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Achieving Long-Term Social Sustainability Through Car-Free Development

A Multiple Case Study of the Planning Processes for Car-Free Areas in Oslo, Stockholm and Gothenburg

Master's thesis in Industrial Ecology & Design and Construction Project Management

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Cover: Maps showing the three case cities and their car-free areas. The cities are, in order from the left, Oslo (p. 29), Stockholm (p. 32) and Gothenburg (p. 36). Made by the authors.

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SUMMARY

In the fast proceeding urbanisation, social sustainability and human values have become increasingly important to assess in urban planning processes. However, social sustainability has been perceived as hard to work with, partly due to its multiple definitions and measurement challenges. Car-free areas have been indicated in the development of positive social outcomes—which may be related to the social dimension of sustainability. This relation was studied by examining car-free developments in three cities in Northern Europe: Oslo, Norway; Stockholm, Sweden and Gothenburg, Sweden. The thesis aims to examine the role of these car-free development projects and the planning processes behind them. To realise the aim, qualitative interviews were conducted with 12 key actors within the three differing types of car-free projects and contrasted with secondary data from literature.

The results suggest that, for the ability of a car-free project to contribute to the creation of socially sustainable outcomes, it requires political initiative as well as stakeholder involvement in the planning process. In this process, collaboration between all involved actors is essential; thus collaborative planning approach was found to be beneficial. There are several prerequisites for successful implementation of car-free developments, such as equitable access to the area, the creation of an attractive environment and a design that promotes walking. The temporary nature of many car-free projects adds a dimension to these developments that implies flexibility and adaptability, thus enabling an iterating optimisation of the design. We conclude that car-free areas—if successfully implemented—promote long-term social sustainability by enabling the generation of social capital. However, routines for successful implementation are missing and need to be established.

Keywords: Car-free development, social sustainability, social capital, multiple case study, urban planning process

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Glossary

accessibility	The quality of being easily reached, regardless of place of habitat, or used, regardless of disability
community connections	The connections and interactions between and among humans and their surrounding environment
high-capacity transportation	The type of transportation mode with an effective use of space, for example public transport, cycling and walking
mobility	The physical movement of people, especially transportation-related movement
proximity	Geographical nearness
social capital	A society-wide capital consisting of networks of community connections which is believed to increase the effectiveness of that society
streetscape	A view or scene of street, including road, pavements, adjoining buildings, greenery and other elements contributing to the street's character
urban environment	The environment of a town or city, characterised by a high density of built space
urban planning	The technical and political processes for developing the built environment, including the transport planning in the urban environment

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1 | Introduction

The first chapter gives an introduction to the connection between social sustainability and car-free areas, which lays the foundation for the research topic. Further, it presents the aim and research questions, which the thesis will be examining, as well as the delimitation to the scope.

1.1 Background

Ever since the definition of sustainable development was published with the Brundtland Report in 1987, the concept has been a widely explored in urban development (Dempsey et al., 2011). For a long time, the economic and ecological dimensions have dominated the discourse, while the social aspects have been largely neglected (Ström et al., 2017). Dempsey et al. (2011, p. 289) point out that “despite the anthropocentric focus of the definition of sustainability, surprisingly little attention has been given to the definition of *social sustainability* in built environment disciplines”. Since it concerns human well-being and quality of life, one could argue that the sustainability dimension is the one that humans would value most. Indeed in recent years the term has increased in popularity—perhaps because of recent trends showing increased social division within cities (Cuthill et al., 2019). Vranken et al. (2003) suggest that it is due to globalisation that this issue still persists; globalisation sustains the debate between economic competitiveness and social justice. Furthermore, the progress of globalisation strengthens the importance of cities—the nodal points of our world—by encouraging urbanisation and diminishing social welfare (Vranken et al., 2003).

The links between urbanisation, urban development and sustainability are numerous, and the resulting sustainability of urban spaces are tightly interlaced with the planning processes behind them. The development of sustainable urban spaces involves creating urban structures and environments as well as creating radical change of economic, social, organisational, cultural, governmental and physical processes (Ernst et al., 2016). This calls for structured and systematic ways of addressing sustainability goals and developing the working processes for achieving sustainable urban planning. If the term ‘social sustainability’ is used in isolation when formulating societal goals, there is a risk that it allows for “policy-makers’ escapism” (Vranken

et al., 2003, p. 29), that is, using the concept’s vagueness to avoid expressing specific goals and actions (Gustavsson and Elander, 2013).

There is clearly a need to improve our understanding of how urban planning processes should proceed; and similarly to increase the speed and quality of processes in order to more effectively achieve goals regarding sustainable development in cities (Koglin et al., 2019). However, social sustainability is not a once achieved goal, but rather an “ongoing process in which urban planning can play an important part” (Ström et al., 2017, p. 3), which implies that it is a state that needs to be assessed continuously. The need for continuity combined with aspects that are already difficult to measure and monitor illustrates the challenge that lies in incorporating good social sustainability practices in urban planning routines (Gustavsson and Elander, 2013).

Social sustainability has an important role in the context of car use. Throughout the twentieth century, motorised transport has had a decisive effect on the layout of physical space in cities, with motorways and arterial roads dividing cities into small car-free units and segregating both people and public spaces (Koglin et al., 2019). This development has led to a marginalisation of pedestrians and the prioritisation of cars, making the latter the preferable mode of transport. However, there are several studies that show that walkable, mixed-use neighbourhoods with *limited* car use have positive effects on physical and mental health (Leyden, 2003; Frank et al., 2006; Renalds et al., 2010; Smith et al., 2017).

While there is a prevailing consensus that car use needs to be limited for several reasons, the strategy to achieve this differs between actors (Koglin et al., 2019). Besides standard measures such as densification, public transport planning and bicycle-friendly development, several cities have begun implementing car-free streets and neighbourhoods (Jiao et al., 2019), with projects ranging from small-scale and temporary to larger and more permanent (Wright, 2005). Koglin et al. (2019) state that some small-scale temporary projects can help in the transition towards strategic sustainable urban planning on a larger scale. However, it was noted that further analyses of such projects are required in order to evaluate whether the desired long-term sustainability goals are met (Koglin et al., 2019). Additionally, Ström et al. (2017) identified a knowledge gap in how the urban planning processes should be developed in order to meet and sustain long-term goals, even after the operating phase has begun.

This knowledge gap, in combination with the previously addressed focus on the two other dimensions of sustainability, calls for clearer measures for achieving social sustainability in urban development. First, the long-term goals for social sustainability might be too broadly defined, resulting in these goals being lost in translation between steps of the process. Second, the required changes may be perceived as too drastic by the public and therefore difficult to implement smoothly on a large scale. Hence, there is a need to examine the planning processes for the

possibility of establishing continuous assessment of social sustainability in urban planning, by applying small-scale car-free projects as a means towards long-term goals.

1.2 Aim and Research Questions

This thesis aims to examine the role of car-free development and its planning processes in the work towards social sustainability. To realise the aim, short-term projects are contrasted to long-term objectives of social sustainability in society. To support the aim of the project, the following research questions will be investigated:

- How can the planning process towards car-free development be managed in order to meet objectives of social sustainability?
- What are the prerequisites for the creation of social sustainability through car-free development?
- What is the role of *temporary* car-free areas for a transition towards a socially sustainable urban environment?

1.3 Delimitation

This study includes three case cities—Oslo in Norway and Stockholm and Gothenburg in Sweden—all having car-free initiatives as well as existing public transport and other relevant features for creating car-free areas. All data is therefore collected from these geographical locations. A motivation for the cases chosen can be found in Section 4.3.

The perception of what is considered ‘sustainable’ within a compact city may differ between cultures, just as well as what is considered a compact city might differ between regions due to local standards (Lim, 2016). This report is evaluated through the lens of Sweden and Norway, with relatively low population densities as well as similar cultures and prerequisites; thus, identified aspects and enablers of social sustainability in car-free development may not be valid for other parts of the world, where societal preconditions and expectations differ significantly.

The socially sustainable outcomes of limited car-use can also be related to health effects (Nieuwenhuijsen and Khreis, 2016), however these indirect effects of car freedom, as a result of physical activity or limited pollution is not examined. Only the direct social outcomes enabled by the altered space are addressed.

1.4 Outline of the Report

As illustrated in Figure 1.1, the introduction is followed by two developed chapters: the first about the social dimension of sustainability within an urban planning context and the second about the historical development of urban planning processes as well as more recent practices. The chosen methodology is described in Chapter 4. Thereafter, the results from the case study as well as examined interviews are presented and discussed. Finally, the findings are concluded and further research suggested.

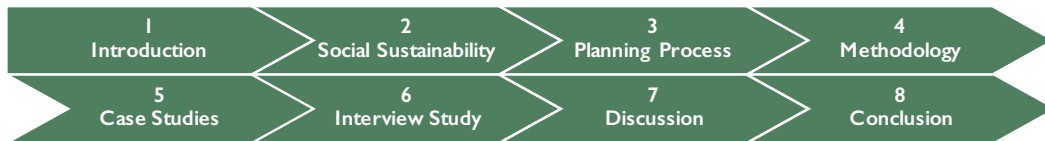


Figure 1.1: Outline of report.

2 | Social Sustainability

The second chapter investigates the links between the social dimension of sustainable development for urban transport planning. First, the foundation of social sustainability relevant to this paper is discussed. Thereafter, the connection between that definition and the built environment—and, more importantly, car-free development—is reviewed.

2.1 The Social Dimension of Sustainable Urban Development

Sustainable development might seem like a simple concept: demanding the current generations to live within the limits of the natural systems of our environment, without compromising future generations' ability to meet their own needs (WCED, 1987). However, as is stated by Berke and Conroy (2000, p. 22), “despite this simplicity, there is no general agreement on how the concept should be translated in practice”. The definition of sustainable development should depend specifically on what it aims to achieve and in what way it should be measured (Robert et al., 2005).

The Brundtland report (WCED, 1987) established three fundamental dimensions of sustainability—the ecological, economic and social—that combined were suggested to build the foundation for a new era of economic growth simultaneously securing sustainable human progress and human survival (WCED, 1987). Despite this notion, the social dimension has often been overshadowed by the other two and further lacks a unanimous definition (Rogers et al., 2013).

The concept of social sustainability encompasses aspects ranging from extreme poverty (UN, 2020) to recreational opportunities (Bramley et al., 2009), revealing the term's true width and continuous need for attention (Ström et al., 2017). One definition of the concept applied to society is that it should be “equitable, diverse, connected and democratic and provide a good quality of life” (McKenzie, 2004, p. 18). The various attempts at defining social sustainability has led it to “a degree of conceptual chaos” (Vallance et al., 2011, p. 342), possibly restraining the term's utility. Further, the ambiguity of how the concept should be expressed in goals—what measures should be made in order to achieve the overall goal and how it should

be divided into quantifiable indicators—adds to its chaotic nature (Gustavsson and Elander, 2013). The many parameters relating to the social aspect demand an interdisciplinary approach, to a significant part associated with features of the built environment (Dempsey et al., 2011).

Dempsey et al. (2011) define social sustainability within urban planning by dividing the concept into two different dimensions: the physical and the non-physical. Emphasised factors of the physical dimension are urbanity, attractiveness in the public realm, quality of local environment, accessibility, sustainable urban design and walkable neighbourhoods. In the non-physical dimension, factors include health, quality of life, well-being, safety, social capital, social inclusion, social cohesion, social networks, social interaction, social equity and sense of community (Dempsey et al., 2011).

Social capital has been described as the value that social networks are asserted to provide individuals (Rogers et al., 2013) and linked to features such as trust and norms, that can improve the efficiency of society (Leyden, 2003), as well as equity, by abating social exclusion (Dempsey et al., 2011). Within a physical context, it focuses on the strengthening of social interactions and sense of community, thus there is considerable overlap between the factors mentioned by Dempsey et al. (2011) which reveals the importance of the term in relation to the sustainable urban environment. Given this, many authors have addressed the observation that transport-related issues may have an impact on social capital (Wachs and Kumagai, 1973; Church et al., 2000; Greico, 2003; Leyden, 2003; Cass et al., 2005; Currie and Stanley, 2008; Lucas, 2012). The concept exists on a micro-level, concerning individuals and local communities, and a macro-level, concerning regions and nations (Schwanen et al., 2015). However, to establish this concept in urban development, Dempsey et al. (2011) emphasise the cruciality of its relevance on a neighbourhood scale, thus a micro-level.

According to Leyden (2003), some neighbourhood designs enable or encourage social interactions within the community, and these designs are most likely pedestrian-oriented. Wright (2005) further describes the importance of pedestrian-oriented areas by the means of car freedom, which promotes social equity, has positive effects on personal interactions and reduces crime, therefore relating such areas to the concept of social capital.

In the following sections, the relationship between social capital and car-free development is discussed. First, different varieties of car-free measures are described. Thereafter, their promotion of social capital is elaborated upon.

2.2 Measures for Car-Free Development

There are several ways to limit car use, such as taxes on fuel, vehicles and congestion; improvements to the public transport network as well as encouragement of bicycle use

by improvement of paths. However, there are also other measures that directly remove cars from the urban environment. According to Wright (2005, p. 28–53), the term “car-free” encompasses a variety of possible restrictions towards private vehicle use and the different types of measures towards car-free development can be categorised onto a spectrum, as seen in Figure 2.1. In other words, the measure is distinguished by the temporal and spatial parameters—if it is temporary or permanent and if it concerns a small or large geographical area.



Figure 2.1: Examples of car-free measures, adapted from Wright (2005).

Car-lite measures in areas are denoted by a general discouragement of car use by psychological and physical means, but without a proper ban, resulting in an area that is fully accessible by car, but with lower speeds (Wright, 2005). However, Wright (2005) notes that it is unclear whether the sought advantages for pedestrians are actually achieved. Potentially, the physical barriers manage to inhibit high speeds temporarily, but ultimately encourage some motorists to compensate in between them with rapid acceleration, defeating the purpose on several accounts (Wright, 2005).

Temporary car-free measures can span from recurring events of car-free days to months or seasons, concerning an entire city or selected streets or neighbourhoods (Wright, 2005). An example of the latter is summertime pedestrian streets, which allow citizens to optimise the use of inner-city amenities during the local climate peak time. On a summertime pedestrian street, pedestrians and street life hold the highest priority (Koglin et al., 2019). Vehicles are permitted under circumstances regarding transport of goods, residents, hotel guests or sick or disabled persons, given that the destination is on the regulated street. The speed of such vehicles, including bicycles, may however not exceed normal walking pace and they have to give way for pedestrians (Koglin et al., 2019).

Permanent local measures are commonly exemplified by car-free shopping streets, often, however, allowing for some exempting restrictions for business deliveries and public transport. There are also larger car-free entertainment zones destined for shopping activities during daytime that host a variety of entertainment activities during the evening, such as bars, restaurants, gaming and dance clubs (Wright, 2005). As the appeal of entertainment services is often the interaction between people, the space taken up by parked cars is of better use accommodating pedestrians (Wright, 2005).

Lastly, *permanent large-scale measures* come in different forms—such as ancient city centres to which motorised traffic would otherwise pose a threat, with vibrations, pollution and deterioration. Such restrictions of traffic are often to preserve a cultural or natural heritage, but it could also stem from the mere topographic inconvenience to a transition to car-friendly infrastructure or a low utility of cars due to short distances between destinations (Wright, 2005).

As car-free development is becoming a more common measure in bigger cities, the emphasis is mainly to be free from private cars and they may still accommodate high-capacity transportation modes, related to more efficient transport of goods and people (Nieuwenhuijsen et al., 2019).

Wright (2005) further discusses the social value of car-free areas in the way that they stimulate higher levels of social interaction, in comparison to pedestrian paths such as roadside pavements with limited space that are primarily intended for mobility. It is not solely the absence of cars that creates such a scenario, but other features such as art, formal and informal possibilities to sit, the option to partake in activities and things to look at play an important part in an attractive social space (Wright, 2005). Further, it is important that public places develop their own identity in terms of design, instead of creating areas with a pretension of ‘good taste’ thus resulting in “a bland conformity” (Whyte, 2012, p. 102).

