving van wat de binnenstad van Groningen kan worden. Futuring is het omschrijven van een mogelijke, ambitieuze toekomst (Gudowsky et al., 2017).

Zoals u in het toestemmingsformulier heeft gelezen zullen de gegevens uit dit interview volledig anoniem verwerkt worden tenzij u anders aangeeft. Het interview zal opgenomen worden zodat deze achteraf geanalyseerd kan worden en u kunt op elk gewenst moment stoppen met dit interview of weigeren antwoord te geven.

Heeft u voor nu nog vragen over het toestemmingsformulier of over het interview?

Opname starten.

Blok 1: Inleidende vragen.

1. Wat heeft u gestudeerd / wat is uw achtergrond?
2. Waar werkt u nu?
  - a. Wat heeft uw baan te maken met ruimtelijke ordening en planning?

Blok 2: De huidige situatie van de binnenstad van Groningen.

3. Wat is uw mening over hoe de publieke ruimte op dit moment is ingedeeld in de binnenstad van Groningen?
  - a. Waar zou u graag meer ruimte voor willen geven?
  - b. Waar zou u minder ruimte aan willen geven?

Blok 3: Mogelijke impact van het implementeren van de ZEZ.

4. Naast de directe impact van het implementeren van de ZEZ, zoals dat er minder uitstoot is en minder geautomatiseerde voertuigen zullen rijden, wat denkt u dat er nog meer zal veranderen in de binnenstad?
  - a. Doorvragen op: parkeergelegenheden; openbaar groen; ruimte voor voetgangers en fietsers;

Blok 4: Mogelijke verandering van de stad naar een CfP.

5. Hoe ziet u Groningen voor u als het een CfP is?
  - a. Wat voor elementen vindt u dat bij Groningen als een CfP passen?
  - b. Wat voor invloed heeft een ZEZ op deze elementen?
6. Wat is het belangrijkste dat bijdraagt aan leefbaarheid in een CfP?

Blok 5: Afsluitende vragen.

7. Zijn er nog dingen die u kwijt wilt over dit onderzoek?
8. Wilt u nog terugkomen op hiervoor gezegde dingen?
9. Had ik nog een vraag moeten stellen die ik niet heb gesteld?
10. Heeft u verder nog vragen?

Opname Stoppen.

