

Mind the gap: an evaluation of the organisational, practical and social influences on the implementation of cycling-specific policies in Aberdeen.

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2024

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MIND THE GAP: AN EVALUATION OF THE
ORGANISATIONAL, PRACTICAL, AND SOCIAL
INFLUENCES ON THE IMPLEMENTATION OF
CYCLING-SPECIFIC POLICIES IN ABERDEEN

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PhD

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CAROLINE MARGARET HOOD

A thesis submitted in partial fulfilment of the requirements of Robert Gordon University for the
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Lastly, to Scott, my person. For the constant supply of tea and for sharing my love of two wheels.

Abstract

Caroline Margaret Hood

A thesis submitted in partial fulfilment of the requirements of Robert Gordon University for the degree of Doctor of Philosophy

Mind the gap: an evaluation of the organisational, practical, and social influences on the implementation of cycling-specific policies in Aberdeen.

Where cycling and the bicycle are often presented as a solution to automobility and dominance of the car, can cycling practices exist within such dominant structures and the associated socio-cultural perspectives? Located within the field of mobilities, this thesis evaluates the organisational, practical, and social influences on the implementation of cycling-specific policies in Aberdeen, Scotland. Although qualitative studies in this field are growing in number, a prior significant body of work has relied on quantitative data and therefore has not been able to incorporate the discourses of cyclists. Furthermore, in previous qualitative studies, the discourses of policymakers have not been fully explored, particularly within the field of transport and cycling policy. This thesis draws on qualitative survey and interview data gathered from members of the public who are cyclists, and from policymakers involved in the development and implementation of cycling policies and projects in Aberdeen. Using practice theory and drawing on thematic analysis to further contextualise data, this thesis offers much-needed qualitative conceptualisations of cycling to complement extant quantitative research in transportation planning and health research. The focus on policy and inclusion of interview data from policymakers adds novelty and depth to this research. It is established that: (i) within the theoretical framework of practice theory, at present, the practice of cycling does not exist in Aberdeen; and (ii) there are significant gaps in the organisational, practical, and social structures in Scotland that act as barriers to policy development and implementation. The findings of this thesis have policy implications for cycling in Aberdeen and the wider national policy landscape for cycling in Scotland. Through interrogating both the nature of cycling and policymaking for cycling in Aberdeen through the theoretical framework of practice theory, this thesis addresses a significant gap in this field of knowledge and offers a contribution to both theoretical and practical knowledge.

Key words: Aberdeen; automobility; cycling; cyclist; local government; mobilities; practice theory; Scotland; velomobility.

Foreword: the COVID-19 gap

Data collection for this thesis concluded at the end of February 2020 as reports of a novel coronavirus saturated the global news media. It was with intense relief that I boarded a train at Edinburgh Waverley following the final data collection interview and headed home to Aberdeen as news headlines about the virus flashed on my phone. I could not have imagined the impact that the COVID-19 pandemic would have, both personally and professionally, and the subsequent impact in this would result in my doctoral studies. Cycling experienced a resurgence during the pandemic as lockdown regulations restricted our movements and freedoms, but offered other two-wheeled freedoms, providing new insights into cycling in Aberdeen. It felt important to acknowledge this temporal gap in a thesis about real and perceived gaps, but despite the delay the research idea set out below remained intact.

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List of Abbreviations

ACC	Aberdeen City Council
AcTrAP	Active Travel Action Plan (ACC)
AQAP	Air Quality Action Plan (ACC)
AWPR	Aberdeen Western Peripheral Route
BPS	British Psychological Society
BSA	British Sociological Association
CAPS	Cycling Action Plan for Scotland
CGP	City Garden Project (ACC)
LOIP	Local Outcome Improvement Plan (ACC)
LTS	Local Transport Strategy (ACC)
NCN	National Cycle Network
Nestrans	North East of Scotland Transport Partnership
Nestrans AcTrAP	NESTRANS Active Travel Action Plan 2014-2035
Nestrans 2040	NESTRANS 2040 Regional Transport Strategy
NGO	Non-governmental organisation
NMU	Non-Motorised User
NTS	National Transport Strategy (Transport Scotland)
NTS2	National Transport Strategy 2 (Transport Scotland)
PORTIS	CIVITAS PORTIS
RESSA	Research Student and Supervisor Assessment
RTP	Regional Transport Partnership
RTS	Regional Transport Strategy
SIMD	Scottish Index of Multiple Deprivations
SUMP	Sustainable Urban Mobility Plan (ACC)

Chapter 1: Background to the Research

1.1. The City of Aberdeen

This thesis focuses on the North East of Scotland and the ‘Granite City’ of Aberdeen (Figure 1). Scotland’s third largest city, Aberdeen was once synonymous with fishing, but the discovery of significant oil reserves in the North Sea in the 1970s changed the economic, cultural, and social landscape of Aberdeen forever (Drysdale 2020). A city framed by the North Sea to the east and the valleys of the Rivers Don and Dee to the north and south of the city (National Geographic 2023), these valley areas have acquired significant road infrastructure that create key transport corridors for the city (NatureScot 2020).

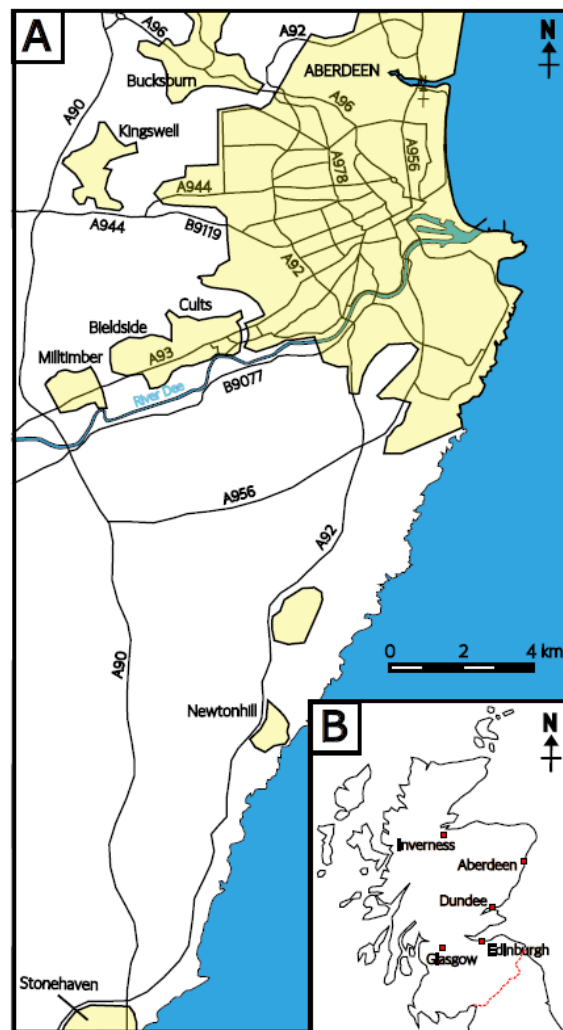


Figure 1: Map of Aberdeen and surrounding area.

The sea contributes to the coastal sea fog or “haar” that can descend across the city from the North Sea throughout the year (NatureScot 2020), and this proximity to the sea accounts for significant temperature variations (Met Office 2016). The region is one of the windiest areas of the UK, with the

exposed coastal areas experiencing stronger winds, and autumn and early winter representing the wettest months (Met Office 2016). Hills are a distinctive feature of Aberdeen, particularly along the western edge of the city, and Kincorth and Tullos hills to the south of the city (NatureScot 2020). Within the city itself, areas such as Ferryhill, Woolmanhill, and Broad Hill contribute to the “distinctive topography” of the city, thanks to sand and gravel morainic mounds (NatureScot 2020) shaping the raised areas in the city itself. Understanding the climate and topography of Aberdeen is important for the broader context of this thesis due to the potential for these factors to shape individual transport choices (de Megalhaes and Rigatto 2023; Bocker, Dijst, and Faber 2016; Bocker, Dijst, and Prillwitz 2013).

From a transport perspective, according to data drawn from the 2011 census, out of the 103,371 households in Aberdeen, 31.4% had **no access** to car or van, with **44.9%** having access to **one car or van** (National Records of Scotland 2023). Conversely, **19.4%** and **4.4%** of households had access to **2 cars or vans**, and **three or more cars or vans** respectively (National Records of Scotland 2023). This information is further contextualised using data from the Population Needs Assessment produced in 2021, which reports that the median gross weekly pay for people living in Aberdeen City was £582.50, slightly lower than the Scottish average of £595.00 (Community Planning Aberdeen 2021 p. 16). It was also noted that Aberdeen’s position in the Scottish Index of Multiple Deprivations (SIMD) worsened between 2016 and 2020, with increases in the numbers of areas featuring in each of the data zones, however the impact of the COVID-19 pandemic was noted as being significant in pushing people into poverty (Community Planning Aberdeen 2021 p. 17).

Thinking about how people travel in the city, driving a car is the most common mode of transport in the city for travelling to work or education, with 53% of modal share, and cycling representing a 2% modal share (Community Planning Aberdeen 2021 p. 66). There is also a strong connection between Aberdeen City and the surrounding Aberdeenshire area. The 2011 Census¹ showed 41,000 people commuting into Aberdeen from Aberdeenshire to work, with 8,500 travelling from Aberdeen to Aberdeenshire for work purposes (Nestrans 2021 para 11.84). Data derived from Aberdeen City Council traffic counters shows that while traffic levels dropped during the COVID-19 lockdown in

¹ At the time of writing, the more recent Census data from 2022 was not available for transport on a regional basis.

March 2020, by 2021 there were higher levels of traffic than pre-lockdown, suggesting an increase in private vehicle usage (Community Planning Aberdeen 2021 p. 66).

1.2. Aberdeen and the place of cycling

Aberdeen is a city synonymous with the hydrocarbon and the offshore oil and gas industry (Saunderson 2022; Elliott 2021; Geoghegan 2014). The “black gold” has brought wealth and prosperity for many in the city, with the relative affluence of residents contributing to significant rises in car ownership² and car journeys too (Tiesdell and Allmendinger 2004 p. 176). The influence of the car also extends across social strata, as evidenced by Lumsden’s ethnography of boy racers in Aberdeen (Lumsden 2013). Quite simply, the car is, “an object of desire” in the city (Sheller 2014 p. 235).

As noted by Hinde (2021), it is from the car that “Aberdeen’s petro-spaces are most visible” (Hinde 2021 p.84). Hinde frames Aberdeen through the work of Sheller and Urry (2006) and describes these spaces as organising “flows of information, population, petroleum oil, risks and disasters, images and dreams” (Hinde 2021 p. 84, citing Sheller and Urry 2006 p. 209). For the 227,430 residents of Aberdeen (National Records of Scotland 2022), automobility and the associated petrocapitalism³ referenced by Hinde (2021) are dominant forces in the city, perhaps even more than in other places in the UK where it is acknowledged that cycling has historically been a marginalised activity (Aldred and Jungnickel 2014 p. 86).

How might the practice of cycling be reproduced in such a city, when it is a practice that can be used to challenge the present structure of automobility and associated cultural norms (Furness 2014 pp. 316-317), and where cycling and the bicycle are frequently presented as a solution to the present system and dominance of automobility (Psarikidou, Zuev and Popan 2020; Pucher and Buehler 2017; Spinney 2009 p. 820)? In 2021 a survey on walking and cycling in Aberdeen reported that, 15% of people in Aberdeen cycle regularly⁴ (Sustrans 2022 p.8), with 51% of residents having access to a bicycle (Sustrans 2022 p. 17). From an infrastructure perspective, the *Walking and Cycling Index for*

² As of 31st December 2018, Aberdeen had vehicle registrations of 572 per 1,000 people against Edinburgh’s 459 per 1,000 people, and Glasgow’s 385 per 1,000 people. Aberdeenshire is in the top three areas for vehicle ownership, with 905 per 1,000 people (Transport Scotland 2019d).

³ Implying the wealth on which Aberdeen is built and maintained is drawn from the extraction of oil and gas from the North Sea.

⁴Based on the responses of 1,313 residents in Aberdeen aged over 16, surveyed between June and August 2021 and is deemed to be representative of all citizens (Sustrans 2022 p. 3). In this context, “regularly” is taken to mean at least once per week (Sustrans 2022 p. 8).

Aberdeen also reports that Aberdeen has **33 miles of traffic free cycle routes**, and **1 mile of fully segregated route** that are for cycle use only (Sustrans 2022 p. 16, emphasis added).

These statistics are further contextualised when considering Cycling Scotland's 2022 *Annual Cycling Monitoring Report* in relation to the Aberdeen specific data. This data sets out that cycling represents a modal share of 0.83% and 0.95% for May and September respectively, according to information obtained from traffic counts, which is higher than the east coast city of Dundee, but lower than Inverness and Edinburgh (Cycling Scotland 2022). These 2021 figures are set against the context of Aberdeen City Council's *Active Travel Action Plan for 2017-2021* that has the objective of fostering a cycling culture in Aberdeen through improving conditions, enabling cycling to become an everyday mode of transport (Aberdeen City Council 2016). With the current modal share levels, it represents a significant gap between aspiration and reality. This thesis seeks to address this gap through understanding the organisational, practical, and social influences on the implementation of cycling-specific policies by Aberdeen City Council.

1.3. Background to the research

The research is located within the multidisciplinary area of mobilities. This thesis will explore and understand the role that organisational, social, and practical constraints have in shaping the implementation of cycling-specific policies at local authority level in Scotland, using Aberdeen City Council as a case study. It will also investigate how these factors converge to shape the implementation of cycling policies and initiatives in Scotland at local government level, and to identify the social and structural gaps that prevent such policies from being implemented. The remainder of this section will introduce three key ideas that are of significance to this thesis: (i) mobilities; (ii) automobility; and (iii) practice theory.

1.3.1. Mobilities

Work on the topic of mobilities is significantly influenced by literature associated with the 'new mobilities paradigm' (e.g., Sheller 2014b; Aday et al 2014; Sheller and Urry 2006). It moves beyond the transportation of objects and instead seeks to understand mobile subjects within modernity (Shaw and Hesse 2010), with 'transformational consequences for spatial theory' (Sheller 2017 p. 624). Sheller states that the new mobilities paradigm incorporates an interdisciplinary approach, "blurring

disciplinary boundaries, exploring materialities and temporalities and moving beyond ‘sedentary’ national or society frameworks” (Sheller 2017 p.627). Urry describes the new mobilities paradigm as permitting the theorising of the social by:

...a wide array of economic, social, and political practices, infrastructures, and ideologies that all involve, entail, or curtail various kinds of movement of people, or ideas, or information, or objects (2007 p. 18)

It encompasses a multidisciplinary field that has its foundations in Urry’s 2000 work, *Mobilities for the Twenty First Century*, where it was established why the concept of mobility ought to be relevant in understanding, and therefore researching, modern societies (see Freudendal-Pedersen 2009).

Sheller states that the new mobilities paradigm is “neither structuralist nor post-structuralist” but instead advances an objective ontology that blurs disciplinary boundaries (Sheller 2014b p. 790). As such, it has been characterised as embodying a, “major shift in social theory, methodologies, and communities of discourse” by allowing social and spatial theories to combine (Sheller 2021 p. 6), for example, in the work undertaken by Cresswell (2010) and his ‘constellations of mobility’ and the linkages between movement, representation, and practice. It also conceptualises the physical and the virtual forms of mobility that shape modernity; allowing examination of the side effects that impact not only individual bodies but also at an institutional and organisational level (Freudendal-Pedersen 2015 pp. 31-32). Concurrently, there is also a focus on power relationships and the inequalities that are present in systems of mobility (Psarikidou 2021 p. 104), and it presents the ability to function as a “key theoretical lens and heuristic device or understanding inequalities within mobility systems” (Psarikidou 2020 p. 272). Crucially, as noted by Sheller, it applies a range of philosophical concepts that enable the reassessment of relationships between bodies, movement, and space (2014b p. 792) and so links with the application of practice theory to this thesis.

Sheller enumerates the “ways of thinking and researching” in the new mobilities paradigm as follows:

1. The examination of places of movement within the social institutions and social practices that form people’s lives.
2. The examination of different modes of mobilities (corporeal, objects, imaginative, virtual, communicative) that enable the institutions and practices of social life and spatial practices.
3. The examination of these multiple mobilities to represent movement and its associated spatial practices and mobility regimes.
4. The examination of assemblies of movements and meanings within these mobility forms and consequential spatial implications and power relations.
5. The examination of social practices that emerge through the ways that bodies utilise mobile systems and their spatialities.

6. The analysis of mobile spaces and not fixed places.
7. Conceptualising and understanding the relational and uneven natures of mobility and the related concept of mobility justice.

Figure 2: Adapted and summarised from Sheller 2017 pp. 629-631

This aforementioned “major shift” moves away from a purely sociological understanding of mobility to one that accommodates the movement of humans and objects both spatially and temporally (Sheller 2017; Sheller 2014a; Sheller 2014b; Sheller 2021). The new mobilities paradigm is of relevance to this thesis because of its ability to accommodate the social, the spatial and the cultural (Sheller 2021 p. 12); these interconnected themes are of relevance to cyclists, cycling and enabling associated policy. It is upon this basis that this thesis locates itself within the field of mobilities.

In particular, the philosophical underpinnings of mobilities theory (Sheller 2014b) are relevant to this thesis. Aldred and Jungnickel note that the “strong qualitative focus on meaning” that is present within mobilities literature offers an opportunity to understand cycling and cycling policy in the UK (2014 p. 79). The Foucauldian understanding of power as a process and an enabling force within mobilities, as noted by Sheller (2014b p. 793; Jensen 2011; Haugaard 2003), also enables the interrogation of relevant power and discourses associated with cycling. Furthermore, the embrace of intersectionality within the new mobilities paradigm (Sheller 2014b p. 793) is also of relevance as discourses of mobility capital shape and dictate women’s im(mobility) (Section 2.4). This approach also accommodates the use of practice theory in seeking to offer fresh interpretations of transportation issues (Sheller and Urry 2016 p.19).

Understanding mobility means understanding spaces, and how these spaces can be commodified, and therefore how they both empower and exclude users of that space (Psarikidou 2021). Therefore, an essential element of understanding mobilities are the power dynamics that frame the experiences and practices of mobility (Jensen 2011; Sheller & Urry 2006). When intertwined with space, Jensen (2011) suggests that this allows a deeper understanding of the forces that shape mobility. This is due to the centrality of mobility, power, and space in modernity (Jensen 2011 p. 256). The significance of such power dynamics is critical to understanding mobility, and therefore the potential for movement, and the connection with social inequality (Jensen 2011; Kaufmann, Bergman, and Joye 2004). This also extends to mode of travel and the ability to access mobility systems (Jensen 2011 p. 257). Dant (2014) uses the phrase “mobility capital”, aligning with Bourdieu’s forms of capital, to explore the idea that

mobility is a privilege that is not equally afforded to all bodies in society. Therefore, both the ability to travel and how an individual travels have significance beyond the spatial and temporal aspects of journey itself.

1.3.2. *Automobility*

An important aspect of understanding cycling in Aberdeen is in relation to the concept of automobility. The car is a dominant and controversial force and one which has changed how individuals navigate the world, both spatially and temporally, within the relative safety of a “metal cocoon” (Beckmann 2000 p. 597-598). Urry’s 2004 paper sets out the system of automobility; he theorises the ‘car system’ and applies the term ‘automobility’ to describe “a self-organizing autopoietic, nonlinear system that spreads world-wide, and includes cars, car-drivers, roads, petroleum supplies and many novel objects, technologies and signs” (Urry 2004 p. 27). In describing the “flexibility and coercion” of automobility’s ability to “remake time-space” (Urry 2004 p.27), Urry establishes that the car has significance that extends beyond the material element itself (Rerat 2021). Not only does the car represents a way of life (Urry 2007 p. 113), but automobility has permitted the displacement of spaces of sociality, thereby reshaping fundamental aspects of our lives (Parsons 2019 p.4).

This system of automobility has had a profound impact on the shaping and reshaping of urban spaces, including road space (Merriman 2009). These impacts represent not only a physical contest over space allocation but “wider social practices and human relationships, material cultures and styles of life, landscapes of movement and dwelling, and emotional geographies of power and inequality” (Sheller 2014 p. 236). This reinforces the point made in Section 1.2.1, about mobility capital (Dant 2014). Mobility is therefore political, concerned with both power dynamics and the contested conceptualisations of what constitutes the ‘good life’ (Bohn, et al. 2006 p. 3). Therefore, to build a different future without the car, the automobility regime requires to be dismantled (Braun and Randell 2023).

This future can be imagined through the lens of *velomobility*. The term “velomobility” is increasingly used to explore what society could look like in a post-automobile landscape and how society will be constituted in such a landscape (Cox 2023; Cox 2022; Rerat 2020). Rerat proposes a theoretical framework for velomobility with three different elements:

- (i) The use of the bike, incorporating the profile of cyclists and journey characteristics (Rerat 2020 p. 11).
- (ii) The cycling potential of individuals, referring to access, skills and other aspects related to the bike and other modes of transport (Rerat 2020 p. 11)
- (iii) The bikeability of an area, incorporating spatial structure, infrastructure, norms, and rules (Rerat 2020 p. 11)

Therefore, velomobility cannot simply replace the car, it requires an alternative perspective. As noted by Cox, the context within which velomobility is studied is within a society in which “hegemonic automobility” controls the narrative (2019 p. 4). As such, automobility wields specific power with both the popular and political discourses surrounding cycling (e.g., Rerat and Ravalet 2023), and therefore the practice of cycling too. To address this power dynamic, an alternative system of “autonomobility” has been proposed (Cox 2023; Cass and Manderscheid 2018) where mobility itself is reimagined as separate from the politics of the car and the system of automobility.

1.3.3. *Practice theory*

Practice theory seeks to understand everyday actions, for example cycling to work, as “a collective of social practices” created by both external and internal processes (Kent 2022 p. 224). It can be summarised as “a general theory of the production of social subjects through practice in the world, and the production of the world itself through practice” (Ortner 2006 p.16). Understanding what constitutes a practice is therefore important. For Reckwitz a practice is a “routinized type of behaviour which consists of several elements, interconnected to one another” (2002, pp. 249-250). Welch describes practices as being “organised forms of activity” that are “inherently social phenomena” (2017 p. 243). Therefore, practice theory allows for the individual actor to be located within social processes, while still accounting for the wider structural issues of society to enable and constrain (Ortner 2006 p.3).

Reflecting on its origins, practice theory has a “diverse intellectual history” (Watson 2012 p. 489) that can be found in the theoretical work of Bourdieu (1977), Giddens (1979), and de Certeau (1984)⁵, demonstrating that it encompasses a wide “family of theories” (Reckwitz 2002 p. 244). The commonality across these works is an attempt to understand “the relations between social structure and human action and understanding those relations as recursive, with structure and action co-

⁵ An in-depth overview of the theoretical origins is provided by Reckwitz (2002).

constitutive of one another” (Watson 2012 p. 489). These theories of social practices are drawn together more cohesively in the pivotal work of Reckwitz (2002), while individuals such as Ortner (2006), and Shove, Pantzar and Watson (2012), demonstrate the practical application of the approach in a variety of settings.

How practice theory addresses ‘large scale phenomena’ is of critical importance to the overall application of practice theory (Nicolini 2017 p. 98). Such large-scale phenomena in the context of this thesis include social institutions such as local government, and structural issues such as gender. Nicolini sets out, that instead of adopting the “theoretical sleight of hand” that layered approaches offer, these large-scale phenomena can be understood through a process he describes as “connected situationalism” (Nicolini 2017 pp. 100-101). This facilitates the retention of the philosophical concept of the flat ontology, as opposed to the multi-layered approach adopted by Bourdieu or Giddens, but for the exploration of large-scale phenomena to be incorporated (Hampton 2018 p.44). Nicolini explains that connected situationalism allows for the construction of practices as, “a chain, sequence or combination of performances plus their relationships – what keeps them connected in space and time” (Nicolini 2017 p. 101). This ensures that practices can be understood with the context in which they operate, while adhering to the principles of a flat ontology (Nicolini 2017 p. 102).

The focus of this thesis is on the three-component model of competences, meanings, and materials advanced by Shove, Pantzar and Watson (2012) that represents a simplified interpretation of the earlier writings developing practice theory (e.g., Reckwitz 2002; Schatzki 2002). Shove, Pantzar, and Watson (2012), describe a practice as consisting of elements that are defined as competences, materials, and meanings, as set out in Figure 3:

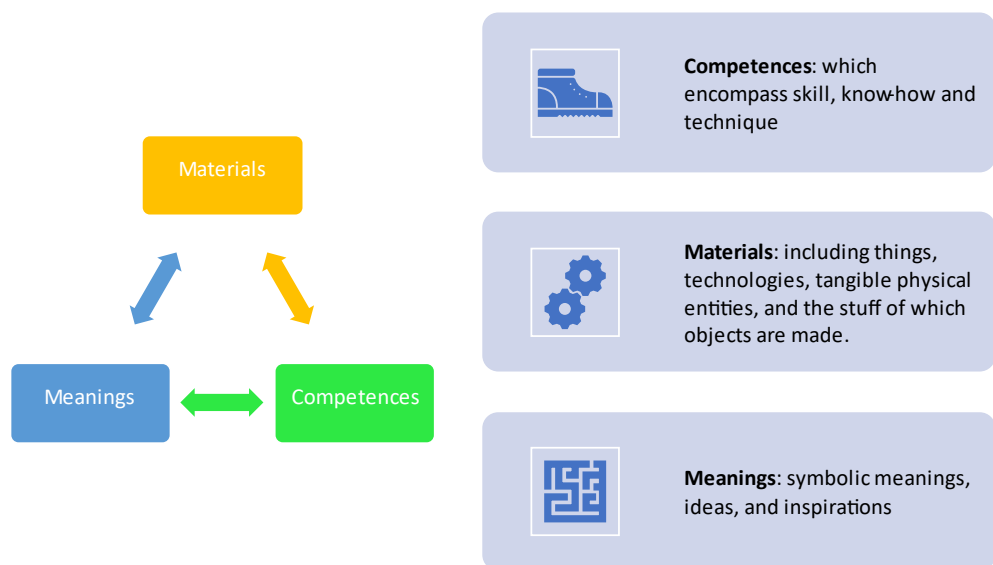


Figure 3: Elements of a practice (Shove, Pantzar, and Watson 2012 p.14)

Practices are created when connections between the three elements are made, and equally they can be sustained or broken because of changes to these connections (Shove, Pantzar, and Watson 2012 pp. 14-15). They acknowledge that it is open to criticism of over-simplification, and that it could be construed as “a reductive scheme” (Shove, Pantzar, and Watson 2012 p. 15). However, in constructing a practice in such a way, it both provides a way of understanding how practices are formed, maintained, and changed and permits recognition of “the recursive relation between practice-as-performance and practice-as-entity” (Shove, Pantzar, and Watson 2012 p. 15). The practice as an entity is comprised of the elements set out above, and through the performance of the practice the interdependencies between elements are sustained (Shove, Pantzar, and Watson 2012 pp. 7-8). It also allows an understanding of the role of the individual as a carrier of a practice (Shove, Pantzar, and Watson 2012 p. 7; Reckwitz 2002 p. 250).

For the purposes of this thesis, it is also important to note the distinction that is made within practice theory between practice-as-entity and practice-as-performance (Shove, Watson and Pantzar 2012). Parsons articulates the differences between these two by describing practice-as-entity as “the combination of all characteristics of a phenomenon without reference to any one particular case” (Parsons 2019 p. 28), whereas practice-as-performance is the “enactment of the practice, or its actual ‘doing’” (Parsons 2019 p.28). He further explains that in conceptualising cycling in this way, it allows for us to “embrace the diversity of ways of doing” (Parsons 2019 p. 28).

The justification for adopting this approach for this thesis is in framing cycling as a practice. Watson explains such an approach in the following terms:

...we can talk of cycling and conceptualise the elements which constitute that practice – the technologies and material traces (bicycles, accessories, road signs, bike shops, etc.). Cycling and driving overlap in their social location as means of moving human bodies from one place to another. Each entails particular competences and modes of bodily comportment, and distinctive ways of engaging with the world being moved through. They have their social meanings, norms and rules. But the practices of cycling or of driving exist as an entity only in and through its performance by practitioners [...]. In being constituted through performances, practices are ultimately rooted in embodied actions, habits and routines of daily experience, including those involved in accomplishing personal mobility” (Watson 2012 pp. 489-490)

In considering the constituent elements of cycling practices, this approach will allow for an understanding of how cycling is produced and reproduced in Aberdeen. Significantly, it allows interpretation of practices and an understanding of social change not predicated on theories rooted in behaviour change (e.g., Ajzen’s (1991) theory of planned behaviour), thereby avoiding the prioritisation of human agency (Spotswood et al 2015; Shove, Pantzar, and Watson 2012 p.4). It also facilitates an understanding of the relevance of space, time, and temporalities to cycling (Cass and Faulconbridge 2016 p. 2; Shove, Pantzar, and Watson 2012 pp. 132-133). Practice theory has also been identified as an appropriate vehicle for understanding policy making and when considering systems of multi-level governance (Hampton 2018) rendering it appropriate for addressing the aim and objectives set out below.

1.4. Aim and objectives

The aim of the research is to evaluate cycling as a practice in Aberdeen and the associated organisational, practical, and social influences on the implementation of cycling-specific policies in the city. To achieve this aim, there are three objectives:

- **Objective 1** – To interrogate the nature of cycling practices in Aberdeen.
- **Objective 2** – To investigate policymaking in relation to cycling-specific policies within local government.
- **Objective 3** – To understand the impact of organisational, practical, and social influences on cycling practices in Aberdeen.

All the objectives will be achieved through the qualitative research design outlined in Section 1.5 and set out fully in Chapter 5.

1.5. Overview of Methods

Focussing on Aberdeen, and Aberdeen City Council (ACC), this thesis draws on two strands of data collection gathered over the period August 2018 to February 2020. Data was collected in two separate strands: (i) from members of the public who cycle or have cycled in Aberdeen; and (ii) from policymakers involved in the development and implementation of cycling policies and projects in Aberdeen. In August 2018, an online questionnaire of cyclists garnered a total of **380 responses**, out of which **370 (97.4%)** were included in the data analysis. Follow up interviews were conducted between March 2019 and February 2020 with 23 members of the public who cycle or have cycled in Aberdeen, along with 7 interviews with policymakers. Collected data was then analysed in accordance with the practice theory framework outlined by Shove, Pantzar and Watson (2012), focussing on the three elements of competences, materials, and meanings.

1.6. Significance of this thesis

This thesis offers an alternative insight from the quantitative conceptualisations of cycling that dominate fields such as transportation planning and health sciences (Liu, Krishnamurth and van Wesemael, 2021 p. 92). There is a need for qualitative research to be undertaken in a field that is often dominated by quantitative analysis due to the engineering and planning bias of such research (Freudendal-Pedersen 2009 p. 2). Indeed, it is imperative to bring the “discourses of cyclists and bike advocates” to the fore of research within mobilities (Furness 2014 p. 318) and through dissecting the nature of cycling in Aberdeen via practice theory, this thesis will address a major gap in this body of knowledge.

Reinforced by Marsden and Reardon’s (2017) observation that there is an absence of local policymakers’ perspectives in existing studies, the inclusion of policy makers and their practice of policymaking within the context of cycling is a novel aspect of this research. This is due to both the focus on cycle policymaking in Scotland and the application of practice theory too⁶. Through the representation of the practice of cycle policymaking in Scotland, the role of policymakers will be understood. In analysing cycle policymaking as a practice, and identifying the associated competences,

⁶ Research conducted in other jurisdictions can be found in Morton et al (2017), examining the UK as a whole; and Ingeborgrud et al (2023) focussing on Norway.

materials, and meanings, gaps will be identified akin to the approach taken by Nurse and Dunning (2023). These gaps will then be used to evaluate the missing or misunderstood elements of cycling that function as barriers to cycling in Aberdeen.

1.7. Outline Structure

This thesis can be divided into two main components: (i) the cyclist and cycling as a practice; and (ii) the policymaker and the cycling as a practice⁷. Chapters 2, 3, and 4 set out current literature and policy relevant to cycling in Aberdeen. First, to provide the foundation for interrogating of the nature of cycling practices in Aberdeen (**Objective 1**), Chapter 2 focusses on the idea of “the cyclist”, the myriad of ways this can be interpreted, and why this is significant for this thesis. Next, to create a basis for the investigation into policymaking in relation to cycling-specific policies within local government (**Objective 2**), Chapter 3 considers how cycling relates to themes within the place and space, along with the specific practice of cycling for transport. Also identified are the potential barriers that can act against increased levels of cycling in Aberdeen.

Chapter 4 goes on to provide the requisite policy context within the systems of multi-level governance that operates in Scotland. Chapter 4 also provides a general overview of key policy documents that have shaped and will shape the transport landscape in Scotland, with a specific focus on cycling to contribute to the investigation in relation to cycling-specific policies within local government (**Objective 1**) and the evaluation of organisational structures and relationships on the development and implementation of cycling-specific policies within local government (**Objective 3**).

Chapter 5 sets out in detail the methods adopted by this thesis. It covers the case study selection process and the data collection and analysis procedures for both the questionnaires and the interviews. This chapter also sets out relevant ethical concerns and considerations, alongside a discussion of my own positionality in the research. Supporting documentation for Chapter 5, including participant information sheets, questions, debriefs and consent forms are provided in Appendix 9.

⁷ The thematic division does not preclude an overlap in daily life; indeed, it is known that some of the policymakers are cyclists. However, for this thesis, the differentiation is important and represents a question of power and associated knowledge.

The original data collected for this thesis is presented across Chapters 6, 7, and 8. The analysed data is divided into sub-sections that focus on each of the key areas of meanings, materials, and competences. This is to mirror the approach taken in the analysis of the data within the scheme of practice theory (competences, materials, meanings), as outlined in Section 1.2.3. Due to the volume of data collected, each data source is allocated its own chapter.

In Chapter 6, the survey data is arranged into the three key themes of competences, materials, and meanings in relation to the experience of cycling in Aberdeen. The purpose of Chapter 6 is to set out the data required to both interrogating the nature of the practice of cycling in Aberdeen (**Objective 1**) and to understand the impact of organisational, practical, and social influences on cycling practices in Aberdeen (**Objective 3**).

Chapter 7 provides the data from members of the public, all cyclists, interviewed as part of this research in the form of verbatim quotations from the interviews. The purpose of this Chapter is to both interrogate the nature of cycling practices in Aberdeen (**Objective 1**) and to understand the impact of organisational, practical, and social influences on cycling practices in Aberdeen (**Objective 3**).

Chapter 8 sets out the data required to investigate policymaking in relation to cycling specific policies within local government (**Objective 2**). It presents the data collected from the policy professionals interviewed as part of this research in the form of verbatim quotations from the interviews. This chapter provides insight into the competences, materials, and meanings that constitute the practice of developing, designing, and implementing cycling-specific policies in Aberdeen and therefore the relationship of policy to the broader nature of cycling in Aberdeen. Each section is divided into sub-sections that focus on the three key areas of meanings, materials, and competences and the relevance of these to cycling in Aberdeen. This structure mirrors the approach taken in the analysis of the data within the scheme of practice theory (materials, meanings, competences) discussed in Section 1.2.3.

The substantive analysis occurs in Chapter 9 which establishes the organisational gaps, practical gaps, and societal gaps that are of relevance to cycling in Aberdeen, thereby addressing the aim and three objectives of this research. These gaps were identified during the data analysis process and emerged

as a common theme across all data sets. Practice theory allows an understanding of the constituent elements of cycling in Aberdeen, and this forms part of the analysis, however the emphasis will be on the gaps that make the reproduction of cycling a challenge in Aberdeen. Each section focuses on the relevant actors and entities to these gaps. The purpose of articulating these gaps is to present the complexities of cycling in Aberdeen.

In Chapter 9, the data is divided into seven areas for discussion, organised as competences, materials, and meanings: (i) cycling competences (competences); (ii) the role of infrastructure (materials); (iii) identity and self (meanings); (iv) cycling and gender (meanings); (v) velomobility within the system of automobility (meanings); (vi) policymakers and the practice of cycling in Aberdeen; and (vii) the practicalities of cycle policy and funding in Aberdeen. Utilising this structure, the sections below will address each of the above objectives and the overarching aim of the research. It will do so by setting out the main findings drawn from the data in Chapters 6, 7, and 8, and linking these findings with the literature and policy set out in Chapters 2, 3, and 4 to establish the overall significance of these findings.

Finally, Chapter 10 draws together the key findings for the research, alongside contextualising the stated aim and objectives of the thesis. The implications and limitations of the research are also considered, alongside the contribution to knowledge made by this thesis.

Chapter 2: The Cyclist

2.1. Introduction

To provide the foundation for interrogating perceptions of cycling, this chapter focusses on the idea of “the cyclist.” It explores the myriad of ways this word can be interpreted, and why this is significant for this thesis and will discuss conceptualisations of cycling and the cyclist, before exploring the role that gender plays in cycling. The chapter also considers the role that othering and in-group/out-group constructions play in socio-cultural understandings of cyclists, before concluding with a discussion on cycling and identity.

2.2. Cycling and society

As Cox notes, “cycling” is a word that everyone assumes they know what it refers to, but it describes a myriad of possible activities (2019 p.2). For example, the practice of cycling can encompass the commuter, mountain biker, road biker or a variety of other forms⁸. As such, the relationship between cycling and society is recursive and dialectic in nature (Cox 2019 p. 11). As observed by Olsen, the urban environment both shapes and is shaped by citizens – “they constitute the city by practicing mobility” (2009 p. 140). However, the UK is a society in which cycling is still a marginalised activity (Parsons 2019 p.6; Aldred and Jungnickel 2014 p. 86). Cultural norms also have a role in determining the (im)mobility of gendered subjects (Aldred, Woodcock, and Goodman 2016 p. 31), thereby reinforcing structural inequalities within society. Indeed, even through constructing cycling as another ‘fast transport mode’, it becomes associated with neoliberal capitalist values around productivity and therefore contributes to inequalities in the urban environment (Psarikidou 2021 p. 105).

The social structural issue of class is also relevant to cycling, although not often written about (Vidal Tortosa et al 2021). Aldred notes the negative association of cycling with class status that was contextually dependent, with cycling seen to be more of a middle-class activity in Cambridge whereas it had working class connotations in Hull (Aldred 2013 p. 263). Contemporary media coverage has also identified the class distinctions associated with cycling. For example, identifying that modern consumption practices and spiralling costs have rendered cycling “the new golf” for the middle classes (Tares 2018). Other reports have focused on the middle-class dominance of cycling in London

⁸ Cycling UK’s website lists the following areas in their “Type of Cycling” section on their website: women’s cycling; family cycling; cycle touring and expedition; bikepacking; off road and mountain biking; cycling to work; road cycling; fitness and sport.

(Batchelor 2018; Hill 2015), whereas more recently, the “war on motorists” has been constructed by right-leaning press as a war on working class drivers to the benefit of middle-class cyclists (Simpson 2023). However, there is a potential gap between perception and reality as demonstrated by the analysis of English National Travel Survey data by Vidal Tortosa et al (2021). They found that while individuals from lower income households do indeed cycle less for transport, there are no income inequalities associated with leisure cycling (Vidal Tortosa et al 2021). However, this contrasts with the earlier findings of Goodman and Aldred (2018), who utilised Active People Survey data and found that inequalities are moderated by local cycling prevalence, and that a more expansive understanding of barriers to cycling is required.

Aldred suggests that the discourse surrounding individual responsibility has created a “fissure between perceptions of ‘cyclists’ and perceptions of ‘cycling’” (2012 p. 99). Indeed, facilitating improvements to cycling infrastructure becomes problematic if “cyclists are perceived as a tiny minority of road warriors and mass cycling is impossible” (Aldred et al 2019 p. 157). It should be noted that the topic of ‘culture’ frequently appears as the “antithesis to infrastructure” in policy debates (Aldred and Jungnickel 2014 p. 79) and both the material element of infrastructure and the symbolic elements of culture are inherently linked. Further complicating these perceptions is the perpetuation of in-group/out-group stereotypes located within an individual’s transportation choice (Section 2.6) and the question of gender (Section 2.4).

Aldred aspires to look beyond what she characterises as the “preoccupation with car-based mobility” and to develop the concept of “cycling citizenship” that is “based on the links that people make between cycling and worlds outside the bicycle” (Aldred 2010 p. 35). This concept of cycling citizenship is further developed by Aldred and Jungnickel (2014) through adopting a practice theory framing of culture in relation to cycling in the UK. This can help reframe the question of why cycling is not more successful in the UK by seeking to deconstruct the activities constituting a practice instead of the systems acting to constrain the choices of individuals (Aldred and Jungnickel 2014 p. 79).

What is apparent, is that a change in the “beliefs, values and ideas held by citizens in respect of the kind of society that is ultimately desired” is required (Fudge, Peters, and Woodman 2016 p. 2). To achieve this, there is a need to foster a “greater political will to act, which will inevitably involve making

some hard choices in relation to overhauling current systems of production and consumption, decision-making processes and institutional arrangements” (Fudge, Peters, and Woodman 2016 p. 2). What is described there, is a fundamental change of culture and understanding of mobile subjects and the dominance of the car within society, i.e., what Balkmar characterises as *cycling futures* (2020 p. 325). However, the noted propensity for individuals from low-income households to cycle less for transport than higher income individuals could have policy implications if urban cycle planning is solely focussed on cycle commuting as the benefits of new infrastructure are not evenly distributed (Vidal Tortosa et al 2021 p. 180). This suggests that even if cultural barriers to cycling are overcome, there are wider structural issues mitigating against mass cycling participation, which encompass not only class but gender too (Section 2.4).

Discussing cycling futures in a social policy context, Tschoerner-Budd focuses on the discursive level of policymaking, to understand the “performative dimension” of the process more fully (2020 p. 308). She notes this approach is useful for “framing and analysing the everyday politics of cycling promotion” (Tschoerner-Budd 2020 p. 308) utilising Hajer’s definition of discourse (Hajer 1995 p. 4). What Tschoerner-Budd observes is that in contrast to the prevailing discourse around cycling promotion in the 1980s and 1990s, the approach adopted latterly has sought to, “emphasise mobility in terms of culture – that is, the everyday routines, structures and norms of movement – rather than the technological development of routes and networks for bicycle use” (2020 p. 317). This was also complemented by a change in the political discourse surrounding cycling promotion too (Tschoerner-Budd 2020 p. 319). Consequently, the research establishes two key insights into promoting sustainable cycling futures: (i) the utility of innovative approaches to planning and implementing transport systems; and (ii) the socio-political context within which cycling promotion occurs is pivotal in ensuring success (Tschoerner-Budd 2020 pp. 320-321). Further, socio-cultural factors need to be considered to ensure a truly holistic understanding of the problem, that cycling is a subject to which a gendered lens can be applied.

2.3. Cycling and cyclists

The identification of individuals as a “driver” or a “cyclist” has an impact on the way that shared spaces are negotiated and how people are treated within these spaces (Aldred 2013 p. 267). This duality is reinforced by the idea that such labelling “appeals to ‘cyclists’ or ‘motorists’ seek to shape such identities”, (Aldred 2013 p. 253) and presumably reinforce such identities by creating a divisive

distinction. Therefore, the semantics of the words “cycling,” and “cyclists” are of relevance to understanding the themes explored within this thesis. It is also connected with the idea of identity, which is explored in Section 2.5.

Daley and Rissel observe of their own research that, “[g]enerally ‘cycling’ as an activity was seen as positive, but the actions of some ‘cycle-users’ were disliked and for some people this behaviour affected their views about cycling” (2011 p. 215). Indeed, reflecting on research conducted on cycling near misses, Aldred notes that while negative attitudes towards cyclists cannot be definitively connected to acts of careless or dangerous behaviour towards cyclists (by car drivers), there is plausibility in this connection that was made by participants in her study (2016 p. 79). This connection was also explored by Fruhen and Flinn (2015) in a study investigating the extent to which attitudes and perceptions of social norms explain car drivers’ inclinations to show aggressive behaviour towards cyclists on the roads. Their results indicated that: (i) negative attitudes towards cyclists are linked to a higher frequency of aggressive driving towards cyclists; and (ii) there is a connection between the perception of social norms and acts of aggressive driving behaviour towards cyclists (Fruhen and Flinn 2015 p. 167). In studies linking cycling identities with “moralised minority practice identity” it is noted that the aggression displayed towards cyclists could potentially be influenced by a perception that cyclists are morally judging those who travel by car (Kurz et al 2020 p. 89).

Existing studies shows that cyclists are the subject of several stereotypes and perceptions about them as individuals and their riding behaviours. For example, some commuter riders fear being stereotyped as environmental activists, militants, or elitist (Daley and Rissel 2011 p. 213), whereas Aldred comments on the fear of some cyclists of being perceived as bad or incompetent (2013 p. 259). The question of competence and alleged malfeasance by cyclists has recently been revived in the UK print media (Ambrose 2022; Churchill 2022). It followed comments by Grant Shapps (the then UK Government Transport Secretary) that he would, “absolutely propose extending speed limit restrictions to cyclists” and that “there should be a review of insurance and how you actually track cyclists who do break the laws” (Ambrose 2022). Such comments by a member of the political establishment reinforces the fear that cyclists have of being perceived as bad or incompetent. Cycling UK subsequently dismissed the proposals as both “impractical and unworkable” (Walker 2022).

The media also have a role to play in fostering negative associations, even in cities where cycling is better established (Aldred and Jungnickel 2014 p. 86). Press coverage of the Charlie Alliston case⁹ is an example where sections of the media used a tragic accident as a platform for wider criticism of cycling behaviours (Walker 2017). This creation of a false division between groups of road users is also seen in more general commentary around cycling. For example, Cycling UK highlighted the use of a poll produced by FairFuel UK on behalf of *The Daily Mail* (Cycling UK 2017). The findings of the poll, published in *The Daily Mail*, reported that around 7 in 10 drivers believed cyclists should have to pass a road proficiency test, wear a helmet, and 52% believed cyclists ought to pay road tax (Salmon 2017). Not only does this reinforce the narrative that cyclists are a deviant “other,” but it also suggests that cyclists are viewed as unwelcome and incompetent interlopers in these shared spaces, reinforcing the division between “driver” and “cyclist”, identified by Aldred (2013), and questioning the overall competences of the cyclist too.