2.3 Social Capital as an Objective of Car-Free Development

In the development of car-free areas, social sustainability can be defined by the social impacts that the measures are expected to create (Wright, 2005). There are several studies indicating that walkable, pedestrian-oriented neighbourhoods offer increased possibilities for human interaction, decreased exclusion and increased social equity and trust (Wright, 2005; Lucas, 2012; Rogers et al., 2013; Schwanen et al., 2015; Nieuwenhuijsen and Khreis, 2016). Further, the availability of a mix of amenities within short distance determines the completeness in function for a neighbourhood’s residents (Leyden, 2003). There are a lot of suburbs which are not designed to encourage social interaction, instead they are often car-dependent, either by lack of walkability-related infrastructure and/or of desired facilities (Leyden, 2003; Vilhelmson, 2005). For neighbourhood designs, Leyden (2003) therefore suggests that to create a high level of social capital, and hence social sustainability, pedestrian-oriented and mixed-use neighbourhoods should be promoted.

Because of the many connections between social sustainability and social capital in the car-free environment, social capital is considered as a key concept in this thesis. As mentioned above, recurring aspects of social capital are interaction, social equity and trust (e.g. Schwanen et al., 2015)—subsequently illustrated in Figure 2.2—and

in the field of urban planning, the creation of these aspects relate to accessibility and proximity. The following subsections will examine in further detail how social capital, through these aspects, connects to car-free development in urban areas and the structural features that accompany this type of development.

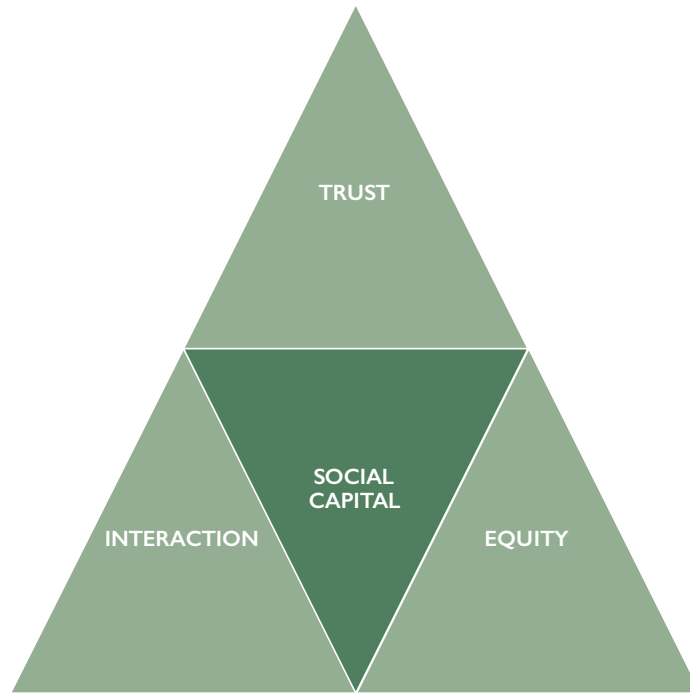


Figure 2.2: Illustrating social capital and its components.

2.3.1 Interaction

Face-to-face human contact is claimed to be the most essential form of interaction (Schwanen et al., 2015), to represent the glue that holds social networks together Urry (2011) and to be contributing to the “sense of community” of neighbourhoods (Bramley et al., 2009, p. 2128). These community connections are key in the concept of social capital (Putnam, 1994; Leyden, 2003). Therefore, a neighbourhood that facilitates interaction is desirable in the pursuit for social capital in car-free development.

By the pedestrianisation of public space, the opportunities for social interaction have been proved to increase (Nieuwenhuijsen and Khreis, 2016). Similar to Appleyard (1980), Hart and Parkhurst (2011) studied the impact of motor vehicle traffic in neighbourhoods in the UK and how residents in these neighbourhoods perceived the impacts of motorised traffic, as well as its impacts on community and individual health. Through this study it was concluded that people living on streets containing a high volume of traffic are less likely to have a large number of friends and social contacts compared to people living on streets with a low volume of traffic (Hart

and Parkhurst, 2011). With increased vehicle speed, the street-based life, as well as other forms of social life, will be increasingly restrained. Activities that lead to social interactions by themselves, such as gardening and sitting outside, are especially affected by high volumes of motorised traffic. Further, the streets with large amounts of traffic separate pavement activity on the opposite sides of them, thus creating a barrier in neighbourhoods, preventing social interactions between neighbours and visitors (Hart and Parkhurst, 2011).

Conversely, streets blocked or limited from the use of cars will potentially free up space. Instead, such space can be filled with socially healthy alternatives—opening up for increased social interactions (Nieuwenhuijsen and Khreis, 2016). Public squares and facilities that are attractive and accepted by the public are needed in order to increase the possibilities for social interactions. Attractive scenery can involve greenery, wide pavements, street furniture or safe infrastructure (Nieuwenhuijsen et al., 2019).

Leyden (2003) suggests that the spontaneous interaction with neighbours and strangers, made possible by increasingly pedestrianised neighbourhoods, invokes a comforting sense of familiarity and predictability about one’s immediate surroundings. Consequently, seemingly trivial conversations at brief encounters can help with encouraging a sense of trust amongst local residents (Leyden, 2003).

2.3.2 Trust

Putnam et al. (2000) describe the concept of social capital through the notion of trust that exists between individuals within society, formed by the presence of a rich community life and meeting opportunities between people. Trust is often identified as an indicator for social sustainability and, however difficult it may be to quantify, higher levels of trust are linked to increased levels of collaboration, mutuality and a higher degree of common benefit (Hedén et al., 2018).

This form of trust can appear either in close networks or as generalised trust in society (Son and Feng, 2019). The work of Putnam et al. (2000) regarding social capital emphasises trust as one of its main components. According to Putnam et al. (2000), trust arises from the social networks created by social capital and, through this, participants of the social networks can together reach common objectives more effectively. Son and Feng (2019) stress that others define social capital solely as trust. Through close social networks, trust is promoted, and the closure of the network is a key indicator for generation of social capital (Fukuyama, 2001). However, as noted by Hedén et al. (2018), in the case of lacking bridging connections *between* different closed networks, they might instead inhibit the generalised trust in society.

The notion of trust is underpinned by safety, since the feeling of safety—from crime or antisocial behaviour—enhances the trust between citizens of the neighbourhood and also contributes to the sense of community (Bramley et al., 2009). Correspondingly,

poor condition of the built environment negatively affects people’s sense of safety and community, hence maintenance and crime prevention in urban design processes are considered important (Bramley et al., 2009). The safety in urban environments also varies for different groups of society. Generally, safety is better for males, younger people, the better-off and people living in wealthier areas (Bramley et al., 2009). Thus, trust and safety in neighbourhoods relate to social equity.

2.3.3 Equity

Social equity is defined by the concept of distributive justice; that is, the fair allocation of resources—both in regards of costs and of benefits (Burton, 2000). The lack or denial of resources, rights and services, as well as the inability to participate in specific activities, affects the quality of life for individuals and impairs equity for the entire society (Lucas, 2012). The absence of equity in society may manifest itself as social exclusion by different forms of discrimination (Dempsey et al., 2011), such as by gender, ethnicity, sexual orientation, age or disability. As described by Cass et al. (2005, p. 553), “social inclusion is about being part of the networks that matter to the persons involved”. While some of these forms of discrimination can be addressed by transport planning, some require a wider structural change in society to be rectified. Inequality in opportunities for physical mobility has been identified as a significant contributor to social and economic inequality (Wachs and Kumagai, 1973). Transport has been shown to have a very important role for determining social outcomes of different groups of society, partly by the absence of transport services for individuals and communities (Lucas, 2012). Social capital is believed to increase by the use of public transport (Nieuwenhuijsen and Khreis, 2016) and by this increase, issues of social exclusion are believed to be possible to reduce—or even resolve (Schwanen et al., 2015).

The design and planning of the urban environment significantly influence social equity in a variety of ways. Although previous research has pointed to a positive relationship between compact cities and the likelihood of trips by foot or bicycle, Burton (2000) found that, for low-income groups in medium-sized English cities, higher density resulted in *lower* levels of walking and cycling. This finding was motivated by the attractiveness and safety that might be perceived in lower-density areas (Burton, 2000). However, as discussed in Section 2.3.1, dense areas can acquire attractiveness in other ways (Nieuwenhuijsen et al., 2019).

Wright (2005, p. 18) expresses the irony of neglecting pedestrianism—“the most fundamental means of transport”. As walking for the vast majority does not require the use of any material resource, it should be the highest prioritised transport mode, due to its equitable nature (Wright, 2005). The link between equity and the importance of walkability also relates to the varying access to transportation modes (Elldér et al., 2017; Lucas, 2012). Some groups within society lack the ability to use

certain means for transport, which is why it is of great significance to provide them with alternative means for accessibility.

2.3.4 Accessibility and Proximity

Positive social values, generated by measures for car freedom, in one location may according to Ström et al. (2017) simultaneously result in drawbacks of social qualities in another. Therefore, it is important to ensure good quality connectivity for people living outside the city centre. By improving accessibility between districts of the city, mobility will be strengthened and, as noted by Lucas (2012, p. 109), “‘a strong mobility capital’ allows individuals to maintain or widen their social capital”.

The road networks for personal mobility by vehicular traffic have for long been dominating the development of urban areas, which has led to a diminished accessibility for those not owning or using a car for their personal mobility, but other means for transport (Hart and Parkhurst, 2011). A well-developed public transport system, as one such alternative means, improves accessibility and might in itself facilitate the creation social capital through the opportunities to interaction it creates (Currie and Stanley, 2008).

The accessibility of a site is to a large extent a determinant to its value and, consequently, throughout history, the series of inventions of new modes of transport that have unlocked access to new sites shows a correlation to changes in urban development (Wachs and Kumagai, 1973). It follows naturally that a difference in access to certain modes of transport between groups in society results in varying accessibility to areas and the amenities they offer visitors.

Lucas (2012) explains that the generally high levels of mobility in society as a whole is a causal factor for social exclusion that follows the lack of equal opportunities for some groups within it. Lucas (2012, p. 108) defines seven aspects of accessibility-related exclusion in the transport system:

- *Physical exclusion*: physical barriers that obstruct the use of transport services for people with physical or psychological disabilities.
- *Geographical exclusion*: geographical barriers for people in remote residential areas due to selective distribution of transport services.
- *Exclusion from facilities*: distance-related barriers due to locations of key facilities such as schools, health care and recreational services.
- *Economic exclusion*: economic barriers due to transport-related costs inhibiting access to facilities or employment—possibly further implicating impacts on people’s financial opportunities.
- *Time-based exclusion*: time-poverty-related barriers due to other time-demanding

duties, such as child-care or combined work, inhibiting the time available for travel.

- *Fear-based exclusion*: fear-related barriers impairing use of public amenities due to concerns for personal safety.
- *Space exclusion*: exclusivity-related barriers restricting access to spaces and facilities for people lacking certain qualification.

Lucas (2012) also notes that these forms of mobility-related exclusion demand different measures. In order to achieve sustainable mobility, Banister (2008) explains that cities need to be designed so that people do not need to use a car, in terms of quality as well as scale. An important distinction is consequently that between *accessibility by mobility* and *accessibility by proximity* (Elldér et al., 2017). The prior has focused on increasing mobility through higher speeds and strengthened transport network nodes, hence leading to the negligence of the socioeconomic groups that lack access to high-speed transportation modes. As an alternative, the latter revolves around the geographical nearness of facilities for one's daily activities, in order to promote slow transportation modes such as walking and cycling. As opposed to mobility, the feature of proximity is believed to bring cities more resilience to the many risks related to motorised transport—such as accidents, interruptions and delays. With benefits of improved proximity and walkability spanning from reduced emissions to improved health and social equity, cities adopting this perspective are believed to be on the right path towards better social and environmental sustainability (Elldér et al., 2017).

3 | Urban Transport Planning Processes

In relation to the aspects of social sustainability treated in Chapter 2, the planning processes for addressing these issues need to be investigated. In the following chapter, different approaches to planning processes are discussed. First, the conventional transport planning and its weaknesses of addressing societal concerns are described. Second, the theory of collaborative planning is discussed, introducing the ideas of communicative rationality to planning. Further, the practical complications which this type of participatory planning process might entail—that is, stakeholder involvement—is elaborated. Lastly, the fundamental planning processes for smoothly implementing car-free urban areas, including the collaborative approach, are established.

3.1 Conventional Planning and Instrumental Rationality

In the late nineteenth century, when planning documents such as master plans became part of physical planning, there was a challenge in finding planning activities that were functional, efficient and favourable for all involved (Healey, 1997). Objectives for creating quality of life had to be related to the objectives of economic growth, therefore proper management of social processes was needed in planning practices in order to understand the importance of this relationship (Healey, 1997).

As a consequence of this, policies were introduced in urban development in order to form a planning process that focused on the relationship between social, economic and environmental aspects of the urban environment. Goals, values and directions, as presented in the policies, were expressed and developed during the ongoing planning process (Healey, 1997). Since the introduction of policies, planning processes have been based on the principles of instrumental rationality; the process of optimising means to identified ends, which barely addresses the objectives of the public related to environmental issues and social equity (Willson, 2001). This is partly because instrumental rationality assumes that desired ends are unitary, which might not be the case with several actors involved as in urban planning processes. The conventional

transport planning process is described through nine steps, as seen in Figure 3.1.

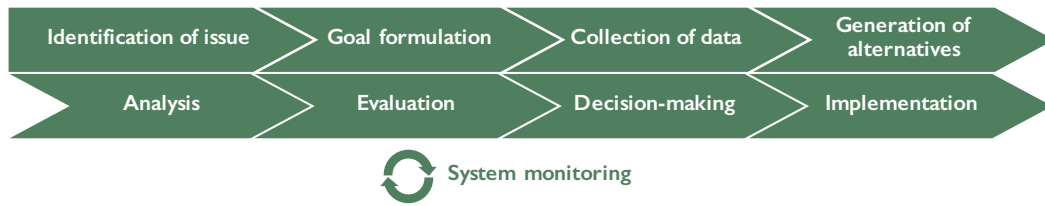


Figure 3.1: The nine-step process as described by Willson (2001, p. 4).

This system represents the classic ends and means process, as described in instrumental rationality. The core of this process implies the optimisation of means in order to achieve the goals—or ends—expressed from society and formulated by decision-makers (Willson, 2001). As the planners are not involved in the goal formulation, the ends are separated from the planning activities—that is, the means. In this process, it is also assumed that facts are separated from subjective information as well as from complex social settings. Means are based on data analysis and modelling results, but it is argued that models and results hide relevant information of more complex social settings, which implies that the conventional planning process cannot assess these types of issues (Willson, 2001).

Conventional planning is determined by political decision-making (Healey, 1997), implying that the actual planning is not carried out by practitioners through *formal* transport planning processes—that is, investigations and production of plans—but rather through the *informal* processes denoted by political bargaining and power (Willson, 2001). In relation to this, Willson (2001) discusses the participation, or rather the *non-participation* of the public in planning processes, which is restrained due to the tension between the formal and informal processes. The non-participation as well as the unresolved tension lead to public mistrust and poorly designed plans. As such, the planning of our cities and future environments is not an easy task. The task for local planners is to please several different interests of multiple groups within society. The spatial and environmental planning process is at heart for all local citizens and visitors of the city. Thus, transport planners are often criticised both for allowing and stopping adjustments to the transport system (Healey, 1997).

Despite the fundamental differences between society today and during the time when the conventional planning approach was formed, some practices still remain (Lindelöw et al., 2016). The conventional planning system and practices affect the possibilities for transport planners to manage the collective concerns of in what way the urban environment should be kept or developed. Therefore, the progress of society should be part of the planning practices and, by studying the dynamics of urban and societal change, Healey (1997) argues that the understanding as well as the quality of these practices will increase.

3.2 Collaborative Planning: The “New” Paradigm

Changes of our urban environment can be understood as transitions, which have been described as long-term, open-ended, multi-actor, complex, uncertain and ambiguous processes (Holmberg and Larsson, 2018). In the successful transition towards a sustainable mobility system, there is a need for a multi-disciplinary approach and public acceptability (Banister, 2008). Due to the inability of the conventional planning approach to address the variance of social needs, the demand for alternative planning processes needs to be acknowledged.

