TAKE [A] PART

Urban design of physical public spaces from a social perspective

Master Thesis | Charlotte Boersma

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ABSTRACT

Social cohesion is perceived to be under pressure in the Netherlands, especially in its larger cities. The Covid-19 pandemic has reinforced and deepened the socio-spatial divide between vulnerable urban areas and the rest of the city, which not only affects the residents of the area and of the city, but also starts to affect the cohesion of the society as a whole. In light of the large scale spatial transitions that will also need to take place in these vulnerable urban areas, the Dutch government has issued the National Programme for Liveability and Safety, a long term, integrated and multidisciplinary urban regeneration approach to tackle the liveability, safety and social issues within the vulnerable urban areas. To achieve the overall improvement of the quality of life of the residents, it is stated in the Programme that interventions in the spatial domain should reinforce policy objectives in the social domain and vice versa. The objective of this graduation project is to explore to what extent urban design of physical public spaces in urban areas can facilitate the formation of social cohesion. To do this, literature research was conducted to define social cohesion, and to translate the concept to the local community level into specific urban design objectives. For this, the Social Cohesion Radar of the Bertelsmann Stiftung was taken apart and operationalised into requirements and a description of the ideal situation. From this, it was concluded that the design objectives consist of certain types of social interactions with specific characteristics. Furthermore, using relevant theories from environmental psychology and sociology, it was researched how the environment affects human behaviour. Combined with urban design theories the findings from the theoretical exploration and the operationalisation were used to develop a framework to analyse a physical space from the lens of social cohesion. In this analytical framework, the central point through which urban design interventions connect to social cohesion is through social interactions. Through the design of specific elements the defined social interactions could be directly facilitated, or would be facilitated via the improvement of characteristics of the space. The type of space that is analysed sets the expectations for the interactions that are likely to occur, and sets expectations for the characteristics and elements to be found there. For the implementation of the framework a guideline was developed, as well as an overview of typical settings to be found in Dutch urban areas, and a set of possible design interventions for social cohesion. The use of the framework to analyse a physical public space in an urban area should provide an urban designer with a decent understanding of the potential of the space to facilitate social cohesion, and provide the designer with possible spatial improvements. The framework provides the urban designer with an instrument to develop explicit and specific hypotheses regarding the facilitation of social cohesion through urban design.

Keywords:
Social Cohesion Radar | Physical Public Space | Urban Design | Behaviour Settings | Social Interactions

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[SOCIAL COHESION]

"The ongoing process of developing well-being, sense of belonging, and voluntary social participation of the members of society, while developing communities that tolerate and promote a multiplicity of values and cultures, and granting at the same time equal rights and opportunities in society."

Fonseca et al., 2019, p. 16

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SECTION I

SETTING THE SCENE

An introduction to the research topic and the problem field

INTRODUCTION

Social cohesion is perceived to be under pressure, especially in larger cities (Aelbrecht & Stevens, 2019; Cassiers & Kesteloot, 2012; Dukes & Musterd, 2012; European Committee for Social Cohesion, 2004; Fonseca et al., 2019; Van Ham et al., 2018). While in 2012, 65.7% of Dutch people age 15 and up had contact with their neighbours at least once a week, by 2019 this dropped to 58.2% (Centraal Bureau voor de Statistiek, 2023). Additionally, in 2018 24% of Americans in urban areas stated that they know most or all of their neighbours, versus 40% in rural areas (Mitchell, 2020). In Australia, the spike experienced in social cohesion during the Covid-19 pandemic is starting to decline, prompting the quote by Professor Reynolds "Social cohesion in Australia is at a critical crossroads" (Giggacher, 2023). Where does this trend come from?

SOCIAL-SPATIAL DEVELOPMENTS

Cities are concentrations of populations, and these populations are on the rise mainly due to immigration (from other parts of the country and from other parts of the world) . As a consequence, the diversity of beliefs, norms, values, needs, desires, lifestyles and abilities increases, which makes it more difficult for people to find common ground (Bijl et al., 2017; Uyterlinde et al., 2023).

Moreover, cities are not only agglomerations of people, but also of resources and opportunities. An increase in the population thus puts more pressure on the available resources such as space, housing, food, capital, or green space. In the Netherlands, cities are often limited in their room for expansion due to the limited land available. As such, the resources and opportunities of larger Dutch cities often need to be shared with many people, which could result in tensions. Yet, the resources of a city are often not equally divided over the space and the inhabitants, making this tension not as pressing for each inhabitant of the city. This unequal division of resources and opportunities is often reinforced through the spatial organisation of a city .

VULNERABLE URBAN AREAS

This is especially problematic in light of the trend of de-investment of the Dutch government in public spaces and services (Samenleving & Van Rijksadviseurs, 2022; J. Uyterlinde et al., 2022; Van Der Velden & Can, 2022). Public services like public libraries and community centers are being privatized, and combined with other trends regarding social security and economic developments, these trends contribute to decreased trust in governments and public institutions (De Voogd & Cuperus, 2021; Hoff et al., 2021; Staatscommissie Parlementair Stelsel, 2018). Especially in vulnerable areas, which often have a population of residents that have less capital and capacity available (Platform31 et al., n.d.; J. Uyterlinde et al., 2022; Van Der Velden & Can, 2022; Verloo & Ferier, 2021). These residents often also experience socio-cultural barriers like language to interact with governments and public institutions, and they may not find their way to resources available for them. This can create a self-reinforcing loop of mistrust, eventually leading to detrimental effects for the cohesion of society in general and even going as far as threatening the functioning of the democracy (De Voogd & Cuperus, 2021; Hoff et al., 2021; Staatscommissie Parlementair Stelsel, 2018; Vrooman et al., 2014).

A NEW APPROACH

In response to the concerns regarding the developments or lack thereof in vulnerable urban areas, the National Government/State issued a National Programme for Liveability and Safety (Nationaal Programma Leefbaarheid en Veiligheid) in

July 2022 after two years of revision and consultation (Volkshuisvesting en Ruimtelijke Ordening, Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022). This programme presents a framework for an integrated, long term mobilisation of interventions in a particular area subject to an accumulation of social, economic, spatial, safety and/or health challenges. The overall objective of the approach is the improvement of the liveability, (perceived) safety and the overall quality of life of the residents in the urban vulnerable areas . To achieve this, it is stated in the programme that interventions in the social domain should reinforce policy objectives in the spatial domain and vice versa.

SOCIAL-SPATIAL CHALLENGES

This poses a difficult challenge. The spatial transitions that are required in these vulnerable urban areas provide an opportunity for the improvement of the (physical) social infrastructure, which could facilitate the strengthening of the cohesion among the residents in order to contribute to the overall objective of the National Programme of Livability and Safety. However, these are often areas with low social cohesion, which also need to be addressed. To ensure that interventions in the spatial domain reinforce positive developments in the social domain, it is important that urban designers have a solid understanding of the potential and limitations of the effect of the design of the environment on social cohesion (Fokkema et al., 2022; J. Uyterlinde et al., 2022; Volkshuisvesting en Ruimtelijke Ordening, Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, 2022).

URBAN DESIGN CHALLENGE

Unfortunately, there are several challenges to achieve this goal. Policy makers often do not define what they mean when they state that social cohesion needs to be strengthened, relying on a common, colloquial understanding of the phrase (Kearns & Forrest, 2000; Kwakernaak et al., 2022). While this has contributed to the adoption of the phrase in many policy documents and academic studies, it has also resulted in a wealth of different conceptualisations and operationalisations, all addressing slightly different aspects of the concept. This means that although it is assumed that public spaces are essential for the facilitation of social interactions and thus of social cohesion, there is limited understanding of whether urban design could contribute to social cohesion and if so, how (Aelbrecht & Stevens, 2019).

As there is a clear need for the strengthening of social cohesion and an opportunity to do so through the spatial transitions that are required, this knowledge gap needs to be addressed and potential of the design of public spaces for social cohesion should be explored.

SECTION II

RESEARCH DESIGN

The statement of the design problem and the objective of the research, the research question and the methods that will be used to come to an answer

RESEARCH DESIGN

This thesis is a theoretical exploration of the concept of social cohesion from a spatial perspective, with the objective to develop an analytical framework that provides a structured approach for designers who aim to facilitate social cohesion through interventions in public spaces. The operationalisation of the key concepts related to urban design and social coshesion combines theoretical knowledge with insights from the design practice as well as other disciplines.

RESEARCH OBJECTIVE

The development of the analytical framework can contribute to the identified knowledge gap, as well as the desire from the perspective of urban regeneration policy to strive for an integrated approach of the social and spatial challenges that need to be addressed in vulnerable urban areas.

RESEARCH QUESTIONS

The exploration described in this thesis is guided by the following question:

> *To what extent could urban design interventions in physical public spaces of urban areas facilitate the formation of social cohesion?*

The theoretical exploration, the operationalisation and the development of the framework each answer a question that is required to be researched before the overall research question can be answered.
These questions are as follows:

> *1. What is social cohesion, and how does it relate to the spatial dimensions?*
> *2. How to operationalise this knowledge further into a framework, and provide tangible design objectives and implementation guidelines?*
> *3. How would this framework be applied to a physical public space to assess social cohesion?*

RESEARCH APPROACH

To be able to determine the possibilities and limitations of urban design for social cohesion, the concept itself first needs to be defined. This will allow us to later determine what exactly needs to be designed for. This requires a review of existing conceptualisations and models, in order to be able to select an appropriate model for the operationalisation of the key concepts.

Therefore, in **Section III**, existing theories and conceptualisations will be reviewed. The findings of this review will be used to determine what model is appropriate and fitting for the development of an analytical framework. With this model the building blocks of social cohesion are distilled and defined. These building blocks in combination with the review of theories form the starting point of an exploration of the interrelation between the social and spatial environment, and how social behaviour could be influenced by this through urban design. This will provide insight into the possibilities and limitations of urban design to facilitate social cohesion, and an idea of how.

This provides the theoretical foundation for the **Section IV**, in which social cohesion is operationalised into design objectives. This will be done with the use of the model described in Section III. The model will be taken apart with the objective to determine what the requirements are for each aspect to form. Furthermore, the indicators from the model will be used to visualise what the ideal situation would look like on the local scale level of a local community in an urban area. This enables us to further define what should be designed for.

The insights from the theoretical framework will also be used to define the role of the types of settings that are expected to be found in an urban area in the Netherlands. This is the first step in the spatial translation of social cohesion into design interventions. Following this, the next step consists of the determination of the specific aspects of design that could contribute to the facilitation of social cohesion. Together, the design objectives, the types of settings and the aspects of urban design form the basis of the analytical framework. The framework defines what aspects of urban design could facilitate social cohesion, and how. Following this, the findings and insights from the theory section and the operationalisation combined with insights from urban design guidelines, will be used to develop specific urban design interventions for the facilitation of social cohesion.

Finishing **Section IV**, it will be detailed how the framework could be used by urban designers to come to a first assessment of the social cohesion potential of a public space, as well as first suggestions for possible improvement.

The implementation of the analytical framework will be illustrated in **Section V**. Using the analytical framework, there will be an analysis of a Dutch square in The Hague.

Finally, in **Section VI**, the findings will be discussed, as well as the limitations to the research. This sections ends with some suggestions for future research.

A visualisation of the research approach can be found on the next page [see Figure 1].
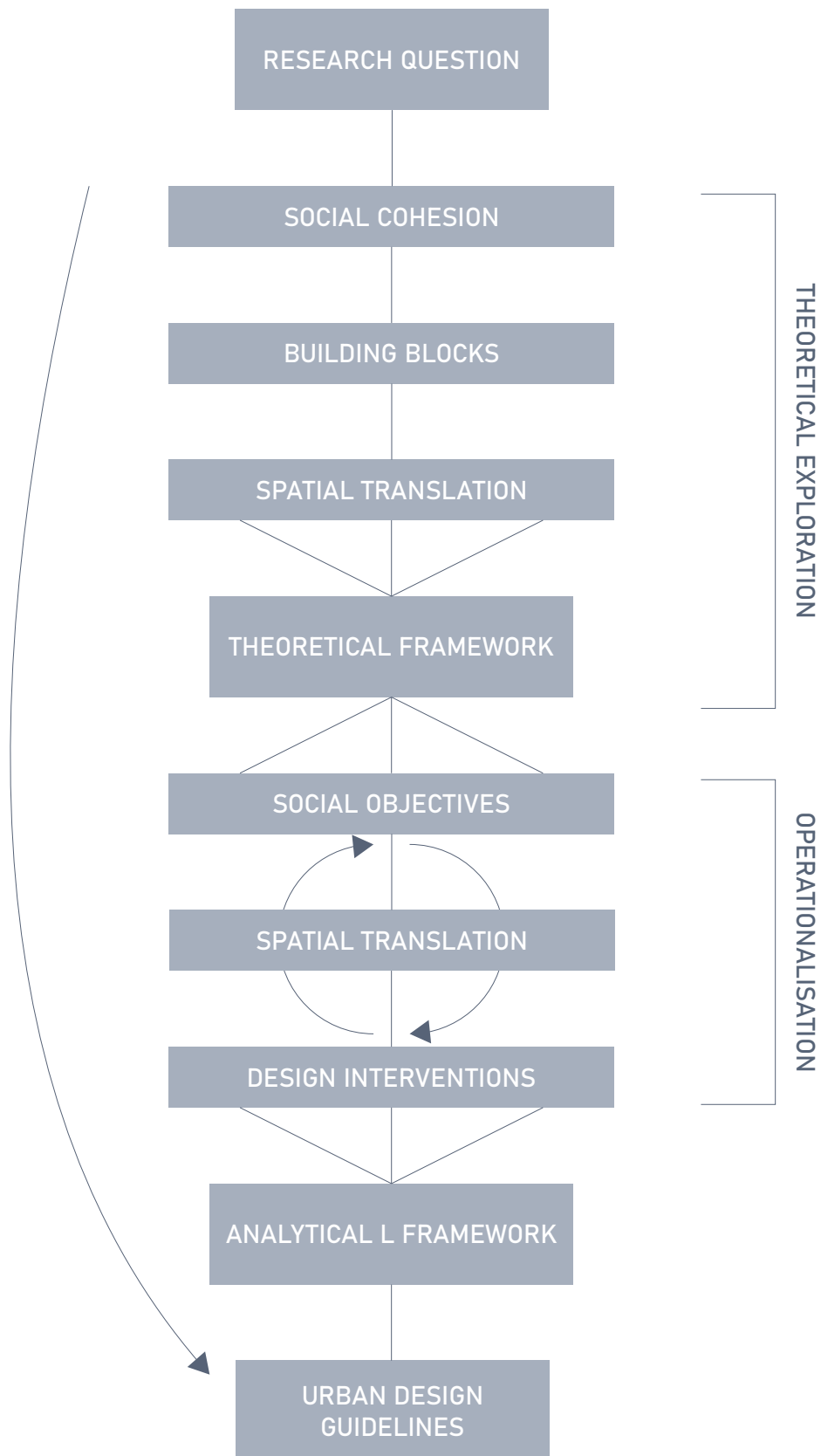
Figure 1. The research approach

SECTION III

TAKING APART

A theoretical exploration of the possibilities and limitations of urban design to facilitate social cohesion in physical public spaces

DEFINING SOCIAL COHESION

In this section we will first define social cohesion: the general concept, why it is important, a specific model and how social cohesion is formed. Following that, the link between the social and spatial dimension will be explored to determine the extent to which physical public spaces can influence social cohesion. Finally, the practice of urban design will be taken apart to determine the possibilities of urban design to facilitate social cohesion.

AN INTRODUCTION TO THE CONCEPT

Social cohesion is generally perceived as an indicator of the well-functioning of a society (Aelbrecht & Stevens, 2019). It is understood to describe the degree of togetherness of a society (or another social entity), which refers to how well the different components of the group collaboratively contribute to the wellbeing of the whole, and to the presence and management of conflicts and disruptive behaviours (Delhey et al., 2018; Kearns & Forrest, 2000). As such, social cohesion is deemed crucial for economic development, social sustainability and the overall stability of a society (European Committee for Social Cohesion, 2004; Janssen et al., 2021; Manca, 2014).

POLICY AND THEORY DISCOURSES

As an indicator of the well-functioning of for example a society, the quality of social cohesion is often debated in times of social change and perceived threats to the social structures and the institutions that hold society together (Forrest & Kearns, 2000; Green et al., 2009; Schiefer & Van Der Noll, 2016). Following the industrial revolution, modernisation and changes in the division of labour gave birth to different schools of thought regarding social cohesion. Scholars differed in their interpretation of the concept depending on the context of the changes, and developed different approaches as to how to understand and analyse the role of cohesion, consensus, conflict and social order (Schiefer & Van Der Noll, 2016). Contemporary conceptualisations on the other hand focused more on the operationalisation of the concept so that it could be applied in the context of policy makers (Chan et al., 2006; Schiefer & Van Der Noll, 2016).