Therefore, by conceptualising all cyclists as “bad,” based on the observed behaviour of a few, it risks reinforcing negative stereotypes. Moreover, societal attitudes towards cyclists are reinforced and hardened because of such media discourse, as set out in the preceding paragraph. Consequently, there is a risk that potential cyclists are discouraged from adopting cycling as a transportation mode for fear of being associated with something deemed as culturally “bad” and socially unacceptable. For example, the negative associations applied to cycling on the pavement which is a consequence of the uneven distribution of power between road users, rather than individual deviance (Ihstrom, Henriksson, and Kircher 2021).

This connection between driver attitudes and acts of careless driver behaviour towards cyclists suggests that changing the attitudes of drivers towards cyclists will be important in creating a safer cycling environment, thereby encouraging greater uptake of cycling as a credible transportation mode. However, driver education and safety campaigns need to be carefully constructed, as it has been noted that there is a danger that the perception of cyclists as a marginal minority may be reinforced by poorly conceived safety campaigns intended to encourage a greater uptake (Aldred 2016 p. 80). Fruhen and Flinn suggest that “campaigns targeted at non-cyclists can focus on the perception of social norms”

⁹ Alliston was jailed for 18-months in 2017 for causing the death of pedestrian Kim Briggs. It was reported in *The Guardian* that “Alliston was travelling at 18mph on his second-hand fixed-gear bike on 12 February 2016 when he collided with Kim Briggs, 44, as she stepped out into Old Street” (Gayle 2017).

concerning aggressive driver behaviours towards cyclists (2015 p.168). They also emphasise that such campaigns can reduce the challenge of being a cyclist by, “de-emphasising them as an out-group (i.e., they are also just people trying to get from a to b)” (Fruhen and Flinn 2015 p.168). This notion of “the other” will be explored in Section 2.6.

2.4. Women & cycling¹⁰

In 2018, the national walking and cycling charity Sustrans commissioned a report to explore the themes of gender and active travel (Motherwell 2018). Significantly, the report reflects on how the socioeconomic differences between genders result in the decision to travel by bike, or at night, or with children are made for women before they leave their home (Motherwell 2018 p.8). Essentially, “impeding mobility can exacerbate existing inequalities in society” (2018 p.3).

For the purposes of this thesis, the gender parity in cycling as a practice is of interest. Psarikidou observes the ‘invisible’ nature of women within cycling research and the need to further explore cycling as a gendered practice (2021 p. 105). For example, Aldred, Woodcock, and Goodman (2016) discuss the role that culture can play in determining why more men than women choose to cycle. Similarly, Motherwell (2018) sought to address the need to “embed a gender analysis in policy, planning and practice that considers the evidence and experiences of women” (2018 p.4).

The importance of understanding cycling as a gendered practice is further reinforced through Kronlid’s observation that, “being socially and spatially mobile is generally seen as one central aspect of women’s wellbeing” (2008 p. 15). As noted by Sustrans, “when demographic groups like women are excluded from participating in an activity it can reduce their rights and freedoms” (Sustrans 2018 p.3). However, this social and spatial mobility is mediated by gender inequalities that manifest themselves through the “prevailing prioritisation of men, and in many cases Lycra clad men...reproducing gender inequalities” (Psarikidou 2020 p.282). Furthermore, cultural norms also seek to threaten women’s cycling potential as, “the prevalence of a certain image for female professionals might be in conflict with the image of a female cycle-user” (Psarikidou 2020 p. 282). The appearance of female cyclists,

¹⁰ It is acknowledged that other minoritarian voices such as disabled voices are also relevant but due to space constraints these are not considered in this thesis. For a helpful discussion of disability and cycling, see Inckle (2019) and Cox and Bartle (2020).

and the acceptance of their attire, is nothing new, as noted by Jungnickel (2018) through her exploration of radical Victorian cycle wear.

The importance of mobility as a gendered practice can also be located within mobilities itself (Sheller 2021 p. 40) and is therefore thematically linked to broader themes within existing research. Critically, Sheller notes that mobilities researchers have not focussed enough on “differential mobilities” and how gender (among other attributes) shapes and controls the uneven nature of mobility (2021 p. 40). Indeed, as observed by Shaw and Docherty, mobilities can shine a spotlight onto movement and its significance in modernity, particularly regarding “experience and representation” (2014 p. 25). For women cultural norms can be a determining factor in their representation as cyclists and it has been suggested that greater gender equity may consequently result in more women cycling (Aldred, Woodcock, and Goodman 2016 p. 33) but it is acknowledged that cultural norms are only one aspect and issues such as approach to risk, and perceptions of safety required to be considered too (Battiston et al 2023). Moreover, as discussed in Sections 2.4.1 and 2.4.2, the complex mobile lives of women require more than cultural and infrastructural change to achieve true representation.

2.4.1. Trip chaining

Women’s mobile lives are often not compatible with the socio-cultural and socio-economic structures that similarly mould their lives. Their roles and requirements are dictated by the time-space boundaries that shape our societies (Giddens 1984). Indeed, women’s mobility patterns have been established as more complex than those of men (Scheiner and Holz-Rau 2017) and are frequently shaped by male-dominated commuting patterns that are unsympathetic to the needs of women who hold caring roles (International Bank for Reconstruction and Development/The World Bank 2020 p. 19). For example, globally women are statistically less likely to have access to a car and to therefore rely on public transportation (International Bank for Reconstruction and Development/The World Bank 2020 pp. 36-37). The practice of trip chaining is potentially more commonplace amongst women, therefore shaping both their social and spatial mobility (Ravensbergen, Buliung, and Sersli 2020; Criado-Perez 2020 p.30; Greed 2019; Kneeshaw and Norman 2019; Department for Transport 2014; Greed 2008).

Trip chaining is defined as being the practice of carrying out several linked journeys during a “one way course of travel with a single main purpose” (Department for Transport 2014 p.2), e.g., commuting to work. Criado-Perez describes typical trip chaining activities as thus, “dropping children off at school before going to work, taking an elderly relative to the doctor and doing the grocery shopping on the way home” (2020 p. 30). In short, women are statistically more likely to combine a single trip with a multiplicity of purposes (Department for Transport 2014 p. 3). Indeed, proportionally more women (26%) in part time employment were found to trip chain during the morning peak, compared with 12% of women in full time employment (Department for Transport 2014 p.1). This is significant when it is acknowledged that gender is not routinely considered as part of the transport planning process (Brooks, Godward and Hoggard 2023).¹¹

Greed describes this type of pattern as, “an inevitable result of trying to combine their work and home duties” (2008 p. 45) and advocates for a “gender lens” to be applied in understanding and planning transport policy (Greed 2008 p. 246 and Greed 2019). It is also acknowledged that due to women’s complex travel patterns, understanding the mobile lives of women is also complicated (Criado-Perez 2020 p. 38-39; Scheiner and Holz-Rau 2017). This is not to suggest that the bicycle is not compatible with ‘mobilities of care’ (Ravensbergen, Buliung, and Sersli 2020), rather that there are specific tasks which are more complex to undertake by bicycle (Ravensbergen, Buliung, and Sersli 2020). However, through applying a practice theory approach, Ravensbergen, Buliung, and Sersli note that as participants gained experience cycling, the meanings associated with the trips that were possible to undertake by bicycle shifted (2020 p. 346). Therefore, in understanding the materials, competences, and meanings associated with the practice of cycling can seek to further enhance the “gender lens” discussed by Greed and Criado-Perez above.

2.4.2. *Gendered spaces and places*

Women experience the urban environment differently on account of their gender (Shaikly and Lira 2023; Lewis, Sauko and Lumsden 2021; Kern 2020; International Bank for Reconstruction and Development/The World Bank 2020; Kneeshaw and Norman 2019; Schmucki 2012). In her book *Feminist City*, Kern describes a “city of men” where the construction, operation, and environment of the city is created to “support and facilitate the traditional gender roles of men...with men’s

¹¹ This is also extensively explored in the work of Scholten and Joelsson and their edited book *Integrating Gender into Transport Planning* (2019).

experiences as the ‘norm’” (2020 p. 6). For example, Kern describes the gendered aspect of bathroom needs and access and how the design of such spaces by men leads to gaps in the provision of “clean and comfortable places” to attend to the most basic of needs (Kern 2020 p. 108). Moreover, perception of safety also dictates how women access public spaces and this is mediated by the overall design of the urban environment (Navarrete-Hernandez, Vetro, Concha 2021).

In 2020, the World Bank noted the detrimental role that urban planning and design practitioners have had in reinforcing gender norms, “with adverse consequences for mobility” and identify mobility as a specific gender challenge in the urban environment (International Bank for Reconstruction and Development/The World Bank 2020 p.7 & p. 19). Given how cityscapes are designed directly impacts the mobility choices of women it therefore suggests that a need for gender-inclusive process activities need to be factored into urban planning and design (Aldred, Woodcock, and Goodman 2016). In offering guidance at a global for how to design mobility infrastructure, the World Bank suggests the implementation of a city-wide cycle network with dedicated cycle lanes should be core element of any such strategy (International Bank for Reconstruction and Development/The World Bank 2020 p. 69).

Recent research indicates that in cities where cycling is commonplace, both men and women are more likely to engage in cycling as a mobility practice, highlighting the significance of gender for active travel policies (Goel et al 2022). However, even in UK cities where cycling is more culturally acceptable, there is still a gender gap in the number of male and female cycle commuters (Aldred, Woodcock, and Goodman 2016 p. 39). It is also a broader question of equality, with practices such as ‘gender mainstreaming’ and ‘gender budgeting’ gaining prominence in EU-level policy making (European Commission 2020). Psarikidou notes that faster cycling routes often discriminate against female cyclists due to such routes typically being “darker and quieter” and therefore failing to address concerns of safety (2020 p. 283). There is also evidence to suggest that a greater divergence of views needs to be considered, including those of women, in relation to infrastructure with a systematic review finding that women express “stronger preferences for greater segregation from motor vehicles than men” (Aldred et al 2017 p. 49). This is also supported by the observation that planning tools, such as *Cycling Level of Service* audit tools, ought to incorporate social safety to avoid reproducing gendered practices that discourage women from cycling (Xie and Spinney 2018).

A helpful concept to consider here is that of mobility justice and the ability of different groups to access spaces and places (Verlinghieri and Schwanen 2020). Mobility injustice is linked to the restrictions

placed on certain bodies and the way those bodies are permitted to move due to their attributes (Sheller 2021 p. 43). This therefore extends to the role that gendered spaces play in creating mobility exclusion zones for women as mobile subjects (Sheller 2021 p. 43). If, as Motherwell suggests (2018), the quest to design more inclusive cities has faltered, this has a significant impact on the ability of women to cycle (Aldred, Woodcock, and Goodman 2016). Previous research points to women having a stronger preference for segregation when compared with men (Aldred et al 2017) and more recent research in Canada found that even where cycling infrastructure was present, a gender gap persists in relation to perception of safety (Grayston, Mitra, and Hess 2022). Furthermore, Balkmar (2018) observes that numerous studies have shaped our understanding of “road rage” type activities being a gendered issue. Specifically, this gendered issue arises in connection with such “road rage” type incidents being connected to “drivers inflated sense of self, including a stronger sense of entitlement” that is linked with the male gender (Shreer 2002 p. 339, quoted in Balkmar 2018 pp. 718-719).

Perception of safety both as a mobile subject, and through the construction of gendered spaces, has a role in selecting cycling as a transportation mode (Ravensbergen, Buliung, and Laliberte 2020). Understanding these perceptions has a direct application to policy development too with an identified, “underrepresentation of women in decision-making processes, where women’s experiences and voices are often excluded or marginalised” (Motherwell 2018 p.25). Recent research undertaken in Toronto, Canada sought to determine whether: (i) gender impacts the perception of traffic related personal safety while cycling; and (ii) how gender potentially shapes perceptions where cycling infrastructure is present (Graystone, Mitra, and Hess 2022 p. 2). In line with previous research (Ravensbergen, Buliung, and Laliberte 2020), their findings point to a statistically significant difference between perception of safety across genders, specifically in relation to personal safety (Graystone, Mitra, and Hess 2022 p. 7). This is echoed in research undertaken in Glasgow, where personal safety concerns were found to shape the participation of women in active travel (Motherwell 2018).

Therefore, perception of safety is influenced by the structural inequalities around gender, and it is therefore significant how gender relates to the spatial, temporal, and social aspects of the practice (Ravensbergen, Buliung, and Laliberte 2020; Ravensbergen, Buliung, and Laliberte 2019). Moreover, while the construction of safe infrastructure has been identified as having a positive influence on the gender gap in cycling numbers (AitBihiOuali and Klinge 2022), broader structural inequalities will continue to have an impact beyond anything new bicycle infrastructure can achieve.

2.5. Cycling and identity

In societies where the private car is an integral element of daily life, the car has become a critical element in the formation and shaping of identities (Aldred 2010; Sheller 2004). It has also been suggested that these identities are shaped by practices that occur within urban spaces and the distinctions that are made between mobile subjects (Aldred 2013 p. 267). Therefore, transportation mode has an instrumental effect on how identity is constructed, and the inherent value placed on these modes from a socio-cultural perspective. The status of cycling and those who cycle is also influenced by cultural associations between cycling and a hobby for those with relevant social and economic capital (Cox 2022; Section 2.2). Cycling in the UK is framed very differently to other transport modes, particularly when compared to locations where the practice is normalised, e.g., Copenhagen (Haustein et al 2020; Larsen 2017).

Participants in a study conducted in London did not, “discuss the appropriateness of clothing choice or deportment” when referring to other transportation modes, as occurs with cycling (Steinbach et al 2011 p. 1125). Steinbach et al note that in signalling the identity of *cyclist*, this extended beyond the ownership of a bicycle and to adopting a specific style that was represented via clothing choice (2011 p. 1125). This contrasts with understandings and conceptualisations of driving and drivers which are associated with the “aesthetic, emotional and sensory responses to driving, as well as patterns of kinship, sociability, habitation and work” (Sheller 2004 p. 222). Consequently, it has been suggested that an element of deviancy can be attached to the identities of those who cycle (Aldred 2013). This deviancy can be problematic when the supremacy of car drivers is challenged spatially by cyclists. A “privileged” identity of the dominant car driver is constructed because of the supremacy of motor vehicles in urban spaces (Aldred 2013 p. 254). However, these identities are not static and there exists the possibility of more than one identity and this has consequences for transport policy which tends to construct individuals as distinctive groups based on a singular identity (Guell et al 2012 p. 239). Referring back to Section 2.3, it can be seen how the distinguishing and labelling of cyclists as different, alongside the system of automobility, creates an “us and them” distinction that reconstitutes itself as discrimination against cyclists, which is exacerbated by broader structural issues, i.e., the system of automobility. This links back with Aldred’s discussion on managing identity and being a “good” cyclist” (Aldred 2013 p. 259).

Aldred suggests that there are three key themes when considering cycling identities (2013 p. 255). First, she notes that literature focussing on stigma acts as a pathway for understanding how identity is negotiated as a cyclist (Aldred 2013 p. 255). Secondly, Aldred observes that while a cyclist can be identified as such while performing the act of cycling, it is not so easy to identify a cyclist in the absence of a bicycle (2013 p. 255). Therefore, she suggests that work considering other stigmatised identities and how these identities are displayed or hidden can have relevance to cycling identities too (Aldred 2013 p. 255). Aldred also observes that cycling identities operate within the broader context of other social identities, some of which may be more valued and, as such, have a role in understanding how the stereotyping and prejudice associated with cycling could potentially be resisted (2013 p. 255). Research undertaken by Leyendecker demonstrates that leisure cycling exists in the gap between cyclists and non-cyclists and, as such, can offer a route towards a more favourable construction of cycling (2022 p. 59). This would potentially afford a route to move beyond the stereotypes and prejudices that are present around the construction of cycling identities (Aldred 2013; Mackintosh and Norcliffe 2007).

Another element of cycling identities relates to the socio-cultural power regimes that can “embed, reproduce or generate new socio-spatial inequalities” (Psarikidou 2020 p. 271). Psarikidou notes that most of the discussion focussing on cycling and power chooses to emphasise the dominance of the car *vis-à-vis* cycling, rather than the exclusion that can occur within cycling itself (2020 p. 271). Such inequalities extend from funding and allocation of resources to infrastructural, gender, and digital inequalities (Psarikidou 2020). The potential for gentrification of cycling was noted by Hoor (2020) in his exploration of urban cycling cultures in Berlin, where conspicuous consumption of the bicycle is potentially shaping cycling and cycling identities in the city. Therefore, in addition to embodying gender (Section 2.4 above), cycling is also capable of embodying class and class is therefore relevant to the formation of cycling identities (Ravensbergen 2022; Section 2.2).

It is noted that caution needs to be exercised in categorising road users into distinct classifications such as “cyclist” or driver.” For example, in their ethnographic analysis of cycling as a commuting practice, Guell et al (2012) observe that their work explicitly challenges one of the main assumptions within transport policy; that an individual only identifies with a singular habit or identity (Guell et al 2012 p. 239). This distinction that is made between users of modes is also explored as part of a recent paper

examining mobility practices from a Bourdieusian framing of habitus, field, and capitals (Guell, Ogilvie, and Green 2023 p.5). As such, the notion that cyclists or motorists are discrete groups needs to be re-evaluated particularly when constructing narratives around, e.g., the ‘war on the motorist’ (Guell et al 2012 p. 239).

2.6. Cyclists as “the other”

As noted by Urry, the car is a “way of life and not just a transport system” (2007 p. 113). Therefore, there is a duality between the systems of automobility and velomobility. As such, the discriminatory discourse of cycling (Caimotto 2020 p. 42) is both dominated and constrained by vehicular travel. Cycling is constructed as an out-group activity and one which is therefore associated with negative stereotypes (Daley and Rissel 2011 p. 215) and permits the construction of cyclists as “the other” (Aldred 2013). This process of othering can be framed as follows: “the normalisation of the car is associated with the de-normalisation of the bicycle” (Aldred et al 2019 p. 150). Prati, Puchades, and Pietrantoni (2017) offer a construction of cyclists as a minority group, relying on the work of Seyranian, Atuel, and Crano (2008). This is, they advance, due to the cultural and social aspects of cycling that fail to be captured in constructing cyclists as vulnerable road users (2017 p. 38). It is the centrality of the car to society’s social, cultural, and economic ambitions (Urry 2007) which constructs those who choose to cycle as an out-group with diminished legitimacy.

The idea of “the other” also links with the question of identity (Section 2.5) and the construction of a community (Section 3.3.2). Specifically, it has also been argued that the minority status of cycling can have a positive effect as cyclists “embrace this collective identity because it offers us solidarity. It assures us that we are not just isolated deviants” (Cox 2015 p. 21). According to Cox, this also enables participation in an imagined community that shares the oppression associated with the minority practice of cycling (2015 pp. 21-22). However, even under the broad umbrella of “cycling”, individual cyclists are othered too¹². For example, in the case of Deliveroo cyclists (Sections 6.3.1 and 7.2.6), perhaps indicative of the distinct subculture relating to bicycle couriers identified by Fincham (2007).

¹² The multiplicity of meanings associated with the word “cyclist” is considered in Chapter 9, drawing on the data set out in Chapter 6 and 7.

2.7. Summary

This chapter has provided an overview of pertinent scholarship in relation to how the cyclist is constructed as a mobile subject. It has emphasised that there is a need to move away from purely sociological understandings of mobility to one that accommodates the movement of humans both spatially and temporally. The role that social norms and perceptions play in constructing “the cyclist” are also emphasised along with the importance of applying a gender lens to cycling research and in understanding gendered spaces. The chapter also considers the importance of identity formation in connection with cycling, and the capacity for cyclists to be constructed as “the other” through specific discourses and processes.

The next chapter will consider cycling separately from the cyclist as a mobile subject. It will consider the role that space and place play, along with themes of wellbeing, and cycling as a mode of transport. Finally, it will conclude with a discussion of cycling as a practice and the barriers that can impede uptake of cycling.

Chapter 3: Cycling

3.1. Introduction

The bicycle derives meaning through “practices, discourses, and social forces” (Furness 2014 p. 317) and mandates that cycling as a practice is embodied within the social environment (Nettleton and Green 2014). It is also an object that is associated with social change (Furness 2014 p. 317) and has enabled both human mobility and sociality in a manner than could not have been envisaged (Cox 2019 p. 13). Referring to these socio-political meanings, Colville-Andersen notes that an individual can “[r]ide a bike for society. Ride a bike for yourself and no one else. The bicycle doesn’t care” (2018 p. 38).

To understand the impact of organisation, practical, and social influence on cycling in Aberdeen, it is important to provide the broad context within which cycling-specific policies operate by articulating the socio-cultural context within which such policies operate and identifying practical obstacles to cycling. The following sections consider the role of place for cycling, before moving on to the connected themes of physical and mental wellbeing. Cycling as a transport mode will be considered, as will potential barriers to cycling that have been identified in the literature.

3.2. Cycling, space, and place

The interrelationships between cycling, space, and place are of relevance because they offer an insight into the power relations between cycling, cyclists, and the system of automobility. The act of cycling is a practice that can be used to challenge the present construction of auto-dominance but also existing cultural norms around automobility (Furness 2014 pp. 316-317). It is also a practice that requires to be understood beyond the confines of why people move and where they are moving to (Spinney 2009). Cyclists develop “protective skills and identities to maintain their practice” (Aldred and Jungnickel 2014 p. 86) and this therefore mediates the meaning of place for cyclists. This also extends to the static presence of stored bicycles in the urban environment and their perceived place in such a space (Aldred and Jungnickel 2013).

Scott takes both Lefebvre (1991) and the new mobilities paradigm (Sheller and Urry 2006) to discuss the construction of “neighbourhoods of mobility” that facilitate movement in the city through “constellations of social and technical elements” (Scott 2016 p. 399). In the application of Lefebvre (1991) to understanding cycle spaces and the associated power relations, social functions, and

regulation of usage (Mayers and Glover 2021 p. 371), the relevance of space and power is explored. Such power dynamics in relation to production of space are also practically illustrated in relation to low traffic neighbourhoods in London, and the socio-cultural dynamics that mediate the (non)-acceptance of such schemes (Hickman 2021). This emphasises the importance of culture to cycling spaces as previously observed (Aldred and Jungnickel 2014).

Another important aspect of place relates to the sense of belonging that comes from the urban environment (Dunlap et al 2021) and therefore the importance of understanding cycling as a liminal practice (Spinney 2009). In comparison with driving, cycling has been found to build and enhance the connection with place (Dunlap et al 2021). Cycling is also a sensory practice, perceived by the whole body and as such manifests as a different form of urban mobility when compared with the car, public transport, or walking (Popan 2020). Through video ethnographies of cycling in London and Lancaster, Popan establishes that cycling is a multisensory experience, requiring not just seeing and hearing but feeling through whole body perception (Popan 2020). Specifically, “the sense of pain, the sense of our muscles and organs, the sense of balance, movement, and temperature. Cycling involves a total sensuous experience” (Popan 2020 p. 296).

3.3. Cycling for physical health and wellbeing

3.3.1. The practical focus on health outcomes

The sub-section focusses on the social meaning that cycling can have in a health and wellbeing context, with the bicycle positioned as a health tool rather than as an embodied practice. This section does not explicitly cover the topic of safety in relation to cycling, and therefore injury potential, which will be considered in Section 3.5.

It has long been recognised that physical inactivity is a leading cause of morbidity and mortality across the global population and a significant public health concern (Kohl et al. 2012; Lee et al. 2012; World Health Organisation 2002). It is the leading risk factor for non-communicable diseases, impacting both physical and mental wellbeing (Guthold et al. 2018). It is also a source of direct and indirect healthcare costs, therefore representing an economic burden on society too (Ding et al. 2017). Recent research on sedentary lifestyles and low physical activity in Finland labelled such behaviours as incurring “substantial societal costs,” with indirect costs associated with such behaviours outweighing direct costs by three times over (Kolu et al. 2022). With current estimates suggesting that globally

approximately 1 in 4 adults do not do enough physical activity (World Health Organisation 2018 p. 15), cycling could partially contribute to addressing this public health issue. However, it should be acknowledged that there is a risk that public health policy engages in a victim-blaming narrative, which needs to be accounted for in initiatives promoting improved physical and mental wellbeing and is an acknowledged misstep in behaviour change campaigns (Kelly & Car 2023; Kelly & Barker 2016).

The role that cycling can play in improving health and wellbeing is acknowledged (Celis-Morales, et al. 2017; Pucher and Buehler 2017; Goetschi, Garrard, and Giles-Corti 2015; Oja et al. 2011). NHS Scotland also advocates cycling to reduce heart disease, type 2 diabetes, and stroke (NHS Health Scotland 2022). Cycle commuting has also been identified as holding a beneficial impact on mental wellbeing (Avila-Palencia 2017; Martin, Goryakin, Suhrcke 2014) and the mental wellbeing aspects of cycling are emphasised by the UK's cycling charities as a positive benefit of choosing to cycle (Cycling UK 2022; Sustrans 2020). Such emphasis is also echoed by anecdotal accounts in national media (Pender, 2021; Colbeck and Charlesworth 2018; Graham-Dixon 2017). It is therefore unsurprising that cycling is often constructed as an alternative to driving and a means of integrating physical activity in daily lives (Guell et al 2012; Steinbach et al 2011).

Recent policy surrounding cycling has focussed on health and economic considerations (Popan 2020 p. 289). Specifically, the focus on cycling is driven by a projected economic benefit in investing in cycling due to associated reductions in morbidity and mortality. In Stockholm County, Sweden it has been determined that increased physical activity associated with cycling contributed to a reduction in healthcare costs associated with chronic disease (Sommar et al. 2021; Kriit et al. 2019). Similarly, research undertaken across three Canadian cities between 2016 and 2020 found that the financial value of health-related benefits incurred via prevented and premature deaths exceeded the costs associated with cycling infrastructure (Whitehurst et al. 2021). Furthermore, in determining a cycle network investment model for Oslo, researchers found that: (i) such a model was a valuable tool for public health; and (ii) that such investment would have long-term effects on physical activity that contributed to reduction of risk of cancer, heart disease, type 2 diabetes, and stroke (Lamu et al. 2020). However, it must be considered whether such empirical approaches to cycling and the associated health benefits amounts to the “medicalisation of nature” described by Brown and Bell (2007).¹³ Brown

¹³ Further discussion on the concept of medicalisation and the social context can be found in Ballard and Elston (2005).

and Bell (2007 p. 1348) propose that the natural environment is constructed as “transactional zones” in which individuals translate the discursive requirements of public health into the “embodied performances” described by Paddison et al (1999).

A documented concern around the health and wellbeing benefits of cycling relates to the potential for air pollution to have a detrimental effect on cyclists, particularly in settings where air pollution is higher (Taino et al. 2016). Measurements from urban environments across the world show that air pollution risks do not negate any potential gains from active travel, with only a small number of cities identified where fine particulate matter (PM_{2.5}) concentrations were too high to realise such gains (Taino et al 2016). This is also supported by more recent research, albeit with the suggestion that nitrogen oxides (NO_x), nitrogen dioxide (NO₂), and BC (black carbon) are more appropriate measures of air quality (Sommer et al 2021 p. 560). Critically, there is a two-fold benefit from seeing a significant shift in commuting behaviours from automotive based modes to bicycles that comes from both enhanced air quality and increased physical activity (Sommer et al 2021).

3.3.2. *Cycling and wellbeing*

This thesis uses Simons and Baldwin’s framing of wellbeing:

Wellbeing is a state of positive feelings and meeting full potential in the world. It can be measured subjectively and objectively, using a salutogenic¹⁴ approach (Simons and Baldwin 2021 p. 984)

With this definition in mind, this section looks at the physical and mental wellbeing aspects offered by cycling that provide a contrast to the empirical understanding of health and cycling previously presented.

It has been determined that cycling can help individuals feel part of a community and that this in turn promotes a sense of belonging and general wellbeing (Feighan and Roberts 2017). This is also explored by Aldred (2010) as part of cycling citizenship, and the construction of cycling as a “shared and sociable practice capable of embedding and deepening links to family, friends, and others” (Aldred 2010 p. 47). The solidarity of information sharing amongst commuter cyclists is also noted as reinforcing in-group membership (Bartle, Avineri, and Chatterjee 2013), and so contributes to a sense of community. Wild and Woodward note the importance of social interaction and the contribution this makes to the overall

¹⁴ i.e., taking a holistic approach to wellbeing and not focussing on disease pathogenesis.

happiness of cycle commuters (2019 p. 6). There are also distinct communities within cycling subcultures that promote an important sense of belonging, such as bicycle couriers (Fincham 2007). Therefore, across a variety of circumstances, cycling is associated with building and reinforcing community connections that promote individual wellbeing through fostering states of positive feelings. This theme of enjoyment was identified by Fincham in relation to bicycle couriers in the context of subcultures. More recent work by Popan and Anaya-Boig (2021) explores the precarity of platform cycle delivery workers (e.g., Deliveroo), which presents an additional perspective on this type of work and their vulnerability in the road space.

Cycling can also help to promote mental wellbeing, for example, through changes in state of mind before, during, and after cycling (Feighan and Roberts 2017). This is ascribed to the achievement of 'flow' as explained by Csikszentmihalyi (1990) and the associated benefits this has for mental wellbeing (Feighan and Roberts 2017 p. 325). In achieving flow, the individual is immersed in an activity in a way that is transformative and enduring, "making overall one's life more enjoyable and meaningful, bestowing a sense of control and connectedness to the outer world" (Te Brommelstroet et al 2018). The "feel better" effect of exercise contributes to the happiness felt by cycle commuters despite the challenges the commuter environment presents (Wild and Woodward 2019 p. 6). Work by Glackin and Beale (2018) into cycling and greenspace reveal that participants experience feelings of: (i) mastery and uncomplicated joys; (ii) my place to escape and rejuvenate; and (iii) alone but connected (Glackin and Beale 2018 p. 36). This idea of joy is also replicated elsewhere in the research (Feighan and Roberts 2017; Minello and Nixon 2017; McIlvenny 2015) and can be linked back to this idea of flow state, and the positive impact this has on wellbeing.

This association between cycling and wellbeing can be expanded to include participating in the process of cycling, even if the individual is not pedalling. Specifically, projects such as *Cycling Without Age* that utilise volunteer piloted trishaws to engage older people with the outdoors have been proven to have short term impacts on wellbeing for those living in care home and assisted living facilities (Gray and Gow 2020). In addition to improved mood, such programs have been shown to foster a greater sense of community in participants (Cyarto et al 2022).

3.4. Cycling as a transport mode

Even if cycling is viewed in a purely utilitarian sense, as a mode of transportation, consideration must be given to the cycling environment and the relationship between transport infrastructures and the cyclist as a mobile body (Simpson 2017). For example, how transport infrastructure is constructed governs how different mobile bodies move through cities and mediates the sensory experiences of those bodies (Jungnickel and Aldred 2014). Social identities are expressed and interpreted via these mobile places too. Therefore, the sociological significance of mobile places is important for understanding contemporary societies (Aldred and Jungnickel 2012).

The literature, however, identifies something inherently problematic in the identification of cycling as an act of utility. Part of the expression of such social identities also relates to what Aldred describes as the dominant utility model of transport, which renders cyclists and cycling as problematic (2015 p. 686). For Aldred, it is the propensity for planning and transport policy to “prioritise productivity and privilege,” causing cycling to position itself within such discourses as an act of utility (2016 pp. 686-687). This is exemplified through the construction of mode choice as a “rational” choice, focussed on saving time and/or money (Aldred 2016 p. 689). This emphasis on time, Aldred argues, deprioritises those who are economically inactive and those who do not drive (2016 p. 689). Ultimately, cycling lacks legitimacy as a transport mode due to dominant paradigms prioritising motorised travel (Aldred 2016 p. 702). This has consequences for the legitimacy of cycling as a transport mode and juxtaposes cycling with the car, seeking to place cycling at odds with what Aldred notes as the rational (2016).

The dominance of car culture and the construction of a society built around car ownership therefore has direct consequences for both the urban environment and the bodies that exist in these spaces (Aldred and Jungnickel 2014 p. 79). The structure and function of both transport infrastructure and transportation practices are more complex, impacting the production of differing forms of sociality (Simpson 2017 p. 443). Further, automobility has restructured both spatially and temporally the human existence and divides the urban environment as a result (Urry 2007 p. 120). How humans construct time is described as possessing the ability to impose a flexibility upon people that is coercive, with the ability to create “personalised, subjective temporalities” (Urry 2007 p. 120). Spatially, cars represent a privatisation of public space and therefore embody the potential to marginalise (Aldred 2010). This is due to the dominance of car culture and a society constructed around the consumption of car ownership. Critically, the lens of automobility is also the mechanism through which the benefits

of cycling are constructed (Aldred 2010 p. 35-36). Consequently, the conceptualisation and design of pro-cycling urban spaces needs to be understood as playing a vital role beyond the objective act of movement between places. Cycling, therefore, retains the capacity to shape a city's social, cultural, and economic reality through a reconsideration of consumption and citizenship (Aldred 2010).

3.5. Cycling and safety

Even when cycling is framed as a beneficial activity (Section 3.3), it has been identified that a 'fear of cycling' has also been socially constructed (Ponto 2015; Horton 2015). Consequently, a discourse has emerged around cycling that focuses on safety and this in turn frames both the choice to cycle and the act of cycling itself as something potentially imbued with risk (Ponto 2015 p. 23). This perception of safety plays a role in constructing a barrier to more cycling (Pucher and Buehler 2017; Hull and O'Holleran 2014). However, this perception is potentially borne out in statistics indicating that cycling has become less safe and that collisions may well be underreported (Young and Whyte 2020; Short and Caulfield 2014).

A potential solution to some of the more obvious road safety concerns around cycling lie in the creation of segregated cycleways (Pucher and Buehler 2017; Hull and O'Holleran 2014). The role that infrastructure has in promoting cycle safety is explored by Schepers et al (2017) in learning from the Dutch approach to the issue. Specifically, they note that, "low cycling speed, (one-way) bicycle paths and intersection treatments such as speed reducing measures" are all significant contributors to cycle safety in the Netherlands (Schepers et al 2017 p. 270). However, it should be noted that there are factors beyond infrastructure that remain important. For example, cultural specificities within the Netherlands such as travel behaviours and experiential factors that are reflective of the developed cycling culture (Schepers et al 2017 pp. 266-270). Notably, that there was no evidence that strict liability laws contributed towards the low risk of bicycle/vehicle collisions in the Netherlands (Schepers et al 2017 p. 271).

There is also evidence that relative deprivation and place also impact on cycle safety (Vidal Tortosa et al 2021). Specifically, individuals with a lower socioeconomic status have an increased risk of cycling injury, with children being most at risk (Vidal Tortosa et al 2021). Therefore, as noted above in relation

to gender (Section 2.4), the notion of cycle safety is mediated by structural factors such as class and gender too.

3.6. Barriers to cycling

3.6.1. Infrastructure

Adequate infrastructure is often referenced as having relevance to facilitating cycling. In the UK, the first contiguous attempt at segregation is potentially the creation of the National Cycle Network in 1997 (Brice 2021).¹⁵ As anticipated, this association is made by both government and cycling charities (Scottish Government 2023; Cycling UK n.d) but is also a subject of discussion in the literature (Aldred et al 2019; Panter et al 2019; Goodman, Sahlqvist, and Ogilvie 2014; Daley, Rissel, and Lloyd 2007). Indeed, a significant body of research exists in relation to the importance of infrastructure (Pucher and Buehler 2017; Mulvaney et al 2015; Hull and O'Holleran 2014). Such research primarily focuses on design and accessibility of infrastructure in relation to uptake of cycling (Hull and O'Holleran 2014). The effectiveness of infrastructure is contested (Aldred and Jungnickel 2014; Pucher, Dill, and Handy 2010; Yang et al 2010) and there is a lack of consensus regarding the significance of cycling infrastructure in relation to modal share (Stewart, Anokye, and Pokhrel 2015; Aldred and Jungnickel 2014; Pucher, Dill, and Handy 2010; Yang et al 2010) and therefore infrastructure cannot be solely advanced as a key driver for cycling uptake in the UK.

What has been determined with more certainty is that a package of measures is required, including policies that prioritise place and space in relation to cycling (Rehfishch 2018 p. 10; Pucher, Dill, and Handy 2010). A policy review from 2010 suggests that enhancements to infrastructure are relevant but so are policies that seek to facilitate active travel such as safer streets and office-based shower facilities (Santos, Behrendt and Teytelboym 2010 pp. 59-60), and these findings have been replicated in more recent studies but are likely to be context dependent. For example, it has been identified through work conducted in Barranquilla, Columbia that showers could be beneficial for convenience (Gutierrez et al 2021) and that in rainy cities such as Glasgow, Scotland the provision of shower facilities at workplaces could strengthen resilience to bad weather (Hong, McArthur and Stewart 2020).

¹⁵ It is acknowledged that Sustrans had previously undertaken work on the Bristol and Bath railway path in the 1980s.

3.6.2. Weather and topography¹⁶

When considering potential barriers to cycling, climactic and topographical conditions – that are clearly outside of the cyclist or potential cyclist’s control – are also relevant. In a cross-comparison between Dutch, Norwegian and Swedish city regions, researchers found that “higher air temperature, calm wind conditions and no precipitation increases bicycle shares while decreasing the share of motorised transportation” (Bocker et al 2019 p. 497). Sky darkness also had an impact on active transport modes in the study locations (Bocker et al 2019 p. 501). However, Bocker et al conclude that the impact of weather and associated conditions is not universal across the study locations and that this could potentially be explained by the overall transport regime operating in the cities and the roles of habit and adaptation in these locations (Bocker et al 2019 p. 501). This also aligns with the findings of Goldmann and Wessel (2021), who find variances across German cities in relation to the effect of weather on cycling participation. Conversely, An et al (2019) emphasise the significance of weather impacts on New Yorks’ Citibike scheme, although this was not a comparative study, as being the most significant predictor of usage. Hudde (2023) found that winter conditions have an impact on uptake of cycling in German cities but not in Dutch cities. Therefore, it appears that while the weather is relevant, it is dependent on what is “normal” for that location too, and that this cannot be generalised by broad geographic location (e.g., northern Europe) and has cultural significance instead.

Surprisingly, the presence of hills on routes do not appear to act as a fatal barrier to cycling but is a factor to consider. In research conducted in the USA across metropolitan areas, Tyndall (2020) found that the topography of a commuter route, and associated hilliness, to be irrelevant to cycling as a mode choice. However, research conducted in Belo Horizonte, Brazil found that hilliness is a factor in propensity to cycle, with hilliness found to decrease the odds of commuting by bicycle by 52% (de Megalhaes and Rigatto 2023). To mitigate this impact, this study recommends that significant gradients should be avoided on cycle routes where possible, to make cycling an attractive alternative for commuters (de Megalhaes and Rigatto 2023). This is an important consideration which is factored into the Propensity to Cycle Tool in England and Wales (Goodman et al 2019) and *Cycling by Design* in Scotland (Section 4.3.6).

¹⁶ Literature relied upon in this section is drawn predominantly from northern Europe and north America, due to the potential cultural similarities. However, due to the limited amount of literature it also takes in work completed in Brazil around topography of cycle routes. As such, it is acknowledged that the focus remains predominantly on the global north and that while literature from other regions exist e.g., Munyaka et al (2023) which considers rural Rwanda, it has not been considered here due to the significant socio-economic and socio-cultural differences.

3.6.3. *Culture & Society*

A further aspect that may act as a barrier to cycling relates to the prevailing culture and social norms within a community. This subsection considers the perspective of normalising cycling as an activity, and within the context of the wider structural issue of gender equality. This section is also linked to Chapter 2, and the discussion of the cyclist.

First, in relation to the perceived normality of cycling, to achieve the cultural shift required to normalise cycling for those who have never contemplated cycling, it is vital that the act of cycling is, “viewed and promoted as a mainstream activity that can be undertaken by almost anyone, without the need for special clothing, expensive equipment or limited to purpose built facilities” (Daley and Rissel 2011 p. 216; Aldred and Jungnickel 2014). Similarly, Aldred and Dales (2017) discuss the role that improved infrastructure can play in normalising cycling, in contributing to perceptions of safety and thereby encouraging a wider range of users. This idea of infrastructure helping to normalise the practice of cycling within society is also discussed in the context of bike share schemes in London (Goodman, Green, and Woodcock 2014). However, Aldred and Dales note that while users of protected bike lanes in London are less likely to wear helmets and “sporty” clothing, there was still relatively high numbers of individuals wearing high visibility items over their clothes (Aldred and Dales 2017 p. 361). It is possible that there is a performative element associated with this, in line with the idea of the “good” cyclist (Aldred 2013 p. 259).

However, normalising cycling is only part of the cultural shift required for, as noted by Fruhen and Flinn, “sharing the roads can result in dangers for cyclists. For car drivers, the presence of cyclists can be associated with annoyance and frustration” (2015 p. 162). Therefore, there is a gap between the aspiration that is so frequently found in policy, and the lived reality of mobile bodies. This gap is particularly relevant in relation to the existence of social norms that point to the acceptance of driver aggression towards cyclists, and the corresponding identification of cyclists as an out-group (Fruhen and Flinn 2015). Separately, a deeper reflection on these barriers, particularly in relation to women, demonstrates that it is also important to understand the social and geographical constructs that dictate transport choices too (Steinbach et al 2011 p. 1124). There is also a broader requirement to reflect on not only economic constraints placed on transportation choices but also questions of cultural capital and the meanings derived from individual modal choices (Steinbach et al 2011 p. 1124).

There is also the question of the role that gender plays within cycling spaces and in the act of cycling (Steinbach et al 2011). For example, Balkmar (2018) argues that any shift to sustainable transport modes in Sweden also needs to be accompanied by a reordering of men's practices and associated masculinities in relation to transport and that conflict on our road spaces need to be framed as being a gendered issue too (Balkmar 2018 p. 717). The gendered nature of public spaces means that women face the dual issue of street harassment, interwoven with abuse for taking up space on the road as a cyclist (Kern 2020 p. 91; Bachelor 2018). Further, Steinbach et al (2011) identify the public gendering of mobile bodies in ways that are not applicable to other transportation modes. Therefore, it is not only the physical manifestation of place that is important for cycling but there are also wider societal constructs which are relevant (Section 2.4).

3.6.4. The phenomenon of 'bike-lash' and community relationships

Community considerations can act as barriers to cycling, for example, the phenomenon of 'bike-lash', or the community-based opposition to bike lanes, often because of poor planning strategies (Caimotto 2020 pp. 40-41). Wild et al constructed a critical review of the literature in relation to these contested spaces and identified four categories of individuals who are most likely to object to new bike lanes: (i) retailers; (ii) conservative voters; (iii) anti-gentrification activists; and (iv) marginalised cyclists¹⁷ (2018 p. 508). At the core of these objections rests the failure of modern transport policy and its "technocentric planning paradigm" that is incapable of engaging in the contested socio-political perspectives surrounding mobility (Wild et al 2018 p. 506). Caimotto also notes the potential for bike lanes to reinforce the othering of cyclists, through the process of segregation, thus precluding cyclists from the status of legitimate road user (2020 p. 41).

This conflict, it is argued, has been heightened by participatory planning processes that expose community divisions and result in a situation where planners are not equipped with the skills to mediate such conflicts (Wild et al 2018 p. 507; Pløger 2004). The introduction of cycle lanes can represent a challenge to the established order and therefore power relationships within cities, particularly in societies that value automobility over velomobility (Wild et al 2018). They have the

¹⁷ A definition is not supplied for "marginalised" in the article, but discussion points to groups historically marginalised due to their race, ethnicity, or social class.

potential to disrupt the power associated with an accepted and predictable social order (Haugaard 2003). Therefore, it is also important that transport planners and urban designers engage in collaborative and community-based design processes that are iterative and clearly link to decision making about space and place (AlWaer 2017). However, this is predicated on the idea that officials are equipped to deal with any conflict that arises during such participatory decision-making activities for, as noted, much of the literature on co-production between citizen and state is aspirational in nature (Turnhout et al 2020).

It has been suggested the benefits of public engagement in sustainable urban mobility planning are potentially greater than the risks of excluding participation. For example, Lindenau and Boehler-Baedeker caution that:

Disregarding participatory principles in mobility planning does not only mean that it cannot be considered “sustainable urban mobility planning”, but it also misses the opportunity to raise awareness for local urban mobility challenges and solutions, for more efficient and effective policy choices, for a more transparent decision-making process and for narrowing the gap between citizens (or stakeholders) and politicians. (2014 p.358)

The Scottish Government’s Community Empowerment agenda emphasises the importance of the role of communities in shaping public services and the importance of public services being responsive to users, thereby defining community empowerment as a two-way process (Rolfe 2016 p. 109). However, how this two-way process is structured needs to be considered and a distinction should be drawn between: (i) consultation – where local authorities receive suggestions and criticisms from the public but may not fully engage with these issues; and (ii) participation – where there is a degree of redistribution of power (Gil, Calado, and Bentz 2011 p. 1311).

There is also a role for considering how citizens respond to “green” policies that are implemented through the process of encouraging sustainable transportation within a city environment. For example, the lack of citizen interest in participating in the development of sustainable urban mobility plans shows that specific mobility measures are more capable of engaging the public, particularly if citizens perceive that they may be directly affected by a measure (Lindenau and Boehler-Baedeker 2014 p. 352). From a cycling policy perspective, Leyendecker suggests that a better understanding of both car driver and cyclist is required as part of this process to enable a more efficient roll-out of road reallocation projects (2022 p. 48). She notes that communication strategies are particularly important

in this context and “should take psycho-sociological principles into account and use words carefully to navigate across the identity trap” (Leyendecker 2022 p. 58).

3.7. Practice theory and cycling

Cycling and other two wheeled forms of mobility have been previously interpreted through the lens of practice theory. For example, in the UK, Buck and Nurse (2023) apply practice theory to understand cycling in Liverpool, and Parsons (2019) applies practice theory to interpret the significance of cycling cultures on cycling practices in Newcastle upon Tyne. Also, within a UK context, Spotswood et al (2015) applying practice theory to analyse data about the image of cycling from the perspectives of both cyclists and non-cyclists. From a broader European perspective, Westerlaken (2020) utilises practice theory to analyse cycle commuting in Hertogenbosch-Rosmalen (Netherlands), with Larsen (2017) applying the lens of practice theory to interpret the co-production of bicycle practices in Copenhagen. Looking outside of Europe, Huang (2024, 2022) extends the use of practice theory to the study of powered two-wheelers in Taipei, Taiwan. Finally, moving beyond the Global North, Vivanco (2018) applies practice theory to understand cycling in Quito, Ecuador.