Although the way in which we plan our cities has changed over the last decades (Albrechts et al., 2017), there is a challenge within the area of spatial planning in addressing collective concerns regarding the quality of the urban environment. In the planning processes for the reshaping of existing cities, it is clear that “one size does not fit all” (Bramley et al., 2009, p. 2139). Hence there is a need for an approach that emphasises the processes of governance, in which local governments and stakeholders can manage the evolution of qualities in the urban environment together (Albrechts et al., 2017).

Willson (2001) further proposed collaborative planning as the “new” paradigm within transport planning, and developed the idea of the communicative rationality for transport planning processes, based on the values of collaborative planning presented by Healey (1997). Collaborative planning is a combination of an institutional approach, which emphasises the range of different stakes amongst people in local environments, and the theory of communicative planning. The institutional approach focuses on the social relations through which businesses and daily life are organised (Willson, 2001). Collaborative planning thus creates plans of actions, but also enables the possibilities of including multiple dimensions of knowledge. The participants in the process rely not only on the data analysis results and models, like in conventional transport planning, but on all available information, not necessarily formal analytic reports (Willson, 2001).

Communicative rationality in planning processes aims to connect ends to means in a democratic society. Usually, there are multiple, sometimes conflicting, ends which require complex continuous processes to address. The collaborative process aims to assess personal dilemmas of individuals in urban planning contexts by enabling conversations between different actors, such as initiators, planners and stakeholders (Allmendinger and Tewdwr-Jones, 2002). For transport planning processes, the values and therefore ends might change during the process, thus the planning process needs to adapt accordingly.

However, since the planning processes are constructed by social processes, the various ways of valuing and acting amongst people are constantly changing and varying within and between planning processes. The relations of social life are

complex; thus it is complicated to include them in the planning process. Healey (1997) mentions the importance of studying the relations between stakeholders and how to involve them in the process.

3.3 Stakeholder Involvement in Collaborative Planning

The development of the communicative paradigm has resulted in several issues being highlighted in the literature, where the power of individual actors is one of them (Allmendinger and Tewdwr-Jones, 2002). Therefore there is an importance in considering who to involve in the communicative process and how it should be done.

The planning of our cities is influenced by political activities, and powerful political systems have in the past paid little attention to the evaluation of social consequences due to changes in local environments (Healey, 1997). It is important to remember that changes in the urban environment is of interest to a wide range of actors with a “stake” in the place—referred to as stakeholders—meaning that they are affected by issues related to it. In processes for car-free development, all stakeholders potentially affected by the measures should be identified and involved (Wright, 2005).

The process in which stakeholders choose to actively take part in the decision-making of questions that may affect them is denoted as stakeholder participation and is believed to improve the quality as well as the durability of decisions (Reed, 2008). The participation may also contribute with a variety of ideas for the design of a project, increasing the likelihood of successfully meeting local interests and needs. However, if the participation is not well-managed, there is a risk for creating ambiguities and delay of action (Reed, 2008).

The possession of power—visible or not—affects who gets what in a stakeholder involvement process (Healey, 2003). As described by Mitchell et al. (1997, p. 865), a party possesses power “to the extent it has or can gain access to coercive, utilitarian, or normative means, to impose its will in the relationship”. Power, urgency and legitimacy have been defined as the three main attributes and identifiers of stakeholder classes, see Figure 3.2 (Mitchell et al., 1997). The notion of legitimacy defines “the ones who really count” (Mitchell et al., 1997, p. 864), thus the attribute is often used by those with a normative approach for the participation of stakeholders. Power and legitimacy are described as independent variables, albeit intersecting, whereas urgency adds a dimension to the other attributes. It moves the model from a static level to a dynamic. A stakeholder’s urgency is defined by the nature of the claim; that is, to what degree the claim is time-sensitive or critical to the stakeholder (Mitchell et al., 1997). The establishment of common ground and trust between participants in a participatory process, as well as the understanding of each other’s legitimacy of viewpoints, can further strengthen and improve relationships between actors (Reed,

2008; Gustavsson and Elander, 2013).

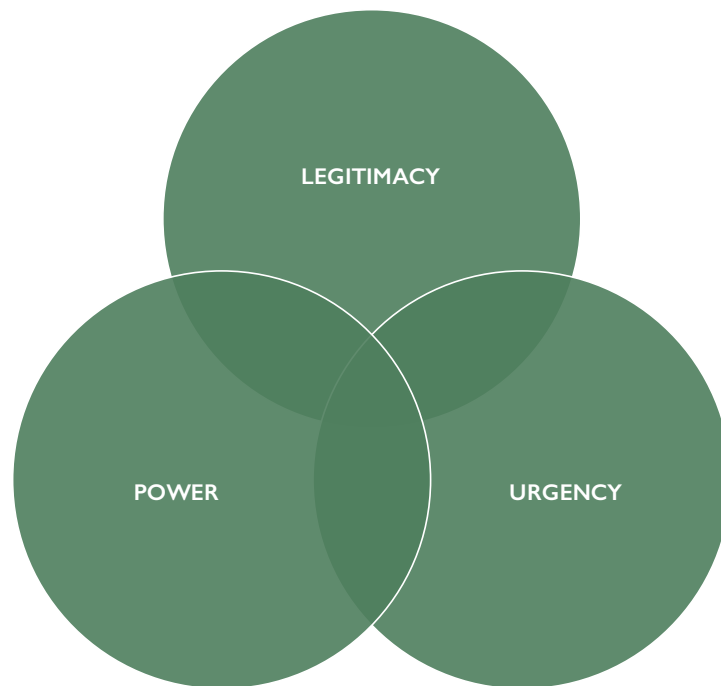


Figure 3.2: The relationship between the three attributes and identifiers of stakeholder classes, adapted from Mitchell et al. (1997).

The knowledge of stakeholders' attributes helps in the design of stakeholder management techniques that are developed to mediate multiple stakeholders' interests in stakeholder involvement processes (Mitchell et al., 1997). The success and outcome of the participatory stakeholder process is influenced by the way in which facilitators manage group dynamics (Reed, 2008), hence how attributes such as power, legitimacy and urgency are mediated (Warner, 2006). Further, the communication between participants, the clarity of goals that were set in advance and the quality of the planning of the participatory activity, has been identified as success factors of the stakeholder involvement process (Reed, 2008).

Edelenbos and Klijn (2005) address two dimensions of participation, the *width* and the *depth*—together determining the strength of the participation. The width of participation is determined by the degree to which each individual member of a community is offered the opportunity to participate in the involvement process. Correspondingly, the depth of participation is determined by the degree to which these members can influence the decisions made in the process. The dimensions are used in order to assess the meaningfulness of the stakeholder involvement. The stronger the process—that is, the deeper and wider—the more varied outcomes of the decisions can be obtained, potentially resulting in more satisfied stakeholders (Edelenbos and Klijn, 2005).

3.4 Implementation of Car-Free Urban Areas

The car has become an essential part of humans' everyday lives; hence it has become a necessity for the cities functioning and economic life (Nieuwenhuijsen et al., 2019). The recognition of the extensive effects motor vehicles have on humans' health as well as on the environment is increasing amongst urban planners, causing cities developing plans for reducing the dependence of cars. Varying approaches in the creation of car-free or car-reduced urban areas have arisen. As described in Section 2.2, the initiatives involve policies for car-free days, restricted parking, investments in qualitative bicycle and pedestrian infrastructure or expanding the public transportation system (Nieuwenhuijsen et al., 2019).

As Nieuwenhuijsen and Khreis (2016) address, the process of implementing car-free districts is not linear. Measures in policies require long term political commitment and a high level of public acceptance. For this to be achieved, the benefits of car-free areas must be clearly communicated in order to make the public accept any initially perceived negative effects. Implementation of plans for car-free cities could start either with car-free zones, but also through the introduction of car-free days in parts of the city. Through temporary car-free measures, the appeal and awareness of the public can be increased successively (Nieuwenhuijsen and Khreis, 2016). Nieuwenhuijsen et al. (2019) discuss nine prerequisites, as described in Figure 3.3, for the transition towards car-free cities.

First, the importance of *political vision and leadership* is addressed. As previously described, the planning process is underlined by political bargaining, thus a shared vision across the majority is necessary, as well as recognition and acknowledgement of key challenges of a continued dependence and development of cars in urban areas.

The second and third prerequisite described by Nieuwenhuijsen and Khreis (2016) are also related to accessibility with public transport. It revolves around the creation of an *alternative quality transportation* and *dedicated funding* for these means. High-quality public transport serves all groups and needs of society. The expansion of public transport requires integration of the four key elements in the planning for accessibility—land-use, housing, services and transport.

The fourth prerequisite addressed by Nieuwenhuijsen et al. (2019) is the importance of an *extensive data collection* and analysis of land-use, mobility patterns, demographics, environmental pollutants, accidents in traffic, social preferences, health and economics in the area intended for implemented car restrictions. The data is essential for understanding current status as well as predicting impacts of certain measures. Also, the data could be useful in evaluations of the impact during and after implementation of car-free areas.

The fifth prerequisite is represented by the *stakeholder involvement and acceptability*, hence by businesses and citizens (Nieuwenhuijsen et al., 2019). The public

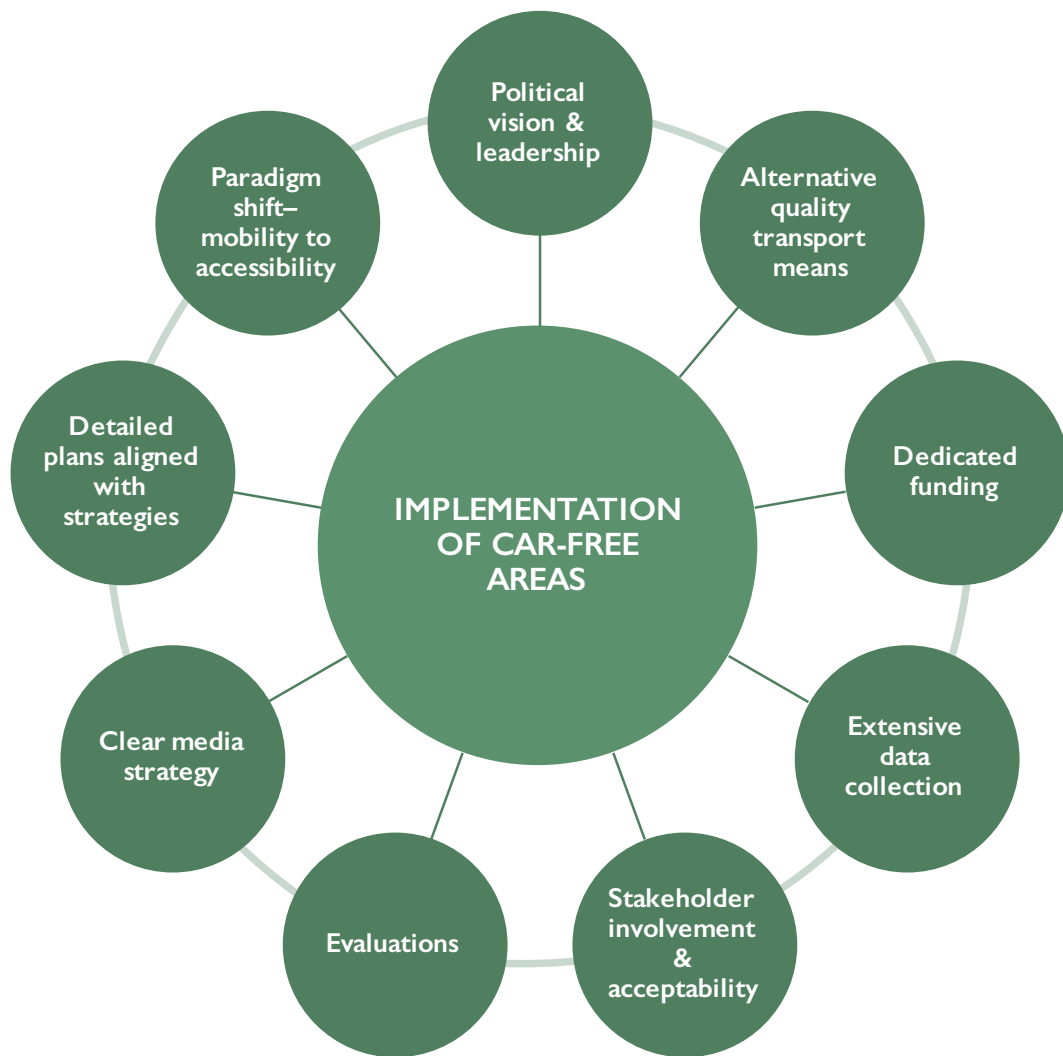


Figure 3.3: Prerequisites for implementation of car-free areas, adapted from Nieuwenhuijsen et al. (2019).

needs to realise the true benefits of car-free development and the restrictions of personal mobility needs to be replaced by qualitative means of public transport (Banister, 2008).

The importance of *evaluations* represents the sixth prerequisite. There is an absence of evidence and existing data collections in some regions for the positive health effects of car-free areas, which might limit policy-making (Nieuwenhuijsen et al., 2019). Evaluations of implemented projects are therefore key for the future transition towards car-free development.

Further, the seventh and eighth prerequisite involve a *clear media strategy* for communication with the public as well as *detailed plans, aligned with strategies* (Nieuwenhuijsen et al., 2019). The detailed plans for implementation should include measures of progress, aligned with those addressed in the city's strategies. Climate

co-benefits of car-free areas can be an advantageous resource in the discussion and strategies regarding climate change. The media plan is essential for handling the communication between decision-makers and affected stakeholders. It should involve plans determining the best way of communicating messages for different target groups (Nieuwenhuijsen et al., 2019).

These eight prerequisites hopefully leads to a *paradigm shift towards a sustainable mobility in terms of accessibility*, which is considered as the last prerequisite (Nieuwenhuijsen et al., 2019; Banister, 2008). Equal access to mobility needs to be understood as a precondition for inclusion of the entire society in a transition towards car-free areas (Nieuwenhuijsen et al., 2019). Therefore, there is a need for a shift in transport policies, to enable equal accessibility for all for accessing key destinations. If the transport system can only offer access for cars, it is insufficient for full participation of society and needs to be enhanced. Banister (2008) describes how the sustainable mobility approach and reduced levels of car use can be achieved by reallocating space to public transport, thus utilising available capacity in a more efficient manner.

Further, Fraticelli (2018) addresses that there are actions that can help in the process of implementation. The large extent of identified benefits needs to be communicated, thus clearly defined. The walkable city puts its people first and the urban form should be designed in accordance to the users' needs and desires. According to Fraticelli (2018, p. 174), such needs can be targeted through a range of actions, summarised and categorised as follows:

- *Visions and strategies*: involving actions such as car-free initiatives, pedestrian and health campaigns and pop-up temporary initiatives.
- *Safe and efficient transport systems*: such as road share, pedestrian streets, walkable connectivity and traffic calming measures.
- *Creation of liveable environments*: such as infrastructure re-use, innovative public space, street design and furniture, parklets and green infrastructure.
- *Sense of place and community*: arranging open street events, street markets, inclusive design and public art.
- *Smart and responsive cities*: creating a playful and interactive environment, new modes of city exploration, accessibility, social inclusion, digital evaluation tools and mapping safety.

These actions help planners and decision-makers in the transition towards a sustainable mobility, promoting walking as mode of transport (Fraticelli, 2018).

4 | Methodology

As this thesis considers aspects of social sustainability and the processes towards them in connection to car freedom—sciences which are not quantitative in nature—the approach is qualitative. The main method used in this thesis is a multiple case study, aiming to evaluate and compare existing attempts at car-free development. First, an extensive literature review was performed to build a relevant foundation of knowledge from existing research. Second, the knowledge base was expanded and elaborated through qualitative interviews with actors relevant to the subject. This chapter explains in further detail how the research was executed, why these methods were selected as well as reflections of the chosen methodology.

4.1 Qualitative Research

The qualitative research approach is used to reflect a socially constructed reality and how this reality is connected to the research area (Denzin and Lincoln, 2011). Compared to quantitative research, it emphasises qualities by examining entities, processes and meanings rather than values of quantities, amounts, intensities or frequencies (Denzin and Lincoln, 2011).