### 8.3 Appendix 3

#### Coding Tree

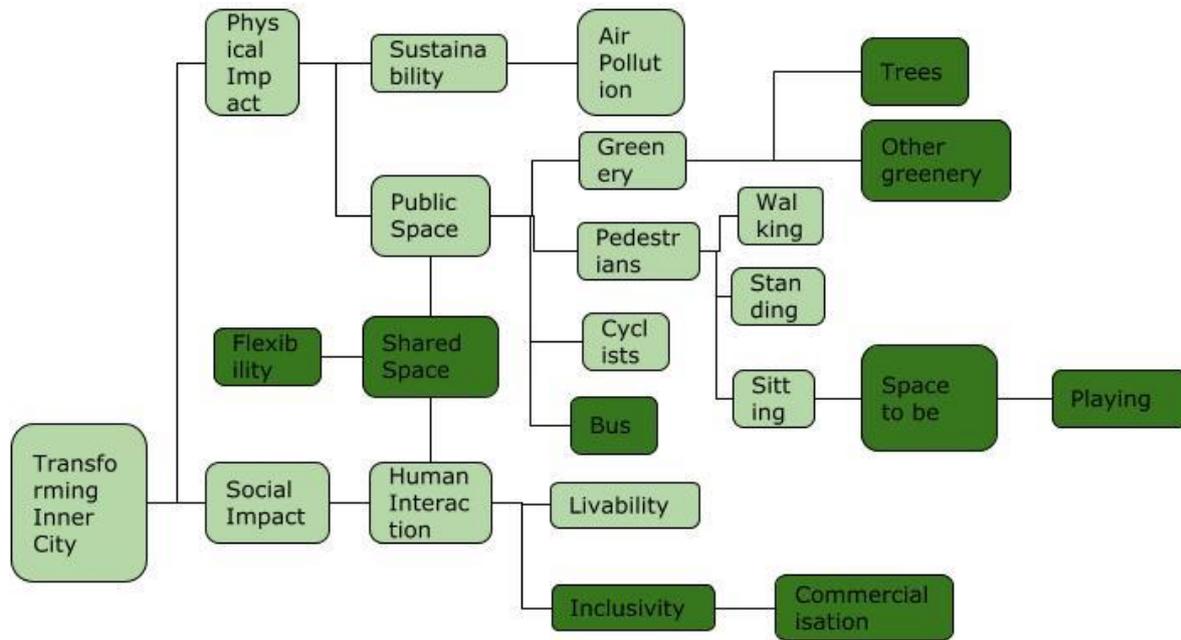


Figure 21 Coding tree phase 3A.

The coding tree above shows the deductive codes in light green and the inductive codes in darker green. The deductive codes were added during transcribing the interviews.

## 8.4 Appendix 4

### Survey

Al uw antwoorden blijven anoniem en worden verwijderd na het afronden van dit onderzoek. Als u vragen heeft, kunt u mailen naar [c.s.breunis@student.rug.nl](mailto:c.s.breunis@student.rug.nl)

Start survey.

Blok 1: Introductie vragen

1. In welke straat woont of werkt u?
  - a. Gedempte Zuiderdiep
  - b. Oude Kijk in het Jatstraat
  - c. Oosterstraat

Blok 2: Huidige staat van uw straat

2. Welke van de volgende elementen van uw straat zou u graag weg of minder willen zien? U kunt meerdere opties aankruisen.
  - a. Parkeerplaats voor auto's
  - b. Parkeerplaats voor fietsen
  - c. Stoep
  - d. Rijbaan (voor auto's)
  - e. Fietspad
  - f. Bomen
  - g. Ander groen
  - h. Bankjes
  - i. Terras
  - j. Anders....
3. Welke van de volgende elementen van uw straat zou u graag meer willen zien, of die u nu nog mist? U kunt meerdere opties aankruisen.
  - a. Parkeerplaats voor auto's
  - b. Parkeerplaats voor fietsen
  - c. Stoep
  - d. Rijbaan (voor auto's)
  - e. Fietspad
  - f. Bomen
  - g. Ander groen
  - h. Bankjes
  - i. Terras
  - j. Anders....

Volgende pagina.

Figuur van futuring toegepast op de straat waar bewoner gevestigd is.

Blok 3: Reageren op de futuring.

4. In bovenstaande foto kunt u zien hoe het [insert street] eruit kán zien in de toekomst. U kunt zien dat het asfalt is vervangen door de typische gele steentjes, er is een duidelijk fietspad toegevoegd en ook is er een goed gemarkeerde fietsenparkeerplaats. U kunt ook meer groen, bankjes en spelende kinderen zien. Uw straat zal nog wel bereikbaar zijn voor auto's.

Zou u achter de plannen/ontwikkelingen staan als uw straat er zo uit gaat zien?

- a. ja
- b. nee
- c. gedeeltelijk, ...

5. Kunt u uw antwoord op de vorige vraag uitleggen?

Blok 4: concluderende vragen.

- 6. Had ik nog een vraag moeten stellen die ik niet heb gesteld?
- 7. Heeft u nog een vraag over dit onderzoek? Type dan hieronder uw vraag en email adres, dan kom ik op u terug!

Verzend survey.

Bedankt voor de tijd die u heeft genomen om aan deze enquête deel te nemen.  
Uw antwoord is geregistreerd.

## 8.5 Appendix 5

### Flyer



**Wilt u mij helpen?**

vul dan alstublieft deze survey in! →

HALLO, IK BEN CHARLOTTE BREUNIS EN IK DOE ONDERZOEK VOOR MIJN SCRIPTIE. DE BINNENSTAD VAN GRONINGEN GAAT BINNENKORT VERANDEREN, EN UW STRAAT MISSCHIEF OOK WEL. HET DUURT MAAR 5 MINUTEN OM DE SURVEY IN TE VULLEN!

