IIIEE Theses 2019:39

"*People shop, cars don't*"

Reducing business opposition to car-free city centres: The case of Oslo

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Thesis for the fulfilment of the
Master of Science in Environmental Management and Policy
Lund, Sweden, September 2019

iiiee | THE INTERNATIONAL INSTITUTE FOR INDUSTRIAL ENVIRONMENTAL ECONOMICS

Published in 2019 by IIIEE, Lund University, P.O. Box 196, S-221 00 LUND, Sweden,
Tel: +46 – 46 222 02 00, Fax: +46 – 46 222 02 10, e-mail: iiiee@iiiee.lu.se.

ISSN 1401-9191

Acknowledgements

Firstly, my sincere thanks go to those who have provided academic guidance over the duration of this thesis. Thanks go to my supervisor, Peter Arnfalk, for his support and advice throughout the research process. His input played an invaluable role in shaping this research. Thanks also go to Oddrun Helen Hagen and Aud Tennøy of Transportøkonomisk Institutt (TØI) for their guidance on interviews, their specialist knowledge of the local context in Oslo, and for coordinating the provision of work space during my time in Oslo.

This thesis ultimately would not have been possible without the financial support received from Transform Scotland, which allowed me to spend an extended period of time in Oslo to undertake this research. This support is greatly appreciated.

Thanks go to all the interviewees consulted in this research, who gave up their time in the middle of a beautiful Norwegian summer to speak about their experiences with Oslo's car-free city centre.

It would be remiss of me not to give special thanks to the staff within the IIIEE. They have all contributed to making this master's degree a challenging but deeply rewarding experience. From the first day to the last, they have helped to make the insti a place to call home.

Finally, thanks go to all those on Batch 24. Through the highs, the lows and the very lows, there has been unwavering support and camaraderie between us all in this unforgettable year. I leave Lund with memories of insti life, late nights and early mornings, study visits, the wettest Kullen on record, amazing consultancy work, folk nights in Copenhagen, countless hours of keepie uppie, boozy nights at the insti, and most importantly, a group of inspiring and talented friends who I know can be the ones to make the change that we so desperately need.

Abstract

The role of private cars in urban areas is coming under increasing scrutiny. A growing number of municipalities are now implementing or exploring the potential of car-free city centres (CFCCs), defined zones in which car use is prohibited or severely restricted. Whilst CFCCs can deliver environmental, social and economic benefits for cities, businesses are routinely opposed to the introduction of CFCCs and present a major barrier to the implementation of such schemes. Understanding the concerns of business stakeholders which contribute to this opposition, and what can be done to address such concerns, is of vital importance for implementing CFCCs and addressing barriers to creating sustainable cities. The aim of this research was to investigate how municipalities can reduce opposition from business stakeholders in the creation of CFCCs. To achieve this aim, a case study approach, using the recently established CFCC in Oslo, Norway, was undertaken. A review of policy documents and other select material relating to the CFCC project in Oslo was undertaken to establish an understanding of the actions taken to engage and support businesses in the transition to reduced car access. Interviews were then conducted with municipality representatives and business stakeholders. In doing so, the main concerns expressed by business stakeholders were identified. The validity of these concerns was assessed based on the input of municipality stakeholders. The results set out illustrate a number of key concerns from business stakeholders, including shortcomings in communication and consultation, issues with the rate at which physical measures were implemented, and an apparent negative economic impact on certain shops. These claims were, by in large, appreciated by municipality representatives, although claims regarding the negative economic impact of the scheme were contested. It was evident that the majority of the opposition from business stakeholders arose from concerns with the manner in which the CFCC had been designed and implemented, rather than the premise of the scheme itself (i.e. action to reduce car use). Considering the findings from the interviews and the wider literature, a series of recommendations were produced for municipalities to create CFCCs which better meet the needs of business stakeholders, centred on six themes: Consultation and collaboration, communication and promotion, monitoring impact, implementation of measures, support measures, and project organisation. This research suggests that by placing greater emphasis on the needs of businesses during the design and implementation of the project, potential exists for gaining the support of business stakeholders in the creation of CFCCs. Suggestions are made for further investigation into CFCCs, including research on the experience of other cities implementing CFCCs, and for the recommendations set out to be tested by municipalities in future CFCC projects.

Keywords: Car-free city centres, sustainable urban planning, urban governance, business engagement, Oslo

Executive Summary

Problem definition

The role of private cars in urban areas is coming under increasing scrutiny. The rapid growth of car ownership in the mid-twentieth century has seen cars go on to define urban form and transport systems globally. Despite delivering certain benefits for society, such as access to services and employment, the dominance of cars in urban areas has also caused significant environmental, economic and social challenges for cities, including carbon emissions, air pollution, congestion and physical inactivity. As a result of these factors, many are calling into question the compatibility of cars with sustainable urban environments.

Many municipalities are now consequently placing a high priority on sustainable urban mobility solutions and prioritising walking, cycling and public transport ahead of private car use. One solution gaining increasing popularity is car-free city centres (CFCCs), defined zones in the centre of cities in which car use is prohibited or severely restricted. CFCCs can involve various approaches to reduce car use and transform urban areas, including increased space for walking and cycling, reductions in space for vehicles, and improvements to public transport. By restricting the presence of cars and prioritising movement by sustainable modes of transport, CFCCs have the potential to deliver solutions to a number of challenges in urban areas, including carbon emissions, physical health, air quality, green space, and quality of life. CFCCs are now gaining increasing popularity as a concept across Europe, with a number of cities implementing or considering a substantial reduction of car use in their centres.

However, one of the biggest challenges faced in implementing CFCCs is opposition from business stakeholders (e.g. retailers, business associations). Business stakeholders are known to frequently object to the introduction of measures to reduce car access. Given their important role as contributors to economic activity and employment, gaining the support of business stakeholders is one of the key prerequisites for the successful implementation of CFCCs. Understanding the concerns of businesses which contribute to this opposition, and what can be done to address such concerns, is therefore of vital importance for municipalities seeking to implement CFCCs and address barriers to creating sustainable cities. The high degree of opposition from business stakeholders towards CFCCs, in spite of the potential economic, social and environmental benefits delivered by such schemes, raises questions regarding the reasons behind the negative view held by many business stakeholders and what can be done to address these concerns with CFCCs.

Despite the increasing public interest in CFCCs, academic research on the subject remains scarce. Whilst there is general agreement in the academic literature on the potential benefits delivered by CFCCs, there has hitherto been little focus on the means and approach by which such projects can, or should, be implemented. Given the increasing interest from cities in implementing CFCCs, there is a need to develop a better understanding of how municipalities can implement car-free projects which better meet the needs and expectations of a wide range of stakeholders, including businesses.

Oslo, Norway, stands out as a leading example of the large-scale implementation of a CFCC. Oslo is in the process of implementing arguably the most ambitious car-free project in Europe to date. Announced in 2015, Bilfritt Byliv, or 'Car-Free City Life', is considered to be the largest CFCC in Europe. The scheme has included the large-scale removal of public parking spaces, the closure of streets to cars, measures to improve the quality of urban life, and the re-routing

of car traffic throughout the city. Oslo has gained substantial attention for its efforts to reduce the use of cars in the city centre. However, opposition from business stakeholders is known to have arisen in the since the announcement of the scheme, suggesting that problems existed in the implementation of the CFCC and the impact this had on businesses in the city centre.

Given that CFCCs are still an emerging concept, the case of Oslo presents a unique opportunity to assess the issue of business opposition to CFCCs and to identify if and how municipalities can overcome the concerns of business stakeholders in the design and implementation of such schemes.

Research questions

The aim of this research is to investigate how municipalities can reduce opposition from business stakeholders in the creation of car-free city centres. In order to achieve this aim, three research questions (RQs) are posed:

> RQ_1: What are the main concerns expressed by business stakeholders towards CFCCs?
> RQ_2: To what extent are these concerns relevant and justified?
> RQ_3: What actions can municipalities take to address these concerns?

Three sub-research questions (SRQs), informed by a review of academic literature on car-free urban planning, are considered in the context of Oslo:

> SRQ_1: To what extent has Oslo Kommune undertaken consultation and collaboration with business stakeholders?
> SRQ_2: How has Oslo Kommune communicated the development of Bilfritt Byliv to business stakeholders?
> SRQ_3: What support measures have been implemented by Oslo Kommune to address business concerns to Bilfritt Byliv?

Research design

This research uses a single case study to investigate the issue of business opposition to CFCCs. Given the hitherto limited academic research on CFCCs, an inductive, exploratory approach was taken. Pre-existing theories and literature have been used to guide this research; however, this research has not been conducted from the viewpoint of one defined theoretical worldview. This research was instead undertaken from a position of pragmatism, an approach which places emphasis on analysing real-world situations and actions, and finding solutions which work in a given context.

Following a review of academic literature on CFCCs, urban planning and urban governance, two methods were selected to investigate the issue of business opposition to Oslo's CFCC. Firstly, a review was conducted of policy documents relating to Bilfritt Byliv to identify actions undertaken by Oslo Kommune which were intended to support and engage businesses as part of the transition to a reduction in car use. Secondly, ten semi-structured interviews were conducted with key stakeholders related to Bilfritt Byliv, including municipality representatives, business owners, and business organisation representatives. Information gathered from the interviews was analysed to identify key themes relating to business opposition to Bilfritt Byliv and the justification of this opposition, as well as wider issues relating to urban planning and governance in Oslo.

Findings

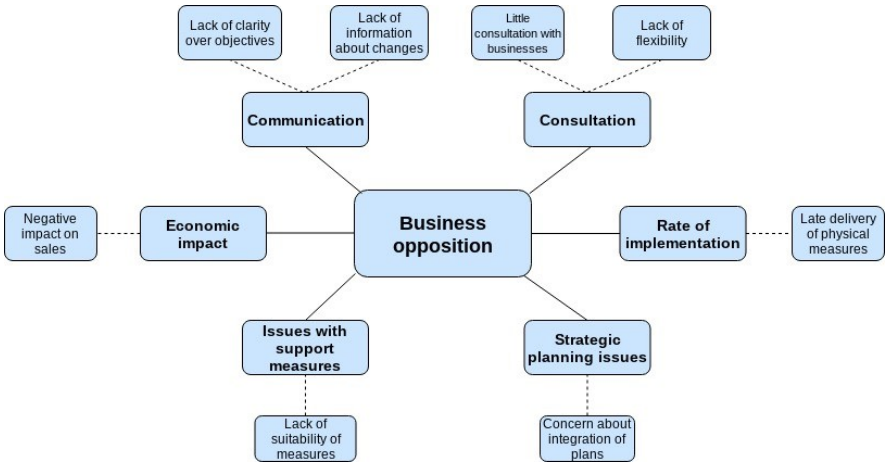
Actions undertaken by Oslo Kommune

Oslo Kommune were found to have undertaken a number of actions to engage, support or promote businesses as part of Bilfritt Byliv. This included financial grants to help businesses take advantage of the newly-created street space and achieve a shift away from car use; measures to increase the ease of making use of street space; a tool to monitor the economic impact of Bilfritt Byliv; various channels of consultation and collaboration with business (and other) stakeholders; and efforts to engage and inform stakeholders about proposed changes taking place at a street level as part of Bilfritt Byliv. The interviews undertaken provided supplementary information on the consultation undertaken with business stakeholders, with engagement found to have taken place in detail with both businesses and business organisations.

Business stakeholder concerns with Bilfritt Byliv

Six primary points of opposition from business stakeholders were identified. Firstly, shortcomings in communication were identified, with businesses expressing that they had received little information regarding the changes planned for the city centre. This was confirmed by other business stakeholders who claimed that information about planned changes was not easy to find. Additionally, business stakeholders claimed that a lack of information about Bilfritt Byliv had caused a sense of uncertainty in the business environment. This appears to have arisen due to uncertainties regarding the overall objective and intention of Bilfritt Byliv. Shortcomings in consultation and collaboration were also identified. All businesses interviewed expressed that there were few opportunities to have input on the plans for Bilfritt Byliv. The view that consultation with individual businesses was lacking was echoed by business organisation representatives, with one stating that more focus should have been put on direct engagement and dialogue with the owners of businesses in the city centre.

The rate at which physical measures were implemented was also a cause for concern for business stakeholders, with a common view that the benefits of the scheme were not implemented fast enough. In particular, the decision in the early stages of Bilfritt Byliv to focus on removing parking spaces and reducing car access, whilst not delivering simultaneous improvements in the city centre, came under scrutiny. Additionally, concerns were raised over the need for better integration of the CFCC into wider strategies for the city centre (e.g. transport, economy). Issues were also apparent with the support measures made available for businesses, with complaints made that businesses were not able to take advantage of the measures on offer, or that measures which would have assisted businesses on certain issues were not in place. Finally, concerns were raised regarding the economic impact of the CFCC on city centre businesses, with certain stakeholders claiming that their customer base could no longer access their shops, and as such they were suffering economically.



Relevance and justification of concerns expressed by business stakeholders
Upon consulting municipality representatives, there was a level of understanding regarding many of the concerns expressed by business stakeholders. It was acknowledged that early in the project there was a lack of clarity in the communication of both the planned measures and the purpose of Bilfritt Byliv, and that this had ramifications for how business stakeholders perceived the project. Specifically, this came from a lack of clarity in the messaging set out in the project, and a lack of strategy for communicating the project. With regards to consultation, municipality representatives largely recognised that more in-depth consultation could have been carried out with individual businesses, and that this would have helped to address their concerns. Additionally, business stakeholders had not always been kept informed about the impact of their feedback on the design of the project. Extensive consultation was however undertaken with business organisations, which appears to have been crucial in overcoming some concerns (e.g. problems with delivery access).

Concerns regarding the rate at which physical measures were implemented were largely understood by municipality representatives, with recognition that little emphasis was placed on immediately making use of or filling the space created by the removal of parking facilities, and that implementing measures earlier may have been useful for businesses. Concerns over an apparent negative economic impact of Bilfritt Byliv on city centre businesses were however contested by municipality representatives, with the point made that certain shops may be incorrectly attributing blame to Bilfritt Byliv when other issues were responsible for poor economic performance.

Discussion

What is immediately apparent from the findings set out is that whilst some of the documented concerns were in relation to the premise of the scheme itself and potential consequent impacts, many of the concerns appear to have arisen instead from the approach taken in designing and implementing the CFCC. This suggests that it may be possible to prevent much of the opposition commonly expressed to CFCCs if the right approach is taken during the design and implementation of such schemes. Taking action to address the outlined concerns in the design of a CFCC before concerns have arisen, rather than taking remedial action, could be vital in reducing the occurrence of issues which ultimately lead to opposition occurring.

For municipalities, it appears that there is great value in engaging and supporting businesses in the creation of CFCCs. Providing the right support and engagement with a range of business stakeholders is important in recognising the value of such actors in successful city centres. Additionally it is vital that CFCC projects are well organised, with dedicated resources and a strong strategy in place to implement the project in a coordinated and coherent manner. An integrated approach is needed when planning CFCCs to ensure that the project is seen as a key part of the wider plans for the city (e.g. strategies for transport, economy).

For businesses, a degree of compromise and flexibility may be necessary when implementing CFCCs. Businesses need to be willing to adapt in modern urban economies, responding to changing consumer trends and preferences, and in some cases changing business models to adapt to new conditions. To maintain a diversity of shops and a successful city centre economy, it may be necessary for business stakeholders to collaborate with each other and find common solutions to ensure a range of businesses can succeed in future city centres with reduced car access.

Recommendations

Based on the concerns identified, the views of municipality representatives and business stakeholders, and the wider context of CFCCs, a series of recommendations for municipalities based around six themes are set out:

Consultation and collaboration

Recommendation 1: Close engagement and collaboration with business owners

Municipalities should ensure close collaboration with business owners during the design and implementation of the CFCC to ensure that feedback is captured and integrated into the project. By engaging businesses and recognising their role as creators of 'city life', an opportunity is presented to gather a wide range of views and assess the various concerns that are held by business owners.

Recommendation 2: Build relationships with business organisations

Efforts should be made to establish good relationships and build trust with business organisations, given their close relationship with businesses and knowledge of economic activity in city centres. Establishing a platform for collaboration is a vital step in building the relationships between the municipality, the business community and other city stakeholders.

Recommendation 3: Flexibility and responsiveness of municipality

Throughout the consultation process, municipalities should demonstrate flexibility and responsiveness in the proposals for a CFCC and be willing to make changes based on feedback from business stakeholders. Demonstrating flexibility in the proposals put forward is an important measure not only in addressing concerns, but also in demonstrating that the municipality places value on the opinion and needs of businesses.

Communication and promotion

Recommendation 4: Develop a comprehensive communications strategy

A comprehensive communications strategy should be established at an early stage in a CFCC project to achieve clarity and consistency in communication, and to ensure that stakeholders are kept informed and engaged. Focusing communications around project objectives which multiple stakeholders have an interest in - for example, creating a more attractive city centre - is an important means of gathering support for a CFCC.

Recommendation 5: Promote the benefits of the CFCC

Throughout the project, the benefits of a CFCC should be widely promoted to business stakeholders and the public. Efforts should be made to promote successful case studies and supportive stakeholders (e.g. through promotional videos), and highlight the positives of a CFCC in the media.

Recommendation 6: Document the change

The changes implemented throughout a CFCC should be well documented and communicated. This is relevant for both physical measures being introduced throughout the implementation of a CFCC, and changes which have been made to the project as a result of feedback from stakeholders. Doing so highlights what the scheme has actually delivered for businesses and other stakeholders, and in the case of changes made based on feedback from stakeholders, demonstrates that their views are being listened to.

Monitoring impact

Recommendation 7: Gather and share information on economic impact

Municipalities should gather and share regular, reliable information on the economic impact of a CFCC. This will be important in easing concerns and countering the claims that a CFCC has

a negative economic impact, or in the event that negative economic impacts occur, allowing problems to be identified quickly and solutions to be implemented in response.

Implementation of measures

Recommendation 8: Deliver physical measures early

Physical measures (e.g. public seating, greenery) should be implemented at a similar time to less favourable changes (e.g. removal of parking). In doing so, a municipality can demonstrate to businesses what is to be gained from reducing car access, not just what is being taken away. Measures should however be tested for a period of time, with any necessary improvements made based on feedback from business (and other) stakeholders.

Support measures

Recommendation 9: Implement and promote support measures based on the needs of businesses

Support measures should be considered to help businesses take full advantage of a CFCC (e.g. incentives to use newly created street space). These should be developed in cooperation with business stakeholders to ensure that relevant and useful measures are delivered. Providing clarity about the long-term availability of these measures will be important to minimise uncertainty in the business environment.

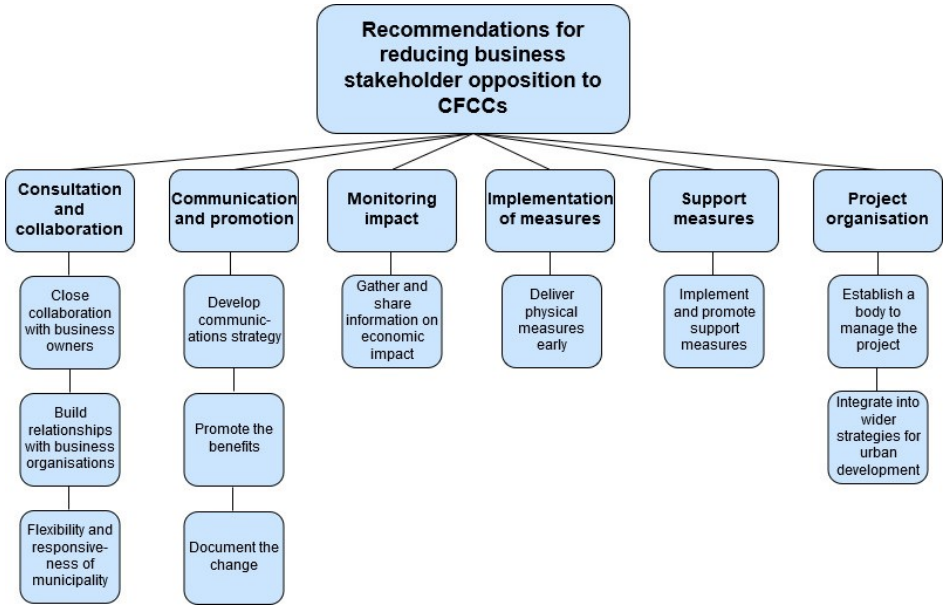
Project organisation

Recommendation 10: Establish a body to oversee the project

To ensure the smooth management and organisation of a CFCC, a body or team should be established to oversee and manage the project. This group would be responsible for managing the various aspects of the project including communications, consultation and coordination of action across different government departments. This should not simply be an administrative body, but rather should have the ability to make decisions, or at least to recommend solutions to elected representatives.

Recommendation 11: Integrate CFCC into wider strategies for urban development

Integrating a CFCC within the wider context of a city is vital in achieving a coordinated and holistic approach to addressing a number of issues in the city centre. A CFCC should be well integrated into wider strategies for the city, for example those relating to the economy, housing, planning and transport. Doing so ensures that a CFCC is not seen in isolation and can become an integral part of a range of strategies for the urban development of a city as a whole.



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Abbreviations

ARSCP - Applied Research in Sustainable Consumption and Production

CFCC - Car-free city centre

EV – Electric vehicle

NHO - Næringslivets Hovedorganisasjon (Norwegian Chamber of Commerce)

OHF - Oslo Handelsstands Forening (Oslo trade association)

PBE - Plan- og Bygningsetaten (Department of Urban Development)

TØI - Transportøkonomisk Institutt (Norwegian Institute of Transport Economics)

UCC - Urban consolidation centres

1 Introduction

The need for cities to play a leading role in addressing environmental challenges is becoming increasingly clear. Cities are responsible for around 70% of global energy use, and as such represent a major contribution to climate change and other environmental issues (IPCC, 2014; Revi et al., 2014; Moran et al., 2018). Among the biggest challenges facing cities in addressing environmental sustainability is the transport sector. Transport is now the largest source of carbon emissions in Europe, and unlike other sectors, has failed to make significant reductions in emissions in recent years ("Briefing: Greenhouse gas emissions", 2018). Transport is commonly the largest source of carbon emissions in urban areas (Toledo & La Rovere, 2018; C40 Cities, 2018), posing a major barrier for municipalities aiming to reduce their contribution to climate change. Additionally, the transport sector is a leading cause of other environmental and societal problems such as air pollution, posing a significant threat to human health ("Emissions of air pollutants", 2018).

In particular, the role of private cars in urban areas is coming under increasing scrutiny. The rapid growth of car ownership in the mid-twentieth century resulted in urban planning systems dominated by private vehicles in the following decades (Gargett, 2012; Nieuwenhuijsen, Bastiaanssen, Sersli, Waygood & Khreis, 2019). Cars have since gone on to define urban form, transport systems and the very lifestyle of individuals, becoming synonymous with individual liberty and economic success (Pharoah & Apel, 1995; Crawford, 2000; Varma, 2017). Cars have delivered undoubtable benefits for society, such as economic growth and access to services and employment (Nieuwenhuijsen et al., 2019). However, the dominance of cars in urban areas, coupled with increasing limitations on urban space, has also caused significant environmental, economic and social challenges for cities and their inhabitants. Car-dominated urban transport systems are well recognised to cause various problems, including carbon emissions, air pollution and congestion (Wooton, 1999; Zhiqiang et al., 2000; UNFCCC, 2018; Toledo & La Rovere, 2018). Additionally, car-dominated urban planning has been highlighted as causing a number of social and health issues, including social isolation, physical inactivity, ill health, and reduced access to green space (Khreis et al., 2016). As a result of these factors, many are calling into question the compatibility of cars with sustainable urban environments and a high quality of life (Bonanomi, 2002, as cited in Rydningen, Hoynes & Kolltveit, 2017).

With many municipalities now placing a high priority on environmental and social sustainability, sustainable urban mobility - transport systems prioritising walking, cycling, public transport - is becoming an increasingly popular concept (Newman, Kenworthy & Glazebrook, 2013; Varma, 2017; Hagen & Tennøy, 2018). Prioritising sustainable modes of transport whilst reducing the use of private cars is well documented to deliver benefits for urban areas by creating a more accessible, healthy urban environment without compromising economic activity (Gehl, 2013; Rydningen et al., 2017). Many measures exist to achieve such a shift away from private car use, including charging mechanisms, parking regulations and increased investment in sustainable modes of transport (e.g. Santos & Shaffer, 2004; Gössling, 2013; Dale, Frost, Ison, Quddus & Warren, 2017).

However, one solution gaining increasing popularity is car-free city centres (hereafter CFCCs), defined zones in the centre of cities in which car use is prohibited or severely restricted. CFCCs are a diverse solution to reducing car use and transforming urban areas, and can involve various 'hard' and 'soft' measures including pedestrianisation, reductions in road space, measures to improve the quality of urban life, increased cycling infrastructure and improvements to public transport (Tønnesen, Meyer, Skartland & Sundfør, 2016). By restricting the presence of cars and prioritising movement by sustainable modes of transport, CFCCs have the potential to deliver

solutions for a number of challenges in urban areas, including carbon emissions, physical health, air quality, and access to green space (TEST, 1989; Chiquetto, 1997; Longo, Hutchinson, Hunter, Tully & Kee, 2015; Khreis et al., 2016; Nieuwenhuijsen et al., 2019). Additionally, CFCCs have been proposed as a transformative step towards making cities more inclusive, accessible spaces and increasing the quality of urban life (Nieuwenhuijsen et al., 2019). CFCCs are now gaining increasing popularity as a concept across Europe, with a number of cities implementing or considering a substantial reduction of car use in their centres (Tønnesen et al., 2016).

Oslo, Norway, stands out as a leading example of the large-scale implementation of a CFCC. Oslo is in the process of implementing arguably the most ambitious car-free project in Europe to date ('Bilfritt Byliv', or 'Car-Free City Life') ("Bilfritt Byliv", n.d.). Announced in 2015, the project is considered to be the largest CFCC in Europe (Tønnessen et al., 2016). The scheme has included the large-scale removal of public parking spaces, the closure of streets to cars, measures to improve the quality of urban life, and the re-routing of car traffic throughout the city (Hagen & Tennøy, 2018; "Bilfritt Byliv", n.d.). Oslo has gained substantial attention and recognition for its efforts to reduce the use of cars in the city centre (e.g. Cathcart-Keays, 2015; Bliss, 2017; Peters, 2019).

1.1 Problem definition

Despite the numerous potential benefits of CFCCs, many cities struggle to implement policies and actions which facilitate a substantial reduction in car use (Nieuwenhuijsen 2019). One of the biggest challenges faced in achieving a transition to CFCCs is opposition from businesses (Topp & Pharoah, 1994; Nieuwenhuijsen et al., 2019). Although people-centred urban planning and reduced car use in urban areas has been widely documented to deliver potential economic benefits (e.g. Wright, 2005; Lawlor, 2014; Boussaw, 2016), proposals for CFCCs and other car-free projects are routinely met with strong opposition from business groups and retailers (Topp & Pharoah, 1994; Szarata, Nosal, Duda-Wiertel & Franek, 2017). Business stakeholders are key actors in society due to their contribution to local economic activity and employment opportunities, and can consequently exhibit substantial power in political decision-making processes, including in debates regarding urban planning (Wright, 2005; Keller, 2018). Given the important role of businesses in cities, gaining the support of business stakeholders is known to be one of the key prerequisites for the successful implementation of CFCCs (Nieuwenhuijsen et al., 2019). Whilst business opposition can fall over time following the implementation of car-free projects (Wright, 2005; Szarata et al., 2017), opposition exhibited prior to implementation can cause significant challenges for municipalities aiming to develop CFCCs. Business opposition prior to implementation may make municipalities lessing willing to implement such schemes, particularly in local governments with a delicate political situation. Understanding the concerns of business stakeholders which contribute to this opposition, and what can be done to address such concerns, is therefore of vital importance for municipalities seeking to implement CFCCs and address barriers to creating sustainable cities. The high degree of opposition from business towards CFCCs, in spite of the potential benefits delivered by such schemes, raises questions regarding the approach being taken by municipalities when implementing car-free areas in city centres.

Despite the increasing public interest in CFCCs (e.g. Cathcart-Keays, 2015; Bendix, 2019), academic research on the subject - in particular the issue of business opposition - remains scarce (Nieuwenhuijsen et al., 2019). Whilst there is general agreement in the academic literature on the potential benefits delivered by CFCCs, there appears to have hitherto been little focus on the means and approaches by which such projects can, or should, be implemented. Given the increasing interest from municipalities in implementing CFCCs (Hagen & Tennøy, 2018), there

is a need to develop a better understanding of how municipalities can implement car-free projects which better meet the needs and expectations of a wide range of stakeholders, including business.

1.2 Aim and research questions

The aim of this research is to investigate how municipalities can reduce opposition from business stakeholders in the creation of car-free city centres. In order to achieve this aim, three research questions (RQs) are posed:

> RQ_1: What are the main concerns expressed by business stakeholders towards CFCCs?
> RQ_2: To what extent are these concerns relevant and justified?
> RQ_3: What actions can municipalities take to address these concerns?

To answer these research questions, a case study approach is applied (Chapter 3). Using the case of Oslo to investigate the issue of business opposition to CFCCs, three sub-research questions (SRQs) are considered. These SRQs have been informed by findings from a preliminary literature review (Chapter 2). The SRQs are as follows:

> SRQ_1: To what extent has Oslo Kommune undertaken consultation and collaboration with business stakeholders?
> SRQ_2: How has Oslo Kommune communicated the development of Bilfritt Byliv to business stakeholders?
> SRQ_3: What support measures have been implemented by Oslo Kommune to address business concerns to Bilfritt Byliv?

By answering these RQs and SRQs, a series of lessons for municipalities aiming to establish CFCCs can be identified. These will be set out in Chapter 7.

1.3 Definitions

1.3.1 Car-free city centres

For the sake of clarity and consistency, it is important to state from the outset the definition of CFCCs used in this research.

The concept of CFCCs appears to have first emerged in the 1990s in response to a growing acknowledgement of the need to limit car use in cities (Topp & Pharoah, 1994). However, some of the actions which commonly form the basis of CFCCs, such as the pedestrianisation of streets, have been in existence and advocated for since the mid-late twentieth century (Jacobs, 1961; Topp & Pharoah, 1994). Indeed, many cities across the world have implemented such measures in their centres in recent decades. However, a distinction is made in this research between stand-alone localised measures such as pedestrianisation, and concerted, targeted and defined approaches to reduce car use in city centres.