A situation can be perceived in various ways by different actors, and a qualitative study aims to capture these perceptions. In qualitative research, a deeper understanding of human conditions can be achieved (Bengtsson, 2016). As both of the main themes of this thesis—social sustainability and planning processes—are to their nature most relevantly approached by the means of verbal values, as opposed to numerical ones, the qualitative approach was chosen. This thesis is built on a multiple case study, where knowledge was gathered through a literature review and an interview study.

4.2 Literature Review

To become informed and gain initial understanding of the topic, it is a good idea to begin with conducting a literature review. The literature review should define concepts and their relevance to the subject, map and investigate previously undertaken research

on the subject as well as written data on the cases (Rowley and Slack, 2004).

In order to build a knowledge of theoretical concepts, several search keywords have been used in research databases. Search keywords include *urban social sustainability*, *transport planning processes*, *urban planning*, *car-free development*, *stakeholder involvement*, *collaborative planning* and *car-free city centres*. For information on the cases, official municipal documents such as plans and strategies were used.

4.3 Multiple Case Study

In order to build on the existing literature, a multiple case study is a good source of reference (Bell et al., 2018). Case studies are considered as a sufficient method, especially for research within the social sciences (Flyvbjerg, 2006). A single case study is, according to Tellis (1997), sufficient if the objectives of the research questions are met by only looking into one case. However, for this particular thesis, the use of a multiple case study is deemed more suitable since it enables comparison between several different aspects of car-free development, by the evaluation of urban transport planning processes in similar cultural and climatic context and with similar objectives. The three cases examined are:

- The car-free city centre of Oslo, Norway – “Bilfritt byliv”
- The dynamic city life initiative of Stockholm, Sweden – “Levande Stockholm”
- The summertime pedestrian street of Gothenburg, Sweden – “Tredje Långgatan”

All cases are car-free urban planning projects with varying approaches, scales and levels of permanence; therefore they are considered relevant to analyse and compare. The car-free city centre of Oslo, “Bilfritt byliv”, which translates to ‘car-free city life’, is of interest because of the generally perceived smoothness of the process. Additionally, Oslo is interesting as a city since it was selected as The European Green Capital of 2019, with this project as a contributing factor for the nomination. The two cases in Sweden, “Tredje Långgatan”, denoting the name of the one street it concerns, and “Levande Stockholm”, translating to ‘Living Stockholm’, are both of a temporary and recurring nature—which might carry long-term effects for social sustainability in society—but very different in size and approach compared to Bilfritt byliv. The results from the case study is presented in Chapter 5.

4.4 Interviews

The primary data collection in the study was done through qualitative interviews. Such interviews provide access to the social world; they provide information of what happens within individuals as well as within the socially constructed environment

(Silverman, 2016). The interviews were conducted in a semi-structured manner, hence allowing for flexibility, which is considered as one of the aspects that makes qualitative interviews an attractive source of data (Bell et al., 2018).

Potential interviewees were first identified through theoretical sampling; that is, by identifying the most knowledgeable people on the subject in order to obtain as much data and leads for further data collection (Coyne, 1997). Mainly, this was done by reading literature, getting recommendations from supervisors or simply by googling. Thereafter, the snowball sampling method (Easterby-Smith et al., 2015) was used, when interviewees, or people who declined to participate, were given the chance to suggest other actors relevant to interview.

Table 4.1: Description of interviewees

INTERVIEWEE	ORGANISATION	ROLE
Researcher G1	Göteborgs Universitet	Researcher within social sustainability in connection to accessibility and mobility
Researcher G2	RISE	Researcher within social sustainability in urban planning processes
Consultant O1	Sweco	Ethnologist, involved in the evaluation of Bilfritt Byliv
Consultant O2	Sweco	Transport planner, project manager in the evaluation of Bilfritt Byliv
Municipal representative O3	Oslo Kommune	Communicator for the programme of Bilfritt Byliv since 2018
Consultant S1	Sweco	Landscape architect, involved the first three years of Levande Stockholm
Consultant S2	Sweco	Landscape architect, has been involved with Levande Stockholm since 2018
Policy-maker S3	Stockholm Stad, Trafikroteln	Political representative from Miljöpartiet de gröna, involved in the process of funding in Levande Stockholm
Municipal representative S4	Stockholm Stad, Trafikkontoret	Project manager for Levande Stockholm
Municipal representative S5	Stockholm Stad, Trafikkontoret	Transport planner, project manager for Levande Stockholm since 2018
Municipal representative G3	Göteborgs Stad, Trafikkontoret	Project manager for social sustainability issues, Tredje Långgatan
Municipal representative G4	Göteborgs Stad, Trafikkontoret	Project manager of Tredje Långgatan since 2018

A total amount of twelve interviews were held at approximately one hour each, with all but one conducted online. The interviewees can be viewed in Table 4.1. The interviews were recorded to ensure proper citation. All interviews were conducted in Swedish, with some interviewees speaking Norwegian—therefore, all findings from the interviewees have been translated to English. Two interviewees identified in the early stages were both researchers knowledgeable on the subject of social sustainability within urban planning processes and also familiar with the Gothenburg case—thus

they were considered relevant to interview. The remaining ten interviewees were each affiliated to one of the cases: three to Bilfritt byliv, five to Levande Stockholm and two to Tredje Långgatan.

4.5 Data Analysis

To interpret meaning from the data collected through the interviews, the research technique of content analysis was applied. The method uses systematic classification of text to find themes or patterns in order to form a subjective interpretation of the data (Hsieh and Shannon, 2005). The conventional approach was chosen as the most appropriate one, with codes being directly derived after all data have been collected. This approach uses an inductive development of categories, where themes and insights are allowed to emerge freely from the text, as opposed to using preconceived notions (Kondracki et al., 2002). However, the analysis of the results after categorisation may have been influenced by the previously studied research, hence the analysis could be considered as more of an abductive approach (Timmermans and Tavory, 2012). The categories and related themes identified were: definitions of social sustainability, car-free development (advantages, challenges, prerequisites, initiation and drivers, temporary aspect) and transport planning process (plans and strategies, strengths, barriers, political goals).

4.6 Ethical Statement

As the study includes interviews from people in the field of urban development that are connected to the cases, there might be an ethical concern for their integrity. To account for this, all interviewees have been made anonymous in the paper, despite none of the participants' explicit request for this. Further, the interviewees were able to see the interview guide beforehand and review the summary of their interview, including quotations, although few took the opportunity.

4.7 Reflections About Chosen Methodology

This thesis has revolved around a multiple case study, with support from literature and interviews. This methodological approach, and its development during the thesis work, has consequences for the results of the thesis, which will now be discussed.

The literature study was conducted to build a solid knowledge base before beginning with the interviews. Initially, the plan was to focus more on the significant number of plans and strategies available from the cities under investigation. However, the documents were found to be very extensive, yet imprecise, and after a few interviews it became apparent that they also have weak links to the planning of

the projects in practice. Therefore, the policy documents lost some relevance to the study.

Much of literature study is based on foreign research, which might not automatically imply applicability to the Nordic case study. However, the interviews and the literature reinforced each other, giving the literature significance even in the Sweden and Norway cases. This gives us the reason to believe that this research has relevance and should not be forsaken for its origin.

Interviews contribute with qualitative and interesting data, enriching the results of the study. However, interviews are complex, and the outcome depends on the personalities and knowledge of the parties involved—both interviewer and interviewee. The personality and role of the interviewer affect the dynamics of the interview as well as the perspectives conveyed. The semi-structural method that was applied for conducting the interviews has many strengths, but it also comes with many drawbacks. The interviewer might be restrained by the interview guide developed before the interview and depending on the knowledge of the interviewee, which might be somewhat unknown beforehand, the questions might not be as relevant as thought. One of the difficulties perceived by the interviewers was to not ask leading questions, especially when the questions does not follow the interview guide. Further, the interviewee might have in-depth knowledge within a specific area of the studied topic, which implies that some areas might be in focus during the interview.

Because of the COVID-19 pandemic, which occurred during the writing of this thesis, travel restrictions and social distancing did to some extent affect the results of the study. Initially, study visits were planned in the case cities as well as physical interviews. Due to this, the interviews were conducted online which sometimes resulted in technical issues and poor-quality recordings. The technical issues might also have affected the possibilities for follow up questions and that some responses were lost.

Another difficulty related to the interviews was the issue with getting hold of interviewees connected to the cases. This could have been due to the fact that two of the cases are temporary and focused on the summer season and therefore the time available for interviews, during spring 2020, conflicted with the most intense planning period for these projects. The challenge of reaching certain key actors might have resulted in some perspectives missing. For example, it would have been interesting to speak to the private actor responsible for the initiation of Tredje Långgatan, but being that this actor is part of the hospitality industry it is possible that this loss is also a result of COVID-19.

5 | Results: Case Study

The following chapter will present the results from the case study of the three Nordic cities and their car-free initiatives—Oslo in Norway as well as Stockholm and Gothenburg in Sweden. First the national planning systems and goals are compared between the two countries. Second, the cases are described. Each case is introduced with the basic city structure, followed by policy documents concerning the urban planning. Thereafter, the specifics of the car-free projects are presented. Further, each case has been examined through qualitative interviews. The results from these interviews are presented in Chapter 6.

5.1 A Comparison of National Planning Systems and Goals

Planning policies and goals are designed for the ability to manage change in certain areas. In the urban sustainability transitions and the development of car-free areas, existing plans and programmes are important aspects to consider (Koglin et al., 2019), with social sustainability goals expressed explicitly or inexplicitly. Together, the international and national policies and goals create a foundation for the regional and municipal planning (Koglin et al., 2019). Some of the existing policies will be briefly described in this section.

The urban planning systems in Sweden and Norway are today characterised by comprehensive planning with a strong municipal governance and sectorial interest (Fredricsson and Smas, 2013). However, according to Fredricsson and Smas (2013) there are big differences between the Swedish and the Norwegian planning processes. In Norway, spatial planning is divided into three levels: national, regional and municipal planning. National planning can influence and make objections to the planning at a municipal level. Local planning is regulated through the planning strategy, which is a political strategy that defines priorities of the spatial planning, as well as the municipal plans. The municipal plans have two parts: the non-legally binding strategic part and the legally binding land-use regulation. On a detailed level, the development plans are divided into area zoning plans and detailed zoning plans, which are both legally binding. The national infrastructure plans and strategies are

managed and governed by the Norwegian Public Roads Administration (Norwegian: Statens Vegvesen) (Statens Vegvesen, 2020) as well as the Railway Directorate (Norwegian: Jernbanedirektoratet) (Jernbanedirektoratet, 2020).

In Sweden, the municipal master plan is not legally binding, in contrast to the Norwegian system, and the master plan considers strategic issues and overall land-use planning. The legally binding plan is the local detailed plan. Further, Swedish planning is not considered to the same extent as the Norwegian at the national or regional levels, even though overall strategies exist. Hence planning is predominantly a local issue for each municipality to manage and govern (Fredricsson and Smas, 2013). For transport planning issues, the municipal master plan should have connected strategies for the support of decision-making (Trafikverket, 2020). The Swedish Transport Administration (Swedish: Trafikverket) is responsible for the national planning of the Swedish infrastructure network and can support the municipalities in the development of plans and strategies (Trafikverket, 2020).

Norway and Sweden both have their own version of a Planning and Building Act (“Plan- och bygningsloven” and “Plan- och bygglagen”, respectively) where laws regarding physical planning are stipulated (Fredricsson and Smas, 2013). The Norwegian law aims to “ensure transparency, predictability and participation for all interests and stakeholders concerned”. Further, it is emphasised that long-term solutions should be prioritised and social and environmental consequences evaluated (Miljøvern departementet, 2019). Similarly, in Sweden, the regulations aim to “with respect to humans’ individual freedom, favour urban development for equal and good living conditions” (Boverket, 2019) and focus on ensuring a long-term sustainable living environment. Further, it is expressed how the comprehensive plans of the municipality should consider questions regarding social sustainability: they should promote a good, accessible and useful living environment for all groups of society (Boverket, 2017). Social consequences should, in the same way as economic and environmental consequences, be investigated when new plans are developed (Boverket, 2013).



Figure 5.1: Map of Oslo, Norway.

■ Bilfritt byliv sites
1 km

5.2 Oslo, Bilfritt Byliv

Oslo, the capital of Norway, has a population within the municipality of approximately 690,000 people (Statistics Norway, 2019). In 2040, the population is expected to increase to approximately 815,500—representing a growth of almost 20 per cent in 20 years. The density of the population in the municipality of Oslo is 4,800 inhabitants per square kilometre (Urbanet Analyse, 2017). The public transport in Oslo is well-developed and offers train, metro, tram and bus routes in the entire region. The distribution of use by different modes of transport in Oslo is shown in Figure 5.2. However, it should be noted that these numbers represent those living within Oslo municipality, thus excluding daily commuters to Oslo city centre from neighbouring municipalities.

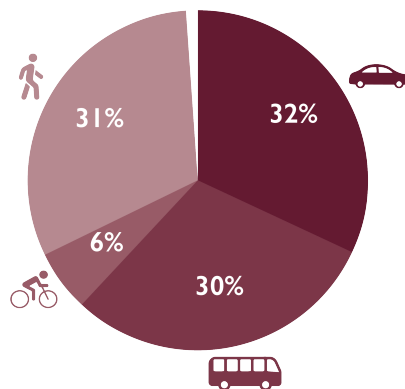


Figure 5.2: Share of trips by car, public transport, bicycle and foot in Oslo (Statens vegvesen, 2019)

5.2.1 Municipal Plans, Visions and Strategies

Oslo is to be developed through five main strategies, the two most relevant for social sustainability being: growth through compact city development and the creation of an attractive city with appealing, safe and welcoming urban spaces—both emphasising a socially sustainable development. Oslo is planned and managed through the Municipal Master Plan from 2015, “Oslo from now to 2030 Smart-Safe-Green”, which provides a framework for the development of the city (Oslo Kommune, 2018c). It provides the city with goals to be met on municipal, regional and national levels respectively. From the master plan, there are subordinate plans for specific areas, themes or business areas. Area zoning plans are supplementary for some areas in need of further clarification of land use regulations. Details such as design of zones and physical surroundings are treated in the zoning plan.

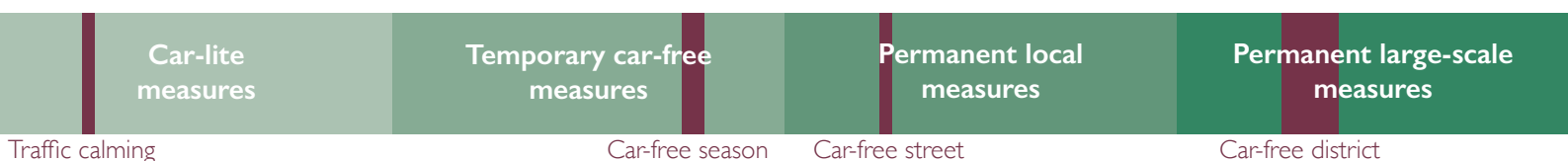


Figure 5.3: Car-free measures in Bilfritt byliv. Figure adapted from Wright (2005).

5.2.2 Car-Free City Centre: Bilfritt Byliv

Since 2016, Oslo Municipality has been working for the creation of a car-free city centre, Bilfritt byliv, which aims to make the centre of Oslo greener and livelier by prioritising human activity (Oslo Kommune, 2020). The measures done through the project range from traffic calming car-lite measures to several streets being permanently transformed to car-free, as illustrated in Figure 5.3. The project originates from an evaluation performed by Gehl Architects during the period 2012–2014. The evaluation identified a lack of connectivity in the city, which the project of a car-free city centre intends to reinforce. The improvements of public transportation as well as the expansion of pedestrian and bicycle lanes were expected to create attractive connections between the nodes of the city and decrease the need for travelling by car (Oslo Kommune, 2018a). Space previously intended for the car was sought to be reallocated and filled with other activities. The measures were planned through a programme that was launched in 2017 and lasted until 2019 (Oslo Kommune, 2020). The area covered by the project can be seen in Figure 5.1 as the shaded area.

In 2017, the programme started by introducing piloting projects in some of the most attractive parts of the city centre. The locations where chosen for their ability to create a lively environment, since the goal was to spread the, at the time, concentrated human activity at the street Karl Johans gate towards the seafront of

the city (Sweco, 2019). Space, reallocated from 350 parking lots, was used for new installations, such as street furniture, art and several events and activities. In 2018, a new driving scheme for motorists was introduced in the city centre, where some streets in the centre became car-free. Also, new playgrounds were built in the city centre and green areas reinforced. In 2019, permanent changes of some streets were developed and finalised and future permanent changes presented. From 2020 until 2023, further permanent changes of streets in the city centre will be finalised and developed and ideas from the programme in the period 2017–2019 will be expanded to other districts of the city (Oslo Kommune, 2020).