While only a sample of recent work discussing the application of practice theory to cycling and other forms of two wheeled mobility, it demonstrates the relevance of selecting practice theory as the lens through which to interrogate the nature of cycling in Aberdeen. The literature also demonstrates how practice theory has been applied to interpreting some contentious aspects of cycling, such as cycling on the pavement in Sweden (Ihlstrom, Henriksson, and Kircher 2021) and the phenomenon of near misses and collisions between cyclists and pedestrians in Finland (Mesimaki & Luoma 2021). There are also examples in recent research of the application of practice theory to interpreting relationships of power within cities (Ravensbergen et al 2023) and understanding the gendered and class-based embodied experiences of cycling too (Ravensbergen 2022). Therefore, there exists the capacity in interrogating the nature of cycling in Aberdeen through the lens of practice theory, to also explore the organisational, practical, and social influences which mediate cycling in this Scottish city.

3.8. Summary

This chapter has continued to provide a basis for understanding the impact of organisational, practical, and social influences on cycling in Aberdeen by articulating the socio-cultural context within which

policy operates and identifying practical constraints, such as infrastructure, weather, and topography. It has observed how cycling relates to space and place, alongside themes of health and wellbeing, and the construction of cycling as a means of transport. It has identified barriers to cycling, including the role that safety and perceptions of safety play in this context. This information is critical for not only understanding the role that cycling policies play in local government, but also to establish a foundation for understanding the practical and social influences on the implementation of cycling-specific policies in Aberdeen. The next chapter will identify relevant cycling policy both at national and local level.

Chapter 4: Cycling Policy in Scotland

4.1. Introduction

The purpose of this chapter is to provide policy context within the systems of multi-level governance that operates in Scotland. The chapter begins by exploring the delivery of Scottish Government policy through Transport Scotland, before moving on to consider the relevant regional transport policy delivered via Regional Transport Partnerships, and local transport policy via local government that impacts on cycling in Scotland.

Transport is one of the devolved areas of policy under legislative and policy remit of the Scottish Parliament and Scottish Government.¹⁸ A key document that influenced development of Scotland's transport system was the 2004 White Paper, *Scotland's Transport Future* (Scottish Executive 2004). This document established a vision that features cycling as being a key part of the transition away from short car journeys (Scottish Executive 2004 p.7). This vision was similarly replicated in subsequent transport policy in Scotland, as highlighted in this Chapter. Despite this discursive commitment to cycling featuring more prominently in the Scottish transport landscape, travel by bike measured as a proportion of total distance travelled, has remained largely static (Rehfisch 2018). The purpose of the following sections is to provide a general overview of key policy documents that have shaped and will shape the transport landscape in Scotland, with a specific focus on cycling. For context, in 2020 cycling represented 1.5% of the total modal share in Scotland, with 4% of people regularly cycling to work¹⁹ (Cycling Scotland 2022 p. 5).

4.2. Multi-level governance in Scotland²⁰

In Scotland, once centralised systems of government have been replaced by decentralised layers of governance (Marks and Hooghe 2004 p.15). Multi-level governance offers a mechanism through which to understand and interpret the relationship between different layers of government and offers an "alternative account of intergovernmental relations" (Peters and Pierre 2004 p. 75). Multi-level governance also exists within the broader context of the neoliberal influences that have been instrumental in "emphasising free market solutions to economic and social problems and promoting a

¹⁸ Subject to exceptions defined in Schedule 5 Scotland Act 1998.

¹⁹ Although it is noted that 2020 was not a standard year insofar as transport trends are concerned.

²⁰ Due to space constraints, this section only discusses multi-level governance insofar as its relevance to this thesis. For an in-depth discussion of multi-level governance, please see Bache and Flinders (eds) 2004 and Flinders 2008.

lean state” (Blanco, Griggs, and Sullivan 2014 p. 3130; Jessop 2002). There are consequences to such a mode of governance; the “increasingly complex architecture” of multi-level governance systems creates “accountability vacuums” that allow politicians to hide from complex socio-political issues (Bache et al 2015 p. 65). It is acknowledged that viewing this complex architecture through the lens multi-level governance may initially appear to sit uncomfortably with the practice theory approach, however, Hampton (2018) successfully combines both multi-level governance and a practice theory approach through analysing policy implementation as a “bundle of practices” (Hampton 2018 p.42).

For Scotland, devolution and the creation of the Scottish Parliament have had significant implications for decision making, as power was transferred from Westminster to Holyrood in 1999²¹, and concurrently for the existing system of local government in Scotland (Bache and Flinders 2004 pp. 100-104). In conceptualising how multi-level governance functions, Marsden et al (2014), describe it as:

“...characterised by institutions and actors from a variety of levels continuously negotiating in loosely designed decision-making processes. Typically, both governmental and non-government institutions work together in these processes” (Marsden et al 2014 p. 622).

This idea of continuous negotiation is present in Scotland, with each layer of governance working together on policy, albeit with an imbalance in the power relations between the layers. For example, the lack of legislative powers for local authorities in Scotland means that they are reliant on the Scottish Government for capital funding for new initiatives, and revenue funding for ongoing initiatives (Marsden et al 2014 p. 630). Similarly, the RTPs are also reliant on co-operation from both Transport Scotland and the local authorities with which they are engaged and are therefore described as weak (Pangbourne 2010 cited in Marsden and Docherty 2019 p. 57).

In relation to cycling in Scotland, these levels of governance are represented by the governmental and non-governmental actors outlined in Figure 4, before a description of each layer is provided.

²¹ Via the Scotland Act 1998 and the creation of the Scottish Parliament.

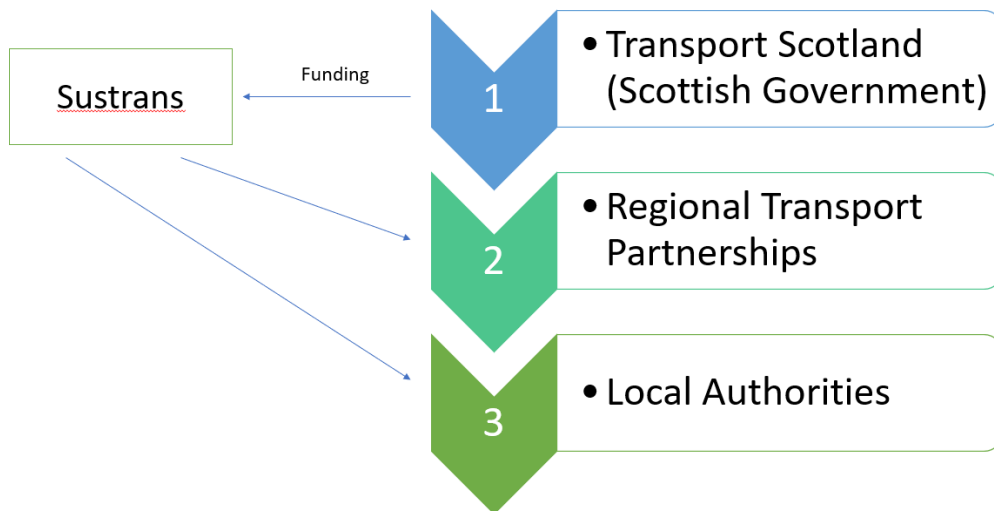


Figure 4: Layers of governance in Scotland relating to cycling policy & funding.

Transport Scotland is the national transport agency for Scotland and operates as an executive agency of the Scottish Government. It has the stated aim of delivering, “...a safe, efficient, cost-effective, and sustainable transport system...” (Transport Scotland n.d.)

Transport Scotland represents the first layer of governance in relation to transport policy, and therefore cycling policy, in Scotland and the overall policy direction is given by the Scottish Government via the Minister for Transport²². Transport Scotland is also tasked with responsibility for funding walking and cycling infrastructure and behaviour change projects across Scotland (Transport Scotland 2021). This is achieved through the distribution of funds to “partner organisations” who assume responsibility for the delivery of these projects (Transport Scotland 2021).

These delivery partners – Sustrans Scotland, Cycling Scotland, Paths for All, Cycling UK – are charitable organisations who receive funding from the Scottish Government to then administer to a variety of active travel initiatives. For the purposes of this thesis, the funding allocated via Sustrans Scotland will be focussed upon due to the financial implications this has for local authorities in Scotland as the main source of active travel funds (Section 4.8). That cycling policy in Scotland is almost exclusively funded through monies disbursed by third sector organisations needs to be viewed through the context of the more neo-liberal forms of governance that have come to pass in the Global North, contributing to a hollowing out of the state (Aldred 2012; Section 4.8).

²² At the time of writing, this is Fiona Hyslop MSP, the fourth transport minister since May 2021.

The second layer of governance is represented by Regional Transport Partnerships (RTPs). The stated role of RTPs is to “strengthen the planning and delivery of regional transport developments” (Transport Scotland 2022c). RTPs were established by the Transport (Scotland) Act 2005 (asp 12), to help prevent competition between local authorities for investment, a practice that was noted as being particularly damaging (Docherty, Shaw, and Gray 2007 p. 145). There are seven RTPs in Scotland²³, with Nestrans being the relevant RTP for the North East of Scotland representing the Aberdeen City and Aberdeenshire Council areas. Nestrans is notionally politically independent²⁴, governed by a board, and works alongside the local authorities in the area.

The third layer of governance relates to the level of local authority in Scotland. There are thirty-two local authorities across Scotland, each connected with a relevant RTP. From a policy perspective, there is reliance on local authorities to be at the forefront of policy implementation in relation to active travel, and therefore cycling (Bloyce and White 2018 p. 17). This will be explored further in Section 4.5.

4.3. Transport Scotland

Within the policy context, a focus of this thesis is on cycling-specific policy that has been generated by Transport Scotland since its inception in 2006²⁵. Since 2006, there has been a substantial number of key policy documents relating to the developing and implementation of cycling-specific policies in Scotland. For example, in 2010, the Scottish Government set a target of by 2020, 10% of all journeys in Scotland being made by bike, setting out their ambitions in the Cycling Action Plan Scotland (CAPS) document (Scottish Government 2010). The next iteration of CAPS in 2017 retains this commitment to a 10% modal share for cycling but acknowledges there are significant challenges in realising this objective (Transport Scotland 2017a p.7). More recently, instead of stating a specific target for cycling levels as a percentage of all journeys, it has moved to stating that walking and cycling should be the “most popular choice for everyday short journeys” (Transport Scotland 2023 p. 4), linking with the

²³ ZetTrans (Shetland Transport Partnership); HITRANS (Highlands and Islands Transport Partnership); NESTRANS (North East of Scotland Transport Partnership); TACTRAN (Tayside and Central Scotland Transport Partnership); SESTRAN (South East of Scotland Transport Partnership); SPT (Strathclyde Partnership for Transport; and Swestrans (South West of Scotland Transport Partnership).

²⁴ Although the board of NESTRANS is comprised of Councillors from Aberdeen City and Aberdeenshire Councils, as well as non-councillor members appointed by the Minister for Transport.

²⁵ Established by the Transport (Scotland) Act 2005.

documents subtitle of a “plan for everyday cycling”. This compares with the current approach in England of making “walking and cycling the natural choice for shorter journeys, or as part of a longer journey by 2040”, with the retention of specific targets in the *Second Cycling and Walking Investment Strategy (CWIS2)* of doubling cycling from “0.8 billion stages in 2013 to 1.6 billion stages in 2025” (Department for Transport 2023). This represents an increase in the targets set in the *First Cycling and Walking Investment Strategy* in 2017 (Department for Transport 2023).

A timeline of key Transport Scotland policies that are relevant to cycling in Scotland are summarised for ease of reference in Figure 5:

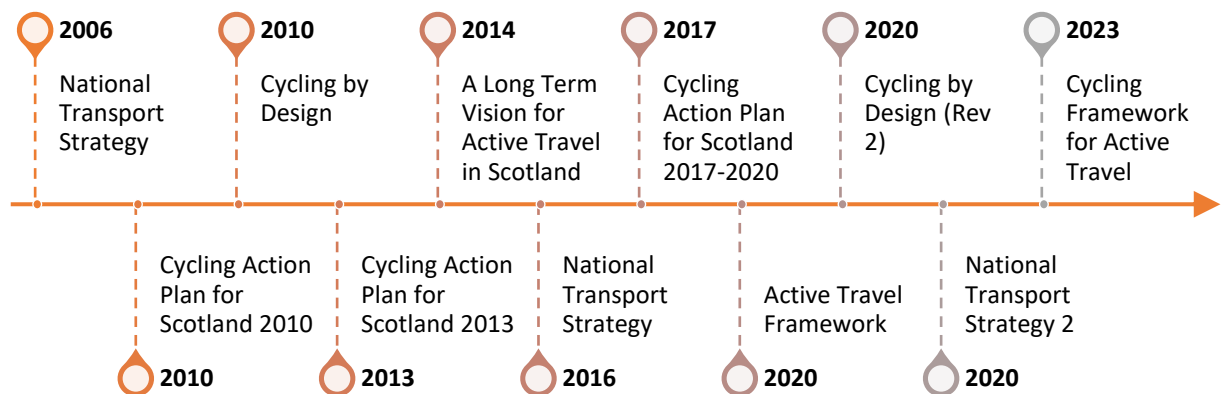


Figure 5: Overview of key Transport Scotland policy documents relevant to cycling, 2006-2023.

However, cycling policy does not stand in isolation. Active travel also has relevance to both the climate change objectives established in the Climate Change (Scotland) Act 2019²⁶, and in facilitating the achievement of physical activity targets (Scottish Government 2018). The remainder of this section will provide an overview of relevant national policy in Scotland between 2006-2023.

4.3.1. National Transport Strategy 2006

The 2006 strategy was the first attempt by the Scottish Executive to develop a long-term plan for transport in Scotland (Scottish Executive 2006). As with any policy document, it was not drafted in isolation. A considerable number of existing Scottish Executive policies influenced its construction (Scottish Executive 2006 para. 2), including the 2004 White Paper *Scotland's Transport Future* (Scottish Executive 2004). In the months prior to its publication, car commuting had reached its highest level since devolution and was facing criticism of its spending priorities in relation to transport (Dalton

²⁶ And previously the Climate Change (Scotland) Act 2009 (as amended)

2006). That the car is so dominant reinforces the role that the system of automobility plays in cycling and cycling policy (Section 1.2.1).

The strategy relied on three areas to deliver what was described as a 'world class' transport system (Scottish Executive 2006). These were identified as: (i) improved journey times and connections; (ii) reduced emissions; and (iii) improved quality, accessibility, and affordability (Scottish Executive 2006). It also focuses on the environmental impacts of individual travel choices, with an aspiration that a greater proportion of short journeys are made via walking or cycling (Scottish Executive 2006 para 128). These objectives are particularly important given the claim by Donald Dewar in 1999, that the Scottish Parliament would legislatively tackle environmental problems and unreliable journey times (Scotsman 2006). It is notable that journey times feature in the discourse surrounding the transport system. In research conducted in 2004 as part of the DISTILLATE project, local government officials reported that journey time had too great an importance and represented a direct conflict to objectives for sustainable transport (Hull 2009 p. 213). As noted in Section 3.4, this emphasis on time, deprioritises those who are economically inactive and those who do not drive (Aldred 2016 p. 689).

The 2006 strategy document identified several key transportation trends within Scotland²⁷, including the observation that an 'increased reliance on cars' has caused a reduction in walking and cycling (Scottish Executive 2006 para 21). Indeed for 2004/2005, the number of miles travelled per person, per year by bicycle was stated as being 25 (Scottish Executive 2006 fig. 4). There is also an expectation embedded within the document that both RTPs and local authorities have a role in providing safer cycling facilities within their respective areas (Scottish Executive 2006, para 112). Significantly for local authorities, this was to be achieved via additional funding to enable the development of cycling strategies as part of Local Transport Strategies and cycling projects (Scottish Executive 2006 para 163).

Of specific interest for this thesis, is the commitment to promote cycling for short journeys and the broader context within which this is framed:

We recognise the important role that promoting cycling and walking can have both in reducing emissions, improving air quality, and contributing to improving health by increasing physical activity levels... We aim to further increase funding for cycling and walking overall and will

²⁷ On average, Scotland has higher car use than the EU average but lower car ownership (Transport Scotland 2019).

place more emphasis on the promotion of them as sustainable forms of transport, especially for short journeys... (Scottish Executive 2006 para. 164)

Therefore, there is a recognition that the value of active travel, and specifically cycling, extends beyond improving congestion in towns and cities but extends to associated environmental and health benefits. There is also an implication that can be read into this emphasis on active travel away from the private car that contrasts neoliberal values with more communitarian ones too. This can be observed in the patterns of policy divergence that existed in Scotland pre-devolution, but which escalated post-devolution and the desire for a more socially democratic communitarianism in contrast to the Blairite liberalism of Westminster (Stewart 2004). This desire, it is suggested, was only strengthened with the creation of a SNP led administration at Holyrood in 2007, and the outcome of the 2010 UK General Election in 2010.

However, this commitment also needs to be viewed against the acknowledgement made in the report that previously established targets in relation to cycling have been identified as “unachievable” by relevant stakeholders and that revised targets will be agreed (Scottish Executive 2006 p. 49). This illustrates the gap between policy aspiration and policy implementation in relation to cycling in Scotland. This gap in relation to transport generally was identified by the print media in Scotland at the time the 2006 strategy was launched, with *The Scotsman* observing that it was not vision that the Scottish Executive lacked, rather the will to implement that vision (Scotsman 2006)²⁸.

4.3.2. Cycling Action Plan for Scotland (CAPS) 2010 and 2013

In 2008, 1% of all journeys were made by bicycle in Scotland and the Scottish Government set itself the target of increasing this to 10% by 2020 (Scottish Government 2010 p. 2). The stated purpose of CAPS 2010 was to provide a framework to ‘create an environment which is attractive, accessible and safe for cycling’, thereby enabling achievement of this target (Scottish Government 2010 p.2). The framework sets out expectations of what the Scottish Government wants to achieve, as well as what it wants others to achieve in pursuit of fulfilling the goals of CAPS (Scottish Government 2010 p. 2). To ensure accountability for the strategy, the Scottish Government also committed to establishing a cycle

²⁸ Although *The Scotsman* has been historically pro-union, this critique was of the 2006 Scottish Executive coalition led by First Minister Jack Macconnell. The SNP did not gain control of the Parliament until the 2007 Scottish Parliamentary election.

forum, led by Cycling Scotland, to report annually on progress of the targets established by CAPS 2010 (Scottish Government 2010 p. 3).

In common with other policy documents relating to cycling in Scotland, there were several external drivers influencing the construction of CAPS, including the findings of the Transport, Infrastructure and Climate Change (TICC) Committee's 2010 report into active travel and the targets established in the National Physical Activity Strategy (Scottish Government 2010). This demonstrates that, at Scottish Government level, cycling has been identified as a key contributor to achieving several policy outcomes. It is acknowledged in the document that action is required across the various layers of multi-level governance in Scotland, alongside cooperation from communities, cycling organisations and the private sector (Scottish Government 2010 p. 2). Therefore, there is an express understanding that the targets cannot be achieved solely by top-down policy but that this requires reinforcement across each layer of the multi-level governance process that operates in Scotland (Section 4.2).

By 2013, a further iteration of CAPS had been produced that maintained the 10% by 2020 target (Transport Scotland 2013). This refresh was produced because of recommendations made in the Cycling Scotland Progress Report on CAPS in September 2012 (Cycling Scotland 2012). Significantly, the document states that while the Scottish Government and Transport Scotland both have a role to play in achieving national ambitions relating to cycling, local authorities and others need to participate in the process too (Transport Scotland 2013 p. 4). Indeed, a specific recommendation made by Cycling Scotland was that greater leadership was required at both national and local level, alongside increases to funding (Transport Scotland 2013 p. 7). This is perhaps an early indication that there are problems with the adopted funding model (Sections 4.2 and 4.8).

Cycling Scotland also included a recommendation for an annual cycling summit between the Minister for Transport, Local Authority Transport Conveners and Heads of Transportation (Cycling Scotland 2012 p. 28), identifying the need for joined up and partnership working between the Scottish Government and Scotland's 32 local authorities. Cycling Scotland notes that while there are statutory obligations in terms of road safety, local authorities needed to commit to the 10% target by developing 'complementary and fully costed cycling strategies and action plans to show how they will deliver locally on the national target' (2012 p. 28). The rationale for this is that most active travel journeys are

undertaken on local authority roads, and therefore joint working is required to deliver infrastructure and promote cycling (Transport Scotland 2013 p. 9). This links with the perceived role of infrastructure, set out in Section 3.6.1, but also forgoes the relevance of relevant cultural and societal issue that surrounding cycling, as discussed in Chapter 2.

It was stated that this could potentially be achieved through the incorporation of cycling and the 10% target into future revisions of Single Outcome Agreements²⁹ (Cycling Scotland 2012 p. 28). The review by Cycling Scotland into CAPS 2010 identifies several specific roles for local authorities specifically in relation to increasing and improving infrastructure, and increased cycling training (Cycling Scotland 2012 p. 29). The role of RTPs is also highlighted, particularly regarding policy and strategy development that can support local authority ambitions (Transport Scotland 2013 p. 12). This emphasis on RTPs again highlights the impact that the multi-level governance system has in relation to transport, and the ‘fuzzy’ accountability that it creates (Section 4.2; Bache et al 2015). That it involves “blame avoidance” and a “corresponding accountability vacuum” that facilitates a weak framework for achieving targets (Bach et al 2015 p. 65).

What is less definite is how these ambitions will be funded. The role of RTPs is emphasised and their ability to fund projects via Revenue and Capital Delivery Plan programmes (Transport Scotland 2013 p. 12). Reference is made to there being a need for 10% of the transportation budget to be allocated for cycling and that local authorities should be given access to funding via a match funding model (Cycling Scotland 2012 pp. 30-31). This thesis suggests that this funding target is optimistic, given the constraints on local authority budgets and the funding of cycling in Scotland will be discussed in more detail in Section 4.8.

What is evident from both CAPS 2010 and 2013, is that the ambitious 10% target cannot be achieved through the will of the Scottish Government alone, without adequate access to funding and collaboration across all levels of government. Partnership working across a variety of organisations and at community level is also required, considering the community issues surrounding “bike lash” set out in Section 3.6.4. What is also evident is that funding is a key factor in achieving the infrastructure improvements seen as being key to achieving CAPS outcomes and the significant role those local

²⁹ The mechanism through which Community Planning Partnerships agreed their strategic priorities for place.

authorities and wider communities have in achieving Scottish Government ambitions, and the problematic nature of the multi-level governance system.

4.3.3. Long Term Vision for Active Travel in Scotland 2030

Between the 2013 and 2017 iterations of CAPS, a further strategy document was published by the Scottish Government that focussed on active travel. Produced in 2014, the year Glasgow hosted the Commonwealth Games, the *Long-Term Vision for Active Travel in Scotland 2030* arrived promising to ‘capitalise on this golden opportunity for Scotland’ and increase the overall levels of active travel in Scotland (Transport Scotland 2014 p. 1). Active travel is seen as a policy enabler for other Scottish Government objectives, including: (i) better health and safer travel for all; (ii) reducing inequalities; (iii) cutting carbon emissions and other pollution; (iv) delivering liveable, more pleasant communities; and (v) supporting delivery of sustainable economic growth (Transport Scotland 2014 p. 4). Therefore, not only is active travel a policy enabler for these issues, but it also demonstrates that there are a variety of policy levers that can contribute positively to enhancing the status of cycling in Scotland, through an emphasis on improving place (Section 3.2) and on the health and wellbeing of citizens (Section 3.3).

The *Long-Term Vision for Active Travel in Scotland 2030* document foresees that by 2030, “Scotland’s communities are shaped around people, with walking or cycling the most popular choice for shorter everyday journeys” (Transport Scotland 2014 p. 4). Building on this theme of community, the document makes an explicit connection between walkable and cyclable environments and feelings of connection with the community as a result (Transport Scotland 2014 p. 5), however this neglects some of the community considerations, particularly those around “bike lash” set out in Section 3.6.4, and the inherent power dynamic present in communities, as discussed in Section 3.2.

The document states that the built environment will be used to create a cyclable environment through the provision of segregated cycle lanes or “high quality direct, safe and pleasant alternatives” (Transport Scotland 2014 p. 7). In addition to improvements to infrastructure, there is also emphasis on cultural and behavioural change (Transport Scotland 2014 p. 11). This is a complex ambition, as explored through considering how cyclists are constructed by others in society (Section 2.2) and in relation to the role of cycling in society (Section 2.2). There are also linkages between such cultural change and cycling being constructed as a legitimate transport mode (Section 3.4) as well as how place

is conceptualised and the relevant power dynamics of who gets to use a space (Section 3.2). The ambition to achieve these increased levels of walking and cycling was welcomed with caution, as calls for further investment and immediate action were made by lobby groups such as Transform Scotland (Dalton 2014).

4.3.4. National Transport Strategy 2016 & CAPS 2017

The review of the National Transport Strategy in 2016 was, “described as a ‘refresh’ rather than a full-scale review” of the 2006 strategy (Transport Scotland 2016a p.1). The Minister for Transport at the time, Derek Mackay MSP, had indicated that a full review of the NTS would be required during the next Scottish Parliament to “delve into more fundamental questions” (Paterson 2016). This occurred against a backdrop of concern about the perceived lack of progress around sustainable travel in Scotland (Harrison 2016); such lack of progress can be directly attributed to the system of automobility discussed in Section 1.2.2 and the pervasive dominance of the car in society.

By 2016, progress with regards to ‘normalising’ cycling was still slow with less than 3% of adults regularly cycling to work in Scotland (Transport Scotland 2017b), up from 1% in 2008 (Section 4.3.2). Although given the challenges set out in Chapter 2, this was not going to be achieved overnight. The following table notes the commitments linked to cycling that are either ongoing or complete at the point of the 2016 NTS refresh being published:

“Invest £10m in the next two years to tackle congestion from the School Run (ongoing)”	“TS will continue to provide capital grant funding to local authorities through the Cycling, Walking and Safer Streets funding”
“Promote SMART measures on all journeys, focusing especially on the commute to work through developing travel awareness and marketing campaigns (ongoing)”	“In 2015-16 Scottish ministers have allocated a further £5m revenue funding to a new Smarter Choices Smarter Places (SCSP) programme.”
“Explore with key partners sustainable travel demonstration towns across Scotland to reduce car use and promote cycling and walking (complete)”	“In August 2008, 7 towns were chosen to participate in the SCSP Pilot Programme from 2008-09 to 2011-12 receiving grant funding of £16m . In 2015-16 an additional £5 revenue funding was allocated to the SCSP programme”
“Support Sustrans to complete the National Cycle Network (ongoing)”	“Since 2011 TS has supported Sustrans to add 215 miles to the National Cycle Network”

Table 1: 2006 NTS Delivery against Commitments (verbatim text drawn from the table produced in Transport Scotland 2016b, emphasis added)

It is notable that these activities are in receipt of revenue funding, rather than capital funding³⁰, thereby drawing from existing budget allocation. Although funding of active travel is discussed in Section 4.8, it is worth noting that the Scottish Government spent the following on Transport in fiscal year 2015/16:

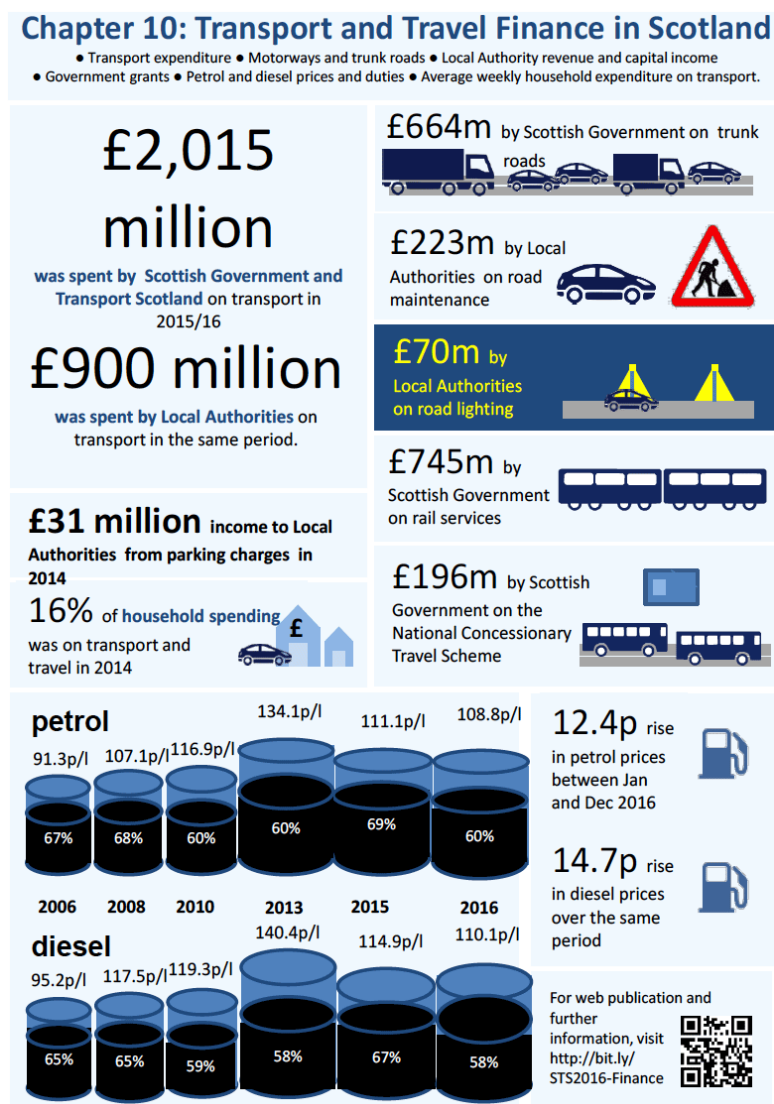


Figure 6: Transport and Travel Finance in Scotland (Transport Scotland 2016c). Copyright Transport Scotland.

When compared with Table 1 and contextualising the overall spend on transport vs the spend on cycling, this contributes to the gap between ambition and reality in policy implementation in Scotland with regards to cycling. Furthermore, words such as “promote”, “explore” and “support”, that feature in Table 1 above also emphasise the nature of the policy commitment to cycling in Scotland at this

³⁰ Capital funds are for providing or improving new assets, all other spend is achieved through revenue funding granted via the block grant to local authorities from the Scottish Government (this accounts for 85%), with the remainder largely supplied by local taxation (see further Scottish Government 2023).

point. These words suggest a level of fiscal commitment that is subservient to the strategic investment granted to other forms of transportation. This illustrates the true priority of cycling within the broader policy agenda, drawing attention to the overwhelming power the car has in society (Section 1.2.2). Against this backdrop, the NTS 2016 refresh commits to “enhanced funding for sustainable and active travel, including cycling and walking infrastructure and behaviour change initiatives such as Smarter Choices Smarter Places (Transport Scotland 2016a p. i). It also notes a commitment within Scottish planning policy to promote the sustainable travel hierarchy (Transport Scotland 2016a p. 26; Figure 7).

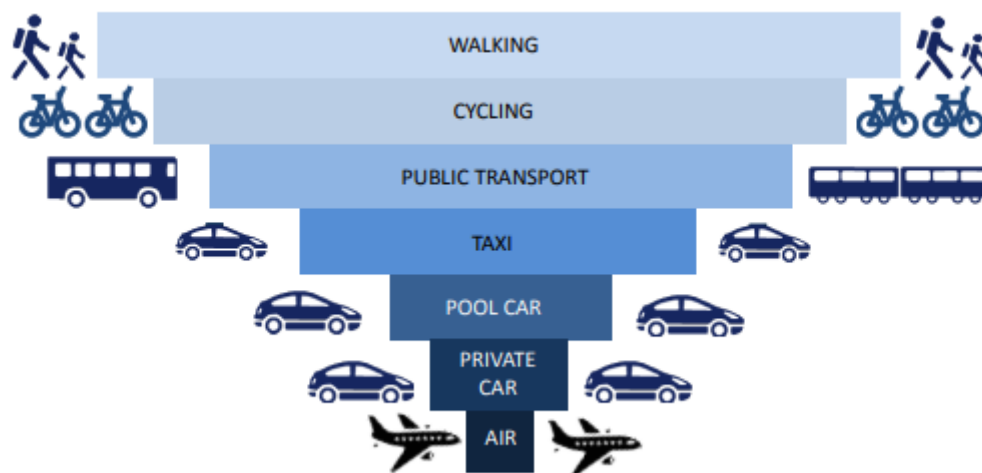


Figure 7: Sustainable Travel Hierarchy (Transport Scotland 2016a p. 26). Copyright Transport Scotland.

Complementing the NTS 2016 refresh and the renewed commitment to promoting cycling, a new *Cycling Action Plan for Scotland 2017-2020* (CAPS 2017), defined the Scottish Government’s policy aspirations for cycling with the subtitle “cycling as a form of transport” (Transport Scotland 2017a). The then Minister for Transport and the Islands, Humza Yousaf MSP, described the document as “the most progressive” with “an unshakeable commitment” to the 2020 vision of 10% of everyday journeys being made by bike (Transport Scotland 2017a p. 1). However, it was subsequently acknowledged by Mr Yousaf’s successor in the role, Michael Matheson MSP, that this target would be missed (Peterkin 2019; Boothman 2018); despite a commitment to “record levels of funding for active travel” (Transport Scotland 2017a p. 5).

The CAPS 2017 document begins by reflecting on the progress report provided by Cycling Scotland on the previous iteration of CAPS, where “six pre-requisites for success” were enumerated (Transport Scotland 2017a p. 7). These were:

1. "A vision for a 10% modal share of everyday journeys should remain" (Cycling Scotland 2016 p. 22).
2. "A long term increased in sustained funding is required...This long-term horizon is also necessary to deliver the change needed to achieve a 10% cycling vision" (Cycling Scotland 2016 p.22)
3. "Delivery of the national 10% modal share should be supported by coordinated local cycling strategies and delivery plans at local authority and regional level with specific, ambitious and measurable modal share objectives" (Cycling Scotland 2016 p. 22)
4. "...the national vision should be directly co-ordinated with a focus on cities and the largest urban areas achieving at least 10% modal share" (Cycling Scotland 2016 p. 23)
5. "...changing the physical environment for short journeys to make it easier for anyone to cycle" (Cycling Scotland 2016 p. 23)
6. "...build and maintain staff numbers and capacity to design, build and maintain high quality cycling infrastructure and manage the local roads network, helping make it fit for cycling" (Cycling Scotland 2016 p.23).

In response to these recommendations, the Scottish Government states that while it agrees with five of the six pre-requisites,

"...the Scottish Government's position is that levels of transport spend cannot simply be based on percentage allocations for each transport mode [...] it would be wrong to *arbitrarily allocate definite amounts to any one mode*" (Transport Scotland 2017a p.7, emphasis added).

The above response highlights that it is not an arbitrary allocation. Cycling Scotland bases its recommendation on the 50% increase in cycling to work in Edinburgh that accompanied a 9% spend in 2016/17 of its total roads and transport budget on measures aimed at increasing cycling (Cycling Scotland 2016 p. 15). This equates to 7% of journeys to work being made by bicycle (Cycling Scotland 2016 p. 15). Therefore, this thesis suggests that this further exemplifies the gap between policy aspiration and policy reality for cycling strategy in Scotland but also to the power of the car (Section 1.2.2) and the perceived political difficulty of pursuing cycling policies (Section 4.6).

4.3.5. National Transport Strategy 2020 (NTS2) & the Active Travel Framework

The draft *National Transport Strategy* was published for consultation in 2019, with the finalised version prepared in February 2020 (Transport Scotland 2020a). The strategy is proposed not to "identify or present specific projects, schemes, initiatives, or interventions" but rather "sets out the strategic framework within which future decisions on investment will be made" (Transport Scotland 2020a p. 4). As set out in Figure 8, the strategy document sets out a vision for Scotland's transport system to 2040 and situates the strategy within thematic areas such as reducing inequalities, tackling climate change, delivering inclusive economic growth, and improving health and wellbeing (Transport Scotland 2020a p. 5).

Our Vision

We will have a sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors.



Figure 8: National Transport Strategy Strategic Framework diagram (Transport Scotland 2020b p. 8)

Within NTS2, the Scottish Government also appears to seek to establish a rationale for increasing levels of cycling, contextualised within the thematic areas outlined above (Transport Scotland 2020a). For example, from a tackling climate change perspective it is noted that, “just over 34% of journeys under 1km are made by car...this rises to over 50% when the journey is between 1km and 2km” (Transport Scotland 2020a p. 24). Scotland’s dependence on cars is emphasised by the statement that, “over two thirds of commuters travel to work by car or van...compared to 12% who walk, and 3% who cycle” (Transport Scotland 2020a p. 39). However, it is not just the climate that is emphasised, the goal of using active travel to increase physical activity is also discussed (Transport Scotland 2020a p. 39). Yet this discussion of physical activity is very much in the vein of medicalising nature discussed in Section 3.3.1 above, and the construction of the outdoors as these transactional areas for health, in which individuals translate the discursive requirements of public health into the “embodied performances” described by Paddison et al (1999) (Brown and Bell 2007 p. 1348).

The document does note barriers to increased levels of cycling in Scotland. For example, the links between poverty and availability of bikes, along with maintenance of infrastructure are identified as being important to encourage usage (Transport Scotland 2020 pp. 40-41). However, in keeping with the strategic purpose of the document no direct solutions are advanced. In terms of infrastructure maintenance, it is observed that this has direct implications for local authority road maintenance budgets³¹. This question of funding is discussed further in Section 4.8.

The *National Transport Strategy Delivery Plan 2020-2022* (Transport Scotland 2020b) and the *National Transport Strategy Delivery Plan 2022-2023* (Transport Scotland 2022) are the current mechanisms through which NTS2 is to be realised. Of particular interest is the 2020-2022 and 2022-2023 Delivery Plans' reinforcement of sustainable travel hierarchies and a commitment to prioritise cycling alongside other sustainable modes (Transport Scotland 2020b p. 5; Figure 9). This has since been supplemented in 2023 by the *Cycling Framework for Active Travel* (Section 4.3.7).

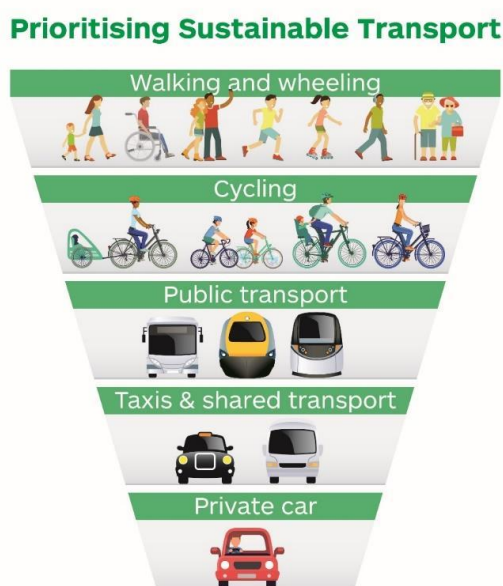


Figure 9: Sustainable Transport Hierarchy (Transport Scotland 2022b p. 6)

Building on this commitment and from a policy perspective, there is also a promise in the 2020-2022 document to refresh *Cycling by Design* in 2021-2022 with a view to providing further guidance to local authorities in their design and implementation of active travel infrastructure (Transport Scotland 2020b p. 34; Section 4.3.6). The *Delivery Plan 2022-2023* also states that walking and wheeling will be

³¹ Under the Roads (Scotland) Act 1984, local authorities have an obligation to manage and maintain local roads in their area that is separate from the trunk road maintenance under the remit of Transport Scotland.

prioritised, then cycling (Transport Scotland 2022a p. 27). Concentrating on policy development, the plan stated that there would be a “focus on cycling for active travel on everyday journeys and modal shift from the private car” (Transport Scotland 2022a p. 29).

The emphasis on the utilitarian aspects of cycling is important in legitimising cycling as a form of transportation (Section 3.4) and recognising that the dominant force of the car is problematic (Section 1.2.2). However, despite recognising the legitimacy of cycling as a transportation mode, the document does not fully appreciate the role that cycling can play in an inclusive society (Section 2.2 in relation to class and Section 2.4 in relation to gender). In the supporting *Monitoring and Evaluation Framework* published to accompany the 2022-2023 document (Transport Scotland 2022b) “proximity to segregated walking, wheeling, and cycling infrastructure” is not deemed to contribute towards the delivery of inclusive economic growth (Transport Scotland 2022b), despite forming part of the NTS2 objectives.

Supporting NTS2, Transport Scotland’s *Active Travel Framework* (2019b) provides an overview of the key policy approaches from several documents that are identified as being critical to increasing the uptake of walking and cycling for travel in Scotland. Although drafted by Transport Scotland, the document notes input from RTPs and local authorities (Transport Scotland 2019b p. 5), demonstrating that collaboration across these respective tiers is required for success. In terms of defining that success, the *2030 Vision for Active Travel* states, “Scotland’s communities are shaped around people, with walking or cycling the most popular choice for shorter everyday journeys” and is supported by relevant key performance indicators (Transport Scotland 2019b p.2).

The *Active Travel Framework* draws on the following policy documents, many of which are considered within the context of this thesis:

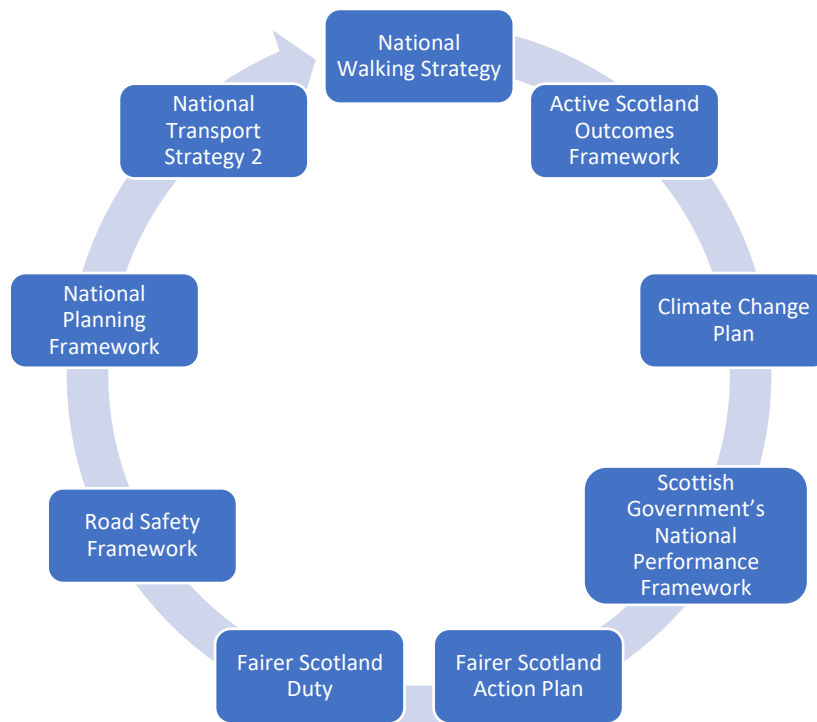


Figure 10: Policies influencing the Active Travel Framework (Transport Scotland 2019b pp. 11-12).

It shows that active travel, and therefore cycling policy, is a cross-cutting issue that retains socio-economic and socio-cultural relevance for Scotland at all governance levels. This proves that achieving the 2030 goal is reliant on several factors to facilitate success at both the national and local level, requiring the involvement of RTPs and local authorities. It is therefore a difficult task at the policy development and implementation level, even before the impact of physical and social barriers to cycling are factored into how cycling levels in Scotland can be increased. This is particularly important when considering the diffuse accountability of fuzzy governance present in multi-level governance systems (Bache et al 2015; Section 4.2).

4.3.6. *Cycling by Design*

Cycling by Design was first published in 1999, and subsequently updated in 2010 and in 2021. The stated purpose of the original document was to collate policy that demonstrated best practice to form what is described as a 'comprehensive source' for designers (Llewellyn and Halcrow 2010 p. 4). In the 2021 iteration of *Cycling by Design*, the relationship with existing policy is established at the outset of the document (Transport Scotland 2021). The guidance is intended to be applied to all new cycling infrastructure, and where new and improved roads or new developments are being constructed (Transport Scotland 2021 p. 8). A distinction is made between "desirable minimum" and "absolute minimum" in the guidance with the instruction that the "highest achievable standard should be

maintained” (Transport Scotland 2021 p. 8). This is further supported by key messages for designers that summarise how the requirements should be approach in an applied context:



Figure 11: Key messages for designers (Transport Scotland 2021 p. 9)

The guidelines are intended to encourage designers to reflect the experience of the journey for cyclists and not just the destination. The suggestion that designers should cycle and experience each route they design is important for moving towards a clearer understanding of the spatial and temporal aspects of cycling, and the importance of cycling space and place (Section 3.2). This is also reflected in guidance that seeks to distinguish between the needs of new and less confident cyclists with experienced existing users (Transport Scotland 2021 p. 15). However, the introduction of new guidance does not remedy issues with existing infrastructure such as accessibility and perceived safety of existing designs (Beattie 2022; Gerrard 2021), which have been identified in the literature as problematic (Sections 3.5 and 3.6.1)

4.3.7. Cycling Framework for Active Travel – a plan for everyday cycling

The first significant piece of post-COVID policy in relation to cycling from the Scottish Government arrived in the form of 2023's *Cycling Framework for Active Travel*. Patrick Harvie MSP, the minister for active travel³², states that the document “is another important piece of the jigsaw, setting out Transport Scotland’s strategic priorities and shared actions for growing cycling for transport” (Transport Scotland 2023 p. 3). Instead of stating a specific target for cycling levels as a percentage of all journeys, the target has instead changed to stating that walking and cycling should be the “most popular choice for everyday short journeys” (Transport Scotland 2023 p. 4).