Several issues arise in attempting to define CFCCs. A primary problem in defining CFCCs is the great deal of variation in the types and extent of the measures that are used in creating car-free areas. Pedestrianisation, reductions in road space, dedicated cycling infrastructure, public transport prioritisation, and measures to improve the quality of urban life (e.g. outdoor seating, greenery) are all commonly implemented to varying degrees in CFCC projects (Tønnesen et al., 2016). Additionally, the term 'car-free city centre' is also often used almost interchangeably with

other concepts such as 'traffic-free', 'pedestrianisation', 'car-lite', 'car-free area' and 'car-free city' (e.g. Topp & Pharoah, 1994; Melia, 2010; Foletta & Henderson, 2016; Nieuwenhuijsen et al., 2019). As a result of these factors, multiple definitions and interpretations of CFCCs exist.

An additional point which is vital in defining CFCCs is that such a name is somewhat misleading, as these projects are seemingly never entirely car-free (Rydningen et al., 2017). Whilst car access may well be significantly reduced, the use of private cars does not appear to be entirely prohibited in such schemes. It is important to include this point in any definition of CFCCs to avoid confusion regarding the nature of such projects.

The definition chosen for research has been constructed by considering several existing definitions - primarily Melia's (2010) definition of "car-free areas" - as well as the wider literature on the topic. For the purpose of this research, CFCCs are classified as: *A defined area within the centre of a city in which private car use is substantially restricted and movement by walking, cycling and public transport is prioritised.*

This is considered to serve as a useful definition, as it reflects the wide variation of means through which the implementation of CFCCs is achieved and the varying forms that they take, whilst recognising that some car use will likely continue within the zone.

1.3.2 Business stakeholders

A key part of this research is understanding the views, perceptions and experiences of individuals and organisations with a direct interest in business activity and economic development in Oslo city centre. There is a great deal of diversity within this group, with a range of interests and types of organisation. In this research, the term 'business stakeholders' is used to refer to the following groups: Individual business owners or representatives of businesses active in Oslo city centre, commercial property owners in the city centre, organisations representing businesses operating in Oslo city centre, and organisations focusing on the economic development of Oslo. Where appropriate, specificity is given to which type of business stakeholder is being referred to.

1.3.3 Actions and support measures

For the purpose of this research, 'actions' are defined as *explicit policies, measures or approaches used to support, engage or promote businesses or other business stakeholders in Oslo*. This definition was purposefully kept generic to capture as many of the actions taken by Oslo Kommune as possible. The term 'support measure' is used to refer to more specific tools used by municipalities to assist businesses, for example financial grants and delivery exemptions. 'Actions' is used to capture a wider range of interventions, including consultation and communication with business stakeholders, whereas 'support measures' refers specifically to measures which directly assist business stakeholders. In this research, 'support measures' are one part of the 'actions' undertaken by municipalities.

1.4 Limitations and scope

This research uses a case study approach, focusing on Oslo's CFCC project. As such, the scope of this research is solely on the context of Oslo, although experiences from other cities are drawn upon in the literature review. Focusing on a single case study as a means of investigation raises some potential issues regarding the external validity of such a project. Indeed, the generalisability of single case studies has been criticised by some (e.g. Abercrombie, Hill, & Turner, 1984, as cited in Flyvbjerg, 2006). This issue is addressed fully in Chapter 4.

Within the context of Oslo's CFCC project, this research focuses on the perceptions, experiences and actions of municipal and business stakeholders in the creation and implementation of the car-free project. A qualitative approach was taken, with interviews being the primary method of investigation (Chapter 4). Whilst interviews are a widely accepted means of gaining information, it can be challenging to assess the accuracy of the information being provided by interviewees. As such, efforts were taken to gain reliable information by selecting individuals who were deemed to be closely connected to and well-informed about the CFCC project. Additionally, extensive background research was carried out on the CFCC project in Oslo to ensure that the author had an in-depth understanding of the project. In doing so, the validity of claims made by interviewees could be more accurately assessed.

Beyond the literature review and case study description, quantitative factors - such as economic impact - are not within the scope of this research. Applying a quantitative approach regarding the impact of the CFCC on economic activity and business performance would have been a useful supplement to this research; however, due to resource constraints, a decision was made not to pursue a quantitative assessment as well as a qualitative assessment.

1.5 Ethical considerations

The primary ethical concern in this research was the treatment of interviewees and the information obtained through interviews. Prior to interviews, all interviewees were provided with a project information document containing a short introduction to the author, the overall focus of the research, and contact details of the author (Appendix A). Interviewees were also asked to sign an interview consent form, which set out the terms of use for information obtained through the interview, and the rights provided to interviewees as part of the interview (Appendix B). All interviewees were given the option of anonymity in their responses.

It was considered to be of high importance that the information provided by interviewees was kept secure, particularly given that some interview questions related to complex and delicate relationships between different stakeholder groups. To ensure the security of interviewees' responses and information, all transcripts were stored on a password protected computer. The voice recorder used for interviews was stored in a secure location, with all audio files being deleted as soon as the research project was completed.

1.6 Audience

The main target of this research is municipalities aiming to establish CFCCs in the future. By investigating how municipalities can design and implement CFCCs which meet the needs of businesses whilst facilitating a reduction in car use, this research serves as useful guidance for municipalities' policy development, planning approach and general strategy in the development of CFCC projects. Additionally, this research will be of interest to Oslo Kommune, including agencies working on Bilfritt Byliv and elected officials. Whilst the CFCC has already largely been implemented, this research may serve as a useful reflection on how future urban transformation projects can be undertaken. Finally, this research is intended to contribute to the hitherto limited academic debate on CFCCs, in particular on aspects relating to business opposition and stakeholder collaboration. Given the increasing popularity of such schemes, this is an important contribution to stimulate discussion and further research.

2 Literature review

2.1 Introduction

Despite increasing public interest in CFCCs (e.g. Bliss, 2017; Garfield, 2018), academic research on the subject remains scarce (Niewenhuijsen et al., 2019). In particular, business opposition to CFCCs remains a relatively little-studied area, with most research focusing on the economic and transportation impacts (e.g. congestion, modal share), with only a few examples found of in-depth research on the issue of business opposition (e.g. Sotiaux & Strale, 2017; Hubert, Corijn, Mezoued, Vermeulen & Hardy, 2017). However, car-free urban planning - such as pedestrianisation - has been common practice for decades, albeit on a small scale (Beuhler & Pulcher, 2011). As such, a body of literature from research on urban planning, transport and urban governance exists which can be applied to investigate the context of CFCCs.

What is clear from the literature analysed in this research is that issues appear to exist in gaining the support of business stakeholders before and during the implementation of CFCCs and other car-free projects. Whilst evidence suggests that business opposition tends to fall over time (e.g. Szarata et al., 2017), the approaches commonly being taken by municipalities in designing and implementing CFCCs and similar projects appear to be failing to address the concerns of business stakeholders. However, there is also evidence to suggest that some concerns expressed by business stakeholders do not stand up to scrutiny when literature is consulted. However, this may equally suggest a shortcoming in the approach taken by municipalities to adequately respond to and address the concerns of business stakeholders.

The literature review begins with an introduction to CFCCs and the rationale and requirements for implementing such projects. In doing so, an insight is gained into why and how municipalities seek to create CFCCs. The implementation of CFCCs is then analysed in detail by assessing the governance approaches commonly taken by municipalities to support and engage with businesses in such projects. Following this, an overview of concerns commonly expressed by business stakeholders in car-free planning is presented, providing an insight into the reasons behind the high degree of opposition commonly exhibited towards CFCCs. The economic impact of car-free urban planning is also investigated to assess the potential financial impact of CFCCs on businesses. Finally, a framework is presented to set out the theories that have guided this research.

2.2 Background to CFCCs

Despite arguments for reducing car use and prioritising sustainable modes of transport having existed for a number of decades (e.g. Jacobs, 1961), the concept of a 'car-free city centre' appears to be a relatively recent development. Seemingly first referenced by Topp & Pharoah (1994), the term arose to describe efforts by municipalities to increase the attractiveness and economic performance of city centres by reducing the presence of vehicles and encouraging access by public transport, walking and cycling. Several European cities with a CFCC were identified by Topp & Pharoah, including York, Nuremberg and Bologna. The car-free areas in these cities appear to have arisen due to their historic layout and spatially-restricted urban form, and are limited in size when compared to more recent CFCC projects (Tønnesen et al., 2016). In 1997 the concept was developed in greater detail through the Lyon Protocol, a set of guiding principles on the design and creation of urban car-free projects ("The Lyon Protocol", n.d.). The Lyon Protocol set out a recommended process for the successful creation of car-free cities, through from project inception to implementation (Figure 2-1).

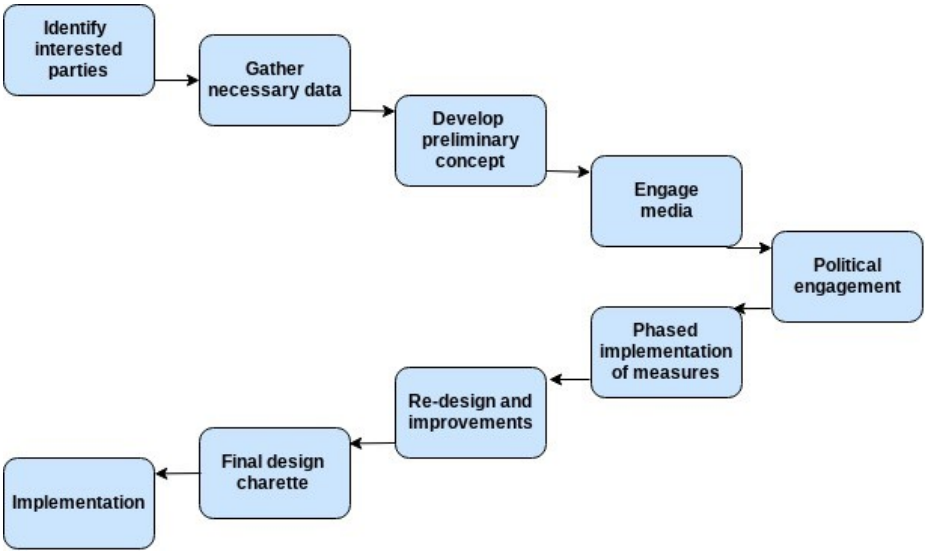

Figure 2-1. Approach suggested in the Lyon Protocol for implementing CFCCs.

Source: Adapted from "The Lyon Protocol" (n.d.)

More recent literature has focused on the role that car-free urban planning can play in improving quality of life and tackling a number of social and environmental challenges in urban areas. Nieuwenhuijsen et al. (2019) identify the potential role of 'car-free cities' in addressing issues including improved physical health (Khreis, May & Nieuwenhuijsen, 2017), reduced air pollution (Nieuwenhuijsen, Khreis, Verlinghier & Rojas-Rueda, 2016), reduced carbon emissions (Nieuwenhuijsen et al., 2016), increasing social interaction and cohesion, and more efficient use of public urban space. This suggests a shift from the original rationale of CFCCs explained by Topp & Pharoah (1994), that being the economic revitalisation of city centres. This perhaps signals the growing importance placed on addressing environmental and social challenges such as climate change and air pollution, something which appears to be confirmed in the objectives set for CFCC projects by municipalities (Chapter 2.3).

Implementing CFCCs is a complex operation, and a number of factors are required to reduce car use in a publicly and politically acceptable manner. A comprehensive and strategic approach is required to create car-free projects, and can take considerable time and resources to plan, refine and implement. Nieuwenhuijsen et al. (2019) identify nine key prerequisites required for the successful implementation of a car-free city (Figure 2-2). This includes the close involvement and engagement of stakeholders - in particular business stakeholders - in the design and implementation of the car-free project (Nieuwenhuijsen et al., 2019).

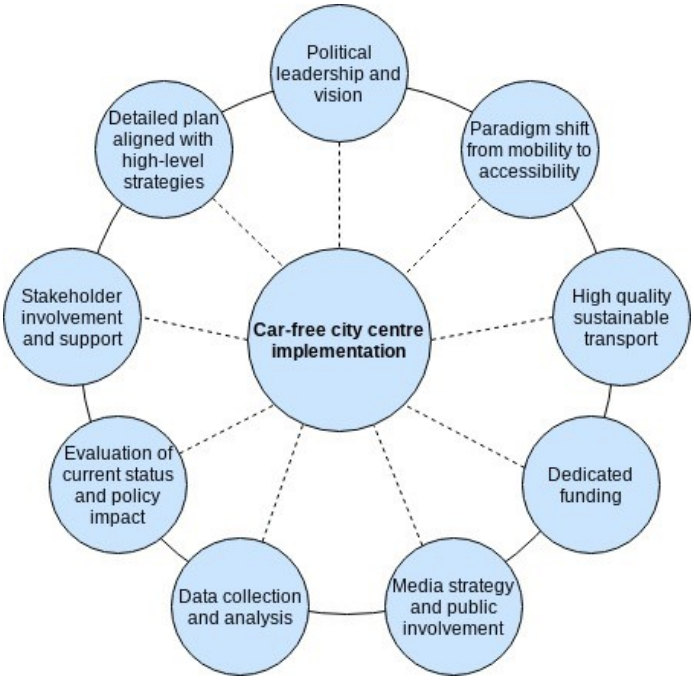

Figure 2-2. Nine prerequisites for a successful CFCC.

Source: Adapted from Nieuwenhuijsen et al. (2019).

2.3 Political objectives and drivers of CFCCs

Considerable variation appears to exist in municipalities' motivations for creating CFCCs. Variation also exists in the scale of the issue driving the creation of such schemes, with objectives ranging from local congestion issues to climate change (Tønnesen et al., 2016; Nieuwenhuijsen et al., 2019). It is however clear from the literature that the vast majority of the drivers and objectives set by municipalities relate to delivering environmental or social benefits for cities.

Tønnesen et al. (2016) present a review of fifteen European cities which have either implemented or have plans to implement CFCCs. A range of drivers and objectives were identified, with the two most frequent reasons for implementing CFCCs found to be improving the quality of urban space and reducing car use (Figure 2-3). The majority of the drivers identified relate to enhancing or preserving the urban environment, mitigating the environmental impact of transport, or tackling other issues arising from transport (e.g. congestion, safety). Only two of the fifteen cities reviewed were found to have explicit economic objectives (economic growth, increased competitiveness) (Tønnesen et al., 2016). However, Hubert et al. (2017) contradict Tønnesen et al. (2016) in claiming that Brussels' CFCC did in fact have an objective to revitalise economic activity in the city centre. This appears to be one of the few documented cases of a CFCC project having an objective explicitly aimed at improving the local economy. However, it is important to note that the economic development of the city centre is arguably implicit in the very concept of CFCCs, as by creating a more attractive urban environment, people are likely to spend more time in - and thus potentially spend more money in - the city centre (Topp & Pharoah, 1994). Ortegon-Sanchez, Popan & Tyler (2016) reviewed 200 cases of car-free initiatives implemented in urban environments, identifying six primary objectives which are frequently set in car-free projects: Reduce the attractiveness of car use, increase the attractiveness of other modes of transport, revive the social function of streets, reduce the environmental impact of transport, promote sustainable housing projects, and rationalise freight operations. These again largely relate to environmental

or social factors, but would arguably deliver indirect economic benefits for businesses (e.g. "Revive the social function of streets" could result in people spending more time in public spaces, and therefore likely using businesses).

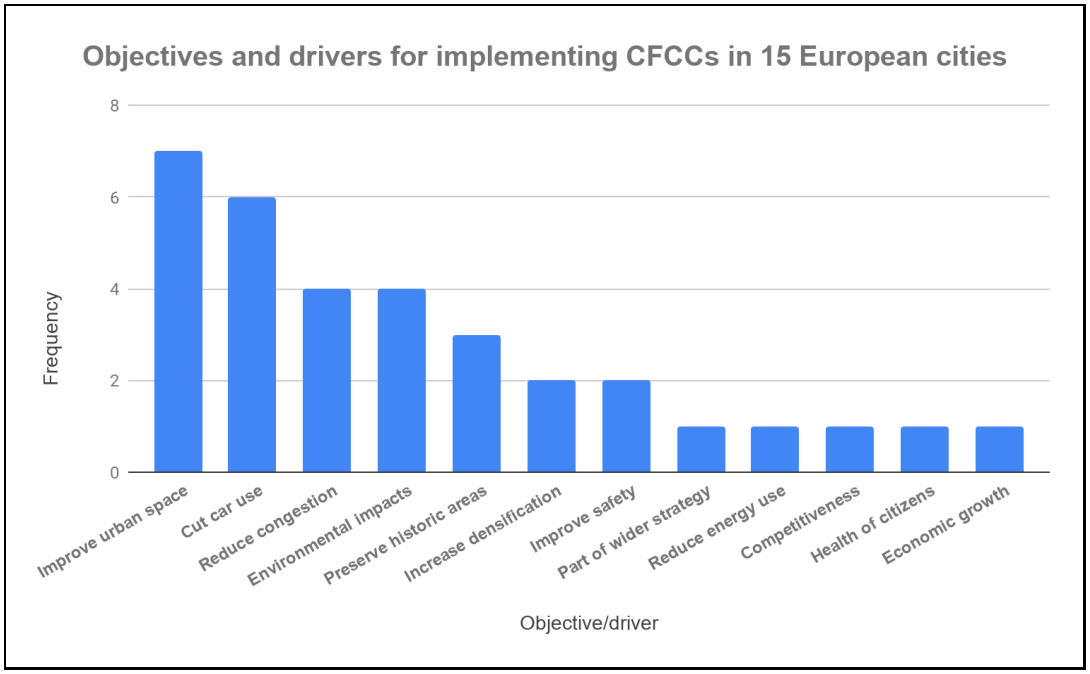

Figure 2-3. Objectives and drivers in fifteen European cities.

Source: Adapted from Tønnesen et al. (2016).

2.4 Business opposition to car-free planning

Despite the apparent popularity of CFCCs amongst the general public (Beuhler & Pulcher, 2011; Gundlach, Ehrlinspiel, Kirsch, Koschker & Sagebiel, 2018), business stakeholders routinely oppose car-free urban planning and have been identified as one of the biggest barriers to the implementation of such schemes. However, variation does appear to exist in the degree of opposition expressed by different business stakeholders. Wright (2005) notes that Chambers of Commerce typically express concern over economic impact but are often supportive of urban regeneration projects, and thus may support car-free areas being established if assurance can be given regarding the economic case. Retail shops however commonly express concerns over the impact of car-free areas on sales and footfall (i.e. the number of people using a street) (Wright, 2005). Hotels and restaurants are generally more supportive of the establishment of car-free areas if there is an indication that footfall will increase (Wright, 2005). This claim is however contested by Szarata et al. (2017) who claim that restaurant owners typically oppose the creation of car-free areas in proximity to their premises, and by Sotiaux & Strale (2017) who identify objections from restaurant owners.

A number of concerns were identified in the literature contributing to businesses opposition to CFCCs. These can be broken down into three main categories: Economic impact, access for deliveries, and a lack of consultation and communication of the implementation of the project.

2.4.1 Economic impact

Business stakeholders routinely hold a number of negative perceptions regarding the impact of car-free areas on economic performance and retail trade (Soni & Soni, 2016) (Table 2-1). These concerns appear to stem from a belief that people will be either unwilling or unable to adapt to the new changes in the urban form. For example, business owners in Kraków, Poland, voiced concerns that the implementation of a new car-free area would lead to fewer customers being able to access their shops, leading to a consequent decrease in sales (Szarata et al., 2017). Following the implementation of the car restrictions, only a small percentage of people had issues accessing the car-free area and the majority of businesses quickly reversed their opposition (Szarata et al., 2017). Opponents of plans to pedestrianise key city centre streets in Munich claimed that the streets were too wide to be pedestrianised and would not be sufficiently occupied, leading to under-use of the street (Hass-Klau, 2015, as cited in Tønnessen et al., 2016). However, following the implementation of pedestrianisation, both footfall and average shop turnover increased (Hass-Klau, 2015, as cited in Tønnessen et al., 2016). Wright (2005) highlights that some opposed groups claim that changing car-oriented infrastructure to suit pedestrians and public transport is expensive and thus requires substantial funding from municipalities. However, the construction and installation costs of schemes such as pedestrianisation are demonstrated to be relatively low and cost-effective when compared to the economic gains they generate (Lawlor, 2014; Soni & Soni, 2016).

Topp and Pharoah (1994) note that restrictions placed on car use in Bologna were criticised for creating reduced access into the city for those living in the wider city region, thus reducing the customer base for shops. Similarly, Wright (2005) notes that a common complaint about car-free projects is the supposed impact on tourists, who may be put off going to a city if car access is restricted. There does not however appear to be evidence to support this claim, and the economic impact of car-free projects demonstrated in Chapter 2.5 suggest that tourists and residents are still able to, and are in fact more likely to access the city centre. Soni & Soni (2016) also note that retailers commonly place a disproportionate value on the buying power of car drivers and the economic value of having their shops be accessible by car (e.g. parking facilities nearby), claims which have routinely been disproved (Lawlor, 2014; Soni & Soni, 2016).

Table 2-1. Negative perceptions expressed by business stakeholders of the economic impact of car-free projects.

Perception of economic impact	Literature identified in
Reduction in accessibility and use of the city centre	Szarata et al. (2017), Hass-Klau (2015), Wright (2005), Topp & Pharoah (1994)
Costs of reducing car use	Wright (2005), Soni & Soni (2016)
Purchasing power of car drivers	Soni & Soni (2016)

Source: Author.

2.4.2 Access for deliveries

A lack of access for deliveries is recognised as perhaps the largest concern expressed by business stakeholders towards car-free areas (Wright, 2005). This concern stems from a fear that car-free areas would result in greater restrictions on deliveries reaching their shop, increasing the complexity of receiving or sending goods (Wright, 2005; Topp & Pharoah, 1994). Business concern over deliveries has been well documented in the CFCC implemented in Brussels (Corijn et al., 2017; Sotiaux & Strale, 2017). In a study of the pedestrianisation of Brussels city centre, Sotiaux & Strale (2017) gauged the opinion of 400 city centre businesses. A number of issues

were identified with regards to the new delivery restrictions imposed by the municipality. Retailers claimed that certain delivery companies were no longer willing to provide delivery services to businesses located in the city centre, meaning alternative services had to be found (Sotiaux & Strale, 2017). Businesses also claimed that private vehicles were routinely parking in designated loading bays for deliveries, and that police were not monitoring this behaviour. Complaints were also made regarding difficulties with delivering items from retailers' premises to customers. This was a particular issue for retailers selling large products which customers were not able to take home with them, and thus needed to be delivered (e.g. fridges) (Sotiaux & Strale, 2017). Additionally, issues arose with the time frame during which goods were permitted to be delivered. The municipality established a seven-hour delivery window in the pedestrianised zone between 04:00 and 11:00 in an effort to allow businesses to continue their operations whilst minimising interactions between vehicles and pedestrians. Whilst this suited some businesses well, certain traders, such as restaurants, were not suited to this timeframe. Restaurants were found to typically open later than other retailers, meaning that their food deliveries were often required later than 11:00 (Sotiaux & Strale, 2017). Furthermore, some hoteliers complained that the early delivery window was problematic for their customers due to noise pollution from delivery vehicles early in the morning (Sotiaux & Strale, 2017). This raises issues regarding the suitability of the provisions granted by municipalities for ensuring businesses can operate with minimal impact from a reduction in vehicle access.

2.4.3 Consultation, engagement and communication

Insufficient participation and engagement of stakeholders (e.g. citizens, businesses, local interest groups) is a common argument put forward by critics of car-free projects (Hubert et al., 2017). Failing to adequately consult with and engage stakeholders during the creation of urban regeneration projects can lead to disagreement and opposition to the project (Hubert et al., 2017). Furthermore, limiting consultation with stakeholders can lead to a backlash from opponents against the project (Hubert et al., 2017). Sotiaux & Strale (2017) found shortcomings in how businesses were consulted in the creation of the car-free area in central Brussels. Business owners on pedestrianised streets reported that there had been a lack of information and communication from the municipality with regards to the pedestrianisation and its restrictions, and felt that a proper consultation process had not been carried out (Sotiaux & Strale, 2017). Hubert et al. (2017) and Corijn et al. (2017) also both note a lack of formal meetings between stakeholders and the municipality prior to and following the implementation of the car-free area in Brussels. Indeed, media reports from Oslo suggest that conflict has arisen during the creation of the CFCC project, indicating a shortcomings in the consultation and communication of plans (e.g. Cathcart-Keays, 2017).

2.5 Economic impact of car-free planning

Removing car access and increasing the prioritisation of pedestrians has been demonstrated to create an environment in which people are both able to, and desire to, spend more time (Gehl, 2013). By creating spaces in which people spend time, socialise and relax, potential is created for businesses located in car-free areas to benefit economically. Additionally, many measures implemented as part of CFCCs, such as pedestrianisation, commonly have low construction and implementation costs, aiding the economic case for such projects (Soni & Soni, 2016). Widespread evidence exists in academic literature of car-free urban planning creating opportunities for businesses to benefit economically (Lawlor, 2014; Szarata et al., 2017; Wright, 2005). However, there is also evidence to suggest that some potential negative economic impacts may arise from car-free planning. In the discussion on the economic impact of CFCCs, it is however vital to note that a variety of factors impact the economic success of cities, including macroeconomic trends, changing consumer preferences and national government policies

(Lawlor, 2014). The evidence set out below must therefore be viewed in the context of the wider economic and political landscape. Several key economic impacts were identified: Increased footfall and sales; decreased shop vacancy; and increased property value.

2.5.1 Footfall and sales

Hall and Hass-Klau (1985), providing one of the first economic assessments of car-free measures in city centres, identified an increase in both footfall and sales following the pedestrianisation of shopping streets in Germany. This has been confirmed in numerous subsequent studies which have shown increases in retail sales and visitor numbers following the removal of car access and increasing pedestrian access (e.g. Boussaw, 2016). In their analysis of car restrictions in three areas of central Kraków, Poland, Szarata et al. (2017) found an increase in both the number of visitors and the length of time visitors spent in the area after car restrictions were introduced. Wright (2005) identifies four cases of cities in England and Germany in which turnover and footfall increased following restrictions on car access to the city centre. However, Boussaw (2016) notes that whilst car-free areas may benefit certain businesses, such as restaurants and clothes retailers, shops selling 'daily products' (e.g. fresh food) may not benefit and may in fact endure losses as a result of the establishment of a car-free area. Furthermore, car-free areas may benefit chain shops (i.e. retailers with the same shop in multiple locations) more than independent retailers (Boussaw, 2016). In the wider city context, economic gains made by shops in car-free areas may come at the expense of shops outside of the car-free area losing sales (Wright, 2005). Hass-Klau (1993, as cited in Wright, 2005) also notes that the economic benefits of car-free areas may not be immediately apparent, and may take several years to become evident.

2.5.2 Shop vacancy

Evidence suggests that by increasing footfall and sales, car-free areas can aid the regeneration of retail streets. Shop vacancies have been shown to decrease following the introduction of car-free areas, in turn leading to increased employment in the area (Soni & Soni, 2016). A study in Leicester, England, compared shop vacancy rates on streets with varying degrees of car access (Wiggins, 1993, as cited in Wright, 2005). Shop vacancy rates were found to be positively correlated with car access, with the street with greatest car access having a vacancy rate of 15.1% and the street with least car access having a vacancy rate of 3.1% (Wiggins, 1993, as cited in Wright, 2005). Lawlor (2014) highlights the case of Altrincham, England, where investment in public realm improvements have reduced shop vacancy rates from 30% to 8%, in doing so changing social perceptions of the town centre.

2.5.3 Property values

Research suggests that reducing car use on streets leads to increases in the value of commercial and residential properties. Urban areas with high quality pedestrian infrastructure have been demonstrated to have property values higher than those which prioritise private vehicles (Gilderbloom, Riggs and Meares, 2008). This is echoed by Wright (2005), who notes that property values tend to increase following the implementation of pedestrianised and public transport-oriented planning. Walking and cycling enhancements have also been found to increase land value by as much as 300% in certain cases (Lawlor, 2014). Increases in property value can consequently lead to high support for car-free projects from the resident population (Wright, 2005). However, whilst this benefits property owners, Sandahl & Lindh (1985) note that an increase in property values is unlikely to benefit retailers who rent retail space. Indeed, increases in property value can lead to higher rent prices, which results in higher operational costs for businesses (Topp & Pharoah, 1994). However, Brambilla and Longo (1977) argue that increasing rent costs can be mitigated through increased turnover.

2.6 Governance approaches in relation to business stakeholders

The creation of CFCCs requires municipalities to implement a number of actions to achieve a shift away from car use towards sustainable modes of transport. The majority of these actions relate to physical interventions on the street level, and policies to achieve a shift away from car use. However, municipalities also undertake actions to engage with and support businesses in the transition away from car use. These appear to fall into three main categories: Support measures; consultation and engagement; and communication.

2.6.1 Support measures

The vast majority of support measures aimed at aiding businesses identified in the literature focused on ensuring continued access for deliveries. This is an important tool to ensure that businesses are able to access the goods and products that they require in a convenient manner. This is commonly achieved through permitting freight vehicle access to car-free areas at restricted times (Buehler et al., 2016). Delivery timeframes are typically scheduled for early morning, helping to minimise interaction between vehicles and pedestrians during peak times (Wright, 2005; Hagen, Tønnessen & Fossheim, 2017). Delivery access exemptions were identified in pedestrian zones in Helsinki, Stockholm, Copenhagen and Brussels, allowing businesses to have continued logistics access (Hagen et al., 2017; Corijn et al., 2017). Similarly, commercial parking permits can be issued to allow business owners to access their shops by car for limited time periods (Buehler et al., 2016).

An additional approach taken for deliveries is the establishment of urban consolidation centres (UCCs).[1] Goods are delivered to UCCs and are subsequently sent out to their final destination along with goods destined for other shops, the aim being to reduce the number of freight vehicles entering the city centre and to tackle the problem of the 'last mile' of deliveries. Both Copenhagen and Stockholm have implemented UCCs to limit freight deliveries (Hagen et al., 2017). Helsinki has also implemented an underground goods consolidation and delivery distribution system, reducing the need for surface-level freight deliveries whilst ensuring continued delivery access for businesses (Hagen et al., 2017). UCCs and delivery exemptions can be complemented by municipalities promoting alternative means of delivery, such as cargo bikes (Ortegon-Sanchez et al., 2016). Furthermore, alternative distribution routes can be promoted to freight companies whose delivery routes cross the car-free area (Wright, 2005).