This 'policy-discourse' is more problem-oriented, focused on the needs of societies at that moment in that context (Chan et al., 2006; Schiefer & Van Der Noll, 2016). Some well-known frameworks that were developed are by the Canadian Policy Research Networks, the European Commission, the Council of Europe, Australia and the UK (Chan et al., 2006; Schiefer & Van Der Noll, 2016). The policy discourse is often driven by political concerns and objectives, where political ideologies from both sides utilise the concept to suit their own political agenda (Chan et al., 2006; Schiefer & Van Der Noll, 2016).

A MYRIAD OF CONCEPTUALISATIONS

The use of social cohesion to describe different perspectives on the 'ideal' society reflects the multidimensional nature of the concept, and the interconnectedness to other processes that operate at different scales (Green et al., 2009). However, it also illustrates how social cohesion is a rather loosely defined concept that can be interpreted and operationalised in different ways. Because of the difference in context, focus and objective of the academic and policy discourse, there exists a myriad of conceptualisations and operationalisations (Chan et al., 2006; Green et al., 2009; Markus & Kirpitchenko, 2007; Schiefer & Van Der Noll, 2016). As a consequence of this, there is no standardised method or instrument to measure any perceived decline of social cohesion in different social entities, which presents a challenge to identifying potential issues, or formulating adequate policy to address those issues (Schiefer & Van Der Noll, 2016).

URBAN GOVERNANCE FOR SOCIAL COHESION

Forrest and Kearns (2000) developed a framework of social cohesion in which they specifically focused on the role of urban governance and urban dynamics for policy making that address the different domains of social cohesion. The framework describes the constituent dimensions of social cohesion, the link between these dimensions, and the spatial scales at which the dimensions could be addressed through policy. Their description shows how the policy objectives at different scale levels might contradict each other and that policies focused at addressing social cohesion at a particular scale level need to apply a multilevel, simultaneous perspective to ensure social cohesion at all levels (Kearns & Forrest, 2000).

This framework is well-known, and for example used by Brock et al. (2019) to develop a policy instrument for the Dutch government. It offers guidance for policy interventions on the different scale levels, which could be useful for this research (Kearns & Forrest, 2000).

However, as the authors themselves write in their discussion of social cohesion, for public policies to work towards greater social cohesion, "then greater clarity and consensus about its meaning and effects are required" (Forrest & Kearns, 2000, p. 996). In their description of the constituents of social cohesion, there is no clear division made between indicators or processes that contribute to each dimension, which makes it difficult to actually apply the framework. Rather, the discussion of the framework seems to be an observation of their understanding of the related concepts. While this is still valuable for the insights and understanding of the impact of the different scales levels and for the development of policies, it is less applicable in this research for which a concise model and operationalisation are needed to be able to take it apart and translate it to the spatial dimension.

ESSENTIAL ELEMENTS OF SOCIAL COHESION

A literature review of social cohesion by Schiefer and Van der Noll (2016) resulted in the identification of three core domains that are mentioned in most definitions: social relations, sense of belonging, and an orientation towards the common good. Furthermore, they indicate that social cohesion is a desirable characteristic of a social entity, formed through (and influenced by) processes on the micro, meso and macro scale between individuals, groups and public institutions (see the model by …) Schiefer & Van Der Noll, 2016). It is a descriptive phenomenon that describes a quality of a society, meaning that societies may exhibit a greater or lesser degree of cohesion. The degree of cohesion manifests itself in the attitudes and behaviours of all individuals and groups within the society and consists of both ideational and relational components (Schiefer & Van Der Noll, 2016). Finally, trust seems to be an essential building block for social cohesion (Schiefer & Van Der Noll, 2016).

IDEAL?

It is important to be aware of the normative fashion of how the concept is used, especially by policy makers (regimes of social cohesion). As it describes the degree of togetherness of a society, a very high degree of cohesiveness is as undesirable as no cohesion. Too much social cohesion could lead to the exclusion of out-group members, ignorance towards social injustices and/or strict rules and norms for members within the group that limit their freedoms and control their behaviours (Brock et al., 2019; Forrest & Kearns, 2001). In addition, social cohesion is a multiscalar phenomenon, meaning that:

"…*social cohesion at the neighbourhood level is by no means unambiguously a good thing. It can be about discrimination and exclusion and about a majority imposing its will or value system on a minority. A city of neighbourhoods with a high degree of social cohesion could be a city with a high level of conflict within and between neighbourhoods. Similarly, a nation of*

highly cohesive cities with strong and distinct images could be one in which shared values and norms are relatively parochial and with wide intercity inequalities of lifestyles and living standards."
(Kearns and Forrest, 2000, p.1013)

A final remark regarding the understanding of social cohesion is that social cohesion requires more than just a tight community, solidary behaviour or trust in institutions. For a social entity to be socially cohesive, it requires all three domains to be present.

A description that seems to capture the understanding of the ideal behind social cohesion in the current context at best is provided by Fonseca et al. (2019): *"The ongoing process of developing well-being, sense of belonging, and voluntary social participation of the members of society, while developing communities that tolerate and promote a multiplicity of values and cultures, and granting at the same time equal rights and opportunities in society."*
(p. 16)

Trust in institutions
People have a high level of confidence in social and political institutions.

Identification
People feel strongly connected to their country and identify with it.

Perception of fairness
People believe that society's goods are fairly distributed and that they are being treated fairly.

2

Connectedness

Social Networks
People have strong, resilient social networks.

Solidarity and helpfulness
People feel responsibility for others and are willing to help them.

COHESION

Social relations

Focus on the common good

Trust in people
People have a high level of trust in others.

1

3

Respect for social rules
People abide by the fundamental rules of society.

Acceptence of diversity
People accept individuals with other values and lifestyles as equal members of society.

Civic participation
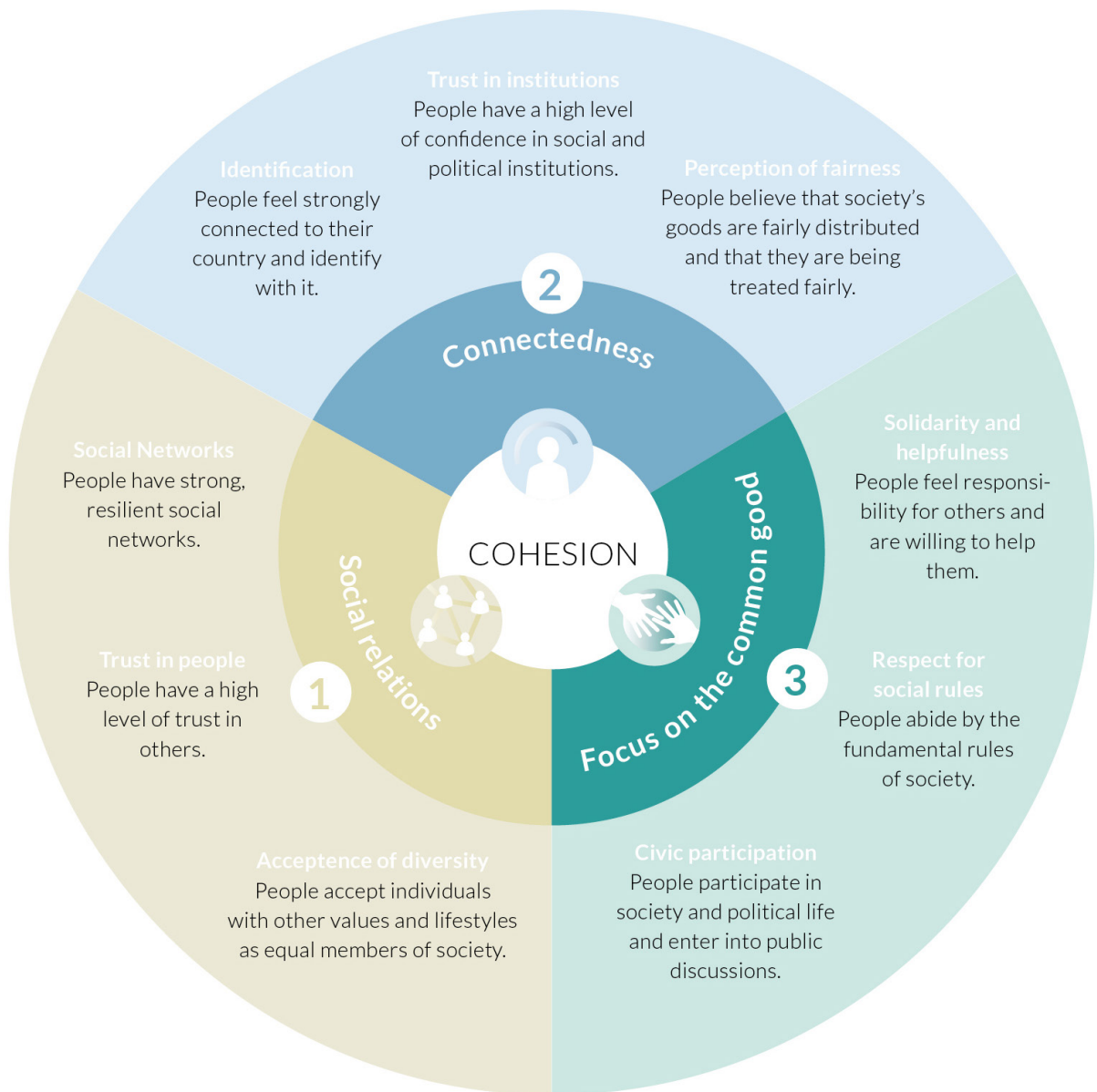People participate in society and political life and enter into public discussions.

Figure 2. The Social Cohesion Radar

THE SOCIAL COHESION RADAR

From the conceptualisations and operationalisations that are available, for this research the model of the Bertelsmann Stiftung is deemed the most useful. The Social Cohesion Radar was developed as a tool to support the making of policy for social cohesion by defining the concept through indicators, dimensions and domains that can provide reliable empirical data on the current level of social cohesion as well as its progression over time (Dragolov et al., 2016). Based on the findings of the literature review of Schiefer and Van Der Noll (2016), the model incorporates the essential domains of social cohesion: (1) **social relations** (the horizontal networks that connects groups and individuals within a society), (2) **connectedness** (the positive connections between the members of a social entity, a feeling of belonging to that entity, and the positive connections to their key institutions) (3) **orientation towards the common good** (the actions and attitudes that demonstrate solidarity, respect for social rules and community engagement) (Dragolov et al., 2016, p.6). Social cohesion according to the authors of the Social Cohesion Radar can be understood as follows:

"Social cohesion is the quality of social cooperation and togetherness of a collective, defined in geopolitical terms, that is expressed in the attitudes and behaviors of its members. A cohesive society is characterized by resilient social relations, a positive emotional connectedness between its members and the community, and a pronounced focus on the common good." (Dragolov et al., 2016, p. 6)

Each domain is further divided into three dimensions, through which it is measured [See Figure 2]. Social relations for example are measured by the strength of social networks, the degree to which people trust each other, and the extent to which people are tolerant towards diversity (Dragolov et al.,

2016). Diversity hereby should be interpreted in its broadest sense, encompassing life style, age, ability, gender, beliefs, background, culture, needs, desires and so forth .

Secondly, the domain of connectedness is based on the strength of the identification of people with their social entity, the degree of trust of people towards public institutions, and the perception of fairness (Dragolov et al., 2016). The third domain, a focus on the common good, refers to the level of solidarity and helpfulness of people towards each other, the willingness to respect social rules, and the level of civic participation (Dragolov et al., 2016).

Operationalisation of the Social Cohesion Radar

While the conceptualisation of this model is valuable by itself, the Social Cohesion Radar has been further operationalized into a measurable concept. The methodology of this process provides relevant insights for this research. The authors of the model state that while the dimensions, and how their interrelationship determines the overall index of cohesion is set, the indicators that are used to measure the "scores" of a particular dimension are reflective and as such can be changed depending on the available sources for input. This offers a certain level of flexibility regarding the transferability of the model to a different scale level. This will be further explored in section IV.

	Horizontal (socio-culture)	Vertical (political)
Subjective (formal/attitudinal)	• Trust in people (1.2) • Acceptance of diversity (1.3)	• Identification (2.1) • Trust in institutions (2.2) • Perception of fairness (2.3)
Objective (substantial/behavioral)	• Social networks (1.1) • Solidarity and helpfulness (3.1)	• Respect for social rules (3.2) • Civic participation (3.3)

Number of the mentioned dimension in brackets.

Figure 3. The relational, ideational and behavioural aspects of the concept of Social Cohesion according to Bertelsmann Stiftung

BUILDINGS BLOCKS OF SOCIAL COHESION

*The Social Cohesion Radar provides a starting point for the further definition of the concept of social cohesion. To be able to design for social cohesion, it is required to understand what it is and how it is formed. Therefore, this section will examine the **relational**, **ideational** and **behavioural** aspects of the concept as described by Dragolov et al. (2016, p.6) in Figure 3 to gain a better understanding of the working of the concept and how the environment could potentially contribute to it.*

SOCIAL RELATIONSHIPS

The relational nature of social cohesion refers to the social ties that enable the formation of social groups and that of a society (Dragolov et al., 2016). This seems to be related to the concept of social capital, which refers to a resource that is developed by individuals to generate a future return (Klein, 2011). Like social cohesion, it is a multidimensional concept that is a function of relationships (Bhandari & Yasunobu, 2009; Klein, 2011; Membiela-Pollán et al., 2020). Social relations and social networks provide access to capital, support and opportunities, which are important for the overall improvement of one's quality of life. They contribute to physical and mental wellbeing, especially for those who are vulnerable

(Huygen & De Meere, 2008). Furthermore, positive relationships govern interactions and behaviour (Claridge, 2014). As such, social capital considers the benefits of social relations from an individual perspective, while social cohesion is focused on the meso or macro scale and the collective benefits of cooperation, conflict management and solidarity (Chan et al., 2006; Klein, 2011; Schiefer & Van Der Noll, 2016). Social cohesion is related to the wellbeing of a social entity instead of the individual. This does not imply that social cohesion is not important for individual health or liveability, it is a determinant of both, but the concept itself considers collective benefits only (Dragolov et al., 2016).
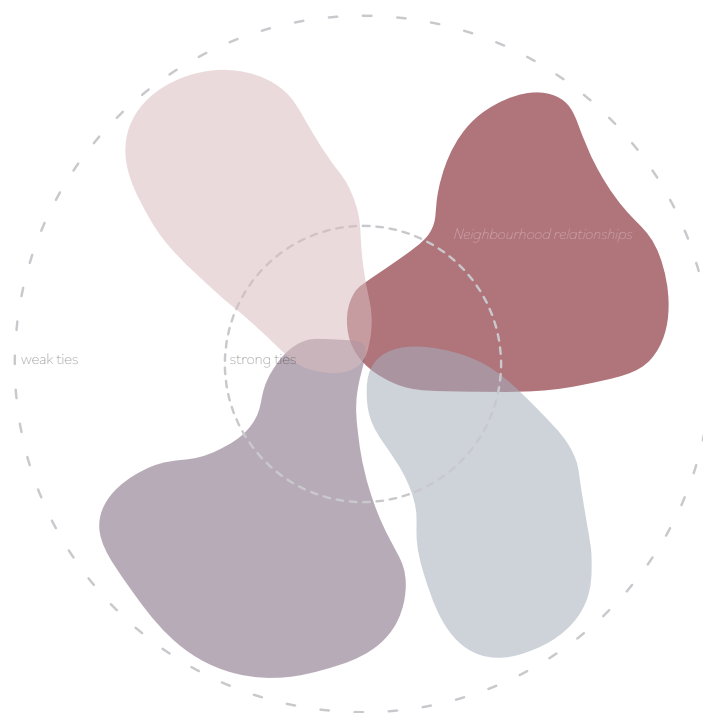
Figure 4. The contacts in the neighbourhood: strong ties and weak ties

What both concepts do share is that they are based on social relations, which are formed through social interactions (Hoppler et al., 2022; Klein, 2011; Qi, 2017; Schiefer & Van Der Noll, 2016).

Social relationships are embedded within social networks of social relationships between acquaintances, family, friends, relatives and social relations (Klärner et al., 2022; Piekut & Valentine, 2016). These networks can exist of strong ties, such as relations between friends or family, or weak ties, which are the connections that go beyond one's own circle [see Figure 4]. Weak ties are crucial for instrumental support and to bridge the gap between strong social networks, which might result in new opportunities or access to resources (Vrooman et al., 2014). The contacts within a neighbourhood are of a specific type of contact, additional to the relationships with friends and family (Samenleving & Van Rijksadviseurs, 2022). They can be both strong and weak ties. The social relations in the direct living environment can contribute to familiarity with each

other, a sense of belonging and collective efficacy (Samenleving & Van Rijksadviseurs, 2022).

The relationships on which a network is based form through social interactions. These interactions are shaped by norms, values, expectations, obligations, regulations and institutions, and they require trust and reciprocity to build (Claridge, 2019). Some of these concepts will be discussed further below and throughout the thesis as they are relevant for the formation of social cohesion.