The document contains reference to six strategic themes to achieve this vision, as set out in Figure 12:

³² A post created in August 2021, within the brief of Zero Carbon Buildings, Active Travel and Tenants’ Rights

Safe Cycling Infrastructure	Effective Resourcing
<p>Deliver dedicated, high quality cycling infrastructure suitable for all</p> <p>Embed cycling in the design and maintenance of our places and communities and prioritise user comfort and safety</p>	<p>Provide long-term funding and resourcing for the delivery of infrastructure and supporting behaviour change programmes, informed by local transport strategies</p> <p>Promote and support innovation across the sector</p>
Fair Access	Training & Education
<p>Increase equity of access to cycles and cycling opportunities</p> <p>Ensure modal integration across the transport network including adapted and non-standard cycles, e-cycles, cargo cycles and cycleshare</p>	<p>Ensure new infrastructure is supported by inclusive promotional programmes, cycling training and other complementary initiatives</p> <p>Provide opportunities for all to learn to cycle from an early age into adulthood</p>
Network Planning	Monitoring
<p>Prioritise investment based on local transport strategies and other relevant plans</p> <p>Map existing and planned networks to identify gaps and improve consistency of quality and implementation</p>	<p>Expand monitoring networks and align monitoring at local and national levels</p> <p>Embed learning in future investment decisions</p>

Figure 12: Cycling Framework for Active Travel Strategic Objectives, copyright Transport Scotland (Transport Scotland 2023)

Within this strategy, local authorities are tasked with creating connected infrastructure, although there is a recognition that full segregation is not a possibility for all routes (Transport Scotland 2023 p. 20 and p. 7). Local authorities are still expected to ensure the appropriate level of resource, “to develop and deliver active travel strategies which prioritise cycling **for transport** appropriately,” supported by RTPs and Sustrans (Transport Scotland 2023 p. 22, emphasis added). Therefore, no adjustment to the funding model (other than the grant of additional funds) appears to have been made. It is also of note that the emphasis is on cycling for transport (Section 3.4), rendering it purely utilitarian rather than for other purposes (Section 3.3.2), despite there being discussion in the document of the health benefits. However, there is an emphasis on place, building on the aspirations of 2021’s *Cycling by Design*, where it states that guidance will be provided on how to integrate cycling infrastructure alongside placemaking (Transport Scotland 2021 p. 4).

4.4. Cycling policy at the regional level

A further part of the multi-level governance system set out in Section 4.2 are Regional Transport Partnerships (RTPs). RTPs are required to prepare a regional transport strategy for their area “that makes the case for investment in that region as well as guiding and co-ordinating the activities of constituent councils, health boards and other specific public bodies in the delivery of that strategy”

(Transport (Scotland) Act Explanatory Notes 2005 para 7). This is exemplified by Nestrans' approach to developing its Active Travel Action Plan in 2014:

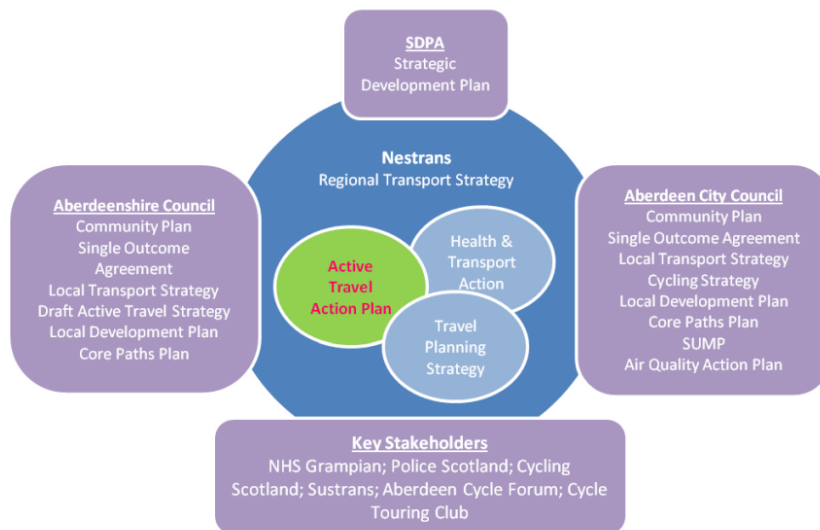


Figure 13: Key partners and regional policy context. © Nestrans 2014 (Nestrans 2014 p.6)

The emphasis is on creating a “strategic approach” to transport at a regional level (Transport Scotland 2022c) has led to criticism of the RTP format (Marsden and Rye 2010; Docherty, Shaw, and Gray 2007). It is noted that RTPs are weak bodies, reliant on the local authorities co-operating to achieve this approach (Pangbourne 2010 cited in Marsden and Docherty 2019 p. 57).

4.4.1. Nestrans 2040 Regional Transport Strategy (RTS 2040)

Described by local press as “ambitious” (Robertson 2019), the RTS 2040 represents a long-term strategy for Aberdeen City and Aberdeenshire that sets out the transport vision for the next 20 years for the region (Nestrans 2021a p. 6). The key priorities of the RTS are summarised in Figure 13, where parallels can be seen with the NTS2 document (Section 4.3.5). There are also linkages established with the Climate Change (Scotland) Act 2019 and Transport Scotland policy documentation relating to active travel (Nestrans 2021a paras 5.4 and 5.7). Therefore, the RTS seeks to further embed and support Scottish Government transport policy on a regional level, while also being mindful of the local authority policy landscape (Nestrans 2021a paras 5.19 to 5.21).



Figure 14: RTS Key Priorities © Nestrans (Nestrans 2021b p.4)

Cycling is embedded as part of the plan to facilitate a “step change in public transport and active travel enabling a 50:50 split between car driver and sustainable modes” (Nestrans 2021a para 10.15). There is an aspiration to contest the status of the car (Section 1.2.2) but the difficulty in achieving this shift is acknowledged in the document itself, which states that this 50:50 split is a “challenging target” and one that “will require significant enhancements to relevant infrastructure (Nestrans 2021a para 10.17). Not only infrastructure is relevant in this change of direction, as set out in Chapters 2 and 3, and it is a complex policy area.

4.4.2. Nestrans Active Travel Action Plan 2014-2035

In parallel with the Nestrans 2040 strategy, is the Nestrans Active Travel Action Plan 2014-2035 (Nestrans ACTrAP). The stated vision for Nestrans AcTrAP is: “To create an environment and culture in which walking and cycling are convenient, safe, comfortable, healthy and attractive choices of travel for everyday journeys” (Nestrans 2014 para 5.1). It is intended to align with policies from both local authorities (ACC and Aberdeenshire Council), while complementing Nestrans’ own Regional Transport Strategy, and following national policy aspirations too. It sets out a “long term vision” for how active travel is developed and promoted in North East Scotland (Nestrans 2014 para 10.1; Figure 14).

Although Nestrans AcTrAP is not mentioned in the Nestrans 2040 strategy, it remains a current policy document for Nestrans³³.

4.5. Cycling policy in local government

4.5.1. Overview

Cycling aligns with several Scottish Government policy objectives across the environment, climate change, and health and wellbeing (Rehfishch 2018). This is evidenced by recent transport policy and strategy documentation relating to NTS2 (e.g., Transport Scotland 2022a; Transport Scotland 2020a). However, despite such recognition, this thesis suggests that cycling in Scotland is still regarded as a marginal activity (Section 2.2), and that this is replicated in policy.

Bloyce and White (2018) identify several key themes through their documentary analysis of active travel policy in England, which are applicable to Scotland. They observe that many policies are rhetorical and advisory in nature (Bloyce and White 2018 p. 15), and that there is reliance on local authorities to be at the forefront of policy implementation (Bloyce and White 2018 p. 17). They also identify that there is a focus on individual behaviour change (Bloyce and White 2018 p. 19).

Elected members within local authorities³⁴ in Scotland also play an integral role in cycling policy and political leadership has been identified as a core component of successful cycling cities (Colville-Anderson 2018 p. 199). Political support, or lack thereof, has been identified as being important for the success of both policy inception and securing appropriate funding (Hull 2009; Brannigan & Paulley 2008). Crucially, it has been identified that to ensure consistent support for transport interventions, a 'political champion' is needed (Brannigan and Paulley 2008 p. 385). Therefore, the role of politicians within local authorities can operate as either an enabler or, potentially a barrier, to the success of cycling policies.

There exists a positive obligation on the local authority in Aberdeen to support and deliver strategies that will work to achieving the Scottish Government's objectives of increasing journeys made by bicycle

³³ Confirmed to me by an anonymous Nestrans source, November 2022.

³⁴ Councillors

(Section 4.3). Therefore, the commitment to increasing cycle space in several ACC policy initiatives is not solely to address the current aspirations of residents but to enable the Scottish Government to achieve its stated policy objectives in relation to transport. To understand the relevance of these policy initiatives, it is also important to understand the policy backdrop of the city. In Aberdeen, this landscape is complex with several distinct but interrelated policies that have the potential to impact cycling and cyclists in the city. Sections 4.5.2 to 4.5.6 provide a general overview of key aspects of relevant policies to establish the context for cycling policy in Aberdeen.

4.5.2. *City Centre Masterplan (CCMP)*

Described by local media as a ‘blueprint for regeneration’, the CCMP was presented as having a potentially transformative effect on Aberdeen (McKay 2014a). The 96-page document presents a 20-year development strategy for the City Centre, framed as being ‘robust, costed and achievable’ (Aberdeen City Council 2015 p. 6). At the time of its inception, Councillor Boulton claimed that the CCMP ‘would not be allowed to sit on a shelf’ (McKay 2014a).

The CCMP was not uncontested. Objections were received from existing retailers in the City Centre against the proposed pedestrianisation of Broad Street (McKay 2014b), which formed a key component of the CCMP, and First Aberdeen³⁵ also cautioned against the full pedestrianisation of Broad Street (Dingwall 2016). The objections centred around the perceived restrictions on accessing the city centre that pedestrianisation proposals would bring, through removing what was perceived to be a key through route within the wider bus network in Aberdeen (Dingwall 2016; McKay 2014b). The CCMP document itself notes that Broad Street “will retain bus movements on a day-to-day basis” and was envisaged as being an area capable of being adapted for large events (Aberdeen City Council 2015 p. 46). Despite a public consultation, it remained an area of contention and would be opened as a ‘shared space’ for use by buses, cyclists, and pedestrians (Hebditch 2018a; Hebditch 2018b; Hebditch 2016). This demonstrates that policymakers cannot take these power dynamics surrounding place and space for granted (Section 3.2).

The CCMP is organised across four thematic areas or ‘strategies’ intended to address the economic, community, environmental and infrastructure needs of the city (Aberdeen City Council 2015 p. 28). The statements contained within the thematic areas that the city can “meet everyone’s needs and aspirations” and that the “City Centre is accessible” is significant in its inclusion when viewed in the

³⁵ The main bus public transport provider for Aberdeen

context of cycling and cyclists (Aberdeen City Council 2015). This is further supported by the description of Aberdeen within the CCMP as ‘a cycling city’ (Aberdeen City Council 2015 p. 56), although what this entails is not explained and given the complexity of the subject of cycling and cyclists (Chapters 2 and 3), this lack of detail is problematic.

A significant concession contained within the CCMP is that there is a bias towards motorised transport in the City Centre (Aberdeen City Council 2015 p. 8) and critically that this bias has an impact on both the safety and reliability of cycling (Aberdeen City Council 2015 p. 53). The CCMP also notes that cycle access to the City Centre lacks coherence and access to appropriate cycle parking facilities (Aberdeen City Council 2015 p. 15). Yet, despite these issues, the CCMP foresees cycling becoming a popular form of transport (Aberdeen City Council 2015 p. 26) and that this is supported by a commitment to improving cycle access to the city’s core in accordance with the Scottish Government’s transport hierarchy (Aberdeen City Council 2015 p. 44 and p. 52; Figure 9).

The proposed solution to this inherent bias towards private motorised transport in the city is the implementation of traffic-free cycle highways that connect with NCN195³⁶ and NCN1, supplemented by cycle priority measures at signalised junctions (Aberdeen City Council 2015 p. 56). The issue of appropriate cycle storage was also intended to be tackled through the creation of cycle hubs that would provide secure parking in the city centre (Aberdeen City Council 2015 p. 56). The CCMP also contains proposals for the construction of a pedestrian/cycle bridge across the river Dee to facilitate improved linkages between Torry to the south of Aberdeen and the City Centre (Aberdeen City Council 2015, p. 90). However, it is difficult to see how this additional infrastructure can dismantle the bias in the city towards the motor vehicles (Sections 1.1; 1.3.1, and 1.3.2).

4.5.3. Local Outcome Improvement Plan (LOIP)

Published in 2016³⁷, ACC’s LOIP has the purpose of shaping Aberdeen to be “a place where all people can prosper” (Community Planning Aberdeen 2019 p. 3). A key outcome of the LOIP is for 5% of people to use cycling as a main mode of travel by 2026, with an interim aim of 3% by 2021 (Community Planning Aberdeen p. 48), this is at odds with the Scottish Government targets established in Section

³⁶ National Cycle Network

³⁷ Revised in 2019

4.3 above again emphasising the problematic nature of multi-level governance (Section 4.2; Bache et al 2015).

The KPI's for assessing achievement of this target are grounded in figures obtained from the Scottish Household Survey, which this research criticises as lacking true representation of Aberdeen and Aberdeenshire. This is due to the sample size used by the survey, of 10,450 household interviews and a minimum local authority target of 250 (Scottish Government 2020). The sampling coverage is an acknowledged limitation in the Scottish Household Survey's methodology, alongside sampling variability (Scottish Government 2020). The identified key drivers for the outcome are also vague in language and lacking specificity (Community Planning Aberdeen 2019 p. 48). Therefore, while the LOIP aims to tackle issues in society that prevent equal opportunity for all (Community Planning Aberdeen p. 3), equality of access to services is overlooked by this document in relation to class and gender (Section 2.2 and Section 2.4).

4.5.4. *Local Transport Strategy (LTS)*

Unlike England and Wales, there is no statutory requirement for local authorities in Scotland to produce a local transport strategy (Transport Act 2000 s.108). However, with Transport Scotland and the RTPs producing their respective strategies, it could be argued that for local authorities it ensures alignment with regional and national policies as well as fulfilling local transport ambitions. For the purposes of this research, it is the LTS 2016-2021 that is of most relevance³⁸, but the previous version of the document also has significance because of the construction and development of significant infrastructure in the region in the form of the Aberdeen Western Peripheral Route (AWPR). Appendix 1 features a map of the AWPR.

The previous LTS was adopted in 2008 and was heavily influenced by the potential offered by the AWPR³⁹. A bypass that would link the A90 trunk road to the north and south of the city with the A96 route to the west was originally proposed in the 1950s, but it would be more than 50 years later before a concerted effort was made to implement the plans (Walton v The Scottish Ministers 2012). At a final cost of £1bn, the 58km AWPR was one of the largest infrastructure projects in Scotland and was fully opened in 2019 (Banks 2019; Transport Scotland n.d). A key element of the bypass was the imagined

³⁸ Aberdeen City Council began to consult on a new LTS in 2023.

³⁹ Aberdeen Western Peripheral Route

ability of the route to 'lock in' benefits by removing traffic from the city's core, thereby allowing for prioritisation of walking, cycling, and public transportation (Nestrans 2008).

Although drafted in a pre-AWPR era, the 2016-2021 strategy was drafted with this idea of locking in the benefits (Aberdeen City Council 2016 p. 3). The concept of "induced demand" (Hymel 2019) appears not to have factored into decision making on the AWPR. Instead, a preference for economic arguments and journey time efficiencies was put forward (Nestrans 2008), with such a focus on saving time and/or money offering a rationalisation of mode choice (Aldred 2016 p. 689) and therefore the wider project. This emphasis on time, Aldred argues, deprioritises those who are economically inactive and those who do not drive (2016 p. 689; Section 3.2).

The LTS does contain a specific section related to cycling (Aberdeen City Council 2016 p. 46), with the overarching objective 'To foster a cycling culture in Aberdeen by improving conditions for cycling in Aberdeen so that cycling becomes an everyday, safe mode of transport for all' (Aberdeen City Council 2016 p. 46). This objective is an acknowledgement that a significant barrier to cycling in Aberdeen is one of perceived safety (Aberdeen City Council 2016 p. 16; Section 3.5). There is also a subsequent acknowledgment that environmental factors such as air and noise pollution can inhibit cycle journeys and that this will be addressed through the development of a SUMP to complement the CCMP (Aberdeen City Council 2016 p. 52; Section 3.3).

The LTS identifies ACC's Active Travel Action Plan (Section 4.5.6) to be a critical tool in achieving the objectives associated with cycling. It is stated that the Active Travel Action Plan will act a strategy map to address issues with cycling in the city of poor cycle parking, winter maintenance of routes, and the disconnected and unsafe infrastructure (Aberdeen City Council 2016 p. 46). While the identified aspects may contribute to improving the experience of cycling in the city, they fall short of seeking to foster a cycling culture (Section 2.2).

4.5.5. Sustainable Urban Mobility Plan (SUMP)

The iteration of the SUMP that will be the focus of this section is the version produced within the EU Horizon 2020 CIVITAS PORTIS⁴⁰ project as a key deliverable (Aberdeen City 2019). The SUMP is focussed on “prioritising the needs of those walking, cycling, and wheeling” (Aberdeen City Council 2019 p. 9) and is supported by ten objectives, including the provision of cycling infrastructure and aligns with the Sustrans policy that the mark of good infrastructure is that unaccompanied 12-year-olds could cycle safely to their destination (Aberdeen City Council 2019 p.8; Sustrans Scotland 2019).

Representing a 20-year strategy for the city, the SUMP aligns with the abovementioned CCMP, and is described as ‘realistic’ by ACC (Aberdeen City Council 2019 p. 7). However, despite this belief, local media described the SUMP as containing ‘radical suggestions’ when outlining the proposed reductions in speed limits, and the introduction of new bus and bike lanes that were included in the SUMP (Hebditch 2019a; Hebditch 2019b). Thus, emphasising the role that the media can play in both shaping policy agendas and focussing public interest (Happer and Philo 2013; Section 4.7.2). Contained within the SUMP is an ‘aspirational’ cycle network, encompassing some of the City Centre’s key but also most hazardous routes due to the prevalence of vehicular traffic (Aberdeen City Council 2019 p. 16). Specifically, the map features the North Esplanade West/Market Street/Virginia Street/Commerce Street route, which (at the time of writing) remains a key freight route through the city⁴¹ (Aberdeen City Council 2019 p. 16).

The SUMP is supported by the revised Roads Hierarchy that was also produced. A key objective of the Roads Hierarchy was to direct through and peripheral traffic to the AWPR, thereby freeing up space for sustainable travel as part of the broader aspiration to lock in the benefits of the bypass (Aberdeen City Council 2019 pp. 19-20). It was envisaged that the SUMP would facilitate the development of this revised hierarchy, and this would be assisted by improved signage in the first instance (Aberdeen City Council 2019; Hebditch 2019a). Prior to the COVID-19 pandemic, work had been undertaken to begin reclassifying streets with the city to reflect this future role in the hierarchy (Aberdeen City Council 2019 p. 20). However, the COVID-19 pandemic, and the challenges this presented for service delivery within local authorities (Gangneux and Joss 2021), disrupted the planned progress. Consequently, many of

⁴⁰ The PORTIS project was intended to improve and promote sustainable urban mobility in port cities across a four-year project.

⁴¹ Nestrans is working on the production of a finalised route map taking into account the AWPR and updates the previous 2014 map.

the proposed SUMP and Roads Hierarchy changes within the City Centre remain unimplemented to date, despite the opening of the AWPR in 2019.

4.5.6. Active Travel Action Plan (AcTrAP)

Published in January 2017, ACC's Active Travel Action Plan (AcTrAP) is intended to provide a five-year plan for walking and cycling in the city (Aberdeen City Council 2017)⁴². It was subject to public consultation in 2016, with the stated objective of ensuring that the needs and aspirations of individuals in the city were taken into consideration in drafting the plan (Aberdeen City Council 2017; Beattie 2016). The document is intended to support the vision for Active Travel established in Nestrans' Active Travel Action Plan (2014) and to work alongside other policies to create the conditions to enable cycling to be an everyday mode of travel in the city (Aberdeen City Council 2017 p. 1).

As with the LTS and SUMP, the AWPR features as both a policy motivator and enabler in the document alongside the revised Roads Hierarchy and previous iteration of the SUMP from 2015 (Aberdeen City Council 2017 p. 1). This interdependency between policies is important, as it demonstrates the theoretical interrelationship between such policies in the city in relation to cycling. However, AcTrAP does appear contingent on the belief that the AWPR will result in a reduction in traffic in the city, and therefore the ability to prioritise walking and cycling because of this increased capacity (Aberdeen City Council 2017 p.1).

An updated version of the strategy was published in 2021, with the intention of working with the targets established in NTS2 and Nestrans 2040, while remaining faithful to the LOIP and reflecting the aspirations of the roads' hierarchy review (Aberdeen City Council 2021). There is little substantive difference between the two strategies⁴³, although an acknowledgment is made that Aberdeen is not cycle friendly and that significant improvements are required to facilitate active travel in the city (Aberdeen City Council 2021 p. 94).

⁴² An updated version of the plan went before committee in 2021 but the strategy has yet to be approved.

⁴³ An updated list of projects is contained in pp. 81 to 83, with complementary behaviour change initiatives.

4.6. Barriers to policy implementation

The gap between cycling policy and practice has been identified as a significant issue in the reform of transport systems (Anaya-Boig 2021 p. 21). Several specific barriers have been identified in relation to the effective delivery of sustainable transport plans and policies within local authorities, specifically: (i) organisational barriers; (ii) technical barriers; and (iii) external barriers (Institute for Transport Studies 2005 p. 5). Of these external barriers, funding is specifically identified as a problematic barrier for local authorities and a component that ‘distort[s] transport scheme selection and choice’ (Hull 2009 p. 211). Due to its significance, the topic of funding will be discussed separately in Section 4.8.

Building on this theme of barriers to policy development and implementation, Anya-Boig (2021) offers the following conceptual framework as the necessary dimensions of an integrated cycling policy:

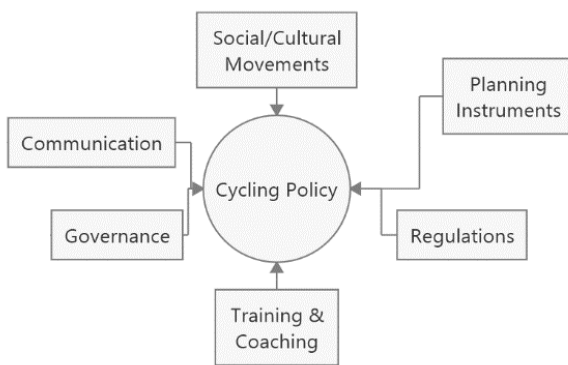


Figure 15: Features of an integrated cycling policy (adapted from Anaya-Boig 2021 p. 23)

It can be seen by Anya-Boig's (2021) depiction of an integrated cycling policy, that the themes of organisational, technical, and external barriers are relevant too. For example, social/cultural movements can be categorised as external barriers (Sections 2.2 and 3.6.3). Whereas governance, communication, planning instruments and regulations can be conceptualised as organisational barriers that are exacerbated by the system of multi-level governance and hollowing out of the state (Section 4.2). Training and coaching could also be conceived as technical barriers as these represent technical skills provision that act as enablers for cycling. The remainder of this subsection will explore both the organisational and technical barriers to policies.

4.6.1. Organisational barriers

In critiquing the failure of cycling policy in the UK, Aldred notes that only when infrastructure aimed at encouraging cycling has no adverse impact on other modes, is it permitted (2012 p. 100). A key driver for this is the ‘politically untouchable’ nature of policies that seek to reduce motor vehicle capacity (Aldred 2012 p. 100). Furthermore, barriers and opportunities can arise because of multi-level governance systems (Aldred et al 2019 p. 150) and the lack of accountability for policy delivery within such systems (Bache et al 2015).

In a study focussed on cycling in England, barriers to investing in cycling were identified that did not exist for other modes of sustainable transport (Aldred et al 2019 p. 156). This creates a “vicious circle” of cycling policy whereby, “no money > poor facilities > no cycling > cycling marginalised > perceived political risk > no money” (Aldred et al 2019 p. 158). Elected members also influence policy implementation, with political leadership changes/uncertainty and the emphasis on palatability of policies to the public identified as negatively influencing policy implementation (Forrester 2009 p. 317).

4.7. The impact of the COVID-19 pandemic on cycling in Scotland

4.7.1. Spaces for People: Aberdeen

The perceived politically risky nature of cycling policy (Section 4.6.1) was brought into sharp focus in Aberdeen via the Sustrans’ *Spaces for People* initiatives. In May 2020, ACC applied for and was awarded £1.76 million under the *Spaces for People* initiative (Transport Scotland 2020c; Transport Scotland 2020d; Beattie 2020). A COVID-19 “Urban Realm Task Force” was established within ACC to “plan, detail, and deliver a prioritised programme of temporary urban realm interventions” (Aberdeen City Council 2020c para 3.5). A core part of this plan was to implement measures that would prioritise walking and cycling in the city centre, with a focus on restricting motor vehicles in the area (Aberdeen City Council 2020b). Figure 16 sets out the proposed intervention area in purple, with supplementary areas in red:

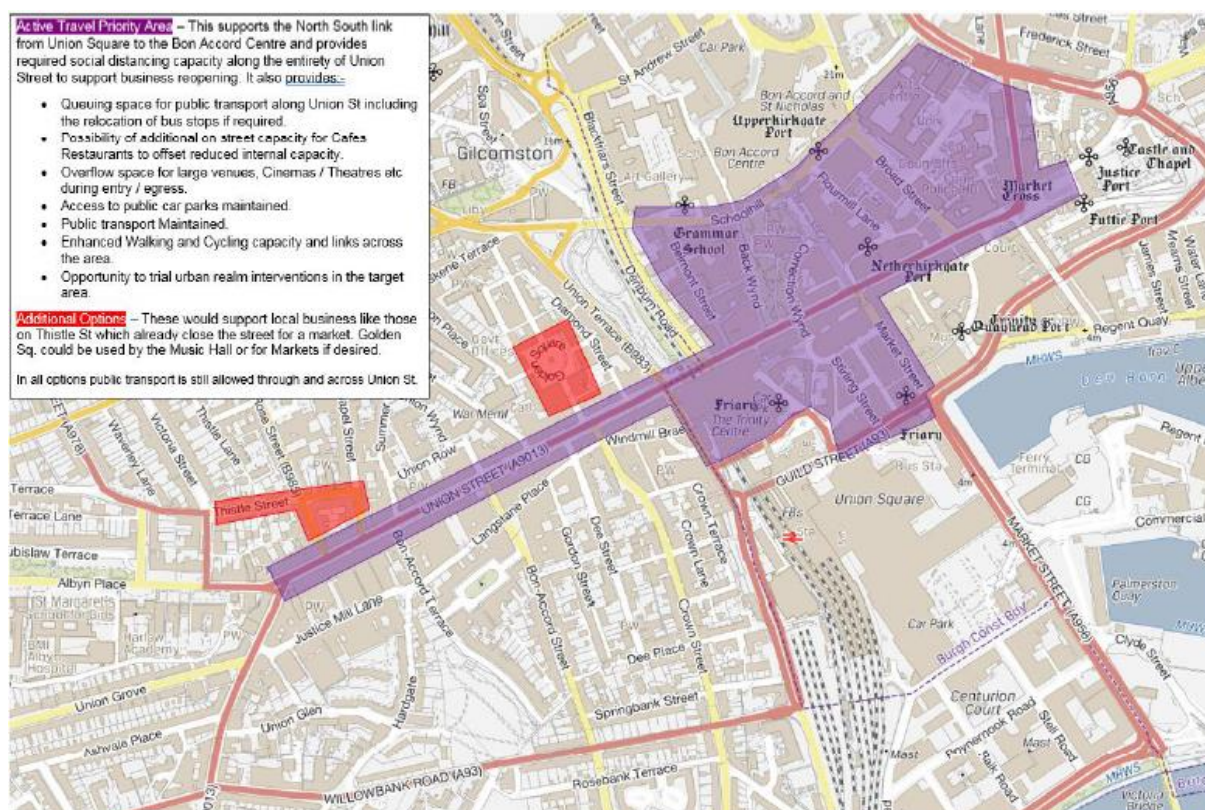


Figure 16: Proposed City Centre Spaces for People Interventions © Aberdeen City Council 2020 (Aberdeen City Council 2020b).

It was noted that the identified measures supported the aims of the CCMP, Roads Hierarchy and SUMP among other key policies in the city (Aberdeen City Council 2020b p. 3; Section 4.5).

Opposition to the scheme was seen from the public and within the local authority itself. Due to constraints imposed by the pandemic on meetings to execute council business, it was agreed that power could be delegated to officers in lieu of elected members for decisions surrounding *Spaces for People* (Aberdeen City Council 2020a; Gossip 2020b). However, this was criticised by some Councillors, when local businesses cited a lack of consultation on the measures (Gossip 2020b). There were also further media reports of businesses' unhappiness with the measures and their perceived potential to impact trade (Sinclair 2020). This is despite claims in the original application that "City Centre traders have also expressed their support for the proposals" via the representative body Aberdeen Inspired (Aberdeen City Council 2020b p. 3). In its supporting letter, Aberdeen Inspired state that having consulted with businesses, "the over-whelming majority have voiced a strong desire to see these temporary measures put in place" (Aberdeen City Council 2020b p. 24).

In addition to the city centre proposals, work also commenced to construct a segregated, 2.2-mile bi-directional cycle lane along the Aberdeen Beach Esplanade creating a “Beach Active Travel Corridor” (Aberdeen City Council 2020d). However, the cycle lane was only in place for 54 days before it was the subject of a vote by Councillors in the City Growth and Resources Committee that determined its removal (Cycling UK 2020; Gossip 2020d). The justification offered was that the cycle lane “was not merited as part of the project” (Councillor Douglas Lumsden, quoted in Gossip 2020d).

Mirroring the discussion above in relation to organisational barriers (Section 4.6.1.), the beach cycle infrastructure had become too politically risky for the local authority and a subject of “bike-lash” (Section 3.6.4). The decision to remove the temporary infrastructure was taken against a political backdrop where officials in Aberdeen City Council were described as having too much power (Gossip 2020b) and where businesses and citizens were expressing discontent about the implications for access to the beach front area (Gossip 2020a). As noted above, both political leadership changes or uncertainty and the emphasis on palatability of policies to the public as areas where elected members can impede policy implementation (Forrester 2009 p. 317). In this case, the uncertainty created by delegated powers to officials during COVID-19 and the perceived unpalatability of the beach front measures were fatal for the temporary infrastructure.

4.7.2. Cycling during the pandemic

March 2020 heralded the implementation of unprecedented restrictions of movement on the population in attempts to mitigate the spread of COVID-19, with the order to “stay at home” made on 23 March (Institute for Government 2021). Cycling has been characterised as “benefitting” from the pandemic, encouraged by temporary infrastructure, which could represent a significant shift in public attitudes (Francke 2022; Rerat, Haldimann and Widmer 2022; Nurse and Dunning 2021). Indeed, levels of walking and cycling saw significant increases, with many using exercise to manage their mental health during the initial lockdown period (Sport England 2020). However, it is noted that this uptake was not equal across socio-economic groups, age, ethnicity, or gender (Sport England 2020).

In Scotland, the sharp fall in cycling during the initial days of lockdown was countered by a steady rise in cycling numbers from late March to May 2020 (Whyte et al 2022 p. 8). Lockdown restrictions reduced traffic on the roads, resulting in an improvement in perceptions of safety and corresponding

cycling numbers (Whyte et al 2022 p.12). During the most restrictive phase of lockdown, “cycling volumes were up by around 55%. As restrictions were eased [...] volumes were still above where they were expected to be” (Whyte et al 2022 p. 9)⁴⁴.

Temporary infrastructure and reductions in traffic due to lockdown restrictions also contributed to the change in cycling numbers. Sustrans’ *Spaces for People*⁴⁵ was a temporary infrastructure programme rolled out in Scotland with the purpose of making it safer to walk, wheel or cycling during COVID-19 (Sustrans Scotland 2020). Public Health Scotland was also supportive of the plans to improving health and wellbeing through increased levels of physical activity that the scheme could potentially facilitate (Macdonald 2020 p. 1). However, the initiative proved controversial, with Sustrans Scotland issuing a statement focussed on “busting myths about spaces for people” in an April 2021 blog post (Sustrans Scotland 2021). The purpose of this was to “create transparency and clarity around the Spaces for People projects in Scotland” (Sustrans Scotland 2021). Attempts to offer greater clarity was taken in response to a “vocal minority of opposition that seems out of proportion with the measures being put in place,” alongside “campaign groups publishing misinformation” and “vicious and personal attacks and threats on council and Sustrans team members” (Sustrans Scotland 2021). These issues were not analysed further in the evaluation findings for the overall *Spaces for People* initiative (Sustrans Scotland 2022), and this is an omission from a policy learning perspective for future infrastructure programmes.

Sustrans sought to capitalize on the momentum and encourage keeping “the wheels in motion” even after lockdown restrictions eased (Sustrans n.d.). However, whether there has been any long-term legacy is debatable given the recent Cycling Scotland (2023) report, and a study from Australia highlighting the increases in sedentary behaviours due to the increase in working from home (Greaves et al 2024). Cycling Scotland state that “national cycling mode share has hovered around 1.26% between 2012-2019. It’s encouraging to see that the mode share rose to 1.5% in 2020 and 2.3% in 2021” (Cycling Scotland 2023). These statistics, however, need to be treated with caution as no direct comparison between pre- and post-pandemic figures can be made due to changes in the survey format used (Cycling Scotland 2023).

⁴⁴ However, this is also a period where many were furloughed, and this requires to be taken into consideration (Transport Scotland 2021 p. 14).

⁴⁵ Funded by the Scottish Government but managed by Sustrans (Sustrans Scotland 2020).

4.8. Funding of cycling policy in Scotland

This section sets out how cycling infrastructure and cycling initiatives are funded in Scotland. Like the complex policy landscape set out in the preceding sections, the funding system is equally complex. That cycling policy in Scotland is almost exclusively funded through monies disbursed by third sector organisations requires to be viewed through the broader context of the more neo-liberal forms of governance that have come to pass in the global north, contributing to a hollowing out of the state (Aldred 2012; Section 4.2). There are several different mechanisms⁴⁶ through which the delivery of cycling infrastructure and associated behaviour change projects are delivered in Scotland. The following section will outline the sources of funding, including relevant funding bodies, and how this translates into the design and implementation of cycling infrastructure at a local government level.

The abdication of responsibility for funding of cycling infrastructure by the Scottish Government to non-governmental organisations such as Sustrans is indicative of the “free market solutions to economic and social problems” (Blanco, Griggs, and Sullivan 2014 p. 3130; Section 4.2). What these policies are trying to address are deeply structural issues such as automobility, alongside ingrained challenges associated with gender and class inequalities, therefore tipping cycling policy implementation and delivery into the realm of “wicked problems” (Hartley, Kuecker, and Woo 2019) and therefore rendering it inherently unattractive to government.

4.8.1. Overview

Since 1999, annual expenditure on walking and cycling has accounted for approximately 2% of Scottish Government transport investment, although this has increased more recently to approximately 4% during fiscal year 2018/19 (Rehfisch 2019), with a commitment to increase this to at least £320 million or 10% by 2024/25 (Transport Scotland 2023).

Finance has been identified in a previous study as a potential barrier to the implementation of transport policies with local government officers agreeing that funding available for transport schemes was responsible for constraining policy implementation (Hull 2009 p. 211). The most serious funding barrier identified was a lack of revenue funding for both design and implementation of policy for sustainable transportation modes (Hull 2009 p. 212). Within the context of the present case study, the

⁴⁶ See Appendix 8

funding barrier is particularly relevant in Scotland, where council tax freezes have in recent history constrained local authority budgets (Gordon 2023).

Multi-level governance systems have been identified as both a barrier and an enabling mechanism to cycling investment (Aldred et al 2019; Butterfield and Low 2017; Section 4.6.1), due to what has been described as the “interplay between broader structural processes and the actions of policy entrepreneurs” (Aldred et al 2019 p. 150). These policy entrepreneurs also extend to the role of external consultants who are now a feature of policy formulation within government (e.g., Marciano 2022a; Marciano 2022b) but which come at a financial cost (Aldred et al 2019) and are associated with a further hollowing out of the state (Kirkpatrick et al 2023).

This also coincides with a move to characterise citizens as ‘service users’ who are permitted to exercise choice but should do so in a responsible way (Aldred 2012 p. 96). Aldred suggests that these twin concepts of the ‘hollow state’ and the ‘responsible individual’ are useful tools in understanding why cycling policy takes its current form, and crucially that the policy solutions offered are a result of these policy approaches, has “located [cycling] outside the national state and [...] attached [cycling] to discourses around healthy and environmental lifestyle choices” (Aldred 2012 p. 96). Furthermore, the presence of capital funding over revenue funding has increased the prevalence of ‘soft’ measures over ‘hard’ interventions (Brannigan and Paulley 2008 p. 382), thus impacting the type of policy measures and the ability to provide maintenance of new infrastructure.

The changes to the organisation of local government in Scotland in recent decades has been identified as having potentially negative consequences on policy delivery capabilities due to the requirement to form new relationships and the assumption of new powers (Marsden and May 2006, p. 786). This has been described as the “fragmented nature of the system,” and a lack of joined up thinking and integration has been identified within local authorities that can conflict with policy agendas (Forrester 2009 p. 317). The integration of local and national cycling campaign groups within policy processes have been identified as a further important trend (Aldred 2012).

4.8.2. Transport Scotland & Sustrans

Sustrans “Places for Everyone” initiative is an important funding stream for local authorities in Scotland. The stated aim of the funding is, “to create safe, attractive, healthier places by increasing the number of trips made by walking, cycling and wheeling for everyday journeys” (Sustrans Scotland 2019). To receive funding through the scheme, applicants are required to demonstrate that they can satisfy six design principles, reproduced verbatim below:

1. “Develop ideas collaboratively in partnership with communities”.
2. “Facilitate independent walking, cycling, and wheeling for everyone, including an unaccompanied 12-year-old”.
3. “Design places that provide enjoyment, comfort, and protection.”
4. “Ensure access for all and equality of opportunity in public space.”
5. “Ensure all proposals are developed in a way that is context-specific and evidence-led.”
6. “Reallocate road space, and restrict motor traffic permeability to prioritise people walking, cycling, and wheeling over private motor vehicles” (Sustrans Scotland 2019).

There is also the additional requirement that: (i) infrastructure is of high quality and anticipated to remain functional in quality for at least fifteen years; (ii) projects are subject to Equality Impact Assessments and ecological appraisal; and (iii) mitigations in respective inequalities or ecological impact must be delivered where possible (Sustrans 2019). Therefore, it is not a simple case of a local authority applying for and being awarded funding, it is a competitive and scored process.

Places for Everyone active travel project investment in Aberdeen stands as follows (Dundee City Council included as a comparator)⁴⁷:

Financial Year	2019/2020	2020/21	2021/22
Aberdeen City Council	£598,986	£111,722	£163,094
Dundee City Council	£368,689	£526,911	£4,273,436
Total Capital Grant Funding Awarded to Sustrans Scotland	£55,349.870	£61,020,946	£69,844,971

Table 2: Places for Everyone - completed project investment, FOI release (Scottish Government 2021c)

The risks associated with competitive tendering processes have been identified in a study of Cycling England’s “Cycling Demonstration Towns” projects (White, Bloyce and Thurston (2020). It is concluded that such competitive funding processes are, “likely to encourage authorities to present bids that are

⁴⁷ This information is drawn from an FOI request, published on the Scottish Government website.

largely detached from the realities of implementing infrastructure” and that consequently this leads to, “difficulties once funding has been awarded” (White, Bloyce and Thurston 2020 p. 173).

4.8.3. Regional Transport Partnerships

Due to the funding model for RTPs set out in the Transport (Scotland) Act 2005, RTPs are reliant on third party funding for their operational and investment activities (both from the RTPs supporting local authorities and third-party organisations) which is an acknowledged risk in the RTP model (Nestrans 2022 p. 7).

A significant improvement to how RTPs are funded was facilitated by legislation in 2019⁴⁸ to enable an adjustment to funding arrangements (Transport (Scotland) Act 2019 s.122). This relates specifically to the requirement in the 2005 Act that required local authorities to fund the balance of the RTPs costs after grant and other income is considered (Transport Scotland Act 2005 s.3). The 2019 Act amended these provisions to enable funding of estimated costs, rather than actual costs, enabling RTPs to carry a surplus across financial years (Transport (Scotland) Act 2019 s.122(1)). Provision now also exists for RTPs to borrow and loan funds (Transport (Scotland) Act 2019 s. 122(3)), although this has not been exercised by Nestrans to date⁴⁹.

This is a significant change to the funding model when compared with the previous arrangements. It allows for greater flexibility by allowing RTPs to invest in capital projects that extend beyond a single financial year (Scottish Parliament 2018 paras 214 and 217), enabling RTPs to invest and develop in longer-term initiatives for their respective regions.

4.8.4. Local authorities in Scotland

The question of funding within local authorities for cycling specific policies has been explored in the literature (White, Bloyce, and Thurston 2020; Hull 2009; Brannigan and Paulley 2008), and a key element in the delivery of relevant policy relates to the funding available to local authorities. In Scotland, local authorities are funded by the Scottish Government via a block grant that is intended to

⁴⁸ Transport (Scotland) Act 2019 (asp 17), amending the previous 2005 Act that established RTPs.

⁴⁹ Information correct as of 2022.

cover approximately 85% of their net revenue expenditure (Scottish Government 2021a). The remainder of funding is then supplied through mechanisms of local taxation (Scottish Government 2021a).

No express provision is made by the Scottish Government for local authority funding of cycling, other than via the “Cycling, Walking and Safer Streets” Specific Grant, which for Aberdeen City Council in 2021-22 was indicated as being 4.2% of the overall grant, equating to £1001 (Scottish Government 2021b p. 69). The total funding awarded to local authorities under this scheme is as follows:

Year	Amount Awarded to Local Authorities
2021/22	£23,927,000
2020/21	£23,927,000
2019/20	£8,858,000
2019/20	£736,000
2017/18	£736,000

Table 3: Cycling, Walking, Safer Routes infrastructure funding, FOI release (Scottish Government 2021c)

Mitchell (2019) observes that between 1999 and 2017, the Scottish Government’s spending on local government fell from 36.2% to 30.8%. This is significant given the ring-fencing for statutory services such as education and social care, causing other services to be neglected (Mitchell 2019). The impact of politics on financial arrangements has been attributed to creating a “policy gap between national aspiration and local action” due to the restrictions on infrastructure investment and limitations on council tax rises in Scotland (Tait, Laing, and Gray 2014 p. 131). This is of relevance when considering policy affiliated with sustainable transport, in this case cycling, for local authorities are relied on as “principal delivery agents” of the Scottish Government’s policies in this field (Tait, Laing and Gray 2014 p. 130).

4.9. Summary

The chapter has examined the implementation of Scottish Government policy through Transport Scotland, the relevant regional transport policy, and local transport policy that both shapes and impacts the development of cycling-specific policy in Aberdeen. From the number of policies set out above, it is established that there is a complex policy landscape, supported by an equally complex funding structure. This chapter has also affirmed that there is a lack of consistency between what is contained within policy documentation and what is practically achieved, as evidenced by the failure to achieve successive cycling targets in Scotland.

The preceding chapters (Chapters 2, 3, and 4) have provided an overview of relevant scholarship and policy that provides a foundation for the examination of the perceived significance of cycling-specific policies within Aberdeen City Council, and investigation of the organisational, practical, and social influences that shape policy implementation in the city. Through setting out the multi-layered governance systems relating to transport in Scotland, and the associated funding structure, a foundation has been created for understanding the impact of organisational structures and relationships on the development and implementation of cycling specific policies within local government in Aberdeen.

In establishing that the spatial and temporal aspects of cycling are important, a platform has been created to understand how cycling relates to space, place, and gendered spaces, but also to themes of health and wellbeing. This provides the facility to examine the practical implications that infrastructure, weather, and topography have in shaping policy implementation. By articulating the socio-cultural context within which the policies set out in Chapter 4 operate, it has been possible to begin interrogating the perceptions of cycling through establishing the social norms and perceptions which construct “the cyclist”, along with the importance of applying a gender lens to cycling research. Furthermore, in considering perceptions of cyclists, it has been possible to understand the capacity for cyclists to be constructed as “the other” through specific discourses and processes and how cycling as a mode of transport is constructed. This information is critical for not only understanding the role that cycling policies play in local government, but also in establishing a foundation for understanding the practical and social influences on the implementation of cycling-specific policies in Aberdeen.

Chapter 5 – Methodology

5.1. Overview of research

The previous chapters set out the policy and scholarship foundations for achieving the aim and objectives of the research. This chapter will set out the process followed to collect primary data to meet the research aim and objectives. Quantitative conceptualisations of cycling from fields such as transportation planning and health science dominate the literature (Liu, Krishnamurth and van Wesemael, 2021 p. 92). This reinforces the need for qualitative research to be undertaken in a field that is often dominated by quantitative analysis due to the engineering and planning bias of such research (Freudendal-Pedersen 2009 p. 2).

It is imperative to bring the “discourses of cyclists and bike advocates” to the fore of research within mobilities (Furness 2014 p. 318). Furthermore, the utility of qualitative data is also important to understand the gendered aspects of transport (Section 2.4; Greed 2008 p. 46) and to understand the perspectives of policy makers in this research. As noted by Marsden and Reardon (2017), in relation to transport, there is an absence of local policy makers’ perspectives in existing studies. Therefore, a qualitative approach to data collection has been adopted to enable understanding⁵⁰ of cycling in Aberdeen (Aspers and Corte 2019), through adopting a case study format (Yin 2014).

This case study focussed on the development and implementation of cycling-specific policies by Aberdeen City Council (**ACC**). Within this case study, data was collected in two separate strands: (i) from members of the public who are cyclists; and (ii) from policymakers involved in the development and implementation of cycling policies and projects in Aberdeen. Although the case study is focussed on Aberdeen, issues of multi-level governance and funding have national application.

5.2. Reflexivity and the research process

An important part of the research process involved reflection on my own positionality and therefore reflection on the implications of the chosen research methods (Bryman 2016 p. 388; Berger 2013; Mauthner and Doucet 2003). Acknowledging and understanding the role of insider/outsider positionality is of relevance to this research because of the community of cyclists and policy makers at

⁵⁰ Aspers and Corte characterise this as a deeper form of knowledge than explanation (2019 p. 153).

its focus (Greene 2014; Chavez 2008). Greene explains that “insider research is that which is conducted within a social group, organisation or culture of which the researcher is also a member” (2014 p. 1). I am also a cyclist and therefore part of the community from which research participants are drawn. I have also worked with many of the policy makers interviewed for this research and I am therefore part of the same professional community.

There exists an acknowledged potential for researcher bias due to membership of these communities and my own positionality. Chavez (2008) outlines several methodological advantages and complications of insider positionality, such as bias, selective reporting, and the potential for data collection to be compromised due to community knowledge (Chavez 2008 p. 479). There are some acknowledged benefits of being an insider, including the ability to build a rapport, the capacity for nuanced interpretation, and my legitimacy in the field (Chavez 2008 p. 479) However, these attributes are not intended to be exhaustive or absolute (Chavez 2008 p. 481) and there can be more nuanced membership of communities, whereby researchers can be “total insiders” or “partial insiders” (Greene 2014 p. 2). In the context of this PhD, I occupy the position of a *partial insider*⁵¹, who shares “a sole identity with a certain extent of distance or detachment from the community” (Greene 2014 p. 2) because while I work with the policy community, I am not embedded within that policy community. Equally, while I am a cyclist, I cycle more frequently in a rural environment⁵².