Financial support can also be made available to support businesses as part of CFCC projects. Brussels municipality, which began implementing a CFCC in 2015, offers financial assistance for businesses to renovate and refurbish the facade of their buildings ("Bonuses and grants", n.d.). Up to €6,000 was offered to businesses located in the pedestrianised zone who wished to make improvements as part of the wider reconstruction and improvement of Brussel's new car-free zone. Little evidence has however been found of other financial mechanisms to support businesses in adapting to reductions in car use.

2.6.2 Consultation and engagement

A great deal of variation exists in how stakeholders perceive the challenges, purpose and needs of a city (Hubert et al., 2017). To gauge the views of stakeholders, municipalities commonly seek to engage with members of the public, civil society and businesses through consultation processes. A comprehensive consultation programme is known to be an important part of implementing CFCCs and is vital in facilitating cooperation and addressing concerns regarding

[1] UCCs are localised delivery facilities situated within cities, the purpose of which is to reduce the number of journeys made by large freight vehicles into the city centre. Instead, smaller delivery vehicles or cargo bikes can be used to make deliveries across the city.

such projects (European Commission, 2004; Pinson, 2004, as cited in Hubert et al., 2017). Consultations should seek to involve a wide range of stakeholders and bring together different opinions and positions in order to explain proposals and find solutions which are acceptable to all actors (European Commission, 2004). In doing so, a greater understanding of the challenges faced by businesses can be gained by the municipality, helping to identify potential actions or solutions to resolve issues (Lascoumes & Le Bourhis, 1998, as cited in Hubert et al., 2017). Making stakeholders feel that they have played a key role in the design phase increases the value that those actors place on the project, thus making them more likely to favour the development of the project (Vermeulen & Hardy, 2016). Collaboration, engagement and compromise between municipalities and business stakeholders has been demonstrated to deliver reduced car use in a manner which is acceptable to business stakeholders (e.g. Buehler & Pulcher, 2011). Topp and Pharoah (1994) note the success of consulting and engaging with business prior to the implementation of localise car restrictions in Lübeck, Germany. The municipality established a 'round table' group with representatives from a range of stakeholders, including business groups, with the aim of reaching mutually beneficial and acceptable solutions to accompany the car ban. This was found to be a successful approach, with business eventually reversing their opposition and actively promoting the benefits of the new car-free area (Topp and Pharoah, 1994). A similar experience has been demonstrated in Freiburg, whereby close collaboration between the municipality and business stakeholders, among other groups, has resulted in a transition towards the prioritisation of sustainable modes of transport and a large reduction in car use in recent decades (Beuhler & Pulcher, 2011).

2.6.3 Communication

A common approach taken by municipalities is to establish good communication of the car-free project to stakeholders. By providing clarity about the changes due to be implemented, stakeholders can remain informed and kept aware of actions which are likely to impact their shop or street, helping to ease concerns (Drennen, 2003). One approach to achieving this is to establish an open communication channel between business stakeholders and the municipality. This has been undertaken in Brussels, where a single point of correspondence has been created to answer queries relating to the car-free project ("Pedestrian Zone?", n.d). The majority of the requests for information have come from businesses ("Pedestrian Zone?", n.d), indicating that this approach has been of value in dealing with questions and concerns relating to the impact on businesses. Additionally, the team responsible for answering these questions attends meetings with municipal committees relating to the car-free project, and offers on-site visits for businesses ("Pedestrian Zone?", n.d).

Another communication approach taken by municipalities is to play an active role in promoting the use of new car-free areas. This may include activities such as creating a marketing campaign tailored to specific audiences, creating a recognisable brand for the car-free area, and advertising the various benefits of the project (Wright, 2005). Evidence from England demonstrates that municipalities' efforts to promote and advertise car-free areas can help to gain support from businesses in those areas (Wright, 2005). Similar policies were adopted in Lübeck, Germany, where the municipality partnered with businesses to advertise the environmental and social benefits of the newly-implemented car-free days (Topp & Pharoah, 1994). A strong communication and promotion plan from the municipality is also particularly important given the high media coverage that car-free projects typically receive, much of which is negative (Hubert et al., 2017).

2.7 Conclusion

Issues remain in gaining the support of business stakeholders in CFCC projects. Whilst many potential economic benefits do exist in CFCCs, there is an indication that some businesses may be negatively impacted by a reduction in car access. Changes to the urban form may similarly provide challenges for delivery access. Furthermore, the manner in which municipalities consult, communicate and engage with business stakeholders appears to be paramount for addressing concerns and collaborating to find suitable solutions. The literature reviewed shows that whilst some approaches being taken by municipalities do not adequately address the concerns of business stakeholders, potential does exist to create CFCCs which meet the needs of business stakeholders. However, based on the literature reviewed, some business stakeholders may not benefit from CFCCs, and therefore improving the process for consulting and communicating with businesses is unlikely to satisfy the needs of all business stakeholders.

What appears to be lacking in the current literature is an in-depth analysis of the cause-and-effect of municipal governance approaches during the implementation of CFCCs, and the consequent impact on the attitudes of business stakeholders. Whilst some work has been carried out on business opposition to CFCCs (e.g. Sotiaux & Strale, 2017), the relationship between business stakeholders and municipalities in these schemes remains a limited area of investigation which, given the increasing popularity of CFCC schemes, merits further investigation.

2.8 Theoretical framework

The theoretical framework presented draws on two concepts relating to sustainable urban planning: New Urbanism, and collaborative governance. These two schools of theory - both closely connected to the creation of CFCCs - have guided the manner in which this research has been conducted. The connections between the theoretical framework and the matter under investigation in this research are set out.

2.8.1 New Urbanism

The car-centric model of urban planning implemented throughout the mid- to late-twentieth century has long been questioned for its impact on urban form and the inhabitants of cities. Even at the beginning of the rise of the private car, discussions were being held on the need for the return of people-centric urban planning (e.g. Jacobs, 1961). In recent decades there has been increasing recognition of the need for a paradigm shift in urban planning in order to address issues created by low-density, sprawling cities designed for cars (Varma, 2017). New Urbanism arose as a challenge to car-centric planning, promoting a return of mixed-use, people-centric urban spaces to serve as an "antidote to placeless suburbs" (Grant, 2006, p. 6). New Urbanism draws inspiration from historic planning, applying many planning approaches used before the presence of vehicles in cities (Grant, 2006). A key principle of this approach is creating compact cities where commercial and residential properties are densified, commonly through a mixed-use approach (Varma, 2017). Additionally, New Urbanism is closely tied to concepts of social wellbeing in the urban environment (Ellis, 2002). By restoring identity and character to urban spaces, new urbanist planning aims to facilitate social interaction and cohesion in the city, building a sense of community and delivering, in theory, a more socially equitable environment (Talen, 2002; Grant, 2006). The concept of New Urbanism has been heavily critiqued by proponents of modernist planning, with claims that such an approach fails to recognise or address the complexities of the modern city (Ellis, 2002). However, as demonstrated by Ellis (2002), many of the critiques put forward fail to stand up to scrutiny, with many opponents appearing to be driven by ideological standpoints or proposing flawed arguments.

Despite transport not being the primary focus of New Urbanism, the concept offers a vision which addresses many of the problems arising from modern urban transport systems (Bieda, 2016). Applying measures such as density, mixed-use space and green space creates an urban environment where the need for car use is reduced, and walking, cycling and public transport are the most convenient option for travel (Varma, 2017). Unsurprisingly, New Urbanist approaches are therefore deeply intertwined with CFCCs. By reducing the use of cars, an opportunity is presented to create an environment in which sustainable modes of transport are prioritised and where social interaction is facilitated.

Through the paradigm of New Urbanism, a problem becomes apparent with many of the technology-driven trends often promoted as solutions for urban transport. New developments such as autonomous or electrified private vehicles may well deliver benefits in addressing issues such as air pollution, but such solutions fail to tackle a range of social problems such as the area of space given to vehicles in urban areas, safety on streets, and physical inactivity (Currie, 2018; Nieuwenhuijsen et al., 2019). Whilst autonomous and electric vehicles will undoubtedly play a role in the future of urban transport, giving priority in urban environments to these modes of transport is largely incompatible with creating compact, diverse and open city centres. Instead, implementing New Urbanist approaches to place priority on movement by public transport, walking and cycling - as is common practice in CFCCs - can serve as a diverse solution to address a range of challenges facing cities.

2.8.2 Collaborative governance

Whilst addressing global environmental challenges requires national and international coordination, cities have an increasingly important role in driving sustainability at a local, national and global level (Fenton, Gustafsson, Ivner and Palm, 2015). Many city municipalities now have relative autonomy from national government, and have decision-making powers on a range of issues relevant for sustainability including transport, land use and energy (Betsill & Bulkeley, 2006). The ability to implement changes in urban transport is particularly important given that the transport sector often represents the largest source of carbon emissions from cities (e.g. Oslo Kommune, 2016a; C40 Cities, 2018). There is now an increasing trend of cities not simply complying with national policy on environmental issues such as climate change, but indeed setting their own more stringent targets (Betsill & Bulkeley, 2006).

There is however an increasing recognition of the need to involve a variety of stakeholders in decision-making processes to achieve a transition to sustainable cities. The rise of collaborative planning, or 'communicative planning' (Fenton et al., 2015), represents a shift from traditional models of public administration based on defined hierarchies, bureaucracy and concentrated power towards a more horizontal, open form of decision-making involving non-state actors (Sicilia, Guarini, Sancino, Andreani & Ruffini, 2016) (Table 2-2). Fenton et al. (2015, p. 214) describe this change as "a shift from government to governance", whereby a dispersal of power and decentralisation of decision-making occurs, shifting from a top-down to a bottom-up approach. Whilst collaborative planning approaches have been criticised by some for lacking structure and definition, incorporating principles of collaboration and co-production between government, private stakeholders and citizens in municipal decision-making has been recognised as an important measure in urban planning processes (Fenton et al., 2015). By bringing together different stakeholders, innovative solutions can be reached which meet the needs and interests of various groups (Hofstad & Torfing, 2015). Close collaboration between government and non-state actors is also an important tool in establishing trust, in doing so helping to build consensus about decisions being taken (Sicilia, et al., 2016). Involving local stakeholders also allows those directly impacted by decision-making to guide and shape policy development, creating an opportunity for greater acceptance of a project (Hobbs & Horn, 1997). Additionally, collaborative planning is deemed particularly valuable in modern society

given the common occurrence of deeply contrasting views between different stakeholder groups (Innes and Booher, 2000, as cited in Silva, 2008).

Engaging the private sector in urban transport projects such as CFCCs is of particular importance. Given the important role of businesses in the economic development of cities, city municipalities often require the political support of business stakeholders to achieve the successful implementation of changes to the urban form (Mingardo, 2008). Additionally businesses can play an active role in achieving a transition towards sustainable urban transport, given their role as major employers in cities (Mingardo, 2008). Collaboration between businesses and municipalities in planning processes therefore offers potential for positive outcomes for the development of sustainable urban transport projects (Mingardo, 2008).

Table 2-2. Comparison of traditional and collaborative models of governance.

Category	**Traditional public administration**	**Collaborative governance**
Organisation	Hierarchical, top-heavy power, bureaucratic	Multi-actor networks, inter-organisational relationships
Role of non-state actors	Client	Co-producer
Role of public servants	Providers	Mediators
Role of politicians	Decision-makers	Facilitators

Source: Adapted from Sicilia et al. (2016).

3 Case study: Oslo

3.1 Oslo: Profile

Oslo is the largest city in Norway and is both the political capital and the financial centre. The city has undergone substantial growth since the mid-twentieth century, both in terms of population and area (COST, 2016). The population is around 670,000, with the greater Oslo region having a population of approximately 1.5 million (Hagen & Tennøy, 2018). The population of the city is expected to increase by around 30% by 2040, placing pressure on services such as housing, employment and transport in the coming years (Oslo Kommune, 2017). Oslo city centre is around 1.8km^2 in size, and is dominated by shopping, services and offices, with around 90,000 people working in the city centre area (Rydningen et al., 2017; Hagen & Tennøy, 2018).

3.2 Climate governance in Oslo

Environmental sustainability is playing an increasingly large role in Oslo Kommune's plans for the development of the city. Oslo Kommune has set out its ambition for the city to be 'Smart, Safe and Green' ('Smart, Trygg og Grønn'), which will involve substantial action to reduce the impact of Oslo on the local and global environment (Oslo Kommune, 2016b). A key part of this overarching goal is reducing Oslo's contribution to climate change. Strong climate targets have been set through the Climate and Energy Strategy, which sets out the municipality's ambition to cut carbon emissions by 50% by 2020, and by 95% by 2030 compared to 1991 levels (Oslo Kommune, 2016a). Indeed, these targets surpass those set out in legislation at a national level ("Norway", 2019). Additionally, Oslo Kommune has integrated carbon budgeting into their municipal budget process, with the aim of giving greater consideration to climate change in financial decision-making (Oslo Kommune, 2016a). Other ambitious environmental targets have been set, such as phasing out the use of fossil fuels for heating by 2020 (Oslo Kommune, 2016a). Oslo's efforts on sustainability resulted in the city being awarded the status of European Green Capital of the Year in 2019 (European Commission, n.d.).

3.3 Transport in Oslo

One of the largest challenges facing Oslo's transition to sustainability is the transport sector. As such, Oslo Kommune has initiated a number of major projects to adapt and improve Oslo's transport system in the coming years (Hagen & Tennøy, 2018). In comparison to many other European cities Oslo has a high share of journeys made by sustainable modes of transport, with around 63% of journeys being made by either public transport, on foot or by bike (Hjorthol, Engebretsen & Uteng, 2014). This is largely due to Oslo's relatively compact size and extensive public transport system, with the city being served by metro, rail, tram and bus networks. Efforts to prioritise the public transport network in recent years has resulted in a growth in road traffic lower than the national average (Oslo Kommune, 2016b). However, the transport sector still accounts for around 61% of Oslo's carbon emissions, making it the largest source of emissions in the city (Oslo Kommune, 2016a). Carbon emissions are estimated to be evenly divided between passenger transport and freight transport (Oslo Kommune, 2016a). Private cars are the primary source of carbon emissions, whilst construction vehicles and freight vehicles also account for a substantial proportion of emissions (Figure 3-1).

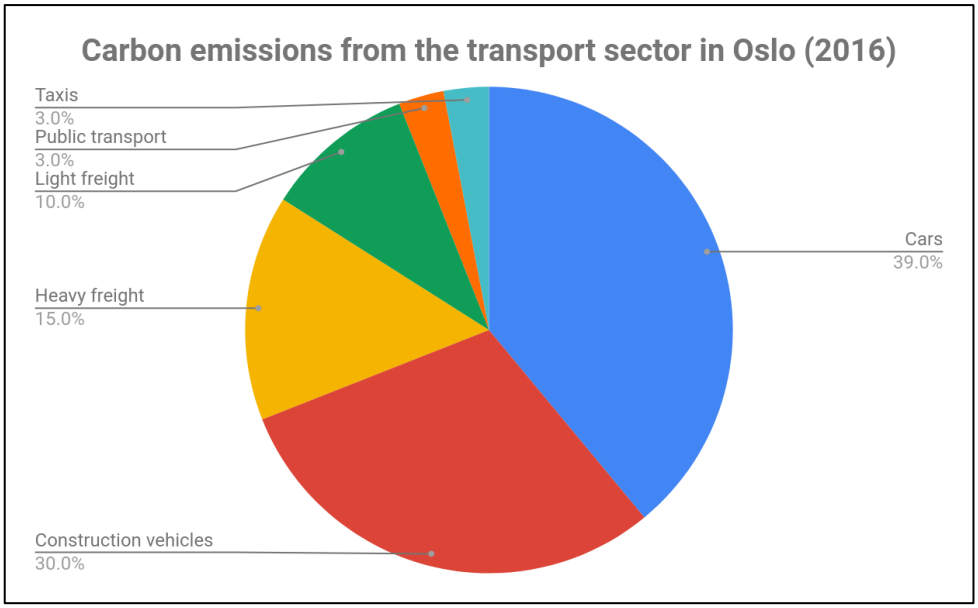

Figure 3-1. Carbon emissions from the transport sector in Oslo.

Source: Adapted from Oslo Kommune (2016a).

In an effort to reduce carbon emissions from transport, Oslo Kommune has set out a number of targets and actions. To reduce emissions from freight, efforts are being made to shift deliveries away from road transport and onto ferries, which are increasingly becoming electrified in Oslo (Oslo Kommune, 2016a). A target has also been set for all construction and heavy freight vehicles to use renewables fuels by 2030 (Oslo Kommune, 2016a). To reduce emissions from private cars, Oslo Kommune has set targets to cut car use by 20% by 2020 and by 33% by 2030 against 2016 levels (Oslo Kommune, 2016a). To achieve this, emphasis is being placed on adopting a sustainable transport hierarchy approach in Oslo, whereby walking, cycling and public transport are prioritised ahead of private car use (Oslo Kommune, 2018a).[2] This will largely be achieved by ensuring more journeys are made by public transport, for example by expanding the tram network, prioritising new housing along public transport networks and densifying future city development (Oslo Kommune, 2017; "Fremtidens Byreise", n.d.). Efforts are also being made to increase the use of bikes in the city, with a target set for increasing the proportion of journeys made by bike from 5% in 2014 to 25% in 2025 (Oslo Kommune, 2016a). To deal with the car journeys that remain in Oslo, substantial efforts have been made to speed up the transition to electric vehicles (EVs). Over 20% of cars in Oslo are now electric, making it one of the global leaders on EVs ("Climate and energy statistics", n.d.). The rise of EVs has been aided by the use of various financial incentives, including the use of bus lanes, free parking and exemptions from tolls on the ring road ("Oslo – The EV Capital of the World", 2019). However, certain exemptions are potentially coming to an end in 2020, which could slow the rise of EVs at the local and national level (Lindeman, 2018).

[2] This approach is also taken at the national level, with a target set for all further traffic growth in Norway to be dealt with through walking, cycling or public transport, rather than cars (Norwegian Ministry of Transport and Communications, 2017).

3.4 Bilfritt Byliv

3.4.1 Context

Oslo's plans for a CFCC began in 2015 following municipal elections which saw the Labour Party, the Green Party and the Socialist Left Party formed a governing coalition (Berglund, 2015). One of the key outcomes of the coalition agreement was a plan to substantially reduce the use of cars in the city whilst improving conditions for public transport and cycling by 2019 (Fouche & Solsvik, 2015). The 'Bilfritt Byliv' ('Car-Free City Life') programme was subsequently established with a plan created to establish a 1.9km^2 car-free area in Oslo city centre (Rydningen et al., 2017). However, the size of the car-free area was subsequently reduced to 1.3km^2 in size due to the presence of land owned by the national government, which could legally not be included in the plans (M. Halvorsen, personal communication, 14 July 2019; Oslo Kommune, 2019) (Figure 3-2). Despite the reduction in size, the car-free area remains the largest of any city in Europe (Tønnessen et al., 2016). Continued access has been granted for delivery vehicles, people with disabilities, emergency vehicles, and in certain areas, limited private car use. The area is largely dominated by commercial properties and offices, with only around 1000 people living in the 1.3km^2 area (Rydningen et al., 2017). The area also has the lowest per capita car ownership in Norway, meaning a low likelihood of conflict with residents regarding car use restrictions (Rydningen et al., 2017).

Figure 3-2. Extent of the CFCC in Oslo city centre.

Source: "Bilfritt Byliv" (n.d.).

3.4.2 Strategy and actions

Bilfritt Byliv is managed by Plan- og Bygningsetaten (The Department of Urban Development, hereafter 'the PBE agency') within Oslo Kommune. [3, 4] The overall aim of Bilfritt Byliv is to increase the attractiveness of the city centre and create an urban environment in which people can spend time, whilst simultaneously reducing space for cars ("Bilfritt Byliv", n.d). Bilfritt Byliv is a key component of a number of wider strategies to transform the city centre of Oslo, including the Action Programme for Increased City Life (Oslo Kommune, 2018b). The Action Programme has three overarching strategic aims, which Bilfritt Byliv plays a key role in achieving: To improve connections to and through downtown; to increase interaction and synergies between strategic areas of the city centre; and to highlight and activate hidden spaces (Oslo Kommune, 2018b). Whilst the programme for Bilfritt Byliv officially culminates in 2019, a number of measures to reduce the use of private cars and increase city life will continue up until 2027 through the Action Programme (Oslo Kommune, 2018b). A notable strategic approach taken in Bilfritt Byliv is the decision to target interventions in three distincts zones in the city centre: The 'Cultural District'; the 'Recreation Trail'; and 'Pipervika XL'. Building Bilfritt Byliv around these zones has helped to focus efforts in key areas of the city, and to increase the connections and interactions between these areas (Oslo Kommune, 2019). It is important to note that the Bilfritt Byliv programme is being undertaken alongside a number of aforementioned wider changes to the transport system in Oslo (see Chapter 3.3), including an expansion of the tram network and an increase in the provision of bike lanes ("The Vice Mayor of Environment and Transport", n.d.; "Fremtidens Byreise", n.d).

Bilfritt Byliv has been implemented in a staggered but rapid manner, with the project gradually rolling out between 2017 and 2019. A number of measures and interventions have been introduced throughout the project (Table 3-1; Figure 3-3). The first major intervention came in 2017 with six pilot areas testing measures to reduce car access and increasing the quality of urban space ("Pilotområder Bilfritt byliv 2017", n.d.). In 2018, the pilot areas were built upon by implementing permanent measures to give greater priority to pedestrians and the removal of over 760 public parking spaces (Oslo Kommune, 2019). Removed parking places have been converted into public space (e.g. seating, greenery), whilst also creating a number of parking spaces specifically for disabled people, tradespeople (e.g. carpenters, plumbers) and commercial deliveries (Hagen and Tennøy, 2018). The majority of the measures have been implemented in 2019 as part of the 'Car-Free Livability Programme', a suite of actions including the establishment of permanent measures to improve the quality of urban life (e.g. greenery, street furniture) as well as changes to street design across the city centre (Oslo Kommune, 2019). New street design has and will take various forms, including pedestrianisation with no private car access; 'market streets', providing wider pavements and one-way car access; and 'multipurpose streets', with provision for public transport and limited car access (Figure 3-5).

[3] '-etatan' translates as 'agency'. Referring to the 'PBE agency' is therefore grammatically incorrect. However, referring to this agency as only 'PBE' was considered to lack clarity and context when being used in future chapters. 'PBE agency' will therefore be used throughout.

[4] Bilfritt Byliv was formerly under the management of the Department of Environment and Transport as a 'project'. Following a restructuring process, responsibility was transferred to the PBE, where Bilfritt Byliv became classified as a 'programme' of measures, with a wider remit than when under the previous department.

Table 3-1. Measures implemented throughout the Bilfritt Byliv programme.

Measure	**Example area implemented**
Street closure to private vehicles	Fridtjof Nansens plass, Øvre Slottsgate
Reduction of road space for vehicles	Rådhusgata, Myntgata
Removal of parking	City centre-wide
Artistic installations	Fridtjof Nansens plass
Furniture (e.g. tables, chairs, benches)	Youngstorget, Tordenskiolds gate, Øvre Slottsgate
Water fountains	Langkaia, Kontraskjæret, Grev Wedels plass
Public toilets	Christian Frederiks plass
Play areas	Myntgata, Grev Wedels plass, Langkaia
Increased lighting	Rådhusgata, Fridtjof Nansens plass, Myntgata
Greenery (e.g. flowers, plants)	Youngstorget, Kirkegata, Dronningens gate

Source: Adapted from Oslo Kommune (2019).

Figure 3-3. Physical measures to increase the attractiveness of the city centre on Karl Johans Gate (left) and Fridtjof Nansens plass (right).

Source: Author.

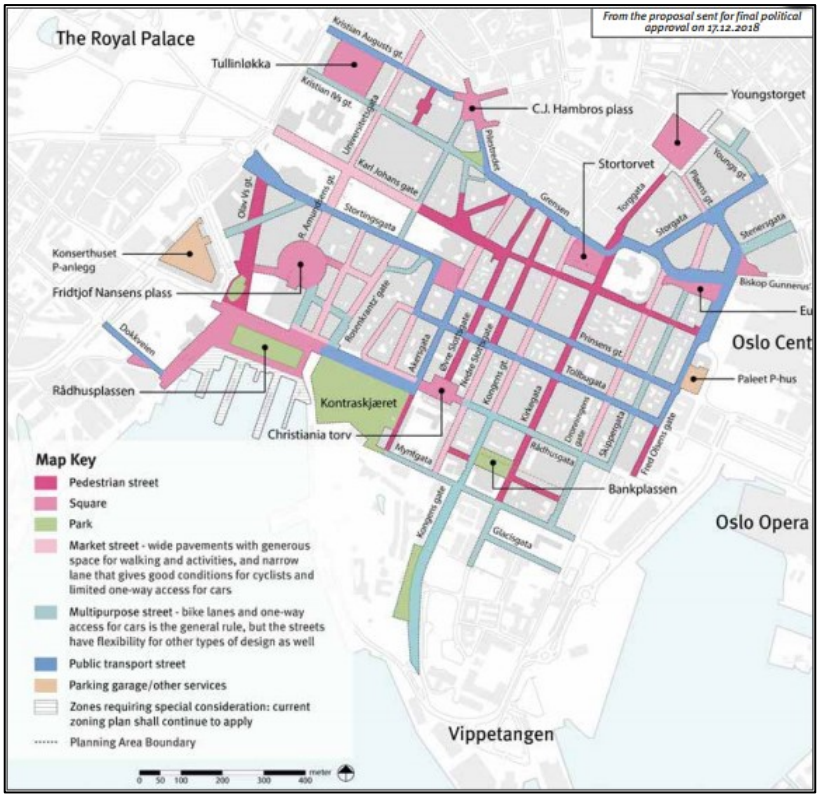

Figure 3-4. Map of Oslo city centre with the new street planning and car access restrictions.

Source: Oslo Kommune (2019).

3.4.3 Opposition

Despite receiving widespread positive coverage from international media (e.g. Clugston, 2019; Peters, 2019), Bilfritt Byliv has received considerable opposition over the past four years since its inception (Cathcart-Keays, 2017). Opposition has largely taken the form of negative coverage of Bilfritt Byliv in the media (i.e. newspapers, social media). Opposition has mainly arisen from two sources: Opposition political parties, and business stakeholders. Political parties outside the governing coalition have expressed strong opposition throughout the project, raising concerns regarding the impact on citizens of restricting car access to the city centre (Mosveen, Johnsen & Johnsen, 2015). Opposition political parties do however appear to have reduced their opposition to Bilfritt Byliv since the project was initially announced (e.g. Eggesvik, 2016).

Business groups have also expressed concerns at various stages of the project. When plans were first announced regarding the intention to remove car access in the city centre, many shop owners expressed opposition (Rydningen et al., 2017). Concerns were expressed by both business owners (e.g. Deshayes, 2018) and by business associations (e.g. Løken & Moskvil, 2015). Based on reports in the media, opposition appears to largely relate to concerns that customers would be unable to access shops, and the consequent economic impact on shops in the city centre.

More extensive research appears to confirm reports in the media regarding business opposition to Bilfritt Byliv. A report commissioned by Oslo Kommune in 2018 highlighted the negative views that many businesses hold regarding the car-free project (Rieck, 2018). A majority of businesses surveyed held negative views regarding the impact of Bilfritt Byliv on the number of people using the city centre; the measures and interventions introduced as part of the project; the impact of the project on business turnover; and the level of information received from Oslo

Kommune regarding Bilfritt Byliv (Figure 3-5). The negative sentiments expressed by businesses towards various issues suggests Oslo Kommune has struggled to engage with and gain the support of businesses throughout the project.

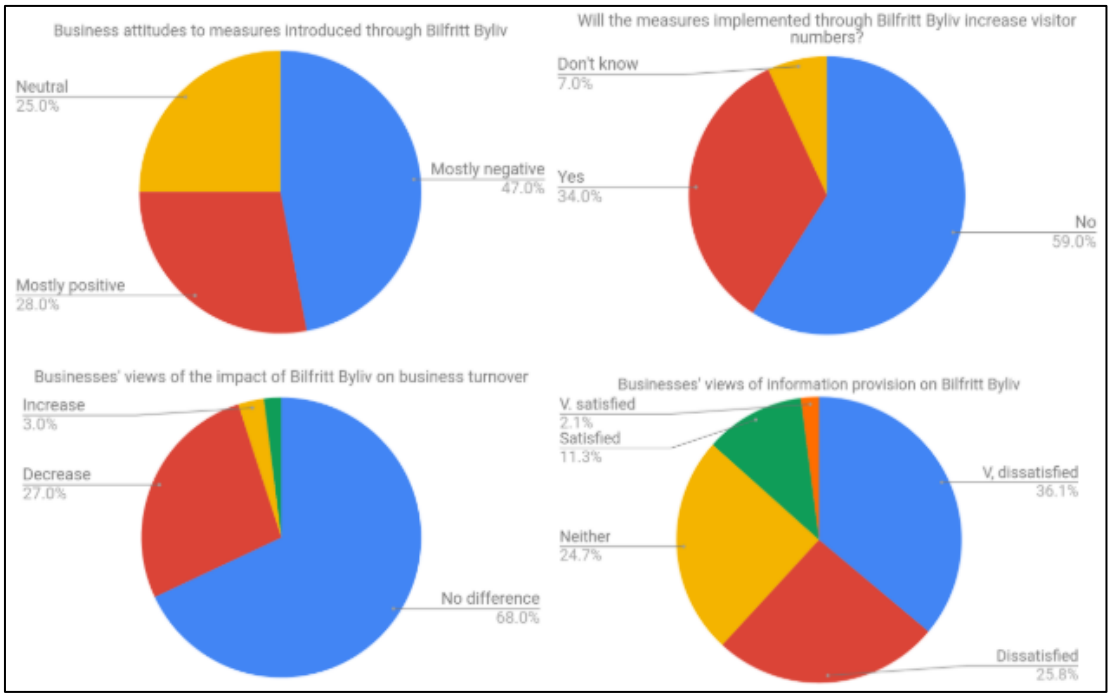

Figure 3-5. Attitudes of the Oslo business community to Bilfritt Byliv in 2018, showing a generally negative perception of the project.