ATTITUDES

The ideational and behavioural aspects of social cohesion consist of the cognitive and affective aspects, and the behaviour that follows from or influences them (Seel, 2012). This refers to the attitudes through which cooperation and collective actions are expressed (Dragolov et al., 2016).
Attitudes represent what an individual feels and beliefs about a practice, object or behaviour, and their evaluation of that behaviour or object (positive

or negative) (Pickens, 2005; Seel, 2012). They are formed through either direct experiences or observational learning from one's environment (Pickens, 2005). The three-component model [Figure 5] divides attitudes into three components:
- Affective: emotions
- Cognitive: beliefs and knowledge
- Behavioural: the effect of the attitude on the behaviour
(Pickens, 2005; Seel, 2012)

Attitudes are individually motivated as they are formed based on i.a. one's beliefs, which is connected to the internal value system (Child Protection Programme Team and Social and Behavior Change Team, Programme Group, 2021). Values are the beliefs that someone holds regarding what is important to oneself and to society as a whole (Ahn et al., 2020). They are more abstract and universal, exist independently of a society or particular culture, and are often intergenerational (Ahn et al., 2020; Nickerson, 2023). Values guide the behaviour of an individual, whereas norms are the expectations that a society holds towards what a person should or should not do (Ahn et al., 2020; Child Protection Programme Team and Social and Behavior Change Team, Programme Group, 2021; Nickerson, 2023). They are more specific to a particular situation, culture or society and can change relatively quickly (Nickerson, 2023). Attitudes can influence whether an individual will conform to a norm. Norms on the other hand can influence whether a person will engage in behaviour that is contrary to their attitude, depending on the strength of the norm (Child Protection Programme Team and Social and Behavior Change Team, Programme Group, 2021). Some norms, those that are morally very strong for example and widely shared, are translated into regulations and laws to control the behaviour of the members of a society explicitly (Nickerson, 2023). The state and its institutions through regulations,

policies and other means provide the formal code of conduct for human interactions and behaviour, as well as the formal monitoring and enforcement of these regulations (Claridge, 2019). They are for example important for the facilitation, enforcement or inhibition of cooperation and collective action (Claridge, 2019).
Values are essential for the validation of norms regarding motivation and justification for adherence to the norms. Norms, on the other hand, are the means through which values can be concretised and executed (Nickerson, 2023).
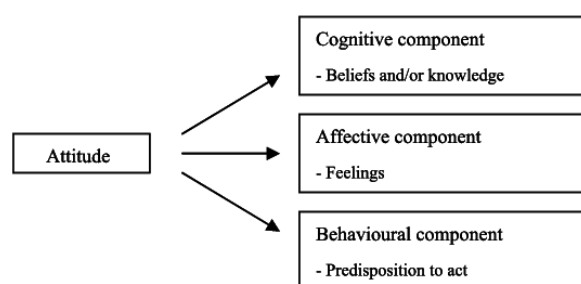

Figure 5. The three components of attitudes

SOCIALISATION

The informal process through which norms, values, and attitudes are learned is called socialisation: the process by which an individual learns and adapts its standards, abilities, motives, attitudes and (inter)actions to correspond to what is deemed appropriate for their current and future role in any given social entity (Shahr et al., 2019). As an individual acquires the cultural knowledge, social skills and local preferences for attitudes to participate in the social life of a specific group, the individual's personality and self are shaped as well (Gecas, 2001; Kinginger, 2006). Socialisation is a continued process that is influenced by many actors that shape both directly and indirectly the behaviour of individuals within a group, who are active participants in this process (The Editors of Encyclopaedia Britannica, 2023).
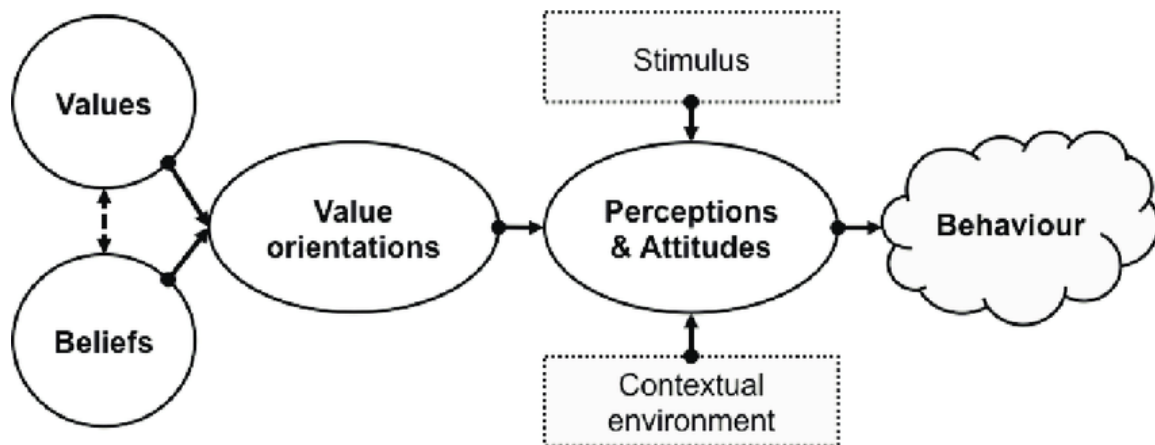
Figure 6. The components that affect behaviour

PERCEPTIONS

Socialisation is based on experiences, interactions and/or the perception of these interactions and experiences. Perception is the process through which one organizes and interprets sensations to create a meaningful experience of the sensation (Pickens, 2005). This interpretation is partly based on prior experiences, cultural and social processes as well as personal characteristics (Heath et al., 2010; Pickens, 2005). The perception develops through four stages: stimulation, registration, organisation and interpretation (Heath et al., 2010; Pickens, 2005). The perceived situation can differ from the objective situation, depending on the meaning that is given to the sensation. Because of similar socialisation, shared (past) experiences and similar environments, some perceptions will be shared by a group of people (Heath et al., 2010).

SOCIAL INTERACTIONS

From the discussion of the relational, ideational and behavioural aspects of social cohesion it can be concluded that social interactions are a building block of each aspect. This provides us with a first entry point for the spatial translation of the concept of social cohesion into urban design interventions. Human behaviour, social interactions and the role of the (design of the) environment have been researched by various disciplines. In the following chapter the interrelationship between the environment and human behaviour will be explored in order to

determine potential and limitations of urban design to facilitate social interactions and social cohesion. Figure 6 provides a model of relation between most of the building blocks that have been discussed in this chapter.

HUMAN BEHAVIOUR AND
THE ENVIRONMENT

As stated in the introduction, social cohesion is a determinant of the quality of life. In the social ecological model [Figure 7], health is understood to include the physical, mental and social wellbeing which are affected by the interaction between individual characteristics, the social relations of the individual, and the physical, cultural, social and political environment (CTSA Community Engagement Key Function Committee Task Force, 2011, p. 20). The model can be used to formulate policy interventions to influence health behaviour. Following the model, there are four levels for interventions through which health can be affected: the individual, the interpersonal, the community and the societal level.

THE LOCAL COMMUNITY

For social cohesion in (vulnerable) urban areas, the level of the local community is the focus of policy or design interventions. The local community refers to the people that reside in a specific geographical area (block, street, neighbourhood, district) that share a set of norms and values, interact on a regular basis within the physical spaces of that area, and undertake collective action for the improvement of the community and/or area (Scherzer et al., 2020). Shared interests, shared goals, hardships or threats binds people as well (Flint, 2009; Scherzer et al.,

2020).
The fact that people live in the same area does not automatically result in the social, symbolic and relational construct that it is a local community, even though from a spatial or administrative or policy perspective it is a group of people that reside in the same area. Communities are socially and culturally constructed ideas, of which spaces are one of the components that links the people and contributes to the idea of a community (Scherzer et al., 2020).
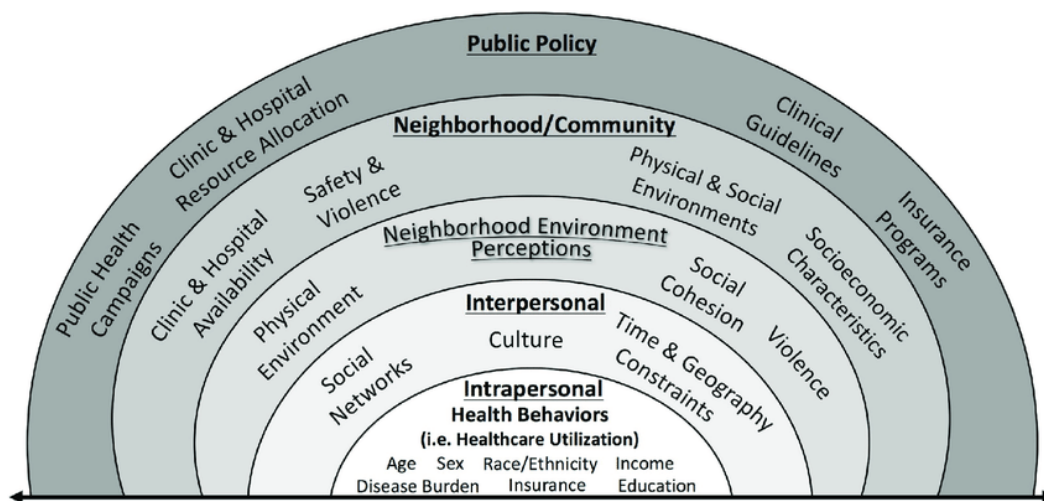

Figure 7. The social-ecological model of health

PUBLIC SPACE

The interactions and behaviour that contribute to the cohesion of the local community of an urban area for a larger part will take place in the physical public spaces of that area. Public spaces are "the meeting or gathering places that exist outside the home and workplace that are generally accessible by members of the public, and which foster resident interaction and opportunities for contact and proximity" (Francis et al., 2012, p. 402). They are spaces where attitudes are formed, and behaviour is monitored or managed, and where people can undertake collective action and participate in civic life (Lesan, 2018).

BEHAVIOUR SETTINGS

These physical spaces where can be understood as behaviour settings. As discussed in the definition of social cohesion, social cohesion is expressed through attitudes and behaviour, which are formed through interactions, experiences and perceptions that take place in a certain environment set in a larger context. According to Barker, there exist a congruent relationship between the layout of that certain environment (the milieu) and a standing pattern of behaviour (Mehta, 2009). Depending on the setting, people will assume certain roles and partake in certain activities. The better the milieu supports the standing pattern of behaviour, the more likely it is that this behaviour will occur (Mehta, 2009). One milieu might facilitate different settings or behaviour patterns. It is important to understand that the environment refers not only to the physical aspects of the environment, but also to the social, cultural, historical, political, ecological, and economic dimensions (Popov & Chompalov, 2012). The components that make up the milieu can for example be physical, the presence of other people, or the historical, cultural or political meaning of the space.

Depending on the activities that take place in a setting, the type of people that use them, the intended purpose of the setting and the actual outcome of the activities, a setting can have a specific social or cultural meaning which contributes to the idea of a community.

ENVIRONMENTAL AFFORDANCES

Another concept that describes the influence of the environment on behaviour is the idea of environmental affordances, developed by Gibson and often mentioned in relation to the theory of behaviour settings (Mishra et al., 2023; Thompson, 2013). Environmental affordances are the perceived opportunities for actions and the functions of the environment that are meaningful to the individual (Thompson, 2013). They reflect the extent to which the environment accommodates the needs and desires of those that use it (Hadavi et al., 2015). According to Gehl a public space can support different types of activities: necessary activities, optional activities and social activities (Heath et al., 2010; Lesan, 2018). The greater the range of perceived activities and functions the environment supports, the more likely it is that people will engage in optional (recreational) activities, such as walking or sitting, and social activities.

HUMAN NEEDS

One of the individual characteristic that is understood to affect social behaviour is the concept of human needs (Heath et al., 2010; Lang, 2005; Leidelmeijer & Van Kamp, 2004; Lesan, 2018). According to Maslow's hierarchy of needs, physiological needs (food, water, shelter, safety and security) need to be satisfied first before a person will engage in activities to fulfil their social, belonging, and esteem needs. The higher needs, the growth needs, only come into focus when the deficiency needs are met. The satisfaction of the needs of the users of a space are often considered to be one of the determining factors of the success of the design of a space (Lesan, 2018).

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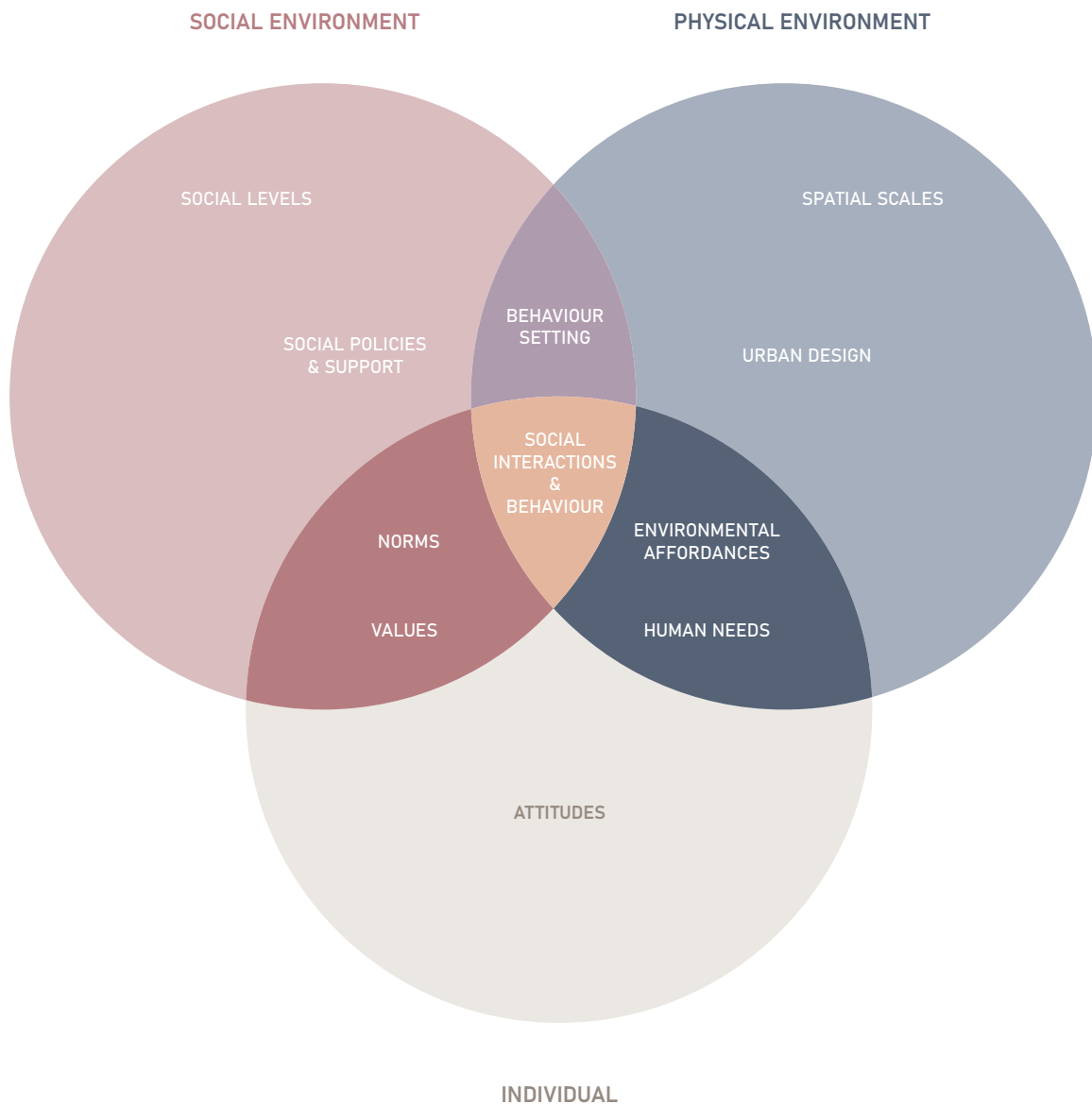
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The behaviour that occurs in the physical spaces is what the built space turns into a public space. As such, physical public spaces form the physical settings of the public realm in which public life occurs. Public life is, contrary to the private sphere, not shieled and controlled by the individual. As the public realm is
The behaviour that occurs in the physical spaces is what the built space turns into a public space. As such, physical public spaces form the physical settings of the public realm in which public life occurs. Public life is, contrary to the private sphere, not shieled and controlled by the individual (Heath et al., 2010). As the public realm is situated between the private sphere and the realm of the state, it fulfills certain key

THEORETICAL FRAMEWORK

SOCIAL ENVIRONMENT   **PHYSICAL ENVIRONMENT**

SOCIAL LEVELS   SPATIAL SCALES

BEHAVIOUR
SETTING

SOCIAL POLICIES   URBAN DESIGN
& SUPPORT

SOCIAL
INTERACTIONS
&
BEHAVIOUR

ENVIRONMENTAL
AFFORDANCES

NORMS

VALUES   HUMAN NEEDS

ATTITUDES

INDIVIDUAL

So far, we have theoretically explored the different influences on behaviour in a public space, including the setting itself, the behaviour pattern of that setting, the affordances that the space offers, as well as the characteristics of the design of the space. Human needs and their (perceived) satisfaction are an important motivation for people to behave in a certain way. The design of a place can guide and manage behaviour through cognitive and functional clues, and the characteristics and features of the space. These are the elements that will be taken into account in the process of the operationalisation as well as the development of the analytical framework and the design interventions.