In 2018, an additional ten-year action plan for increased city life (Norwegian: *Handlingsprogram for økt byliv*) was accepted by the municipality, with the intention to support the ambitions of *Bilfritt byliv* (Oslo Kommune, 2018b). The plan of action presents three main strategies for the creation of a lively city: to strengthen hidden areas of the city, to increase the connectivity between different nodes of the city and to increase the accessibility from suburban areas to the city centre. The main strategies and the measures for 13 districts in the city centre that were suggested in the action plan have strengthened the programme of *Bilfritt byliv* and supported the strategic planning processes for the past years and for the future developments for increased city life.

5.2.3 Evaluation of *Bilfritt byliv*

In order to understand the effects of the measures and activities of *Bilfritt byliv*, an evaluation was conducted during the period 2017–2018 (Sweco, 2019). The evaluation aimed to evaluate the use of the city centre and see how the people have adjusted to the changes after a couple of years. The evaluation was extensive and consisted of both quantitative and qualitative data, such as questionnaires with both citizens and businesses, observations and interviews at several sites of the city centre, media analyses as well as measurements of pedestrians and the longevity of their visits. Through the measurements of visits, it was concluded that the amount of people spending time in the streetscape had increased with 43 per cent from 2017 to 2019 (Oslo Kommune, 2018a). The results from the questionnaire revealed different perceptions amongst different demographic groups. People living in the central parts of Oslo were generally positive to the effects of the programme, such as the creation of a more attractive urban environment and increased city life. However, older respondents (60 years and older) and car owners were the groups most negatively disposed to the changes. Conversely, amongst the younger respondents (15–29 years old) 58 percent were positively disposed. The amount of people positive to the project has however increased over time (Sweco, 2019).



Figure 5.4: Map of Stockholm, Sweden.

■ Levande Stockholm sites
 3 km

5.3 Stockholm, Levande Stockholm

As Sweden's capital and most populated city with close to one million citizens within the municipality, Stockholm continues to grow despite the recent change of trend showing a net decrease in population due to domestic moves (Statistics Sweden, 2020a). The fact that there is a net immigration and a positive rate of natural increase still results in prognoses showing an expected population growth of around 300,000 until the year 2040 (Stockholms stad, 2018c), which is approximately a 30 per cent increase in just 20 years. The density of the population in the municipality of Stockholm is 4,900 inhabitants per square kilometre (Urbanet Analyse, 2017). Public transport in Stockholm consists of a sufficient system including trains, metro, trams and buses. The rate of use by different transportation modes in Stockholm is distributed as shown in Figure 5.5. However, as in Oslo, it should be noted that these numbers represent those living within Stockholm municipality, thus excluding daily commuters to Stockholm city centre from surrounding areas.

5.3.1 Plans, Visions and Strategies for the City of Stockholm

In accordance with the anticipated development in the region, Stockholm is planning to expand the transport system. However, it is noted that compared to the extent to which expansion is physically plausible, the demand for travel will be even greater (Stockholms stad, 2012). In turn, the share of transport by car is predicted to become larger, as a result of increased wealth (Stockholms stad, 2012). Therefore, to achieve satisfactory urban mobility, it is necessary to rethink why and how citizens travel and promote greater use of high-capacity modes of transportation—such as biking,

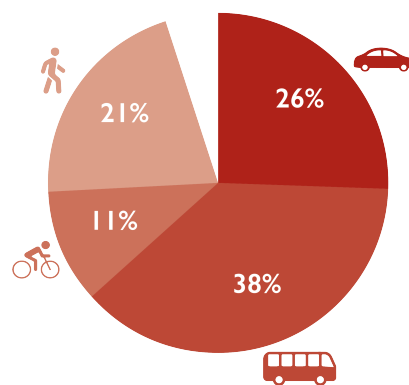


Figure 5.5: Share of trips by car, public transport, bicycle and foot in Stockholm (Trafikförvaltningen, 2015)

walking, public transport as well as freight vehicles with high load factor (Stockholms stad, 2012).

The Strategy for Public Space is a plan of action that aims to increase the quality of public space (Stockholms stad, 2019c) and is a complement to the Urban Mobility Strategy (Stockholms stad, 2018a). The Urban Mobility Strategy, in turn, is part of the Municipal Master Plan that aims to achieve Vision 2030, a general description of what Stockholm will look like and be in the year 2030 (Stockholms stad, 2012) that was adopted by the city council in 2007 (Stockholms stad, 2010). The Master Plan focuses on goals to adapt for these predicted changing conditions of Stockholm, but also the goals for what the city is aspiring to be. The four main objectives are to enable growth, to create cohesion between areas, to host a variety of public spaces with strong identities and to be an environmentally efficient and resilient city (Stockholms stad, 2018c).

As a subordinate to the Master Plan, the primary focus of the Urban Mobility Strategy is to achieve efficient use of street space (Stockholms stad, 2012). This focus is refined into four planning aims: promoting greater use of high-capacity transportation modes, enhancing accessibility through increased speed and improved travel time reliability for such transportation modes, promoting walking by developing attractive streetscapes, and lastly, mitigating adverse effects of traffic by limiting car use to such journeys that generate the most public benefit (Stockholms stad, 2012).

While the Urban Mobility Strategy has several subordinate plans—addressing topics such as pedestrians, cyclists and parking spaces—the Strategy for Public Spaces is more of an addition to it (Stockholms stad, 2018a). This strategy focuses on the appeal and the experience of public spaces—not so much about the transportation between them. Public green areas, however, are addressed in the directions of “Greener Stockholm” (Swedish: Grönare Stockholm) (Stockholms stad, 2018a).

Although these strategies and plans seemingly build on each other, it should be

noted that the Master Plan (2018c) and the Strategy for Public Space (2018a) are quite recently updated, while the Urban Mobility Strategy, which was published in 2012, is still valid until 2021.



Figure 5.6: Car-free measures in Levande Stockholm. Figure adapted from Wright (2005).

5.3.2 Summertime Pedestrian Streets and Squares: Levande Stockholm

The project “Levande Stockholm” is a temporary car-free measure that originated in the city’s budget for 2015 with the purpose to invigorate public space during the summer with appealing environments, such as parks and squares and pedestrian streets, to encourage a more active urban life (Stockholms stad, 2019c). Since its start in 2015, the project has gone from involving just two pedestrian streets to around twenty places around town, as shown in the marked areas in Figure 5.4. The project builds on the Strategy for Public Space, described in Section 5.3.1, which emphasises that all citizens should maintain access to the city regardless of economic or physical preconditions (Stockholms stad, 2019c).

In the plan for the summer of 2020, all planned sites are listed including which actors are involved in each one (Stockholms stad, 2019c). In the inner city, the project includes seven summertime pedestrian streets, five of which are suggested or established as recurring sites, one permanent pedestrian street and two pop-up parks. In the outer city, the project includes eight summertime squares in seven prioritised districts (Stockholms stad, 2019c). Levande Stockholm’s aspects of car freedom include calmed speeds, seasonal traffic regulations and the above mentioned permanently car-free street, as illustrated in Figure 5.6.

A significant part of the work with Levande Stockholm involves finding relevant content and activities to fill the sites with (Stockholms stad, 2019c). Culture-related initiatives include a musical puppet theatre, dance performances, workshops, live music and different art installations. Although the exposure of fixed installations is difficult to measure, the number of unique visitors at central pedestrian street Swedenborgsgatan was for the summer of 2019 estimated to 60,000-70,000, while the same number for outer city square Hässelby torg was 4,000 (Stockholms stad, 2019c).

5.3.3 Levande Stockholm During Winter

In Stockholm's budget for 2017, after two summers of Levande Stockholm, the Traffic Committee received the task to investigate the possibilities for a corresponding wintertime initiative and develop a strategy for it (Stockholms stad, 2018b). During the winter, lighting is an important feature, not just for decoration, but also to increase the sense of safety. Apart from the lowered incentives for people to spend time outdoors in the dark and cold environment, one challenge is that of the management of snow and ice on furnished streets. Therefore, the project is suggested to focus on parks and squares that already face this challenge, particularly in the seven prioritised outer districts, as well as add to existing elements of Christmas trees, lighting and wintertime activities like ice rinks to make them more attractive. Wintertime pedestrian streets are possible, but not to the same extent as the summertime. As the existing furniture is not designed for the cold climate, it is necessary to develop new furniture. Most importantly, the work with the summertime editions of Levande Stockholm already requires a lot of human resources from the Traffic Administration Office year-round and, therefore, the work with the wintertime editions presupposes engagement from boards and corporations as well as private actors, with the office responsible for general planning and coordination (Stockholms stad, 2018b).

5.3.4 Evaluation of Levande Stockholm

After the summer of 2019, two separate evaluations of the perception of Levande Stockholm were conducted at selected sites: one for residents and business owners and one for visitors at different sites (Stockholms stad, 2019c). The prior included three summertime pedestrian streets and showed that business owners were generally more positive towards the programme than residents and desired continued expansion and additions of features connected to it, such as greenery, art, furniture and events (Stockholms stad, 2019b). The questionnaire directed at visitors also included three squares and showed a bigger variety in responses between the types of installations: the respondents at the squares were generally more satisfied with aspects of traffic safety and pedestrian space allowance but less satisfied with the amount of outdoor restaurant seating and the night-time safety (Stockholms stad, 2019a).



Figure 5.7: Map of Gothenburg, Sweden.

■ Tredje Långgatan site
0.5 km

5.4 Gothenburg, Tredje Långgatan

Gothenburg is Sweden's second largest city, with approximately 580,000 citizens within the municipality (Statistics Sweden, 2020b)—a number that is expected to increase by 150,000 over the next 20 years, representing a 25 per cent increase in population. Consequently, the increased urbanisation has led the city to various types of challenges as a result of the competition for space (Göteborgs Stad, 2014). Yet, the density of the population in the municipality of Gothenburg is only 1,200 inhabitants per square kilometre (Urbanet Analyse, 2017). Public transport in Gothenburg only consists of trams and buses, however, a big infrastructure project called “The West Link Project” (Swedish: Västlänken) is being realised, thus the mobility can be expected to increase after its finalisation. The current use by transport mode in Gothenburg is distributed as shown in Figure 5.8. However, the numbers represent those living within the municipality, thus daily commuters to Gothenburg city centre from outer areas are excluded from the data. The amount of transportation by car for the entire region would be expected as higher if the entire region would be included in the data.

5.4.1 Plans, Strategies and Social Impact Assessment for the City of Gothenburg

The Municipal Master plan of Gothenburg presents how the land in the municipality to be used and supports municipal decisions for development of the urban environment (Göteborgs Stad, 2009). The plan consists of three main documents, three maps for interests on different levels, as well as an impact assessment and a

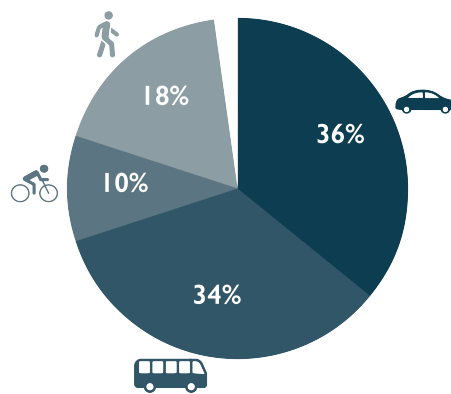


Figure 5.8: Share of trips by car, public transport, bicycle and foot in Gothenburg (Göteborgs Stad, 2018b)

consultation statement. The impact assessment involves analyses of social, economic and environmental consequences.

The plan aims to promote a sustainable growth of the city and focus on strategic issues (Göteborgs Stad, 2009). For the plan to function as a strategic document, it needs to reflect current political goals, hence it needs to be redefined and developed continuously. Some of the most relevant strategic goals stipulated in the Master Plan includes: creating and maintaining a strong regional sustainable structure, developing a sustainable infrastructure that provides an attractive public transport and a strengthened co-operation amongst actors.

One of the strategic objectives involves creating an attractive city environment, distinguishing a multiple use environment and the creation of an environment that brings people together (Göteborgs Stad, 2009). The ability for citizens to move in and around the city is emphasised as a strategic objective, as well as the importance of a densely built city. Another strategic goal calls for changing transport demands. The travel by public transport should be dramatically increased, hence also the network that provides it. Further, the sense of safety and access to a safe public space through all districts of the city is addressed as well as the possibilities for a qualitative life regarding public health, social issues and physical accessibility (Göteborgs Stad, 2009).

The sustainable urban transport planning of Gothenburg is partly based on the transport strategy (Göteborgs Stad, 2014). The transport strategy consists of three main areas: travel, urban space and transport of goods. These main areas are considered the most important for Gothenburg's achievement of its objectives for sustainable development as well as for quality of life. The aim is to attain a close-knit city, thus creating an attractive environment with meeting places, pedestrian zones, workplaces and homes facilitating a vibrant urban life. In order to achieve this, the importance of a well-functioning public transport and urban mobility system increases,

and the attractiveness of a space is determined by the perceived accessibility of the people using the space. Through the strategy, the street space will be reallocated for the ability to create more space for the people to move and socially interact (Göteborgs Stad, 2014).

In 2018, Gothenburg introduced the first programme that was created to solely address questions regarding social sustainability and equity in the city (Göteborgs Stad, 2018a). The programme notes that housing is a human fundamental right that affects social sustainability within the urban environment. It mentions the importance of creating community connections, to connect the people of the city, and that, to enable these connections, investments with a socially sustainable focus should be prioritised (Göteborgs Stad, 2018a).

Further, Gothenburg has developed a pedestrian plan, to support the planning process of pedestrian paths, that was finished in 2019 (Swedish: Gångvänligt Göteborg)(Göteborgs Stad, 2019). The goals in the transport strategy regarding pedestrians are further elaborated in this document.

A tool for a Social Impact Assessments, SIA, was developed for the ability to evaluate social issues in urban development (Göteborgs Stad, 2016a), as demanded by the Planning and Building Act (Boverket, 2019). For the best results, the SIAs should be used in all stages of the urban development process. Knowledge of the different stages needs to be well communicated between actors involved in the entire development process in order for the social values to be incorporated in the final result (Göteborgs Stad, 2016a). A matrix is used for analysis and the perspectives are created from a geographical point of view: building and place, close surroundings, city district, city and region and bigger region. The social aspects analysed are labelled as: a connected city, interaction, everyday life and identity. Many of the social issues highlighted in these four aspects are related to the city's master plan (Göteborgs Stad, 2016a).



Figure 5.9: Car-free measures on Tredje Långgatan. Figure adapted from Wright (2005).

5.4.2 Summertime Pedestrian Street: Tredje Långgatan

Since 2015, Tredje Långgatan in Gothenburg has been a car-free street during the summer season, from May to September (Koglin et al., 2019). The project is

temporary, small-scale and further permits some traffic for those who have business on the address, albeit calmed, and as such includes aspects of car-lite measures and temporary car-free measures, as illustrated in Figure 5.9. The project was initiated by the businesses located on the street, mostly restaurants and bars, owned by one main actor (Koglin et al., 2019). The street is situated in central parts of Gothenburg, close to the mobility and public transport node ‘Järntorget’. In an analysis of the urban structures in Gothenburg, the neighbourhood where the street is located, called ‘Linné’, is a well-functioning mixed-use neighbourhood with both housing and offices, which has been found to create a sense of safety (Göteborgs Stad and Ramböll, 2016). The area is considered walkable since service functions, shops, facilities and cultural life are considered to be located at short distances (Göteborgs Stad and Ramböll, 2016). The initial aim for the creation of the summer street was to reallocate the space of the street, creating prerequisites for an attractive, lively and safe environment, for the citizens of the city (Koglin et al., 2019). The summertime pedestrian street does further adhere to the transport strategy and was considered as a natural extension of the pedestrian street ‘Haga Nygata’ (Göteborgs Stad, 2016b). The project area is shown as the shaded area in Figure 5.7.