In acknowledgement of the potential complications offered by partial insider status, consideration must be given as to how to manage and negotiate the ethics of working with a community of which I am a member. Part of this relates to reflecting on the impact my own subjectivities could bring to the research and recognising potential biases (Green 2014 p. 11). Green notes that the “space I inhabit not only as a place to work and learn but is also my place of personal belonging. Indwelling - to be permanently present in my research, is virtually unavoidable” (2014 p. 11), and this is the position that I have adopted in this context, and I have been cautious to adhere to appropriate ethical frameworks (Section 5.3).

⁵¹ It is acknowledged that participants (both cycle users and policymakers) may have viewed me differently, and that I may have a multiplicity of identities depending on the individual participant.

⁵² Although I was previously a cycle commuter in an urban environment.

The utilisation of practice theory as an established theoretical framework is put forward as a further approach to mitigating against risk of bias in the research, and the impact of the “indwelling”. Such an approach adopts a limited individualism in its understanding of actions and change (Shove, Pantzar & Watson 2012, p. 141) because practice theory reframes the question of ‘how do we change individuals’ behaviours?’ to ‘how do we change practices and their performance?’ (Welch 2017 p. 244). It is the *practices themselves* that are the focus of the evaluation (Welch 2017 p. 244). This is put forward as a mechanism for mitigating the impact of insider knowledge that I have, while acknowledging that the knowledge cannot be discounted.

5.3. The data collection process⁵³

5.3.1. Questionnaire

In August 2018, a qualitative questionnaire (i.e., using open questions) was developed on Google Forms⁵⁴. A qualitative questionnaire is deemed to be an appropriate instrument for addressing research that seeks to understand practices or accounts of practice (Braun and Clarke 2013 p. 45). A total of **380 responses** were received, out of which **370 (97.4%)** were included in the data analysis. The excluded responses were either blank, incomplete, or the respondent did not cycle. It was therefore determined that these responses were not appropriate for inclusion in the research.

As acknowledged by Braun et al (2021), there exists little methodological discussion of qualitative surveys in the literature, despite the familiarity of surveys as an accepted approach in social research. To ensure the data could be contextualised (as noted by Braun and Clarke 2013 p. 135), appropriate demographic information was collected from participants⁵⁵. The main body of questions were aimed at examining the purpose and objectives of the research, seeking to understand cycling in Aberdeen through the experiences of participants, to examine the meaning of cycling in the city⁵⁶. This was achieved through questions aimed at gathering data on the skills and meanings associated with cycling and cyclists, with a view to understanding the social influences associated with identity, stereotypes, and associated perceptions. The survey also contained questions regarding infrastructure to

⁵³ All participant materials are set out in Appendix 9.

⁵⁴ This approach was designed and agreed in collaboration with my original supervisor, not the present Principal Supervisor. It is recognised that more secure platforms (e.g., JISC online survey platform) now exist and that these are more appropriate approaches for gathering research survey data and this approach would not be used in future.

⁵⁵ Set out in Appendix 4.

⁵⁶ Survey questions are set out in Appendix 9.

understand the practical impact this exerts on cycling in Aberdeen, and to understand the how participants viewed the perceived importance of cycling to the local authority (Appendix 9).

An online questionnaire offered participants convenience (Bryman 2016 p. 222), but it is acknowledged that this approach also risked excluding potential participants who did not have access to the internet or for whom online formats are not desirable. It is recognised that there are further disadvantages associated with self-administered questionnaires and that they potentially lack flexibility (Braun and Clarke 2013 p. 141). This inflexibility is due to the inability to prompt respondents, and the absence of a follow-up questions restricts the potential for collecting additional data that can add further context (Bryman 2016 pp. 223-224). Due to the qualitative nature of the survey design, some of these risks are mitigated and this has been discussed in more recent literature (Braun et al 2021). It is acknowledged that mobile methods could have been adopted to undertake data collection (e.g., Merriman 2014; Buscher and Urry 2009) but in this instance it was determined they did not add more accurate or authentic knowledge (per Merriman 2014 pp. 182-183) and presented an unnecessary layer of complication for data collection.

I took steps to mitigate the risk of participant fatigue by limiting the number of questions asked (Bryman 2016 p. 224) and piloting the questionnaire with peers prior to dissemination. This was intended to minimise the risk of misunderstanding or misinterpreting any instruction or question in the survey and to test the functionality of the questions themselves (Braun and Clarke 2013 pp. 141-142).

5.3.2. Sampling – Questionnaire

An important aspect of data collection for this research was to engage with cyclists in Aberdeen to understand cycling in the city. The strategy adopted for data collection was the non-probability approach of purposive sampling (Braun and Clarke 2013 p. 56). In targeting the questionnaire at individuals who would identify as a 'cyclist' or someone who cycled, through this inclusion criteria the emphasis was on strategically attracting participants who were capable of contributing data relevant to the aim and objectives of the research (Bryman 2016 p. 408). There were no specific exclusion criteria, although participants had to be over 18. It was anticipated that those who did not cycle would not participate in the research due to the text of the participant information sheet and overt theme of the questionnaire.

The questionnaire was publicised on social media, with support from Robert Gordon University's communications team (Robert Gordon University 2018a). The profile of the survey was raised when it was covered by an article in the local press (Ferguson 2018) and by BBC Radio Scotland (Smith 2018) who interviewed me about the survey. It is acknowledged that this was unusual in terms of exposure and ability to reach a wide audience. However, the publicity contributed to a diverse range of participants responding to the invitation to take part and so remained faithful to the objectives of the non-probability purposive sampling technique originally envisaged for the questionnaire. A consequence of this exposure was the generation of a significant volume of qualitative data for analysis⁵⁷.

5.3.3. Interviews

Following on from the questionnaires distributed to members of the public in 2018, an interview schedule was designed for both interviewing members of the public but also for interviewing professionals employed in roles relevant to cycling policy. Interviews are deemed to be an appropriate instrument for addressing research that seeks to understand practices or accounts of practice and, in the case of the professionals who were interviewed, for gathering data on experiences, understandings, and perceptions too (Braun and Clarke 2013 p. 45). Therefore, it was felt that this was an appropriate method of data collection for this research. In total **23 interviews** were conducted with members of the public and **7 interviews** with professionals.

As with the questionnaire, the interview questions were designed with reference to the research aim and objectives. A semi-structured approach was adopted for the interviews to allow for flexibility within the interview and give participants freedom to raise issues that I had not considered (Braun and Clarke 2013 p. 78). This flexibility also allows exploration of the participants' perspectives (Bryman 2016 p. 469). The interview guide is set out in Appendix 9.

The successful generation of rich and detailed accounts is facilitated by both building a rapport with participants and careful planning of questions (Braun and Clarke 2013 p. 81), and consideration was

⁵⁷ Chapter 6.

given to the structure of the interview and on the overall purpose of each question to maximise the potential value of the interviews. To assist in building a rapport with members of the public who were interviewed, I made a personal disclosure that I am also a cyclist. Given the othering of cyclists (Section 2.6), it was viewed that utilising this disclosure as part of the interview process was appropriate and could potentially assist in placing participants at ease (Braun and Clarke 2013 p. 93).

It is acknowledged that interviews do present some limitations as a method of data collection. This includes very practical aspects such as the time to conduct and transcribe the interviews and the time-consuming nature of interviews for the participants too (Braun and Clarke 2013 p. 80). However, the potential to “generate amazing data” and “rich, detailed and quite often unanticipated accounts” (Braun and Clarke 2013 p. 80), was felt to justify the application of interviews as a research method.

Participants were provided with a copy of the participant information and consent sheets in at least 48 hours in advance of the interview. This was to assist in placing the participants at ease, but also to allow them to fully understand the purpose and scope of the research and to prepare any questions they might have for me. This approach also ensures participants are aware that the interview will be recorded (Braun and Clarke 2013 p. 92). For professional participants, it was felt that transparency was very important in connection with the questions that they were going to be asked, given their roles within local government and non-governmental organisations. Some of the professional participants also preferred to prepare for the interview and came with notes to ensure they covered the issues they wanted to discuss with me.

All interviews were conducted face to face and recorded on my laptop, via an external microphone to assist with fidelity of the audio recording. To avoid distracting the participants during the interview, participants were advised that I would also take brief notes during the interview (Braun and Clarke 2013 p. 92). Interviews lasted for between 45-90 minutes each, with the interviews with professionals being the longest in duration. At the conclusion of each interview, participants were asked whether there was anything further they wanted to add that they felt was important for me to know (Braun and Clarke 2013 p. 97).

5.3.4. Sampling – Interviews

5.3.4.1. Professionals

An important aspect of this research was to speak with relevant policy makers. To ensure that appropriate individuals were selected for the semi-structured interview aspects of the data collection, a purposive sampling approach was adopted. This non-probability approach was determined as being appropriate for the research due to a requirement to locate participants who could contribute ‘insight and in-depth understanding’ from a local policy perspective (Patton 2002 p. 230). This strategic approach ensured that those most relevant to the research were selected for inclusion (Bryman 2016 p. 408). Therefore, the individuals selected to participate in the data collection phase consisted of individuals who could provide the in-depth and detailed information required to meet the research objectives. Given the small number of individuals directly involved in cycling policy in Aberdeen City Council, and the number of individuals employed by the RTP, it is acknowledged that the sample universe is relatively small.

In line with the recommendation that the researcher needs to be clear on the criteria for inclusion (Bryman 2016 p. 408), the following approach was taken to the sampling process for professionals:

	Name	Definition	Outcome
Point 1	Define a sample universe	Establish a sample universe, specifically by way of a set of inclusion and/or exclusion criteria	Homogeneity of individuals selected based on: (i) does the individual work for a local authority, regional transport partnership or connected organisation within the field of transportation strategy; and (ii) has the individual experience of sustainable urban mobility and/or cycling projects
Point 2	Decide on a sample size	Choose a sample size or sample size range	Idiographic (case study appropriate; allows for intensive analysis to be conducted; and accommodates illustration of best practice (Robinson 2014 p. 29)
Point 3	Devise a sample strategy	Select a purposive sampling strategy to specify categories of person to be included in the sample	Theoretical strategy – purposive, stakeholder sampling (ACC employees, Nestrans employees)
Point 4	Source the sample	Recruit participants from the target population	Direct contact with ACC and Nestrans employees already involved with PORTIS

Table 4: Four-point approach to qualitative sampling (adapted from Robinson 2014 p. 26)

This approach provided a framework within which to select appropriate participants and provided clear guidance on inclusion/exclusion criteria. It should be noted that in addition to the ACC and Nestrans employees selected, it was also considered relevant (within the four-point strategy set out above) to contact a senior Sustrans employee as a potential participant. The justification for inclusion of this additional interviewee was twofold: (i) due to the role that Sustrans plays in funding local authority cycle initiatives (as discussed in Chapter 4); and (ii) in the role that this prospective participant had in the co-design of Edinburgh City Council’s City Centre Transformation strategy⁵⁸. The inclusion of such an individual was in alignment with the purposive sampling approach set out above and has contributed to variety within the sample (Bryman 2016 p. 408).

5.3.4.2. Cyclists

As a follow up to survey work undertaken with cyclists in Aberdeen in 2018, social media was used to recruit participants for interviews. This was an open call for participants made via my Twitter account (Hood 2019)⁵⁹. The Tweet earned 2,982 impressions and elicited 70 engagements (Hood 2019). This strategy followed an opportunistic sampling approach in that it allowed for data collection from specified individuals (cyclists), “contact with whom is largely unforeseen but who may provide data

⁵⁸ Cycling is a core element of this strategy (City of Edinburgh Council 2019).

⁵⁹ My Twitter account clearly states that I am an employee of Robert Gordon University and that it is used for professional purposes aligned to my work as a researcher and therefore it was deemed acceptable to use this account for recruitment purposes.

relevant to the research question” (Bryman 2016 p. 409). A small number of interview participants were directly recruited via this Tweet.

An unforeseen development in this recruitment process was the inclusion of the information contained in the Tweet on a University of Aberdeen internal staff notice board. A participant who had responded to the original Tweet expressed they would like to assist with publicising the research and sought permission to make this information available to University of Aberdeen staff. This development led to a process of snowball sampling whereby participants from both within and external to University of Aberdeen⁶⁰ contacted me and volunteered their time for interview.

The snowball sampling that occurred allowed the goals of purposive sampling to be fulfilled but where there was not an immediately accessible pool of participants to contact directly (Given 2008). Despite the acknowledged risk that this approach could result in a biased subset of participants (Given 2008), a variety of participants were recruited through this snowball approach, and it included an improved gender balance than the questionnaire. This was due to the ‘forwarding’ of the message to individuals outside the University of Aberdeen community, who were friends, relatives or acquaintances of the individuals who viewed the original message board post.

5.3.5. Interview transcription

The act of transcription is an important part of the data gathering and analysis process but is acknowledged to be a time-consuming process (Bryman 2016; Braun and Clarke 2013). Having reflected on both the time-consuming nature of transcription and the potential for researcher bias to occur during the transcription process, it was determined that automated transcription would be beneficial (Bokhove and Downey 2018). This approach was used for the interviews undertaken with professionals, whereas the interviews with cyclists were transcribed using more traditional audio transcription techniques.

5.3.5.1. Interviews with professionals

Software designed by *Otter* was used to assist with interview transcription. The use of auto transcription software has been determined as acceptable within qualitative research and is regarded

as an appropriate approach as a 'first step' of the transcription process (Bokhove and Downey 2018). The format of the software is such that an audio file can be uploaded, and a verbatim transcript is auto generated. This transcript can then be exported to a Word file for proofreading. I checked transcripts for accuracy prior to engaging in data analysis to ensure that participants' views were not misrepresented because of any inaccuracies in the auto transcription process and any mismatch errors were also detected (Bokhove and Downey 2018). Any information that could potentially identify participants was also redacted from the transcripts prior to commencing data analysis.

The platform allows for each participant to be assigned a name or unique identifier. Once provided with this information, Otter auto-detects which participant is speaking, however, I checked these for accuracy. Participants were anonymised and referred to by a letter, for example "Participant A". To facilitate this process and ensure accuracy of labelling, a note of the participant's identity and allocated letter was retained in a spreadsheet, held securely on RGU's institutional platform and only accessible by me.

The ethical requirements surrounding data privacy that may arise in using third party software for this process was considered. Otter is GDPR (General Data Protection Regulation)/Data Protection Act 2018) compliant, having incorporated the relevant standards into its data practices⁶¹ and therefore addresses the concerns in relation to data security (Bokhove and Downey 2018). Once the transcripts were downloaded from the Otter platform and stored securely on the RGU server, the corresponding audio file was deleted from Otter.

5.3.5.2. Interviews with cyclists

I was assisted with transcribing the 23 interviews with cyclists by a third party (**GB**). To ensure that participants' data was treated with respect, ethical consideration was given to the sharing of data with GB and the terms of the consent procedure under which the data was collected. As GB was an employee of RGU⁶² and therefore bound by its Information Governance procedures, it was determined that this complied with the parameters set out in the consent form (Appendix 9) and that no further transcriber confidentiality agreement was required (Braun and Clarke 2013 p. 163). Recordings were

⁶¹ Further information on Otter and its services can be obtained via <https://otter.ai/>

⁶² And, part of the same research team as me

anonymised before being shared for transcription so that the true participant identity was not disclosed.

As with other interviewees, participants were anonymised prior to engaging in data analysis and referred to by a number and their gender⁶³ (e.g., Participant 1M). The decision to retain information on the participant's gender was to enable the researcher to determine whether gender was significant in any of the participant's observations or comments in relation to cycling. Any other information that could potentially identify the participant was redacted from transcripts. A key of the participant's identity and allocated number was retained in a spreadsheet, held securely on RGU's institutional platform and accessible only by me.

5.4. Approach to Data Analysis

This research explicitly rejects behavioural change models on the grounds they reinforce neo-liberal presumptions with respect to individual choice (Cox 2019). It was felt appropriate that a practice theory approach should be used for interpreting the questionnaire and interview analysis of data collected from cyclists with a view to identifying the three areas of: (i) competences (ii) materials, and (iii) meanings (Shove, Pantzar and Watson 2012; Section 1.3.3). The data in each of the questionnaire and interview data sets was subject to a process of complete coding but with the application of the above categorisations of competences, materials, and meanings to create a first layer of codes. This allowed for the analysis of the data to be undertaken through the lens of practice theory, then following the process of umbrella codes forming the practice theory elements, and then sub-codes of the constituent parts of these elements via thematic analysis.

For all aspects of the data analysis process, in line with accepted practice the analysis began with reading and re-reading the collected data for the researcher to be familiarised with the data (Braun and Clarke 2013 p. 204). Following this process, all data was uploaded to NVivo. This approach was chosen as an effective method for organising and arranging the data for analysis, as it allows for the data to be visualised easily and for data to be imported from Word/Excel formats (Welsh 2002). Due to the utilisation of the practice theory framework, it was possible to make sense of themes easily, and

⁶³ This was recorded as the participant's gender as presented to me at the time of interview.

to create further subcodes within these themes (c.f., Welsh 2022). The overall utility of NVivo also assisted in this analysis and interpretation process.

For each data source, a separate file was created in NVivo with the uploaded data. I began by assigning data points to competences, materials, or meanings within each of the respective data sets. Within each of these three themes, subcodes were then created through a process of thematic analysis⁶⁴ to assist with greater specificity. Following review, these subcodes were then aggregated with reference to the overarching genre of survey questions, to form the basis for the data presented in Chapters 6, 7, and 8. This is a slightly different approach to that adopted by other studies (Cass and Faulconbridge 2017; Spotswood et al 2015), who applied the practice theory framework concurrently with thematic analysis, rather than in stages as in the present research. Due to the volume of data in the present research, it was determined that a better depth of understanding of the data would be achieved in following the process of umbrella codes forming the practice theory elements, and then sub-codes of the constituent parts of these elements via thematic analysis.

5.5. Research Ethics

The purpose of this section is to outline the underpinning ethical framework which has guided the research. This section is structured with reference to the discussion in Creswell and Creswell and their categorisation of ethical issues to anticipate when conducting research (2018 pp. 89-90). This section considers each stage of the research process and the associated ethical concerns and will consider the ethical implications of this research and focus on the issues relating to the questionnaire and interview data collected above.

5.5.1. Prior to conducting the research

During the initial stages of the research project in 2017, a *Research Student and Supervisor Assessment* (RESSA) form was completed in line with RGU's Research Ethics' policy. The form's purpose is to enable initial assessment of ethical issues that could potentially be encountered during the research project. This enabled appropriate reflection on issues commonly encountered during qualitative research, as well as the more specific issues that could arise during the project. Furthermore, it facilitated the adoption of an accepted ethical framework. As this thesis is located within the sphere of social science, prior to the commencement of data collection, it was determined that ethical approaches outlined by

⁶⁴ For example, within "materials" sub-codes for infrastructure, and cycle parking were created.

both the British Sociological Association (**BSA**) and British Psychological Society (**BPS**) were appropriate lenses through which to frame the approach of this research.

The BSA guidance for conducting research notes that there should be satisfaction that the work undertaken is worthwhile and that the proposed approaches for the research are appropriate (BSA 2017 para 8). In addition to the consent procedures detailed below, prior to approaching any of the potential professionals for interview, I contacted appropriate individuals within ACC and Nestrans and was advised to formally obtain approval from the Director of Nestrans and the relevant Director within Aberdeen City Council. The participant from Sustrans was approached directly due to their position in the organisation. I set out the aim and objectives of the research and the justification for seeking participation from these specific individuals. This was to ensure that participation in the research met with the institution's own culture and beliefs and therefore did not represent a risk of reputational harm to the organisation (BSA 2017 para 10). Participants were also granted anonymity to assist in mitigating concerns around participant bias too. Once consent from line management had been obtained, I then approached relevant individuals for interview.

5.4.1.1. Internet Mediated Research

Guidance produced by the BPS (2017) in relation to internet mediated research was instructive in planning and executing the questionnaire phase of data collection. The conduct of the research was underpinned by four main principles of ethical research contained within the BPS' *Code of Human Research Ethics* (BPS 2014⁶⁵), as adapted from the BPS guidelines governing internet mediated research (BPS 2017⁶⁶). The following table sets out the four principles alongside the action taken to ensure appropriate adherence to accepted research ethics:

BPS Principle	Action taken by researcher
Respect for the autonomy and dignity of participants	<ul style="list-style-type: none"> ● Avoiding collecting data that could allow the participant to be identified. ● Obtaining valid consent ● Keeping research data confidential
Research value	<ul style="list-style-type: none"> ● Utilisation of a qualitative research design to enable collection of rich data, minimises the risk of false respondents
Social responsibility	<ul style="list-style-type: none"> ● Consideration of alternative methods of data collection to avoid promotion of inequality.

⁶⁵ An updated version is now available. See BPS (2021a)

⁶⁶ An updated version is now available. See BPS (2021b)

	<ul style="list-style-type: none"> • Ensuring responsible dissemination of research findings
Maximising benefits and minimising harm	<ul style="list-style-type: none"> • Obtaining valid consent • Anonymity of participants • It was not anticipated that the proposed research represented any greater harm to participants than encountered in daily life and therefore no additional risk analysis was required

Table 5: BPS (2017) Principles & Mitigating Actions, compared with action taken by the researcher.

5.5.2. Beginning the research process

This research has adhered to the position of the BSA in that, “participation in sociological research should be based on the freely given informed consent of those studied” (2017 para 17). Before an individual participated in any of the data gathering activities that formed part of the research, that individual was required to read a project information sheet and to sign a consent form. While it is acknowledged that there is a difficulty in presenting participants with absolutely all the information required (Bryman 2016 p. 129), in line with BSA guidance the participant information sheets sought to explain: (i) what the research is about; (ii) who is undertaking and financing the work; (iii) the purpose of the research; and (iv) how it will be used and disseminated (BSA 2017 para 18). A distinct consent form was drawn up for each of the online and interview portions of the data collection process to ensure appropriate consent was obtained for each type of data collection.

An important part of designing the consent forms was reflecting on the BPS (2017) and BSA (2017) guidelines and ensuring that valid consent could be obtained from research participants. In the case of the questionnaires, consent was obtained electronically, with participants unable to proceed further in the survey without affirming they had read the participant information sheet and the consent requirements. This was to ensure that participants understood, as far as possible, the scope of the project and intended use of their data. An opportunity was also afforded for prospective participants to contact me or my supervisor to ask questions. In addition to representing good practice, this was also deemed appropriate given my partial insider status.

In the case of interviews, these were conducted in-person, and the consent form was signed in duplicate so that the participants could retain a copy for future reference and my contact details were provided should the participants have wished to contact me later. This documentation was provided to participants in advance to allow time to read the documentation and ask any questions. As an

additional safeguard, verbal consent from each participant was also affirmed at the start of each interview recording.

As noted above, to ensure that valid consent was obtained for the data collection, participants were also provided with relevant information in the format of a participant information sheet to facilitate understanding of the research. This comprised of the following: (i) aim and objectives of the project; (ii) types of data being collected and how it would be used; (iii) confidentiality and anonymity conditions associated with the data collection process; (iv) right to withdraw from the research at any time with no consequences; and (v) potential benefits of the proposed research. In circulating this information in advance, it was intended to afford participants time to consider the research project and to ask any questions as required. The template consent forms, and participant information sheets can be found in Appendix 9.

Due to qualitative research typically not including an element of deception, debriefing is not common (Braun and Clarke 2013 p. 63; cf. Bryman 2016 pp. 133-134). Reflecting on the goals of responsible research discussed elsewhere in this Section, interview participants were offered the opportunity to ask further questions and to be provided with a copy of the final research output if desired. Questionnaire participants were provided with my contact details should they wish to ask any questions about the research. A free text box was also included at the close of the questionnaire for “any other comments” and I reviewed all responses in this box in case further action was required.

As noted in Section 5.2 above, my partial insider status was helpful in formulating the research design. However, it is acknowledged that my own subjectivities could influence the research and it was therefore important to recognise potential biases (Green 2014 p. 11) as part of the ethics process.

5.5.3. Storing data

All research data was stored in accordance with GDPR/Data Protection Act 2018 and RGU’s own Information Governance processes (RGU 2018b). All research data was stored on my password protected RGU device, first on the R Drive and then via RGU’s OneDrive facility, which only I could access. Further, in accordance with BSA guidance, appropriate methods for preserving the anonymity

of research participants were taken and the link between interview participants names and their recordings and transcripts was broken (BSA 2017 para 31).

5.6. Summary

This chapter has set out the qualitative approach to data collection that was adopted and two separate strands of data: (i) from members of the public who are cyclists; and (ii) from policymakers involved in the development and implementation of cycling policies and projects in Aberdeen. It has also set out the justification for adopting a case study format, focussing on the development and implementation of cycling-specific policies by Aberdeen City Council. The approach to sampling has been set out for each of these two strands of data collection, alongside the transcription processes for interviews and, the approach to data analysis using NVivo has been established, and the application of the practice theory framework described too. The following three chapters (Chapters 6, 7, and 8) set out the data from this process and provides the basis for the analysis and discussion in Chapter 9.

Chapter 6 – Cycling in Aberdeen: A Cyclists' View – Part 1

6.1. Overview of data chapters

The following Chapters 6, 7, and 8 set out the data collected as part of this thesis. The survey and interview data gathered from cyclists in Aberdeen are presented separately in Chapters 6 and 7 respectively, to allow for the full depth of the data to be explored. Chapter 8 contains the data obtained from interviews with policy professionals. The purpose of this section is to provide an overarching narrative of the research data and how the three data chapters are structured and interconnected. In line with the aim and objectives of this thesis (Section 1.4), through the process of integrating these three strands of data, the intention is to investigate the overarching nature of cycling in Aberdeen, through considering the lived experiences of cyclists, and the role of policymakers and policymaking for cycling in Aberdeen (Figure 17).

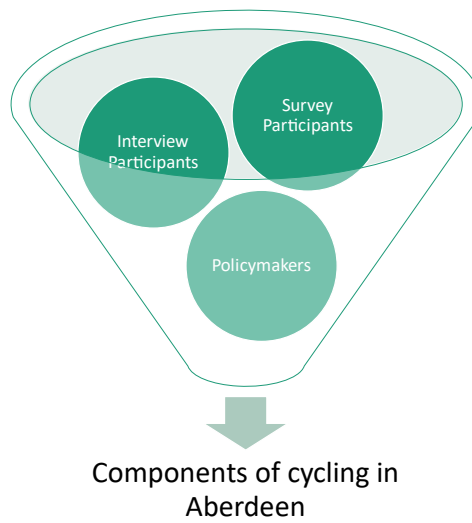


Figure 17: Overview of data within the thesis

In adopting this approach, it will allow identification of the constituent elements of cycling in Aberdeen.

Beginning with Chapter 6, survey participants' interpretations of the constituent elements of cycling in Aberdeen are established. The chapter is divided into the core areas of competences, materials, and meanings, with subthemes in each section grouped into thematic areas, set out in Figure 18:

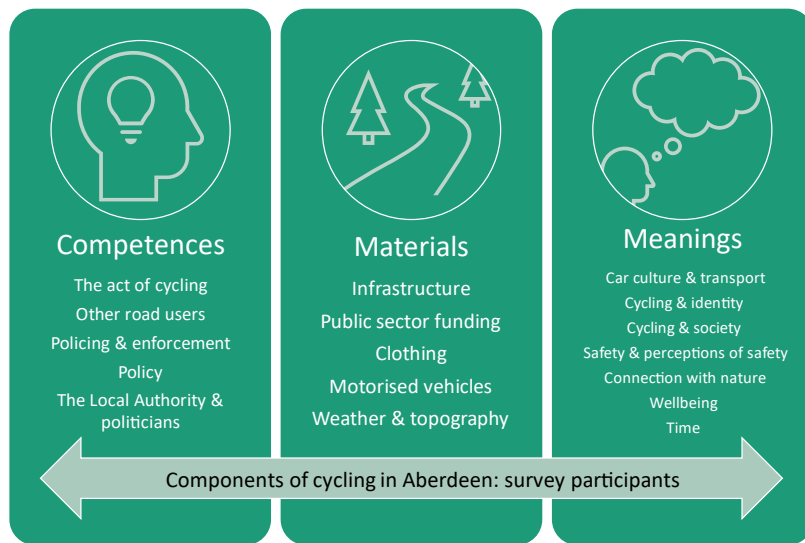


Figure 18: Cycling in Aberdeen: interpretations from survey participants

The data in Chapter 6 is further supported by interview data drawn from cyclists, as set out in Chapter 7. This data both expands and adds depth to the data already gathered in the surveys, allowing for a more intricate understanding of the identified competences, materials, and meanings that are discussed by cyclists. This data is again analysed with reference to interpreting the constituent elements of cycling in Aberdeen, and is grouped into the following thematic areas, as set out in Figure 18:

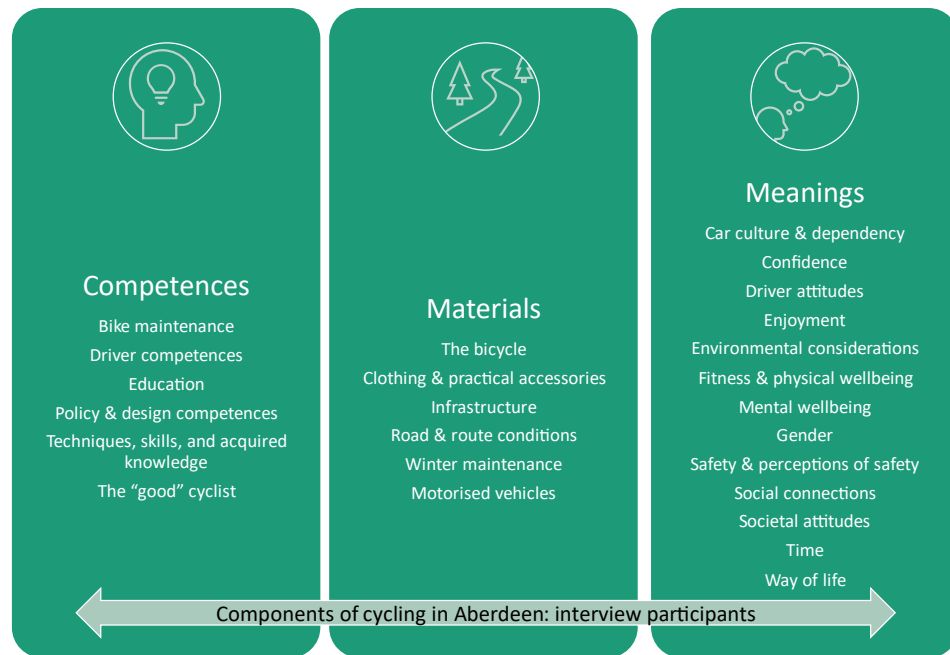


Figure 19: Cycling in Aberdeen: interpretations from interview participants

Finally, the policymaker's role in cycling in Aberdeen is considered in Chapter 8 where the practice of policymaking in the context of cycling is explored. In common with Chapters 6 and 7, the data is divided into the core themes of competences, materials, and meanings as they relate to the practice of policymaking for cycling, as set out in Figure 20:

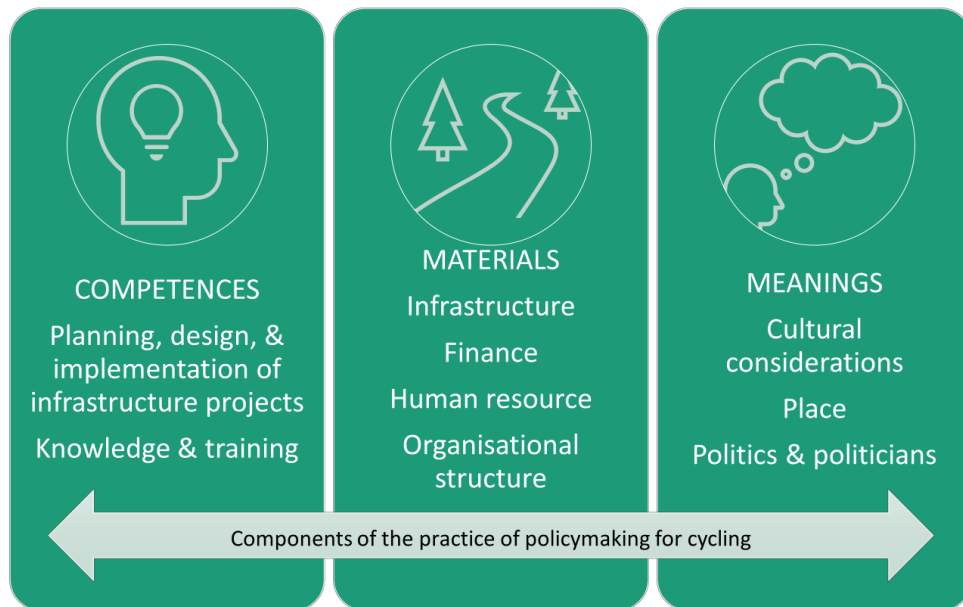


Figure 20: Practice of policymaking in Aberdeen: interpretations from interviews with policymakers

The data that is set out in the following Chapter 6, 7, and 8 will explore all these identified competences, materials, and meaning in further depth. This is necessary to establish an appropriate foundation for the analysis set out in Chapter 9, and the conclusions of the thesis in Chapter 10.

6.2. Chapter overview

This chapter sets out the data collected from members of the public via the online questionnaires. To provide structure to the large quantity of data that has been collected, each section is divided into sub-sections that focus on each of the key areas of competences, materials, and meanings to mirror the approach taken in the data analysis within the scheme of practice theory. When considering competences, the *perceived* competences of others are also included in the data set. This also occurred in relation to materials where connections with meanings can be derived. It is a compromise from a data analysis perspective, and that draws on the approach proposed by (Section 5.3.1). It recognises that it is not always possible to neatly segregate each facet of a practice, particularly when they are multilayered.

The gender identity of survey participants is noted in their participant identifier, e.g., Participant 1M⁶⁷. Further contextualising the comments of participants in line with literature review and discussion chapter of this thesis. To assist with understanding and contextualising the data each section begins with an overview in diagrammatic format of the relevant competences, materials, and meanings identified in the data coding process.

Demographic information of survey participants is available in Appendix 4 and additional survey data, including data that falls outside of the themes developed in this thesis, are included in Appendix 5.

6.3. Competences: the experience of cycling in Aberdeen

This section focusses on the “competences” related to cycling in Aberdeen, as identified by survey participants. In addition to the competences that cyclists felt are required for those who choose to cycle in Aberdeen, the data also incorporates references to the *perceived* competences of others. The decision was taken to include this data here because it relates to how the skills, knowledge, and techniques of others can impact on the act of cycling in Aberdeen.

6.3.1. The act of cycling

In general terms, participants refer to skill sets that could be described as “competences” relevant to cycling. The first relates to the ability to maintain one’s own bike and the second relates to the physical skill involved in cycling, e.g., *“Improving skills and becoming a better overall cyclist”* (Participant 29M). In respect of maintenance, there is a gender-specific comment made that,

“Some women are also reluctant to ride alone in case of ‘mechanical breakdown’, which given the difficulties of removing/replacing modern tyres in the event of a puncture is understandable” (Participant 37M)

In addressing the issues of stereotypes and the construction of a cycling culture, participants refer to several cycling-specific competences. Connected with these cycling competences and the identity of individual cyclists is this idea of the “good” cyclist. It presents as a hybrid of ideas and aspirations as to how cyclists behave and is an important component of the “meanings” attached to cycling⁶⁸:

⁶⁷ Some participants elected not to provide their gender identity, and this is acknowledged with the letter N in the participant identifier, e.g., Participant 1N.

⁶⁸ Participants 31M, 70M, and 81F make similar references.

"...we have a duty as cyclists to cycle responsibly. There is a huge amount of ignorance out there regarding the Highway Code etc" (Participant 59F)

"Force cyclists to obey the Highway Code, wear reflective clothing and helmets and stay off pavements unless designated cycle path" (Participant 336M)

"...it is all about finding a balance between when it is necessary to cycle in the centre of the lane" (Participant 29M)

"Someone wearing a helmet cycling on the road" (Participant 7F)

"...it is very difficult to overtake a group of road cyclists safely and sometimes groups should show more awareness of holding up traffic and pull over to let cars pass" (Participant 160M)

In the data set out above, there is a mix of positive and negative competences that participants associate with cycling, in addition to suggestions where further training could be beneficial. This builds on the idea of the "good" cyclist, as noted by Aldred (2013).

This also connected with "competences" and the delineation of specific skills, knowledge, and techniques that participants identify as being required for navigating cycling in Aberdeen. There are two strands to these competences, the first focuses on the techniques adopted by participants as part of their individual cycling habits, while the second focuses on elements that participants felt were undesirable for cyclists to exhibit. The follow quotations set out the skills participants feel that they have acquired and apply while cycling:

"I tended to ride defensively and accepted my 'vulnerability' around others. I suppose I used some of my job training to my advantage" (Participant 23M)

*"... attempting to cycle over the Bridge of Dee on the pavement was far too dangerous as the footpath is very narrow meaning the handlebars clip the bridge sides, **eventually I worked out it was safer to do on the bridge and "take the lane"...**"* (Participant 37M, emphasis added)

"I am able to ride fast enough to be assertive and move with the traffic" (Participant 48M)

"...being aware of everything around me" (Participant 49M)

These positive attributes contrast with the examples some participants gave of what cyclists *should not do*. Participants note that:

"I'm not saying all cyclist are wonderful, some would definitely need to be spoken to. These are the ones that give us a bad name by cycling on the pavement and going through red lights etc" (Participant 186M)

"I worry about [...] wobbly cyclists with seats too low, no helmet, weaving in and out of all the ridiculous obstacles, no hi-vis, not looking up, just hoping they will be seen" (Participant 286F)

"Deliveroo cyclists and young adults are among the most dangerous, stupid and reckless cyclists I've seen. They give all cyclists a bad reputation" (Participant 269F)

"Cyclists are seen as cheating at lights, breaking highway code, cycling on pavements, not using lights. This leads to them being seen as irresponsible" (Participant 91M)

In participants' responses there is an acknowledgement that the stereotypes associated with the negative competences contribute to stereotyping of cyclists, and that it *"taints the view of many against cyclists"* (Participant 366F).

6.3.2. Other road users

Participants describe how they perceive the actions of other road users, *"...there seems to be a culture in motorists of "I need to overtake this cyclist" no matter what is in front of you"* (Participant 29M), and that, *"Road users don't believe we are allowed on the road, this causes a lot of tension between some"* (Participant 90M) and that there is *"a visible minority is anti-cycling and unafraid of intimidating cyclists on the road"* (Participant 110M). Another participant states that, *"It has become a war zone out there. I don't understand why motorists have so much animosity towards us"* (Participant 79F).

Some participants did feel drivers exhibited a positive attitude towards cyclists (Participants 14M, 23M, 93F, 239M, 38M, 186M, 288M and 321M) and that this is fundamental to creating a positive cycling culture in the city. However, a significant number of participants also comment on how the skills, knowledge, and techniques of drivers impacts their cycling⁶⁹. For example,

"I feel the main barrier really is the fast and aggressive nature of driving in the city, and how threatening and intimidating this can feel to cyclists" (Participant 42M)

⁶⁹ This also included professional drivers, with several participants noting specific interactions with buses/taxis/delivery and goods vehicles in addition to private road users (Participants 97M, 125M, 164F, 165F, 181M, 225M, 226M, 258M, 269F, 277M, 284M, 286F, 289M, 300F, 321M, 327M, 334M, 351F, and 358M).

It was possible to group together the most common types of occurrences relating to driver competences: (i) close passes; (ii) poor execution of overtaking manoeuvres; and (iii) “failure to see” incidents. Several participants comment on being close passed by motor vehicles, both in relation to the proximity of the vehicle, “...often pass so close they almost touch my arm” (Participant 25F), and in relation to the frequency of incidents too, “Close passes are a regular feature, too often to count” (Participant 112M).

Participants also describe the detrimental impact of what could be characterised as a lack of roadcraft in overtaking manoeuvres, such as unsafe distances, or when the line of sight is not clear, for example, “Drivers that [...] overtake on blind corners and nearing causing accidents as there is something coming the other way” (Participant 165F). Participants⁷⁰ also comment on the perceived failure of drivers to see cyclists in the carriageway:

“Drivers seem oblivious to vulnerable road users - I regularly get “I just didn't see you!” [...] when dressed in hi-vi and covered in lights” (Participant 131F)

Such experiences are often linked to discussion of both specific skills and competences required by drivers, but also a wider understanding of the needs of cyclists:

<i>“...greater education of challenges and safety issues facing cyclists”</i> (Participant 366F)	<i>“There is still a lot to be done to educate non-cyclists on sharing the road space with cyclists. They tend to give way to other road vehicles but not cyclists”</i> (Participant 293M)
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6.3.3. Policing & enforcement

Linked to the previous section on driver competences is the perceived skill, knowledge, and technique of those empowered to enforce road traffic legislation, Police Scotland. Also covered here are the comments made by participants about the associated penalties for infringement of the law:

<i>“...lack of law enforcement”</i> (Participant 123M)	<i>“...endemic law breaking and little or no enforcement of road traffic laws”</i> (Participant 261M)
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<i>“...derisory penalties for dangerous driving”</i> (Participant 288M)	<i>“Lack of adequate policing of incidents”</i> (Participant 349M)
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⁷⁰ Participant 103M also made similar comments.

"In my opinion the police need to be more proactive in enforcing road sense of cyclists"
(Participant 8M)

"...prosecute drivers passing too close to cyclists and/or engaging in aggressive behaviour such as engine revving and horn honking" (Participant 42M)

"Awareness campaigns, the Police Scotland safe passing distance campaign was interesting and highlighted the misconception by drivers that they can safely 'squeeze' past a cyclist"
(Participant 163F)

"There also needs to be more enforcement of rules for all road users so that people don't feel the other group is giving preferential treatment"
(Participant 189M)

6.3.4. Policy competences

As noted in the introduction to this Section 6.3, it was decided to include the references made by survey respondents to the skill, knowledge, and techniques of those charged with developing, designing, and implementing cycling infrastructure in Aberdeen. This is because of the connection made by participants between the practice of policymaking, and how it impacts cycling in Aberdeen:

"Cycle lanes [...] are added as an afterthought as opposed at the planning and design stage"
(Participant 10M)

"The road designer MUST be a cyclist. In so many instances you notice the absence of a cyclist's view" (Participant 325M)

"a lack of vision of what the city should feel like to live and a complete lack of understand of how cycling can transform a city" (Participant 347M)

"The council has no leadership of multi year plans" (Participant 242M)

I believe a lot of the infrastructure has been put in where planners think it is required but probably not designed by an actual cyclist and hence does not flow" (Participant 182M)

"The local authority needs to employ specialist help to design new infrastructure and redesign existing as they clearly don't have the resource in-house" (Participant 71M)

"No joined up thinking" (Participant 87F)

"...poor design and management of junctions"
(Participant 92M)

In the data, there are references to Denmark, Sweden, and “Dutch style” infrastructure. Also mentioned are specific cities such as Copenhagen, London, Oregon, Ljubljana, Glasgow, and Edinburgh, and to the quality and type of infrastructure that has been implemented in these locations⁷¹.

Survey participants’ comments on this tend to focus on the design elements and how this translates into a tangible benefit, but mention is also made of how policies are initially developed too. As follows:

<i>“By actually designing in cyclists needs”</i> (Participant 17M)	<i>“Complete overhaul of the planning of cycle routes & paths”</i> (Participant 71M)
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<i>“Properly design the cycle lanes”</i> (Participant 71M)	<i>“More consideration given to cyclists by road planners”</i> (Participant 286F)
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<i>“...car centric Roads Department; lack of design expertise to deliver (or even imagine) improved infrastructure”</i> (Participant 334M)	<i>“Large number of uneducated city planners”</i> (Participant 27F)
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<i>“Lack of consultation with cyclists. Lack of vision for cycle-friendly city by the local authority”</i> (Participant 197F)	<i>“Lack of commitment to considering cycling needs and road use in planning design. There are all sorts of words and statements used in various documents but the resulting developments are not progressive at all”</i> (Participant 281F)
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Other participants comment on the practical outcome of cycling policy:

<i>“Disjointed and inconsistent application of funding and policy”</i> (Participant 304M)	<i>“Lot of rhetoric but very little action”</i> (Participant 340F)
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<i>“External bodies such as Nestrans, Cycling Scotland, Sustrans [...] don't seem to be on the same page as the folk with the money and authority (ACC) that can actually carry out the BIG changes that are needed”</i> (Participant 179M)	<i>“...the 10% active travel target is seen as inspirational and it is not a target being chased with any vigour around Aberdeen city or shire”</i> (Participant 99M)
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One participant notes that, *“I don't see much positive impact from Scottish government policy reaching Aberdeen”* (Participant 270M) and that *“The local authority show very little political will or courage*

⁷¹ For example, Participants 11F, 20F, 49M, 58M, 72F, 98M, 148N, 167M, 248F, 271F.

and only think in short term” (Participant 261M). In relation to the policies themselves, respondents note that they were either unaware (Participant 264M), or unsure (Participant 59F) of what the relevant policies are on the matter, summed up by Participant 90M: *“I have no knowledge of any, perhaps that's an answer in and of itself”* (Participant 90M).

6.3.5. Aberdeen City Council

Participants also comment on the role of the body that is “Aberdeen City Council,” the elected representatives, and the overall culture that is present:

<i>“Lack of political leadership and will from council”</i> (Participant 64M)	<i>“Those at the top are not interested in achieving greater levels of cycling”</i> (Participant 23M)
<i>“Governance of the local authority and influence within it [...] It needs a joined up consistent effort and a long term viewpoint and investment”</i> (Participant 39M)	<i>“The City Council sending a very clear message where its priorities lie. Cars all the way”</i> (Participant 243M)

Participants also comment on what they would like to see from the local authority:

<i>“Change in attitude from Council”</i> (Participant 144M)	<i>“...Councillors cycling”</i> (Participant 325M)
<i>“...demonstrate that cycling is an important transport option and is seen as such by the City Council”</i> (Participant 321M)	

Also evident is a feeling of perceived unimportance of cycling to the local authority. These comments are summed up by one participant who notes, *“...people who cycle are not a priority for the Council and are second class to people who decide to drive”* (Participant 107M). Another participant is quite clear on the consequences of this perceived lack of support,

...the persistent lack of support (with accompanying bad press) reinforces the stereotype of cyclists as self righteous, complaining minority” (Participant 217M)

Furthermore, it is also felt that the political culture plays a role in reinforcing this meaning,

“Because ACC coalition is only defined by being anti-SNP, they didn't even apply to funding from the 80 million pot the Scottish Government has available for cycling” (Participant 26M)

6.4. Materials: the experience of cycling in Aberdeen

This section addresses the material elements identified by survey participants. The data set out below and comprises the perspectives of survey participants in discussing things, tangible physical objects, money (via the topic of funding), and the role of weather and topography.