SECTION IV

OPERATIONALISATION

The spatial translation of a social concept: urban design for social cohesion

FROM MODEL TO DESIGN OBJECTIVES

To be able to determine how urban design interventions could contribute to the formation of social cohesion, it is first required to examine the aforementioned key concepts in depth, to note: Dimensions, Interactions and Behaviour Settings. By taking the dimensions of the Social Cohesion Radar further apart, it will be possible to define specific social interactions and behaviours that are beneficial for social cohesion. Next, we need to determine what types of behaviour settings are likely to be present in an urban area and how they are expected to affect the interactions and behaviours for social cohesion. Combined with the potential of urban design, a framework will be developed which conceptualises the translation of social cohesion into specific urban design interventions.

Although the model of social cohesion by the Bertelsmann Stiftung is useful model for the understanding of social cohesion, we need to go beyond the model to be able to determine the design objectives. For instance, as the model was the developed for the measurement of the degree of social cohesion on a national level, the dimensions of the model need to be translated to the local scale level.

Although the authors of the Social Cohesion Radar do not provide an extensive explanation of each dimension, the indicators and the description of each dimension provide sufficient starting points for a theoretical exploration of relevant key concepts. Moreover, the Social Cohesion Radar has been translated by Arant et al. (2016) to be used for the measurement of the degree of social cohesion on the local scale level of Bremen. The original description of

each dimension by Dragolov et al. (2016) combined with their 2-by-2 conceptualisation formed the starting point of the operationalization of the dimension.

The indicators for the measurement of social cohesion on the national level as well as on the local level by Dragolov et al. (2016) and Arant et al. (2016), provide further direction for the determination of what the design objectives could be. Other indicators that have been considered for the description of the ideal situation are indicators from Dutch surveys and reports on liveability and social cohesion (CBS Urban Data Center Den Haag, n.d.-a, n.d.-b, n.d.-c; Knol et al., 2002). The result of the process of taking apart the dimensions and the translation into an ideal situation on the local scale level is presented below.

DOMAIN 1 | SOCIAL RELATIONS

1.1 Social networks
"People have strong, resilient social networks"

Objective (substantial/behavioural)
Horizontal (socio-culture)

Based on: Child Protection Programme Team and Social and Behavior Change Team, Programme Group, 2021; Klärner et al., 2022; Pescosolido, 2008

It is generally assumed that individuals are embedded within relational networks of interpersonal relationships, and that therefore social processes cannot be explained by individual attributes only. It is rather the integration of the individual within their social environment that can explain social actions and processes. The social environment consists of the network(s) of social relationships between family, friends, relatives or acquaintances that restrict or open the perceived possibilities for the individual to act and shape behaviour, beliefs, attitudes and outcomes. The influence of a social network on the actions, behaviours and possibilities of an individual depend on the function of the network, the content and its structure. The function of a social network can be such as offering a form of support, instrumental aid, appraisal, and monitoring. The function is determined by the structure of the network (e.g. density,

size, types of relationships) and the content of the ties aka the material and non-material resources that are shared. These can be attitudes, opinions, experiences, norms etc. A network of strong relationships is characterised by high contact intensity, high intimacy, and reciprocity and trust. Strong ties (or bonding capital) often refer to relations between family members or good friends. This type of social relationships is important for forms of support, such as emotional support. Weak ties (or bridging capital) on the other hand are characterized by low frequency contact and low intimacy. They serve mainly as access to resources and information that are outside of the network of strong ties . The relationships on which a network is based form through social interactions . Often, these interactions are based on the principle of reciprocity.

REQUIREMENTS

• (Repeated) Positive social interactions
• Reciprocity
• Shared norms and values
• Positive and trustworthy social relations

DESCRIPTION OF IDEAL SITUATION

• Interactions between residents are generally positive, and occur regularly
• Residents have some neighbours/residents with whom they exchange support and/or resources
• Residents enjoy spending time with some neighbours, friends, acquaintances, close ties or colleagues in the local area
· Neighbours/Residents socialise with each other, they enjoy (occasionally) spending time with each other

1.2 Trust in others
"People have a high level of trust in others"

Objective (substantial/behavioural)
Horizontal (socio-culture)

Based on: Glanville et al., 2013; Organisation for Economic Cooperation and Development [OECD], 2017; Uslaner, 2002

In general, trust can be understood as "holding a positive perception about the actions of an individual or an organisation". It provides an individual with the confidence that others will act as could be expected in a specific situation or a series of interactions. It allows people (and organisations) to lower or eliminate the costs of interactions as both parties can assume that the terms and conditions of the interaction(s) will not change, which fosters cooperation. This translates into a certain level of reciprocity that both parties expect. Trust is both experience-based (cognitive) and emotionally-based (affective), requiring positive interactions that increase the trustworthiness of a party to potentially develop

a psychological contract.
There are different forms of trust, mainly dependent on the party the actor interacts with: other people that are known (particularised trust), strangers (generalised trust), or institutions and organisations (institutional trust). At the basis of all interactions is moral trust, which is a general believe people hold about the trustworthiness of others in general.
Trust in other people is formed through positive interactions and experiences, and arises when the parties involved share a set of moral values which creates the expectation of predictable and honest behaviour. This facilitates reciprocity and cooperation.

REQUIREMENTS

• Moral trust
• Reciprocity
• Shared norms and values, specifically regarding sharing and giving and helping
• Repeated positive social interactions that increase trustworthiness
• Positive shared experiences
• Policies and authorities that support trust and reciprocity
• Public familiarity

DESCRIPTION OF IDEAL SITUATION

• Residents generally trust each other, as well as visitors/strangers
People recognise each other, there is public familiarity
Most residents feel that they can expect help from fellow residents when they ask for it or when it is needed
Residents dare and can lend things to each other
Residents work together
Residents help others when needed

1.3 Acceptance of diversity
"People accept individuals with other values and lifestyles as equal members of society"

Subjective (formal/attitudinal)
Horizontal (socio-culture)

Based on: Arant et al., 2021; Hjerm et al., 2019; Piekut & Valentine, 2016; Uyterlinde et al., 2023; Verkuyten et al., 2018; Wessel, 2009

Acceptance of diversity refers to the extent to which people embrace or tolerate difference. Diversity hereby should be interpreted as a setting "with significant differences in the current population" which could be differences in backgrounds, beliefs, lifestyles etc. The tolerance of this diversity can be passive, as in acceptance, or more active such as respect for difference or even appreciation of diversity. For this research, the acceptance that this dimension refers to is interpreted as at least acceptance, but rather the highest degree of tolerance: appreciation.

The acceptance of diversity not only depends on the objective diversity of a population, but also on the perceived differences. The perceived diversity might result in a perceived threat to resources, opportunities and privileges of one, which will affect the expressed solidarity towards the 'other', as well as the occurrence of interactions and the forming of relationships. If tensions start to build and become high, it might show in behaviour such as intimidation, vandalism or bullying. Furthermore, residents might develop negative stereotypes about certain groups of people due to their frustration or misunderstanding with some residents.

Much has been written and theorized about diversity, tolerance and tensions, and how to overcome the perceived threats to create tolerance. The hypothesis behind this is that people need to be able to predict the behaviour of others, and for that they need to know the person to a certain degree. If they feel that they cannot predict behaviour or when they do not understand the behaviour, the other might be perceived as a threat which will decrease the likeliness of further interaction.

It is believed that public familiarity, " a form of familiarity that comes from fleeting, repeated encounters in the residential environment between people of diverse social and cultural backgrounds and identities could contribute to tolerance (Uyterlinde et al., 2023, p. 14). Intergroup contact is also believed to prevent prejudices and intolerance to develop. For this to occur, the contact should be positive, repeated, in different social settings, focused on common goals, of equal status, and supported by authorities/institutions (in policies, actions and spaces/meetings?). Lastly, the design of a space is believed to be of importance for the facilitation of contact between different groups of people by providing spaces that are lively and know presence of different user groups, have soft boundaries and represent a diversity of values.

REQUIREMENTS
- Regular, fleeting contact
- Public familiarity
- Repeated, positive intergroup contact in different social settings
- Shared (positive) experiences
- Common goals and/or interests
- Certain shared understanding regarding desired behaviour in the local community, as well as acceptance of diversity and tolerance
- Policies and authorities that support acceptance and tolerance
- Facilitation of encounters by professionals or people from the local community
- Spaces that facilitate encounters between all groups that make up the local community

DESCRIPTION OF IDEAL SITUATION

• Residents have a neutral or positive attitude towards members of a different group or people with other values, lifestyles, backgrounds or with other beliefs
• Residents treat people from different places, backgrounds, beliefs or lifestyles with respect
• Differences are discussed and mediated in a respectful and safely manner, if needed supported by a third party
• There are little to no tensions between the different groups of residents
• Residents work together to get things done within the street/neighbourhood/area
• Residents are familiar with each other
• Residents dare to speak to each other regarding their (undesired) behaviour
• Behavioural norms and values regarding living together and the neighbourhood are shared and respected
• (Un)desired behaviour is regulated with the help of public bodies such as the neighbourhood police officer, housing associations, neighbourhood manager or other key figures
• Residents agree on the desired behaviour and share the norms and values related to this
• Residents feel part of the local community

DOMAIN 2 | CONNECTEDNESS

2.1 Identification
"People feel strongly connected to their local community and identify with it"

Subjective (formal/attitudinal)
Vertical (political)

Based on: Antonsich, 2010; Escalera-Reyes, 2020; Francis et al., 2012; Low & Altman, 1992; Ujang, 2012

Identification is a perceived sense of affiliation with, and belonging and attachment to a group and its members, in a social-physical space. Place attachment can be defined as a long term emotional and cognitive bond of an individual to a particular territory and the meanings that are ascribed to this bond. This connection develops over time through direct experiences of people within specific places and the affective and cognitive links that they form with these places. It is the process in which members of a group become attached to the place wherein they practice and thus preserve their culture, and/or the place in which they share experiences, values and symbols. A sense of belonging is the human need to be accepted as a member of a group, which provides a sense of security, care and affection. Belonging to a social space is expressed through symbols and symbolic rituals that represent and reproduce the collective, as well as specific knowledge of the territory or group, and certain power relations. It is socially constructed and rather a process than a status. Satisfaction with the environment is thought to have an impact on social interactions within the neighbourhood, as well as the development of a sense of belonging and attachment within the neighbourhood. Identification with a group in a particular area might act as a catalyst for the development of "social capital, community mobilisation and citizen participation regarding their place."

REQUIREMENTS

Positive, long term shared experiences
Positive, stable, long-lasting and significant relations formed through physical interactions in a specific space/spaces
Shared cultural practices
Membership
Ownership (of a place)
Freedom to express one's identity
Satisfaction with the environment
Shared language
Shared narrative

DESCRIPTION OF IDEAL SITUATION

• Residents feel connected to the local community and the local area/block/neighbourhood/district
• Residents feel as they belong to the local community and area
• Residents are proud of their local community and of the area
• Residents feel a sense of stewardship towards their environment
• The needs of residents are satisfied within their neighbourhood
• Residents feel safe in their local community and the area
• Residents are satisfied with the quality of the environment
• Residents partake in collective activities for the neighbourhood (community)
• Residents spend time in their local area, and enjoy this
• Residents organise activities within the area, either for themselves or for the local ocmmunity

2.2 Trust in institutions
"People have a high level of confidence in social and political institutions"

Subjective (formal/attitudinal)
Vertical (political)

Based on: Organisation for Economic Cooperation and Development [OECD], 2017; "Trust in Government, Policy Effectiveness and the Governance Agenda," 2013

To build institutional trust means to reduce the gap between the actual performance of public services and procedures, and the expectations of citizens. According to the OECD (2017), trust in institutions is dependent on the competence and values of these institutions. The competence is defined by the responsiveness and reliability of public services, which depend on the availability, timeliness, and quality of the services as well as the access to them. Engagement, respect and response also matter for the reliability and responsiveness of the public services. However, for people to have confidence in social and political institutions, the principles that guide the provision of services are as important. Integrity, openness and fairness are key both in the design and the execution of policies or services. Engagement and participatory processes contribute to building institutional trust as it reduces the gap between outcomes and expectations. How power is exercised is possibly more important than how access to power is organised.

REQUIREMENTS

• Competence of the institutions
• Integrity, openess and fairness from institutions and representatives in the interactions with residents
• Expectations of residents towards the performance of public services and the procedures of (local) authorities, government and institutions should be met

DESCRIPTION OF IDEAL SITUATION

• Local government adheres to integrity principles and seizes critical opportunities to demonstrate this
• Political leaders (and other representatives) lead with example
• Public services align with citizen's needs, experiences and preferences
• Public services are accessible, reliable, of sufficient quality and timeliness
• Local government and public institutions are transparent and include their citizens and other stakeholders in the policy making process, the design, and delivery of public services
• Local government and public institutions are accessible, and open for citizen's initiatives
• Citizens receive support for bottom-up initiatives
• Citizen's are being actively involved in the process of policy making and the design of public services

2.3 Perception of fairness
"People believe that society's goods are fairly distributed and that they are being treated fairly"

Subjective (formal/attitudinal)
Vertical (political)

Based on: Lind & Arndt, 2016; Organisation for Economic Cooperation and Development [OECD], 2017; "Trust in Government, Policy Effectiveness and the Governance Agenda," 2013

A perception of fairness of the treatment of citizens as well as the distribution of services and public goods requires that (during procedures) citizens feel heard and that their views have been considered, that they have been treated with respect and dignity, and that they have received helpful and honest information regarding the process and/or outcome. Consistency in the treatment across different geographical areas and social groups furthers the perception of fairness, and as such also contributes to the trust in institutions.

REQUIREMENTS

• Equal access to resources between social groups or areas
• Consistency in treatment of different social groups or areas
• Fair processes
• Sufficient, accessible, inclusive and timely information regarding processes, services and policies
• Citizens should be treated with respect and dignity
• Citizens should feel heard and that their views have been considered

DESCRIPTION OF IDEAL SITUATION

• Citizen's experiences with (local) government and public institutions leaves them feeling treated fairly
• In their interactions with the (local) government and public institutions, citizens feel heard, respected and are provided with honest, timely and comprehensible information and explanations about the regulatory or administrative processes and about the reasons for decisions
• In any interaction with the (local) government and/or public services, citizens are provided with an explanation of how the process will play out, a description of what the decision criteria are, and an account of how the decision maker will go about arriving at their decision.
• Citizens receive support for bottom-up initiatives
• Citizen's are being actively involved in the process of policy making and the design of public services

DOMAIN 3 | FOCUS ON THE COMMON GOOD

3.1 Solidarity and helpfulness
"People feel responsibility for others and are willing to help them"

Objective (substantial/behavioural)
Horizontal (socio-culture)

Based on: Hjerm et al., 2019; Martínez-López et al., 2022

Solidarity denotes shared actions that demonstrate a group's willingness to bear 'costs' (financial, social, emotional, or otherwise) in order to help others. It "should be interpreted as the personal identification with the group commitment to aiding those to whom we are related in various ways: particular individual, groups, and/or society. According to Martínez-López et al., (2022, p.3) solidarity can be defined as: (1) "a shared, collective norm, (2) an implicit or explicit moral commitment",

implying that the solidary individual believes that acting in this manner is morally better for the community's well-being than not acting, and (3) a willingness to be harmed in exchange for a collective gain . Solidarity is inherently partial, as it extends only to the members of a group or to individuals we are related to. Altruism extends beyond the welfare of a particular group, without the expectation of rewards from external resources.

REQUIREMENTS

• Shared norms and values for cooperative and solidary behaviour
• Collective identity
• Shared purpose
• Shared narratives
• Shared interests
• Examples of solidary actions
• Opportunities for solidary actions
• Monitoring and sanctioning of non-solidary behaviour
• Observability

DESCRIPTION OF IDEAL SITUATION

• Residents are involved with each other
• Residents feel responsibility for the wellbeing of (the members of) their community
• Residents offer help to each other/other people, without being asked
• Residents engage in unpaid, voluntary community activities that benefit (parts of) the community
• Residents engage in unpaid, voluntary social service activities that benefit (parts of) the community

3.2 Respect for social rules
"People abide by the fundamental rules of society"

Objective (substantial/behavioural)
Vertical (political)

Based on: Ahn et al., 2020; Child Protection Programme Team and Social and Behavior Change Team, Programme Group, 2021; Gross & Vostroknutov, 2022; Nickerson, 2023; Szuster, 2016

Human behaviour, or the acceptable, expected and appropriate actions within a group, is informed by social norms: mostly unwritten, perceived informal rules. They are crucial for ensuring cooperation and the establishment of trust-based social relationships. Social norms are learned and internalised from an early age onward through socialisation, when rewards for conformity or sanctions for the violation of norms are observed and experienced. Social learning recognises that norms and the degree to which they are followed is influenced by beliefs and observations about others. This implies that to maintain norm adherence, a critical mass of people that follow the norm is needed (or people need to believe that others do so). Norm abidance is further motivated by the preservation of our social-

and self-image. Individuals engage in a behavior because they think that others like them or in their community engage in the behavior (descriptive norms) or because those who matter to them approve of their engaging in the behavior (injunctive norm). Moral norms are followed because people believe it is the right thing to do, despite what might be expected from them. For one to determine what norms to follow, a reference group is required: the 'others' whose opinions, behaviours and expectations are considered when deciding whether or not to engage in certain behaviour.
Social norms are crucial to the production and continuation of social order, as they help groups and societies to function as the norms bind them together and encourage collective behaviour.