Source: Adapted from Rieck (2018).

3.4.4 Preliminary impact

Given Bilfritt Byliv has only recently been implemented, it is difficult to assess the full impact of the project. However, a limited amount of research has been carried out to gauge the impact on city centre businesses. To monitor the progress of Bilfritt Byliv, Oslo Kommune has commissioned annual assessments of visitor numbers and 'stays' in the city centre (i.e. time spent sitting in public seating, play areas etc). Whilst variation existed across different streets, the report for 2018 found an overall 10% increase in the number of pedestrians using the city centre compared to 2017, and a notable increase in the time being spent in the city centre (Polle, 2018). The report did not however find any substantial changes people's opinions of the city centre, how people access the city centre, or how people spend their time in the city centre (Polle, 2018). Limited economic research has been conducted to date on the impacts on city centre businesses. However, a recent report from the Institutt for Bransjeanalyser (Institute for Industry Analysis) found that retail trade in Oslo city centre in 2018 was comparable to areas outside the city centre, suggesting that the car-free measures have not deterred people from shopping in the city centre (Hopland, 2019). Additionally, there appears to have been little change in how people are using or accessing the city centre. Hagen & Tennøy (2018; personal communication, 21 August 2019) found no notable change in either how often people were travelling into the city centre in 2018 or 2019 compared to 2017, nor the mode of transport being used to access the city centre. It is however important to consider that little time has passed since the introduction of car-free measures in the city centre. In the case of both economic impact and travel choices, it will be important to continue monitoring the impact in the coming years to assess the long-term impact of reducing car access in the city centre.

4 Research design

This chapter provides a description and justification of the process followed in designing and undertaking this research. First, the conceptual and theoretical perspectives which form the guided this research are set out to provide transparency regarding the viewpoint from which research was conducted. Following this, an introduction to case study research is provided. This provides the justification for carrying out a case study as the foundation of this research, and addresses issues commonly raised regarding the validity of case study research. A description of the case study selection process is then set out to provide clarity regarding how Oslo was chosen for investigation. The methods used to undertake and inform this research are then set out to provide an understanding of the process followed to produce findings. Each step is explained in detail to provide transparency and make clear how the results documented in Chapter 5 were reached.

4.1 Methodology

4.1.1 Conceptual design

An inductive, exploratory approach was taken in this research. This was considered to be a suitable approach given the limited prior research on business opposition to CFCCs. Pre-existing theories and literature have been used to guide this research (see Chapter 2.8), namely in the collection of data, analysis of results and drawing of conclusions. However, this research has not been conducted from the viewpoint of one defined theoretical worldview. This research has been undertaken from a position of pragmatism, an approach which places emphasis on analysing real-world situations and the actions influencing them (Cresswell, 2014). Rather than drawing on one particular philosophy, pragmatism acknowledges that research occurs in a specific social and political context, and seeks to focus on practical problems and solutions with this in mind (Patton, 1990, as cited in Cresswell, 2014; Cresswell, 2014). Whilst pragmatism is often associated with a mixed methods approach, qualitative research can equally be well suited to applying a pragmatic approach (Goldkuhl, 2012).

4.1.2 Case study research

Background to case study research

An embedded, exploratory case study approach was selected for this research. Case study research attempts to provide an in-depth understanding and evaluation of the decisions, actions and processes taken in the creation or development of a current phenomenon (Schramm, 1971, as cited in Yin, 2014; Yin, 2014). Case study research typically seeks to answer "how" and "why" questions, and is particularly relevant when investigating poorly-understood phenomena (Yin, 2014, pp. 11). Whilst studies including multiple cases are generally preferred, a phenomenon can equally be investigated through a single case (Yin, 2014).

Generalisability of case study research

A number of concerns are commonly raised regarding the suitability of case study research in academic contexts (Yin, 2014). Perhaps the most commonly referenced concern is a lack of generalisability of the results of case study research. This concern stems from the premise that drawing conclusions from just one individual case lacks scientific rigour, and that case study research can therefore only serve as a means of preliminary investigation at best (Campbell & Stanley, 1966; Abercrombie, Hill, & Turner, 1984, as cited in Flyvbjerg, 2006). However, this position has been challenged for being overly simplistic and ignoring the potential of case study research. Flyvbjerg (2006) claims that case study research has high value in the development of

theory and in many contexts can be used to develop generalisable theories. Indeed, Flyvbjerg notes multiple examples from both natural and social sciences of case study research playing a central role in the development of scientific theory. Whilst a case study approach is not appropriate in all scientific research, it can play a valuable role in testing and developing theory which can, with care, be generalised beyond the local context in which the case is embedded.

Justification for selection of case study research

Case study research was deemed suitable for this research for several reasons. Little research on the topic of CFCCs has been conducted, particularly regarding the business dynamics of such schemes. Additionally, CFCCs are becoming an increasingly popular approach, with many cities set to undertake car-free schemes in the coming years (e.g. Hannan, 2019). However, given the limited number of CFCCs to date, a case study is considered to be a suitable means of studying this complex topic for which little widespread data or evidence exists. Studying CFCCs is vital in developing a better understanding of the complexities of such phenomena and for informing future car-free projects. By applying a case study approach, it is possible to focus in on the specifics of the individual case at hand whilst considering the wider implications and the lessons that can be transferred or made generalisable at a wider scale. A single case was deemed more suitable than a multi-case approach for this research, as investigating one single case was considered to allow a more detailed and meaningful investigation with the time and resources available. However, to supplement the case study investigation, experiences from other cities which have implemented CFCCs or similar car-free projects are documented in the literature review (Chapter 2).

Case study design process

Despite its common application, case study research is regarded as one of the most challenging research methods to conduct (Yin, 2014). The difficulty in conducting such research lies in the need for a rigorous and well-planned research process. Doing so is vital in providing transparency and clarity regarding the approach taken throughout the research, including methods of data collection and the scope of the project. The design of this research followed an iterative approach - following guidance from Yin (2014) - whereby a five-stage process of designing and planning research, undertaking data collection, analysing findings and publishing results was carried out (Figure 4-1). Additionally, following guidelines set out by Yin (2012), a case study protocol - a document outlining the procedures and methods used throughout the research process - was conducted at the start of this research to set out the context of the case, the methods used and the potential results of the study (Appendix C).

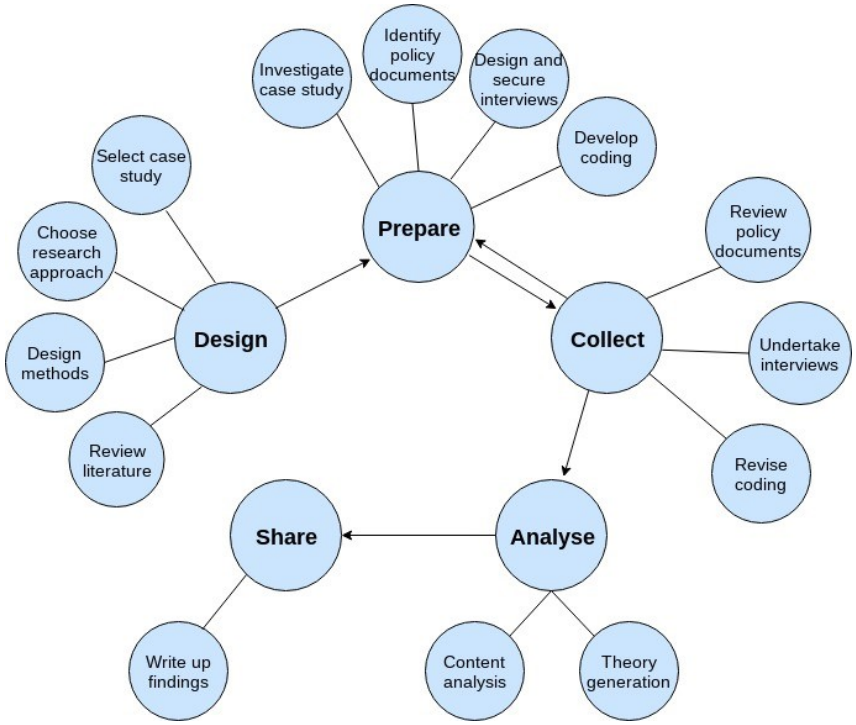

Figure 4-1. The process followed in this case study research, following Yin's (2014) five-stage approach for case study research design.

Source: Adapted from Yin (2014).

4.1.3 Selection of Oslo

Oslo was chosen as a case study to investigate business opposition to CFCCs following the consideration of several criteria. For the purpose of this research, a case study CFCC was desired which had a large and clearly defined area; had been recently implemented; and for which evidence existed of clear opposition. During a preliminary study on CFCCs in the 'Applied Research in Sustainable Consumption and Production' (ARSCP) course, a number of cities were identified which had implemented CFCCs to some degree. Tønnesen et al. (2016) carried out a comparison of fifteen cities which have implemented CFCC projects against Oslo. Using this research and the literature reviewed in the preliminary study, three cities were identified as having a high potential for this research: Brussels, Madrid, and Oslo. Three criteria were considered in selecting the case study: The stage of development of the car-free project; the size and scale of the project; and evidence of business opposition (e.g. media coverage). Madrid was subsequently discounted on the basis that the project was in a very early stage. Brussels would have been worthy of investigation for this topic, particularly given evidence of opposition from businesses in the newly pedestrianised centre (e.g. Corijn, Hubert, Mezoued, Vermeulen & Hardy, 2017). However, Oslo's car-free project is larger size and ambition, has been implemented at a faster rate, has a wider range of measures implemented as part of the project, and has hitherto limited investigation into the case (Hagen & Tennøy, 2018). Taking these factors into account, Oslo was considered a particularly interesting case and one which was worthy of in-depth investigation.

4.2 Methods

The position of pragmatism applied in this research meant that a number of methods and approaches were considered. However, to most accurately answer the research questions it was necessary to assess the opinions, perceptions, relationships and actions of stakeholders. As such,

qualitative methods were considered to be the most suitable means of investigation. Alongside a review of academic literature, two methods were used: A review of policy documents and select other relevant material, and interviews.

4.2.1 Literature review

The literature review played a key role in informing the research design of this research. A literature review was carried out as part of the aforementioned preliminary study on CFCCs in the ARSCP course. This included literature on business opposition to CFCCs, support measures applied by municipalities when implementing CFCCs, and the objectives and drivers of such projects. Several themes were identified as potentially playing a key role in business opposition to CFCCs: Consultation regarding the development of the project, communication from the municipality, and support measures set out in the project. The findings from this preliminary literature review informed the development of the research questions outlined in Chapter 1.

As previously mentioned research on CFCCs, in particular in relation to business relations, is scarce (Nieuwenhuijsen et al., 2019). As such, literature was sought from a range of areas of study. Literature relating to a broader range of car-free planning approaches was selected, including car-free areas, pedestrianisation and sustainable transport. This was deemed appropriate as these factors often form the basis of CFCCs and therefore provide relevant and valuable information. Literature relating to urban governance was also reviewed. This was considered to be important for understanding the impact that different governance approaches can have on the degree of, and type of, engagement with stakeholders when implementing sustainable urban planning.

Literature was primarily gathered through Google Scholar and Lund University's LUBsearch. Peer-reviewed literature was prioritised, as this was considered to be the most reliable form of academic literature. Select grey literature from research bodies and supranational organisations (e.g. the United Nations, the European Commission) was also considered on the basis that these sources provide reliable useful supplementary contextual information. A series of key search terms were used to source literature (Table 4-1). Given that CFCCs are a relatively new concept (see Chapter 2.2), literature was assessed based on age, with literature from the past twenty years being prioritised. However, select older literature was deemed to be relevant to this research (e.g. Topp & Pharoah, 1994), and so literature was not excluded solely on the basis of age. For CFCC case study literature, research focused on European cities was prioritised. The reason for doing so was that European cities, in contrast to cities in other continents, commonly have similar features of urban planning, such as compact, historic centres. This factor was deemed to make European cities of particular relevance to the case of Oslo, which despite not having a historic centre like other European cities, does have a compact and dense city centre (Rydningen et al., 2018).

A different review process was undertaken for literature relating to the case of Oslo. Peer-reviewed academic literature was again prioritised, but relatively little research exists on the CFCC in Oslo given how recently the project has been undertaken and the time needed to undertake research on the impacts of such a project (e.g. long-term impacts on modal share, economic activity, air pollution). As a result of limited peer-reviewed sources, literature from other sources was selected. This included literature primarily from the Norwegian Institute for Transport Economics, Transportøkonomisk Institutt (TØI). Due to limited academic literature on business opposition to Bilfritt Byliv, it was necessary to widen the scope of the literature review to include newspaper articles from local, national and international media sources. These were however used to establish the context and situation in Oslo, rather than as sources of information about the specifics of Bilfritt Byliv.

Table 4-1. Key search terms to identify and select literature.

Theme	Search term	Stage of research used
Car-free	City centres, cities, planning, business opposition, business consultation, business engagement, business support, economic impact, urban governance	ARSCP, thesis project
Urban governance	Consultation, collaboration, stakeholder engagement, urban planning, sustainable transport, participation, negotiation	Thesis project
Oslo	Bilfritt Byliv, car-free, car-free business, car-free opposition, transport planning, urban planning	Thesis project

Source: Author.

4.2.2 Policy document review

A review of key policy documents and other select information sources relating to Bilfritt Byliv was undertaken. The purpose of this was two-fold: To develop an in-depth understanding of the actions taken by Oslo Kommune in supporting and engaging with businesses during the design and implementation of Bilfritt Byliv; and to inform the design of the interview questions posed to interviewees (see Chapter 4.2.3). The aim of this was not to undertake a normative assessment of the actions implemented by Oslo Kommune, but rather to identify and describe the types of actions being taken by the municipality which were of direct relevance to businesses. The definition used in this research for 'actions' is set out in Chapter 1.3.3.

Document selection

Policy documents were identified through two approaches: Firstly, by reviewing publicly available documents listed on Oslo Kommune's website relating to Bilfritt Byliv; and secondly, by undertaking a wider review on the internet for policy documents relating to Bilfritt Byliv, and more generally urban development and transport in Oslo. Documents were selected based on: The inclusion of explicit actions relating to business stakeholders, either directly as part of Bilfritt Byliv or more generally as part of the approach taken by Oslo Kommune when undertaking urban development projects; how frequently they were cited in other sources of information; and how prominently they featured on Oslo Kommune's websites relating to Bilfritt Byliv ("Bilfritt Byliv", n.d.) and urban development ("Plan, bygg og eiendom", n.d.). A total of four documents were selected for in-depth review, along with two relevant pages from the Oslo Kommune website (Table 4-2). Whilst some of the policy documents were available in English, several were only available in Norwegian. As such, an online translation tool was used ("Doc Translator", n.d.). Google Translate was used for translating web pages. It is important to acknowledge that whilst such tools have been shown to accurately and reliably translate text into English (Zulfiqar, Wahab, Sarwar & Lieberwirth, 2018), individual words or phrases were found to sometimes be poorly translated. In these cases, assistant was sought from native Norwegian speakers. Care was taken throughout to consider the full context of sentences and paragraphs, rather than focusing in on specific words.

Table 4-2. Documents selected for review to identify actions to support or engage with businesses.

Document title	Focus of document	Directly or indirectly related to Bilfritt Byliv?
Car-Free Livability Programme 2019	Plans and actions for the continued implementation of Bilfritt Byliv in 2019	Directly
Action Programme for Increased City Life	Strategy document for the implementation of changes to Oslo city centre in the medium- to long-term	Directly
The Urban Development of Oslo	Guiding document setting out the plans and strategies for urban development in Oslo	Indirectly
Climate and Energy Strategy for Oslo	Plans, targets and actions for reducing carbon emissions in Oslo	Indirectly
Oslo Kommune web pages	N/A	Directly

Source: Author.

Policy document review

Policy documents were reviewed to identify explicit actions carried out by Oslo Kommune to support, engage or promote business stakeholders. General, non-committal statements regarding the interaction of the municipality with business stakeholders were not considered in this review (e.g. "*To get where we want to, we need close cooperation between the municipality… [and] the business community…*", Oslo Kommune, 2016b, p. 4). Several categories were established to classify the actions taken by Oslo Kommune. These categories informed the initial coding process carried out for analysing interview responses (see Chapter 4.2.3). Actions were classified into the following categories: 'Support measures: Financial', 'Support measures: Infrastructure', 'Support measures: Other', 'Consultation and collaboration', and 'Communication and promotion'. Following this, the actions identified were used to inform the creation of the interview questions.

4.2.3 Interviews

Interviews were selected as the main method in this research. The purpose of these interviews was to gain a detailed, first-hand account of the events, actions and relationships of relevance to Bilfritt Byliv, as well as the opinions of relevant stakeholders on topics of relating to Bilfritt Byliv and the urban development of Oslo city centre.

Interviewee selection

A process of theoretical sampling was undertaken to select interviewees. Theoretical sampling allows the researcher to identify individuals who are deemed to be most well informed regarding a particular subject, the aim of doing so being to achieve the most accurate account possible of the situation in question (Walliman, 2015). Three stakeholder groups were identified as being of particular importance for investigating business opposition to Bilfritt Byliv: Employees of Oslo Kommune agencies working on Bilfritt Byliv; business organisations with a focus on Oslo city centre; and business owners located in Oslo city centre. Interviewing stakeholders from both the municipality and business was considered important to achieve a diverse range of perspectives and attitudes towards Bilfritt Byliv, and a variety of views on the causes of and solutions to business opposition. Interviewees were selected by reviewing policy documents and news articles relating to Bilfritt Byliv and identifying individuals and organisations of particular relevance to the project. Additionally, two interviewees were recommended by contacts closely

involved with Bilfritt Byliv. An assessment was made of these two interviewees to ensure that they were well positioned to inform the results of this research. In total, fifteen individuals were approached for interview. However, several potential interviewees were not available for interview. Two individuals who were identified as being a priority for interviews - the Chief Town Planner and the Vice Mayor for Urban Development at Oslo Kommune - were not available for interview. Interviewing these two individuals may have delivered more insight into the approach taken by Oslo Kommune in addressing the needs of businesses in the creation of the CFCC project. Additionally, only three business owners were interviewed as part of this research. Undertaking further interviews with business representatives may have been a valuable addition to this research, as these individuals may have had first-hand experience of the implementation of the CFCC.

Interviews were carried out with ten individuals, with an even split between business stakeholders and representatives of the municipality (Table 4-3). Interviewees were contacted by email, whereby an initial request was made for an interview. Prompt emails were sent if no response was received, and in some situations this was followed up with a phone call. Once a date had been arranged for an interview to take place, a reminder email was sent several days before the agreed date. All interviews were provided with a project information document prior to the interview taking place (Appendix A).

Table 4-3. List of interviewees consulted.

Name	**Role**	**Stakeholder type**	**Reason for selection**
Yngvar Hegrenes (YH)	Head of Secretariat, Levende Oslo, Oslo Kommune	Municipality	Management, strategy
Sigurd Oland Nedrelid (SN)	Project Coordinator for Bilfritt Byliv, PBE agency, Oslo Kommune	Municipality	Communication, engagement with businesses
Helene Egeland (HE)	Director of Bilfritt Byliv, PBE agency, Oslo Kommune	Municipality	Management, implementation, strategy
Marie Loe Halvorsen (MH)	Political Advisor to the Mayor of Urban Development, Oslo Kommune	Municipality	Management, political strategy
Terje Elvsaas (TE)	Senior Communications Advisor for Bilfritt Byliv, PBE agency, Oslo Kommune	Municipality	Communication, engagement with businesses
Christine Grape (CG)	Partner, Grape Architects; Board Member, Næringslivets Hovedorganisasjon (NHO)	Business	Business impact, consultation
Jon Anders Henriksen (JH)	Head of Economic Development, Oslo Handelsstands Forening (OHF)	Business	Business impact, consultation
Even Fossum Lauritzsen (EL)	Owner, Lohne & Lauritzsen AS	Business	Business attitudes, implementation
Terje Cosma (TC)	Owner, Hästens Stores Oslo	Business	Business attitudes, implementation
André Strøm (AS)	Representative for Follestand Trent AS	Business	Business attitudes, implementation

Source: Author.

Interview questions

An interview guide was developed covering a wide range of issues relating to Bilfritt Byliv (Appendix D). An initial draft of questions was developed, which was then reviewed by both the supervisor of this research and by two external researchers from TØI. A unique interview guide was created for each interviewee to suit the knowledge and experience of the person in question. The purpose of doing was to ensure that the questions being asked were relevant, and that topics for which interviewees has specialist knowledge could be focused on. As discussed, a selection of the interview questions were developed in relation to the actions identified in the review of policy documents relating to Bilfritt Byliv. The purpose of doing so was to gauge interviewees' opinions on the effectiveness of these actions in engaging and supporting businesses, and whether alternative approaches may have delivered different outcomes. An objective for the interviews was also to cover a wide range of issues relating to Bilfritt Byliv, the reason for doing so being to assess the connections between different topics. For example, interviewees were asked questions concerning wider threats facing the economy of Oslo city centre. By asking these questions important contextual factors were taken into account, achieving a more holistic approach to this research.

Interview approach

A semi-structured interview approach was chosen, whereby a mix of both pre-determined and open-ended, responsive questions are posed to interviewees (Walliman, 2015). Interviews were conducted face-to-face in Oslo, in all cases taking place in the office or shop of the individual being interviewed. A face-to-face approach was chosen as this was deemed to be the most reliable means of gaining maximum information from interviewees and ensuring that questions had been fully understood (Walliman, 2015). Additionally, visual and vocal cues can more easily be directed at and understood by interviewees, serving as a useful prompt for the interviewee to provide further explanation of a particular topic (Walliman, 2015). Interviews were conducted in a semi-formal style, with the aim of creating a welcoming and open atmosphere whilst maintaining a professional manner. All interviews were conducted one-on-one between the author and the interviewee, with the exception of one interview where two interviewees were present at once. Interviews lasted for a maximum of one and a half hours, with the majority lasting one hour.

Prior to starting the interviews, interviewees were required to read and sign a consent form indicating their willingness to take part in the research project and granting permission for their responses to be used in this research (Appendix B). Interviewees were given the option to remain anonymous in their responses. All interviews were recorded using a voice recorder, on which audio files of the interviews were stored until the end of the research project. Following the completion of an interview, each recording was fully transcribed using Google Docs 'voice typing' tool. This was considered to be an important process to avoid information being missed or misremembered by the author (Walliman, 2015). Transcriptions were then reviewed to identify any errors in the voice-to-text transcription.

Interview analysis

Following transcription, interviews were analysed through content analysis, a method frequently used to analyse qualitative data (Hsieh & Shannon, 2005). By examining and interpreting text, content analysis enables conclusions to be drawn in a systematic, albeit subjective manner (Hsieh & Shannon, 2005). Conventional content analysis was chosen for this research, an approach which involves drawing conclusions from both the text as a whole and sub-sections of text (Tesch, 1990, as cited in Hsieh & Shannon, 2005; Morgan, 1993). Conventional content analysis is well suited to exploring phenomena for which existing research is limited (Hsieh & Shannon, 2005), making this method particularly relevant for this research. During an initial

analysis of text, notes were taken regarding potential themes and patterns within responses. These notes, or 'memos', were compiled, reviewed and summarised to develop a set of key themes and concepts (Appendix E). This process is known as coding, whereby categories of response are identified to conceptualise information captured in interviews (Walliman, 2015). Codes were also developed prior to interviews taking place based upon the policy document review and the literature review to provide a basis for the first interview. An iterative coding process was taken, where new and refined codes were added following an interview, upon which subsequent interview analysis could be based (Walliman, 2015). Coding was continued until "saturation point", at which no new information was being generated from analysis of interview responses (Walliman, 2015, pp. 135). Through this process, themes, concepts and arguments were developed, facilitating both findings and points of discussion which will be covered in Chapters 5 and 6. In this research, interviewees are referred to by their initials when stating where information was gained from (e.g. Yngvar Hegrenes = YH).

5 Findings

This chapter outlines the results of the investigation into business opposition to Bilfritt Byliv. First, the findings from the policy document review are presented, providing an overview of the key actions undertaken by Oslo Kommune to support, engage or promote business stakeholders as part of Bilfritt Byliv. Secondly, the results of the interviews are presented. Throughout the interview analysis efforts have been made to construct a narrative, based on the perspectives of both business stakeholders and municipality representatives. Key findings based on business stakeholders' perceptions of Bilfritt Byliv, and Oslo Kommune's efforts to accommodate businesses, are set out. First, the approach taken by Oslo Kommune in consulting business stakeholders is documented to build on the policy document review. Secondly, business attitudes towards Bilfritt Byliv are set out. The relevance and justification of the concerns expressed by business stakeholders is then considered by reflecting on input from Oslo Kommune representatives. Issues raised in this chapter are built upon in Chapter 6.

5.1 Actions undertaken by Oslo Kommune

A number of actions were identified relating to the CFCC (Table 5-1). The majority of these actions related to increasing the attractiveness of and the use of the city centre, a key aim of Bilfritt Byliv.

5.1.1 Support measures: Financial

Several financial measures were identified aimed at helping businesses adapt to a reduction in car use or to encourage businesses to play a role in making the city centre more attractive. Firstly, financial grants are provided for cultural activities, with increased funding made available through the Car-Free Livability Programme. These grants appear open to a range of stakeholders, including businesses. Secondly, a financial subsidy is available for businesses wishing to purchase electric cargo bikes. Whilst this policy was not introduced through the Bilfritt Byliv programme, it is part of the wider measures aimed at reducing car use in the city centre, and is of high relevance for businesses located in the city centre. Finally, Oslo Kommune offers reduced rent of public land on streets within 'Ring 1' (the ring road encircling Oslo city centre), the intention of which is to encourage greater use of street space by businesses. However, complications subsequently arose with this measure (see Chapter 5.2.4).

5.1.2 Support measures: Infrastructure

Widespread infrastructural changes have taken place as part of Bilfritt Byliv, many of which could potentially support businesses by creating a more attractive city centre. However, several initiatives specifically relating to business stakeholders were identified. A proportion of the public parking spaces removed in 2017 have been converted into designated parking for goods deliveries and commercial vehicles. Another measure to support commercial deliveries is the establishment of UCCs around the city to allow localised transport to businesses in the city centre. Additionally, secure bike parking facilities will be established in commercial zones in the city centre.

5.1.3 Support measures: Other

Several additional measures aimed at businesses were identified. Two of these focus on encouraging events to take place in the city centre, with Oslo Kommune creating a shared events calendar to encourage stakeholders to run events in the city centre, and offering to provide necessary equipment for temporary events (e.g. power connections). The Action Programme for Increased City Life includes a pledge to develop a strategy to encourage the use of street space between Tullinløkka and Torggata, two commercial streets in the city centre. Additionally,

Oslo Kommune aims to create a 'byregnskap', or 'city accountancy' tool, to monitor and record changes in economic activity on streets within the CFCC. The Car-Free Livability Programme states that this would be developed in cooperation with city stakeholders, with business representatives presumably being a key stakeholder in developing this tool.

5.1.4 Consultation and collaboration

A number of actions exist to engage with and consult business stakeholders as part of Bilfritt Byliv. The Car-Free Livability Programme contains a commitment to create opportunities for stakeholders to have input and collaborate on activities to increase city life, such as 'pop-up brainstorming workshops' to assist city stakeholders in carrying out activities in the city centre. In particular, the municipality aims to achieve greater cooperation with businesses located on Tordenskiolds gate, Rosenkrantz' gate and CJ Hambro's Place, three commercial streets located in the city centre. More generally, Oslo Kommune holds 'charrettes' (public engagement workshops) when undertaking large urban development projects; however this does not appear to have been undertaken as part of Bilfritt Byliv. Additionally, Oslo Kommune has created an action plan for achieving participation with stakeholders.

5.1.5 Communication and promotion

Oslo Kommune aims to inform businesses of changes being implemented in the city centre through various means of communication. This includes undertaking informational campaigns regarding environmental measures being introduced in the city, the creation of an information platform regarding road construction projects to advise and inform the public about planned alterations, and an information platform relating to parking and access for goods deliveries as part of the Bilfritt Byliv programme. 'Car-Free Saturdays', whereby select streets currently open to vehicles are closed during the daytime on four Saturdays over the course of the year, are being introduced and promoted as part of Bilfritt Byliv to demonstrate the value of reducing car access in the city centre. Oslo Kommune also aims to promote the use of the city centre as part of Bilfritt Byliv, providing information about new measures and activities taking place within the car-free area.

Table 5-1. Actions identified to support, engage or promote businesses as part of the redevelopment of Oslo city centre.

Support measures: Financial	**Support measures: Infrastructure**	**Support measures: Other**	**Consultation and collaboration**	**Communication and promotion**
Financial grants for cultural activities, some of which have increased funding in connection with the Car-Free Livability Programme [A] Financial support for businesses to purchase electric cargo bikes [E] Reduced rent of land within Ring 1, either for short-term contracts or for contracts lasting several years [E]	Repurpose public parking space for goods deliveries and commercial parking [A] Establish high quality, accessible and secure bike parking in areas of commerce [B] Develop consolidation centres for city centre deliveries [B]	Establishing a shared events calendar to encourage city stakeholders to carry out their own events [A] Establish a 'city accountancy' to monitor trade and industry in the car-free area [A] Make parts of the urban realm (e.g. street space) available for use by businesses [B] Provide arrangements for events and temporary activities (e.g. power and plumbing connectivity) [B] Develop a strategy for encouraging the use of space outside ground-level businesses along Tullinløkka and Torggata [B]	Establish pop-up brainstorming workshops to help stakeholders set up activities in the city centre [A] Create venues where stakeholders can collaborate regarding activities for increased city life [A] Develop a dedicated action plan for participation [A] Facilitate cooperation with businesses on Tordensskiolds gate, Rosenkrantz gate and CJ Hambro's Place [B] Hold 'Oslo charrettes' during major urban redevelopment works [C]	Develop an information platform providing information about parking and goods deliveries [A] Focused promotion of Oslo city centre with clear information about measures and activities [A] Establish and promote 'Car-Free Saturdays' in Oslo city centre [A] Establish an information platform about road construction during construction periods [C] Engage citizens and the business community through information campaigns and the planning and implementation of environmental measures [D]

Note: A = Car-Free Livability Programme (Oslo Kommune, 2019), B = Action Programme for Increased City Life (Oslo Kommune, 2018b) C = The Urban Development of Oslo (Oslo Kommune, 2017), D = Climate and Energy Strategy for Oslo (Oslo Kommune, 2016b) E = Oslo Kommune website ("Grants for the purchase of electric cargo-bikes for businesses", n.d.; "Grants, scholarships and stipends", n.d.).