HET ONDERZOEK GAAT OVER HOE UW STRAAT ER IN DE TOEKOMST UIT ZOU KUNNEN ZIEN, EN WAT U DAARVAN VINDT.

Mail [c.s.breunis@student.rug.nl](mailto:c.s.breunis@student.rug.nl) als u vragen hebt!  
Als de qr-code niet werkt kunt u deze link overtypen:  
[https://rug.eu.qualtrics.com/jfe/form/SV\\_d40rpc0d9ftuto2](https://rug.eu.qualtrics.com/jfe/form/SV_d40rpc0d9ftuto2)



university of  
 groningen



## 8.6 Appendix 6

### Document analysis

Page	Text	Retained information
4	Meer ruimte ... schadelijke uitlaatgassen.	The main goal of the municipality of Groningen (MoG) is to give space to cyclists and pedestrians in a clean city.
4	In 2022 ... en duidelijk.	From 2022 onwards, the loading and unloading can only be done between 05.00 and 12.00.
7	... dat we ... jaar besparen.	Through the ZEZ, Groningen aims to save one megaton CO2 per year.
7	Onder stadslogistiek ... van particulieren.	The term 'city logistics' is understood as the movement of freight transport within the city borders.
10	In het ... een speerpunt.	In the coalition agreement of the MoG 'Gezond, Groen, Gelukkig Groningen (Healthy, Green, Happy Groningen), it is stated that regaining the public space and giving pedestrians space is the goal.
10	.. en vanaf ... schadelijke gassen.	From 2025 onwards, the loading and unloading can only be done in the mornings and with a zero emission vehicle.
10	Het uitbreiden ... op stadslogistiek	The window times and the ZEZ are two of the more than fifty projects of 'Binnenstad 050 - Ruimte voor jou'.
19	De uitbreiding ... winkelen alleen.	Expanding the window times is necessary because the use of the inner city is changing from shopping only to also meeting and being.
23	De zero-emissiezone ... klus-, evenementenverkeer.	The zone for zero emission and window times is the same. This zone is located within the diepen ring, near the Westerhaven shopping area (including Steenhouwerskade and the Sluiskade) and in the Sledemenerbuurt. Exceptions are the Noorderhaven, Lopendediep, Spilsluizen, Turfsingel and Schuitendiep, between the Visserbrug and Steentilbrug.

## 8.7 Appendix 7

### Time planning

Week ↓	What	When	Empirical data collection?	Notes	Hand it in?	GO / NOGO
<b>FEBRUARY</b>						
7	Ass 1 – Theoretical Framework	Feb 15	Literature and document review			
8	Ass 2.A - 2 pager	Feb 26	Literature and document review	Extra assignment		
<b>MARCH</b>						
9	Peer Review	Mar 1	Literature and document review	Extra assignment		
	Ass 2.B - Research Proposal	Mar 5	Literature and document review			
10	Ass 2.B - resit	Mar 12	Literature and document review			
11	Ass 3 - Data Collection Instrument	Mar 16				
	Empirical data Collection		Literature and document review + Experts interviews			
12	EE Presentation Research	Mar 23		Not thesis related		
	Empirical data Collection		Developing Future + interviews residents and experts			
13	Empirical data Collection		Interviews residents			
<b>APRIL</b>						
14	EE Exam	Apr 9		Not thesis related		
	Start analysing data					
15	Ass 4 - Preliminary Findings	Apr 16				

16	Have every element of thesis available					
17	First version ready			Incl. conclusion		
MAY						
18	Second version ready					
19	Ass 5 - Full Concept	May 14		= third version		
20	fourth version ready					
	Ass 6 - Peer Review	May 21				
21	Ass 5 – Full concept	May 28		= fifth version		
22	Practice presentation					
JUNE						
23	Ass 7 - Final Version	Jun 11				
24	EP Exam	Jun 14		Not thesis related		
	CU Exam	Jun 15		Not thesis related		
	Ass 8 – Poster Presentation	Jun 16				

## Legenda:

- Grey: Deadline by the RUG
- Green: Handed in on time
- Red: No Go
- Yellow: Private deadline
- EE: Environment and Engineering
- EP: Environment and Planning
- CU: Comparative Urbanism