REQUIREMENTS

• Examples and observations of norm adherence (including the rewards and of the punishment for norm violations)
• Socialisation
• Critical mass
• Shared purpose
• Shared narratives
• Shared norms and values
• (in)Formal monitoring and enforcement of behaviour

DESCRIPTION OF IDEAL SITUATION

Residents know what kind of behaviour is expected and accepted
• Residents speak to each other about undesirable behaviour
• Residents feel safe in their environment
• There is little nuisance from neighbours and if it does occur, people dare to speak to each other about it
• People maintain their property
• Rubbish is placed where and when it belongs, and it is collected on time
• Public space is well-managed, safe, walkable
• Social control and formal control is in place
• Traffic rules are respected, and traffic is well regulated

3.3 (Civic) participation
"People participate in society and political life and enter into public discussions"

Objective (substantial/behavioural)
Vertical (political)

Based on: Banyan, 2013; Civic Engagement, 2009; Office of Disease Prevention and Health Promotion et al., n.d.; Van Deth, 2016

Civic engagement refers to a broad collection of collective or individual actions and attitudes of involvement in political and social life with the objective to improve the functioning of a democratic society. These actions include efforts to directly address a problem, or collaborative action to solve an issue, or the interactions with representatives or representative institutions of democracy.
Social participation takes form in for example volunteering or engagement in group or community activities such as gardening or a book club. The activities can benefit the group members or society in general, and they can be informal or formal actions. Political participation is "any voluntary, nonprofessional activity concerning government, politics, or the state" (Van Deth, 2016). Participation in civic life according to Office of Disease Prevention and Health Promotion et al., (n.d.) means to belong to a group and to take part in meaningful activities, which promotes the development of social capital and of someone's social network, a sense of purpose, and it contributes to one's health. It is considered an essential aspect of democracy and a fundamental manifestation of civil society.

REQUIREMENTS

• Opportunities and infrastructure for residents to partake in social action and political action
• Support from institutions and authorities to participate in processes or to undertake action or to set up initiatives for the development of the local community or area
• Inclusive and accessible procedures for political participation and participation in community or area improvement
• Trust and cooperation between residents, and between residents and institutions
• Resources and capacity to undertake social action
• Bridging ties between the local community and the institutions or authorities

DESCRIPTION OF IDEAL SITUATION

• People are involved in the neighbourhood (community), and to some extent also in the city
• Action is taken by (a group of) local residents when something is not working, needs to be done or when people want something
• People know the way to the right people within the municipality/public institutions
• Public institutions and the municipality effectively support initiatives
• Residents partake in voluntary activities
• Residents are politically engaged and active

SOCIAL INTERACTIONS

From the descriptions of the dimensions of the social cohesion model of the Bertelsmann Stiftung, including the requirements, indicators and an ideal situation, some conclusions can be drawn.

The first domain, social relations, relies on social interactions and shared experiences. Trust, social networks and acceptance of diversity all require some degree of shared values and norms regarding social behaviour. Acceptance of diversity furthermore requires that people can to a certain extent predict the behaviour of the 'other', meaning that they share not only norms or values, but also some characteristics such as interests, socio-economic status, ethnicity, or religion.

Identification, the first dimension of the second domain, also depends on social interactions and shared experiences, in a specific territory among a certain group. Agency and ownership over this territory might help in the formation of place attachment, as well as a sense of belonging when that ownership and the agency is shared with the community. For place attachment to develop, the quality of the environment and the level of satisfaction with it among residents matters too and affects the level of attachment.

The next two dimensions (Trust in Institutions and Perception of Fairness) rely on the actions of public institutions and the (local) government, as well as their services. They are also affected by how public institutions conduct their procedures, the contact with citizens, and how well citizen feel that they are considered in these procedures and the outcomes. Although positive experiences have a strong effect on attitudes and the feeling of being included, negative experiences and perceptions have an even stronger effect on the overall perception of fairness.

The third domain (Focus on the Common Good) relies again on shared norms and values that favour social, solidary and helpful behaviour. Solidarity and respect for social rules both require the social and formal environment to monitor and steer behaviour

by setting the right example, rewarding desirable behaviours and the punishment of unacceptable behaviour. The final dimension, civic participation, requires an infrastructure for citizens to engage in social and political life. In addition, civic participation requires citizens to have the capacity, resources, confidence and trust in the institutions to partake.

From this summary we can deduce that, as already stated in the theoretical exploration, social interactions and behaviours are one of the building blocks of social cohesion. However, by taking apart the dimensions of social cohesion it is possible to distinguish the specific interactions that would facilitate the formation of (the dimensions of) social cohesion and the desirable characteristics of these interactions. The first conclusions that can be drawn from the operationalisation of the dimensions of social cohesion are that the social interactions need to occur regularly, over a longer period of time, and that they should be positive. These interactions should be between residents that are known as well as residents that are different. The interactions with the public institutions and other formal figures matter for social cohesion as well, and should live up to the expectations of the residents. Shared norms, values, experiences and actions matter for the evaluation of an interaction or behaviour, and thus for perceptions.

The taxonomy of social interactions developed by Hoppler et al. (2022) will be used to further develop an overview of the desirable characteristics and types of interactions for social cohesion. From their table of characteristics per component of social interactions, we have deduced the following aspects to the describe the interactions.

ACTOR	This is one of the participants in the interaction, and from whose perspective the interaction is described. For social cohesion, both direct and indirect participation in the interaction can be beneficial. The motivation for an interaction can be based on high-level human needs, such as safety or self-actualisation, as well as a need for more direct social or practical support, for instance to ask for help with moving.
PARTNER	This refers to the other participant in the interaction. While in colloquial English a partner usually refers to a single individual, in this context it can also refer to a group of people, or an institution. This also holds for the actor, meaning that a social interaction could also occur between two groups of people.
RELATION	The relation between the two participants in an interaction can be affected by or affects the perception of the interaction. The relationship can be ordered based on the familiarity of the actor and partner with each other, but also based on the power dynamics between the two participants. The degrees of familiarity can be described as stranger, acquaintance, social relations and social ties. Neighbours and residents can span all these levels of familiarity, while formal figures most likely will be regarded as strangers or acquaintances. Social relations are those relations that are often formed in the context of for example religious, cultural or interest clubs (socialisation spaces).
ACTIVITIES	There are many types of actions that people can engage in that will benefit the formation of social cohesion. They can be face-to-face or non-verbal interactions (such as nodding). This also means that the actions can be more or less superficial. In general, the activities can be conversations; production of knowledge, art, stories, food, produce, or capital; leisure activities such as play, sports or consumption; mundane actions such as walking the dog, doing groceries or the daily commute to work or school. The activity can also exist of the exchange of resources or support; political or social action; or cooperation.
CONTEXT	The context of where an interaction takes place affects the interaction itself. For this research, the context exists of physical public spaces. However, the context in this taxonomy of social interactions also refers to the possibility that an interactions occurs on an event: a celebration, a meeting, collective action, volunteering, or a workhop for example. The setting of these interactions can be formal or informal. Some of the interactions will take place in a (in)-formal political context. As already determined, for the formation of the different dimensions of social cohesion the duration of interactions matters, and so does the frequency and the occurrence of the interactions over time. Fleeting contact and short ineractions are beneficial for social cohesion, but longer interactions as well. The interactions can be planned or unplanned, and can occur on a regular basis or infrequently. Lastly, for social cohesion specifically these interactions should occur over time, and for some dimensions in different social settings.
EVALUATION	The evaluation of an interaction occurs constantly and automatically. For social cohesion, it is required that the evaluation of an interaction is positive, and that expectations of the interaction should be met or exceeded.

SOCIAL INTERACTIONS FOR SOCIAL COHESION

Combining the insights and findings from the description of the dimension with the structure of the social interactions taxonomy, it is possible to provide an overview of desirable interactions for social cohesion on the level of the local community.

It is important to note that in this overview not all the components of the taxonomy are mentioned per interaction. This is because some of the characteristics of the interactions are important for each type of interaction. Furthermore, some of the components are easier to translate to actual design interventions, such as the context or the type of action, while other components depend on the actors and partners (the evaluation for example). It does not mean that these aspects will not be considered, it is just that they do not let themselves be captured in a description of an interaction so easily. Since the main goal of the operationalisation is to define the urban design objectives, for this purpose a description of the type of interaction, between whom (the relationship), and to which dimension(s) of social cohesion it could contribute suffices.

A final note on these interactions is that, as already mentioned before, the contacts in a neighbourhood or a local community are of a specific kind, different from relationships with family or with for example colleagues. It can suffice if residents know each other, if they are willing to engage in actions or activities for the wellbeing of the community, and if they respect the social rules.

Greetings and/or small talk
- Between strangers, acquaintances, social relations, strong ties, formal figures
- Can be verbal or non-verbal
- Contributes to acceptance of diversity, social networks, respect for social rules

Socialising
- Between social relations, strong ties
- Socialising can happen in all public spaces
- Socialising can be recreational and leisure activities (play), hobby activities, cultural activities, consumption
- Contributes to social networks, trust in other people, solidarity, identity, acceptance, civic participation

Personalisation
- Of a place, of seating, of the use of a place
- Contributes to identification, trust in other people, social networks

Socialisation
- Between strangers, acquaintances, social relations, strong ties, formal figures
- Observing the behaviour of others
- Can contribute to solidarity and helpfulness, respect for social rules, trust in other people

Necessary (routine) activities
- Between strangers, acquaintances, formal figures
- Grocery shopping, walking the dog, market round, commuting, route to school or health care
- Could result in regular social interactions (visual or verbal, short or long, informal or formal)
- Contributes to trust in other people, acceptance of diversity, identification

Resource exchange
- Between acquaintances, social relations, strong ties, formal figures
- Can be of information, of time, of connections, of money, of food, of tools, emotional support
- Contributes to social networks, trust in other people, solidarity and helpfulness, respect for social rules

Cooperation
- Between strangers, acquaintances, social relations, strong ties, formal figures
- Contributes to identification social networks, trust in other people, acceptance of diversity, solidarity and helpfulness, civic participation, respect for social rules

Community empowerment
- Initiated by residents or the local government
- Can be a participatory process, or a bottom-up community-led process
- Supported by the government and other institutions
- Contributes to civic participation, trust in other people, trust in institutions, identification, social networks, perception of fairness

Production of knowledge, food, resources
- Between strangers, acquaintances, social relations
- Production of knowledge means learning, the production of resource scould be the creation of social capital or community resources.
- Contributes to social networks, civic participation, trust in other people, solidarity and helpfulness, respect for social rules, acceptance of diversity, identification

Events

• Between strangers, acquaintances, social relations, formal figures
• Can be leisure, production, informative, sports, interests, celebratory, meeting, convention, religious, cultural, club, trip
• Contributes to social networks, acceptance of diversity, identification, solidarity and helpfulness, civic participation

Creation or improvement of a space

• Between acquaintances, social relations, formal figures
• Can be a participatory process, or a bottom-up community-led process
• · Supported by the government and other institutions
• Contributes to trust other perople, trust in institutions, civic participation, perception of fairness, identification, social networks, respect for social rules, solidarity and helpfulness

Ownership

• Of a space or the process of the creation or maintenance of the space
• Contributes to trust in other people, identification, solidarity and helpfulness, respect for social rules

Recreational activities

• Can take place in any public space, between any relationship
• Contributes to social networks, acceptance of diversity, solidarity and helpfulness, identification, respect for social rules

Sharing of ownership or maintenance

• Between acquaintances, social relations, strong ties, formal figures
• For example a shared residential garden, a community garden, a community centre, a playground
• Contributes to trust in other people, social networks, identification, acceptance of diversity, trust in institutions, solidarity and helpfulness, respect for social rules, civic participation

Active leisure

• Between strangers, acquaintances, social relations, strong ties
• In parks, playgrounds, squares, green pockets or on the streets
• Contributes to social networks, trust in other people, identification

Sharing of a space, tools, furniture

• Between strangers, acquaintances, social relations, strong ties
• In a park, a square, street, green pocket, playground
• Contributes to trust in other people, social networks, respect for social rules, acceptance of diversity, solidarity and helpfulness, identification

Religious or cultural activities

• Between strangers, acquaintances, social relations, strong ties, formal figures
• At events; in gardens, parks, squares
• Recreational and leisure activities, volunteering, production of knowledge, resources or food
• Contributes to social networks, trust in other people, solidarity and helpfulness, identification, acceptance, of diversity

SPATIAL TRANSLATION

Now that we have established what type of interactions with which characteristics are beneficial for social cohesion, we need to determine from a spatial perspective how the design of public spaces can facilitate these interactions. A first step in this spatial translation is the determination of the types of physical settings that are likely to exist in an urban area in the Netherlands. Following the theory of the behaviour setting, the space where an interaction takes place affects the expectations of the interactions that are likely to take place there. This idea of the impact of the context of an interaction on the interaction itself also comes back in the taxonomy of social interactions. In this chapter, we will focus on the physical public settings only. However, within these physical settings, other social settings such as events can be created as well.

The typologies of physical public settings is developed based on the idea that depending on the physical public space, some interactions between relations are more likely to occur than others. Furthermore, it is a way to incorporate the different scale levels of the urban area, which affect the types of relationships and interactions as well.

For this overview, several categorisations of public space have been considered (namely: Bouwstenen voor Sociaal, 2013; Jafrin & Beza, 2018; UN-Habitat, n.d.; Victorian Planning Authority, 2017). However, they did not seem to provide an appropriate categorization of public spaces for physical public settings in urban areas in the Netherlands. Therefore, the categorisations have been used as an inspiration to develop an overview of physical public settings that are likely to be found in urban areas in the Netherlands. For this research it matters most what type of space it is, as in which interactions and behaviours are likely to occur there, as well as the spatial scale. The types of settings have been defined based on this.

Residential street

A quiet neighbourhood street serving walkers, cyclists, and drivers with low traffic volumes and slow speeds, connecting mainly residential buildings to local services and destinations and to the larger infrastructure network

SOCIAL INTERACTIONS

- Greetings and/or small talk
- Resource exchange
- Sharing of a space, tools, furniture
- Socialising
- Socialisation
- Creation or improvement of a space
- Necessary (routine) activities
- Events
- Ownership
- Personalisation

USERS OF THE SETTING

- Primarily residents (from the street)
- Residents from the neighbourhood or block
- Visitors

Shared residential garden

A garden adjacent to residences for shared use by often times the residents. Can be open to all public, or with limited access based on time, membership or control over access

SOCIAL INTERACTIONS

- Greetings and/or small talk
- Resource exchange
- Sharing of ownership or maintenance
- Sharing of a space, tools, furniture
- Socialising
- Production of knowledge/ food/resources
- Socialisation
- Creation or improvement of a space
- Community empowerment
- Cooperation
- Active leisure
- Religious or cultural activities
- Recreational activities
- Events
- Personalisation

USERS OF THE SETTING

- Primarily residents (from the block)
- Residents from the neighbourhood
- Visitors

Neighbourhood commercial street

Commercial neighbourhood streets support a mix of uses and are the most public streets in the neighbourhood. These streets know a variety of destinations: work, retail, cultural, residential, public services, health care, consumption.
People use neighbourhood commercial streets for shopping but also for other active and passive engagements such as entertainment, leisure and relaxation. Besides the primary activity of acquiring goods and services, people go shopping to meet and spend time with their friends, to look around and observe others, and to linger.