Source: Author.

5.2 Interviews

Before setting out the issues surrounding business attitudes to Bilfritt Byliv, it is necessary to expand on some of the information set out in Chapter 5.1 to provide greater clarity about the approach taken by Oslo Kommune to engage with business stakeholders. This establishes the context of how business stakeholders were considered during the design and implementation of Bilfritt Byliv. As mentioned in Chapter 4.2.3, all interviews are referred to by their initials (e.g. Yngvar Hegrenes = YH).

5.2.1 Approach taken by Oslo Kommune to engage and support business stakeholders

It is clear that Oslo Kommune have placed a high priority on engaging stakeholders in the development of Bilfritt Byliv. Oslo Kommune has sought to go beyond legal requirements for

stakeholder engagement by working closely with business (and other) stakeholders in the development of Bilfritt Byliv through a number of approaches (SN, TE) (Table 5-2).

Consultation with business stakeholders has primarily been undertaken through Levende Oslo ('Living Oslo'), a public-private partnership aiming to create an attractive city centre and foster collaboration between the municipality and business stakeholders (e.g. business organisations, property owners) (YH, CG).[5] Regular meetings have been held since the beginning of Bilfritt Byliv, the aim of which being to find solutions to create an attractive city centre and ensure that the CFCC works well for businesses (YH). According to Yngvar Hegrenes, the Secretariat of Levende Oslo, this approach was useful for developing a general consensus about what action needed to be taken in Oslo city centre. Levende Oslo also provided a platform for further collaboration; for example the PBE agency established further meetings with business organisations through Levende Oslo (TE). For Næringslivets Hovedorganisasjon (NHO), the Norwegian Chamber of Commerce, collaboration through Levende Oslo was a meaningful way to raise issues and overcome challenges (CG).

Soon after Bilfritt Byliv was announced in 2015, Levende Oslo facilitated a study tour of European cities which have undertaken similar car-free projects. Study visits were undertaken in a number of cities, including Copenhagen, Brussels and Barcelona, with the intention of identifying key learning points for implementing a CFCC in Oslo (YH). These study visits involved municipality employees, elected politicians and business representatives (YH). By studying the successes and failures of various other car-free projects, improvements were made to the plans for Bilfritt Byliv (MH). This "opened the door for dialogue" and was a useful opportunity for different stakeholders to understand each other's positions in more detail and work together to find mutually beneficial solutions (MH).

More detailed consultation with individual businesses during the implementation of changes at the street-level was carried out by the PBE agency. During the implementation of the pilot projects (see Chapter 3.4.2), the municipality sought input from businesses on the streets where changes were being implemented, and remained open to making changes based on feedback (YH). Efforts were made to engage with businesses as early as possible before changes were made on their street, with 'street groups' established on several streets to inform business about planned changes and to aid collaboration to address concerns (TE, SN). Engagement was also undertaken through activities such as the 'Car-Free Saturdays', which one interviewee noted was a useful means of demonstrating to businesses how a street without car access could be a positive solution for businesses (SN). Additionally, support measures were introduced to encourage businesses in taking full advantage of the newly-created street space (MH). Some of these measures were created in collaboration with business stakeholders (MH).

One example of highly successful business consultation identified was the development of the new zoning plan for Oslo. According to several interviewees, consultation was undertaken with every single ground-level business located in Oslo city centre (SN, YH). Additionally, further meetings were carried out with businesses and business organisations to receive their input on the zoning plan (SN). According to Yngvar Hegrenes businesses felt that their concerns were being listened to and acted upon, resulting in many businesses being supportive of the proposals. This extent of consultation does not appear to have been undertaken for Bilfritt Byliv, however.

[5] Levende Oslo was established prior to the announcement of Bilfritt Byliv, and so whilst it has been used as a platform for collaboration for the CFCC project, this is not the sole purpose of the group.

The most important change made to Bilfritt Byliv as a result of consultation with businesses appears to be concessions made for delivery vehicle access. The original proposals for Bilfritt Byliv set out a two-hour window for deliveries to businesses in the city centre, as well as access for tradespeople (e.g. plumbers, electricians). However, business organisations raised concerns with this, stating that this would not allow sufficient time for goods to be delivered. This concern was subsequently raised by NHO through Levende Oslo and presented to municipality representatives (CG). Following discussions, a decision was taken to extend the delivery access to eight hours a day (TE, CG). Changes were also made to the parking bays for delivery vehicles, with additional spaces being made available (YH). Whilst these changes were not implemented immediately, there was a sense that both the municipality and NHO were happy with the resulting change in delivery access (MH).

Table 5-2. Key consultation processes undertaken with business stakeholders as part of Bilfritt Byliv, as identified through interviews.

Consultation process	Stakeholders involved	Purpose of consultation
Meetings through Levende Oslo	Business organisations, property owners, tourism bodies	Discuss issues arising with CFCC and find solutions (e.g. delivery access changes)
Study visits to European cities with CFCCs	Business organisations	Learn from the experience of other cities; build dialogue between stakeholders
Consultation on street-level changes (e.g. 'street groups')	Business owners, property owners	Receive feedback on on-the-ground impact of Bilfritt Byliv

Source: Author.

5.2.2 Business stakeholder support for Bilfritt Byliv

Before exploring the concerns of business stakeholders towards Bilfritt Byliv, it is important to recognise the support for the project that was expressed by certain stakeholders (Figure 5-1). There was a general agreement amongst all business stakeholders that reducing the use of cars and space for cars in the city centre was a valuable aim; indeed even the most strongly opposed stakeholder interviewed recognised the need to reduce car use to tackle carbon emissions and air pollution, and that car access in the city centre for everyone was not a feasible option (TC).

Evidence was found of businesses voicing their support for particular aspects of Bilfritt Byliv. Even Fossum Lauritzsen of Lohne & Lauritzsen AS carpentry firm - which has switched from using diesel vans to electric cargo bikes and electric vans - expressed his support for the opportunities that Bilfritt Byliv has created for his business, such as allowing the company to streamline its operations and make employees more efficient in their work (EL). It was noted how initial concerns about the project did not materialise (EL):

"We thought it was going to be very difficult to adapt to these changes... it turned out not to be difficult at all… there are so many advantages, for example for the economy and for our customers as well. They don't need to pay for our [vehicle] expenses, our sick leave is going down, we are getting more work, particularly from the most important big clients, who say that … they'd like us to do work for their company because we're doing it by bicycle."

Other examples were noted in interviews with municipality representatives of businesses realising the benefits and opportunities of increasing city life and reducing car use. An example

was provided of a clothes shop in the city centre which has begun to take advantage of reduced car parking outside their premises by using the space to promote their business to customers (TE). Similarly, another example was given of a bar located on a street where 'Car-Free Saturdays' have been taking place, who have begun to consider the new opportunities afforded by increased street space outside their premises (SN). Other business stakeholders expressed their lack of concern about the impact of the CFCC, stating that a reduction in parking would not impact the ability of customers to access shops (AS, YH).

It is however important that the support demonstrated here is viewed within the context of more in-depth assessments of business attitudes to Bilfritt Byliv, which as set out in Chapter 3.4.2 have shown that the majority of businesses in Oslo city centre remain opposed to various aspects of Bilfritt Byliv.

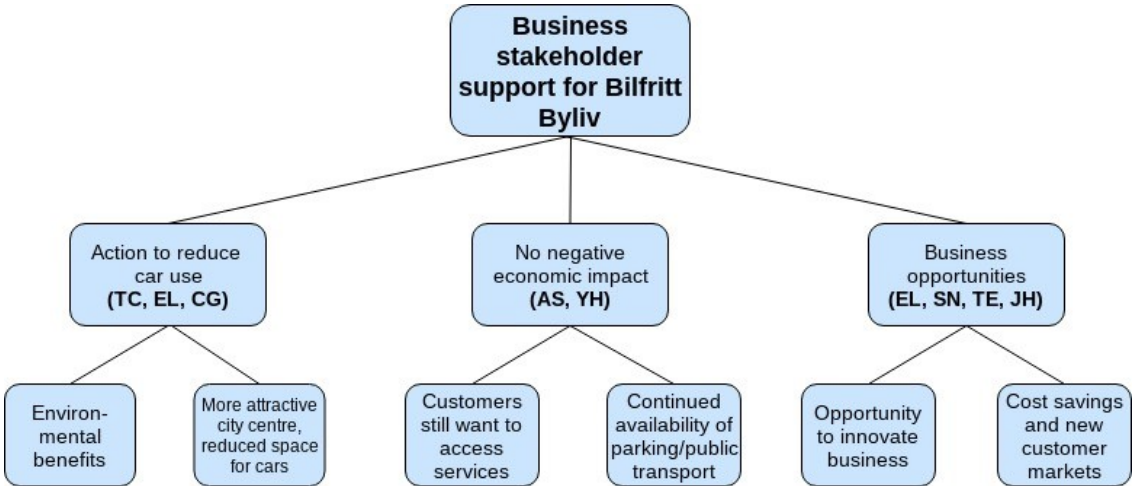

Figure 5-1. Reasons identified in support of Bilfritt Byliv by business stakeholders (with initials representing interviewees who stated support or identified support from business stakeholders).

Source: Author.

5.2.3 Business stakeholder concerns with Bilfritt Byliv

It was clear from the interviews that a number of concerns did exist amongst business stakeholders (Figure 5-2). Few issues were identified which had been entirely resolved, the most apparent of these being the changes to delivery vehicle access (see Chapter 5.2.1). As such, this section focuses solely on issues which persist, and those which have been partially resolved.

Shortcomings in communication

One of the most common objections to Bilfritt Byliv was a lack of information regarding the implementation of the project. Business owners expressed that they had received little information regarding the changes planned for the city centre (AS, TC, EL). It was felt that both the frequency of contact from the municipality regarding the planned changes to the city centre and the detail of information was lacking (AS). Indeed, one business owner claimed that the street on which his business is situated was closed to car traffic with "no prior notice", and that the only information available regarding this change was from newspapers (TC). The perception of a lack of information about planned changes was echoed by other stakeholders, who claimed that information was not accessible or easy to find for businesses (CG).

A major problem caused by shortcomings in communication and a lack of information about Bilfritt Byliv was a sense of uncertainty in the business environment. This appears to have impacted the confidence of businesses in the economic sustainability of their operations and in making long-term investment decisions in their business. The primary cause of this uncertainty appears to have been a lack of clarity in the objectives and practicalities of Bilfritt Byliv. When Bilfritt Byliv was announced in 2015, there seems to have been immediate uncertainties regarding the implementation procedure and the extent of restrictions imposed on car use. Representatives from both NHO and Oslo Handelsstands Forening (OHF), the trade association for Oslo, expressed that there was a lack of clarity regarding, amongst other things, the changes to delivery vehicle access and the overall goal of the project (JH, CG). This lack of detail resulted in unpredictable economic conditions for businesses in Oslo city centre (JH):

"To us it [the goal of a car-free city centre] was most likely a golden target with absolutely no substance to it… The one thing our members want is stability, predictability. When you want to invest a million euros in one area or in one building, you need to have some sort of stability and certainty…"

This sentiment was echoed by Christine Grape, Board Member of NHO, who noted that predictability and stability is needed for making long-term business investment decisions. In discussions with municipality representatives, it was also noted that there was a general perception amongst business stakeholders that Oslo Kommune lacked predictability in their approach for implementing changes to vehicle access and street infrastructure as part of the CFCC (MH).

Another issue arising from shortcomings in communication appears to have been business stakeholders and the municipality in many cases working on the assumption of different information regarding the economic impact of Bilfritt Byliv. Whilst early research suggests some positive impacts of Bilfritt Byliv (see Chapter 3.4.5), some business stakeholders held negative perceptions about the economic impact of the project (see 'Economic impact') (TC, JH). Additionally, various figures were quoted regarding shop vacancy rates in the city centre (TC, AS, MH). This is explained by an apparent reliance on the media as a source of information, which was a recurring theme amongst business owners interviewed, who claimed that their information on Bilfritt Byliv largely came from newspapers, rather than official sources from the municipality (AS, TC).

Shortcomings in consultation

Despite the efforts made to consult and collaborate with various actors in the development of Bilfritt Byliv, business stakeholders commonly stated that they did not feel that consultation had been extensive enough.

All three businesses interviewed expressed that there were few opportunities to have input on the plans for Bilfritt Byliv. One business owner had been part of a meeting between businesses and municipality representatives, the aim of which was to identify concerns and find solutions (TC). However, according to the business owner, there was no follow-up to this meeting and no further information was provided to participants (TC). Even business representatives who were generally supportive of the project expressed that consultation had been limited (EL, AS). One business representative did however express that there were meetings relating to Bilfritt Byliv which were open to the public and businesses, but that he did not attend these due to time constraints (AS). The view that consultation with individual businesses was lacking was echoed by business organisation representatives, with one stating that more focus should have been put on direct engagement and dialogue with the owners of businesses in the city centre (CG). There

was a sense that information regarding the project was not being directed at the actual occupants of buildings in the city centre (CG):

"*I think they could have had a lot more dialogue. They say they've had a lot of dialogue but I'm not so sure… They should go round more and speak to the tenants directly and not to the property owners."*

Whilst extensive consultation does appear to have taken place with business organisations, some concerns were expressed regarding the process of engagement. It was claimed that meaningful consultation took some time to achieve, with little dialogue or collaboration achieved in the early stages of Bilfritt Byliv (JH). Additionally, questions were raised regarding whether such consultation actually delivered meaningful amendments to Bilfritt Byliv (JH). This was exemplified in the case of a proposal put forward by OHF for the establishment of a new partnership body to improve the management of the city centre economy (JH). This request was however apparently rejected by the municipality. According to OHF, the municipality failed to see the benefits of such a proposal (JH). This, among other factors, led to the view that "the engagement is still not where it should be… between the government and municipality" (JH). One municipality representative also suggested that businesses felt that the municipality was going ahead with plans for Bilfritt Byliv without due consideration of the local needs and interests of businesses in the city centre (MH).

Rate of implementation of physical measures

The approach taken for implementing changes to the city centre as part of Bilfritt Byliv raised concerns from business stakeholders. In particular, the decision in the early stages of Bilfritt Byliv to focus on removing parking spaces and reducing car access, whilst not delivering simultaneous improvements in the city centre, came under scrutiny (EL, CG, YH). It was argued that by not implementing physical improvements (e.g. greenery, public seating) early on, businesses (and the public) couldn't "see the big picture… that the city will be a nicer place to live if there are fewer cars" (CG). Several stakeholders mentioned that failing to fill the space created by removing car parking resulted in businesses feeling that they were losing out as a result of the CFCC (YH):

"[Businesses have said] 'if you take something away you need to put something back, or else you are you have only taken away from us... we [the businesses] didn't ask for this to be transformed, the municipality did'."

Need for greater consideration of strategic planning issues

Both business organisation representatives discussed the need for Bilfritt Byliv to integrate into wider strategic plans for transport and the economy in the city centre. There were suggestions that more emphasis could have been placed on using Bilfritt Byliv to rethink how the city centre is planned and managed for the efficient movement of people, enhanced public life and business activity. Jon Anders Henriksen discussed how creating a vibrant city centre requires "solutions other than just attacking one transportation mode", with a more joined-up approach needed to increase the attractiveness of the city centre and improve conditions for business activity. Both interviewees noted how lessons could have been applied from the approach commonly taken in shopping malls, which are strategically planned to enhance customer experience and create opportunities for businesses (e.g. where certain shops are located, how people can move around the mall) (CG, JH). It was stated that a similar approach could have been applied in Bilfritt Byliv by placing more emphasis on integrating transport modes, for example by linking parking garages with tram and bus stops, but that this opportunity had been missed (JH). One interviewee had recommended to Oslo Kommune that a body - made up of public and private actors - be established to manage and plan the city centre economy, and that doing so would have helped to integrate economic sustainability into Bilfritt Byliv (JH). However, this

suggestion was apparently not taken forward by Oslo Kommune, to the disappointment of certain business groups (JH).

Issues with support measures

It was apparent that issues arose with the support measures for businesses provided by the municipality. Despite measures being implemented to aid businesses in the transition to the CFCC (as outlined in Chapter 5.1), frustrations were expressed regarding the inability of businesses to actually take advantage of certain measures. This was most evident in the case of the reduction in rent for the use of public land on streets in the city centre. This measure was intended to help businesses to make use of space outside their shops, in doing so creating more 'city life' (YH). However, several interviewees noted the limited application of this measure. According to one interviewee, public awareness of the policy was lacking, meaning that few businesses had inquired about the scheme (CG). It was also mentioned that there was a lack of long-term certainty with the policy (CG). This is a problem for businesses, who need long-term guarantees about the availability of reduced rent of land in order to invest in the use of the street space (e.g. high quality outdoor furniture for outdoor dining) (CG). Additionally, restrictions exist on the type of organisations which can apply for a reduction in rent, limiting the ability of businesses to receive support (YH).

Cases also arose which suggested that Oslo Kommune needed to provide more flexibility in the support measures offered to help businesses adapt to new conditions in the city centre. This was exemplified in the case of one business, which planned to create a wine bar in their shop in order to enhance the shopping experience for people visiting their shop. However, the municipality was apparently not willing to grant an alcohol licence for the shop, with little reasoning given as to why this could not be implemented, beyond the fact that "this was not a normal request" (AS).[6] Additionally, certain stakeholders were frustrated that the municipality would not consider granting more flexible opening hours for shops in the city on Sundays (JH); however, the power to grant shops to open on Sundays appears to be reserved for the national government, not Oslo Kommune ("Norway's parliament puts block on extended Sunday trading", 2018).

Economic impact

The impact of reducing car access on financial income was a concern for certain businesses. Whilst the majority of people using Oslo city centre travel by walking, cycling or public transport, concerns were raised regarding the economic impact of removing street parking (JH). This is largely in relation to people on the outskirts of Oslo, who in many cases are unwilling to use public transport to access the city centre (JH, TC). This appears to be a problem for certain independent businesses offering either niche, specialist services or selling large items (e.g. furniture) with a customer base who frequently travel by car (TC, TE, EL). This was a particular complaint of Terje Cosma, owner of Hästens Stores bed shop, who claimed that a large proportion of his customer base can no longer drive into the city centre and are not willing to take public transport, and that customers would instead use out-of-town shopping facilities. It was claimed that this is having a substantial impact on the economic sustainability of his business, and that the business would not survive if it remained in the city centre (TC). It was also claimed that other niche or specialist shops have experienced a similar situation (JH, TC). Other views were expressed that little effort has been made by the municipality to consider these shops with a customer base who primarily travel by car (JH).

[6] Municipality representatives did not have the opportunity to respond to this claim. It is therefore hard to fully assess the approach of Oslo Kommune in this case.

Frustration was also expressed that the 'city accountancy' tool to monitor the economic impact of Bilfritt Byliv on businesses across the city centre (see Chapter 5.1.3) had not been introduced earlier. This was the "number one issue" for Jon Anders Henriksen of OHF, who stated that introducing such a tool to monitor business activity (e.g. by monitoring changes in VAT levels) would have allowed Oslo Kommune to assess the on-the-ground impact of measures implemented through Bilfritt Byliv (e.g. reducing parking spaces) from the beginning of the project.

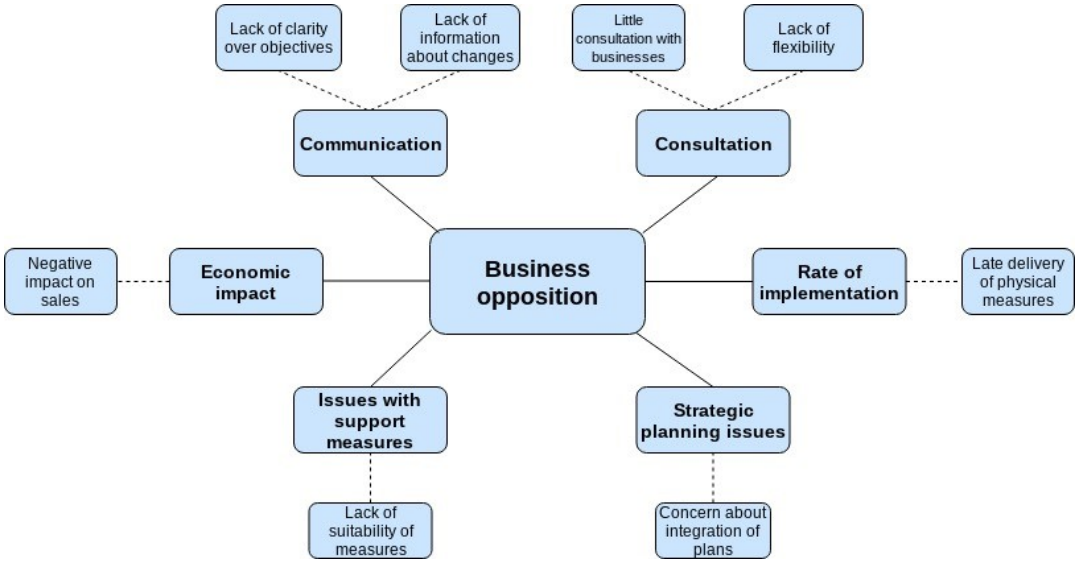

Figure 5-2. Main concerns expressed by business stakeholders, as identified in interviews.

Source: Author.

5.2.4 Relevance and justification of business stakeholder concerns

This section considers the relevance of the concerns expressed by business stakeholders based on discussions held with municipality representatives. A summary of the main successes and shortcomings of Bilfritt Byliv, based on the information in this section and Chapter 5.2.3, is provided in Table 5-3.

Shortcomings in communication

There was a level of understanding within the municipality that business stakeholders' frustrations over a lack of communication and uncertain business conditions were in many cases warranted. As demonstrated in Chapter 5.1, efforts have been taken to improve communications regarding planned changes, which in some cases does appear to have eased concerns (TE, SN). Many of these actions were however only initiated in 2019 through the Car-Free Liveability Programme, and were therefore introduced late into the project. In particular, two issues with communications appear to have caused problems: A lack of clarity regarding the objectives of Bilfritt Byliv; and problems with the strategy for communicating changes taking place in the city centre.

Messaging and objectives

It was evident that in the beginning of the project there was a lack of clarity regarding the purpose of Bilfritt Byliv. Whilst the overarching goal of increasing the attractiveness of the city centre was obvious to those working on the project, the external communications of the project did not reflect this at first (HE, TE). In the early phases of the project, there was a general perception amongst the public that the primary objective of Bilfritt Byliv was environmental,

rather than to increase the attractiveness of the city centre (TE, MH). Indeed, there was a suggestion that some of the early communications from the municipality relating to Bilfritt Byliv centred on the environmental benefits of the project, rather than the opportunities and importance of creating more 'city life' (TE).

A key point raised regarding the uncertainty surrounding Bilfritt Byliv was the decision to use the phrase 'bilfritt', or 'car-free', in the name of the project. According to those within the municipality, the decision to make 'car-free' a central component of the messaging sent a signal to businesses that all vehicle use would be banned in the city centre (HE, TE). This prompted negative perceptions from businesses, who feared losing access to their shops and reduced numbers of customers (TE). This issue was recognised by those working closely on the project, with efforts consequently made to shift the focus from 'car-free' (Bilfritt) to 'city life' (Byliv) in the latter stages of the project (CG, HE, TE). There was however a sense that for many people the name of the project still has connotations of cars being banned from the city (HE).

An interviewee closely related to the political strategy of Bilfritt Byliv noted the mistake made in the beginning of the project in failing to set out clear messaging, stating that the municipality should have been much quicker in defining the purpose and overall message of the project (MH). Improvements were made over the duration of Bilfritt Byliv to make the purpose of the project clear to stakeholders; however starting off with greater clarity regarding the aim of Bilfritt Byliv would have provided more certainty for businesses and enabled discussions to take place to find suitable solutions for businesses (MH):

"I think [it would have helped] by saying 'this is the goal… we are not going to change the goal but we can have discussions about how to reach it', and being more concrete about what we are doing, what we're willing to change and what we're not going to change."

Strategy for communicating changes

From the interviews with municipality representatives, it appears that there was a lack of strategy for the communication of Bilfritt Byliv in the early stages of the project. Internal systems were not set up in such a manner to clearly communicate the project to stakeholders, or to respond to requests for information from the media (MH). According to one interviewee Bilfritt Byliv placed a substantial amount of public attention on Oslo Kommune, to an extent which had not been seen before (MH). There was a lack of clarity regarding who had responsibility for tasks such as disseminating information and responding to media requests (MH). The result of this was that key information was not effectively disseminated to stakeholders. This was exemplified in one of the first major announcements of the plans for Bilfritt Byliv, which was in relation to the removal of around public parking spaces (YH):

"When the car free city centre scheme was initiated and presented... [the municipality] said that in the first year we will take away 700 car parking spaces in the city centre on the street level. And that was like overnight in a way. So that started quite an aggressive campaign against it."

It was recognised in retrospect that greater clarity was needed on the different exemptions which were going to be granted (e.g. delivery vehicles, people with disabilities) (MH). Once the project was moved to the PBE agency, greater focus was placed on providing information and communicating the benefits of the project, resulting in improvements to the quality of communications with stakeholders (YH). More recently, increasing effort has been placed on promoting the benefits of Bilfritt Byliv to gather support for the project and demonstrate the value of reducing car access in the city centre (TE). According to Terje Elvsaas, there was little focus on publicly promoting Bilfritt Byliv in the early stages of the project. There was

recognition that starting this earlier would have helped to address some of the concerns which arose (MH).

Shortcomings in consultation

It was evident from the interviews that the consultation undertaken was a useful exercise and resulted in business stakeholders' views being incorporated into the design of Bilfritt Byliv (e.g. changes to delivery access). As demonstrated in Chapter 5.1 and 5.2.1, Oslo Kommune made efforts to engage with a range of business stakeholders to ensure that the views of business were taken into consideration in Bilfritt Byliv. However, certain issues appear to have arisen during the engagement and involvement of business.

There was recognition within the municipality that stakeholders had not always been kept engaged and informed about how their views were being incorporated into the design of Bilfritt Byliv (SN, HE). Particularly in the early stages of the project, there were shortcomings in conveying to stakeholders what changes were made as a result of their feedback. According to one interviewee, this problem arose in part due to the change in organisational management of Bilfritt Byliv (i.e. from the Department for Environment and Transport to the PBE agency), during which time there may have been a lapse in engagement (HE). Those taking over the project may not have been aware of what changes were made as a result of feedback from stakeholders, and thus informing stakeholders which changes had been made was challenging (HE). It was claimed that in the early development of Bilfritt Byliv many meetings took place with various stakeholders, but this was followed by a long period of little engagement or further consultation, creating negative perceptions of the project (HE).

Additionally, there was recognition within the municipality that more consultation could have been undertaken with individual businesses, rather than business organisations. There was a feeling that more focus on consultation with individual businesses was a useful exercise in identifying a wider range of concerns, as well as demonstrating to business owners that the municipality was taking effort to address their concerns (MH). The case of the removal of parking spaces was raised as an example of where consultation with individual businesses had shortcomings (TE):

"We had to remove 300 parking spaces in 2017... The main goal was to fill it with something, and I guess we could have been better in taking businesses into meetings and asking what we can do together, and not just doing it and saying this is what you get."

It was noted that more in-depth consultation and engagement with individual businesses could have resulted in businesses ultimately being more positive about the CFCC (MH). It was also suggested that a new or additional platform for gauging the views of businesses (and other stakeholders) was potentially needed, as it was felt that the current consultation through Levende Oslo perhaps captured a limited range of views (MH). It was clear that the approach taken in the creation of the zoning plan, whereby every business in the city centre was informed and consulted about the proposed changes, was a useful exercise in gaining the support and confidence of the business community (YH, SN). It was recognised that engaging businesses to a similar extent in Bilfritt Byliv may have enabled Oslo Kommune to better address the concerns of businesses.

Rate of implementation of physical measures

Concerns expressed regarding the rate of implementation of physical measures (e.g. public seating) were somewhat appreciated by the municipality. There was a recognition that in the early stages of the project little emphasis was placed on making use of the new space created by

the removal of parking facilities, and that this had contributed to negative perceptions from businesses (HE, SN). It was also stated that providing businesses with information regarding the impact of the planned changes was not a worthy substitute for seeing physical changes on the street level (SN). There was a feeling that once physical measures had been introduced, businesses began to realise the benefits of Bilfritt Byliv, and that implementing these measures earlier could have helped to address businesses' concerns (HE, SN). It was also mentioned that implementing physical measures early on would have been useful for getting feedback from businesses, who could offer suggestions on improving the measures (e.g. which measures are working, which are not) (MH). However, it was noted that the right balance needs to be found between "having some pilots, doing something concrete in the street really fast, and also having enough time to plan" (MH). This highlights a challenge that is faced in balancing various demands when implementing a CFCC. Furthermore, given the need to act within the limited time period between municipal elections, finding a balance between adequate planning, due consultation with stakeholders and fast implementation of measures was a difficult task (MH).

Need for greater consideration of strategic planning issues

The integration of Bilfritt Byliv into wider strategic issues was not directly discussed in interviews with municipality interviewees. However, it is clear from the review of policy documents that Bilfritt Byliv is closely connected to a number of strategies for the urban development of Oslo. For example, the Climate and Energy Strategy for Oslo (Oslo Kommune, 2016b) makes explicit reference to the CFCC project for its role in reducing carbon emissions in Oslo. Bilfritt Byliv is also closely connected to the Action Programme for Increased City Life (Oslo Kommune, 2018), Oslo Kommune's long-term plan for increasing the attractiveness and livability of the city centre. More generally, it is clear that Oslo Kommune has placed a high priority on the sustainable development of Oslo, with plans for compact, sustainable growth of the city whilst prioritising the expansion of public transport modes across the city (Oslo Kommune, 2017). Whilst the comments made by business organisation representatives regarding the need for deeper integration of certain issues into Bilfritt Byliv do not appear to have been addressed fully in municipal plans, it is clear that considerable effort has been made to consider how Bilfritt Byliv ties into other strategies and wider plans for Oslo.