6.4.1. Infrastructure

This section presents data from questions in the survey about existing infrastructure and infrastructure that participants would like to see in Aberdeen that would support cycling in Aberdeen. The bulk of data gathered in this section relates to what can generally be described as “cycling infrastructure”: (i) road and route conditions; (ii) segregation; (iii) shared use paths; and (iv) specific infrastructure such as roundabouts; and (v) cycle parking and storage.

6.4.1.1. Road and route conditions

In recounting their cycling experiences, participants discuss potholes, degradation of road surfaces and debris⁷². Participants comment on the relevance of these conditions as representing a barrier, with a specific emphasis on “...maintenance of these cycle lanes” (Participant 31M) and “...lack of gritting done in winter; poor road surfaces” (Participant 219F) and “Roads are terrible - cycle lanes full of holes/massive protruding metal grates/water logged/rocks/uneven tarmac” (Participant 46F) and that, “Poor road surfaces make use of dedicated cycle lanes very tricky” (Participant 5M). Participants also discuss “Bad drainage at the side of roads” (Participant 229M) and poor road surfaces in the cycle lane (Participant 238M).

A specific issue participants identify in reflecting on infrastructure provision in the city relates to winter maintenance and the impact this has on their ability to cycle. The overriding theme of the comments are that “Cycleways are NOT gritted and cleared from snow during winter” (Participant 26M) and “Grit the paths in winter. Clear the paths to stop [...] snow/ice” (Participant 243M).

⁷² Participants 18M, 51M, 116F, 122F, 224F, and 229M.

6.4.1.2. Segregated infrastructure⁷³

There are also several comments relating to the “...lack of segregated routes” (Participant 11F), and that “...there will only be a significant increase in cycling when segregated routes are improved” (Participant 261M). There were also several participants for whom specific areas of infrastructure are seen to represent barriers in themselves, e.g., the A90 from Stonehaven (Participant 66M), Union Street (Participant 216F) and “...insufficient cycle paths through/to commuter areas” (Participant 366F). This is due to “...limited segregated cycling routes make it dangerous” (Participant 139M) and an overall “...lack of segregated cycle lanes” (Participant 60N).

Participants also cite the role of segregated infrastructure in creating a positive cycling culture:

<i>“By having a network of cycle roads or paths (not a lane as part of the main road) more people would feel confident to cycle”</i> (Participant 72F)	<i>“Creating a more continuous cycle network that is segregated from the main carriageway”</i> (Participant 130M)
<i>“Proper, separate, invested, thoughtful, joined up cycle routes”</i> (Participant 174N)	<i>“Quality segregated infrastructure so that anyone can cycle”</i> (Participant 178M)
<i>“...contiguous, dedicated cycle routes”</i> (Participant 350M)	<i>“...create maps to show safe routes”</i> (Participant 172F)

Survey participants also make several suggestions around specific infrastructure that they feel would assist in creating a positive cycling culture in the city:

<i>“Eliminate any “give way to traffic behind you” junctions (e.g., heading east on A944)”</i> (Participant 71M)	<i>“...more bike friendly roads i.e., cycling paths on uphill sections of busy roads”</i> (Participant 95F)
<i>“Lanes starting and ending in random places...”</i> (Participant 87F)	<i>“...Diamond Bridge stop/start nonsense”</i> (Participant 106M)
<i>“Quality, robust, joined up network of cycle paths, especially on commuter routes (e.g., Dyce-Aberdeen)”</i> (Participant 255F)	<i>“Safe well kept cycle routes to Aberdeen from surrounding towns”</i> (Participant 256M)

⁷³ Some participants also make use of the word “dedicated” when describing cycling-specific infrastructure, and for the purposes of this thesis, this has been interpreted as inferring segregation from cars and other motor vehicles.

In addition to stating a preference for segregation, some participants offer greater specificity on what is required:

“A network of dedicated cycle routes” (Participant 21F) *“More high quality cycle lanes separated from road traffic by a raised portion of the road similar to what is available in London”* (Participant 29M)

“Quality segregated infrastructure (addressing access and priority crossing side streets)” (Participant 178M) *“An infrastructure of separate cycling routes offering access to all areas of the city and suburbs”* (Participant 53Mf)

“Where lanes have been painted in the road these should have a physical barrier i.e., moulded rubber strip (similar to the speed bumps) which keep traffic out (but still allow for motor vehicles to enter in an emergency to allow the blue lights pass)” (Participant 284M)

6.4.1.3. Shared use paths

Survey participants also cited shared use paths as being another factor relevant to cycling in Aberdeen.

This is best summed up by the following comment:

I regularly use the old Deeside way [...] This is without a shadow of a doubt the best path in Aberdeen. However, it still comes with its problems in the conflict changes from bikes and motor vehicles to bikes and pedestrians” (Participant 347M)

There are also specific features of shared use paths, that for some participants describe:

“...the cycle route is shared with pedestrians on the north pavement of the road out to Bucksburn. There are several bus stops along this with very limited space between the bus stop shelter and the road. The bus stop shelters are typically not transparent, so it is impossible to tell when approaching, whether there is a pedestrian about to step out in front of you” (Participant 246M)

Participants want to see more of such infrastructure, noting that *“Designate all suitable paths as shared use”* (Participant 110M) and *“More shared paths, wide enough to safely accommodate other users”* (Participant 359F). Whereas others comment that *“...shared used paths really no good for commuting”* (Participant 64M) and *“Cycle paths that are also pavements are difficult for everyone”* (Participant 212M).

This theme of sharing space is expanded on by participants:

“Most problems arise from narrow roads being shared by cyclists and motorists” (Participant 211N) *“Difficult as would need more people to cycle, which would need more road space given up to”*

cyclists, which would annoy non-cyclists”
(Participant 247M)

“...and drivers are willing to share the road space with other road users. But because there are very few cyclists on the road, cars aren't used to sharing the space and drive accordingly”
(Participant 271F)

“...providing infrastructure that facilitates safe cycling and reduces conflict with other road users” (Participant 334M)

Participants observe that infrastructure needs to *“minimise inconvenience to drivers”* (Participant 330M) and provide something that is *“safe for cyclists”* (Participant 360M).

6.4.1.4. Specific infrastructure

In their responses, participants also refer to some very specific infrastructure in their descriptions of cycling in Aberdeen:

“The cycle path from Westhill is poorly designed at the new AWPR junction with multiple crossings and poor visibility” (Participant 7F)

“Third Don crossing [Diamond Bridge] is well done, but the continuation of the routes beyond the new sections still spit you back into traffic”
(Participant 89M)

“No good route from Bridge of Don to West End that avoids dangerous streets and roundabouts”
(Participant 106M)

“The Parkway (heading from Danestone towards the Bridge of Don) finishes abruptly delivering cyclists onto the wrong side of a 50mph road, on a bend” (Participant 111F)

“The new infrastructure to Diamond Bridge is excellent and should be extended into town”
(Participant 171M)

“Strange disjointed design of the segregated lanes over the third don crossing [Diamond Bridge]” (Participant 281F)

It is noted that at the time of data collection, a new piece of infrastructure was nearing completion in Aberdeen, the Aberdeen Western Peripheral Route (AWPR). Several responses discuss the absence of cycling infrastructure as part of the AWPR project, and the disruption to existing infrastructure that it creates. This is summarised by the following respondent:

“I have enjoyed commuting daily from Echt to Aberdeen. This positive experience has been majorly affected, in a negative way, by the AWPR. It has been an obstacle course between Westhill and

Kingswells. And now it is dangerous. A new roundabout with no traffic lights and sharp turns - the former is a death trap and the latter will inevitably lead to accidents” (Participant 204F)

6.4.1.5. Cycle parking & storage

Participants discuss the requirement for cycle parking, with an emphasis on the connected “meaning” of safety and perception of safety:

“Lack of secure places to store your bike once in Aberdeen Centre (I don't call a Sheffield stand secure)” (Participant 10M)

“I enjoy cycling into the City Centre to attend meetings, I'm glad there is safe properly overlooked secure cycle parking or I'd not trust leaving my bike where the unpoliced general public could damage or steal it.” (Participant 243M)

“...where to keep your bike, risk of bike getting nicked or vandalised” (Participant 143M)

“...I think having more safe places to leave you bike around the city would also help as well” (Participant 122F)

“...facilities to keep bikes safe at the end of a journey” (Participant 311F)

“...extremely lacking, cyclists need covered secure parking which prevents pilfering of components and outright theft” (Participant 243M)

“...more locking up facilities covered by CCTV as cycles can be interfered with” (Participant 229M)

“...bike storage” (Participant 271F)

It is not clear from Participant 271F's answer whether this refers to community bike storage, such as for those who live in flats, but another participant also touched on the requirement for more solutions for storing bikes in communities, *“Local bike storage would be good for people like me” (Participant 313M).*

6.4.2. Public sector funding

Participants comment on the level of investment, describing it as *“a pittance” (Participant 242M)* and that *“significant investment” (Participant 5M)* is required. Participants comment that there is, *“Slow progress. All need funding” (Participant 155M)* and that *“...actual allocation of resource and spend is key” (Participant 327M).* Survey participants also discuss the need for investment in facilities:

“Funding of proper, cycling infrastructure is an absolute requirement” (Participant 241M)

“Facilities for cyclists need to be improved, money needs to be applied” (Participant 277M)

Some participants note that there is a, *“...lack of investment in proper infrastructure”* (Participant 47M), while others identify that the *“Lack of funding will also be a barrier for the authorities”* (Participant 284M).

Participants also express that there is a requirement for the prioritisation of where funding is allocated to change, with one participant stating, *“Invest more for cycling and less for private cars”* (Participant 110M).

6.4.3. Clothing

Participants comment on clothing in both the context of stereotypes and how this has specific connotations in relation to socio-cultural perceptions. Hi-vis clothing and Lycra feature prominently in the survey responses:

“Cyclists in Aberdeen often wear high-viz clothing for safety reasons, which can also set them apart” (Participant 197F)

“Many drivers will act very differently around cyclists wearing proper gear, compared to those who are just on a bike in normal clothes” (Participant 104M)

“The stereotype of the 'MAMIL' on a road bike exacerbates the conflict between other road users” (Participant 151M)

This material element of clothing also draws on the meanings around the idea of the “good” cyclist and how a cyclist ought to look, and what they should wear.

6.4.4. Motorised vehicles

Unsurprisingly, participants comment on the physical presence of vehicles and how this shapes their cycling experience:

“The majority of roads are initially intimidating to anyone who is not used to cycling the city as traffic can be busy and fast moving” (Participant 362M) *“Cars always drive in the cycle lanes so when they are backed up at lights etc you can’t use the lane as they are all sitting in it”* (Participant 351F)

Traffic density and volume are cited by several participants being significant⁷⁴, with one participant noting that, *“...there is too much traffic on the road to create any kind of cycling culture”* (Participant 22M), while another suggests that *“...reducing traffic”* (Participant 44F) is something that should be considered. Alongside factors such as speed (Participant 325M), specific types of vehicles are also mentioned, *“Audi drivers – in Aberdeen it is invariably an Audi”* (Participant 183M).

6.4.5. Weather & topography

Survey respondents discuss the role that weather conditions have in creating a potential barrier to cycling in Aberdeen. Specifically, that *“For a lot of the year the weather in Aberdeen is not nice for cycling”* (Participant 68F) and that *“...the winter months when commuters are travelling in cold, wet, and dark conditions”* (Participant 113N).

Participants also consider the topography of Aberdeen itself and the role that hills play in representing a potential barrier to cycling. For example, a participant notes that *“...some very steep hills going out of town”* (Participant 301F) and that there is a *“...perception of it being too hilly”* (Participant 328F). Other participants simply state that *“hills”*⁷⁵, *“hilly terrain”* (Participant 292M) and it being *“too hilly”* (Participant 227M) all function as barrier to the uptake of cycling in Aberdeen.

6.5. Meanings: the experience of cycling in Aberdeen

Finally, this section sets out the “meanings” that are identified by survey participants in relation to cycling in Aberdeen. These means are wide-ranging, extending from identity to perceptions of safety, and the association of cycling with physical and mental wellbeing.

6.5.1. Car culture & cycling as transport

Participants comment that *“...a car-culture that will take real effort and commitment to move away from”* (Participant 102M) and that *“The city’s opinion is largely swayed by a history of oil, lots of fancy*

⁷⁴ Participant 11F, 17M, 44F, 108M, 121F, 181M, 214M, 233M, 237F, 239M, 245F, 248F, 301F, 320F, 325M, 336M, 366F

⁷⁵ Participants 130M, 143M, 171M, 203F

cars an obsession with motor vehicles” (Participant 254M), with “...a lot of powerful car owners in affluent Aberdeen (Participant 114M).

Participants also reference the idea that the car offers something that is both a necessity, *“People’s perception that they can’t do without a car” (Participant 67M)*, and that it is something desirable too, *“...they prefer their fancy 4WD, privacy and comfort” (Participant 60N)”,* and even a status symbol, *“...car ownership (and BIG car ownership) being seen as a marker of success” (Participant 358M).*

In reflection on infrastructure provision in the city, survey participants comment on the perceived prioritisation of the car:

“No there are plenty of ways the council could prioritize cycling by say improving cycle infrastructure but the car always seems to get first priority...” (Participant 142M)

“Drivers are king in Aberdeen and I think the council cares more about keeping them happy than the safety of cyclists” (Participant 245F)

“Aberdeen has always considered the economy to be based on moving cars and lorries around. it has never really stopped to focus on people” (Participant 347M)

Participants comment on this imbalance noting that, *“I’m not a cyclist but a road user” (Participant 153M).* For others, it is about *“making it harder to drive in the city” (Participant 178M).*

Participants also discuss how car culture and dependency can be addressed to facilitate a positive cycling culture in Aberdeen:

“Everything is based around the idea that cars are the main form of transport (which is the case) but also that they should always have priority” (Participant 300F)

“Cyclists are such a small minority on the roads so a culture will only exist when more people see cycling as a viable and irresistible mode of transport” (Participant 104M)

“By recognising how cycling fits into the overall public transport choice - not above others, but as a factor in decision-making alongside walking, public transport and vehicular movements” (Participant 326N)

In juxtaposition to this feeling of car dependency, the idea of cycling as representing a mode of transport is discussed in by a significant number of survey respondents⁷⁶. Participants reflect on this very utilitarian meaning of cycling⁷⁷, ranging from “...my main form of transport to and from work” (Participant 29M) to “Getting from a to b on a bicycle” (Participant 86F).

6.5.2. Cycling & identity

When asked about how cycling fits with their identity, responses ranged from “...me, my friends and family” (Participant 128M), and “Cycling is part of my life” (Participant 170M), to, “I feel that it’s part of my identity now. I can’t imagine my life without a bike” (Participant 78M) and that “I am bike made, I have 4 bikes and counting” (Participant 182M).

For others, it is an unwanted connection between cycling and their sense of self. For example, “I’m just a normal person who cycles in normal clothes to normal activities - a cyclist has special equipment, maybe funny shoes” (Participant 121F) and “I would not class myself as a cyclist as I feel that’s more of a term used to describe a person that does it for sport” (Participant 218M). Indeed, while discussing the meaning of cyclists and cycling, there are also some negative ideas and symbolic meanings apportioned to the words by participants. For example, “I think “cyclist” has come to denote someone who wears Lycra and takes the speed at which they cycle rather seriously.” (Participant 121F) and “Cyclists can be people like me but are now often Lycra clad (& usually male) with an aggressive sense of entitlement” (Participant 113N).

Another meaning participants express in relation to why they cycle focuses on the idea of social connection. That the act of riding a bicycle is not always solitary, and participants describe how it can create and maintain social bonds. For example, participants ascribe being a cyclist to being part of an imagined community:

“...a member of a community who choose to travel by bike for a variety of reasons” (Participant 284M)

“...being part of the cycling community.” (Participant 252F)

⁷⁶ A total of 73 references coded in NVivo for this question.

⁷⁷ Participants 50M, 106M, 140M, 146F, 157F, 161F, 211N, 218F, 302M, 339M, 342F, and 359F.

While others describe meanings associated with being a part of something with family and friends, e.g., *“family time”* (Participant 50M) or *“socialising”* (Participant 95F).

6.5.3. Cycling & society

Participants feel that the general culture is hostile towards cyclists in Aberdeen. For example, *“The oil manna. It determines the “cultural” attitude towards more sustainable alternatives”* (Participant 348M, and that *“Bikes are not considered effective transportation methods”* (Participant 273F). Some respondents comment on the need for cycling to become an accepted mechanism of transport, noting that, *“...a generally held view that cycling is not ‘normal’ but driving is”* (Participant 113N) and *“The general affluence of individuals within the city means that cycling isn’t seen as an acceptable means to transport”* (Participant 259M).

In describing the barriers that they feel exist in relation to cycling in Aberdeen, participants discuss several ideas and symbolic meanings that have been aggregated under the shared heading of “culture and norms”. Respondents discuss how the attitudes and perceptions of others are felt to shape what is seen as “normal”, thereby acting as enablers or barriers to cycling in Aberdeen. Participants note that:

“... local authorities to media pitching it as a car v cyclist mentality rather than looking at safe travel options for all” (Participant 64M)

“There is a huge amount of tribalism in Aberdeen city. Car drivers feel very entitled, possible due to the amount they pay to use their cars” (Participant 104M)

“Cycling seen as a hobby, not a mode of transport” (Participant 313M)

“It’s still viewed as an odd choice of transport especially for women” (Participant 138F)

“Sometimes I feel like the way people shout at me because of my gender as male friends haven’t experienced similar things” (Participant 213F)

“Conduct of cyclists can be popular moan/anecdote in social situations” (Participant 255F)

There is also a question as to the function of the bicycle in society, with one participant commenting that bikes are conceived as *“...expensive toys for middle class men [...] instead of a means to get about”* (Participant 151M). Overall, participants generally describe that a culture of car dominance and

dependency within Aberdeen encourages a lack of acceptance towards cycling as an alternative mode of transport. As with other areas of meanings in this Chapter, the underlying theme of the role of the car is present, along with the perceived legitimacy of cycling as a transport mode.

When considering the role of the cyclist and cycling more broadly in society, respondents explained:

“When the word 'cyclist' is mentioned, people picture confident/aggressive middle aged men in Lycra riding expensive road bikes” (Participant 248F)

“Cyclists are viewed in the UK as road tax dodgers who shouldn't be allowed on the road” (Participant 4M)

“...unfortunately I feel that cyclists are often viewed as self-righteous busybodies who are angry at everything for no reason” (Participant 42M)

“Motorists see all cyclists through the stereotypes of non-law abiding, frustratingly slow, self righteous eco-nazis” (Participant 80M)

“Behaviour towards cyclists seems to be strongly influenced by a mix of confirmation and outgroup bias” (Participant 118F)

“I think some people also think cycling is for 'poor' people or people who can't drive and would be embarrassed to cycle on the roads” (Participant 357F)

In reflecting on the production and reproduction of conceptualisations of cycling and cyclists, participants offered:

“It needs to be more mass market and main stream [...] We need to get families out regularly and in all weathers to demonstrate a more human element to it all” (Participant 89M)

“Cyclists reinforce with their friends and colleagues that they're cyclists, and heir not those non persons they see on the roads and trails” (Participant 133F)

“Promote that cycling is for everyone including professionals on their way to work [...] You should be proud to cycle. Also promote health benefits, financial savings and benefits to environment” (Participant 357F)

Although participants set out potential techniques for managing the othering of cycling and cyclists, consideration also requires to be given as to whether labelling road users at all is helpful or acts as a barrier to cycling acceptance. As noted, *“There is a definite attempt to divide people and label them as a particular thing ("cyclist")”* (Participant 253M).

6.5.4. Safety and perceptions of safety

Perception of safety and how to address this issue featured prominently in responses as to how to create a positive cycling culture in Aberdeen. Participant 137F summarises: *“To change mindsets people have to first feel safe in getting on their bikes”*. To that end, other participants note that:

“If we cannot build in cycling into our long term sustainability plan by providing safe access then it's not reasonable to expect people to see cycling as a viable alternative” (Participant 170M)

“A positive cycling culture has to start with safety and accessibility” (Participant 197F)

“People need to perceive that it is safe...” (Participant 249F)

“The biggest barrier is fear for personal safety” (Participant 368N)

Therefore, an important element of the “meanings” discussed in this chapter is the question of safety and perception of safety and how this informs cycling in Aberdeen.

While other participants cited the ubiquity of negative experiences:

“I don't know anyone who cycles frequently who hasn't been involved in an accident or a dispute involving other road users” (Participant 118F)

And,

“When I used to cycle from Kirkhill Ind estate into town I regularly got shouted at by a group of men in a van, no idea what they were saying as I could never make it out” (Participant 145F)

For women, there is also an extremely specific perceived threat from men with one participant stating, *“Lots of sexism. Men [sic] harassment and catcalling and following alongside bike”* (Participant 46F).

The above examples of actual safety are augmented by participant discussion of perceived safety:

“You take your life in your hands when cycling around Aberdeen” (Participant 22M)

“...perception that cycling is dangerous” (Participant 11F)

“Safety - so many of my colleagues said they would commute in by work too if they felt it was safe and had segregated bike paths” (Participant 328F)

“Road safety in terms of infrastructure and attitudes” (Participant 257N)

“Cycling in Aberdeen feels less safe and accepted than in a substantial number of much bigger

“I have been cycling in cities all my life. I would never encourage anyone to get on their bike in

cities where there is much more traffic” Aberdeen as for someone without experience it is frankly dangerous! (Participant 118F) (Participant 286F)

6.5.5. Connection with nature

There are two ideas relating to the environment that are present in the data. The first relates to a form of ecological citizenship, and the second relates to a deeper connection between human and the environment.

Participants use words such as “non-polluting” (Participant 10M), “environmental” or “environment”⁷⁸, in addition to more specific phrases such as “*environmentally conscious*” (Participant 74M) or “*eco friendly*” (Participant 216F). More detailed responses expand on the environmental reasons for choosing to cycle, such as having no carbon footprint (Participant 80M), and the overall reduction in environmental impact (Participant 308M).

Several participants describe the idea of “*fresh*” or “*clean air*”⁷⁹, with the act of cycling offering, “*...a means of being outdoors in the fresh air*” (Participant 271F). Other participants described, “*...feeling part of the environment*” (Participant 182M) and “*...being aware of the surroundings, getting to know the place*” (Participant 252F), or simply, “*...the outdoors*” (Participant 255F). Others articulate more expansive ideas and meanings, such as, “*Love the feeling I get being on a bike with the world coming towards me. Being immersed in nature travelling rather than being in car*” (Participant 142M) and “*I love being out in the open air - wind through my hair - whizzing downhill.*” (Participant 342F).

6.5.6. Wellbeing

Alongside general comments such as “*exercise*” (e.g., Participant 8M), “*fitness*” (e.g., Participant 18M), or “*healthy*” (e.g., Participant 309F), participants also focus on more specific benefits of exercise such as “*cardiovascular health*” (Participant 80M). Other participants provided more detail around the specific idea or aspiration that cycling represents for them in this context. One participant notes that, “*I am diabetic on insulin so cycling apart from the enjoyment also helps keep my blood sugar levels in check*” (Participant 22M) and another that it “*...drop my blood pressure*” (Participant 215M). For

⁷⁸ Participants 12, 30, 46, 59, 128, 195, 367, 268, 289, 362

⁷⁹ Participants 15M, 22M, 27F, 74M, 80M, 145F, 172F, 182M, 190M, 245F, 271F

others, it is about fitting some physical activity in their day, for example, *depending on my route, it's 15-60 minutes of exercise twice a day* (Participant 217M) and that it allows them to, *"...essentially 'sneak' more exercise into my routine"* (Participant 359F).

In relation to mental wellbeing, participants use words such as, e.g., *"headspace"* (Participant 84F; 311F) or phrases like *"reduce stress"* (Participant 141N), and explain that, *"I cycle to get away from stress"* (Participant 8M), and that it represents a *"...good way to unwind from the stresses of the day"* (Participant 284M). For others, it is a mechanism for managing their mental wellbeing too, e.g., *"...reduce stress and improve both my mental and physical health"* (Participant 197F).

6.5.7. Time

Across responses, participants assign a different meaning to the overall idea of "time". Participants describe time within the context of seeking to complete journeys quickly and efficiently, e.g., *"faster mode of transport"* (Participant 74M) or *"time saving"* (Participant 37M). Other participants focus on a slightly different meaning of time and efficiency; that time cycling is positive, against the negative association of being static in traffic, e.g., *"...beats sitting in rush hour traffic"* (Participant 145F) and *"I prefer to cycle whenever possible to avoid wasting time getting stuck in traffic"* (Participant 281F).

Participants also refer to the idea of time from a slightly different perspective:

<i>"Like time and urgency to get where they are going is more important than my life"</i> (Participant 351F)	<i>"I have been honked at on a number of occasions for just being in too slow a vehicle, even shouted at"</i> (Participant 254M)
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This is linked with the idea that cyclists are "slow", e.g., *"Most road users see cyclists as an interruption in an otherwise fast journey"* (Participant 267M), and differing interpretations of the value of time:

<i>"People always in a rush, no time to cycle"</i> (Participant 87F)	<i>"Drivers' attitudes that cyclists slow them down"</i> (Participant 121F)
<i>"It honestly feels like people forget you are human and would happily put you in danger to shed a few seconds off their journey home"</i> (Participant 186M)	<i>"A need to change perception of parents (particularly mothers) that it is possible to drop children at school and then cycle to your work place."</i> (Participant 342F)

Participants also state that cyclists are viewed as a “nuisance” (Participant 329M), a “hindrance” (Participant 177F), and “inanimate obstacles” (Participant 38M).

6.6. Conclusion

This chapter has set out the data collected from members of the public via the online questionnaires focussing on each of the key areas of competences, materials, and meanings to mirror the approach taken in the data analysis within the scheme of practice theory. Bringing together these core elements of competences, materials, and meanings, the thematic presentation of data has started to interrogate the nature of cycling in Aberdeen, and also understanding the practical and social influences on cycling in the city.

The next chapter sets out the data from interview responses, which adds further depth and understanding to the data set out above.

Chapter 7 - Cycling in Aberdeen: A Cyclists' View – Part 2

7.1. Overview

This chapter sets out the data required to both interrogate the nature of cycling in Aberdeen and to understand the impact of organisational, practical, and social influences on cycling in Aberdeen. It sets out the data from members of the public, all cyclists, interviewed as part of this research (Section 5.3.3), in the form of verbatim quotations from the interviews.

The structure of this chapter is intended to mirror the approach taken in the analysis of the data within the scheme of practice theory (competences, materials, meanings) discussed in Chapters 1 and 5. Each section makes use of quotations to illustrate specific points, with supplementary data presented in Appendix 6.

7.2. Competences

This section focusses on the “competences” related to cycling in Aberdeen. However, in addition to the competences required of cyclists, the *perceived* competences of others (drivers and policy makers) are also included in the data set. The decision was taken to include this data here, rather than recording it within the “meanings” section because it relates to skills, knowledge, and techniques of others that have a tangible impact on the ability of cyclists to engage in cycling in Aberdeen and influences their competences too. The following subsections deal with each of these themes in turn, setting out relevant data and providing appropriate context for the discussion in Chapter 9.

7.2.1. Bike maintenance

Although only one participant discusses the competence of bike maintenance, it is included here for two reasons: (i) it complements the survey data set out in Chapter 6; and (ii) the gender of the participant and the potential significance of their statement and its implications for participation in cycling. Data relating to the topic gender is detailed further in Section 7.2.3.

In the context of maintenance, Participant A11F notes that:

“I’d also say you’ve got to be good at DIY, or fixing your bike, because what are you going to do if something goes wrong? I’m not too hot at doing it myself, and my husband does it for me” (Participant A11F)

7.2.2 Driver competences

In common with the survey participants, the subject of perceived driver competences is also discussed during the interviews with members of the public:

“I think car drivers mostly fall into two different categories. You do get some very considerate ones [...] But of course you do get abominable ones” (Participant A12F)

A core focus of discussion relates to drivers’ ability to judge the speed of cyclists, and the consequences that this can have. For example:

“That’s why I slow down every time a car passes me. Because they just cut in far too early. [...] I could be going at about 16 miles-an-hour. Some of the road people go at 20 miles-an-hour, or even faster, on a road bike. But they just don’t have any idea.” (Participant A13F)

“That cyclist is cycling at 15 miles per hour, therefore by the time I complete my manoeuvre, they’re not going to be where they are now, they’re going to be 40 feet up the road. As humans, we’re not very good at that.” (Participant A9M)

Participants also discuss the techniques of drivers passing cyclists on the carriageway:

Because they think... it’s just a small car, and they think they can squeeze. [...] So, they just pass you. What if another car comes? No, they squeeze you. They can’t wait, they squeeze you. (Participant A10F)

They try and make the gap, and it can be really, really dangerous when you’ve got a cyclist coming along a main road, and there’s someone overtaking on a blind corner, or even not on a blind corner, thinking they’ve got that space, and they try and make that gap” (Participant A6M)

7.2.3. Education

During the interviews, participants discuss the need for enhanced knowledge, skills, or techniques for both drivers and cyclists. This relates to education about the respective competences specific to that transport mode, but also in relation to sharing of road space:

“...a “CycleSmart” education session, to try and educate car drivers, and educate cyclists, to show that we all do things wrong, and we all have to be patient, and we all have to share the space” (Participant A1M)

Participants also discuss the need to build a foundation of knowledge with respect to cycling competences from a young age:

I think it's good that Bikeability [...] it's really good that it does seem to be getting to more and more schools" (Participant A12F)

and that better education of drivers about cyclists and cycling is required:

"...I definitely think there needs to be more education, as to who has priority, where" (Participant A2M)

"I think it would be really good to have some sort of education about how fast it's safe to go past a cyclist, and how much space to leave." (Participant A6M)

In discussing the role that Police Scotland can play in educating road users, one participant refers to Operation Close Pass⁸⁰:

I think if we had something like Operation Close Pass or something here, then that would make a big difference. I think that's a large part of it, that people don't realise how much space that you need. (Participant A1M)

7.2.4. Policy & design competences

Also discussed by participants are the perceived competences of the policymakers in the local authority. These can be considered in three distinct strands: (i) aspiration vs implementation; (ii) design competences; and (iii) understanding cycling as a non-cyclist.

Participants make the distinction between policy content on one hand, and the translation of this into tangible improvements on the other:

"The strategy gets done, but that's all it ever was, a strategy. Whether a strategy's any good, and whether it's deliverable..." (Participant A14M)

"It's all words, and there's no ownership. There's no intent. There's no demonstration of intent" (Participant A19M)

Participants also comment on the consultation process:

⁸⁰Operation Close Pass is a road safety initiative used by Police Scotland to educate road users around how to pass cyclists safely and the risks of not doing so (e.g., Petrie 2019).

“The other thing is that they seem to draw up plans for cycle routes, and for cycle infrastructure, without first of all consulting the cyclists. So, when they produce these, I hear there’s so many things wrong with them, from a cyclist’s point of view” (Participant A12F)

The perceived competences discussed by interviewees also extends to considering how cyclists negotiate the road network in the city and how navigable infrastructure is by bicycle in the city:

“It’s just all done without considering the cyclist – that’s the problem. All these things are done without considering the cyclists” (Participant A16F)

“Every time there’s like a crossroads, or a roundabout – and those are the danger points for cyclists – there’s no cycle path. And I don’t think you get that, unless you’re a cyclist” (Participant A17F)

“...there’s quite a lot of times where there’s no dropped kerb, so you can’t actually get on the cycle path, or off the cycle path once you’re on it, because they haven’t done that. And you just think, in terms of planning and thought, nobody really has thought about the cyclists” (Participant A17F)

7.2.5. Techniques, skills, and acquired knowledge

Participants discuss specific techniques that they apply to navigating the city. These range from which routes to select, based on the related meaning of perception of safety:

“...it’s almost like other people have found the easier route, or the more safe route, and you use that then, because that takes you off the [busiest] roads” (Participant A17F)

“I guess, over the years, you develop routes that you know... You can predict more what a car’s going to do at the junctions, because you’ve experienced them so many times. So you do develop fixed routes that you ride” (Participant A6M)

“The other option is to take my mountain bike, and I’ll go on pavements, rather than cycling on the roads [...] So that is what I would do, as opposed to taking my road bike out” (Participant A14M)

To making best use of cycling specific infrastructure, like advanced stop lines:

“I know where I use them, and I know which way the traffic lights go, so I know when I’ve got time to move out in front. But if you don’t, it can be quite tricky, because you can be just about moving in front, the traffic lights change, and the cars zoom off.” (Participant A12F)

"[re advanced stop lines] On my way to work, I know the light sequences, so I know, if it's queued up, whether it's worth me doing it or not" (Participant A1M)

Participants also note the specific techniques that they adopt for sharing a space with other road users. These range from defensive cycling techniques:

"And I'm a very defensive cyclist, in the town particularly [...] The safest thing to do is get out in the middle, and take up the middle of the road" (Participant A13F)

"I always take my space" (Participant A20F)

"Sometimes, if people are going super-fast... I cycle a little bit wobbly, so they are not coming too close" (Participant A20F)

To differing perspectives on the utility of speed:

"...you can't ride at snail's pace, and be too defensive" (Participant A7M)

"But I would say speed, in town, is not your friend, because car drivers can't assess your speed properly, anyway. So, if you're too fast, you can't brake. I don't have that trouble anyway. I slow down in town" (Participant A4F)

And specific adaptations made for safety reasons:

"So you've got to cycle in a particular way, and make eye contact, and make a deliberate effort to make sure everyone can see you" (Participant A9M)

"Sometimes I like to get quickly off the mark at the lights, just to get ahead, and for safety reasons. If the light's red, and it's a pedestrian crossing, and there's nobody about, I'll have a look around – 'Is there anybody looking? No.' [laughs]" (Participant A11F)

Participants also describe material adaptations that they have made, based on acquired practical knowledge:

"I have a mirror, on my handlebars. I've had one for years and years. To me, it's so basic, because a car driver has a mirror there" (Participant A12F)

“I can do the best I can, to try and make myself conspicuous” (Participant A9M)

“When I was cycling to work, in the city centre, I did get a pink jacket, because I read in the cycling magazine that cars are more likely to give you more space if they think you’re female. [...] And...I don’t paint my nails so much, but I had my nails painted as well...” (Participant A17F)

7.2.6. The “good” cyclist

Also present in the interview data is the idea of specific competences that embody the “good” cyclist (Aldred 2013). Here participants highlight techniques they perceive to be problematic. Some of the idea of the “good” cyclist extends to the application of skills that are regarded as poor etiquette, or behaving in a way that appears unsafe, both on the carriageway and on shared use paths. The impression is that somehow these individuals are contributing to the gap between public acceptance of cycling and rejection of the act of cycling:

“And then, the brand of cyclists who [...] on North Deeside Road, who undertake cars that are stopped and trying to turn right, and stuff like that. They’re just asking to be knocked off their bike” (Participant A14M)

“I think we’ve also got to recognise as well, that some cyclists don’t help the cycling community. For example, a lot of these guys from the Deliveroos [sic] and things, they cycle around like maniacs” (Participant A19M)

“So, as a pedestrian, I get annoyed at cyclists that cycle on the pavement, and that do silly things. As a driver, I get annoyed with other cyclists who jump red lights, who cycle on pavements, who just don’t pay attention to the Highway Code, and that kind of thing” (Participant A16F)

Participants also comment on the need for cyclists to be visible, and capable of making their presence known to others too:

“As long as you’ve got enough lights on, and you wear high-vis, it’s fine” (Participant A1M)

“[recounting an interaction with an aggressive motorist] And I’m like a bloody disco ball on the road. High-vis, lights, you name it” (Participant A4F)

“Why is it not, if you’re going to ride on the public roads, you need to have a bell? [...] It also makes no sense for people not to always have a fixed rear light. Front light, I can understand, because they’re quite big and bulky, but a fixed rear light, on flashing” (Participant A1M)

7.3. Materials

This section addresses the elements of cycling that are represented by “materials” and is comprised of things, and tangible physical objects that participants reference during their interview.

7.3.1. The Bicycle

This section sets out participants’ observations on a core element of cycling, the bicycle. It includes discussion of eBikes, hire bikes, and participants own bicycles too. Beginning with eBikes, several participants are eBike users and are keen to discuss the benefits of eBikes:

“... it’s just amazing. What I like is when you stop, and you have the power to [move on]. Because on a normal bike you really have to push hard. But when you’re on an electric bike it just does it, and you go fast...” (Participant A10F)

“...then I had the idea of an electric bike, and I wouldn’t be without one” (Participant A11F)

“I’ve got several bikes. I’ve got an e-bike. It’s fantastic for...I use it to get to Banchory and Aboyne, for example” (Participant A19M)

A further participant mentions not their own cycling habits, but that of another in relation to eBike use:

“There’s an old guy I was chatting to [...] He’d just got an e-bike, and he was telling me about it. Because it means that he can now cycle back and fore, and he can get up the hill at Tullos, and comfortably do it” (Participant A8M)

Participants also reflect on their own bicycle collections:

“I’ve got several bikes. But this one, it’s ideal for this. [referring to running errands] It’s simple, it’s low-cost, low-maintenance, full mudguards, and it works. But it doesn’t look appealing [to thieves]” (Participant A7M)

“[my employer] had a cycle to work scheme, and I fancied a bike. And I obtained a bike through Cycle to Work. That was four bikes ago. So, now I’ve got four bikes (Participant A22M)

“I’ve got steel bikes, I’m never going to be fast” (Participant A4F)

7.3.2. Bike parking & storage

Participants also refer to bike parking and storage and the gaps in availability of such facilities. These comments can be divided into three specific areas of parking and storage in: (i) in public spaces; (ii) workplaces; and (iii) at home. In relation to storage in public spaces, participants comment that:

“More parking in areas where it’s convenient. And it’s not tucked away somewhere, where someone’s going to take away your bike, and unplug your brakes” (Participant A1M)

“Parking, bike parking, is really important – that is lacking in Aberdeen. There’s a lot of bike theft” (Participant A20F)

Participants also comment on the role that storage plays in facilitating cycle commuting:

“And they said, ‘You can’t bring your bike in the building’. I was like, ‘Why?’. ‘Because you’ll dirty the carpet’ [...] eventually, they relented, and [...] we were allowed to put our bikes in the filing room, because that didn’t have a new carpet” (Participant A17F)

“Another part of the issue, as to why people don’t take it up, is provisions in their work. [...] So it also has to be in the hands of private folks as well” (Participant A1M)

Participants raise some practical questions about where bikes can be stored at home:

“And the city centre houses aren’t designed to keep bikes in them – you don’t have the space. And one of my neighbours [...] they used to keep their bike in our hallway, until the landlord binned it” (Participant A2M)

“...whenever they build new, put in cycle parking [...] we’ve got 6 bikes between us. I’m not sure how we’re going to manage to find anywhere we can store these, without a garage” (Participant A4F)

Another participant notes that:

“So, the entire infrastructure of a UK city is flawed. But, I think a huge part of that is...just put in these community lockers, so that people can lock up their bikes” (Participant A2M)

7.3.3. Clothing & practical accessories

This section sets out the data in relation to the items of clothing and accessories that participants refer to in connection with their own cycling behaviours. This also includes data specific to tools to aid visibility, helmets, cameras, lights, and the roles these play for individuals.

Some participants emphasise their attempts to appear visible to other road users:

"...in the winter. So, I have these ultra-bright lights, and usually wear a very light coat, as well as reflectors and so on. So, I try to be as visible as I can" (Participant A20F)

"I have a waterproof jacket [...] It's yellow, but it's not high-visibility. Because I feel high-visibility has become invisible - there's so many. My helmet is high-visibility" (Participant A10F)

Continuing with the theme of clothing, discussion of clothing choices during interviews also included reference to Lycra:

"...how I'm dressed is really important to me, because people sometimes say, 'Why don't you just wear your ordinary clothes?' [...] I need to feel confident and comfortable on my bike..." (Participant A17F)

Other participants note that:

"...how many cyclists would you see, who are not in Lycra, on a Monday morning? [...] I can't think of a city with so few commuting, ordinary, day-to-day cyclists. Students in jeans and a jumper, as opposed to Lycra-clad cycling fans" (Participant A9M)

"I don't wear Lycra. I refuse [...] I wear normal clothes, and normal clothes should be comfortable...Why Lycra? What for?" (Participant A10F)

Two participants also expressly refer to gender roles in relation to clothing too:

"And I've thought about wearing something pink, so they realise it's a woman. Because I think [their behaviour changes], when they realise it's a woman" (Participant A10F)

"This culture of what women wear... If you say you bike, it's an issue, and they make a big thing and look at you" (Participant A11F)

Some interview participants mention the role of helmets:

"The thing about the whole helmet issue, that's always a big one – helmet or no helmet. [...] But there's all that argument about whether it should be made mandatory. And I can see the argument both ways [...] I just think, ultimately, it's a personal choice, really" (Participant A16F)

"Helmets make cycling supremely unattractive for a lot of people" (Participant A20F)

I do wear a helmet. But actually I wear a helmet because I've got kids that I tell that I feel they should be wearing a helmet [...] I actually think I would wear a helmet anyway (Participant A8M)

Participants also discuss having a camera on their bike or helmet:

"I do have cameras on my bike, but that's more for my own safety" (Participant A21M)

And I now cycle with a camera, so I get footage of all of this behaviour. [...] It was just various close passes. I started off with just a rear camera (Participant A4F)

"I've got one, but it's just a hassle to put it on [...] If I could get something that's a bit more discrete, because once you put a GoPro on top of your head, it's almost like you're looking for the incident" (Participant A7M)

7.3.4. Infrastructure & infrastructure improvements

Participants also discuss the role that infrastructure plays in shaping their ability to cycle, frequently with reference to the gaps in such infrastructure and improvements that they wish to see in the city. In addition to general commentary on infrastructure, participants also specifically comment on roundabouts, and shared use paths.

7.3.4.1. General infrastructure

Referring to infrastructure in Aberdeen, participants comment that:

"But a lot of it's very stop-start. [...] And it's not like a flow of cycle lanes, that commuters would really be able to use, usefully, because it is all very stop-start" (Participant A16F)

"And when I really need it, when I approach the traffic lights, it goes 'Cyclists dismount', or 'Cycle path ends'" (Participant A4F)

"So you've got an incoherent system, that doesn't join up. There's no cohesion" (Participant A9M)

Participants also discuss the advisory cycle lanes that are a feature in some areas of the city:

“But they’re not wide enough... I would also say, that stopped how fast I can go on my bike, because I’ve got to watch out where I’m going” (Participant A11F)

“... sometimes it’s full of big potholes, dodgy drain covers, piles of broken glass from RTCs that just get swept into the side of the road” (Participant A16F)

“It’s just a line painted on the road, and people think that, because you’re in that, then they can pass you as close as they want” (Participant A21M)

Participants also comment on parked cars presented in creating gaps in the advisory lanes:

“But I do think it’s a ridiculous situation, to have advisory ones where cars can park” (Participant A12F)

“...or there are cars parked in them, and you’ve got to weave in and out, and in and out” (Participant A13F)

“A lot of people park in the cycle lane, so therefore you can’t cycle in the cycle lane” (Participant A16F)

Participants also express what they would like to see:

“I would like to see actual infrastructure” (Participant A4F)

“I think just having areas where you can build up your confidence to go and cycle. So you’re not really on the roads” (Participant A15F)

“The big one that always comes up is to see segregated cycle lanes” (Participant A21M)

7.3.4.2. Specific infrastructure - shared use paths

During interviews, participants discuss the utility of shared used paths:⁸¹

“I know people say it’s not healthy, having pedestrians and cyclists on the same thing, but where the pavement’s broad enough, it should be possible” (Participant A13F)

⁸¹ It should be noted that in the quotations set out below, when participants refer to the Deeside Way or the “railway line” it is to a shared use path that begins in Aberdeen and extends out Deeside to Ballater, along the route of the Old Deeside Railway and is Route 195 of the National Cycle Network

“I just think we don’t have enough of them” (Participant A19M)

However, there are opposing views on shared use paths:

“I never cycle on the Deeside Way [...] I’m wary of these shared cycleways, because I just think cyclists and pedestrians don’t mix well” (Participant A16F)

“... when you come to bus shelters and stuff like that [...] my goodness, there’s a bus coming along, and all the people are suddenly in front of me, and I need to stop” (Participant A17F)

“Some people with dogs think they’ve got some special licence to roam. I don’t object to people with dogs. I just object to people with dogs that think, somehow, we make way for the dog” (Participant A19M)

7.3.4.3. Specific infrastructure – roundabouts

During interviews, participants discuss roundabouts as significant infrastructure that dictates their route choice and perceptions of safety too:

“You can’t get across Queen’s Cross roundabout. Who thinks that’s a safe design of a roundabout? No one’s really [thought about it]” (Participant A9M)

“Mounthooly Roundabout⁸². I refuse to cycle round that [...] I don’t like the Haudagain⁸³ Roundabout either” (Participant A16F)

“And there’s so many roundabouts. People don’t realise how hard that is for cyclists” (Participant A17F)

7.3.5. Road & route conditions

Participants also comment on road and route conditions:

“... they’re the worst section of the roads you can get, because it’s full of potholes. The surface finish that they put on, where they put the red coatings, they have made things worse, because they’re all broken down” (Participant A19M)

⁸² Intersection of the A96 (Powis Place), A956 (West North Street/Commerce Street), A944 (Hutcheon Street), and C157C (Gallowgate)

⁸³ Intersection of A92 (North Anderson Drive), with A96 (Great Northern Road). The A92 was previously part of the trunk road network and known as the A90 but was “de-trunked” after the opening of the AWPR 2019.