SOCIAL INTERACTIONS

- Greetings and/or small talk
- Resource exchange
- Socialising
- Socialisation
- Necessary (routine) activities
- Recreational activities

USERS OF THE SETTING

- Residents from the area
- Visitors

Green pocket

Green pocket or green space is a part of green infrastructure and an essential component in public open spaces that serves the community from a broader perspective
Can be vegetation barriers, small gardens or parks, green roofs and façades, greenways and corridors

SOCIAL INTERACTIONS

- Greetings and/or small talk
- Sharing of ownership or maintenance
- Socialising
- Socialisation
- Creation or improvement of a space
- Necessary (routine) activities
- Active leisure
- Recreational activities
- Events

USERS OF THE SETTING

- Residents from the neighbourhood or block

Play areas

A playground is an outdoors area, varying in size, where children and/or teens from different or specific ages can play. There is usually some recreational equipment present, and/or facilities for informal games of adult sports such as basketball or soccer. Some playgrounds are designated for specific age-groups or abilities, others have several areas for different ages. There are playgrounds with swings and playhouses for young children as well as football pitches, basketball courts and urban outdoor sports spaces for teens. Playgrounds can be as small as a pocket area or as big as a square or part of a larger park. Playscapes are also possible. Often, there is a variety of types of playgrounds in an urban area

Greetings and/or small talk
Sharing of a space, tools, furniture
Socialising
Socialisation
Active leisure
Religious or cultural activities
Recreational activities
Events
Personalisation

USERS OF THE SETTING
Residents from the area, neighbourhood and/ or block
Visitors

Neighbourhood park

Serves as a social and recreational focal point for neighborhoods and the surrounding area(s). Neighbourhood parks often offer a range of uses, facilities and activities. Often times, a neighbourhood park provides access to nature, play and other forms of recreation

Greetings and/or small talk
Resource exchange
Sharing of a space, tools, furniture
Socialising
Socialisation
Community empowerment
Necessary (routine) activities
Active leisure
Religious or cultural activities
Recreational activities
Events
Personalisation

USERS OF THE SETTING
Residents from the area
Visitors

Community gardens

A community garden is a piece of land cultivated or gardened by residents, either collectively or individually. The production of food can be a shared responsibility, where the produce belongs to all participants, or each individual can be responsible for their own plot. Often, the community garden has a common area as well. The size of the garden can vary, as well as the location. The land can be publicly or privately held, for example by the community itself, the municipality, a non-profit association. The garden can be open to the general public, or only to members

SOCIAL INTERACTIONS
- Greetings and/or small talk
- Resource exchange
- Sharing of ownership or maintenance
- Sharing of a space, tools, furniture
- Socialising
- Production of knowledge/ food/resources
- Socialisation
- Creation or improvement of a space
- Community empowerment
- Cooperation
- Religious or cultural activities
- Recreational activities
- Events
- Personalisation

USERS OF THE SETTING
- Residents from the area or the neighbourhood

Neighbourhood square

A square that is frequented from day to day throughout the year by those who live in the neighbourhood, surrounded by a mix of (local) functions that serve the community

SOCIAL INTERACTIONS
- Greetings and/or small talk
- Socialising
- Creation or improvement of a space
- Community empowerment
- Necessary (routine) activities
- Cooperation
- Religious or cultural activities
- Recreational activities
- Events

USERS OF THE SETTING
- Residents from the street or the block
- Residents from the neighbourhood

Residential square

A place that sits within the residential buildings, often facing the entrances, which can have a variety of functions: a green space, playground, parking, garden, water infiltration/retention or a combination of those

SOCIAL INTERACTIONS

- Greetings and/or small talk
- Sharing of ownership or maintenance
- Socialising
- Creation or improvement of a space
- Community empowerment
- Necessary (routine) activities
- Cooperation
- Religious or cultural activities
- Recreational activities
- Events
- Personalisation

USERS OF THE SETTING

- Residents from the street or the block
- Residents from the neighbourhood

URBAN DESIGN POTENTIAL

As discussed in the theory section, the publicness of a public space affects who might make use of a space and how. As we have established, the type of setting affects who is likely to make use of a space and what type of interactions they might engage in. In the theory section it was further discussed how environmental affordances and the quality of a space further determine whether people will engage in certain activities.

This shows that the design of a space matters too. For social cohesion to be facilitated it is not only important that people visit the space, but they need to (be able to) spend time there so that they can partake in social interactions. Furthermore, it is essential that people return to a space, so that the interactions can occur repeatedly. Repeated visits of a space also allow for spatial attachment to form. How could this be realised through the design of the space?

It is crucial that the publicness of the space is considered: the space should be accessible and inclusive. The management of a space, or more specifically the maintenance, is also a defining quality of the publicness of space. So are the control over the space and the ownership. An important determinant for the potential use of a space is the presence of liveliness, the presence of other (non-threatening) people is a determining factor in the facilitation of social interactions.

Various scholars have attempted to determine desirable qualities of urban spaces. Heath et al. (2010) present six different conceptualizations of the desirable qualities of successful public spaces, as well as the design dimensions of urban design. From the perspective of social cohesion, the following desirable qualities can be distilled from their discussion of the dimensions and qualities:

• Connectivity to the greater network of public spaces and transportation
• Comfort in climate, use and movement
• Degree of personalisation (of use, movement, senses, personal space, climate)
• Permeability of view and movement
• Imageability of the space (historical, social, cultural)
• A variety of uses, users, functions, material, landscaping
• The robustness of the space, throughout the seasons and the years
• The safety of a space

A successful place for the facilitation of social cohesion is thus accessible and inclusive, well-connected to the larger network of public spaces and the transportation network, it is a safe and comfortable space that allows for personalisation, provides various options of uses and activities throughout the day, the seasons and the years, is easy to see and move through, has character, and is lively with other users.

How can these qualities be realised? This is defined through the selection of specific design elements. Heath et al. (2010) discuss extensively the dimensions and aspects of urban design, from which specific design elements can be distilled. Of course, this list does not pretend to present an exhaustive overview of urban design elements. Rather it aims to provide a more structured way of thinking about the design of a space and how the different elements could contribute to the qualities of the space. There are far more design possibilities regarding for example the landscape or furniture, this list just provides a starting point for thinking about designing for social cohesion.

The choice of the specific uitwerking of the design elements will contribute to the quality of the space and the degree to which it will allow for people to come, stay and return to the space. In addition, the choice of design element can inhibit or facilitate social interactions. Depending on the design of each element, it could potentially facilitate the desirable interactions for social cohesion.

Location - The connection of the space to the greater network of public spaces and transportation
Access - The entrances to the space
Movement - The access of traffic, the management of traffic and/or pedestrian movement, traffic safety measures, parking management
Accessibility - Physical, mental, social; of the space, of its services or destinations, of the use
Boundaries - Edges, facades, transition zone
Landscape - Vegetation, trees
Climate - Shelter, shade, sun, wind, rain water control, open water
Furniture - Seating, lighting, bins, tables, play equipment, public toilet, wifi points,
Destinations - Land use (residential, office, commercial, public), destinations and services (supermarket, shops, café, bank, community centre etc.)
Volumes - Height, distance
Meaning - Art, monuments, heritage
Management - Control of access, behaviour, maintenance, cleanliness
Ownership - Public, private, community
Programming - Events, vendors, artists
Signage - Routing, rules of behaviour, rules of access

ANALYTICAL FRAMEWORK

In this section we have operationalised social cohesion into tangible design objectives, qualities, and elements. Furthermore, we have set out what settings are likely to be present in a Dutch urban area, and how these physical public settings will affect the social interactions. For these interactions, we have determined the desirable characteristics, to be able to determine the extent to which urban design could facilitate these characteristics. With these components it is possible to develop a framework that shows how urban design could facilitate social cohesion.

In this framework, both the social and spatial dimension are taken apart to show the smallest unit which can be designed for, and can be designed with. The connection between the two dimensions is formed by and depends on the individual and their perception of the space. Design elements can contribute to the qualities of the space and/or allow for specific interactions, and depending on the perception of the individual these interactions might take place, contributing to one or more dimensions of social cohesion. Other influences that should be considered are the behaviour setting and the larger social, political, historical, economic and cultural context.
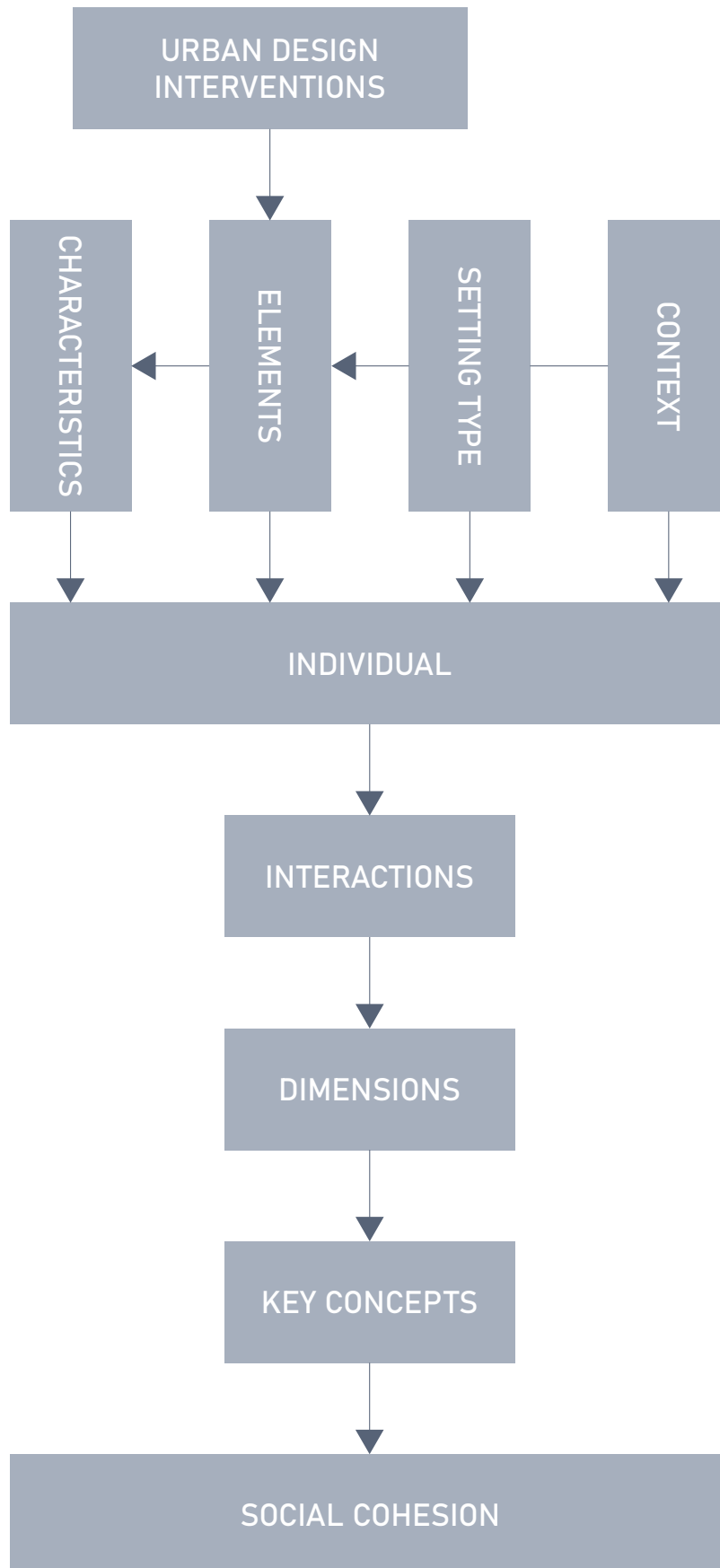
The framework conceptualizes the process of how the design elements contribute to the desirable qualities of a space, and how the perception of the space could result in the favourable interactions for social cohesion. This is based on the insights and theories depicted in the theoretical framework.

The analytical framework provides urban designers a social lens to assess the extent to which a public space could facilitate social cohesion in a structured way. It shows the different components that affect the outcome of social interactions, and how these components interact with each other. As such, it provides clues as to what to pay attention to and what to consider when analysing a space for its potential. A description of specific design interventions serves both as a reference for the assessment, as well as a starting point to come up with suggestion for the

social improvement of a space.

The framework should support urban designers in gaining a better understanding of the spatial contribution to the social cohesion of a local community. Furthermore, it helps designers to gain insight into potential issues, opportunities or limitations of the space. This should contribute to effective design and policy decisions, as het duidelijker is in hoeverre de ruimte eventueel zou kunnen bijdragen aan het verbeteren van bepaalde issues ten opzichte van sociale cohesie. The assessment based on the framework could for example result in no clear issues with the space itself, which could mean that the problem might be with something else (socio-economic inequality, lack of trust in institutions, lack of services, lack of capacity, conflicts between groups). Although some of these issues will find an expression in the space, the solution might lie somewhere else.

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THE USE OF THE FRAMEWORK

How should the framework be implemented for the social assessment of an outdoor physical public space? When it is established that either there (might be) issues regarding the social cohesion of a local community in a specified urban area, or when it is the desire of stakeholders to strengthen the social cohesion, one of the aspects to consider are the outdoor physical public spaces of the area.

Although the framework is meant for the analysis of a specific setting, it should be considered that this setting is set in a larger context. It is important to have an understanding of the larger context to be able to properly assess the setting itself as this provides insight into who might make use of the space, potential issues and the general socio-spatial understanding of the setting.

Therefore, the analysis should start with a general analysis of demographic, socio-spatial and historical information on the area at least in a radius of 150m, but preferably at the level of the neighbourhood or district.

At the scale of the 150m radius (and if necessary at a larger scale as well), all settings should be identified. Furthermore, the connectivity of the specific setting to the larger network of settings should be analysed. This provides some first insight into how much the space could be used by whom, and whether it is the only type of setting in the area or whether there are multiple of the same type in proximity.

What type of setting is the place itself, and what would be the ideal social and spatial expectations of such a setting? For example, in a street it would be desirable to see front gardens of a limited depth (from a social cohesion point of view), while in a playground it would be preferred to see at least three different types of play objects. Front gardens would not be expected here.

This step is the development of a frame of reference for the assessment of the actual space. The focus should be on the (configuration of) design elements and how this would facilitate specific interactions that are required for the formation of social cohesion.

The next step consists of the actual analysis and assessment of the space, using the qualities as a structure. The design elements that are expected to contribute to the qualities should be highlighted to determine how they would contribute to this.

Besides the qualities, the configuration of the different elements should be analysed to determine what specific interactions could originate from that. It should also be assessed how the configurations contribute to the qualities.

Based on these two steps of analysis of the design elements and their potential contribution to desirable interactions and/or qualities, it should be possible to
– Formulate hypotheses of how the space would contribute to the social cohesion of a local community of a specific area
– Indicate potential issues to the spatial facilitation of social cohesion
– Indicate opportunities to improve the design of the space to facilitate specific interactions

This should not be the final step of the analysis and assessment, as this only provides an idea of the spatial contribution. It is essential that the hypotheses based on a spatial analysis are tested. First of all, it should be verified whether the expected interactions do indeed occur, between whom, when and what the evaluation of the interactions is. Is the space used as expected,

and by whom? Are there particular groups of people missing? Are there dominant user group(s)?
How satisfied is the local community with the space? Does it accommodate their needs and/or desires? Do they encounter any issues when using the space, or do they have reasons not to use the space?

The next step should be to determine what issues could be addressed through the design of the space, and whether this is desirable.

It is important to, when designing for social cohesion, keep in mind the effect of the scale level one is focusing on and on which scale level the setting serves the community. The local community should be clearly defined to be able to define whether the space could be improved to strengthen the community.
The scale level is a significant factor in the determination of whether something is an issue, and for whom. This is because some settings, such as a

residential garden, have a different group of people they serve on a much smaller scale than a neighbourhood park for example. Therefore, it might be desirable for the residents to control the access over their space, which could increase the social cohesion of that particular group of residents. However, it could at the same time result in the exclusion of residents from the block or neighbourhood. The question whether this is an issue or not is up to the larger community and local authorities or professionals to determine. It is however the responsibility of the urban designer to bring awareness to the effect of certain proposed measures on other scale levels besides the level the space serves.

To assist the urban designer in the assessment of the social potential of a public space and to come up with design improvements, the next section provides a reference of possible design interventions for the facilitation of social cohesion.

URBAN DESIGN FOR SOCIAL COHESION

For social cohesion, the quality of the space matters for the likelihood of interactions to take place. However, it also matters how these qualities are realised. For example, the addition of a public toilet is generally assumed to increase the accessibility and inclusiveness of a space. However, this strongly depends on the type of toilet that is placed. Only when the toilet is accessible for all genders and abilities, it actually contributes to the accessibility and inclusiveness of a space. A toilet that can only used by men could even have a negative effect on the perceived safety and cleanliness of a space, which could result in the exclusion of certain groups of people. Another example that illustrates the effect of the selection and configuration of the design elements on the qualities or interactions that could take place in a space is seating. Benches that are placed in groups will be used by other people than benches that are placed isolated. Movable seating contributes to personalisation and trust in other people, while seating that is placed on the edges allows for refuge, socialisation, socialising. To prevent the use of benches by those without a home, most benches in stations or other waiting areas are less user friendly.

There are some elements and combinations of elements that matter specifically to the facilitation of interactions for social cohesion, and social cohesion overall. What follows is a description of design elements or combinations of elements that are generally associated with a positive contribution to social interactions and/or qualities of urban spaces. These interventions for social cohesion are based on several urban design guidelines and studies.

BOUNDARIES

If permeable, not too high and preferably of a material that is nice to look at (greenery, wood, stone)/friendly, it will not only allow for natural surveillance, but also for greetings or small talk for example. Furthermore, it contributes to the permeability of a space. Natural surveillance allows for social control, which contributes to a sense of safety and potentially the unsupervised use of a playground for example by children

COMBINATION OF USES AND/OR FUNCTIONS

When uses and/or functions are logically combined, it most likely will increase the use as well as the diversity of the users. For example, a playground could be located next to a day care or a health care centre, a community centre, a supermarket, or a library. Since a playground will most likely attract caretakers, a little coffee corner with some tables and for example a shared library could allow them to keep an eye on their children while socialising, reading, or working for example. A public toilet would support a longer use of the space, and the use of the coffee corner by elderly for example. For the playground itself, it could include play areas for different age groups, including an outdoor urban sports area for example which could be used in the evenings by other people. Furthermore, it is best to offer at least three different play objects. And if there is space, events could be organised in the space as well. This ensures that a large and diverse group of people will be motivated/allowed to make use of the space.