Issues with support measures

As demonstrated in Chapter 5.1, several support measures were introduced by Oslo Kommune to aid and encourage businesses in making use of street space. However, the limited application of certain support measures was recognised by municipality representatives. This was most evident for the reduction in the rent of public land, which was intended to increase the use of street space outside businesses' premises. According to several interviewees, issues arose with offering businesses reduced rent of land within a specific area of the city, as this did not comply with certain European Union laws on government subsidies for business (HE, SN, MH). This meant that businesses were rarely able to receive this reduction in rent of public land.[7] It was clear that there was a desire to provide support for businesses as part of Bilfritt Byliv, but that in some cases the municipality had a limited capacity and authority to support businesses. For example, it was stated that there are limited resources available to create more 'city life' and assist businesses (SN):

[7] Norway is not a member of the European Union but is a member state of the European Free Trade Agreement and the European Economic Area, and thus has to comply with certain regulations from the European Union.

"*The municipality... can say that the first floor should be 'active' [i.e. businesses open to the public], not offices, but they can't do anything else, for example they can't see if the shops needs some support… it's difficult for us in co-creation because we have so few tools when we do these schemes."*

Economic impact

Based on the responses from municipality representatives, many of the points of objection expressed by business stakeholders appear to have legitimacy. However, concerns raised regarding the economic impact of Bilfritt Byliv were in many cases either questioned by municipality representatives, lacked supporting evidence, or appeared to have subsided since the start of Bilfritt Byliv. For example, upon the announcement of the large-scale reduction in public parking spaces in the city centre, certain business stakeholders raised concerns regarding the predicted loss of income for businesses, claiming that each parking spot removed was equivalent to reducing business activity by as much as 1.5 million NOK (~€155,000) per year (YH). However, according to Yngvar Hegrenes, the same business stakeholders no longer make such claims about the economic value of parking spaces, which he believed to be greatly inflated. This suggests that business stakeholders were perhaps overestimating or exaggerating the importance of car access for business activity. This raises questions regarding the validity of, and evidence for, certain claims made regarding the supposed negative economic impact of Bilfritt Byliv.

Certain concerns raised by business stakeholders about the economic sustainability of some businesses were confirmed by municipality interviewees, who noted that some independent shops in the city centre are indeed struggling financially (TE, YH). However, attributing economic losses to a reduction of car access is challenging, as a range of factors are known to influence business activity (TE, YH). There was an impression that businesses were in some cases unfairly attributing blame to Bilfritt Byliv, and that other factors were in fact causing problems for their businesses (YH, TE, SN) (see Chapter 6.2). The evidence available so far suggests that there has been a slightly positive overall economic impact since the first measures were implemented in 2017 (Polle, 2018; Hopland, 2019). However due to the limited available data on the economic impacts of Bilfritt Byliv, assessing the claims of business about negative economic impacts is challenging. Oslo Kommune has recently committed to introducing the 'city accountancy' tool to closely monitor changes in economic activity within the city centre (see Chapter 5.1.3); however, those within the municipality recognised that having such a tool from an earlier stage would have been useful to address concerns and would have "made our job easier, and with less conflicts" (TE).

Table 5-3. Key successes and points for improvement, based on the results of the interviews.

Category	**Successes**	**Points for improvements**
Communication	Focus on promotion of scheme in latter stages of project	Lack of strategy for communication of project; lack of clarity over purpose of project
Consultation	Good collaboration with business organisations	Little collaboration with individual businesses
Infrastructure	Implemented pilot projects to gauge impact	Late delivery of of benefits (e.g. seating, greenery)
Strategic planning	Bilfritt Byliv aligned with wider strategies for climate, transport, urban development	Potential for deeper integration of economic development as part of Bilfritt Byliv
Support measures	Designed certain support measures based on feedback from business stakeholders	Little promotion of support measures; limited application of certain support measures
Economic impact	Signs of economic benefits and more people using the city centre	Uncertainties about impact on different types of shops; lack of in-depth monitoring system

Source: Author.

6 Discussion and analysis

The results presented in Chapter 5 highlight a number of issues which need to be considered within the wider context of CFCCs, urban governance and urban sustainability. The concerns documented in Chapter 5.2.3 have some common features with the concerns set out in the literature review - such as perceptions of a negative economic impact and concerns about consultation and communication - suggesting that similar issues occur in many CFCCs and other car-free projects. What is also apparent from the results presented is that whilst some of the documented concerns are in relation to the premise of the scheme itself and potential consequent impacts, many of the concerns appear to instead relate to the approach taken in designing and implementing the CFCC. The most commonly expressed and strongest complaints appear to have been in relation to a lack of communication and information about Bilfritt Byliv, as well as a lack of consultation and engagement. This suggests that it may be possible to prevent much of the opposition commonly expressed to CFCCs if the right approach is following during the design and implementation of such schemes. Taking action to address the outlined concerns in the design of a CFCC, rather than taking remedial action, could be vital in reducing the occurance of issues which ultimately lead to opposition. However, as will be discussed, compromise will be needed from both municipalities and business stakeholders to make CFCCs an economically, environmentally and socially sustainable solution in cities.

Drawing on the interviews conducted and the literature reviewed, this chapter provides an analysis of key findings in the wider context of CFCCs. Firstly, the role of municipalities in creating CFCCs which better meet the needs of business stakeholders is discussed in more detail, reflecting on the approach taken by Oslo Kommune and investigating wider factors which need to be considered in the creation of such schemes. Following this, focus is shifted onto business operations, the changing nature of urban economies, and the need for businesses to adapt to changing conditions. By considering the role of these two actors, effort is made to demonstrate not just the responsibility of municipalities, but also that of business stakeholders in creating economically, socially and environmentally sustainable CFCCs. Finally, the public acceptability of CFCCs is reflected on in the context of recent changes in the political landscape of Oslo. This chapter, along with the results set out in Chapter 5, forms the basis of the recommendations set out in Chapter 7 for creating CFCCs which better meet the needs of business stakeholders.

6.1 The role of municipalities in CFCCs

As stated, many of the concerns set out appear to have arisen from the approach of the municipality in designing and implementing Bilfritt Byliv. Three factors are discussed here relating to the role of municipalities in CFCCs: Engagement with business stakeholders; project organisation; and the strategic implementation of CFCCs.

6.1.1 Engaging businesses in CFCCs

Whilst issues have arisen, Oslo Kommune has made efforts to incorporate the needs and considerations of business stakeholders throughout Bilfritt Byliv. There was clear recognition of the value of integrating the views of business stakeholders and finding common solutions to make Bilfritt Byliv work for all actors in the city centre, perhaps best demonstrated with the changes made for delivery vehicle access (see Chapter 5.2.1). Given the issues which have arisen with delivery access in other CFCCs (e.g. Sotiaux & Strale, 2017), Oslo Kommune has in this instance been successful in collaborating with business stakeholders to implement a solution which meets the needs of businesses in the city centre. Collaboration with business was arguably not consistent throughout the project however, with some evident gaps in engagement and

consultation, particularly in the early phases of the project. Achieving close collaboration with business stakeholders - as well as other actors - is important in ensuring that those dealing with the consequences of the CFCC are given an opportunity to shape the design and implementation of the project. Indeed, as was noted in one interview, it is vital that businesses are given due recognition as creators of 'city life' ('byliv') when working to create a more attractive city centre (JH). Failing to do so has been recognised in other studies as a key cause for opposition towards such schemes (e.g. Sotiaux & Strale, 2017). Ultimately, closely involving business stakeholders from an early stage could be an important tool not just for directly addressing concerns, but also for influencing wider public opinion, given the disproportionate media coverage given to businesses with negative perceptions of Bilfritt Byliv (e.g. Deshayes, 2018; Fuglehaug, 2019).

Oslo Kommune has attempted to create opportunities for businesses to benefit from the CFCC through support measures. An argument could be made that many businesses are set to benefit from the CFCC without support measures from the municipality, given the evidence set out in Chapter 2 which demonstrates the potential economic value created (for some businesses) by reducing car access in city centres (e.g. Lawlor, 2014; Boussaw, 2016; Szarata et al., 2017), and indeed the early evidence of an increased use of Oslo city centre since Bilfritt Byliv began (Polle, 2018). However, in order to reassure and support businesses in the transition to reduced car access, as well as to encourage businesses to make greater use of the newly-created street space, it is evident that there is value in implementing support measures for businesses in the creation of CFCCs. The co-creation of support measures between Oslo Kommune and business stakeholders was a positive approach to engage with business and address concerns regarding the implementation of Bilfritt Byliv. Creating support measures tailored to the needs of businesses is, hypothetically, an effective way of both ensuring that business stakeholders can capitalise on new opportunities from the CFCC, and in addressing concerns about the impact of the project. Whilst issues did arise with the support measures, the intention of the municipality to implement measures to aid businesses and encourage businesses to play a part in the CFCC was clear. However, instances did arise - such as the case of the wine bar (see Chapter 5.2.3) - which highlighted the need for Oslo Kommune to perhaps show more flexibility in its approach and remain open to requests from businesses in order to help create a more attractive city centre. To create measures which better meet the needs of businesses, it may be necessary to have strong collaboration between agencies of a municipality; for example, in Brussels, synergies were formed between the trade and planning agencies to grant permits for business activity in the car-free area (Brussels Municipality, n.d.).[8]

6.1.2 Project organisation in CFCCs

It is clear that a well structured and organised CFCC project is vital in reducing the risk of, and responding to, concerns of business stakeholders. Several issues arose with the organisation and planning of Bilfritt Byliv which appear to have had an impact on the relationship with business stakeholders and more generally caused problems for the management of the project, such as a lack of a coherent communications strategy at the start of the project. Problems arising in communication with business stakeholders does not appear to be a problem unique to Oslo, with a similar situation identified in an investigation into business attitudes to the CFCC in Brussels (Sotiaux & Strale, 2017). The shortcomings in project organisation were somewhat understandable, given the transition of political power in Oslo Kommune in 2015 and the limited time period set for implementing the project; indeed, it has been suggested that implementing CFCCs more gradually may result in less backlash against such projects (Nieuwenhuijsen et al., 2019). Whilst improvements in the management of the project were

[8] This measure was not referenced in Chapter 2 as it was identified after the completion of the literature review.

made in the latter stages, shortcomings in the earlier stages of the project clearly had, for many business stakeholders, a long-term, negative impact on the perception of both Bilfritt Byliv and the municipality. Additionally, as demonstrated, the transition of the project from the Department for Environment and Transport to the PBE agency appears to have caused problems for achieving a consistent approach for managing the project. This highlights that having a clear strategy and a well-organised system for managing a CFCC project from an early stage is highly important for the implementation of the project.

Furthermore, even once the project had transitioned to the PBE agency, there were still some concerns regarding the responsibilities of different agencies of the municipality (e.g. transport, economy, planning) for different aspects of Bilfritt Byliv, which at times created uncertainties over decision-making and a lack of coordination between departments (HE). It was noted by interviewees that it would have been beneficial to have a recognisable and designated source of information which businesses and other stakeholders could contact to answer queries or resolve problems (HE, JH). According to one municipality representative, establishing a designated team for the project was something that business organisations requested, as this would have made it easier for businesses to access information about the project (MH). This ties into a point raised regarding the need for sufficient resources and decision-making capabilities within the team responsible for Bilfritt Byliv. Several interviewees highlighted that to better manage the CFCC project, it was necessary for the team managing the CFCC project to be able to make more decisions and take action to overcome issues facing businesses. For example, having limited tools to assist businesses in playing a greater role in creating a more attractive city centre (e.g. little ability to offer financial support or flexibility in planning regulations) was identified as one shortcoming of Bilfritt Byliv (SN). It therefore appears vital that the team responsible for implementing a CFCC is well equipped with resources and has the ability to take decisions and action where necessary.

One of the strengths of the organisation of Bilfritt Byliv was that the project had substantial financial backing (HE). This appears to be vital in ensuring that there is enough manpower in the municipality to implement the project to a high standard and that sufficient resources are available throughout the project. This has been recognised in other literature as a key tool for successfully implementing a CFCC (Nieuwenhuijsen et al., 2019). Oslo Kommune are perhaps in a more fortunate position than many other municipalities aiming to implement CFCCs, given the relatively high levels of public spending in Norway in comparison to other countries (OECD, 2017). Whether CFCC projects could be implemented to as high a standard (e.g. extensive installation of public amenities, redesign of streets) with less financial backing is unclear.

6.1.3 Strategic planning of CFCCs

It is evident that integrating a CFCC into wider plans for a city is crucial in delivering a joined-up, holistic approach to urban development. This was also recognised by Nieuwenhuijsen et al. (2019) as being key to the successful implementation of car-free projects. In particular, wider contextual factors such as city-wide transport, the local economy and urban planning appear important when designing a CFCC. Whilst this does not immediately seem relevant to issues of business opposition, failing to consider the wider context of the city as a whole can cause or exacerbate concerns of business stakeholders. For example, out-of-town shopping was raised by business stakeholders and municipality representatives as a threat to businesses in the city centre. Whilst the threat of out-of-town shopping is by no means new, there were some concerns that Bilfritt Byliv may result in the increased use of out-of-town shopping and consequent economic losses for businesses in the city centre (Rydningen et al., 2017).

This highlights the need for a joined-up approach to strategic planning in cities to ensure that proposals to reduce car access in the city centre do not simply result in people not using the city centre. An argument could be made that Oslo Kommune has attempted to address this issue by making the city centre a more attractive and appealing place, thus potentially drawing more people into the city centre. However, it may be necessary to pursue planning policies which discourage threats to the city centre such as out-of-town shopping so that both businesses and customers are incentivised to stay in the city centre. In addition to this, ensuring high quality and convenient public transport solutions is vital in ensuring that people are able to and desire to use the city centre (JH, CG). Oslo has an extensive public transport system in place, with an expansion of the tram network and greater provision for cycling planned. Doing so will help to address these concerns to some extent. However, further steps may be necessary to ensure that those living on the outskirts of the city are incentivised to use the city centre rather than out-of-town shopping or online shopping. One measure discussed in interviews was the expansion of home delivery services by city centre businesses, whereby customers could order goods in-person in the city centre and have those goods delivered to their houses on the same day, as has apparently been implemented in Brussels (CG, YH).[9]

Additionally, having a sizeable population living in the city centre was raised as being a vital component of achieving the stated goal of increasing the livability of the city centre, and in convincing businesses of the benefits of the CFCC. In comparison to many cities, Oslo has a very small population living within the city centre area, with a permanent population of around 1000 people in the car-free area, which is considerably smaller than the population of other European city centres (Rydningen et al., 2017; CG). In order to increase 'city life' in Oslo, there is a need to adopt a better mix of building types in the city (e.g. residential, offices, retail) (CG). This again requires a joined-up approach to the planning of the city, as planning policies at the municipal level would need to favour housing as well as other building types. Oslo Kommune does however recognise this issue and is aiming to increase the population living in the city centre (CG, MH). Doing so would build the business case for a CFCC, as a higher resident population may convince business stakeholders that new or enhanced market opportunities could arise.

6.2 Businesses, CFCCs and the changing nature of cities

Whilst there are early indications that the city centre economy is performing well since the introduction of Bilfritt Byliv (e.g. Polle, 2018; Hopland, 2019), there are some signals that the effects may not be felt evenly across all businesses. It was noted in interviews that restaurants and bars are performing well economically, and that these types of businesses are becoming more common in the city centre. Conversely, there appears to be some signs that certain types of business have suffered economically since the introduction of Bilfritt Byliv. As previously stated, attributing a decline in economic performance to the restrictions on car access is challenging, and the impact of Bilfritt Byliv on these businesses was contested by various interviewees (TE, YH, SN). Despite this, there does appear to be suggestions that certain businesses, such as those selling larger items (e.g. furniture) or independent retailers offering niche services, may lose out as a result of the CFCC. According to several interviewees, these businesses rely disproportionately on customers who frequently travel by car, such as those living outside of Oslo or high-income individuals (typically people in middle-age and above) who tend not to use public transport (TC, JH). It is therefore likely that these businesses are at risk from the reduction in car access in Oslo, with these customers instead using alternative services (e.g. out-of-town shopping). This is consistent with other literature, which has identified

[9] No information on this service in Brussels was found in the literature.

that larger businesses and the hospitality industry may benefit more than certain niche or small retailers from car-free planning (Boussaw, 2016).

This highlights a problem frequently raised by interviewees regarding the value of, and potential risk to, a diversity of shops within Oslo city centre. There was widespread agreement that maintaining a diversity of shops was beneficial for both businesses and for citizens, as this offers a more attractive and authentic experience in the city centre. However, multiple interviewees were concerned that Oslo may struggle to maintain the currently varied offering in the city centre, and that certain small or niche retailers may be forced to close or relocate. If a reduction in car access in the city centre is in fact contributing to a reduction in the diversity of shops, this arguably presents a challenge to achieving the stated aim of Bilfritt Byliv in creating a more attractive and enjoyable city centre.

The prospect of changes in the variety and types of shops ties into a wider discussion about the changing purpose of city centres. It was frequently noted in interviews that the historic role of the city centre as a place solely for shopping - whereby people drive in, buy what they want and return home - is changing. According to multiple municipality representatives and business stakeholders, new consumer preferences and habits are emerging in Oslo, with a shift in recent years from using the city centre purely for buying typical consumer goods (e.g. clothes, electronics) to using the city centre for more of an 'experience', for example using restaurants and bars and spending time in the city centre, accompanied with some retail. Although consumerism remains widespread globally, similar patterns of an increased demand for 'experiences' over goods have been identified in on a wider scale, particularly among young people (e.g. Brown & Vergragt, 2015; Canavan, 2019). If the claims regarding a shift away from traditional consumerism in city centres are accurate, an argument can be made that CFCCs hold potential as a tool to redevelop city centre economies by creating public spaces more suited to 'experiences' such as food and drink establishments, or more generally creating places in which people want to spend time. This holds potential benefits not just for improving the quality of urban life for residents, but also for tourism by creating attractive places which are seen as desirable destinations to visit.

The potential shift away from traditional patterns of consumer behaviour also raises the possibility that some of the opposition which has been expressed towards Bilfritt Byliv may be arising from wider concerns regarding the ability of businesses to adapt to these potential changes in the future. In the scenario of changing consumer habits, and the transition to a more people-oriented and livable urban form, certain businesses - perhaps those with old models of operation or those dependent on niche markets - may struggle to succeed in city centres. A challenge is therefore presented to these businesses: Adapt business models to suit changing demands and circumstances, or risk failing to survive. Ultimately this means businesses needing to be open to changing their offering to customers and indeed re-thinking the very way in which they do business. This may include diversifying by providing new services, or using their premises in new ways to offer more of an 'experience' for customers. Examples of such transitions were highlighted in several interviews, where it was noted that certain shops in Oslo have adapted their customer offering (e.g. bars making greater use of street space outside shops; retailers offering complimentary drinks) to attract customers and encourage them to spend more time on their premises.

From this, it is clear that whilst Oslo Kommune needs to ensure that businesses are assisted in the transition to CFCCs (e.g. by addressing concerns and offering support measures), responsibility also lies with businesses to adapt to changes and evolve their offering to meet consumer demands. There was recognition from both business organisations and municipality representatives that businesses need to be willing to adapt to new conditions, and that in some

cases, considerable changes in business operations were needed. Perhaps the most significant change noted was the need for greater collaboration and cooperation between businesses and property owners to ensure a diversity and balance of shops in the city centre. One option discussed was adopting more flexible rent pricing in ground-floor properties to allow smaller retailers to occupy space in the city centre and ensure a diversity of shops (CG). Rising rent prices was a common concern amongst businesses interviewed, with one business even having to relocate due to increasing rent prices (AS). This is particularly relevant for CFCCs, given the increased rent prices which have been observed following increased pedestrianisation and reduced car access (Sandahl & Lindh, 1985; Topp & Pharoah, 1994). Rising commercial rent prices is an issue which municipalities have relatively little control over, and thus the onus is on property owners, business organisations and businesses to find suitable solutions (CG, SN). Property owners would ultimately need to be willing to accept lower rents, or to at least stabilise rent prices, so that small businesses can compete with multinational companies (e.g. large clothes retailers), which are not impacted to the same extent by increasing rent prices. In doing so, a 'shopping mall' approach (as mentioned in Chapter 5.2.2), whereby a diversity of shops planned in a manner which promotes the use of the city centre, could be made possible (CG). This has already been carried out to some extent in the redevelopment of Bjørvika, where a property developer has attempted to create a diversity of shops on the ground-floor, apparently due to the fact that having a variety of services on offer presents economic opportunities for the area (HE).[10]

However, further efforts will need to be made across the city centre to replicate this and ensure that a cohesive and collaborative approach is achieved between businesses and property owners. The approach needed is likely to vary depending on location, and so localised approaches may be required (CG). Ultimately, many of the issues regarding the sustainability of business operations and a diversity of shops in the city centre will have to be the responsibility of business stakeholders, rather than the municipality (CG). The municipality may however be able to play the role of facilitator in these collaborations.

6.3 Reflections on the public acceptability of CFCCs

It is clear that implementing CFCCs and other measures to reduce car use takes considerable political will and commitment. Despite the apparent popularity of car-free planning among certain groups (Beuhler & Pulcher, 2011; Gundlach et al., 2018), it is evident that opposition to such schemes will occur from various sources, including citizens, business stakeholders, and the media. As such, the political risk associated with implementing CFCCs could be considered too high for some municipalities, who may fear a backlash from voters if significant opposition arises. However, the experience of Oslo presents an interesting case which may challenge the supposed political risks of implementing CFCCs. In the latter stages of this research, local elections were held in Oslo. Despite the largely negative coverage of Bilfritt Byliv in the media, and the significant opposition from business stakeholders documented in prior research (Rieck, 2018), the Green Party – who were largely responsible for the creation of the CFCC – increased their vote share in the elections by over 85% ("Oslo Kommunevalg", 2019).[11] Whilst a plethora of local, national and international factors influence voting behaviour, the public confidence placed in the political party most closely associated with the implementation of Bilfritt Byliv does raise an interesting case. This may indicate that the public acceptability of CFCCs is in fact

[10] Bjørvika is an area of central Oslo which has undergone considerable redevelopment in recent years as part of a wider strategy to redevelop the waterfront area in Oslo. It is now a mixed-use area comprised of housing, offices and tourist attractions.

[11] The local elections in Norway took place on 9 September 2019, by which point this research had already been completed. Had this research been conducted at a later stage, the election results may have had an impact on the narrative established regarding the extent of opposition expressed towards Bilfritt Byliv and the potential impact of such opposition.

higher than many suppose, and that the opposition highlighted in the media may not be representative of wider public opinion. However, it should be made clear that the reasons behind the increased vote share of the Green Party are not yet clear, and therefore attributing this to Bilfritt Byliv is not possible. Additionally, the Labour Party – who formed part of the governing coalition in Oslo Kommune – had a substantial reduction in their vote share ("Oslo Kommunevalg", 2019), which raises the possibility that many voters simply transferred their votes from the Labour Party to the Green Party.

7 Recommendations

There are valuable lessons to be learned from the experience with Bilfritt Byliv, both from the successes in engaging with and supporting business stakeholders, and from the issues which arose. Based on input from both municipality representatives and business stakeholders, a number of actions were identified for designing and implementing CFCCs which address the concerns of business stakeholders (Figure 7-1). These recommendations, aimed at municipalities, have been formulated on the basis of both specific solutions suggested by interviewees, and by considering the context of the issues that have arisen with Bilfritt Byliv as a whole. Given that CFCCs can vary in the types of measures used to reduce car use (Tønnesen et al., 2016), these lessons largely focus on the manner in which CFCCs are designed and implemented, rather than specific measures which should be introduced. Several of these recommendations have been identified in other studies focusing on a wider range of issues relating to CFCCs (e.g. Sotiaux & Strale, 2017; Nieuwenhuijsen et al., 2019), suggesting that these lessons are useful not only for potentially gaining the support of business stakeholders, but more generally for successfully implementing a CFCC. These recommendations are aimed specifically at municipalities.

7.1 Consultation and collaboration

The value of collaborating with business stakeholders in the design and implementation of CFCCs is clear. Three key lessons have been identified from the experience of Bilfritt Byliv to achieve better relations with business stakeholders.

Recommendation 1: Close engagement and collaboration with business owners

It is evident that closely involving a wide range of businesses from project inception through to implementation can deliver a CFCC scheme which addresses the concerns of business stakeholders. By engaging businesses and recognising their role as creators of 'city life', an opportunity is presented to gather a wide range of views and assess the various concerns that are held by business owners. Businesses are well positioned to make assessments about the on-the-ground implementation of CFCC projects, given their in-depth knowledge of the local area and the fact that they will be able to see how changes made are impacting the use of the streets.

Recommendation 2: Build relationships with business organisations

As well as engaging with individual businesses, effort should be made to consult and collaborate with business organisations from an early stage, given their political significance and their relationship with businesses. Establishing a platform for collaboration, as was done with Levende Oslo, is a vital step in building the relationships between the municipality, the business community and other city stakeholders. Such a group should meet regularly to keep all stakeholders informed about the development of the project, and to ensure that concerns or issues can be raised in a timely manner. Additionally, undertaking research in cooperation with business organisations, as was done with the study visits in the case of Oslo, is a useful means of establishing good relationships between business organisations and the municipality.

Recommendation 3: Flexibility and responsiveness of municipality

Municipalities showing a willingness to be flexible and open to changing proposals is important in addressing the concerns of business stakeholders. This was exemplified in several changes made to the original proposals put forward for Bilfritt Byliv, most notably the extension granted for delivery vehicle access in the city centre, which was effective in addressing concerns regarding the impact of the CFCC on business operations. Showing a willingness to amend proposals put forward is important not only in addressing concerns, but also in demonstrating that the municipality places value on the opinions and needs of businesses. Even in cases where

the municipality is not willing to make changes, it appears important that the reasons for this are well communicated to those asking for changes to be made, so that the rationale behind the decision-making of the municipality is at least clear.

7.2 Communication and promotion

The experience from Bilfritt Byliv shows that developing a coherent approach to communications is vital in keeping stakeholders informed and addressing potential concerns. Having clearer and more frequent communications through a variety of channels would have helped to address the uncertainties which arose during the implementation of Bilfritt Byliv. Several key learning points were identified for developing effective communications.

Recommendation 4: Develop a comprehensive communications strategy

Developing a comprehensive communications strategy early on in the project - clearly setting out the objectives and key messaging - would help to provide clarity about the intentions of the project and demonstrate to businesses what the municipality is trying to achieve. Stakeholders should be kept well informed about both when and why planned changes are taking place. A communications strategy should be implemented as early as possible in order to set the narrative for the project and minimise the risk of negative perceptions being created in the media at the start of the project. Once there is clarity regarding the intentions of the municipality, more focused discussions can be held with stakeholders over how to reach the objectives set. This also allows a distinction to be made between issues which are subject to change, and issues which are not going to be changed. Focusing on and clearly conveying objectives such as creating a more attractive city centre and improving the quality of urban life - one of the most common objectives in CFCCs, as demonstrated in Chapter 2.3 - can help to build consensus about the direction in which the city centre should go (CG):

"...The main goal should be to have a more lively and vibrant city… And that is something that everyone can agree on, so that shouldn't be hard to communicate."

Another key point for communicating the project is choosing a project name which emphasises the benefits of the project, rather than focusing on reducing car access. In the case of Oslo, the inclusion of the phrase 'bilfritt' ('car-free') proved problematic, as some felt that this sent the wrong message about the intentions of the project. Choosing a name which instead focuses on the positives of the project and highlights shared interests, such as a more livable, vibrant city, could be an important tool in framing the CFCC in a positive light and finding common ground (SN):

"We have something in common: The municipality and businesses want people in the streets… People shop, cars don't."

Recommendation 5: Promote the benefits of the CFCC

Following on from the above, highlighting the benefits and successes of CFCCs from an early stage could help to convince business stakeholders of the opportunities arising from the project. Efforts should be made to promote successful case studies and supportive stakeholders (e.g. through promotional videos), as was done in the latter stages of Bilfritt Byliv. Doing so in the early stages of the project could help to challenge negative sentiments regarding the impact of the project on city centre businesses. Being positive and highlighting the successes of CFCCs in the messaging of the project is an important tool for building public confidence in the project and combating the negativity commonly displayed in the media (EL):

"I think for the government it's important to try to get people positive, and tell them it's going to work out, because there's… so much negativity in the press and the press has lots of power."

Recommendation 6: Document the change

Effectively communicating the on-the-ground changes taking place throughout the project appears to also be a key step in gathering support for CFCCs. This is vital in showing the positive changes that are being delivered as part of the project. This is relevant for both the physical measures being introduced throughout the implementation of the project, and the changes which have been made to the project as a result of feedback from stakeholders. Communicating the implementation of physical measures is important in avoiding the issue which arose in Oslo of businesses feeling that the project was taking away valuable services (e.g. parking spaces), rather than delivering benefits. Showing business stakeholders how their views have influenced the design of the project is also a useful tool in addressing concerns regarding the project and demonstrating they have an active role to play in the city centre.

7.3 Monitoring impact

Recommendation 7: Gather and share information on economic impact

Limited information on the impact of Bilfritt Byliv, particularly with regards to the economic impact, was highlighted by both municipality representatives and business stakeholders as causing problems for the project. Having shared information is important for bringing a focus to the project and ensuring that all stakeholders are able to make judgements about a CFCC on the basis of the same sources of information. Implementing a detailed system - as has been done with the 'city accountancy' tool in Oslo - to monitor the economic impact of a CFCC from an early stage could help to address concerns regarding the economic impact on retailers, and importantly could help to counter some of the questionable claims commonly made by certain businesses and the media. This information should be reliable and open, allowing stakeholders to have an accurate overview of the impact of the project on different areas of the city. If issues are identified (e.g. localised decline in economic activity), remedial action could consequently be taken by the municipality and business stakeholders to improve the situation for businesses.

7.4 Implementation of measures

Recommendation 8: Deliver physical measures early

It is evident that implementing measures on the street level at an early stage in a CFCC could help to demonstrate the benefits of and ease concerns about the impact of the project. This applies not only for permanent measures but also temporary measures (e.g. temporary public seating), which may be necessary on streets which are undergoing long-term transformations (e.g. re-allocation of street space). Doing so provides a useful indication to the public and businesses of what those streets will look like in the future. However, care should be taken to test the measures being implemented through trial phases, and to gauge the views of businesses (as well as residents and other stakeholders) so that improvements can be made if problems arise with the measures implemented.