5.4.3 Evaluation of Tredje Långgatan

After the first year’s implementation of the summertime pedestrian street at Tredje Långgatan, an evaluation with residents, visitors and businesses was conducted. Overall, the majority of the residents were positive to the pedestrianisation of the street (Göteborgs Stad, 2016b). However, it was concluded that there was a conflict between businesses and residents, where residents complained of an increased amount of litter on the street and high noise levels, as a result of the bars and outdoor seating now located on the streets. In 2016, for the second year of the project, measures such as an increased amount of rubbish bins as well as improved maintenance of the street were implemented. Further, the bars and restaurants located at the street had to close one hour earlier in order to limit the noise disturbance. The new changes for the season of 2016 were communicated through a letter to affected residents, but even so, the residents were still negative to the concept. However, they were more negative to the increased activity in bars and restaurants than the pedestrianisation of the street (Koglin et al., 2019).

6 | Results: Interview Study

The following chapter presents the results from the interview study, conducted in connection to the three cases. The chapter is divided by the identified categories and themes from the content analysis of the qualitative data, as seen in Figure 6.1.

6.1 Definition of Social Sustainability	
6.2 Car-Free Development	6.3 Transport Planning Process
<ul style="list-style-type: none">• Social Advantages• Social Challenges• Prerequisites• Initiation and Drivers• Temporary Aspect	<ul style="list-style-type: none">• The Process and Use of Plans, Strategies and Tools• Strengths in the Planning Process• Barriers in the Planning Process• Political Goals and Policies

Figure 6.1: Identified categories and themes from the interviews.

6.1 Definition of Social Sustainability

Defining social sustainability was for the majority of the interviewees considered difficult. Some interviewees did not attempt at defining the term but chose to only discuss it in relation to urban development. One interviewee defined social sustainability as aspects contributing to humans’ well-being and welfare, adding elements of distributive justice or equity, while noting that this aspect is relevant to the other two sustainability dimensions as well. The aspect of equity was also noted by several other interviewees in relation to the built environment—creating and giving citizens equal access to public space. Another point expressed was that public space should cater to a variety of preferences and needs in order to attract a diversity of demographic groups:

“Social sustainability is, to some extent, about creating a general diversity in environments.”

– Consultant S2

In the urban planning process, the importance of addressing human needs in the beginning of the process was discussed in order to plan the city from a human perspective and prioritising human well-being. This could include aspects like sense of safety and participation in community. However, one interviewee raised the point that many things that are comfortable and practical for humans are not ecologically sustainable—revealing the importance of the simultaneous consideration of all dimensions of sustainability.

Many of the interviewees mentioned accessibility for all groups of society in association to social sustainability. In this regard, it is important to determine for whom and how something is accessible. It could revolve around accessibility for people with disabilities as well as proximity to desired amenities for people living outside the city centre. Some interviewees emphasised the importance of including people of all ages in the design of the city centre and creating prerequisites suitable for everyone:

“The city should be a good place to live in for the elderly of today but also for those that become older. We want to create a city that is as good for those that are eight years old as for the ones that are 80 years old. We want to cover the entire range of individuals.”

– Municipal representative O3

Social sustainability is also about including the citizens in the urban planning process. A few interviewees stressed the aspect of democracy—that the citizens should have influence over their own lives: making one’s opinion heard and being able to take part in processes and decisions.

6.2 Car-Free Development

The theme of car-free development reflects the overall outcomes and possibilities for different measures towards car freedom. First, the social advantages of such measures will be described. Second, the challenges of achieving these social outcomes are elaborated. Third, preconditions for car freedom is discussed, followed by the drivers and project initiation. Finally, the temporary aspect, which is reflected in all three cases, is reviewed.

6.2.1 Social Advantages with Car-Free Development

The interviewees discussed many advantages in connection to car-free development and social sustainability. One primary goal of Bilfritt byliv was to create identity for the sites in the city, which was also identified as a possible result of car freedom by one interviewee, as one of the four aspects of the Social Impact Assessment matrix.

Further, it was believed to create a sense of locality and an attractiveness for residents as well as visitors.

The other primary goal was to improve safety for people visiting central areas, with interviewees from Gothenburg adding the children's perspective of more comfortably allowing one's children to play in car-free neighbourhoods. On a longer perspective, a reduction of air and noise pollution can contribute to safety in terms of better health.

On the local scale, some interviewees discussed the removal of barriers created by traffic-heavy roads as to improve mobility and predictability in areas that are subsequently more suitable for pedestrians. If done correctly, car-free areas can aid in linking areas, thus improving connectivity in the city centre. According to one interviewee however, the connectivity could also be impaired for people living far away from the city.

With barriers removed, the space allows for creating a more close-knit and connected city. Not only does this relate to improved mobility, but also interaction and integration. One interviewee mentioned that car-free areas affect the street level and the businesses that are located there, perhaps changing the way businesses are connected to local residents. Another interviewee addressed the observational studies in Oslo, which had shown that more children and families started socialising by the new playgrounds constructed in several parts of the city, hence contributing to more social life in the city centre, inviting groups that previously had not used the space. Mobile charging stations installed in benches on Oslo's street 'Møllergata' was another successful example mentioned, that created a meeting space for many different socioeconomic groups: homeless people, construction and office workers alike. Several interviewees suggested that by adding publicly available benches, as opposed to only restaurant outdoor seating areas, the added space can improve equity by enabling activity and interaction amongst people without obligation to spend any money. The addition of such public furniture was proposed by one interviewee as something that could improve Tredje Långgatan in Gothenburg. In addition, as walking is free, the interviewees mentioned that pedestrianisation allows for equitable mobility for different socioeconomic groups and for people of all ages.

The by far most repeated advantage of car-free areas, however, was that of reallocation of space with respect to the use of it. One interviewee discussed the idea of changing people's attitudes:

“[It is about deciding] that cyclists hold priority on the street because it is a matter of public space. Why should the few people who can afford to own a car in Stockholm—why should they hold that right before others?”

– Consultant S1

While the problem of parked cars occupying public space that could instead be used for human activity by foot or bicycle may not exist to the same extent in outer parts

of cities, the majority of the interviewees agreed that public space should be reserved for the people there to use it and that the absence of cars might inspire people to spend more time there. One interviewee raised the point that car freedom is not necessary to improve social sustainability, but that it might improve the use of space, especially in central areas—with one interviewee confirming that, despite the short time frame in Stockholm, it is clear that the measures have had an impact on the use of the streets. Another interviewee discussed the *symbolic* value in actively taking space that was once assigned to motorised traffic and giving it to pedestrians and cyclists and the *functional* value in the evaluation results, showing that the added amenities such as benches and bicycle parking spaces in Oslo are in fact being used. Further, the same evaluation had, according to another interviewee, shown that more people are now spending time in the city centre.

6.2.2 Social Challenges with Car-Free Development

Even though car-free development might contribute to social sustainability, several challenges were expressed by the interviewees in order for car-free development to be successful from a social point of view.

One of the interviewees addressed the importance of filling the new space reallocated from cars to human activity with something new. Unsafe districts in the outer areas of the city might not benefit by removing cars. If there is no place of interest at the area, removing cars could instead generate deserted and unsafe streets. Continuing on the same subject, several interviewees addressed that different areas require different solutions. It was noted that the new design must address the root of the problem in the specific area, or the problem will just be transferred elsewhere. According to the interviewees in Levande Stockholm, focus was eventually shifted towards the outskirts of the city. As several interviewees addressed, these areas often represent the more socially vulnerable areas in the city; thus the planners face bigger challenges to overcome. In Stockholm, the activities regarding the squares in the these areas were met with some criticism and a study conducted showed the necessity of a different approach in the outer parts of the city.

“Levande Stockholm does not fulfil its purpose simply by placing out plants and sitting furniture on these sites.”

– Consultant S2

The interviewee mentioned this in connection to an example from the project where old school desks, that were suggested to be used as storage for games at a square, could have created an increased criminal activity due to the possibilities of hiding other things inside the desks. The difficulty of finding organisations and investors willing to activate the outer areas was also addressed:

“I think that we need to put more effort into the work with the outer parts of the city and the summertime squares as they are more difficult to activate for various reasons. The inner-city streets are more like self-playing pianos—there is a lot of activity going on there already.”

– Policy-maker S3

Other interviewees emphasised that the central parts of the city have better prerequisites for the creation of car-free areas and especially for establishing the concept of summertime pedestrian streets. Still, there are challenges in the city centre with car-free development, such as streets having garages. Further, the increased attractiveness of the central areas with increased street life due to limited car use might result in increased rents for housing, thus excluding some groups from residing in close proximity to the city centre, as addressed by a few interviewees.

The majority of the interviewees discussed that, similar to the need of different solutions in different areas, different people and groups of society have different needs; thus requiring different solutions. One of the interviewees mentioned how this further complicates the work for equity in urban development. Also, another interviewee emphasised the challenge of finding and covering the needs of those with “invisible disabilities”. The challenges of satisfying all needs might be further complicated by the scope of the project.

Further, several interviewees identified challenges connected to the reallocation of private space and the creation of public space and the difficulties of finding a balance between the two. Summertime pedestrian streets use previously private parking space and offer it to the public by filling it with public furniture. However, several interviewees noted that businesses located at the street often determine if space is public or not by using a great portion for outdoor seating, intended only for guests at restaurants, thus offering the space to limited groups of society. The outdoor seating at Tredje Långgatan has further resulted in complaints from residents due to high noise levels from several directions, hence negatively affecting the residents, as noted by a few interviewees in Gothenburg. Complaints have also been received from businesses and other stakeholders when removing parking lots, according to interviewees of all three cases, which further adds to the challenges of creating car-free areas to promote social sustainability.

6.2.3 Prerequisites for Car-Free Development

The interviewees discussed several aspects that are important to consider when designing car-free areas for the creation of social sustainability. For one, when removing general access by car, it was seen as important that all areas are easily accessible by public transport from all parts of the city and for citizens with all kinds of disabilities. In case of accidents or maintenance, it was deemed vital that there

are alternative routes to reach one's destination. Further, with the demand on public transport rising, one interviewee discussed the increased need for well-developed and easily oriented bicycle networks and pedestrian walking paths. To ease the burden on public transportation infrastructure, one interviewee gave an example of altering bicycle and walking direction signs from displaying distance to time by the respective mode of transport, which facilitates the comparison with waiting time and duration for the same trip by public transport, in order to encourage people to opt for walking or cycling when possible. Another interviewee suggested that proximity to amenities could be used as a tool in urban planning. By evaluating which services that are generally desired in each citizens' vicinity, the city can distribute them to a reasonable level of recurrence, in relation to how often such amenities need to be visited. Perhaps some services could be acceptable to travel farther for. To account for this, several interviewees mentioned that it is important to address that we will always need cars to some extent:

“We need to create prerequisites for the ability to have access to cars. Perhaps everyone does not have to own their own car, even though they need access to it every now and again. How do we solve this?”

– Municipal representative G3

Car-sharing was a suggested example, but practical issues around the logistics need to be addressed.

As noted by some interviewees, another prerequisite is making the car-free area equitably attractive and functional for a diversity of demographic groups. Suggestions included incorporating aesthetic features of different styles to cater to a variety of preferences and to design furniture that accounts for the need of children, elderly and disabled people. One interviewee explained that some furniture designed for Levande Stockholm was actually done with the elderly in mind, with armrests to facilitate their use. However, for some reason, these armrests were never installed. Additionally, raised pavements may be an obstacle for people with walking frames to access the full width of the pedestrian streets.

In terms of functionality, one interviewee emphasised the importance of available businesses and activities to fill and activate the space, thus facilitating the municipality's task. With Tredje Långgatan being a typical restaurant street and consequently offering a rather one-sided functionality, it was explained by one interviewee that it is important to consider a street's intended purpose. On a contrary note, one interviewee explained that there is research showing that people living in areas with large amounts of street life are less likely to interact with and know their neighbours—adding that the outcome depends on the structure and design of the street.

6.2.4 Initiation and Drivers of Car-Free Development

In Oslo, Bilfritt byliv was initiated by the Green Party (Norwegian: “Miljøpartiet De Grønne”). The political will and resources were emphasised as two of the main enablers for the programme:

“First and foremost, it is about our political will and possibility to invest the money required.”

– Municipal representative O3

However, the high ambition of the Green Party might have been too optimistic, since the initial ideas with the programme were intended to be finished in a four-year period. The programme was finished in 2019, but the initial ideas will be accomplished in the next programme, as noted by the interviewees in Oslo. The ambitious goals expressed in the programme are connected to the overall environmental goals for Oslo. In the beginning, the programme had a perceived focus on limiting cars. Lately, this focus has shifted towards a prioritisation of humans. The improved attractiveness of the area should result in increased city life, which represents one of the goals of the project. Oslo’s city centre, an area of 1.3 square kilometres, only has 1,000 residents, thus one interviewee noted that the increased attractiveness of the centre is very important in order to attract visitors from other parts of the city. In order to achieve attractiveness, one of the primary goals was to create an identity for the sites in the city centre and a feeling of safety as well as satisfaction for those visiting. For making the city centre accessible for those with disabilities, special allowance for motorised traffic is allowed, and a sufficient amount of parking spaces added. None of the goals expressed in the programme have a final date for realisation, however, in 2030 Oslo is supposed to be a climate neutral city, hence the goals should be fulfilled until then, as mentioned by one of the interviewees.

In Stockholm, the Green Party (Swedish: “Miljöpartiet de gröna”) gained increased political power after the 2014 election. The party represents the initiating force of Levande Stockholm and is continuing to drive the expansion of the project since then, incorporating the project in the city budget, as addressed by the interviewees. Despite the party’s environmental orientation, the primary goal of the project was to find better utility and flexibility of the city’s shared space, allowing people to take an active part in society despite age or financial situation, as addressed by several of the interviewees. Further, the goals were to reinforce the city life by facilitating the inner-city night life and filling sites in the outer-city with activities in order to create safe environments. It was emphasised that the core of the project, related to social sustainability, is the promotion of on-site cooperation (Swedish: “platssamverkan”) as expressed by Municipal representative S4. However, while some of the goals of Levande Stockholm can be related to social sustainability, it was noted that social sustainability as a concept has not been an expressed goal.

The summertime pedestrianisation of Tredje Långgatan in Gothenburg, in contrast to Oslo and Stockholm, was initiated by the local businesses at the street. Even though the municipality did not have any plans for the pedestrianisation before the businesses initiated it, however, according to one of the interviewees the initiative was positively received by the politicians in Gothenburg and lately a political proposal has been developed for expanding the amount of summertime pedestrian streets in Gothenburg. Since the project was initiated by businesses, there are no specific goals regarding the intentions or use of the reallocated space, however:

“As the space is given to the people, it includes some social aspects and has a social perspective.”

– Municipal representative G3

6.2.5 Temporary Aspect of Car-Free Development

The cases’ temporary aspect was another topic discussed in relation to social sustainability. Some interviewees expressed the advantage of giving citizens time to adjust and come to peace with measures taken. It was seen as a way to ease into change and overcome the initial shock that could potentially have evoked strong opposition had all changes been made permanently at once. Instead, the temporary aspect allows for people to see the benefits of reduced traffic and subsequently support continued change.

“It is a testing platform for permanent projects and in that sense it is the first step in the City of Stockholm’s long-term permanent thoughts. [...] The reconstruction of a street is very expensive and very large areas in cities would in that case need to be reconstructed. By temporarily placing out things, changing [the street’s] function—that is the best we can do with these resources.”

– Consultant S2

The same applies for Oslo’s more permanent but incremental changes that was said to communicate to citizens that the city is in a state of transition towards car freedom.

Another advantage raised by several interviewees was that the temporary platform allows for experimentation in a way that gives project runners the ability to continuously evaluate and adapt before making permanent changes. For Gothenburg, not having financial means set aside for this type of change, the temporary platform was seen as a good middle ground. Altogether, many of the interviewees discussed the temporary platform as a relatively cheap means for transition that within short time frames also has the opportunity to account for differing needs between seasons and target audiences.

“[The fact] that Levande Stockholm is a temporary project provides the ability of making annual contributions, [...] whereas in long-term projects spanning over longer time periods where, if you miss a target audience, you will have missed it for quite a few years.”