MOVEMENT

Movement, and specifically the management of vehicular traffic is a determining factor in the use of streets and the potential of social interactions to occur. Slower traffic speeds will make it more attractive for people to linger and stay in a place. Shared spaces are a good way to slow traffic down. If cars still need to pass through the street, it is important that the pedestrians feel safe. Safety measures such

DESTINATIONS AND FUNCTIONS

Destinations and functions of a commercial street or a neighbourhood square are determinants of the accessibility and inclusiveness of a space. It is important to consider the appropriateness of the destinations of a street or square. Depending on the configuration of the population and specific characteristics, it might be more appropriate to have restaurants and supermarkets with specific food and delicatesses. This contributes to the sense of belonging, and representation. Economic appropriateness refers to the affordability of produce and services on offer. A variety of functions and destinations contributes to lingering activities which might result in social interactions beyond greetings.

FACADE DESIGN

The design of façades and shopfronts matters in various ways. First of all, if it is appropriate for the population, it might contribute to a sense of representation and belonging. Secondly, the shopfronts and especially the openness and activity throughout the day and night contributes to liveliness and a sense of safety. Lastly, when a façade has little nooks and notches, it not only looks nice, but it also facilitates the possibility of refuge.

EDGES

Edges are important for this as well. They should offer an opportunity for informal seating, shade, shelter, and refuge.

TRANSITION

The transition zones from public to private, especially around entrances/exits are places where the likeliness of regular, short interactions or (un)expected encounters, exchanges of information or resources are high. As such, the design should allow for seating, refuge, shelter, it should be well lit in the evenings, it should be safe, and recognizable. Public

art or monuments are types of landmarks that mark an entrance and contribute to identification.

Front gardens are a particular element of the transition zone. As long as it is not too deep, a front garden offers a place for regular interactions between neighbours/residents, while it also is an opportunity for Personalisation and recreation. Furthermore, it is a place through which norms can be expressed. However, when a front garden is too deep, it will not allow for (short) social interactions between neighbours.

FURNITURE

Regarding furniture, seating is an interesting and versatile aspect. Depending on how the seating is arranged, what type of seating it is, whether it is movable or not, where it is located within the space as well as in relation not the elements, matter for the use of it. Some people prefer grouped seating, while others prefer isolated places to sit. When furniture is movable, it allows for personalisation, while it could also contribute to the trust in other people if used properly. If seating is placed in the middle of a busy place, it is less likely that it will be used, as people rather prefer a safe spot from which they can observe what is happening without having to watch their back. Shading, either provide by trees or other elements, as well as places in the sun will allow for comfortable use

PROGRAMMING

Programming, such as the hosting of events, workshops, street artists, or celebrations offer opportunities for people to connect to the space, interact with different people, learn skills or gather knowledge (about each other or the place for example), cooperate, learn about others, or produce something. Events or so can also help in facilitating the use of a space throughout the year, and by diverse groups of people, possibly from outside the community.

COOPERATION, PRODUCTION, SHARING

Cooperation, production, and sharing are activities that will contribute to different (most) dimensions of social cohesion. This can be facilitated through space, for example in a community garden, or a green pocket or small space that residents own or maintain. A residential garden can be designed and/ or maintained by the residents themselves, which requires cooperation (and support from authorities). Within these spaces, people can share tools, the use of the space, share knowledge, produce or experiences which contributes to the building of relationships and trust for example.

TIME

The time dimension is very important to consider when designing for the use of a space and interactions specifically. A space should preferably be lively throughout the day, be usable in different types of weather and offer uses and activities throughout the week. On the longer term, a space should be flexible enough to accommodate changing needs, populations or contexts.

MAINTENANCE

The maintenance of a space, as well as the management of the behaviour within, are important determinants for its use. A well-maintained and clean space free of incivilities contributes to the sense of safety, and could be an indicator of shared norms and acceptance. Furthermore, when the furniture of a space is in a bad condition it will likely not be used (correctly). Broken pavement impairs the accessibility.

LANDSCAPING

Landscaping is mainly an element that indirectly facilitates social cohesion, although shading, places of grass, and water elements do invite play, recreation and socialising.

There are far more examples and combinations of elements and/or elements possible. These descriptions were illustrations of how one could look at these qualities and the elements through the lens of social cohesion and specifically the interactions that facilitates social cohesion.

SECTION V

TAKE A PART

An illustration of the implementation of the analytical framework

SETTING THE SCENE

The framework will be illustrated with the analysis of a setting in the Valkenboskwartier, a neighbourhood in the Regentesse- and Valkenboskwartier (district) in The Hague, the Netherlands.

The framework will be illustrated with the analysis of a setting in the Valkenboskwartier, a neighbourhood in the Regentesse- and Valkenboskwartier (district) in The Hague, the Netherlands.
The neighbourhood was built between 1903 and 1914, after the realisation of the Regentessekwartier. It was a continuation of the urban structure of the Regentessekwartier, designed by ir. I.A. Lindo (Dienst Stedelijke Ontwikkeling, Afdeling Ruimtelijke Ordening & Reverda, 1997; Gemeente Den Haag, 2013; Geschiedenis Van Regentesse- En Valkenboskwartier, n.d.). His urban planning views were dominated by a traffic engineering perspective, which can be seen in the layout of the streets, the distribution of traffic and the design of some of the squares. The neighbourhood was built for the middle class and the better paid worker, and for a large part shows great resemblance to the Regentessekwartier except for the building blocks which are slightly larger (Dienst Stedelijke Ontwikkeling, Afdeling Ruimtelijke Ordening & Reverda, 1997; Gemeente Den Haag, 2013; Geschiedenis Van Regentesse- En Valkenboskwartier, n.d.). The part of the neighbourhood that was developed the latest differs from the rest of the neighbourhood. This section of the neighbourhood differs in its style and spatial layout (Dienst Stedelijke Ontwikkeling, Afdeling Ruimtelijke Ordening & Reverda, 1997; Gemeente Den Haag, 2013; Geschiedenis Van Regentesse- En Valkenboskwartier, n.d.). The setting that will be analysed is situated in the older part of the neighbourhood, close to one of the borders of the neighbourhood.

Before the setting will be analysed in detail, some demographic and other general data will be discussed (Gemeente Den Haag, n.d.). Currently, the

Gemiddeld besteedbaar huishoudinkomen
euro_s

20 Valkenboskwartier
38.400

Den Haag
44.300

DHIC/CBS (WV) | 2020

Rapportcijfer 'Fysieke kwaliteit van de woonomgeving'

20 Valkenboskwartier
6,7

3 Segbroek
6,9

DHIC/Veiligheidsmonitor | 2021

Rapportcijfer 'Prettig wonen'
rapportcijfer

20 Valkenboskwartier
7,2

3 Segbroek
7,7

DHIC/Veiligheidsmonitor | 2021

Rapportcijfer 'Sociale Cohesie'
rapportcijfer

20 Valkenboskwartier
5,8

3 Segbroek
6,3

DHIC/Veiligheidsmonitor | 2021

Rapportcijfer 'Veiligheid in de buurt'
rapportcijfer

20 Valkenboskwartier
7,0

3 Segbroek
7,4

DHIC/Veiligheidsmonitor | 2021

population of the Valkenboskwartier knows 18.362 people. Compared to the population of The Hague, the neighbourhood has a higher percentage of people between 20-64 years old, and less people of an older age. A larger part of the households are one-person households (52,4%), or people living together without children (23,4%). Compared to The Hague a higher percentage of households has a low income, but a higher percentage has a middle income. Most households have income through employment. Of the housing stock, 49,2 percent is private property, 11,6 percent is social housing and 38,9 percent is private rental property. Most of the housing are apartment buildings.

Regarding liveability, safety and social cohesion the neighbourhood scores a bit lower than the city section it is part of (Segbroek). Social cohesion specifically is scored half a point lower, which is around the general score of social cohesion for The Hague. The liveability of the neighbourhood scores higher than the city, the safety score is similar to the score of The Hague.

Regentessekwartier and Valkenboskwartier, The Hague
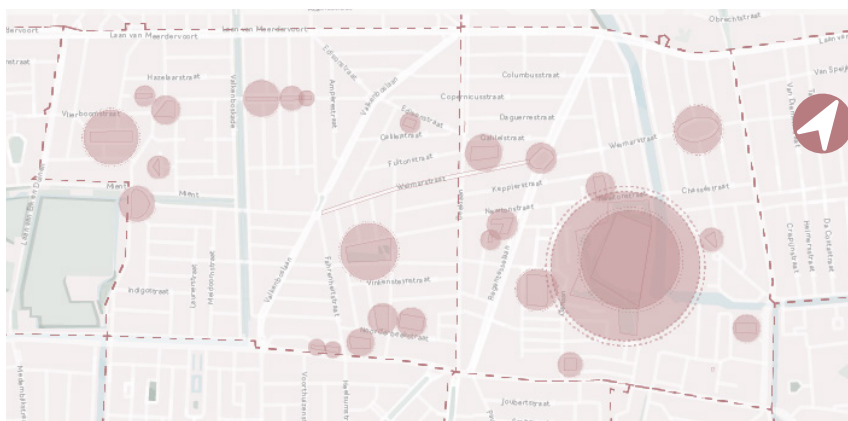
The settings in the Regentessekwartier and Valkenboskwartier, The Hague

ANALYSIS

The setting that is selected for the illustration of the framework concerns the playground on the Kamerlingh Onnesplein. As it concerns a playground, it is possible to develop some expectations regarding the design of the space. The space should be safe to play: it should be protected from traffic, allow for natural surveillance and social control, and it should be safe to make use of possible play objects. Ideally there should be at least three different play objects. Furthermore, it is interesting to analyse whether the space is tailored towards one age group or one type of play, or whether it offers a variety. As it is a play area, accessibility for caretakers with children is an important design consideration. It is also important to analyse if the space could be used for other activities besides play. Lastly, the potential for identification of the users and potentially nearby residents should be explored. If the physical setting is designed well, it should at least facilitate socialisation, recreation (leisure and sports) and socialising.

Kamerlingh Onnesplein and surroundings, The Hague

The Kamerlingh Onnesplein is a play square near the South edge of the neighbourhood. It is quite a large square, surrounded by row houses and an adjacent special education school (De Bonte Vlinder). Within a 150m radius one has access to three other play areas (Newton square, the Vlindertuin Haags Hopje, De Groene Slof), and three sports areas (Calisthenics park, tennis court Breekpunt, ST4R Basketball Court). The Loosduinseweg forms the edge of the Regentesse- and Valkenboskwartier area and is one of its main traffic routes. It provides access to tram- and bus stops and is situated only one street away from the square. Between the square and the housing three streets link the square to the larger network of public spaces and infrastructure.

To bridge the height difference between the Reaumurstraat and the Noorderbeekdwarsstraat, the square is partly sunk into the ground, surrounded at two sides by two steps. For accessibility purposes all entrances that need to bridge a height difference have a ramp. There are four entrances, although the steps could also be used to access the area. One of the entrances is through a piece of street art (or a play object).

The steps naturally form one of the boundaries of the square. The other sides are (partly) fenced either with shrubs in front of it or heightened on a stone wall that separates the school square from this play area. One part of the boundary between the square and the school is a high stone wall. However, most of the boundaries of this setting are permeable and not too visible.

Since it is a playground, safety measures are important to consider. There are different aspects of safety, one of which is the safety of the use of the area. The part where the climbing play equipment is placed is tiled with rubber playground tiles. The rest of the square is paved with two-coloured brick stones. There

Location
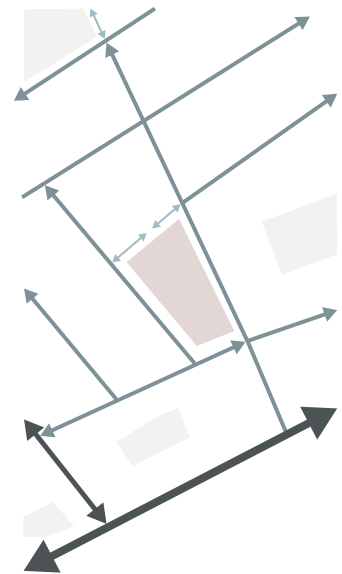
Access
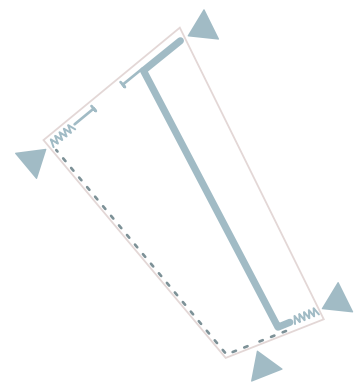
Boundaries
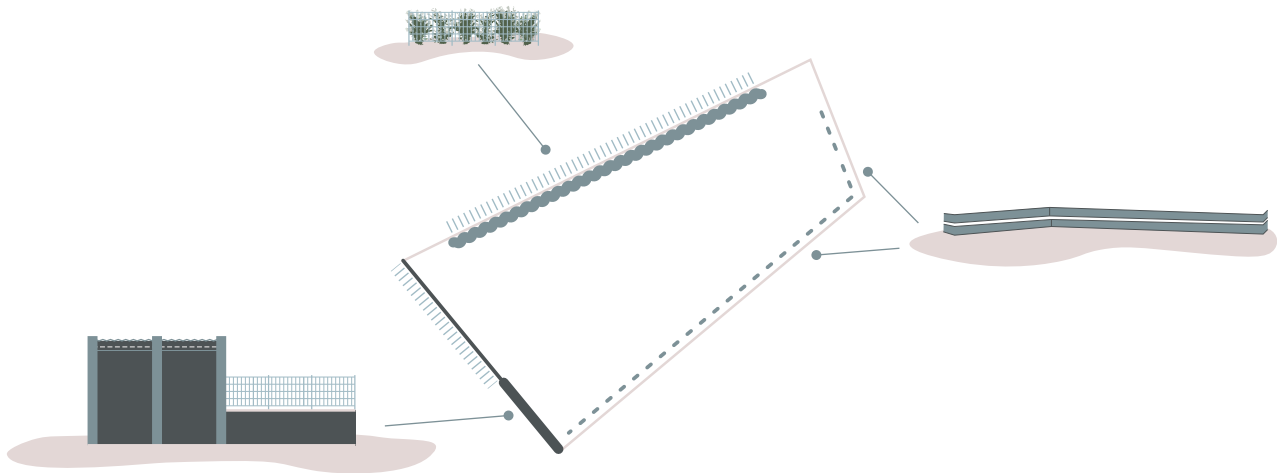
are street lights on one side of the area, where the seating is located and next to the playing areas. On the surrounding sidewalks there are street lights as well.

The square is protected from traffic through speed measures, parking spots, sidewalks and traffic bollards. The streets are a one-way street where motorists and cyclists share the space. At all corners of the square, around the entrances, sign posts are placed which indicate what use of the space is not allowed, and what number to call in case of incivilities or damage to the space.

The landscaping of the square provides shaded areas where people can sit, both on the edge of the area as well as close to play equipment. All grass areas are raised, which creates an informal edge to use as seating or for play. Part of the grass area along the edge is not used for seating furniture, it could be used for play, or it could also have an ecological function. However, the raised grass area is not accessible by a paved pathway, which means that the benches cannot be reached via an official pathway. Another grass area along the North side of the square interrupts the pathway that links one entrance to the other.