7.5 Support measures

Recommendation 9: Implement and promote support measures based on the needs of businesses

It appears that offering support for businesses in the transition to CFCCs could hold potential for gaining support from these stakeholders. Developing these measures based on input from business stakeholders, as was done in some cases in Bilfritt Byliv, is an approach which is likely

to result in positive outcomes for both parties. Whilst the success of the support measures in Oslo was limited, offering measures developed in cooperation with businesses could be a useful means of identifying potential issues and finding common solutions to help businesses play an active role in creating an attractive city centre. Ensuring that businesses are made aware of the support available to them through advertising and communication will likely be important in increasing the uptake of support measures provided by the municipality. Efforts should therefore be placed on engaging businesses about the measures which are relevant to them and explaining how support can be received. Implementing support measures would however require committed funding from the municipality to provide confidence to businesses about the long-term certainty of the support.

7.6 Project organisation

It was clear that strategic planning and project organisation is vital to the successful implementation of a CFCC project, and for delivering a project which meets the needs of business stakeholders. Two main lessons to deliver a comprehensive strategy and organisation of a CFCC project were identified.

Recommendation 10: Establish a body to oversee the project

There is great value in establishing a body or team to oversee the organisation of a CFCC project. This group would be responsible for managing various aspects of the project, including (but not limited to) communications, consultation and coordination of action across different government departments. Whilst different agencies within a municipality may still have responsibility for implementing aspects of the project (e.g. planning, business and environment agencies), establishing a group which can coordinate action across different agencies could be important in achieving a holistic approach to the CFCC. Ensuring a joined-up approach between the various agencies of the municipality is important in achieving clear communication and cooperation between departments, and more generally maximising opportunities for increasing the livability of the city centre. However, what appears key is that this is not simply an administrative body, but rather has the ability to make decisions and take action, or at least to recommend solutions to elected representatives. Such a body should also be comprised of individuals with a practical knowledge of the project so that concerns or queries about specific measures can be adequately addressed.

Recommendation 11: Integrate CFCC into wider strategies for urban development

Integrating a CFCC within the wider context of a city is vital in achieving a coordinated and holistic approach to addressing a number of issues in the city centre. Efforts to integrate and align the CFCC with long-term plans for the city as a whole could help in reaching the goals of the CFCC and creating a more attractive and livable city centre, in doing so addressing some concerns raised by business stakeholders. In particular, achieving a joined-up and aligned approach between a CFCC and issues such as transport, housing, urban planning and the economy appears to be of particular importance. Doing so ensures that a CFCC is not seen in isolation and can become an integral part of a range of strategies for the urban development of a city as a whole.

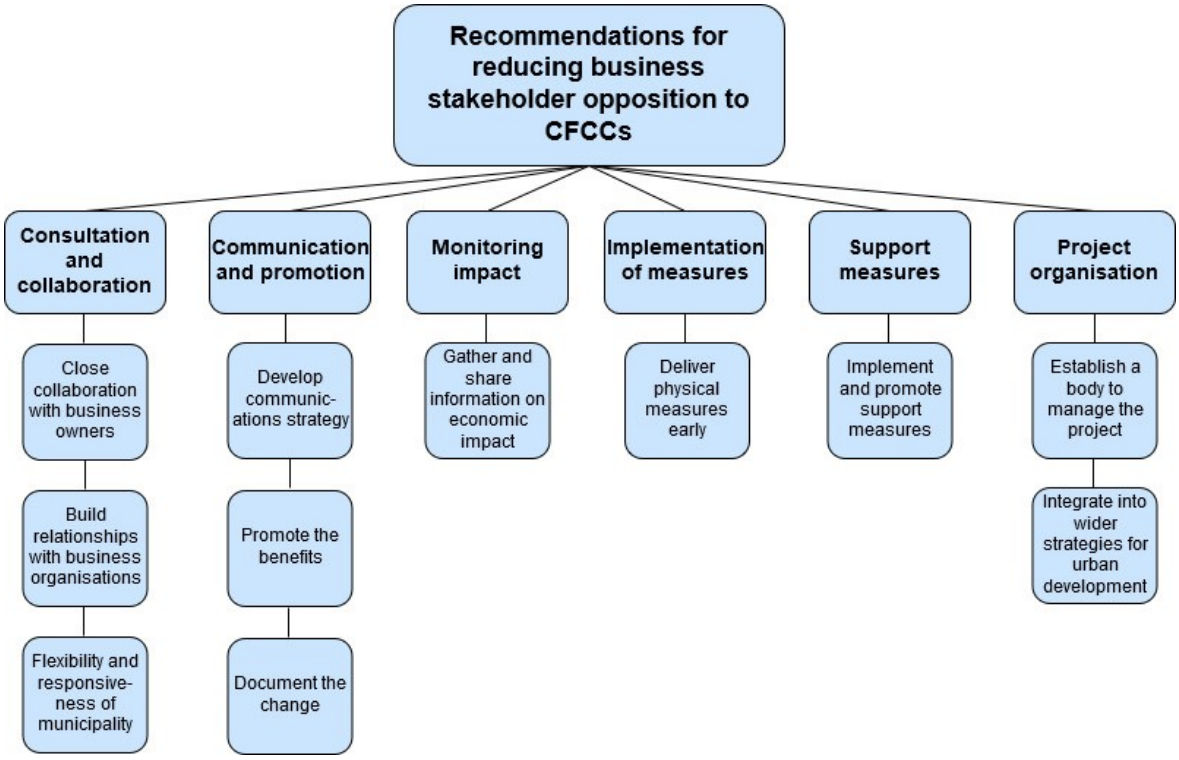

Figure 7-1. Measures to gain support from business stakeholders in the creation of CFCCs, as formulated based on information gathered through interviews.

Source: Author.

8 Conclusions

The aim of this research was to investigate how municipalities can reduce opposition from business stakeholders in the creation of CFCCs. In doing so, this research attempted to address a gap in the academic and wider literature regarding the concerns expressed by businesses which lead to opposition towards CFCCs and other car-free schemes, and how municipalities can address these concerns to create CFCCs which better meet the needs of business stakeholders. The findings set out demonstrate that whilst some concerns arose relating to the premise of reducing car access in the city centre, many of the concerns appear to relate to the manner in which the project has been managed and implemented. This suggests that potential may exist for CFCCs to be created in a manner which better meets the needs of business stakeholders, if a carefully planned approach is taken when implementing the project. Given the limited number of CFCCs implemented to date (and therefore a limited knowledge of what works in accommodating the needs of business stakeholders in such schemes), it is perhaps understandable that some problems arose in the case of Oslo. The ambition of Oslo Kommune in both the scale of the CFCC and the rate of which it has been implemented should be acknowledged.

This research builds on the hitherto limited academic debate regarding CFCCs. Some of the documented results share common features with previous studies of business opposition to CFCCs, particularly on the importance of communication, consultation and delivery access (e.g. Sotiaux & Strale, 2017). Of particular interest is the close alignment of certain recommendations made in this research with solutions proposed in other literature for the successful implementation of car-free projects (e.g. Nieuwenhuijsen et al., 2019). This suggests that designing CFCCs which better meet the needs of business stakeholders could deliver wider benefits for the CFCC project, and indeed for society as a whole.

In reality, it will not be possible to completely prevent opposition to CFCCs. However, the recommendations set out in Chapter 7 hold potential to reduce the risk of opposition, create CFCCs which better meet the needs of business stakeholders, and to allow municipalities to respond to opposition when it arises. It is clear that no single solution will fully address opposition from business stakeholders, given the multifaceted nature of the concerns raised. Instead a mix of solutions is likely to be needed, addressing a range of issues both small and large.

The following conclusions are drawn from the three research questions posed:

RQ_1: What are the main concerns expressed by business stakeholders towards CFCCs?
The three sub-research questions set out in Chapter 1 were used as a means of investigating RQ_1. In doing so, key concerns were identified in interviews with business stakeholders. The majority of these concerns related to the manner in which the CFCC was designed and implemented, rather than the premise of the scheme itself (i.e. action to reduce car access). The extent of and quality of communication and consultation provided by Oslo Kommune were both common concerns expressed by business stakeholders. The rate of implementation of physical measures (e.g. public seating, greenery) was also an issue for some stakeholders, with frustration expressed that the measures were not delivered until late in the project. Business organisations also expressed some concerns regarding the strategic planning of Bilfritt Byliv, with a desire to see a more holistic approach to urban development taken. Frustration was also expressed with the support measures made available for businesses due to a lack of practical application of certain measures, and more generally a lack of flexibility to cater to the requests of businesses. Certain stakeholders were also opposed to Bilfritt Byliv due to an apparent negative economic impact on certain businesses. Objections regarding the impact on delivery

access, which occurred at the start of the project, had largely been resolved by the time this research was conducted.

RQ_2: To what extent are these concerns relevant and justified?
Many of the concerns of business stakeholders were found, at least to a certain extent, to be justified when municipality representatives were consulted. Concerns relating to communication, the rate of implementation, support measures, and some aspects of the consultation undertaken were appreciated by municipality representatives. There was recognition that improvements in the management and implementation of Bilfritt Byliv would have helped to address these concerns. Oslo Kommune did however place a priority on engaging and collaborating with business stakeholders throughout the project, although there was recognition that greater emphasis could have been placed on directly engaging with business owners. Whilst some concerns regarding the strategic planning of Bilfritt Byliv may have validity, Oslo Kommune did demonstrate efforts to integrate Bilfritt Byliv in wider plans for Oslo, including plans for carbon reduction, city-wide transport and planning. Concerns regarding the negative economic impact of Bilfritt Byliv on city centre businesses was, by in large, contested by municipality representatives. Indeed, early evidence suggests that Bilfritt Byliv has had some positive economic impacts on Oslo city centre. However, there was some recognition that certain businesses may benefit more from reduced car access, and that in the long-term, certain types of business may not thrive in the city centre. The extent to which this is driven by Bilfritt Byliv, or by wider economic and social changes, remains unclear.

RQ_3: What actions can municipalities take to address these concerns?
Based on the concerns identified, the views of municipality representatives and business stakeholders, and the wider context of CFCCs, a series of recommendations for municipalities based around six themes have been set out:

Consultation and collaboration: Municipalities should ensure close collaboration with business owners during the design and implementation of a CFCC. Additionally, efforts should be made to establish good relationships with business organisations. Through the consultation process, municipalities should demonstrate flexibility and responsiveness in the proposals for a CFCC.

Communication amd promotion: A comprehensive communications strategy should be established at an early stage in a CFCC project, setting out the objectives and key messaging of the project. Throughout the project, efforts should be made to promote the benefits of a CFCC to business stakeholders and the public. Additionally, the changes implemented throughout the project - both the physical measures introduced and changes made based on feedback from stakeholders - should be well documented and communicated.

Monitoring impact: Municipalities should gather and share regular, reliable information on the economic impact of a CFCC. This will be important in easing business concerns and in countering the claims that a CFCC has a negative economic impact, or in the event that negative economic impacts occur, allowing problems to be identified quickly and solutions to be implemented in response.

Implementation of measures: Physical measures (e.g. public seating, greenery) should be implemented early to deliver the benefits of a CFCC project, in doing so demonstrating to businesses what is to be gained from reducing car access, not just what is being taken away. Care should however be taken to trial these measures first and gauge the views of business (and other) stakeholders on the measures.

Support measures: Support measures should be considered to help businesses take full advantage of the CFCC. These should be developed based on the needs or requests of business stakeholders.

Project organisation: To ensure the smooth management and organisation of the project, a body or team should be established to oversee and manage the project. Additionally, a CFCC should be well integrated into wider strategies for the city in question, for example strategies relating to the economy, housing, planning and transport.

Reflections on research

This research was conducted through a single, embedded, exploratory case study. Many of the issues discussed throughout this research are therefore unique to the setting of Oslo. This raises questions regarding both the replicability of this research and the generalisability of the findings and recommendations on a wider scale. Indeed, the results documented are unlikely to be exactly replicated in other cities, given that many of the findings relate to the specific approach taken by Oslo Kommune. However, this research represents one of the first in-depth discussions on this topic, and the findings and recommendations set out can be a valuable contribution to the development of theory regarding business opposition to CFCCs and the nature of CFCCs more generally. This research can serve as guidance for both further research and for the future implementation of CFCC projects by municipalities.

The choice of interviews as the primary method of investigation for this research served as a useful means of investigation business opposition to CFCCs. However, this research would have benefited from additional methods of inquiry being used, namely a more quantitative assessment of business stakeholder attitudes, for example through a survey. Doing so may ultimately have uncovered different concerns, or indeed may have identified which concerns were most significant for businesses.

Finally, it is important to acknowledge that this research considered concerns expressed by business stakeholders which either persist or have only been partially resolved. Had this research been conducted at an earlier stage other concerns may have arisen, or indeed certain concerns - for example delivery access - may have had a greater importance to business stakeholders.

Suggestions for further research

This research serves as a useful basis for further research to be conducted into both the topic CFCCs in general and specifically the issue of business opposition to CFCCs. There would be much to gain from conducting a similar study on another city implementing a CFCC to assess whether similar concerns are found, and whether a different approach in the design and implementation of a CFCC results in different outcomes for business attitudes. Additionally, testing the recommendations set out in Chapter 7 in a real-world setting would be a valuable contribution to assessing whether business stakeholder concerns can be addressed through these approaches.

There is also a clear need to build on this work and other literature by undertaking quantitative assessments of the economic impacts of car-free planning on different types of businesses (e.g. retail, food and drink). In particular, the impact of CFCCs on small, independent and niche retailers is worthy of investigation in the context of creating diverse and attractive city centres. Additionally, the long-term impact of CFCCs in influencing consumer preferences for shopping (e.g. out-of-town, online or city centre shopping) should be considered. For the case of Oslo, the long-term impact of Bilfritt Byliv on businesses and economic activity, as well as on wider issues such as modal share of transport in the city, remains unclear. Further research and monitoring will be necessary to assess the long-term impact of the project and to respond to

claims made in opposition to the project, particularly regarding the economic impact of the CFCC. Finally, the potential benefits of CFCCs for tackling environmental and social sustainability challenges, such as carbon emissions, air pollution and physical inactivity, also merit further investigation to assess the value of CFCCs as a tool for transformational change in cities.

Bibliography

Bendix, A. (2019). *Cities are banning cars all around the world.* Retrieved 2 June 2019 from https://www.businessinsider.com/cities-going-car-free-ban-2018-12?r=US&IR=T.

Berglund, N. (2015). *Oslo takes a sharp turn to the left.* Retrieved 2 June 2019 from https://www.newsinenglish.no/2015/10/18/oslo-takes-a-sharp-left-turn/

Betsill, M. & Bulkeley, H. (2006). Cities and the multilevel governance of global climate change. *Global governance*, *12*, 141-159.

Bieda, K. (2016). Car-free cities: urban utopia or real perspective? Conference Report: 11th CTV: Back to the sense of the city.

Bilfritt Byliv (Car-Free City Life) (n.d.). Retrieved 20 February 2019 from https://www.oslo.kommune.no/politikk-og-administrasjon/slik-bygger-vi-oslo/bilfritt-byliv

Bliss, L. (2017). *Oslo is on track for a car-free future.* Retrieved 25 February 2019 from www.citylab.com/transportation/2017/04/oslo-is-on-track-for-a-car-free-future/522882/.

Bonuses and Grants (n.d.). Retrieved 3 June 2019 from https://www.brussels.be/bonus-beautification-or-renovation-facades-central-boulevards-and-bourse.

Boussauw, K. (2016). Lokale economische aspecten van voetgangersgebieden: een beknopt literatuuroverzicht (Local economic aspects of pedestrian areas: a brief literature review). In: Corijn, E., Hubert, M., Neuwels, J., Vermeulen, S. & Hardy, M. (Eds). Portfolio #1: Cadrages - Kader, Ouvertures - Aanzet, Focus. Bruxelles: BSI-Brussels Centre Observatory.

Brambilla, R. & Longo, G. (1977). *For pedestrians only: planning, design, and management of traffic-free zones.* Watson-Guptill.

Brown, H. & Vergragt, P. (2015). From consumerism to wellbeing: toward a cultural transition? *Journal of Cleaner Production*, *132*, 308-317.

Brussels Municipality (n.d.). "Trade: How do we work with local commercial districts?".

Buehler, R. & Pucher, J. (2011). Sustainable Transport in Freiburg: Lessons from Germany's Environmental Capital. *International Journal of Sustainable Transportation*, *5(1)*, 43-70.

Canavan, B. (2019). *Consumerism in crisis as millennials stay away from shops*. Retrieved 12 August 2019 from http://theconversation.com/consumerism-in-crisis-as-millennials-stay-away-from-shops-109827.

Car-free City Life in Oslo (n.d.). Retrieved 22 May 2019 from https://www.oslo.kommune.no/english/politics-and-administration/city-development/car-free-city/

Cathcart-Keays, A. (2015). *Will we ever get a truly car-free city?* Retrieved 22 February 2019 from www.theguardian.com/cities/2015/dec/09/car-free-city-oslo-helsinki-copenhagen.

Cathcart-Keays, A. (2017). *Oslo's car ban sounded simple enough. Then the backlash began.* Retrieved 24 May 2019 from https://www.theguardian.com/cities/2017/jun/13/oslo-ban-cars-backlash-parking.

Chiquetto, S. (1997). The environmental impacts from the implementation of a pedestrianization scheme. *Transport Research Part D: Transport & Environment*, *2(2)*, 133-146.

Climate and energy statistics (n.d.). Retrieved 9 June 2019 from https://www.oslo.kommune.no/english/politics-and-administration/statistics/environment-status/climate-and-energy-statistics/.

Clugston, E. (2019). *Oslo Is (Almost) Car-Free — And Likes It That Way.* Retrieved 2 June 2019 from https://cleantechnica.com/2019/03/05/oslo-is-almost-car-free-and-likes-it-that-way/.

Corijn, E., Hubert, M., Mezoued, A., Vermeulen, S. & Hardy, M. (2017). Portfolio#2 – Zoom in | Zoom out sur le centre-ville de Bruxelles (Portfolio#2 – Zoom in | Zoom out on the city centre of Brussels). Bruxelles: BSI-Brussels Centre Observatory. Retrieved 17 February 2019 from www.bsi-brussels.be.

COST (2016). *Oslo TU1206 COST Sub-Urban WG1 Report*. Retrieved 24 May 2019 from https://static1.squarespace.com/static/542bc753e4b0a87901dd6258/t/5707869ae707eb820b4118a5/1460111042910/TU1206-WG1-012+Oslo+City+Case+Study.pdf.

Crawford, J. (2000). *Carfree cities*. Utrecht: International Books.

Cresswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. London: SAGE Publications.

Currie, G. (2018). Lies, Damned Lies, AVs, Shared Mobility and Urban Transport Futures. *Journal of Public Transportation*, *21(1)*, 19-30.

C40 Cities (2018). *Consumption-based GHG Emissions of C40 Cities*. Retrieved 19 June 2019 from https://www.c40.org/researches/consumption-based-emissions.

Dale, S., Frost, M., Ison, S., Quddus, M. & Warren, M. (2017). Evaluating the impact of a workplace parking levy on local traffic congestion: The case of Nottingham UK. *Transport Policy*, *59*, 153-164.

Deshayes, P. (2018). *Drivers see red over Oslo's green 'war on cars'*. Retrieved 8 June 2019 from https://phys.org/news/2018-09-drivers-red-oslo-green-war.html.

Doc Translator (n.d.). Retrieved 2 May 2019 from www.onlinedoctranslator.com.

Drennen, E. (2003). "Economic Effects of Traffic Calming on Urban Small Businesses". Department of Public Administration, San Francisco State University. Retrieved 5 July 2019 from https://cedik.ca.uky.edu/files/ecoeffectsofdowtowntrafficcalming.pdf.

Eggesvik, O. (2016). *Vil ikke lenger tvinge bilene ut av sentrum* (*Cars will no longer be forced out of the city centre*). Retrieved 9 June 2019 from https://www.aftenposten.no/osloby/i/M8LKB/Vil-ikke-lenger-tvinge-bilene-ut-av-sentrum

Ellis, C. (2002). The New Urbanism: Critiques and Rebuttals. *Journal of Urban Design*, *7*, 261-291.

European Commission (2004). Reclaiming city streets for people: Chaos or quality of life? Retrieved 27 February 2019 from http://ec.europa.eu/environment/pubs/pdf/streets_people.pdf.

European Green Capital: 2019 - Oslo. (n.d.). Retrieved 5 June 2019 from http://ec.europa.eu/environment/europeangreencapital/winning-cities/2019-oslo/.

Fenton, P., Gustafsson, S., Ivner, J. & Palm, J. (2015). Sustainable Energy and Climate Strategies: lessons from planning processes in five municipalities. *Journal of Cleaner Production*, *98*, 213-221.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative inquiry*, *12*(2), 219-245.

Foletta, N. & Henderson, J. (2016). *Low Car (bon) Communities: Inspiring car-free and car-lite urban futures*. Routledge.

Fouche, G. & Solsvik, T. (2015). *Oslo aims to make city center car-free within four years*. Retrieved 2 June 2019 from https://www.reuters.com/article/us-norway-environment-oslo/oslo-aims-to-make-city-center-car-free-within-four-years-idUSKCN0SD1GI20151019.

Fuglehaug, W. (2019). *Butikken hans overlevde verdenskriger. Nå frykter han at bilfritt sentrum kan bety butikkdøden* (*His shop has survived world wars. Now he fears that the car-free centre can mean shop death*). Retrieved 21 July 2019 from https://www.aftenposten.no/amagasinet/i/opEVvg/Butikken-hans-overlevde-verdenskriger-Na-frykter-han-at-bilfritt-sentrum-kan-bety-butikkdoden.

Fremtidens Byreise (n.d.). Retrieved 14 July 2019 from https://www.fremtidensbyreise.no/trikkeprogrammet/home.

Garfield, L. (2018). *13 cities that are starting to ban cars*. Retrieved 3 July 2019 from https://www.businessinsider.com/cities-going-car-free-ban-2017-8?utm_source=feedburner&utm_medium=referral&r=US&IR=T.

Gargett, D. (2012). Traffic growth: modelling a global phenomenon. *World Transport Policy and Practice, 18(4)*, 27-45.

Gehl, J. (2013). *Cities for people*. Island Press.

Gilderbloom, J., Riggs, W. & Meares, W. (2008). Does walkability matter? An examination of walkability's impact on housing values, foreclosures and crime. *Cities*, *42*, 13-24.

Goldkuhl, G. (2012). Pragmatism vs interpretivism in qualitative information systems research. *European Journal of Information Systems*, *21(2)*, 135-146.

Gössling, S. (2013). Urban transport transitions: Copenhagen, city of cyclists. *Journal of Transport Geography*, *33*, 196-206.

Grant, J. (2006). *Planning the Good Community: New Urbanism in Theory and Practice*. London: Routledge.

Grants for the purchase of electric cargo-bikes for businesses (n.d.). Retrieved 22 June 2019 from https://www.oslo.kommune.no/politikk-og-administrasjon/tilskudd-legater-og-stipend/tilskudd-til-kjop-av-elektrisk-lastesykkel-for-bedrifter/.

Grants, scholarships and stipends (n.d.). Retrieved 23 June 2019 from https://www.oslo.kommune.no/politikk-og-administrasjon/tilskudd-legater-og-stipend/.

Gundlach, A., Ehrlinspiel, M., Kirsch, S., Koschker, A. & Sagebiel, J. (2018). Investigating people's preferences for car-free city centers: A discrete choice experiment. *Transportation Research Part D: Transport and Environment*, *63*, 677-688.

Hagen, O., Tønnesen, A. & Fossheim, K. (2017). Bilfrie sentrumsløsninger i tre nordiske byer (Car-free centre solutions in three Nordic cities). Transportøkonomisk Institutt (TØI) (Norwegian Institute of Transport Economics).

Hagen, O. & Tennøy, A. (2018). Car free city center - Utopian politics or effective city center development? *European Transport Conference 2018*.

Hagen, O. & Tennøy, A. (2019, 21 August). Email communication.

Hall, P. & Hass-Klau, C. (1985). *Can rail save the city?* Aldershot: Gower.

Halvorsen, M. (2019, 14 July). In-person interview.

Hannan, M. (2019). *New Edinburgh project aims to transform routes through the city centre.* Retrieved 15 June 2019 from https://www.thenational.scot/news/17672149.new-edinburgh-project-aims-to-transform-routes-through-city-centre/.

Hass-Klau, C. (1993). Impact of pedestrianisation and traffic calming on retailing: A review of the evidence from the UK and Germany. *Transport Policy*, *1(1)*, 21-31.

Hass-Klau, C. (2015). *The pedestrian and the city*. New York, NY: Routledge.

Hjorthol, R., Engebretsen, Ø. & Uteng, T. (2014). Den nasjonale reisevaneundersøkelsen 2013/14 - nøkkelrapport (National travel survey 2013/14 - key report). Retrieved 8 June 2019 from

https://www.toi.no/getfile.php/1339511/Publikasjoner/T%C3%98I%20rapporter/2014/1383-2014/1383-2014-elektronisk.pdf.

Hofstad, H. & Torfing, J. (2015). Collaborative innovation as a tool for environmental, economic and social sustainability in regional governance. *Scandinavian Journal of Public Administration*, *19(4)*, 49-70.

Hobbs, B. & Horn, G. (1997). Building public confidence in energy planning: a multi-method MCDM approach to demand-side planning at BC gas. *Energy Policy*, *25 (3)*, 357–375.

Hopland, S. (2019). *Tross konkursfrykt i næringen ser ikke Oslos parkeringsgrep ut til å ha store konsekvenser* (*Despite the fear of bankruptcy, Oslo's parking grip does not seem to have major consequences*). Retrieved 10 June 2019 from https://e24.no/makro-og-politikk/fjernet-parkeringsplasser-i-sentrum-tyder-paa-at-butikkhandelen-ikke-er-skadet/24634415.

Hsieh, H. & Shannon, S. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, *15*, 1277-1288.

Hubert, M., Corijn, E., Mezoued, A., Vermeulen, S. & Hardy, M. (2017). Portfolio#2 – Zoom in | Zoom out sur le centre-ville de Bruxelles (Portfolio#2 – Zoom in | Zoom out on the city centre of Brussels). Brussels: BSI-Brussels Centre Observatory Retrieved 17/2/19 from www.bsi-brussels.be.

Innes, J. & Booher, D. (2000). Collaborative Dialogue as a Policy Making Strategy (Working Paper). Institute of Urban and Regional Development, University of California, Berkeley, CA.

IPCC (2014). Climate change 2014: Synthesis report '*Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change'.*

Jacobs, J. (1961). *The death and life of great American cities*. New York: Random House.

Keller, E. (2018). Noisy business politics: lobbying strategies and business influence after the financial crisis. *Journal of European Public Policy*, *25(3)*, 287-206.

Khreis, H., Warsow, K., Verlinghieri, E., Guzman, A., Pellecuer, L., Ferreira, A. & Jones, I. (2016). The health impact of traffic-related exposures in urban areas: Understanding real effects, underlying driving forces and co-producing future directions. *Journal of Transport & Health*, *3(3)*, 249-267.

Khreis, H., May, A. & Nieuwenhuijsen, M. (2017). Health impacts of urban transport policy measures: A guidance note for practice. *Journal of Transport & Health, 6*, 209-217.

Lascoumes, P. & Le Bourhis, J. (1998). Le bien commun comme construit territorial. Identités d'action et procedures (The common good as territorial construct. Identities and procedures). *Revue des sciences sociales du politique (Social Science Journal of Politics), 11(42)*, 37-66.

Lawlor, E. (2014). "The pedestrian pound: The business case for better streets and places". Just Economics, commissioned by Living Streets. Retrieved 19/2/19 from www.livingstreets.org.uk/media/3890/pedestrian-pound-2018.pdf.

Lindeman, T. (2018). *Will Norway's Electric-Vehicle Boom Outlast Its Incentives?* Retrieved 4 June 2019 from https://www.citylab.com/environment/2018/12/norway-electric-vehicle-models-incentives-car-free-oslo/578932/.

Longo, A., Hutchinson, W., Hunter, R., Tully, M. & Kee, F. (2015). Demand response to improved walking infrastructure: A study into the economics of walking and health behaviour change. *Social Science & Medicine*, *143*, 107-116.

Løken, K. & Moskvil, E. (2015). *Frykter butikkdød i Oslo sentrum* (*Fears of shop deaths in Oslo city centre*). Retrieved 4 June 2019 from https://www.nrk.no/ostlandssendingen/frykter-butikkdod-i-oslo-sentrum-1.12608186.

Melia, S. (2010). Carfree, low car - what's the difference? *European Transport Conference, October 2010.*

Mingardo, G. (2008). Cooperation between public and private sector to enhance urban accessibility: the case of London, Göteborg and Rotterdam. 2008 POLIS Conference, Barcelona 25/26 November 2008.

Moran, D., Kanemoto, K., Jiborn, M., Wood, R., Többen, J., & Seto, K. C. (2018). Carbon footprints of 13 000 cities. *Environmental Research Letters*, *13*(6), 34-41.

Morgan, D. (1993). Qualitative content analysis: A guide to paths not taken. *Qualitative Health Research, 3*, 112-121.

Mosveen, E., Johnsen, A. & Johnsen, N. (2015). *Hofstad Helleland om Oslo-byrådet: – Bygger «Berlin-mur» mot bilistene* (*Hofstad Helleland on Oslo City Council: - Building a "Berlin Wall" against motorists*). Retrieved 7 June 2019 from https://www.vg.no/nyheter/innenriks/i/PMrBz/hofstad-helleland-om-oslo-byraadet-bygger-berlin-mur-mot-bilistene.

Newman, P., Kenworthy, J. & Glazebrook, G. (2013). Peak Car Use and the Rise of Global Rail: Why this is happening and what it means for large and small cities. *Journal of Transportation Technologies*, *3(4)*, 1-16.

Nieuwenhuijsen, M., Khreis, H., Verlinghier, E. & Rojas-Rueda, D. (2016). Transport and health: A marriage of convenience or an absolute necessity. *Environment International*, *88*, 150–152.