"I would say that road surfaces are poor. Even some of the tarred surfaces, with no potholes, some of them aren't very good. I despise the surface dressing" (Participant A22M)

"...got badly injured last year, with a pothole, on the AWPR bridge at Maryculter⁸⁴. He broke his ribs and shoulder [...] And that was just hitting a pothole as well" (Participant A8M)

7.3.6. Winter maintenance

Although not applicable to all cyclists, for those who cycle all year the issue of winter maintenance is a factor:

"The railway line, I've never seen that getting gritted, or anything. And the way they've built it, there's no drainage, so it's just a disaster..." (Participant A4F)

"It's the ice, and slippery roads... So, it's weather conditions in winter. It's going to be slippery, it's going to tend to be cold" (Participant A9M)

7.3.7. Motorised vehicles

Participants also discuss a variety of aspects of cars, both in terms of their physical presence but also the specific size and type of vehicle too:

"The roads are just so full of traffic now [...] The size of the cars, I find, are ridiculous now" (Participant A13F)

"The amount of Audis, and BMWs, and Range Rovers, and all that kind of stuff" (Participant A16F)

7.4. Meanings

This section seeks to set out the relevant "meanings" that interview participants discuss as informing their cycling. These span a wide variety of themes, including car culture and dependency, wellbeing, safety and perception of safety, and societal attitudes of cycling.

⁸⁴ B979

7.4.1. Car culture & dependency

Participants reflect on the role of the motor vehicle in society and the corresponding question of car dominance in Aberdeen:

“...the car is the king” (Participant A10F)

“I think Aberdeen, particularly, is very, very car oriented, as a city [...] you do get the impression that the car is king” (Participant A12F)

“Obviously, it’s easy to point the finger at Aberdeen, home of the hydrocarbon, and everyone driving their big, posh Audis around” (Participant A1M)

7.4.2. Confidence

Participants also discuss the role that confidence plays in shaping how they cycle:

“...to cycle with someone who was experienced, for the first time, it took off the edge, and then I was confident that I would cycle, no problem” (Participant A20F)

“I wouldn’t say I’m a particularly quick cyclist either. So, I’m confident within my own little bubble. I know what I can do, what I can’t do, and I don’t have the ability of a lot of folk” (Participant A22M)

“Yes, I am a confident cyclist [...] I think you have to be riding further out on the road, faster, more assertive, confident [...] And it gets really dangerous if you’re less confident” (Participant A6M)

7.4.3. Driver attitudes

Participants also reflect on the role the idea of driver attitudes and the role these play in informing their cycling. The observations mainly focus on the perception of aggression:

“The drivers in Aberdeen city are notoriously aggressive [...] Obviously, that’s a sweeping statement, but [...] it’s noticeably more aggressive in Aberdeen city” (Participant A1M)

“I’d prefer almost anywhere to Aberdeen. The driving culture is just different in Aberdeen [...] Very weird, own little rules, culture, developed” (Participant A4F)

However, Participant A9M observes that:

"I think we all experience the same thing. That's a generic problem. I don't think we can necessarily solve that. Drivers' attitude, we're not going to solve that here, that's a nationwide thing" (Participant A9M)

This observation is the core of the issue; that there are wider cultural issues at play here which neither policy nor individuals can address. This is discussed in Chapter 9.

7.4.4. Enjoyment

Participants also attach a symbolic meaning of enjoyment and happiness to cycling:

"I just enjoy everything about it. The whole culture, the whole lifestyle, as well" (Participant A3M)

"I love it [...] The main reason is I really enjoy it" (Participant A20F)

"And I just really enjoy it [...] I miss it during the wintertime, especially" (Participant A6M)

7.4.5. Environmental considerations

Interview participants also mention the idea of their choice to cycle is being driven, in part, by a concern for the environment:

"I absolutely believe we should cut our carbon emissions by as much as possible. So, to me, it's so important to cycle, or use public transport, rather than [use a car]" (Participant A12F)

"...also the environmental angle. I grew up on an organic farm, so for us it was always very important to minimise emissions and things like that, and minimise our use of resources" (Participant A20F)

"And it's environmentally friendly" (Participant A7M)

7.4.6. Fitness & physical wellbeing

Participants describe how cycling embodies the idea of fitness and physical wellbeing. In addition to general comments such as "fitness" or "exercise," participants explain their understanding of what this means to them:

"That's another thing that really attracts me to cycling. You see so many guys in the club, who are in their 50s, and early-60s, who are still racing, at a pretty decent level. And I always think, well, it's obviously a sport that keeps you fit, and keeps you lean, right through your life" (Participant A14M)

“...that’s partly the reason why I thought about it. I knew I wasn’t getting much exercise [...] it’s a good 2½ hours’ extra exercise, that I’ve not been getting recently” (Participant A18M)

“It’s my way of getting physical activity into my daily life [...] I mostly enjoy being active. And I love that movement, of flowing” (Participant A20F)

Participants also describe the role that cycling has played in allowing tangible improvements to their physical wellbeing:

“...firstly, it convinced me to give up smoking, which I didn’t really do as a choice - it just sort of happened, because it wasn’t compatible with being on the bike [...] And I dropped, like, 18 lbs, which was quite a lot” (Participant A1M)

I was 21 years old, and my father died of a heart attack. At the time I was seriously overweight [...] And I got a phone call from the doctor’s surgery [...] the doctor basically said you need to sort yourself out, or you’re going to be following your Dad, into an early grave. I went home that night, and dragged my old bike out the shed” (Participant A7M)

“With arthritis, I’m not strong enough to do it every day. But when I can [...] keeping the weight down is good for the arthritis” (Participant A23F)

7.4.7. Mental wellbeing

Allied to the influence that physical wellbeing has on participants, is the associated meaning that participants describe of mental wellbeing. Participants discuss the role that cycling plays in helping process their day:

“I think that it was something I kind of looked forward to, almost, in a sense of getting out of the office, and knowing that I had that bit of time and space, to think” (Participant A17F)

“Well, based on what I’ve just gone through in the past 12 months, with my work [...] I like to just jump on the bike [...] Because you then clear your head. You have to concentrate when you’re hurtling in amongst trees at 25 miles-an-hour. So you don’t think of anything else” (Participant A5M)

“When it has been stressful, when things have been stressful, it has kinda helped on the way home. Decompressing after a day” (Participant A1M)

Some participants also comment on the ability to switch off from their stresses:

“It was just a way of unwinding. You can’t completely just go into a world of your own [...] Which, from my own personal perspective, is good, because sometimes, if I’m completely switching off, my mind then sometimes goes on to things that I don’t really want to be thinking about” (Participant A16F)

“...by about half an hour on your bike you’ve kinda switched off, from what you were thinking about. You’re not really thinking” (Participant A8M)

While other simply reflect on the positive impact on their mental wellbeing:

“...when I go out on a bike ride I just want to clear my head” (Participant A21M)

“I also found that it was a really good way of just de-stressing [...] it just makes you feel better” (Participant A3M)

“I think it benefits me emotionally and psychologically, by providing an output for my stress, as well” (Participant A6M)

And for some, there is an observable difference when they cannot cycle:

“...if I don’t get on my bike I’m pretty grumpy” (Participant A14M)

“My wife will tell you that, if I’ve not been cycling, I get grumpy. It’s not something I notice. When the kids were little [...] on Sunday morning she’d say, ‘You need to get out on your bike’. It was just that release” (Participant A7M)

7.4.8. Gender

The relevance of gender to cycling was also discussed by both male and female interviewees and in several different contexts. For one participant, this was about navigating the urban environment:

“...as a woman, I feel safer cycling at night, than walking at night” (Participant A20F)

Male participants also discuss the barriers they perceive exist for more women to be involved in cycling, at least at club level:

“Within the club environment [...] they do have these Breeze nights, and it’s women-only. Some of the men don’t like that, because they’re asking, ‘Well, we’re being discriminated against’, but they don’t realise why they do it” (Participant A22M)

“What’s it called now, Breeze? That looks quite good, for females getting into cycling, because it is quite intimidating as well” (Participant A7M)

However, one female participant describes the role they feel gender plays and links into the way others perceive their competences too:

“Aberdeen is obviously not very culturally diverse, and there is a theory that white men have it so easy, and they don’t know how easy they have it, that they get in a car, and it’s just entitlement. [...] So I sometimes play patriarchal chicken with them, because they come towards me, I have right of way, I go in the middle of the road because I ain’t going to make it easy for them” (Participant A4F)

“And now I get hassle from other cyclists, because I go in primary position at the traffic lights, and they fucking well undertake me, and go in front (Participant A4F)

“Even in the biking community. I’m basically a qualified bike mechanic, but I can not tell any man what to do to their bikes, because I’m female. I can’t. Don’t even go there. I couldn’t possibly know anything. You get all the mansplainers” (Participant A4F)

7.4.9. Safety & perception of safety

In common with the survey responses, interview participants discuss the idea of safety and how perception of safety shapes their approach to cycling too. For some individuals, it is knowledge of specific events that shape the idea of their own safety and corresponding actions. This can be an incident they have experienced:

“I was hit by a car, and that’s probably changed my perception. Because, then, that’s made me more cautious” (Participant A9M)

But also something that they have observed, both professional and in a personal capacity:

“When I was a police officer [...] I used to deal with fatal accidents. And I never had a lot of cyclists killed, if any, that I can think of. But, they’re so vulnerable, and I see that” (Participant A22M)

“I’ve seen a lot of people, cyclists along North Deeside Road⁸⁵ having been knocked off their bike by a door opening, or whatever” (Participant A14M)

“...we had an IT employee that worked here [...] who got killed on the roundabout just north of here. Out on Anderson Drive⁸⁶, the first roundabout, he got run over by an articulated lorry” (Participant A14M)

Whereas for others, it is about infrastructure:

“A very straightforward example is King Street⁸⁷. King Street is not, I feel, a big safety risk. There’s a bit of speeding going on, but it feels unsafe. It really feels unsafe. Maybe it’s because it’s too narrow, it’s not marked well, and plus it suddenly ends” (Participant A20F)

“I don’t tend to filter as much as I should, and that’s only because I don’t feel safe, going in and out of traffic. What it comes down to is just being safe” (Participant A21M)

“I don’t road cycle, because I don’t feel safe. The roads are simply not wide enough. Even North Deeside Road – we stay in Milltimber – to cycle into town, there is a cycle lane, but it stops in places” (Participant A5M)

Participants also discuss how the perceptions of others can be important too:

“My wife, is a bit, not paranoid, but she perceives it as being really dangerous. People do perceive it as ‘Oh, you’re mad to cycle’. I think then, if you do have any falls, it kinda validates that fear: ‘Oh, you’ve come off your bike’” (Participant A8M)

“My mother-in-law, actually, is probably the worst. She’s always reading stories about it and going, ‘Are you safe?’, and all the rest of it. So, yeah, you do get a fair bit of worry” (Participant A14M)

⁸⁵ A93

⁸⁶ A92

⁸⁷ A956

7.4.10 Social Connections

Several participants also discuss the importance that the social side of cycling provides for their lives:

“And it’s great social...meeting friends and things, and socialising outwith [sic] that, because of it” (Participant A15F)

“The other bit of it now is probably the social side of it. Which is probably more important now, I’ve realised, since I’ve retired [...] So that’s a real boost kind of thing, for meeting people, and just having a chat, and finding out what they’re doing...” (Participant A17F)

“And it’s a social thing... If you go out mountain biking, and you meet somebody in the middle of the woods, you’ll stop, you’ll have a news⁸⁸. And you’ve never met the person in your life. There is a camaraderie thing with cycling” (Participant A5M)

However, one participant also felt that from a social perspective, it was occasionally exclusionary:

“I don’t know. Because unless you’ve got your Deeside Thistle shirt on, and you meet a Deeside guy on the road, he’s not going to acknowledge you. So, there’s still a wee bit of that” (Participant A7M)

7.4.11. Societal attitudes towards cycling

Some participants comment on the negative associations that can attach to cycling:

“But there’s the sociology of it...saying that a women in their 50s, biking, is weird” (Participant A11F)

“...my neighbours [...] many of them are my age, and they’re thinking, ‘What on earth is she still cycling for? Does she have to do that?’” (Participant A12F)

“If you cycle in the city, there’s something wrong with you. You can see it at work [...] also, people just assume that if you cycle, you’re some sort of left-leaning hippy as well. So it kinda puts you in little boxes” (Participant A1M)

Two participants specifically reference the association of cycling with a particular social class or status:

“I think with some people, or many people maybe, there is still a perception, ‘Oh, perhaps they can’t afford to get a car, that’s why they’re cycling’” (Participant A12F)

⁸⁸ Doric dialect, meaning informal chat.

"Once, in the evening, because I didn't have a back light, I was cycling on the sidewalk. And a friend of mine said, '[...] come off the sidewalk. Only the poor guys from Torry do this'" (Participant A20F)

"... a very close collaborator [...] said, '[...] you can't just rock up with your folding bike when you're meeting with the donors, with the charity representatives, because you have to look like a respectable adult, and you look like a student that's just showed up out of university' [...] So it's kinda like the association of cycling with a lower class lifestyle, or with poverty, or with youth, in away" (Participant A20F)

7.4.12. Time

Participants discuss how time, and the idea of time, is influential in relation to their own cycling habits. This relates to two separate areas: (i) the decision-making processes associated with why they cycle; and (ii) how other road users treat them. In respect of the bicycle as a mode choice, participants comment that:

"It's actually a lot quicker. It was quicker for me just to nip out on my bike, rather than have to circle round, try and find a parking space" (Participant A13F)

"...it's just the quickest way to get around" (Participant A20F)

"...the reason why I don't commute just now, is that I've got kids that I need to drop off at a certain time, and then I need to get to my work then... And then after, at the end of the day, I'm taking them to a club or something like that" (Participant A14M)

Secondly, in relation to the actions of other road users and time:

"I suppose it's just society now, that people want everything really quickly. They want to get home quickly, they want to get their tea quickly, or whatever. It's the world we live in nowadays – people want to be there, quick" (Participant A21M)

"...just how frantic people are in their cars. Everyone's trying to get to work just as quickly as possible. Or everyone's trying to get home as quickly as possible" (Participant A3M)

"But everybody's in a bloody rush to get somewhere. That mentality" (Participant A5M)

7.4.13. Way of life

Participants also discuss the ingrained nature of cycling within their lives, and the idea that it is a way of life for them. For example, *“I was the cycling social worker. That was what everybody knew me for”* (Participant A17F).

However, despite it being a routine behaviour for participants, some reject the label of “cyclist”:

“...it’s a commute for me, rather than a cycle. I’m not a cyclist, in that respect - I’m a bike user”
(Participant A8M)

“No, I’m not a cyclist. I regard a cyclist as somebody who commutes on a roadie-type thing. I’m a mountain biker” (Participant A5M)

7.5. Conclusions

In using the practice theory framework of “competences”, “materials”, and “meanings” to code the data, it has been possible to understand the elements from which cycling can be comprised, and how this relates to the nature of cycling in Aberdeen. Interview participants discuss key gaps in infrastructure in the city, alongside the socio-cultural gaps that influence their cycling. It has also been identified how individuals perceive the competences associated with their cycling, and the impact the perceived competences of policymakers, drivers and others can have on cycling in Aberdeen too. Along with Chapters 6 and 8, this data provides the foundation for the evaluation that is set out in Chapter 9 where these gaps are examined.

Chapter 8 – Cycling in Aberdeen: Policymakers

8.1. Overview of the Chapter

This chapter sets out the data collected from the policy professionals interviewed as part of this research (Chapter 5), in the form of verbatim quotations from the interviews. Due to the small sample size, and the relative size of the policy community in Aberdeen, specific information is not given about the professional participants that would enable them to be identified. This chapter provides insight into the competences, materials, and meanings that constitute the practice of developing, designing, and implementing cycling-specific policies in Aberdeen and can therefore be understood as examining the practice of policymaking in relation to cycling in Aberdeen. This also provides a connection with the data gathered from the surveys and interviews with members of the public through setting out the relationship of policy and policymaking to the broader theme of cycling in Aberdeen.

8.2. Policymaking Competences

The competences required of and demonstrated by policymakers, as evidenced by the professionals' interviews centre around the skills, knowledge, and techniques applicable to the policy processes from the initial concept to implementation, with relevance to cycling. These competences have been divided into two areas of: (i) planning, design, and implementation of infrastructure; and (ii) knowledge and training to help assist in identifying both barriers and enablers to policy development and implementation. Within each of these two sections, further subsections support more detailed segregation of the data.

8.2.1. Planning, Design, and Implementation of Infrastructure

8.2.1.1. Cycling's Place in Policy

Participants commented on cycling's place in policy from their understanding of the role of local, regional, and national government in Scotland's approach to cycling specific policies. The place of cycling (within the broader schema of active travel) is captured well by Participant C in focussing on the role of the local authority. They also touch on themes that are replicated throughout this Chapter 8:

"...it's not just about money. It's really about decision making, and about the resource to engage with the public and users, and the resource to design and deliver things on the ground."
(Participant C)

From a general policy perspective, and the associated competences, participants comment on the approach to policy development and the relationship of transport to other policy briefs. For example,

Participant B notes that Aberdeen City Council's approach to policy development was "scattergun". From a national government perspective, one participant observes that Transport Scotland fails to appreciate that "one size doesn't fit all" (Participant B).

Participant C's also comment about how the role of Regional Transport Partnerships have been conceptualised by Transport Scotland:

"...some of the people at Transport Scotland, they see regional transport's role as being cross-boundary, and I keep telling them that strategic isn't just cross boundary." (Participant C)

This is also linked to the discussion in Section 8.3.4 around organisational structure and the relationships between local, regional, and national bodies.

8.2.1.2. The practicalities of planning, design, and implementation

When considering the practicalities involved in the planning, design, and implementation of cycling policies, Participant C emphasises that there are two distinct elements to transport policy, "it's policy development and it's project delivery" (Participant C). Reflecting on whether active travel and therefore cycling is a core element of policies in government, Participant A concludes that active travel was "absolutely" becoming core to the policy process at all levels. However, this characterisation of active travel as being core was challenged by Participant C, who stated:

"...I think it's easy to say active travel⁸⁹ is important [...] I don't think it's the first consideration, despite policy would tend to imply with our hierarchy - walking, cycling, public transport" (Participant C)

From a policy development perspective, Participant C describes how they feel there is a gap in resourcing for this element of the planning process, but this is not the case when it comes to delivering and implementing those schemes:

"...But somewhere in the middle, there's a big gap. And I don't know if it's design, it's partly that, engagement and decision making [...] I don't think delivery is the problem, I think it's getting to that point." (Participant C).

⁸⁹ It should be noted that because cycling is addressed through the broader remit of "active travel" within the policy sphere of local and regional authorities, that reference is made to this term (e.g., Nestrans 2014). It should therefore be construed as being inclusive of and referring to cycling.

This is also reflected elsewhere in the data, where it is apparent that timescales are a relevant factor in the policy making, planning, and execution processes. This is particularly relevant when considering the funding cycles that dictate projects (Section 8.3.2). For example, Participant B notes that:

“...so little can actually be achieved in 12 months [...] By the time you take a feasibility design, to consultation to get people’s views to then get the resources to actually deliver something [...] so undoubtedly it’s an obstacle” (Participant B)

This gap between technical knowledge and policy aspiration is captured by Participant A in their reflection on the design and implementation processes:

“For some [road] engineers the idea of active travel is putting a segregated cycle path alongside a road. Whereas that isn’t necessarily the best route for a cycle to go on or a pedestrian for that matter” (Participant A).

This disparity between the original vision and the tangible outcome is further emphasised by Participant A’s assessment of the differing approaches of transportation planners and the roads engineers, who are responsible for the design and implementation of infrastructure:

“I think planners normally have quite a good grasp of place and making it look nice and having this belonging to people and I think it probably is more of the engineering side of things of the practicalities and what’s quickest and cheapest to install.” (Participant A)

This short quote demonstrates the breadth of competences relevant to such projects, but how differing framings of these competences, informed by the “meanings” set out in Section 8.4, can lead to this gap between aspiration and reality.

8.2.2. Knowledge & Training

8.2.2.1. Data & data gathering

The ability to make informed decisions about the efficacy of current measures, and therefore to inform future initiatives, was discussed in most depth by Participants B and C. They focus on the purpose of data collection and the quality data available detailing numbers of people cycling:

“If you’re trying to achieve more people cycling, then the only thing we should really be measuring or focusing on is how many people are cycling.” (Participant C)

“...because of its [cycling] informal nature when it’s non-road, how can you measure [...] how can you possibly hope to measure the current measures in place” (Participant B)

This point is supported by the observations of Participant C in relation to multi-modal travel and how such journeys are captured in the data:

"I mean you could drive to a park and ride site, take the park and ride to the city centre, then have a half hour walk to your destination. How is that picked up in terms of the current data [...] I just don't think we've got enough detail, enough data..." (Participant C).

Participant B further expanded on what they perceive to be a data gap by stating:

"[Sustrans] they still use Bike Life and 75% of the people in Edinburgh want segregated infrastructure [...] I think it's dishonest to say that in the publications because it's 75% of those polled, basically 1000 people. That is a hugely different thing from 75% of people in Edinburgh" (Participant B)

Participant B felt this lack of transparency and accuracy in the data was detrimental to the public understanding of what the Scottish Government (and by proxy Sustrans) are doing in relation to active travel and cycling, stating that *"it needs to be evidenced by what the what the authorities in tandem with the gatekeepers are actually doing"* (Participant B).

It was noted that accurate data is required to establish targets and to enable the evaluation of these targets in a meaningful way:

"I'm a great believer in targets, but I think there needs to be really tight on exactly what you're measuring [...] step one is to get the data for what you actually have. And only once you've got that, can you think about what is a sensible target" (Participant C)

Participants also comment on the data that can be gathered from the public during consultation processes about new transport initiatives. Participant D, who was the sole interviewee working outside of the North East of Scotland, described the process of public consultation that was undertaken as part of Edinburgh's City Centre Transformation project:

"...you don't treat people like they're stupid [...] then the conversation is meaningful and it's grown up" (Participant D).

This holistic approach taken by policy makers in Edinburgh contrasts to that adopted on a local level in the North East of Scotland. Participant B is critical of the approach taken to public consultation by Aberdeen City Council:

"...the consultation that's online just now is and appears to be, in my own view, a consultation for consultation's sake." (Participant B)

Because of this approach to engagement, Participant B felt that there was a detrimental effect on communities:

“...we're behind other local authorities as far as what we're doing for our communities in terms of promotion and actual, giving active and sustainable travel it's place.” (Participant B)

8.2.2.2. Joined up policy

A theme that emerged within policy competences was that of joined up thinking in relation to policy making. Participant D describes the importance of different teams across the local authority in Edinburgh being aware of the roles and responsibilities of each other and the contribution to knowledge this can bring:

“Even within a transport team, there would be people that we introduced to each other [...] we got the schools and founding communities team involved. [...] So that was amazing because then suddenly it again gives a different lens.” (Participant D)

On a local level, Participant F notes that:

“It could be a lot more joined up, we could be work a lot more closely together and selling the same message” (Participant F)

As a specific technique within policy making and implementation, Participant F considers how this can help support initiatives:

“...it's obviously much more powerful [...] if transport, health, education, and environment are all saying the same thing then that again, strengthens any case for change.” (Participant F)

8.2.2.3. Training competences

How policy makers acquire the relevant skills, knowledge and technique was also discussed by several interview participants. Here the focus was around the specific knowledge that could be gained through specialised training. For example, Participant A observes:

“I think transport in Scotland is a very small group of people. And yet there is a complete lack of qualified sort of professional people with specific active travel knowledge and travel planning [...] and I think that even in terms of training those staff in Aberdeen [...] you need to down to Edinburgh for that, so I think that's potentially a gap as well.” (Participant A).

This is echoed by Participant C, albeit with a more nuanced perspective that relates to the professional experience of those currently in senior positions, compared with the competences of newer staff:

“...particularly people of my age who hold senior positions, who probably came through training at university when it was very much old school road building” (Participant C).

While Participant B offers a different perspective that is more related to the joined-up approach discussed in 8.2.2.2. above:

“...focus on transport more and how it impacts on other streams [...] I don't think the city knows where it's going. Em, they say they do in practice...but it's a bit of a mystery tour as to how we're going to get there” (Participant B).

8.3. Materials & Policymaking

This section focuses on the elements of the practice of policymaking that are represented by “materials”. These are comprised of things, and tangible physical objects that were discussed by the professionals and are therefore relevant for the development and implementation of cycling-specific policy in Aberdeen. Upon initial coding and analysis of the data, it was apparent that interviewees discussed these elements in five distinct areas, and for the purposes of this chapter these have been aggregated as follows: (i) infrastructure; (ii) finance; (iii) human resources; (iv) organisational structure; and (v) policy instruments. Based on the earlier literature review set out in Chapters 2 to 4 above, these elements were anticipated to be present.

8.3.1 Infrastructure

Participant A identifies that while some progress has been made, there is further to go in terms of how active travel is prioritised through infrastructure:

“...I think particularly in city and town centres, we have to have a lot more traffic free areas, or at least, public transport and cycle and walking areas.” (Participant A)

“...any new developments that are being built at the moment they're built around road networks whereas they need to have active travel networks prioritised as well.” (Participant A)

“...certainly for new developments, it should be easier to walk and cycle than it is to drive” (Participant A)

Participant B was frank about the lack of progress of this aspect of policy development and implementation:

"...there is no network for active travel, it doesn't exist, there should be when our main corridors in and out and around the city." (Participant B)

"...because the city is quite an horrendous place to get about, and we really haven't, in the main, despite a lot of progress..." (Participant B)

This point about the city centre infrastructure is also made by another participant, also linking with the policy instrument aspect of "materials" that is discussed further in Section 8.3.5. They state that:

"The city centre currently is not a nice place to cycle but if the [City Centre] Masterplan comes forward, the traffic reduction thing, then arguably if you've got largely, not pedestrianised but bus and essential traffic on union street than that would make the city centre safer." (Participant F)

Linking back with Section 8.2 on competences, participants focus on the utility of any planned infrastructure, stating that:

"...it's both about making places nice that you can walk and you can cycle, but it's also about making sure developments are in the right place." (Participant C)

"...if you're then taking people away from where they actually want to go, you end up putting in a facility which lasts a little bit longer, but isn't going to be used by quite so many people because it doesn't take such an attractive route." (Participant G)

It is also mentioned that infrastructure does not have to equate with a significant financial commitment:

"I suppose my line has been sometimes a bollard is of more value than a 3m wide path. Why do we let traffic go some places where it's not contributing anything to our objectives and there's maybe roads where you should just stick a bollard in, and then it becomes a cyclable, it become walkable, it becomes a better environment." (Participant C)

Participant F felt that the only infrastructure that would facilitate greater numbers cycling, is the design and implementation of segregated infrastructure:

"...in Aberdeen that that change is only going to happen with segregation [...] segregated infrastructure, is the key to anything." (Participant F)

This also ties in with the idea that infrastructure that is implemented needs to be “safe”:

“...if we don't have safe infrastructure, or safety and the perception of safety, it's not just safety, it's the perception of safety. Then, however much you say, it's good for the environment, it's good for health, it's good for public health. That shift won't happen” (Participant D)

“I think it's, you know, the only real way of engendering that change is to put the safe infrastructure in place” (Participant F)

In relation to infrastructure, it is not only routes and facilities that factor into the considerations of policy makers; of relevance is the presence or absence of bicycles themselves. The requirements for bikes were discussed in two contexts during the interviews with professionals. In the first instance, Participant B is cautious to emphasise that a lack of critical infrastructure such as bicycles was of relevance:

“...we have an area of growing divides [...] Two thirds of the city still don't, still can't ride a bike because they don't have one, they can't get one [...].we simply haven't created the means, locally or nationally, to provide less fortunate with the means” (Participant B)

Participant G is focussed on the impact that eBikes could have in the city:

“...I think the E bikes is where we have quite a good opportunity to then get people out of cars that wouldn't otherwise have done it. [...]. And yes as prices of E bikes start to come down, I think that's definitely gonna help.” (Participant G).

However, some participants were keen to emphasize that, *“it's more than just infrastructure”* (Participant A) that is required.

Another infrastructure element that was identified as being key, was in relation to parking:

“...availability of parking, how cheap it is, and how easy it is to drive and park makes it really difficult to encourage people to think seriously about options...” (Participant C)

8.3.2. Finance

Finance and financing of projects is a recurring theme within the interviews with the professionals and represent some of the most important “materials” to many participants; however, this is not uniform across all interviewees. The focus of discussion, and the relevant materials for this section, relates to:

(i) match funding; (ii) ring fencing; and (iii) Sustrans as a funder⁹⁰. However, some general comments about funding as a key material for the development and implementation of policy are also present and these are set out first.

The role that funding plays as a material in the practice of policy making for cycling is summarised well by one interviewee:

“...the funding’s there, but it’s not always particularly easy to access. And it’s not always particularly easy to spend, whether that’s in terms of actually finding the match funds, writing the, I suppose, the application forms to actually get your hands on it, or whether it’s just actually having the bodies within the council to actually be out there and doing things.” (Participant G)

Similarly, another participant commented that:

“...there’s no funding from the council for active travel delivery, all the other travel projects we delivered are via external funding. And that sometimes [...] makes things more complicated [...] in terms of specific budgets from the council to deliver active travel initiatives that’s just not there.” (Participant F)

However, there was a distinction made between the material element of funding on one hand, and what that funding translates into in practice, highlighting a further gap in the process:

“I think there’s an obsession with funding. I think funding is important, obviously. But it seems to be the only thing we really measure is how much money is available for active travel [...] it’s not about how much you spend, but what you deliver.” (Participant C)

This also links with a comment made by other participants, in relation to the availability of funding within and for local authorities, and how this relates to the “meanings” aspect of the practice of policymaking when it comes to aspirations. Participant B describes a gap between perception and reality when it comes to funding. That the money, in their view, exists but requires application of skill and knowledge to secure it:

“...at times, senior officers can fear they’ve no money, no resource. Well, there is a resource that is money, there are plenty funding streams if we meet the criteria [...] let’s get cracking with them.” (Participant B)

⁹⁰ Chapter 4 provides detail on how policies are funded.

There is also reflection on the split between local authority budgets on statutory obligations and the ability to find money for non-statutory obligations if the desire exists:

"I mean, obviously, you've got to meet statutory obligations as far as things like health and social care are priorities for the Council but [...] any local authority can find the money for a project that they want to deliver" (Participant C)

Another gap identified by participants relates to the availability of funding for maintenance costs:

"The other problem is we don't get funding for maintenance" (Participant G)

"Funding's very much geared up to building new rather maintaining [...] it'd be wonderful if we got some maintenance money to go alongside these." (Participant G)

Moving away from the practical application of the acquired funds, a complaint of some participants is the duration of funding cycles and the practical problem that this presents for budgeting:

"...there's this sort of obligation of you must spend money by X amount of time [...] if we had it over a longer period of time we'd be able to do stuff that really made a difference" (Participant A)

"I mean, if you know you have a budget of a certain amount every year, then you'll have a certain degree of forward planning. It will take away any kind of time delays caused by applications to external funders" (Participant F)

"I think the problem is people look very short term at financing budgets [...] I think that's where some of the problems are [...] I think everyone's kind of fixated on the short term spending cycles." (Participant F)

Some participants wanted was more flexibility in the spending cycles of funds, to allow for more effective use of the money available:

"I think it has to be longer term funding and not just year on year funding. [...] people need the sort of commitment of that I think budgets and planning for these things need to be longer term." (Participant A)

"I think having longer to spend the funding. So rather than it just being this sort of rammy to get everything through in a financial year [...] you can plan a three year project rather than just doing things at annual stages and hoping next year you're going to get the funding." (Participant G)

Connected to the duration of funding cycles is the observation that funds that are not utilised could be reduced or removed in future years:

“And my real fear was that if we don't spend our budget, we might lose it for next year. [...] And my real fear was that not just we would lose money this year, but we might lose it for all time.”
(Participant C)

One participant felt that the competitive element of funding was problematic too:

“...I think the element of competition can, along with match funding is quite off putting as well..” (Participant A)

The rest of this section explores some more specific aspects of funding, including match funding.

8.3.2.1. Match funding

Chapter 4 provides context for the role that match funding plays in the financing of cycling specific projects in Scotland. It was therefore expected that participants would raise this as an aspect of the funding landscape. From one perspective, it is felt that the notion of money being available for active travel is too simplistic, and that the reality is more complex:

“...but if they say there's a certain amount of money for active travel, it's not just as simple as that [...] you've quite often got to come up with match funding to access it things.” (Participant G)

The requirement to obtain this match funding can function as a practical barrier to the development and implementation of cycling specific policies. It creates a gap. As explained by participants:

“...the match funding is a big issue because a lot of the time local authorities don't have any money, so they're not able to bid for funding because they have to match it [...] sometimes it's a lack of staff that is an issue” (Participant A)

“...if you're then going ahead and actually putting in the infrastructure [...] you've usually got to go out and find at least 50% match funding to do that, which takes time, takes effort and isn't always particularly easy.” (Participant G)

The requirement to match funds means that there is a “hole” or gap in the budget for a project that, in the absence of the match funding, means infrastructure cannot be realised. The role that Sustrans plays in this process will be discussed further in 8.3.2.3.

8.3.2.2. Ring fencing of funding

While reflecting on the issue of funding, and how to improve the position, several participants mentioned the idea of ring-fenced funding (Participants A, B, E, F, and G). Although a small amount of ring-fenced funding exists via the Cycling Walking and Safer Streets (CWSS) fund, some participants wanted more of the available funding to be ring-fenced (Participants A and E).

For some participants, the attraction of ring fencing is about streamlining the process of applying for funds, and being able to implement these funds more immediately:

“I spend such a lot of my time applying for funding and then claiming the funding [...] if we got the funding and ring fenced it for cycle infrastructure” (Participant E)

For others it was about making a tangible impact on the policy area and providing certainty:

“But if you really want to make a difference with active travel it needs to be ringfenced.” (Participant A)

“...it would cut down on the whole sort of bidding process and a lot of ways and you would get that certainty” (Participant G)

However, it was noted that for ring fencing to work, other elements of the policy making practice needed to be considered such as organisational structure, to prevent projects from being hampered by individual agendas:

“...the only proviso I would make is it needs senior, needs probably full council [...] so it can't be vetoed [...] ring fencing it's open to blurring of the edges.” (Participant B)

The relevance of organisational structure as a material element is considered in Section 8.3.4.

8.3.2.3. Sustrans as a funder

Sustrans formed a substantial portion of the discussion around funding during participant interviews. This section has been categorised within “materials” as Sustrans can be described as a thing or entity, but it is acknowledged that this section is on the border of “meanings” as the interviewed policymakers equate Sustrans with specific power dynamics that impact on the materials available for policy development and implementation. However, given that the primary focus is on the funds themselves, this section has remained within the scope of “materials”.

It is difficult to separate the functions of Sustrans as a “material” when it comes to policy development and implementation, from the “meanings” ascribed by those policymakers working with the charity, and equally from the “competences” of implementing design standards (Section 4.3.6). As such, it is recognized that this subsection borders on an imperfect hybrid of “materials”, meanings” and “competences” but given the core function of Sustrans is related to finances, it was felt more appropriate to include the data where it lies than elsewhere in the chapter.

One participant described the role of Sustrans as being a “...*hugely powerful, and I would argue too powerful, gatekeeper for these public funds*” (Participant B) which is the perspective of most participants, except for Participant D⁹¹. The function of Sustrans as a material element of policymaking relates to the funding they provide (Section 4.8) and the design standards they implement (Section 4.3.6) and is captured by one participant, who states:

“...the funding’s there, it’s access to the funding [...] Designs or projects are refused funding because they don’t meet certain standards but these standards are not always appropriate for the locations” (Participant E)

As Sustrans can both provide and withhold funds depending on the project specification, as dictated by the design standards (Section 4.3.6), Sustrans is characterised by participants as both an enabler for policy development and a barrier, as further explained by Participant E:

“...you can see that there is an organisation there that can be classed as a barrier or they can be classed as an enabler [...] And so I do think that there are projects that are being denied funding on...levels...because they don’t meet these standards [...] So I feel that’s a bit of a hindrance there” (Participant E)

Participant E goes on to explain that:

“...sometimes it’s better to get inappropriate things and get people on to these substandard in inverted commas, substandard things and get people out there and get people cycling” (Participant E)

Other participants express similar sentiments around Sustrans and its funding mechanisms:

“Yes, these charities are there for the people, but they don’t serve the people we work for [...] these charities are serving their own purposes. They shouldn’t be at odds with what the local authorities want, but they are, there’s a gap there.” (Participant B)

⁹¹ Participant D was, at the time, an employee of Sustrans and I have their verbal consent to identify them as such.

"I think there has been an overemphasis particularly on Sustrans for delivering the ambitions of central government [...] Maybe just as well because [...] it's given us someone to, to blame, throw pelters at rather than us." (Participant C)

"I don't think Sustrans are a barrier per se [...] it's that they were given too much power as arbiter and has ended up being a blocker" (Participant C)

"I think as well, they can be quite, they can be a little bit narrow minded, maybe about the way they allocate some of the funding" (Participant G)

The question of resource efficiency is also expressed in terms of the imbalance between Sustrans financial resources and that of local authorities and the challenges presented in accessing this material resource:

"Sustrans in particular, has become a hugely powerful, and I would argue too powerful, gatekeeper for these public funds [...] there's not enough people there's not enough resources there's no match funding, and the disconnect that I've already spoken about is growing." (Participant B)

"Huge ambition locally, which is being hamstrung. We've made, the Scottish Government, has made these charities the powerful ones - who are they really for?" (Participant B)

8.3.3. Human Resource

Another important aspect of the materials relevant to the development and implementation of cycling-specific policies is that of human resource; having the staff capacity to complete the work required. This was referenced by several participants during the interviews and relevant quotations are set out detailing the issue of human resource:

"...certainly at the moment it is probably down to resources and that isn't necessarily financial resources, it's people." (Participant A)

"...but they're limited, they're all spinning plates, plates, because they're doing the jobs of several people that existed previously..." (Participant B)

"...and that really is it's a money issue and also sort of an internal resource issue." (Participant E)

This aspect of the policy process also links Section 8.3.2 on funding, as detailed by Participants A, E, and G:

“Certainly, because you spend a lot of time bidding for funding, a lot of time putting together business cases that aren't always successful, which in some ways is a waste of resources” (Participant A)

“Yeah, less time on applications [...] each one of us is doing two or three projects, that's a lot of time spent filling in forms” (Participant E)

In the case of Participant G, this relates specifically to the short funding cycles that were discussed in 8.3.2 above, that also creates a gap in the policymaking process:

“...it would be quite nice if we had maybe three years to spend some money because then you've got time to properly work up a scheme. [...] in terms of being able to use some of that to bring in people to actually help deliver things.” (Participant G)

However, Participant F felt that the resourcing issue within their own team that is concerned with the policy development aspects was sufficient, and that where the key difficulties arise is in relation to design and delivery of infrastructure:

“I think it's when these projects move to design and delivery [...] that's where things fall down slightly.” (Participant F)

“...we've got all these projects ready to go but we're just putting more and more pressure on the design and delivery teams to actually get these things out the door. And I think they are struggling to do so.” (Participant F)

Participant F also notes that a potential solution to this problem could be found in outsourcing design to external organisations:

“I think a lot of projects could go into design to the externals [...] If our design team are saying they are under resourced I don't know why they then can't put things out the door” (Participant F)

8.3.4. Organisational Structure

Participants were asked to reflect on the role that internal governance structures played in acting as either barriers or enablers to policy design and implementation. The committees and committee structure within Aberdeen City Council are noted as being significant:

"I think we're all frustrated that the rate of progress and how slow things take [...] that's a combination of just process, the governance process you have to go through in terms of committee approval, and then you know, cycles of that, as well as budget as well..." (Participant F)

"...a process that was meant to make things easier, has in a lot of ways, actually lengthened the process a lot more" (Participant G)

With respect to the structure of departments and the respective teams, Participant G felt that there were several positives to the structure and the working relationships it facilitates:

"...the will for people to want to work together. That will's very much there." (Participant G)

Although, this separation of teams when it comes to working towards a common goal of achieving active travel and cycling policies, Participant D was unequivocal on what would be most beneficial:

"I think if I had a magic wand, local authorities would not have an active travel team, that they would just have an urban team or they would have transport team where active travel is so embedded in that you don't need a specific [...] cycling team" (Participant D)

This embedding of active travel into local authorities proposed by Participant D can also be connected to the overall strategic direction of local authorities when it comes to such policies. For example, Participant B comments that within the organisational structure of the local authorities, there needs to be a clearer strategic direction, to avoid a gap between what policymakers are individually doing and a wider vision for the city:

"...the gulf, the vacuum that exists between the strategic direction of the Council, go and ask some of the people in Marischal College and other Council offices in the city, and across the Shire, the gulf that exists..." (Participant B)

Participant B elaborates on this gap:

“...the organisations are hugely inefficient [...] it's a scattergun approach, particularly in the city that joined-up-ness [...] but there's a gulf between the strategic vision and what actually happens.” (Participant B)

And also, that:

“There's a whole series of individuals who are responsible for these teams to be held accountable for how this moves forward with a robust, short term plan that will be subject to external review” (Participant B)

This also links with the comments of Participant C in relation to “who does what” within the organisational structure of Aberdeen City Council:

“...even I as, technically, an insider finds the structure a bit more like a web than a hierarchy. And I think they've done that deliberately” (Participant C)

From the discussion with participants about organisational structure, this is also a significant component of the “materials” relevant to policymaking and therefore the practice of cycling in Aberdeen.

8.3.5. Policy instruments

From Chapter 4, there are a multitude of policies and pieces of legislation relevant to the development and implementation of cycling-specific policies. As with previous subsections on “materials”, it is acknowledged that some of the data is bordering on “meanings”. However, given the focus of the discussion is on the tangible “thing” of policy instruments, it was felt appropriate for inclusion in this subsection.

Participant B comments on a wide variety of policy instruments, beginning with Bikeability training for primary school children:

“...how can an authority in Scotland say [...] they are keen to promote, eager to promote cycling, if they don't have in place an iBike officer and if many of their schools don't teach Bikeability? That is still happening across the country” (Participant B)

Participant B then moves on to the statutorily required instruments local government must produce and those produced by the Scottish Government and the requirement for the practical application of these policies:

“we've got the policies in place because we've been, statutorily we've been required by above [...] public money has been wasted on producing these thing because the knowledge, skill sets, experience used to pull them together, yeah, they're only helpful if you open them up, use what's in them” (Participant B)

“[The] Cycling Action Plan for Scotland's been a huge catastrophic failure, and we're now in the position where we're into the next iteration of it, do we have an action plan? I don't know, as a professional, not saying we have a plan for plan's sake, but we don't currently have an action plan for Scotland. I don't think that's good enough” (Participant B)

Participant F offered this insight:

“...I think it's when it comes to presenting those individual projects to decision makers and getting public buy in, that's where the disconnect is [...] But I think if we went in with a big vision at once and then how those little elements contribute to that that would be the optimum way of doing it.” (Participant F)

This subsection has provided an overview of the relevant data linked to the “materials” required for the development and implementation of cycling-specific policy, and the relevance of these to cycling in Aberdeen.

8.4. Meanings & Policymaking

This section focuses on the elements of the practice of policymaking that are represented by “meanings”, as viewed through the lens of the professionals and how these meanings impact on policy development and implementation. Upon initial coding and analysis of the data, it was possible to group the data into the following three areas: (i) cultural considerations and perceptions (these relate to both the workplace and those of the public); (ii) the idea of “place;” and (iii) politics and politicians. These three areas are set out in Sections 8.4.1. to 8.4.3.

8.4.1. Cultural Considerations & Perceptions

This subsection sets out some of the relevant data that provides context for the cultural considerations and perceptions that came from the professionals’ interviews. It is divided into two further subsections;

one that looks specifically at the relevance of workplace cultural considerations and perceptions and the other that looks at the considerations relevant to members of the public.

8.4.1.1. A workplace perspective

One participant was particularly clear on the impact of individual personalities on the workplace environment:

"I absolutely think that in both authorities [...] committed individuals blockers are in play and they have vetoes that appear to be able to circumvent due process not saying anything illegal, is being carried out, just purely their respective own agendas for their own work streams" (Participant B)

This was also echoed by another participant who notes that:

"Personalities definitely. There are people who haven't yet encompassed, the "road is not king anymore"" (Participant E)

"Their whole careers have been in trying to reduce travel times for cars, and trying to find parking for people who want to take their cars...accommodating traffic." (Participant E)

The relevance of these comments around the role and attitudes of specific individuals to certain policy areas, and the meanings others ascribe to this was given context through the comments of Participant B, who states that:

"Key individuals who should be [...] walking this forward [...] but they are obstacles to progress" (Participant B)

Participants also reflect on the role that fear can have in accepted transport practices, and the impact this has on policymakers. For example:

"... this perception that car is king...whereas I think officers in particular, need to be bold and then politicians have to have the courage of their convictions and be bold about these things as well." (Participant A)

"...probably palpable at times from local authority that you can sense the risk and the, what if, or people will be up in arms [...] I think many will actually see if we explain, why we're doing things [...] just be a bit braver." (Participant B)

“So the impact of commuter time is such, the queues, and some of these points, will they really be as bad as they fear? I think we're just all scared, or they're all scared of flicking the switch.” (Participant B)

“I agree hugely with the Sustrans ideology of road space reallocation, to have senior road engineers and cities say to me that we can't do that because of the impact of the buses, taxis and everyone else. Yeah, of course it will. And I hope it does” (Participant B)

Participant D reflects on cultural considerations and the perceptions of the role of women:

“...you have to bring gender into this [...] I'm one of the only women in the room, in senior meetings, one of definitely very few Asian women. So there is there is a whole different lens that being a woman and being from being a minority, whether you're a woman or you know your race can bring to a conversation a narrative.” (Participant D)

They then evidenced the role that gender can play by giving a practical example of the committee experience:

“...I think that's what women can do is not be shy to talk about how you feel when you travel [...] and if you have a woman at the table that becomes real, it becomes real to an engineer who's designing.” (Participant D)

From the data set out in this section, beyond the distinct competences and materials the constitute the practice of development and implementation of cycling-specific policies are specific meanings that can exert an influence on these competences and materials.