– Consultant S2

Additionally, as furniture gets damaged and needs continuous replacement every five years as it is, one interviewee argued that it is unclear if the temporariness is more costly than having permanently furnished streets. Therefore, it was suggested as a possible future step to develop longer-lasting pieces of furniture.

A third advantage mentioned was that it allows for contribution and influence from all parts of society without demanding long-term commitment. The sites can adapt for the amenities available at the moment, noting that functions in the streetscape can vary between different times of the day just as well as between seasons of the year. However, several interviewees stated that the wintertime is a bigger challenge than the summer when it comes to activating street life in the Nordic climate. According to one interviewee, the challenge lies in finding *what* to do and with *which* actors. From another point of view, it was noted that the cold season might require different design of furniture, in terms of choice of material and colour schemes, than the summer. In Stockholm, adaptations have so far mainly revolved around lighting. One interviewee suggested three factors needed for outdoor activities during the winter: *hot beverages*, *consumption* and *the ability to sit down*. Additionally, greenery in the form of coniferous trees would be better to suit the whole year round.

The one disadvantage mentioned for the temporary aspect, by one interviewee, was the matter of logistics for businesses situated on the car-free streets. With regulations varying between different times of the year, routines for delivery of goods might require different solutions for short periods of time, thus obstructing their continuous operation.

6.3 Transport Planning Process

The theme of planning processes identifies the needs and requirements of the planning process in order for car-free development projects to be successful. This section discusses the use of existing plans, strategies and tools; the specific strengths within the planning processes of each project; the barriers and limitations perceived for addressing social issues and, finally, political objectives as well as policies for addressing issues regarding social sustainability in transport planning processes.

6.3.1 The Process and Use of Plans, Strategies and Tools

For supporting the process of working with social sustainability, there are several documents and strategies to work towards in each city. One of the interviewees discussed the existence of such documents:

“The fact that [the planners] are investigating the possibilities to better incorporate Social Impact Assessments reflects that [the process] has not worked properly in the past.”

– Researcher G1

However, this does not automatically imply that the plans and documents are being used.

In Stockholm, there are several strategies and plans to address the many different aspects concerning developments in society. Several interviewees gave insights to these documents’ relation to Levande Stockholm. One interviewee explained that, although the paths of the pedestrian plan overlap with the paths of Levande Stockholm, these are differentiated from a budget perspective. Another interviewee expressed that the consultants involved in Levande Stockholm are not required to read these documents when designing specific features of the built environment, but that the perception is that the plans, from a geographical perspective, lay a good foundation for which areas to incorporate into the project and enable the continued expansion of it. It was stated that the first site at the street ‘Skånegatan’ was selected due to its connection of nodes, to increase space allowance for the already large pedestrian flows. One interviewee mentioned that Levande Stockholm since its initiation has become more incorporated into the policy documents, such as the strategy for public space, hence they function as supplemental support for the programme.

In Gothenburg, the interviewees mentioned that there is a transport strategy that focuses on an equal city with sustainable living environments that are safe and accessible for everyone, with a central concern on how to moderate between different modes of transport to promote pedestrians and cyclists. The programme for an equal city has according to one interviewee led to several subordinate strategies, two of which connect to social aspects such as the creation of a well-functioning and caring local environment and the creation of an equal distribution of resources and services in the city. Even though the summertime pedestrian street at Tredje Långgatan was not initiated by the municipality, related to the programme for an equal city nor to the budget for the city’s urban development, one interviewee’s perception was that it does adhere to the municipality’s overall strategy and mission. Therefore, to facilitate initiation of temporary projects in the future, a tool called “Ta plats”—translating to an encouragement to take up space—is being developed by the City of Gothenburg, including a coherent design profile to convey that installations are temporary.

A few of the interviewees discussed Social Impact Assessments, SIAs, which are

used in Gothenburg to address social issues. Although an SIA is a good tool to formulate goals that are specifically important for the individual project and it is supposed to be used throughout the entire process, the extent of its use is dependent on responsible managers and it often falls out of the process. This leaves room for improvement, with one interviewee suggesting the need of better links between actors and between steps of the process. However, the SIA is only required in new developments with detailed plans—not in the reconstruction of existing infrastructure and space, to which Tredje Långgatan relates.

In Oslo, there used to be several overlapping plans to the city, which in 2018 were replaced by one main action plan for increased city life in the entire city centre, contributing to the implementation of Bilfritt byliv. Additionally, the Green Party of Oslo has a very ambitious environmental agenda relating to the project.

In general, the interviewees mentioned many areas for improvement concerning the work with documents and plans in urban development processes. One interviewee claimed that the problem with the constant production of new strategies and tools is that routines for their use are not established simultaneously, resulting in them not being used. Another interviewee addressed the dual risks related to including social aspects of projects either too soon or too late in the process. On the one hand, goals for the project need to have been established; on the other, understanding of the social aspects are vital to ensure that they are not forgotten between steps of the process. Additionally, evaluation of the effects of certain measures after the operational phase has begun is important for the ongoing process of attaining social sustainability.

6.3.2 Strengths in the Planning Process

One of the main success factors, mentioned by several interviewees in all cities for the processes of the projects, was that of good communication, both with citizens and other stakeholders involved in the process or affected by the measures. As mentioned by one of the interviewees, one of the main aspects of social sustainability regards democracy; thus, the involvement of citizens and stakeholders in the urban planning process facilitates the creation of social sustainability. In Oslo, one of the goals was to communicate with citizens during the entire process and, by addressing their benefits of the measures, keeping them consistently positive to the changes of the programme. Consultant O1 praised this communicative approach used in Oslo:

“To continuously communicate arguments for why we are doing this: we are doing it for your sake; we are doing it for pedestrians; we are doing it for cyclists; we are doing it for your ability to sit here and use these sites and remove a bus parking on the biggest tourism square to, instead, create a meeting space.”

Surveys and workshops with citizens have been used in all three cases, creating a two-way communication, thus a mutual understanding between different stakeholders. Further, communication through various types of social media have been used, but also through signs at the project sites. In Oslo, the importance of reaching the audience indifferent or accepting of the small changes of the programme, representing 70-80 percent of the population, was emphasised by one of the interviewees. However, involving citizens in the process is not necessarily without complications for the planners of the development.

“How can we facilitate citizens’ understanding of the urban planning process and their ability to engage in it? [and] How can those of us who are driving [urban development] gain knowledge on how we can utilise people’s experiences as citizens [...] and find better solutions?”

– Consultant O1

Communication between actors involved in the planning process was also discussed by several interviewees. Communication is crucial between actors and divisions working in the same organisation, as well as with policy-makers and external consultants. However, there might be a risk of individual preferences being prioritised in the communicative planning process:

“There are different individuals with different professions and different issues at heart, everyone shouts, and the one that shouts the loudest gets their voice heard.”

– Researcher G2

Further, good communication enables collaboration, since actors can use a wider range of varied competences. In Stockholm, Levande Stockholm is not a project for the city to address alone, it is developed in collaboration with all kinds of actors, including citizens, residential companies and cultural boards. The collaboration with a grocery store lending boule balls for an installed court was used as an example of a small, simple measure facilitating the social activities in the project. In Gothenburg, the collaboration with businesses was a prerequisite for the project’s existence. Further, it was addressed by several interviewees that communication, and thereby collaboration, requires economic resources. The space that is created by removing parking lots in Stockholm is offered free of charge for actors arranging free cultural events, as well as other initiatives. The availability of economic resources is also a prerequisite in order to arrange workshops, used as a tool for communicating with citizens and other stakeholders, as mentioned by one of the interviewees. For having economical resources in the projects, political will was mentioned as a prerequisite by several interviewees.

Another important strength and prerequisite in the projects have been the evaluations, conducted during or after implementation, of different measures. In Oslo,

an extensive evaluation was done before the programme was initiated, addressing needs of different areas and people's preferences in the city, amongst other things identifying a lack of free seating and absence of places for children to play in the city centre. Further, these needs have been followed up during the programme, evaluating the measures done and potentials for further development. It was acknowledged by one of the interviewees that the extensive evaluation conducted in Oslo for assessing social outcomes was rarely executed in Swedish planning processes, at least not to the same extent. In Gothenburg, there was an evaluation conducted of Tredje Långgatan, which apparently was unusual for such projects, as mentioned by one of the interviewees. Further, the importance of the evaluation being communicated and used for future developments was mentioned by a few interviewees. In Stockholm, the consultants addressed that the evaluations have been improved for each year of the project.

6.3.3 Barriers in the Planning Process

There is a separation between technical issues and the more "soft issues", thus the structure of the planning process and how it is divided between actors makes it hard working with issues relating to social sustainability, as emphasised by one interviewee. Further, as addressed by several interviewees, the lack of communication hinders knowledge from being transferred between phases and actors in the process.

Another barrier in the process is the prioritisation between issues. It is emphasised that social issues can be perceived difficult working with because of their "soft" nature, hence social issues often compete with those that are easier to measure economically. However, it is further addressed that social issues are not harder to measure than others and investments in society might cause high costs short-term, yet the long-term gains are big. The work with social sustainability could be described as work of prevention:

"Can we try to understand the long-term preventative measures and the value of these?"

– Researcher G2

However, the problematic nature of all types of predictions was also addressed. The conflict of interests stems from a lack of financial resources and resources of time. The financial resources have been mentioned as limited by several of the interviewees in the cases of both Gothenburg and Stockholm. In Gothenburg, it was emphasised that measures improving social sustainability not necessarily require more money; as long as the issues are assessed throughout the entire process, the outcome can be socially sustainable. However, for this to be possible, tools and methods need to be further established in the process and easier to work with during the phase of implementation. Further, the time frame for the preparations of the project was

considered short by the consultants working with Levande Stockholm, especially in order to evaluate the designs of previous years for improvements.

6.3.4 Political Goals and Policies

Several interviewees addressed problems about how the term social sustainability is handled. The term itself does not mean anything without context and—alike the ecological and economic dimensions—it is an umbrella term encapsulating many different parameters and perspectives on different scales.

“If it is good that the term social sustainability exists whatsoever—I don’t know.”

– Researcher G2

Despite the term’s vagueness, the general conception was that social sustainability needs to be addressed, while clearly specifying which aspects are in focus.

It was noted that political support is necessary to ensure that social sustainability is addressed and prioritised in all projects of urban development, as goals regarding social sustainability are often subordinate to other goals and requirements. If there are no regulations that support the social sustainability goals, nor any consequences for disregarding them, there is a risk that they will lose significance in conflict with other interests—often economic ones.

One interviewee mentioned that extensive evaluations as the one conducted for Bilfritt byliv in Oslo are not as common in Sweden—especially not regarding physical measures for achieving social sustainability. It is more common evaluating wider social issues, such as labour market integration. To assess social sustainability, it needs to be included as a spoken goal to begin with. Therefore, interviewees suggested that, in the same way as environmental evaluation is mandatory for some construction projects, Social Impact Assessments should be required by law—not only in new developments, but also in small scale reconstruction of streets. Further, it is not enough to just perform assessments, but the results should also be mandatory to use in the planning process. Due to the difficulty in measuring social values, some interviewees suggested qualitative assessments to be conducted before each project in order to determine what is to be measured. Additionally, the conceptualisation of summertime pedestrian streets should not obstruct this process.

A few interviewees discussed the individual person’s perspective in relation to the population as a whole. As different groups of people, perhaps within the same region, have different needs and preferences, it is important to define which social aspects that are prioritised in each particular project or measure and how they should be addressed. Consequently, working with and developing an understanding for the concept may circumvent sub-optimisation and marginalisation, by putting the common whole ahead of any individual’s perspective. One interviewee suggested that

for measures that contribute to the greater whole but simultaneously affect some individuals or groups negatively, the benefit could compensate for these individuals. As an example, businesses may be positively influenced by limited car use on their street, resulting in an increased revenue. If this causes a disturbance for the local residents, a redistribution of rental charges might be in order.

Some interviewees mentioned that it is important to understand how one project in society affects the bigger perspective as well as the individual site. Local issues may drive the development of a project site, but each individual scenario will also affect the bigger perspective. Therefore, the following question needs to be addressed:

“What are the biggest problems and challenges in society today, and what efforts can we make to handle these?”

– Researcher G2

Tredje Långgatan and the concept of summertime pedestrian streets may not *solve* the bigger issues, but they may contribute to improvement, noting that it depends on the alternatives and how the project is financed.

7 | Discussion

In this chapter, the results are interpreted and discussed in relation to the literature review. The discussion is divided into three categories related to each research question, which are the following:

- Section 7.1: How can the planning process towards car-free development be managed in order to meet objectives of social sustainability?
- Section 7.2: What are the prerequisites for the creation of social sustainability through car-free development?
- Section 7.3: What is the role of temporary car-free areas for a transition towards a socially sustainable urban environment?

7.1 The Socially Constructed Reality of Planning Processes

As stated by Holmberg and Larsson (2018), planning processes are highly complex and as they involve—and should involve—many actors with differing opinions and ways of communicating, they are significantly affected by social constructions and human factors. This section discusses the problems that became apparent through the interviews in connection to this social reality.

Many of the case projects' objectives were strongly related to the umbrella term that is social sustainability. In the literature, social capital has been identified as an important factor of social sustainability in car-free development (e.g. Dempsey et al., 2011). Project objectives regarding equal access and possibilities, attractiveness, creation of meeting spaces and safety, which were highlighted through the interviews, do all connect to the concept of social capital and its sub-concepts identified in Section 2.3: equity, interaction and trust. First, the notion of equal access and possibilities were discussed in relation to mobility, use of streets and furniture as well as the ability to participate in activities, regardless of socioeconomic status, which corresponds well to the ideas of equity in society discussed by Lucas (2012). Second, while the term 'interaction' was not explicitly used by the interviewees, as attractiveness of space attracts people, attractiveness and the creation of meeting

spaces are facilitators of interaction (Nieuwenhuijsen et al., 2019). The spontaneous interaction in public spaces may in turn increase trust (Gustavsson and Elander, 2013). Third, car freedom was argued to create a sense of safety both with regards to traffic safety and children and, as a result of more people and eyes on the street, lowered levels of crime, the latter of which, according to Bramley et al. (2009), enhances generalised trust within society. Hence, it is clear that the concept of social capital is reflected in the car-free development projects assessed, although the objectives could be more explicit.

The fact that the majority of the interviewees found it difficult to define the term social sustainability and that it was not explicitly mentioned in connection to any of the objectives reinforces the notion of the term being in conceptual chaos, as expressed by Vallance et al. (2011). The researchers interviewed in this study both expressed the importance of using the umbrella term as well as clearly specified objectives of sub-concepts, in order to attain socially sustainable outcomes. The risk of using the term ‘social sustainability’ as an objective in solitude, without specifying its connotations, is that it might allow for policy makers’ escapism, as introduced by Vranken et al. (2003). However, *only* using the socially-related sub-concepts as objectives may instead result in social issues losing priority to competing ones. Possibly, an increased use of the umbrella term in connection to the issues it relates to could strengthen its significance in planning processes, facilitate a wider understanding of the term and consequently reduce the fear and risks of using it. Further, we suggest that the aspects of *social capital* should be used in the formation of objectives for car-free development connected to social sustainability. It could be perceived as something more attainable to work for due to its clear definition and benefits.

In order to find and assess the particular objectives relevant for each project, the importance of evaluations before and after project execution was emphasised through the interviews. Qualitative evaluations before projects aid in finding what is needed for each project and evaluations following implementation of projects can determine which measures have been successful and which ones that need further effort. This is particularly relevant for temporary projects, as they have the innate possibility to adapt from one year to another. Limiting factors for the conduction of such evaluations are the resources available and the often-lacking knowledge of how to approach social values. The perception of social values as ‘soft’ was suggested to give the impression that they are harder to predict and evaluate in comparison to technical and economic issues. The long-term positive effects of social investments might further be hard to anticipate, which makes it difficult to motivate short-term investments, especially for private investors. Therefore, the support of legally binding policies is crucial in order for evaluations to maintain significance throughout the planning process.