Nieuwenhuijsen, M., Bastiaanssen, J., Sersli, S., Waygood, O. & Khreis, H. (2019). Creating Car Free Cities: Rationale, Requirements, Facilitators and Barriers. In: Nieuwenhuijsen, M. & Khreis, H. (Eds.). *Integrating Human Health into Urban and Transport Planning: A Framework*. Springer: Switzerland.

Norway (2019). Retrieved 11 July 2019 from https://climateactiontracker.org/countries/norway/.

Norway's parliament puts block on extended Sunday trading (2018). Retrieved 22 August 2019 from www.thelocal.no/20180131/norways-parliament-puts-block-on-extended-sunday-trading.

Norwegian Ministry of Transport and Communications (2017). National Transport Plan 2018–2029 (Meld. St. 33 (2016–2017)) (Stortingsmelding).

OECD (2017). "General government spending: Total % of GDP, 2015". *Government at a Glance 2017*. Retrieved 14 August 2019 from https://data.oecd.org/gga/general-government-spending.htm#indicator-chart.

Ortegon-Sanchez, A., Popan, C. & Tyler, N. (2016). Car-free initiatives from around the world: Concepts for moving to future sustainable mobility.

Oslo Kommune (2016a). Planning Strategy 2016-2019 and Planning Program. Retrieved 28 May 2019 from https://www.oslo.kommune.no/politikk-og-administrasjon/politikk/kommuneplan/planstrategi-2016-2019-og-planprogram/#gref.

Oslo Kommune (2016b). Climate and Energy Strategy Oslo. Retrieved 2 June 2019 from https://www.oslo.kommune.no/getfile.php/13166797-1480690482/Content/English/Politics%20and%20administration/Green%20Oslo/Plans%20and%20programmes/Climate%20and%20Energy%20Strategy%20Oslo.pdf.

Oslo Kommune (2017). The Urban Development of Oslo. Retrieved 4 June 2019 from https://www.oslo.kommune.no/getfile.php/13266703-1516867454/Content/English/Politics%20and%20administration/Green%20Oslo/The%20Urban%20Development%20of%20Oslo_2018.pdf.

Oslo Kommune (2018a). Byliv for alle: Områderegulering for gater og byrom i sentrum
Program for Bilfritt byliv (City life for all: Area regulation plan for streets and the urban environment in the city centre -- Programme for Car-Free City Life). Retrieved 10 June 2019 from https://innsyn.pbe.oslo.kommune.no/saksinnsyn/showfile.asp?jno=2018155833&fileid=8251729.

Oslo Kommune (2018b). Handlingsprogram for økt byliv i Oslo sentrum (Action programme for increased urban life in Oslo city centre). Retrieved 12 June 2019 from https://www.oslo.kommune.no/getfile.php/13310004-

1548060305/Tjenester%20og%20tilbud/Politikk%20og%20administrasjon/Slik%20bygger%20vi%20Oslo/Bilfritt%20byliv/20181015_Vedtatt%20Handlingsprogram%20for%20%C3%B8kt%20byliv.pdf.

Oslo Kommune (2019). The Car-free Liveability Programme 2019. Retrieved 28 May 2019 from www.oslo.kommune.no/getfile.php/13319592-1553857948/Content/English/Politics%20and%20administration/City%20development/Car%20free%20city/The%20Car-free%20Livability%20Programme%202019.pdf.

Oslo Kommunevalg (2019). Retrieved 11 September 2019 from https://www.nrk.no/valg/2019/resultat/nb/sted/0301.

Oslo - The EV Capital of the World. Agency for Urban Environment, Oslo Kommune. Retrieved 9 June 2019 from www.cemobil.eu/docs/file/cemobil_kongress_pr%C3%A4sentation_city_of_oslo_portvik.pdf.

Patton, M. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: SAGE Publications.

Pedestrian Zone? (n.d.). Retrieved 3 June 2019 from https://www.brussels.be/pedestrian-zone-juliens-team-answers-all-your-questions.

Peters, A. (2019). *What happened when Oslo decided to make its downtown basically car-free?* Retrieved 10 June 2019 from www.fastcompany.com/90294948/what-happened-when-oslo-decided-to-make-its-downtown-basically-car-free.

Pharoah, T. & Apel, D. (1995). *Transport Concepts in European Cities*. Burlington, VT: Ashgate Publishing.

Pilotområder Bilfritt byliv 2017 (n.d.). Retrieved 4 June 2019 from https://www.oslo.kommune.no/politikk-og-administrasjon/slik-bygger-vi-oslo/bilfritt-byliv/pilotomrader-bilfritt-byliv-2017-article79387.html.

Pinson, G. (2004). Le projet urbain comme instrument d'action publique (The urban project as an instrument of public action). In: Lascoumes, P. & La Gales, P. (Eds). *Gouverner par les instruments (Govern by instruments).* Paris: Presses de Sciences.

Plan, bygg og eiendom (*Planning, building and property*) (n.d.). Retrieved 8 June 2019 from https://www.oslo.kommune.no/plan-bygg-og-eiendom/#gref.

Polle, S. (2018). Statusrapport 2018 – Midtveisevaluering (Status Report 2018 - Midterm evaluation). Report by Sweco for Oslo Kommune.

Revi, A., Satterthwaite, R., Aragón-Durand, F., Corfee-Morlot, J., Kiunsi, R., Pelling, M., Roberts, D. & Solecki, W. (2014). Urban areas. In: Field, C., Barros, V., Dokken, D., Mach, K., Mastrandrea, M., Bilir, T., Chatterjee, M., Ebi, K., Estrada, Y., Genova, R., Girma, B., Kissel, E., Levy, A., MacCracken, S., Mastrandrea, P. & White, L. (Eds).*Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Pp. 535-612. Cambridge: Cambridge University Press.

Rieck, K. (2018). Bilfritt Byliv: Survey of the business community in the city in 2018. Report by Sweco for Oslo Kommune.

Rydningen, E., Hoynes, C. & Kolltveit, L. (2017). Oslo 2019: A Car-Free City Centre. *WIT Transactions on Ecology and the Environment, 226*, 3-13.

Sandahl, J. & Lindh, C. (1995). Impact of improving the attractiveness of town centres. *Transport Policy*, *2(1)*, 51–56.

Santos, G. & Shaffer, B. (2004). Preliminary results of the London congestion charging scheme. *Public Works Management & Policy*, *9(2)*, 164-181.

Sicilia, M., Guarini, E., Sancino, A., Andreani, M. & Ruffini, R. (2016). Public services management and co-production in multi-level governance settings. *International Review of Administrative Sciences, 82(1)*, 8-27.

Silva, E. (2008). Partnership, Collaborating Planning and Urban Regeneration. *Regional Studies*, *42(10)*, 1404-1046.

Soni, N. & Soni, N. (2016). Benefits of pedestrianization and warrants to pedestrianise an area. *Land Use Policy*, *57*, 139-150.

Sotiaux, A. & Strale, M. (2017). Enjeux logistiques du piétonnier et des réaménagements connexes. Synthèse des résultats d'une enquête auprès des professionnels (Logistical challenges of pedestrian and related redevelopment. Summary of the results of a survey of professionals). In Hubert, M., Corijn, E., Mezoued, A., Vermeulen, S. & Hardy, M. (2017). Portfolio#2 – Zoom in | Zoom out sur le centre-ville de Bruxelles (Portfolio#2 – Zoom in | Zoom out on the city centre of Brussels). Brussels: BSI-Brussels Centre Observatory. Retrieved 17 February 2019 from www.bsi-brussels.be.

Szarata, A., Nosal, K., Duda-Wiertel, U. & Franek, L. (2017). The impact of the car restrictions implemented in the city centre on the public space quality. *Transportation Research Procedia, 27*, 752-759.

Talen, E. (2002). The Social Goals of New Urbanism. *Housing Policy Debate*, *13(1)*, 165-188.

Tesch, R. (1990). *Qualitative research: Analysis types and software tools*. Bristol, PA: Falmer.

TEST (1989). *Trouble in Store? Retail Locational Policy in Britain and Germany*. TEST: London.

The Lyon Protocol (n.d.). Retrieved 3 July 2019 from http://www.carfree.com/lyon.html.

The Vice Mayor for Environment and Transport (n.d.). Retrieved 13 June 2019 from https://www.oslo.kommune.no/politics-and-administration/politics/city-government/the-vice-mayor-for-environment-and-transport/#gref.

Toledo, A. & La Rovere, E. (2018). Urban Mobility and Greenhouse Gas Emissions: Status, Public Policies, and Scenarios in a Developing Economy City, Natal, Brazil. *Sustainability, 10*, 1-24.

Topp, H. & Pharoah, T. (1994). Car-free city centres. *Transportation*, *21*, 231-247.

Tønnesen, A., Meyer, S., Skartland, E. & Sundfør, H. (2016). Europeiske byer med bilfrie sentrum (European cities with car-free centres). Transportøkonomisk Institutt (TØI) (Norwegian Institute for Transport Economics).

UNFCCC (2018). *National Inventory Submissions 2018*. Retrieved 18 May 2019 from https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/greenhouse-gas-inventories-annex-i-parties/national-inventory-submissions-2018.

Varma, G. (2017). A Study on New Urbanism and Compact City and their Influence of Urban Mobility. 2nd IEEE International Conference on Intelligent Transportation Engineering.

Vermeulen, S. & Hardy, M. (2016). Communication et participation dans le cadre de grands projets urbains (Communication and participation in major urban projects). In: Corijn, E., Hubert, M., Neuwels, J., Vermeulen, S. & Hardy, M. (Eds) (2016). Portfolio#1: Cadrages - Kader, Ouvertures - Aanzet, Focus. Brussels: BSI-BCO.

Walliman, N. (2015). *Social research methods: The essentials*. SAGE Publications.

Wiggins, P. (1993). Streets, traffic and trade: Research Report 6. Leicester: Leicester Environment City Trust.

Wooton, J. (1999). Replacing the private car. *Transport Reviews*, *19(2)*, 157-175.

Wright, L. (2005). Car-Free Development. Report by Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) for the Federal Ministry for Economic Cooperation and Development. Retrieved 23 February 2019 from www.worldcarfree.net/resources/freesources/carfree_dev.pdf.

Yin, R. (2012). Case Study Protocol. In: Mills, A., Durepos, G. & Wiebe, E. (Eds). *Encyclopedia of Case Study Research*. Thousand Oaks: SAGE Publications.

Zhiqiang, Q., Siegmann, K., Keller, A., Matter, U., Scherrer, L., & Siegmann, H. (2000). Nanoparticle air pollution in major cities and its origin. *Atmospheric Environment*, *34(3)*, 443-451.

Zulfiqar, S., Wahab, M., Sarwar, M. & Lieberwirth, I. (2018). Is Machine Translation a Reliable Tool for Reading German Scientific Databases and Research Articles? *Journal of Chemical Information and Modeling*, *58*(11), 2214-2223.

Appendix A: Project information document

My name is Jamie Wylie, and I'm studying a master's degree in Environmental Management and Policy at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University in Sweden.

I am undertaking a thesis project focusing on the development of car-free city centres. Car-free city centre projects are becoming increasingly popular across Europe, with many cities seeking to reduce car traffic and increase the use of public transport, walking and cycling. I am investigating issues surrounding the experience of business stakeholders and municipalities in the design and implementation of such projects. I am primarily investigating business attitudes to car-free city centre projects, and the approach that municipalities take to consider a range of stakeholders when implementing such projects. I am partnering with Transportøkonomisk Institutt (TØI) for this thesis.

I am using Oslo as the central case study in this research. As part of this, I am interviewing a range of stakeholders involved with or impacted by Oslo's recent planning changes in the city centre. Interviews will be taking place in the first two weeks of July. However, I will be in Oslo for the whole month of July, should you need to contact me in person.

Following the completion of this thesis, this research will be repurposed as a public report for Transform Scotland, a sustainable transport organisation. This report will identify learning points and lessons for other cities which are aiming to reduce car use. The information you provide in the interview will be used to guide this report, but your name will not be used in this report.

If you wish to find out more about my thesis project, please do not hesitate to get in touch.

Many thanks,
Jamie Wylie
MSc student in Environmental Management and Policy, IIIEE, Lund University

Phone: xxxx | Email: xxxx
Linkedin: xxxx | IIIEE website: www.iiiee.lu.se

Appendix B: Interview consent form

Thank you for agreeing to participate in this research project. This interview forms part of my thesis project investigating business attitudes to car-free city centres. This is in partial fulfilment of a master's degree in Environmental Management and Policy at the International Institute for Industrial Environmental Economics (IIIEE) at Lund University in Sweden. I am carrying out this thesis in partnership with Transportøkonomisk Institutt (TØI) for this thesis.

Interviews will be recorded using a voice recorder. This will be saved until the end of this research project in late September, after which point the voice recording will be deleted. During the research period the voice recorder securely stored, and transcripts of all interviews will be kept on a password-protected computer. The voice recording will only be used to inform the development of this research project.

Following the completion of this thesis, this research will be repurposed as a public report for Transform Scotland, a sustainable transport organisation. This report will identify learning points and lessons for other cities which are aiming to reduce car use. The information you provide in the interview will be used to guide this report, but your name will not be used in this report.

You may pause or stop the interview at any point. Additionally, if after the completion of this interview you decide that you no longer want to take part in this research, you are free to do so. Should you wish to remain anonymous in your interview, even if only for specific questions, please let me know. If you do not wish to remain anonymous, your name will be used where relevant (e.g. for attributing answers to interview questions, quotes etc).

Following the completion of this research, the final version of this thesis will be publicly available on the Lund University LUP Student Papers website.

By signing this form, you agree to the above conditions and for the information you provide to be used as part of this thesis project.

Interviewee
Name:
Signature:
Date:

Appendix C: Preliminary case study protocol

Case study protocol (preliminary)

Open for business? Reducing business opposition to the creation of car-free city centres: The case of Oslo

1. Research overview

1.1 Introduction

The prioritisation of private vehicles in urban environments is coming under increasing scrutiny. A number of challenges arise from car-dominated transport systems, including congestion, air pollution and carbon emissions, resulting in a number of negative economic, social and environmental impacts for cities and their inhabitants (Nechyba & Walsh, 2004). Additionally, in light of increasing populations and the changing face of urban economies (UN Habitat, 2016), many cities are now facing limitations in urban space and a growing demand for high-quality, mixed-use land use. As such, many cities are seeking solutions which can deliver improvements to urban transport whilst delivering wider societal benefits. One such solution is car-free city centres (CFCCs), central areas of cities in which car traffic is prohibited or severely restricted. CFCCs have been highlighted for their potential to deliver a number of environmental, economic and social benefits for cities and their inhabitants (Nieuwenhuijsen et al., 2019). Whilst CFCCs have potential to tackle pressing issues facing urban areas, the development of such schemes commonly raises opposition from business groups and retailers (Topp & Pharoah, 1994; Szarata et al., 2017). Business opposition prior to implementation of CFCCs presents one the biggest barriers to the successful implementation of CFCCs (Nieuwenhuijsen et al., 2019), and can contribute to political and public backlash against such projects (e.g. Cathcart-Keays, 2017). With an increasing number of cities seeking to establish CFCCs, challenges remain in developing car-free projects which meet the needs of all stakeholders.

This case study protocol sets out a thesis investigating how municipalities can reduce business opposition to car-free city centres. Oslo, Norway, has been selected as a case study for this thesis.

1.2 Research questions

The aim of this thesis it to investigate how municipalities can reduce opposition from business stakeholders in the creation of car-free city centres.

In order to achieve this aim, the following research questions and sub-research questions are posed:

- RQ_1: How can municipalities reduce the risk of business opposition to the development of car-free city centres?
- RQ_2: What are the key factors affecting business opposition to car-free city centre projects?

To answer these research questions, four sub-research questions (SRQs) are considered. These SRQs have been informed by findings from a preliminary literature review, and are as follows:

- SRQ_1: What actions have been taken by Oslo municipality to reduce the risk of business opposition to Bilfritt Byliv?
- SRQ_2: To what extent has consultation and collaboration with business stakeholders been undertaken by Oslo municipality?
- SRQ_3: How has Oslo municipality communicated the development of Bilfritt Byliv to business stakeholders?
- SRQ_4: To what extent have business stakeholders in Oslo expressed opposition to Bilfritt Byliv and where has this arisen from?

1.3 Case Study: Oslo

The case of Oslo stands out as a leading example of the large-scale implementation of a CFCC. Oslo is in the process of implementing arguably the most ambitious and largest CFCC project in Europe to date ('Bilfritt Byliv', or 'Car-Free City Life'). The scheme commenced in 2015 following a newly-formed political coalition. The scheme has included the large-scale removal of public parking spaces, the closure of streets to traffic and the expansion of the provision for cycling in a 1.2 km² area (Figure 1) (Oslo Kommune, 2019). The planned interventions are culminating in 2019, though smaller improvements will continue in the coming years (Oslo Kommune, 2019). Bilfritt Byliv has come under substantial criticism from various stakeholders over the past four years, including business groups (e.g. NRK, 2015; Cathcart-Keays, 2017). Indeed, there are signs that the proposed level of car restriction has been weakened in response to this criticism (Aftenposten, 2016). This suggests that issues have arisen with regards to the design of the Bilfritt Byliv project, and the approach taken by Oslo Kommune in consulting with business groups and other stakeholders.

Figure 1: Area designated for car-free measures. Source: Oslo Kommune (2019)

1.4 Data collection strategy

Two approaches will be taken for data collection:

1.4.1 Policy document analysis/desk research

A review and critique of policy documents relating to Bilfritt Byliv will be undertaken. The purpose of doing is to identify measures used to support and engage with business in the design and implementation of the scheme. Policies and approaches will be identified and categorised into specific types of intervention (e.g. policy, support measure, consultation) and presented to demonstrate the measures that Oslo Kommune has introduced. It has not yet been decided whether this will be a descriptive or more analytical approach.

1.4.2 Interviews

Semi-structured interviews will be undertaken with key stakeholders related to the Bilfritt Byliv project. The purpose of these interviews is to gain a detailed account of the events, actions and relationships of relevance to the Bilfritt Byliv project, as well as the opinions of relevant stakeholders (e.g. what approach has Oslo Kommune taken, to what extent economic factors were integrated into the project, how opposition has been dealt with). These interviews will fall into two broad categories:

Oslo Kommune and other municipal employees

I will interview a number of contacts within Oslo Kommune working on Bilfritt Byliv, with particular attention given to those working on business engagement within the project.

Business groups and retailers
I will interview business groups and retailers to gain a more detailed understanding of the opposition expressed to Bilfritt Byliv.

1.5 Goals of study

The ultimate goal of this study is to aid the development of car-free city centre projects, and other car-free projects, by providing insights into how opposition from business stakeholders to such projects can be reduced. To a lesser extent, this thesis aims to contribute to the literature on car-free city centres, which hitherto remains a relatively little-studied area.

2. Research strategy

2.1 Data collection approach

Document analysis/desk research
Policy documents relating to the Bilfritt Byliv project, containing specific policies and support measures relating to business activity, will be reviewed and analysed prior to undertaking interviews. This is in order to establish a solid understanding of the Bilfritt Byliv project before going into more detail in the interviews. Figure 2 sets out the process that will be followed for data collection.

Interviews
Interviewees will firstly be contacted by email to request an interview. If necessary, a phone call will take place with the interview to provide further information about the project and the request for an interview. All preferred interviewees have been contacted via email so far (Table 1). Once an interviewee confirms their availability, a date, time and location will be agreed. Interviews will ideally take place in person in Oslo in July 2019. I will aim to undertake interviews throughout the first two weeks of July, with the option of using the second half of July as a backup in case interviewees are not available. Video conference interviews may be necessary if face-to-face interviews are not possible for certain interviewees.

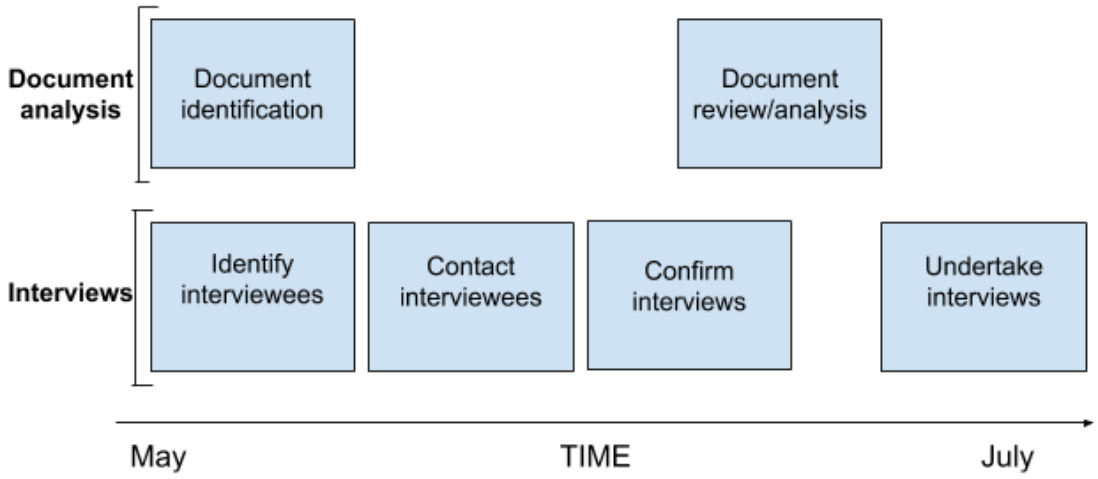

Figure 2: Process for implementation of data collection.

3. Participant considerations

The main ethical consideration for this thesis project is the potential requirement to anonymise the interviewees. Certain interviewees may wish to keep their name and/or job title and/or employer anonymous, given that many of the interview questions will relate to potentially sensitive subject matter (i.e. the relationships between Oslo municipality and business groups). Prior to conducting the interviews, interviewees will be made aware of the intended purpose of the interview, the overall focus of the thesis project, and what their information will be used for. They will have the opportunity to provide their consent for the interview to be used for the thesis project by signing a consent form. Should they choose not to sign this, no interview will take place.

4. Focus of study

This thesis project will attempt to answer a number of questions relating to reducing business opposition to car-free city centres. These questions are designed for the researcher to consider during the research phase of this project, and are not the questions to be asked to interviewees. Questions can be split into the following sections:

4.1. Policies and support measures

- What policies and support measures have been used by Oslo Kommune to assist businesses in the city centre?
- How have these policies and support measures been received by businesses and business groups?
- What additional policies and support measures could be required for businesses?

4.2 Consultation, communication and engagement

- To what extent has Oslo Kommune consulted with businesses during the *design* of Bilfritt Byliv? (e.g. Stakeholder engagement? Collaborative planning? Co-creation?)
- To what extent has Oslo Kommune consulted with businesses during the *implementation* of Bilfritt Byliv?
- Has consultation of businesses resulted in modifications to the Bilfritt Byliv plans?
- How do business stakeholders feel about the extent and quality of consultation from Oslo Kommune?
- How do Oslo Kommune feel about the input from business during consultation? (e.g. Constructive? Hostile?)
- Has the consultation approach helped to reduce business opposition to the project?
- How has Oslo Kommune communicated information regarding the *design* of Bilfritt Byliv?
- How has Oslo Kommune communicated information regarding the *implementation* of Bilfritt Byliv?
- How do business stakeholders perceive the extent and quality of communication about Bilfritt Byliv?
- Has the communication strategy helped to reduce business opposition to the project?

4.3 Strategic planning of Bilfritt Byliv

- What goals and objectives were set by Oslo Kommune for Bilfritt Byliv?
- To what extent did economic sustainability or a desire to deliver economic benefits in the city centre drive the creation of Bilfritt Byliv?
- Were explicit economic objectives set for Bilfritt Byliv?
- Has the overall strategy for Bilfritt Byliv fostered or limited business opposition?

4.3 Business opposition

- To what extent have business stakeholders opposed Bilfritt Byliv?
- What were the reasons for business stakeholder opposition to Bilfritt Byliv?
- Have different types of business stakeholder expressed different attitudes to Bilfritt Byliv (e.g. cafe/restaurant, clothes shop, large consumer goods, offices, business association)?

- Has opposition from business stakeholders led to wider opposition (e.g. from political opposition parties, media)?
- What, in the view of businesses, would have made them accept or support Bilfritt Byliv?

5. Final report plan

The final thesis is set to follow a format in accordance with the guidelines set by the IIIEE. The results of the study will be presented in a 'findings' section, where the most relevant sections of interviews will be documented alongside the policies and support measures identified in the policy documents. Transcripts will be provided in the appendix of the thesis. Analysis of the interviews will be carried out through coding of transcripts to identify key themes, concepts and points of discussion which can allow conclusions to be drawn and the research questions to be answered. The policies and support measures identified will be set out in tabular form, and will either simply be described, or if a more analytical approach is taken, scrutinised in greater detail.

The questions set out in section 4 will likely inform the structure of the 'discussion' section, as the four subsections set out are deemed to be the key themes for this thesis. The questions set out in section 4 will also inform the formulation of questions for interviewees. A timeline for undertaking research has been produced, with deadlines for the data collection and report writing set out.

Appendix D: Example interview guide

This interview guide was used when interviewing business organisations. Some questions were added or removed from this list of questions when interviewing other business stakeholders or municipality representatives.

Introduction

- Thank interviewee for their time for this interview
- First: Establish how much time the interviewee has
- Recap who I am
- Explain the conditions of the interview:
    - Clarify whether they are happy for their name/job title to be used in the thesis
    - This information will be used in a public report following the completion of this thesis, but your name or job title will not be used in this report
    - Explain background and purpose of the research
    - Set out how the interview will run, and for how long
    - Ask whether it's ok to contact interviewee at a later date in case need for clarification
    - Ask interviewee if they have any points of clarification or questions

1. Background information

- Can you please tell me your name and the organisation you work for
- Can you say a little bit about the work of your organisation, who your organisation represents, and your role within the organisation?
- What are NHO's overall goals or ambitions for Oslo city centre?

2. General questions about the urban development of Oslo

- In your view/NHO's view, what are the main threats facing businesses in Oslo city centre?
- Is there anything you think needs to change in order to better support businesses in Oslo city centre and make it more economically successful and attractive for customers?

3. General questions on Bilfritt Byliv

- Since 2017 Oslo Kommune have introduced changes to the city centre through the Bilfritt Byliv programme. In general terms, what are your/NHO's views of the Bilfritt Byliv programme?
- Are there specific aspects of the programme (e.g. specific measures) which you/NHO has supported?
- Are there specific aspects of the programme (e.g. specific measures) which you/NHO has opposed?
    - How could this have been resolved?
- Have your/NHO's views towards Bilfritt Byliv changed since the programme was announced in 2015?
- Research for Oslo Kommune suggests that businesses in Oslo city centre are not generally supportive of Bilfritt Byliv. What have been the main reasons for business opposition to the scheme?

4. Consultation during the development of Bilfritt Byliv

- Did you/NHO have opportunities to share your views on the changes made to Oslo city centre through the Bilfritt Byliv programme?
    - What form did this take? Meetings? Surveys?
    - How often did you have these opportunities?
- Do you feel that concerns raised by NHO and other business stakeholders resulted in improvements to the plans for Bilfritt Byliv?
- Is there anything you would have done to consult and collaborate more with businesses during Bilfritt Byliv?

5. Communication during the development of Bilfritt Byliv

- What are your views on how well the plans for Bilfritt Byliv, such as reduced parking and car access, were communicated to businesses and other business stakeholders such as your organisation?
- Is there anything that could have been done differently in the communication of Bilfritt Byliv?
- How well has Oslo Kommune promoted the city centre since the Bilfritt Byliv programme started?
- Did you notice any change in the communication of Bilfritt Byliv from Oslo Kommune change from the start of the programme to today?

6. Actions to support business as part of Bilfritt Byliv

- Some support measures were made available for businesses as part of Bilfritt Byliv, including the provision of delivery access for businesses, financial support for the purchase of electric cargo bikes, and access to funding for holding events in streets.
    - What are your thoughts on the actions taken by Oslo Kommune to support businesses in the city centre?
- Is there any specific actions or measures that you feel could have been used to support businesses in the city centre?
- How might Bilfritt Byliv have been carried out differently to gain the support of businesses?
    - Infrastructure
    - Strategic

Appendix E: Coding structure

Code	Explanation
Businesses and business opposition to Bilfritt Byliv	
Shortcomings in dialogue/consultation	Perceived failure to take on board and act on the views of businesses
Impact of vehicle restrictions	Problems arising with delivery access to shops due to vehicle restrictions
Need for stability and certainty	Importance of long-term certainty in the conditions under which businesses operate
Reduction in opposition/support for project	Evidence of falling opposition or support for Bilfritt Byliv
Questionable opposition	Opposition expressed by businesses which does not appear to be justified
Diversity of city centre	A potentially adverse impact of Bilfritt Byliv on smaller or niche shops
Need for businesses to be flexible	The need for business to respond to adapt their operations to suit new conditions
Importance of physical measures	Perceived importance of using the space created by reducing car access
Consultation and collaboration with business stakeholders	
Value of dialogue and collaboration	Recognition of the value of collaborating with business stakeholders
Shared understanding and information	The importance of having a common understanding of the impact of BB
Changing approach from municipality	Oslo Kommune responding to opposition expressed by business stakeholders
Communication of Bilfritt Byliv to business stakeholders	
Communicating benefits of project	The value of communicating the benefits of Bilfritt Byliv to business stakeholders
Honesty and transparency	Recognition of the need for honest communication about the impacts of Bilfritt Byliv
Messaging and objectives of project	The approach taken in communicating the aims of Bilfritt Byliv
Failure in communication	Perceived failure in adequate communication of the plans for Bilfritt Byliv
Actions and strategy taken by Oslo municipality to support businesses	
Flexibility of municipality	Evidence of, or a need for, Oslo Kommune to adapt their approach
Demand for support from business	Evidence of business stakeholders requesting specific means of support
Strategic challenges	Issues arising in the strategic implementation of Bilfritt Byliv
Contextual factors/other	
Role of media	The impact of media sources on the perceptions of Bilfritt Byliv
Importance of accessibility	The need for public transport to serve as a replacement for reducing car access
Wider challenges facing Oslo city centre	Wider changes in urban economies and shopping habits in city centres
Need for an integrated, long-term approach	Recognition of the need for Bilfritt Byliv to tie into wider plans for Oslo