Section and Materialisation
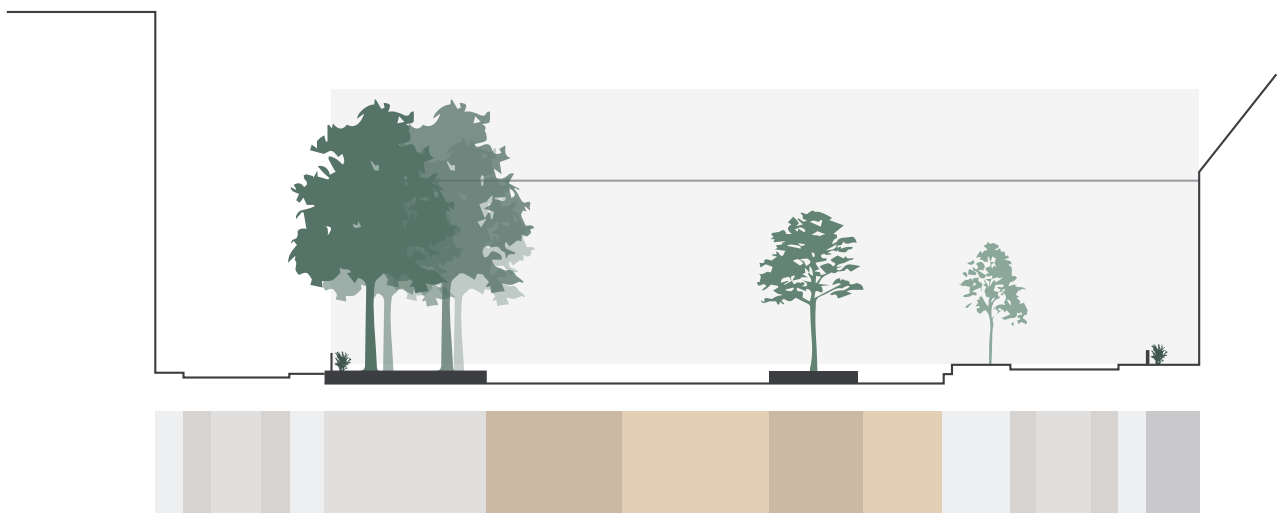
Landscape
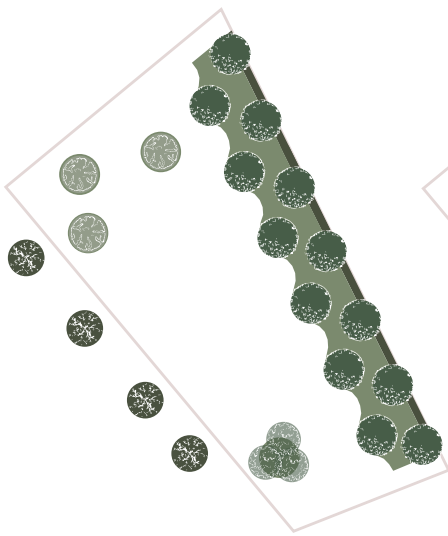
Safety
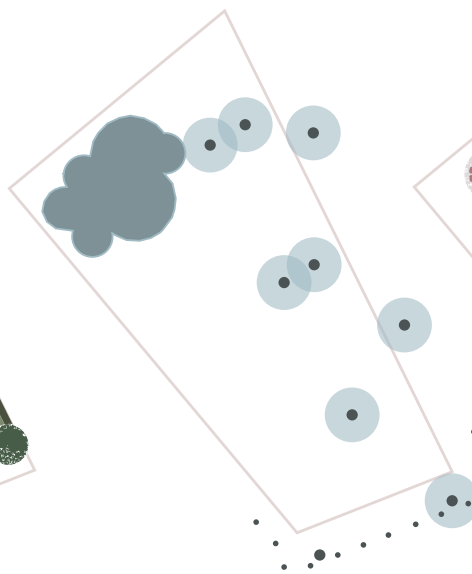
Seating and other furniture
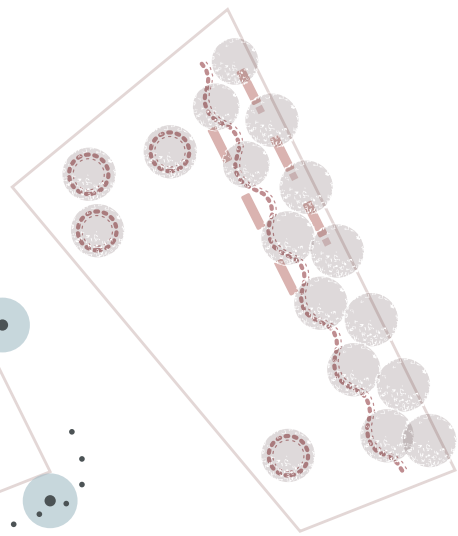
The greenery itself is not diverse, it is grass and one type of shrubs. The types of trees that have been planted on the square are a variety of trees with different heights and tree canopies.

The surrounding building masses are, compared to the dimensions of the square, relatively low except for the school building. The trees on the square help to break the large dimensions of the square to a

certain degree, but it has a large floor area that off sets the proportions.

The square is not only used for play and recreation, nor is it only used by residents. Several events have been organised on the square, such as information sessions or free sports classes for residents. furthermore, the square is sometimes used by other day care facilities.

Uses of the space

Play with objects, small children

Seating, resting

Movement

Movement

Free play/use

Football court, ball sports

Seating, resting

Free play/use
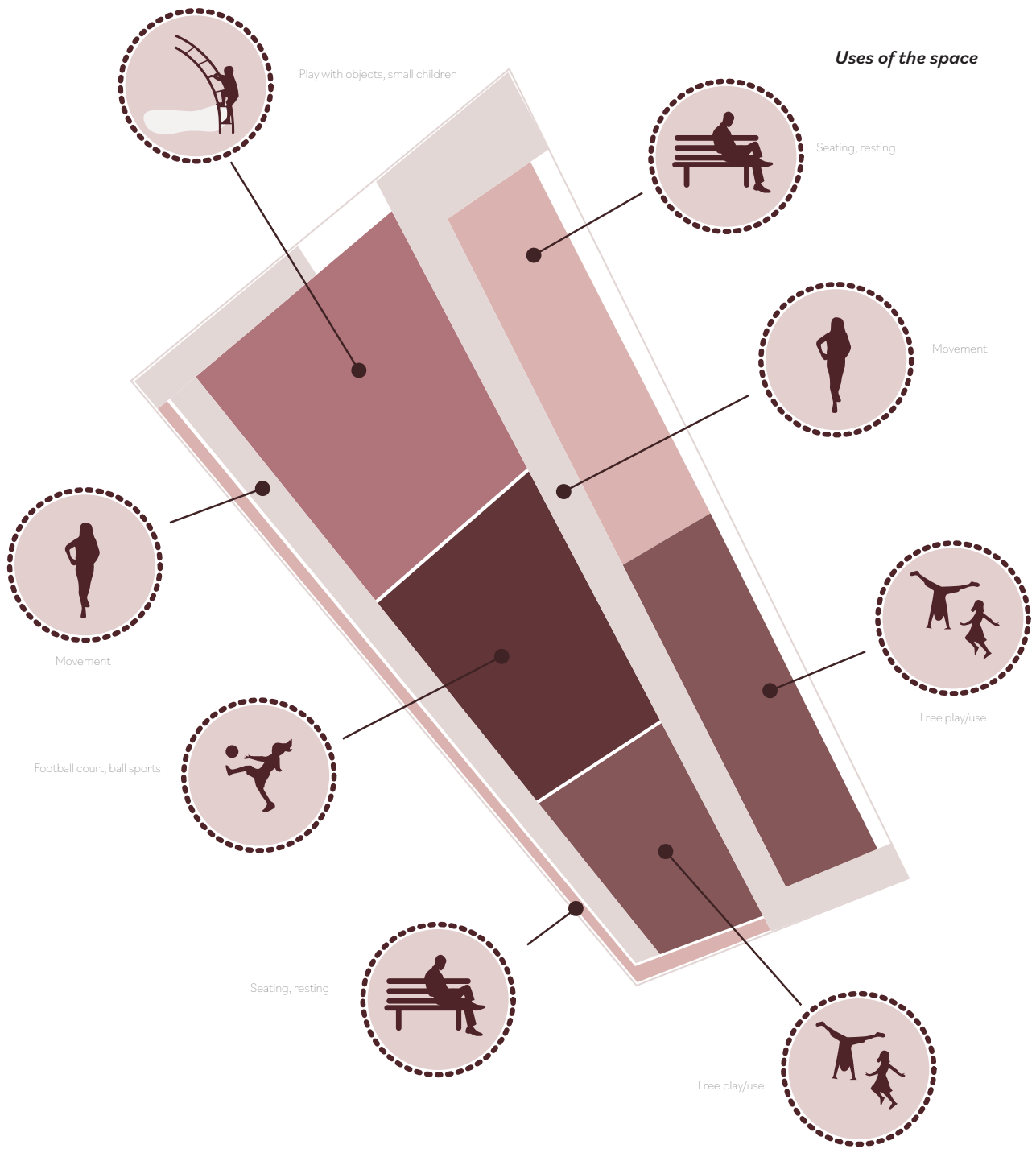
SOCIAL POTENTIAL FROM ANALYSIS

From the analysis of the Kamerlingh Onnesplein in The Hague, we can conclude the following regarding its potential for the facilitation of social cohesion.

This physical public setting allows for a variety of uses and play. Small children can safely play in one section of the area, while other children, youth or adults could engage in a game of football or another ball sport. Several sections of the setting allow for interpretation of and freedom in the use of the space to a certain degree. Here, people could engage in socialising, recreation or play for example.

Furthermore, there are several benches available, which are placed along the edge, partly protected by trees which provide some privacy and shade. Other benches are more placed in the open, closer to the play area. Again, these provide several possibilities for users to choose from. In addition to the benches, the area provides options of informal seating, either along the edge or on the square. As there is such a variety of seating, it should facilitate a diverse group of people at various times of the day/seasons/year. The informal edges could also be used for play.

There seem to be sufficient safety measures in place to allow for the safe use of the space by a diverse public throughout the day and evening. From the surrounding houses is should be possible to keep an eye on what is happening on the square, allowing for children to play there independently. This could however result in less social interactions between caretakers. On the other hand, for children to be allowed to play independently could contribute to a higher attachment to the place.

The area is not only used for play, but for other events and activities as well. This contributes to the use of the space for a larger group of people, as well as shared experiences which could contribute to identification, acceptance of diversity and solidarity. If the government or other public institutions are involved in the events, it could contribute to the trust in institutions and potentially the perception of fairness. This depends on how the activity is organised as well as the process around it.

SOCIAL INTERACTIONS

In general, this physical public setting could facilitate various social interactions between a diverse group of people, varying in age, ability, need and desire. Although it will likely mainly serve the immediate residents, it does also attract some other user groups. This increases the chances of unplanned encounters, developing a sense of public familiarity as well as place attachment and a sense of belonging, especially when different groups make use of the space at the same time.

The square is centrally placed, accessible, quite large, has various play objects and possibilities for use, and from a spatial perspective it seems to be safe in its use. These are important spatial elements and qualities that contribute to the regular use of the setting, especially for a play area. Therefore, it is expected that this play area will contribute to the development of place attachment and community belonging by those who make use of the space regularly. This would facilitate the formation of identification.

Other interactions that are expected to occur are socialisation and socialising, mainly around the elements that can be used for seating.

The place can be used for active leisure and recreational activities, which also requires the sharing of furniture and the space. Other activities that can take place (and take place) are events, necessary activities (such as walking towards another destination or on the way to the supermarket), an socialisation.

FACILITATION OF SOCIAL COHESION

Based on these interactions that are expected to occur, this setting would facilitate the formation of social networks, trust in other people, acceptance of diversity, identification, respect for social norms, solidarity and helpfulness, and (civic) engagement.

POSSIBLE IMPROVEMENTS

There are some areas of improvement, mainly regarding the accessibility of the space. The grassy area that blocks the crossing pathway of the square could be removed to increase the use of the area by others. For the benches on the grassy area, it would be helpful to create an official pathway. The grassy area overall has more potential: the vegetation could be diversified, and/or it could be more clearly designed as a place for play (in a natural area). This could contribute to the diversity in the use of the space, and the imageability if the vegetation chosen is season sensitive, varied and speaks to multiple senses.

The name of the square itself is of a Dutch physicist and Nobel laureate, which is currently not (visibly) highlighted in the setting. It provides an opportunity to contribute to the imageability of the place which could increase the attachment with and pride of the place.

As the setting is in close proximity of other play areas or settings of recreation, it is possible that the Kamerlingh Onnes square is mainly used by the (children from) surrounding residences. Especially since the Newton square is just around the corner. Although this could be positive for the cohesion of the group of residents living adjacent to the square, it might also result in the segregation of the residents of the different blocks that each have their own play area. This would be something to investigate in the social dimension.

It would be useful to investigate the use of and satisfaction with the space by its users, and to hear whether there are any issues. It could be the case that residents experience noise nuisance, or that there are groups of youth that occupy the space at certain times, which could cause nuisance or feelings of unsafety. This could demotivate children to go there, or parents to allow for their children to play at this square. It would also be necessary to test the hypothesis that the square contributes to the identification of the residents with the block or neighbourhood.

Other interactions that are not analysed or addressed through the spatial elements are the (shared) ownership and/or maintenance of the space, or the improvement of the space. Depending on the satisfaction of the users and what issues there might be in place, it could be fruitful for the social cohesion of the local community to collectively and collaboratively improve, manage, maintain and/or own the space.

Trust in other perople

Respect for social norms

Solidarity and helpfulness

Identification

Social networks

(civic) engagement

acceptance of diversity

SECTION VI

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CONCLUSION

A discussion of the research findings, the limitations of the research and suggestions for future research

CONCLUSIONS

The main research question of this research was *To what extent could urban design interventions in physical public spaces of urban areas facilitate the formation of social cohesion?*

In order to help answer this question, let's first look at the subquestions, which were:
1. *What is social cohesion, and how does it relate to the spatial dimensions?*
There are many definitions of social cohesion, but the Social Cohesion Radar by the Bertelsmann Stiftung was the best fit for this research. It is a concise model, yet it also provides an operationalisation, which is useful for this research. As described in our theoretical framework, the place where social cohesion really intersects with the spatial dimension is in the interactions.

2. *How to operationalise this knowledge further into a framework, and provide tangible design objectives and implementation guidelines?*
By examining in depth the key concepts previously described, combined with other theories, this knowledge was consolidated into an analytical framework. Not only was this framework analyzed, combining the dimensions of the Bertelsmann Stiftung with the interactions and in particular the behaviour settings provided us with guidelines on how to apply the framework, and even some tangible design elements.

3. *How would this framework be applied to a physical public space to assess social cohesion?*

Using the aforementioned list of tangible design elements and guidelines, we able to apply the framework to the real-life situation around the Kamerlingh Onnesplein in Den Haag. Doing this provided us with valuable insights, and eventually led to the conclusion that from a spatial point of view, there are few improvements.

The main contribution of this work is the analytical framework. As mentioned, there are many different conceptualizations available, but this framework provides a structured way to connect social cohesion to design interventions. This enables an urban designer to actually design for social cohesion.

Additionally, by breaking up how social cohesion is influenced by urban design intervention up into its constituent steps, we can start to measure the effect of these steps on our social cohesion goal. If we do an intervention which is not succesful in achieving our goal, why is that? With this framework we can try to identify where in the process it went wrong, by for instance figuring out whether the intervention led to more interactions or not.

Important additions to the framework are the list of the guidelines for the framework, as well as the example list of design interventions. The guidelines for the framework are essential for being able to apply the framework, which was one of the goals of this research. Furthermore, while it's nice to have a model, having tangible design interventions to get an idea of what is intended with a concept also helps in achieving this goal. As mentioned, the lists are far from exhaustive or structured, but are valuable nonetheless, as they provide a starting point for designers new with the concept.

LIMITATIONS

There are several limitations to this work. First and foremost, there has been no real-life testing of the results of the analysis. It would have been very informative to go one step beyond desk-analysis, and to evaluate the results with actual residents and other visitors of the square. Unfortunately, this did not fit within the scope of this research, and as such presents a clear limitation.

Another limitation is that the variables discussed in this research are often internal, and closely relate to individual thought processes which are hard to measure. This was tackled by reasoning through proxies, but this is introduces room for interpretation error. Especially combined with the inherent biases of the author, this is an area which is sensitive to mistakes. The results, and especially the lists of qualities should not be interpreted as hard, universal truths, which is addressed when providing these lists. It would be valuable to discuss these lists with experts in the field, especially from different disciplines, to provide alternative points of view.

Finally, this work has just looked at outdoor public spaces. However, as mentioned in the introduction, indoor public spaces like community centers and libraries can also have a major influence on social cohesion. Focusing on indoor public spaces as well was outside of the scope of this research, as that is less the terrain of urban designers, but for future research, the impact of this should not be underestimated.

FUTURE RESEARCH

There are several avenues of potential future research. Beyond the focuses mentioned in the limitations, one thing that should be investigated is the impact of scales. Both social scales as physical scales are relevant and could use more research. As an example, while introducing a residential garden in a neighbourhood might increase the social cohesion in a neighbourhood, it also creates an in-group, which can make the area feel less welcome to outsiders. As such, increasing the social cohesion on a small scale might have detrimental effects to the social cohesion in the larger scale. It would be valuable to investigate how different design interventions influence this effect. In the example of the residential garden, signage, gates or other access control may help keep the area clean and free of people causing nuisance for local residents, yet can also be a barrier to entry for new residents or other people who want to use the space in a respectful manner. In particular the relative effect sizes are worthy of investigation.

Building on the previous point, another worthy avenue of research would be an attempt to quantify the relationship between elements, interactions and social cohesion. This research has only examined whether they relate, and has intentionally not attempted to look at the relative importance of different elements. Quantifying these relationships is not just interesting from a theoretical point of view, but can also help urban designers to apply focus and prioritize certain elements over others, giving the opportunity to optimize the impact on social cohesion given a budget of resources.

Finally, as mentioned in the limitations, in order to minimize the effect of personal biases, it would be useful to evaluate the results and lists created for this research with experts in the field. It would be desirable to do this with many experts, ranging from a wide range of backgrounds, to get the most complete picture of how these phenomena are experienced by as many different user groups as possible, perhaps leading to the discovery of (near-)universal elements and interactions.

SECTION VII

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Figure 2: Bertelsmann Stiftung. (2018). *Social Cohesion Radar*. Social Cohesion Hub. https://www.socialcohesion.info/concepts/concept/bertelsmann-stiftung

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