As described in Section 5.1, according to the Swedish Planning and Building Act, social consequences should, in the same way as environmental, be investigated in the development of new plans, for example by the use of SIA. As both Levande Stockholm and Tredje Långgatan represent temporary but recurring developments in already existing infrastructure, they are not concerned by this legislation although they should be. In the larger project of Bilfritt byliv, however, it is obvious that social aspects have been evaluated. The strategies existing in Stockholm and Gothenburg have the potential to help in the planning process, however routines for their implementation need to be established. For the possibility to implement the strategies, due to limited resources, they also need to be less extensive and only address the essentials. An interesting notion raised through the interviews was that measures for social sustainability do not necessarily require more economical resources, which should increase incentives for addressing such issues.

The question *when* objectives should be addressed should also be discussed. According to the conventional planning approach (Willson, 2001), project objectives are formulated early in the planning process by decision-makers, before the data collection and specific measures are performed. As planners and decision-makers are separated through this planning approach, there is a risk that particular needs for the site are not accurately targeted by the planners. This was reflected as a problem in Levande Stockholm; that is, the lack of communication between different actors involved in the planning process. The result of one year's evaluation, conducted by the Traffic Administration Office, was not communicated to consultants working on the next year's edition and, therefore, the opportunity for improvement and utilisation of competence might have been lost. Correspondingly, one of the most frequently addressed success factors was that of well-functioning communication between actors as well as the involvement of other stakeholders. The instrumentality of conventional planning obstructs the possibilities of assessing social values as they are often deemed qualitative in nature (Willson, 2001). Therefore, the communicative planning approach (Healey, 1997) is clearly the more favourable in order to address social issues.

In order to approach these social issues on a site-specific level and to maintain a democratic society, including citizens in the development of the urban environment is crucial. The range of different interests, preferences and needs that exists in the public help to enrich projects and enlighten prevailing issues to address in the area (Reed, 2008). In the projects, however, the approach to stakeholder involvement varies, with regards to width and depth. In Levande Stockholm and Bilfritt byliv, workshops have been held and all three cases have used surveys. However, the notion that consultants in Stockholm have not been reached by evaluation results suggests that the depth of participation, or the routines around it, might not be sufficient to achieve the involvement's full democratic potential. In order to achieve this, the

depth of involvement should be at highest level possible with given restraints on time and resources.

A crucial part of stakeholder involvement is the balance between stakeholder groups with and without power. As in the project of Tredje Långgatan, with Gothenburg's lack of financial means for own initiation, priority is given to stakeholders with power, to some extent neglecting the needs of the residents. In comparison, the projects Levande Stockholm and Bilfritt byliv, with political origin, are directed to a broader spectrum of target audiences, which clearly indicates that political initiation and the *unbiased* funding it entails is favourable from a socially sustainable perspective. Further, due to the strong political commitment to sustainability issues in Stockholm and Oslo, the projects' levels of ambition have forced the municipal planning processes to accelerate, thus improving the municipalities' internal collaboration.

7.2 The Importance of Car-Free Areas Being Accessible for All

Car-free areas have been linked to many positive social effects, such as facilitating interaction and integration and creating a feeling of safety (e.g. Schwanen et al., 2015). However, through this study it has been addressed that there are dangers of just assuming such benefits to follow the limitation of motorised traffic in any given area. To make car-free development beneficial for working towards social sustainability, there are certain prerequisites and circumstances that facilitate successful results.

As Hart and Parkhurst (2011) identified in their study, vehicular traffic has for a long time been the dominating means for personal mobility due to existing infrastructure and road networks, thus limiting the accessibility for those not owning a car. The shift from mobility to accessibility has been discussed by many authors and Nieuwenhuijsen et al. (2019) identifies this as one of the prerequisites for a successful car-free implementation. This notion was also discussed throughout the interviews. The idea behind car-free development is to give all citizens equal access to urban areas, instead of allowing parked cars to take up public space. When removing the barriers that central traffic-heavy streets create, the public space is given back to humans, providing a safer environment as well as enabling interaction and integration by connecting different parts of the city. Because of this, accessibility becomes a crucial aspect to consider when developing car-free areas. In order to ensure a smooth transition to car freedom, there is a need for accessibility by alternative transportation modes, such as public transport or well-functioning bicycle and pedestrian paths, but also for allowing vehicles for those in need.

The extent of how elaborate the public transportation network and its frequency is in the three cities examined differs. The number of nodes in the public transportation

network influences the connectivity of a city, thus also its potentials toward car freedom. The size of the city, number of citizens as well as geographical and economic prerequisites might in turn affect the city's possibilities of expanding the public transportation network. While an extensive expansion of the public transportation network may not be an option for every city, proximity was another concept discussed that could potentially be used as a tool in urban planning. As explained by Elldér et al. (2017), proximity to necessary everyday facilities in one's near surroundings facilitates the possibilities for car freedom. Therefore, neighbourhoods endowed with diverse assortments of services and functionalities might help to decrease the demand for a higher capacity public transport network.

Another aspect addressed in the study is the accessibility by functionality; that is, making the offered car-free environments functional for all citizens regardless of age, disability and socioeconomic status, thus contributing to social equity. This entails design of furniture that allows for use by all people as well as accessible design of the pavement to ensure access to the full width of the street. However, in Levande Stockholm, the specific design of the street furniture that was developed for elderly was not realised, suggesting poor communication in the process. Further, it is relevant to consider the availability and distribution of *public* furniture, as opposed to *private* seating in connection to restaurants and cafes, in order to include all people regardless of their financial situation. The predominance of private furniture on Tredje Långgatan might cause space exclusion, as described by Lucas (2012). The exclusivity of the restaurants may prevent the full possibilities of interaction, thus limiting the creation of social capital for the excluded groups and, as expressed by Lucas (2012), impairing the equity for society as a whole.

The importance of the car-free street having a function was another topic discussed. If the street does not have a natural flow of people, either from inherent attractiveness or location between nodes of the city, the streetscape needs to be filled with free activities in order to attract citizens from different parts of the city. Wright (2005) exemplifies functions that might be suitable for car-free areas as places to sit, things to do and look at. However, this notion is easier in city centres, where the natural flows of people secures customers and visitors for private investors. To achieve attractiveness in other areas, it is crucial to evaluate what needs the design of the car-free area should address. While the general notion is that more people on the street contribute to a sense of safety, different districts have different issues—for example criminal activity, as in the more socially vulnerable districts that Levande Stockholm is the only project to include. Therefore it is important that the root of the problem is targeted in the design so that the problem is not just transferred elsewhere. To identify different needs and desires and achieve a more democratic outcome, we suggest the arrangement of workshops, as has been done in Levande Stockholm for some of the outer districts.

The diversity of functions and the diversity of people it creates was also addressed. In Bilfritt byliv, benches with charging stations and new playgrounds helped integration by attracting various audiences to the city centre. Further, if the car-free area is part of a wider project, the individual parts of it could take advantage of the bigger whole. One interviewee in the study expressed the importance of considering the one-sided functionality of Tredje Långgatan in relation to the street's intended purpose. Aside from restaurants, the street also hosts residents and it is therefore interesting to consider if the intended purpose of the street is assigned to its restaurants as a result of their initiation and partial financing of the project. Had Tredje Långgatan been part of a bigger initiative, it might have covered a wider spectrum of needs. By offering a variety of activities on the large scale, the project will cater to many different target audiences. With research lifted by one interviewee about how living on streets with active street life decreases the likelihood of knowing and interacting with one's neighbours, it is also important to address the needs of residents. This, in combination with the research from Hart and Parkhurst (2011), concluding that residents on streets with large amounts of traffic are less likely to interact with neighbours, shows that busy streets in general might not facilitate interaction between its residents. In order to increase the private interaction between neighbours on such streets, we suggest attractive and enclosed courtyards.

The importance of creating an attractive identity of a site was mentioned frequently in both literature and interviews (e.g. Fraticelli, 2018). Environments with identity might inspire people to spend more time there and participate in the activities they have to offer, thus creating attractiveness for the site. However, as expressed by Whyte (2012), there is a risk of creating a bland conformity in the city by designing places in accordance with current trends, impairing the creation of individual identity at a site. As car-free development is becoming increasingly conceptualised and coherent furniture series are being designed, there is a risk that the individual sites lose their identity and instead become part of a large-scale exploitation of the city.

The scope of the projects assessed is determined by political will. Both Levande Stockholm and Bilfritt byliv had political origin, which has dealt the projects more financial resources, enabling more actors' involvement and a width of initiatives. Without political will, as in the case of Tredje Långgatan, private investors are necessary to drive the development. However, with investors being driven by economic incentives, the diversity of functions might be restrained, as all groups of society are not equally profitable to account for.

7.3 The Temporary Measure—A Tool for Transitions

There lies a difficulty in connecting long-term social benefits to short-term measures and the element of temporariness, which was a common feature of all three projects, adds another dimension to this difficulty. The social implications of this element were sparsely discussed throughout the literature, however, these became apparent through the interviews.

The temporary aspect of car-free areas has communicative and social values. The uncertainty of transitions, explained by Holmberg and Larsson (2018), might raise scepticism amongst citizens and, there, the temporary platform can help to increase public acceptance for car freedom by revealing its benefits. The importance of the citizens acceptability was also mentioned as one of the nine prerequisites described by Nieuwenhuijsen et al. (2019), hence the temporary platform can help for a successfully implemented car-free area. In the case of Bilfritt byliv, the piloting installations helped to communicate a permanent change of personal mobility in the urban environment that was due to come. Simultaneously, it conveys the idea that changes are still possible to influence. This approach increases the involvement of citizens, thus contributing to a socially sustainable planning process in the transition. After all, as pointed out by one interviewee, the changes are made to benefit the people. However, there lies a challenge in communicating to *all* citizens what is happening and therefore a risk of excluding some groups from utilising the space and understanding the benefits.

The opportunity for experimentation was raised as a positive element that is enabled by the temporary platform. It allows for resource-efficient changes to be implemented in relatively short time-frames that have perhaps not been attempted before. Immediate permanent changes might turn out unsuccessful, resulting in economic and ecological losses, thus impairing the connection to sustainable development as a whole. However, in order to also account for ecological and economic sustainability, the experimental phase should not continue for all of eternity—but a few years of iterative adaption could be beneficial. However, as the achievement of social sustainability is an “ongoing process” (Ström et al., 2017, p. 3), the *form* of activities is crucial to be kept up to date, which might require regular re-evaluation of the space and its needs. In this case, the temporariness allows for involving a higher diversity of private actors, whereas permanent measures might discourage actors from participating due to the long-term commitment they might entail.

One challenge with temporary car-free measures mentioned was the disruption of logistics routines. It is important that *what* is happening and *when* is communicated to concerned businesses and residents for their possibility to adjust to the changes between seasons. In Oslo, businesses in the city centre were concerned by the effects that Bilfritt byliv might have on their businesses, both regarding removed parking

lots for visitors and for the logistics around deliveries. Since Bilfritt byliv involves permanent changes on a concentrated area, this concern might have been more significant in comparison to Tredje Långgatan and Levande Stockholm, demanding greater efforts from the planners. On the other hand, the scattered placement of the sites of Levande Stockholm, removes the element of predictability, especially if the different streets are converted to pedestrian streets on different dates.

The difference between seasons also provides the opportunity for adaptability and flexibility in the function of public space, hence optimisation of space as mentioned by Wright (2005), which is especially relevant in the Nordic climate. The use of public space is vastly different between summer and winter: in the summertime, there are bigger possibilities to utilise the space of the street, whereas in the winter, the desire to spend time outdoors in urban areas is limited. Therefore, there lies a challenge in activating the space during half of the year in order to not create deserted areas. The previous use of the street and its natural wintertime pedestrian flows might indicate whether or not this particular street should be permanently car-free or what other types of car-free measures that could be implemented during the winter.

8 | Conclusion

This thesis aims to examine the role of car-free development and its planning processes in the work towards social sustainability. In this chapter, the findings of the study will be concluded in relation to the research questions in order to address this aim. Further, the contributions the study has provided the research field as well as suggestions for further research are presented.

8.1 Answering the Research Questions

How can the planning process towards car-free development be managed in order to meet objectives of social sustainability?

To account for the socially constructed reality of the planning process, improved routines for working with social sustainability need to be established. If municipal strategies are to be used, they need to be less extensive and better incorporated into the process. In car-free development, pre-evaluation of the area and its needs is crucial. In order to achieve the full democratic potential of the process and, subsequently, a socially sustainable outcome, stakeholders need to be involved to such a depth that allows their opinions to be heard and accounted for. The involvement should be performed early on in the process, in the pre-evaluation stage, in order to address the accurate social needs for the specific site. If policy documents are to be used, they need to be easier to work with. In addition to site-specific needs, an explicit goal for social sustainability is required in the car-free project's objectives. It should be expressed in combination with all three identified aspects of social capital, meaning that the area should *facilitate interaction* and *induce safety* on an *equitable basis*. For the objectives to be translated into solutions that address all interests equally—not just social ones—the actors in the planning process need to collaborate. Communication and understanding of each other's interests are vital in order to create a common ground and facilitate collaboration.

What are the prerequisites for the creation of social sustainability through car-free development?

The political will and initiation compose the foundation for car-free development

to facilitate social sustainability, because the sought societal gains require not only monetary motivation. The socially sustainable outcomes, such as interaction and integration, are facilitated by an attractiveness of space that successfully populates the area. This can be achieved by hosting a diversity of functions and activities. For attracting the citizens, the equal access to the site regardless of financial situation, place of residence or physical ability is essential. Proximity to amenities within the car-free neighbourhood inspires and enables walking and should therefore be considered in developments. Further, the balance between the public and private space for residents in the car-free area needs to be found.

What is the role of temporary car-free areas for a transition towards a socially sustainable urban environment?

The temporary platform in car-free development enables for optimisation of measures through experimentation, by the possibility for post-evaluations and subsequent adaptations. In turn, the adaptability conveys a democratic process, thus increasing public acceptance. Further, the recurrence of the temporary project creates the opportunity to continuously re-evaluate social needs thus create the ongoing process which is required to attain long-term social sustainability.

8.2 Contribution to Theory and Practice

This study provides several contributions to the field of urban social sustainability. It has been shown that there are several flaws in the planning process, especially regarding communication between actors. The lack of communication affects both the social sustainability of the process and outcome. This shows that the communicative approach is not fully implemented by practitioners and that there is a potential need for improvements. One identified issue is that of how objectives are formulated in order to facilitate this communication. The lack of routines for communication provides insight for practitioners. Further, the thesis contributes to the theory of the temporary nature of many car-free projects. The results cohere to previous research regarding the importance of temporary car-free areas in inspiring public acceptability (Nieuwenhuijsen et al., 2019) and the importance of their flexible features (Wright, 2005). The insight that the temporary platform creates opportunities for an ongoing process of socially sustainable issues being addressed is a major contribution to theory.

8.3 Suggestions for Future Research

The study has resulted in a few topics interesting for further investigation. Communication in planning processes was found as a crucial factor for a successful outcome

in car-free development. However, there are many different alternatives as to exactly how such communicative planning should be carried out and to optimise the process, further research is necessary.

When building a compact and resilient city, the proximity to everyday facilities and services was an aspect that was identified as important in order to ease the strain on the transportation system. This may require political support to implement but, more importantly, more research is needed to establish how the desirable distribution of facilities should be determined.

Further, it is likely that the existing need of having access to a car to some extent will persist in the future, thus complete car freedom might not be achievable and innovative solutions for personal mobility, such as car-sharing or autonomous vehicles, in the car-free city must be developed.

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Appendices

Appendix A Interview Guide

II

A | Interview Guide

The questions were used during the semi structural interviews to guide the interviewers.

Introductory questions:

- What is your background?
- What is your role in the organisation you work for?

About the project and the process:

- How and why was the project initiated?
- What does the project involve?

About plans and policies:

- What general underlying plans or strategies exist for the project?
- How where these plans incorporated in the process?

About social sustainability:

- How would you define social sustainability?
- Does the municipality have any specific goals regarding social sustainability?
- What is the main driving force for working with social sustainability?
- What are the barriers for involving issues of social sustainability in the urban planning process?
- What is the aim of the project and what objectives are there?
- Is 'social sustainability' expressed as a goal?
- Are the objectives regarding social sustainability continuously addressed?
- Are there any tools for addressing social sustainability in the process?

About car-free development:

- What is the role of car-free areas in the achievement of a socially sustainable society?
- Are there any specific prerequisites for the success of a car-free area?
- How does the summertime pedestrian street/temporary features contribute to the overall social sustainability goals?
- How are the objectives of the area evaluated after project execution?

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