8.4.1.2. A public perspective

From a public perspective, interviewees discuss the role of the car in society:

“I think people increasingly know what we need to be doing, but there's still, “what's in it for me?” attitude, of I'll still park as close as I can while it's free.” (Participant C)

“...also a cultural change away from everybody travels by car and it's the norm.” (Participant A)

“...if you've got car parking problem and a congestion problem, and potentially maybe be a bit of a perceived road safety problem, it's much easier to sell travel planning idea to an organisation or a school or something [...] If there is ample parking, and there's not a perceived road safety problem, that's when it's a bit more difficult...” (Participant A)

"For short journeys [...] particularly within the city a car is often the slowest way to get...but it's not perceived as that." (Participant A)

The professionals also reflect on the idea that cycling is yet to be an accepted cultural norm across all segments of society, and this has implications for increasing cycling levels:

"...more cyclists encourages more cycling, more walkers encourages more walking. So there's a bit of "build it and they will come" (Participant B)

"...cycling for commuting purposes is still quite a niche thing. So I think people do understand the benefits of that doesn't seem to have translated into action." (Participant F)

"...cyclists are still seen as a bit of a nuisance." (Participant F)

However, some participants note that the potential exists for a wider cultural shift to be achieved, if the public and politicians desire it:

"You have to be a fairly bold member of the public or politician to say, I don't care about that [air quality] I still want to take my car into the city centre." (Participant F)

"I think it needs to be a behavioural change, cultural changes coming from all angles and all different levels of government [...] I think active travel needs to have that health benefits surrounding it, air quality, safety. Kind of cultural (Participant A)

"I think the car driving body has been quite vocal [...] the more public discourse on the climate emergency and all that thing I think you know, I think decision makers will have to respond accordingly or else they can be seen as out of touch." (Participant F)

There was also an awareness from the professionals that were interviewed that perception of safety on the part of the public is a key factor in achieving a modal shift in favour of cycling:

"How do we make it safer? And how do we get over the major barrier against people using active travel which is personal security fears, and whether their right or they're perceptions." (Participant C)

“...yesterday it was last time where somebody come up to me and said, still be scared to cycle about the city” (Participant B)

8.4.3. Place

Another theme across the “meanings” aspect explored in this section is that of place and placemaking and that in achieving the policy objectives of increased levels of cycling, this could lead to tangible improvements to the urban environment for citizens. For example, participants discuss the potential within policy to improve the city and the shared space that it represents:

“...it’s just about making it a better place [...] walking and cycling hugely contributes to that.” (Participant B)

“... our local transport strategy is trying to encourage people to not drive in their private cars alone but to try and think of other modes of transport they can use [...] and just generally better for the city.” (Participant G)

“I think there's still quite mindset of the roads for cars, the pavements for people and cyclists have to somehow get in amongst one or the other. Yeah, there definitely needs to be much more of a spaces for everyone it's not road space.” (Participant A)

“I think if some of those measures were in, prohibition, restriction, regulation, where you can take your car about places then instantly, instantly, it will become a bit more attractive to walk, cycle.” (Participant B)

“So we're not anti-car, we're coming across as, I suppose, pro-place, ultimately is the banner it all comes under [...] So I think there's probably still a little bit of yeah, not being seen to be an anti-car and not wanting to lose votes being there” (Participant G)

Participant D also talks extensively about the place-based approach that has been adopted for the Edinburgh City Centre Transformation scheme, and the practical consequences of this:

“It's a very place-based approach we've used” (Participant D)

“But I think a shift in narrative about social justice and equality is the biggest change that I've seen in the past year and a half. In transport as being seen as a social justice issue [...] this is about all of us and how we share our space, how we share society.” (Participant D)

“...as the narrative shifts from active travel to people focussed places, that narrative will shift...” (Participant D)

As the next section will demonstrate, both politics and the perceived aspirations of politicians can play a role in the impact this “meaning” can have on policy too.

8.4.4. Politics & Politicians

As Participant D notes, *“... it will always be political, transport is political, it's personal and political.”* Through the process of coding the professionals’ interviews, it is apparent that politics and the views of politicians themselves also impact the development and implementation of policy, and so therefore needed to be considered as part of the wider discussion of “meanings”. Interviewees describe politics and the politicians as representing the potential of both barriers and enablers to policy development and implementation.

Participants describe the role that politicians could play in the policy process:

“...you need people to champion it and to persuade and influence. That's what we need is leadership in terms of influencing.” (Participant A)

“...it needs to get around the table with key players [...] we need to say, the current system isn't working, it could be better.” (Participant B)

“A question mark over responsibility, clear understanding of who's making the decisions. [...] a lack of members who have that leadership and long-termism.” (Participant C)

“As the population in general becomes more environmentally aware, elected members themselves become more responsive to the growing demand from their constituents” (Participant F)

“... it needs that strength of vision, politically, that political leadership, and it needs the strength of conviction at the senior management level to get anything done in a local authority” (Participant D)

Some participants also reflect on where the current political situation rests and how this shapes the ideas and aspirations influencing policy at present:

“...city centre master plan was a unanimous vote by counsellors three years ago. They need to be reminded of that” (Participant B)

"I just feel there could be a bit of momentum going with cycle projects and to have projects, stalled, stalls the momentum and maybe the politicians then question whether it was the right decision." (Participant E)

"I guess the only other thing is around the sometimes the gap between perception of what politicians will agree and approve [...] our job as officers to convince councillors that this is the way forward and to put forward a proper case to make it happen, rather than assuming that councillors might not approve it." (Participant A)

"...traditionally, there was a bit of hesitancy from some of the counsellors that we would be coming across as anti-car and that would lose them votes." (Participant G)

"I've never come across a politician who doesn't want the right things doing [...] I just think there's a little bit of a question mark over how we deliver that, and where that leadership's going to come from." (Participant C)

However, some are less sanguine about the influence of politics and how these shape the "meanings" that influence policy and execution of that policy:

"I think there's some party politics abounding. Whereby we've got local authority with a different political makeup from national authority and uncertainty of about whose decision it is to provide that leadership." (Participant C)

"But all too often, "you said, I said", it's not helpful." (Participant B)
"...still yet despite all the positives on high and protestations from branded documents by local government, active travel is often seen as an add on or inconvenience and it doesn't follow the national hierarchy of priorities." (Participant B)

"I don't think Aberdeen City Council despite being a non-SNP led administration are averse to active travel in anyway but [...] a Labour/Conservative administration aren't necessarily gonna bend over backwards to meet that ambition" (Participant F)

"I'm not getting a sense from the council that there's any that they are particularly rushing to meet the Scottish Government's vision [...] I don't get any sense from anyone at senior level above that there's a mad rush to meet any targets." (Participant F)

"I would like to think that what we're, in generally what we're proposing in terms of active travel, the air quality improvements, you can't realistically argue against it [...] there's digs at the government, there's digs at Sustrans but they're point scoring rather than trying to actually create barriers." (Participant F)

From the comments above, there is a gap between the politics of the North East of Scotland and that of the Scottish Government. Both from a party-political perspective, but also from a much deeper ideological perspective. Participant B characterises it as follows:

“I see the link between local and Scottish Government bit like snakes and ladders, and there's lots of snakes but very few ladders there is a disconnect between certainly local the North East and Scottish Government” (Participant B)

Like the “competences”, and “materials” explored in this chapter already, the “meanings” component of the practice of policy development and implementation is a challenging environment, with many influencing factors.

8.5. Concluding the Data Analysis

Chapter 8 has set out the data required to inform the analysis of the organisational and practical influences on the implementation of cycling-specific policies by the local authority in Aberdeen. It provides an insight into the competences, materials, and meanings that constitute the practice of developing, designing, and implementing cycling-specific policies in Aberdeen and therefore allows an understanding of the practice of policymaking in relation to cycling.

Drawing on the data provided by policymakers in this chapter, it demonstrates that the policy landscape in Scotland is complex, informed not only by the competences of the skills and knowledge of policy practitioners, but also by the material elements of finance, human resource and organisational structures, infrastructure, and policy instruments. Furthermore, it demonstrates that the “meanings” encompassed by the themes of cultural considerations, place, and politics play just as a significant role in the practice of policy making. This is articulated in the overview provided in Section 6.1 (Figure 21), and partially fulfils Objective 2 of this thesis through setting out the data required to investigate policymaking in relation to cycling-specific policies within local government.

In utilizing the practice theory framework of competences, materials, and meanings to code the each of the data sets presented in Chapters 6, 7, and 8, it has been possible to understand the constituent components from which both cycling is made in Aberdeen but also from which the practice of cycle policymaking is made.

The core themes discussed in Chapters 6 and 7 can be further integrated to provide a generalised overview of the competences, materials, and meanings identified by cyclists via the survey and interview data, as set out in Figure 21:

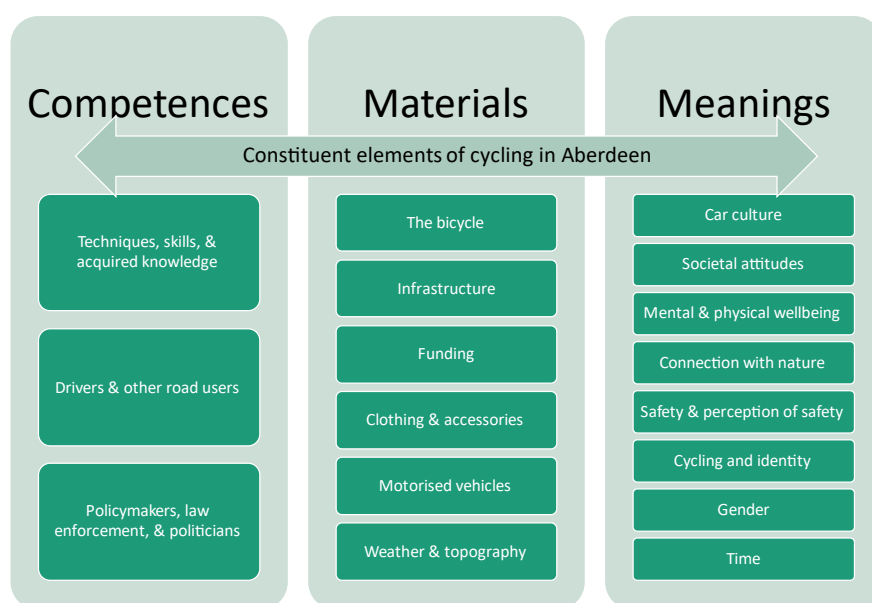


Figure 21: Overview of components of cycling in Aberdeen identified by cyclists

In articulating these components, it creates a basis for which the analysis in Chapter 9 can proceed and establishes a foundation for which to interpret the strength of the bonds between the interdependent elements of the practice (Shove, Pantzar, and Watson 2014 p. 24). This will contribute to achieving the aim and objectives of this research, through interrogating the nature of cycling in Aberdeen (Objective 1) but also in understanding the impact that organisational, social, and practical influences have on cycling in Aberdeen. It is therefore important that the survey and interview data were set out individually but can be viewed cohesively to create the necessary depth of analysis to interrogate the nature of cycling in Aberdeen.

Finally, in reviewing Chapters 6, 7, and 8 holistically, it is also possible to make connections across the three data sets and identify bonds of commonality that present across the categories of competences,

materials, and meanings that apply to both cycling and cycle policymaking as a practice. These cross-cutting themes are set out in Figure 22:

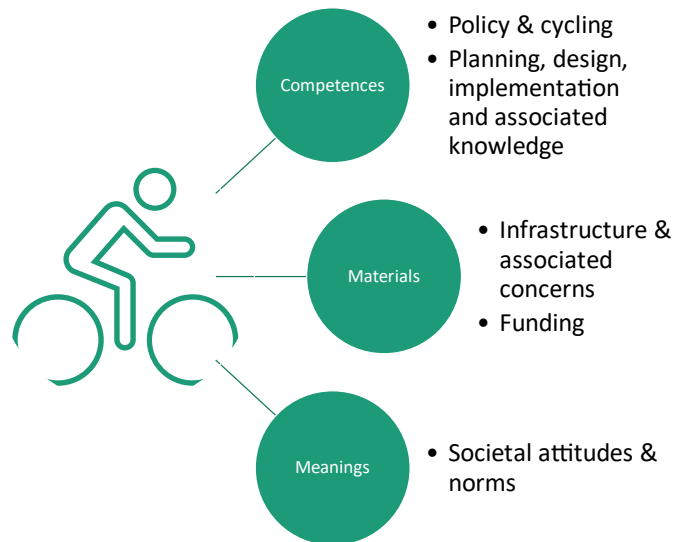


Figure 22: Overlapping themes identified within competences, materials, and meanings across the data sets

These interdependencies demonstrate potential connections between the cycling and cycle policymaking and in identifying these common themes, there exists potential for understanding how the bonds that connect cyclists with policymakers can influence cycling in the city. It also demonstrates that the policy set out in Chapter 4 has a role in shaping and informing the competences, materials, and meanings that comprise cycling, through the medium of policymakers and the practice of cycle policymaking.

Chapter 9 – Mind the Gap: the nature of cycling in Aberdeen

9.1. Overview of the Chapter

This Chapter will engage in a detailed analysis and discussion in fulfilment of the three research objectives set out in Section 1.5. In doing so, it brings together the data set out in Chapters 6, 7, and 8 with the literature and policy set out in Chapters 2, 3, and 4. The application of practice theory to the data allows an understanding the nature of cycling in Aberdeen, and this will form a foundational part of the analysis. However, through interrogating the nature of cycling in Aberdeen and cycle policymaking the emphasis will be on the gaps that make the reproduction of the practice of cycling a challenge in Aberdeen.

The purpose of articulating these gaps is to demonstrate the complexity of cycling in Aberdeen. This in turn opens the possibility to question the existence of the practice of cycling in Aberdeen, due to the interrelationships between the meanings, materials, and competences that define cycling in the city. If a practice is “defined by interdependent relations between materials, meanings, and competences” (Shove, Pantzar, and Watson 2014 p. 24), this Chapter will also explore whether these bonds formed by such interdependent relations exist, or whether they are indeed too weak or absent to constitute a fully formed practice of cycling in Aberdeen.

9.2. Cycling competences

From the data set out in Chapters 6 and 7, several distinct competences can be identified in relation to cycling in Aberdeen. These can be divided into a group of specific techniques, skills, and acquired knowledge that participants detail but also a blurring of boundaries between competences and meanings in relation to a skill set associated with the “good” cyclist.

In requiring that cyclists exhibit a higher level of competences than other mobile subjects, there is a false dichotomy around the standard of skills required of mobile subjects across differing modes. Specifically, that cyclists are held to a higher standard under the gaze of automobility. As a result, this emphasis on specific competences can actively work to exclude potential practitioners from cycling because the emphasis on skills does not align with the broader meanings (and positive benefits) of cycling articulated by research participants above (Sections 6.4 and 7.4). This again returns to the fundamental requirement for the overlapping and interconnected nature of the three elements of

competences, materials, and meanings and the impact on the practice of when elements are missing or contested (Parsons 2019 p. 293).

9.2.1. Competences: Techniques, skills, and acquired knowledge

In survey and interview responses, participants mention the idea of cycling defensively as a core element of their cycling (Sections 6.3.1 and 7.2.5). Defensive cycling is a focus on road positioning and awareness (such as adopting primary position on the road⁹²), allowing the cycle user to be visible to other road users, but also to avoid the small size and slower speed of the bicycle/cycle user assemblage being exploited and creating risk for the cycle user⁹³. They are skills utilised to reduce the risk of collision with other road users (e.g., Jachrya, Atkinson, and Bandiera 2015). However, for some participants there is an element of being too defensive, and that this is counterproductive (Participant A7M, Section 7.2.5). This is echoed in the literature and the fear by cycle users of being perceived as bad or incompetent (Aldred 2013 p. 259; Section 9.2.2).

Some participants make use of learned techniques that reinforce their vulnerability to other road users, with one participant comments that to prevent other road users being too close to her, she will, *“cycle a little bit wobbly”* (Participant A20F, Section 7.2.5). Other participants emphasise the importance of appearing visible to other road users, and the steps that they will take to ensure this, for example, by cycling *“in a particular way and make eye contact”* (Participant A9M, Section 7.2.5). For others, this can also take the form of material additions such as a handlebar mirror (Participant A12F, Section 7.2.5), or a helmet camera (Participant A18M, Section 7.2.5)⁹⁴. All these individual approaches and adjustments suggest that there is highly personalised method of navigating the environment as a cycle user that although it can be grouped under the broad umbrella of “competences,” cannot be distilled down to a singular approach that is appropriate for all bicycle users. Participants also discuss the role that confidence plays in their approach to cycling, and the relative importance of a sense of confidence in the successful reproduction of cycling in the city (Section 7.4.2), with one participant commenting that the absence of confidence makes cycling *“really dangerous”* (Participant 6M, Section 7.4.2). However, confidence attaches to the individual, and therefore while it

⁹² Per Rule 72, Highway Code

⁹³ There is no official definition of defensive cycling that could be found, but it is a commonly accepted phrase within the cycling community and can be regarded as received wisdom.

⁹⁴ Cameras are discussed separately in Section 9.3.4

can be provided for through upskilling, the individual feelings and perceptions of practitioners cannot be uniformly prescribed.

These specific techniques, skills, and acquired knowledge all form an important layer of competences in the three-element model of practice theory adopted by this thesis. However, as noted by Parsons (2019 p. 293), where an element is “missing or contested” this can prevent performance. The absence of specific skills can therefore be considered when considering the (im)possibility of cycling as a practice in Aberdeen.

9.2.2. Competences and meanings: the “good” cyclist

The idea of the “good” cyclist, as identified by Aldred (2013), appears in several areas of the data (Sections 6.3.1 and 7.2.6) and centres on the perceived desirability of some competences and undesirability of other competences within the practice of cycling. These competences are then layered with a specific meaning too. For example, some participants emphasise that following “rules” as demonstrating competences befitting of a cycle user (Participants 70M, 59F, 336M, 13M, Section 6.3.1; Section 7.2.6). This is exemplified by reference to the importance of adhering to the provisions of the Highway Code and cycling responsibly (Participant 59F, Section 6.3.3; Participant A16F, Section 7.2.6). This deference to rules demonstrates that participants make the connection between the identity of the “good” cyclist and the imagined perceptions of other road users in relation to cyclists (Section 6.3.1).

The negative competences highlighted by participants across Sections 6.3.3 and 7.2.6 (running red lights, not wearing a helmet, cycling on the pavement, wearing dark clothing, not using lights) are all significant because they convey an element of perceived incompetence and therefore the attribute of being a “bad cyclist” (Aldred 2013). As above, there is a perceived connection between how cycle users are treated on one hand, and the performativity of the “good” cyclist on the other and the associated consequences for identity (Aldred 2013). Specifically, that the norms surrounding cycling in the UK require cycle users to prove they possess a much higher level of competences and potentially materials (e.g., helmets, lights, locks) than other mobile subjects are expected to demonstrate (Aldred 2013 p. 259).

These competences also link to the idea of cycling citizenship (Aldred and Jungnickel 2014; Aldred 2010). Critically, social relationships are an essential element of cycling citizenship (Aldred 2010), and so cycle users as mobile citizens are judged by the performance of the practice. To further expand on this idea, cycling citizenship has been discussed in more recent literature, emphasising performativity (Waitt and Buchanan 2022). Drawing on previous work, they conclude that this is “embedded in contested, normative, and local assumptions of riding a bike” (Waitt and Buchanan 2022 p.4). This idea of the “good” cyclist is a manifestation of these assumptions about riding a bike that mediate the idea of cycling citizenship, and therefore act to include or exclude practitioners. Moreover, it contributes to understanding why cyclists emphasise certain competences, as they also inform these social relationships and the perceived claim to occupy equal space as a mobile subject on the roadway (Waitt and Buchanan 2022 p. 4). Therefore, the presence or absence of these competences are capable of mediating how and where individuals cycling, thereby contributing to the complexity of cycling in the city and allowing us to question the existence of the practice.

9.3. Materials: the role of infrastructure⁹⁵

The focus of this subsection relates to the specific material elements that participants refer to as part of cycling in Aberdeen. It begins by considering cycling specific infrastructure, before moving onto the question of route conditions and maintenance, then examining the role of parking and storage, and finally by setting out some specific infrastructure which is noted by research participants as being significant. As with the previous section on competences, it is the missing or contested materials which are of importance in the role that this plays in preventing the performance of cycling (Parsons 2019 p. 293).

In setting out the presence and absence of material elements, this section demonstrates that the competing desires set out in Section 8.2.1 between what is optimal from an infrastructure perspective and what is achievable means that a key element of the practice of cycling is missing in various areas of the city. Furthermore, in line with Parsons (2019), there is a failure by policymakers to understand

⁹⁵ As a supplement to this Chapter, Appendix 7 sets out specific infrastructure that is mentioned by research participants. This is intended to visually highlight the physical gaps and barriers that the cited infrastructure represents. It covers a range of infrastructure from carriageway features, advisory cycle lanes, roundabouts, shared bus/cycle lanes, to shared use paths, and relevant signage.

the complexity of cycling practices, the role this plays in perceptions of safety, and connections with the materiality of cycling infrastructure (Parsons 2019 p. 299).

9.3.1. Existing infrastructure: a key material for cycling

In setting the context for this chapter, the following map sets out the current and proposed cycle network that was set out in Aberdeen City Council's 2017-2021 Active Travel Action Plan⁹⁶. The grey line is the demarcation of the city boundary with Aberdeenshire:

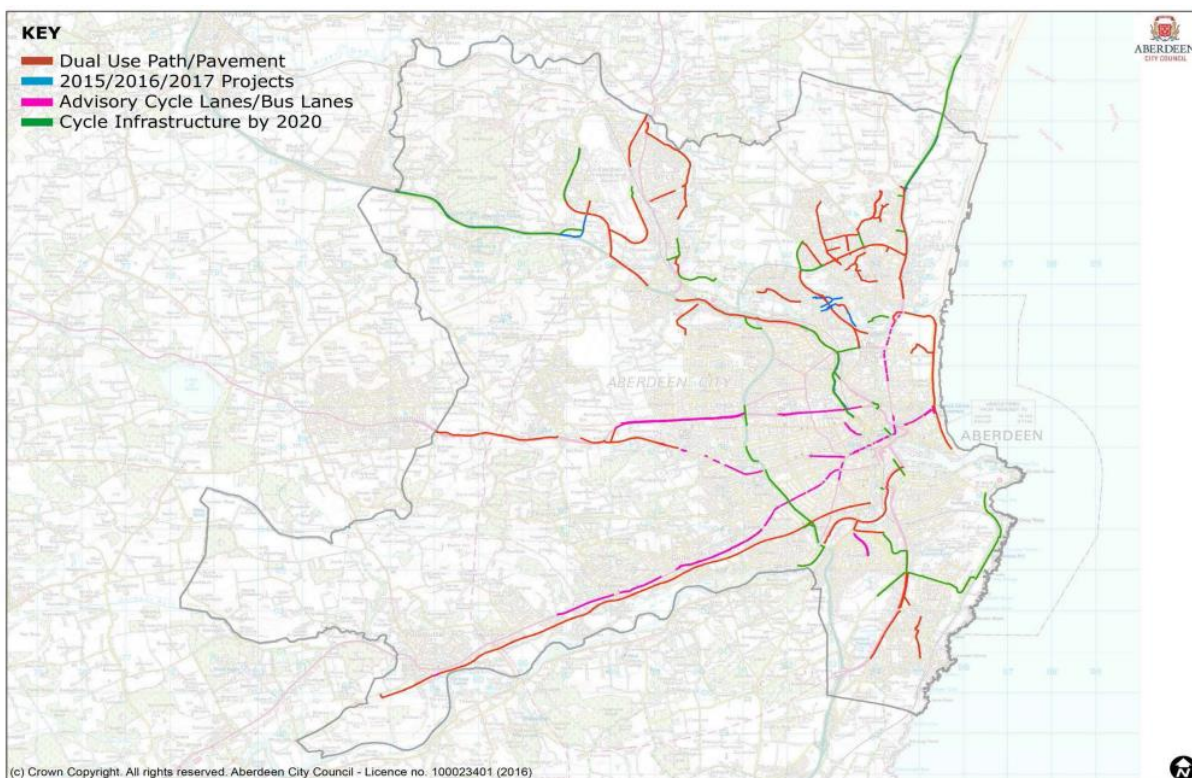


Figure 23: Current and proposed cycle network, Aberdeen 2016. (Aberdeen City Council 2016)

What is immediately apparent from the map are several visible gaps and overall fragmentation of the network across the variety of types of infrastructure identified on the map. As noted in Chapter 6, participant comments referring to mention routes that are part of a “network” (Participants 72F, 130M, Section 6.4.1) and are “joined up” (Participant 174N, Section 6.4.1) are important and confirm that infrastructure cannot exist in isolation, it must have a purpose and fill the gaps. It is not enough that there is some cycle provision, for the desired culture to be created the infrastructure needs to be

⁹⁶ Appendix 2 contains the 2020 version of the map, with Appendix 3 containing the relevant key for the map.

“contiguous” (Participant 350M, Section 6.4.1) and meaningful, thereby highlighting the materiality of infrastructure to the practice of cycling.

At the core of the issue in Aberdeen are the gaps in the network and the implications that this has for cycling in the city, and the ability of individuals to cycle in specific areas. For example, a key area in the city that is not gritted as part of winter maintenance is the Deeside Way, part of the Sustrans national cycle network (Route 195)⁹⁷. This shared use path represents a key commuter cycle route (Grampian Cycle Partnership 2021; Ewen 2014) from the west of the city into Aberdeen and presents a practical alternative to the advisory cycle lanes on the A93 North Deeside Road (Appendix 7). The Deeside Way was specifically noted by participants as lacking in appropriate winter maintenance (e.g., Participant 6M, Section 7.3.9). Therefore, for many cyclists, this lack of maintenance creates a further gap in the cycling infrastructure during the winter months (per Sections 6.4.1.1 and 7.3.9). Participants also cite potholes, drain covers, and uneven tarmac as negatively impinging on their ability to cycle (Sections 6.4.1.1 and 7.3.5), again emphasising the key role that infrastructure plays as a material element in cycling practices.

9.3.2. Parking and storage

Participants comment on the inconsistency of available parking (Participants 10M, 122F, 243M, 229M, Section 6.4.1.5) and the quality of it too (e.g., Participant A16F, Section 7.3.2). Participants also express a desire for more cycling parking to be created and critically parking that appears and feels to be secure (Participants 122F, 143M, 311F and 243M, Section 6.4.1.5). The observations of participants are also replicated in recent work undertaken to determine the elements of effective public cycle parking, which are noted as: (i) visibility; (ii) protection; (iii) accessibility; (iv) proximity; (v) integration; and (vi) diversification (Egan, Dowling, and Caulfield 2023, Table 2).

In relation to the requirement of bike storage rather than parking participants raise some practical questions about where bikes can be stored at home (Section 7.3.2). Participants reflect on the difficulty bicycles present due to the space they require (Participant 2M), particularly if more than one member of the household cycles and they own multiple bikes too (Participant 4M). Participant 2M also

⁹⁷ I understand from informal advice provided verbally by Nestrans representatives that this is in part due to the shared ownership of the route but also due to resourcing requirements.

expresses the difficulty of storing bicycles in apartments, noting that they are at risk of theft in car parks but also that they cannot be stored in communal areas in buildings either. One survey participant offers a potential solution to such issues, in the form of community bike lockers (Participant 313M, Section 6.4.1.5). In 2023, some progress has been made in relation to community storage, with bike lockers installed at some the multi-story properties in the city (Scottish Housing News 2023). In research commissioned by Cycling Scotland into residential cycle storage, it was concluded that, “lack of safe, secure, covered, accessible and conveniently located bicycle storage is a barrier to owning and using a bicycle” (Pettycur Consulting Ltd n.d., p. i).

9.3.3. Shared use paths & segregation of users

Participants note that shared use paths do not facilitate a “proper cycle” (Participant A16F, Section 7.3.4.2) and for others that cyclists travelling at speed along the Deeside Way creates its own issues (Participant A13F, Section 7.2.6; Participant A8M, Section 7.3.4.2). *Cycling by Design* advises against shared use facilities where the proposed infrastructure will be located adjacent to a road and that “there should be a strong presumption in favour of separating pedestrian and cycle movements” (Transport Scotland 2021 p.53). There are circumstances in which shared use paths are deemed appropriate, and these relate to areas where the risk of potential conflict is low, and a low-speed differential between users is present (Transport Scotland 2021 p. 53). Practical guidance published around shared path usage for the region, such as that by Grampian Cycle Partnership (2021), emphasises the shared responsibility of such paths. In its *Good Cycling Guide*, it sets out specific guidance in relation to shared path usage, covering overtaking, use of bells, managing speed, and other points of etiquette (Grampian Cycle Partnership 2021 p. 10).

Shared use paths are used to plug gaps in infrastructure and are intended to improve cyclist and pedestrian safety away from the roadway. The outcome is a contested space where behaviours are governed by social norms, and certain users are excluded from the space (such as commuters) due to the risks they perceive and the incompatibility of the infrastructure with cycling in Aberdeen. That *Cycling by Design* emphasises strong presumption for separation demonstrates the gap between aspiration and reality for many cyclists and fails to recognise the material significance of infrastructure within cycling practice. Barr et al (2021) describe such sites as “conflictual sites of practice” that require practitioners learn the social norms which govern such share spaces (2021 p. 284). This again emphasises how the respective components of the practice of cycling are interconnected and interdependent, and how they can become contested through challenges to the practice.

9.4. Meanings: identity & self

This section, along with Sections 9.5, and 9.6, explores the function of meanings within the practice of cycling. The meanings discussed in this section have the power to include or exclude individuals from the practice of cycling. It stretches beyond adjusting to new materialities (Parsons 2019 p. 305) to representing a fragmentation of the bonds that link the competences, materials, and meanings of cycling together. Although new elements can contribute to the structure of a practice, as explored by Parsons (2019), here there is a deconstruction of the practice due to missing and contested elements of the practice (Parsons 2019 p. 293). This is reinforced by the difficulties associated with changing elements of a practice (Bruno and Nikolaeva 2020) and how embedded these practices of cycling truly are in everyday life (Camilleri, Attard and Hickman 2022) because of these contested elements.

9.4.1. Meanings: The “cyclist” and “the other”

That a cyclist occupies a singular identity, negates the idea that transport identities are fluid and that there exists a multiplicity of identities. This in turn has consequences for transport policy and its tendency to construct individuals as distinctive groups based on a singular identity (Guell et al 2012 p. 239), which has implications for accounting for the needs of different transport modes (Schepers et al 2014). In the labelling of a “cyclist,” it permits the creation of an “us and them” distinction that reconstitutes itself as discrimination against cyclist (Section 2.5). This connects with Aldred’s discussion on managing identity (Aldred 2013 p. 259), and the presence of entrenched socio-cultural power regimes that “embed, reproduce or generate new socio-spatial inequalities” (Psarikidou 2020 p. 271), which is problematic within the system of automobility and prevailing class and gender structures (Sections 2.3 and 2.4; Section 9.5).

These discriminatory discourses of cycling (Caimotto 2020 p. 42) are dominated and constrained by automobility (Section 9.6). Those who choose to cycle are relegated to a position of an “out-group” (Aldred et al 2019 p. 156), which was also detected by Participant 118F, who states that, *“Behaviour towards cyclists seems to be strongly influenced by a mix of confirmation and outgroup bias”* (Participant 118F). This status is also exacerbated by clothing choice and appearance in emphasising the out-group status (Fruhen, Rossen, and Griffin 2019; Daley and Rissel 2011; Section 9.2.2). As noted, *“There is a definite attempt to divide people and label them as a particular thing”* (Participant 253M,

Section 6.5.3) and that cyclists are “*those non persons they see on the roads and trails*” (Participant 133F). However, even under the broad umbrella of “cycling,” individual cyclists are othered too. For example, in the case of Deliveroo cyclists (Sections 6.5.2. and 7.2.6), which is potentially indicative of the distinct subculture relating to bicycle couriers identified by Fincham (2007). This can also be seen in connection with clothing choice in Section 9.4.2.

Therefore, it is established that the identification of individuals as “driver” or “cyclist” has an impact on the way that shared spaces are negotiated and how people are treated within these spaces (Aldred 2013 p. 267; Section 2.5). However, this labelling also shapes how an individual cyclist perceives their place within this hierarchy of road users, which in turn has a direct impact on the ability of individuals to successfully practice cycling based on the ascribed meanings. It alters the interrelationship between the three elements of the practice and again returns to the fundamental requirement for the overlapping and interconnected nature of the three elements of competences, materials, and meanings and the impact on the practice of when elements are missing or contested (Parsons 2019 p. 293).

9.4.2. How materials mediate meanings: the role of clothing and accessories

In surveys and interviews participants comment on clothing in both the context of stereotypes and how this has specific socio-cultural connotations with hi-visibility clothing and Lycra featuring in the discussion (Section 6.4.3). From a practical perspective, some participants describe their attempts to be visible to other road users (Participants A20F, and A10F, Section 7.3.3) but discuss how clothing choice can mediate the experience of cycling for the participant and that clothes embody confidence on a bicycle (Participant A17F, Section 7.3.3).

Equally, participants also reflect on the negative stereotypes associated with Lycra, and how this can contribute to the othering of cyclists by road users (Participants 104M and 151M, Section 6.4.3), and that there is something abnormal about wearing special clothes to cycle (Participants 19M and A10F, Section 7.3.3). This connects with the theme of othering (Sections 9.2.1 and 2.6) and the comments around Lycra can be attributed to “the normalisation of the car is associated with the de-normalisation of the bicycle” (2019 p. 150). Taking the example of Lycra, Psarikidou explores how the “prevailing prioritisation of men, and in many cases Lycra clad men...reproducing gender inequalities” (Psarikidou 2020 p.282). There is also a broader question of how these meanings could be contested through social

and cultural norms relating to women, with “the prevalence of a certain image for female professionals might be in conflict with the image of a female cycle-user” (Psarikidou 2020 p. 282).

This idea of the clothing holding symbolic meaning for the practice of cycling can also be compared to the study by Aldred and Dales (2017 p. 361), and that while segregated infrastructure corresponds with a reduction in “sporty” clothing, hi-visibility clothing is still a prominent feature. This material element of clothing also draws on the meanings around the performative element of the “good” cyclist and how a cyclist ought to look, and what they should wear (Aldred 2013 p. 259; Section 9.2.3; Section 6.4.3).

Another material element referred to by a small number of participants is the cycle helmet (Section 7.3.3). While maintaining that helmet use is a personal choice, Sustrans present links to research indicating both the effectiveness and ineffectiveness of cycle helmets (Sustrans 2019). However, in a systematic review and meta-analysis conducted in 2017, it was determined that cycle helmet use is “associated with reduced odds of head, serious head, face and fatal head injury” (Olivier and Creighton 2017 p. 283). Their findings are supported by a further meta-analysis conducted in 2023 (Buth, Barbour, and Abdel-Aty 2023). Therefore, while the lack of mandatory legislation in the UK prescribing helmet usage renders it a personal choice, there is evidence that it offers a protective barrier to severe injury.

However, there is a perception that helmets can act as a barrier to reproduction of the practice of cycling, largely drawn from research conducted in locations where mandatory helmet laws exist such as Australia and New Zealand, although the paper produced by Cycling UK on this matter does also rely on relatively dated research on the topic (Cycling UK 2019). More concerning, recent research has investigated the dehumanisation of cycle users and determined a link between individuals who wear cycle helmets and the perception of others that they are less human than those who choose not to wear a helmet (Limb and Collyer 2023). It is noted that the construction of cyclists as “the other” may be relevant to this determination, and that there is a risk of hostility being induced from the utilisation of safety materials such as helmets and high-visibility clothing (Limb and Collyer 2023 p. 504; Section 2.6).

Overall, it is evident that these elements can mediate the meanings associated with cycling and therefore represents a potentially exclusionary force for both the maintenance and evolution of the practice. Specifically, that these exclusionary forces of the meanings associated with different aspects of cycling culture, expressed through clothing, can act to limit the potential of cycling, and create “unacknowledged exclusions” (Stehlin 2014 p. 22), thereby weakening the bonds that link the elements of the practice of cycling and allowing us to question the existence of the practice of cycling in Aberdeen.

9.4.3. Meanings: Cycling and physical health

As noted in Section 3.3, it is possible to position the bicycle as an enabler of “health” rather than as an embodied practice. The role that cycling can play in improving health and wellbeing is acknowledged (Celis-Morales, et al. 2017; Pucher and Buehler 2017; Goetschi, Garrard, and Giles-Corti 2015; Oja et al. 2011) and NHS Scotland also advocates cycling to reduce heart disease, type 2 diabetes, and stroke (NHS Health Scotland 2022). Participants integrate the meaning of “health”, with an overarching idea of fitness and physical wellbeing influencing the practice (Section 6.5.6), while others assign mental wellbeing as a function of cycling (Section 6.5.6). For other interview participants, there are much more tangible reasons that inform the idea of physical wellbeing (Section 6.5.6). This ranges from quitting smoking (Participant A1M, Section 7.4.6) to cardiovascular health (Participant A7M, Section 7.4.6) and managing weight for health reasons too (Participant A23F, Section 7.4.6).

As a result of the emphasis placed on the reductions in morbidity and mortality than are a benefit of investing in cycling (Whitehurst et al 2021; Sommar et al 2021; Lamu et al 2020; Kriit et al 2019), there is a question as to whether such an empirical approach to cycling amounts to the “medicalisation of nature” (Brown and Bell 2007)⁹⁸. Specifically, that the natural environment is constructed as “transactional zones” Brown and Bell (2007 p. 1348) in which individuals translate the discursive requirements of public health into the “embodied performances” described by Paddison et al (1999). However, the ability to access these “transactional zones” is also mediated by the structural issues of class and gender (Sections 2.3 and 2.4 above), thereby risking a widening of the inequality gap in health (McCartney et al. 2019).

⁹⁸ Further discussion on the concept of medicalisation and the social context can be found in Ballard and Elston (2005).

9.4.4. Meanings: Cycling and wellbeing

Participants also discuss the role that cycling has in helping them to process their day (Participants A17F, A5M, and A1M) but what is conveyed is a general sense of mental wellbeing that time on a bicycle can provide (Sections 6.5.6 and 7.4.7). In adopting Simon and Baldwin's framing of wellbeing (2021; Section 3.3.2), it is possible to consider the more general positive feeling that cycling can produce, some of which is connected to the idea of "flow", as explained by Csikszentmihalyi (1990) and the associated benefits this has for mental wellbeing (Feighan and Roberts 2017 p. 325). This is in part due to the immersion of the individual in the activity, which is both transformative and enduring (Te Brommelstroet et al 2018). This idea of immersion and the associated benefits of mental wellbeing are noted by participants (Participants A5M and A16M, Section 7.4.7), and that *"...by about half an hour on your bike you've kinda switched off, from what you were thinking about. You're not really thinking"* (Participant A8M).

This quality of wellbeing can also be extended to cycle commuters, as observed from a 2019 study by Wild and Woodward that identifies four factors that contribute to satisfaction amongst commuters. These are: (i) control and arrival time reliability; (ii) sensory stimulation; (iii) the "feel better" effect of exercise; and (iv) opportunities for social interaction (Wild and Woodward 2019 p. 3). They conclude that, despite navigating an at times hostile environment, cycle commuters are generally happy (Wild and Woodward 2019 p. 6).

Within the framing of cycling as practice that encompasses health, happiness, and wellbeing, it is an opportunity to reshape the spatial and temporal ordering of society created by the car (Urry 2007 p.120), and a shift away from the construction of the car as a "rational" choice dictated by societal demands (Aldred 2016 p. 689). That in choosing to cycle, the individual is making a rational choice, but one based on physical health and mental wellbeing.

9.4.5. Meanings: Happiness and community

The idea of enjoyment is one that is present in the data collected from both survey and interview participants. This extends to classifying their cycling as a leisure activity they derive pleasure from, and the more tangible aspect of sociability. For many cycle users, there is a clear association between the

act of cycling and the idea of joy (Section 6.5.6 and 7.4). This idea of enjoyment and the role it plays also shows the highly personal nature of cycling. What could be pleasing for one person, is not for the next.

It is therefore interesting to note that in one of the criteria set out by Sustrans for “Places for Everyone” funding is to “design places that provide **enjoyment**, comfort, and protection” (Sustrans 2019, emphasis added; Section 4.8.2). The significance of this is brought into sharp relief when considering the differing ways in which individuals can conduct the practice of cycling as commuter, mountain biker, road biker, or in many of the other forms cycling can take⁹⁹. That in assigning a uniform expectation of enjoyment, it means that there is a risk of infrastructure failing to consider the needs of the wider cycling community. This is also discussed in relation to infrastructure and the subjective experience of shared use paths (Section 9.3.3).

Also discussed by participants was the sociality that cycling facilitates and this idea of being part of a community or fostering a sense of belonging with other cycle users; this can be with friends but also with family members who cycle too. This affirms that the act of riding a bicycle is not always solitary, and participants describe how it can create and maintain social bonds (Section 6.5.2, and 7.4.10). One interview participant also reflects on how these bonds can extend to remote locations, where meeting a fellow mountain biker allows for camaraderie and conversation (Section 7.4.10, Participant A5M). However, one interviewee also expressed a feeling that there were elements of elitism and exclusion, using the example of the presence or absence of a cycling club jersey as dictating whether a fellow cyclist would greet him on the road (Section 7.4.10, Participant A7M).

Despite this potential for exclusionary practices, it can be seen from the data that a meaning participants ascribe to cycling does relate to community, and that sociality of cycling is replicated in the literature (Section 2.9). In understanding the value of this symbolic meaning of community, Cox suggests that the imagined community that cycle users are part of may allow for sharing of the oppression associated with the minority practice of cycling (2015 pp. 21-22). However, this is mediated by the discussion in Section 9.2.1 and what is meant by the word “cyclist,” and the acknowledgement

⁹⁹ Cycling UK’s website lists the following areas in their “Type of Cycling” section on their website: women’s cycling; family cycling; cycle touring and expedition; bikepacking; off road and mountain biking; cycling to work; road cycling; fitness and sport.

that for some individuals the label of “cyclist” is to be resisted, and so presumably, is the imagined community. Once again emphasising that there are gaps in understanding even within the expansive group of cyclists, emphasising the potential diversity of cycling in Aberdeen.

Within the othered “out-group” of cyclists themselves, data from this present research indicates that the wearing of helmets and hi-vis clothing garners the attribute of a “good” cyclist in the eyes of some research participants (Sections 7.3.3). Indeed, participants emphasise their attempts to appear visible to other road users, through hi-vis but that it has contested value too:

“I wear high-vis, to give them a chance to see me” (Participant A4F, Section 7.3.3)

“I have a waterproof jacket [...] It’s yellow, but it’s not high-visibility. Because I feel high-visibility has become invisible - there’s so many. My helmet is high-visibility” (Participant A10F, Section 7.3.3)

Equally, the comments of Participant A10F on the alleged ubiquity of hi-vis are important, particularly in relation to the earlier data set out in relation to the “good” cyclist, and the perceived value placed on hi-vis garments by some participants.

Therefore, what can be determined from the above is that within these differing perspectives on offer, the gap allows for the creation of a false dichotomy between cyclists and non-cyclists that allows for construction of “the other.” The gap permits the certain behaviours to be directed towards cyclists that impact how they view cyclists and can have tangible safety consequences. In constructing the other, the literature notes that this can allow for the creation of a collective identity (Cox 2015), however, there is also a risk that this gap ensures that cyclists are not captured as vulnerable road users due to these socio-cultural differences (Prati, Puchades, and Pietrantoni 2017).

9.5. Meanings: Cycling and gender

Another identified gap relates to the much wider structural issue of gender inequality, and the relevance of this to cycling (Section 2.4). Data for England demonstrates that, “men cycle more often and further than women in all age brackets” (Department of Transport 2022), while in a local context, data from the Sustrans *Walking and Cycling Index* indicates that in Aberdeen 10% of female residents

cycle at least once a week, compared to 20% of male residents¹⁰⁰ (Sustrans 2022). Scholarship also notes that women's mobility patterns are more complex than those of men (Scheiner and Holz-Rau 2017), as discussed above in relation to trip chaining (Section 2.4.1). Furthermore, that gender creates additional barriers in relation to more women being able to successfully execute the practice of cycling (Section 2.4.2).

This section identifies areas in which gender, and specifically the female gender, is relevant to the practice of cycling, and how this contributes to inequalities between mobile subjects. What can be concluded is that there are grounds for recommending to policymakers that they “embed a gender analysis in policy, planning and practice that considers the evidence and experiences of women” (Motherwell 2018 p.4) and how the spatial, temporal, and social aspects of the practice of cycling are related to gender in the policy process (Ravensbergen, Buliung, and Laliberte 2020; Ravensbergen, Buliung, and Laliberte 2019). This would contribute to strengthening bonds between the distinctive elements of the practice and facilitating the continuation of cycling practices (Parsons 2019 p. 310), and the development of a practice of everyday cycling in the city. Other than the ability of Participant D to use her own agency to affect change, at present there is little evidence that these are formally recognised within cycling-specific policy development and implementation.

9.5.1. Gender and cycling competences

From a competences perspective, one participant notes that she relies on her husband to fix her bike (Participant A11F, Section 7.2.1). Another participant comments that some women might be reluctant to ride alone in case they have a mechanical issue (Participant 37M, Section 6.3.1). This points to a wider issue identified in the literature that women can lack confidence in repairing and maintaining a bike, and this can construct artificial barriers to cycling (Pearson et al 2023 p. 459) and contribute to the Issue of mobility injustice (Section 2.4.2; Sheller 2021; Verlinghieri and Schwanen 2020). However, even for women in possession of such a skill set, there was an impression the community did not entirely accept this knowledge, emphasising that the gender gap has an impact on cycling as a practice too. For example, one participant expresses frustration at “mansplainers” within the biking community when she attempts to apply her skills and knowledge as a trained bike mechanic (Participant A4F, Section 7.4.8).

¹⁰⁰ Sustrans notes that the sample featured at least 1,100 respondents aged 16 and above (completed surveys ranged from 1264 to 1622 for all cities involved) (Sustrans 2022)

9.5.2. Gender, space, and place

The role of gender also shapes the materials aspect of the female cycling practice, influencing clothing and the presentation of self. For example, one participant describes wearing a pink jacket and painting her nails to appear overtly feminine to other road users to enjoy more space on the road (Participant A17F, Section 7.2.5). This approach had also occurred to another female participant to positively influence the behaviour of other road users towards her (Participant A10F, Section 7.3.3), demonstrating the tactical nature of choices made within the practice but also potentially demonstrating the challenge women face when cycling in Aberdeen.

Female participants also applied the lens of safety to the meanings they attach to cycling. Reflecting on navigating the urban environment at night, one participant expressed she felt safer on a bicycle than as a pedestrian (Participant A20F, Section 7.4.8.). However, for another participant, there was a specific perceived threat from men, *“Lots of sexism. Men [sic] harassment and catcalling and following alongside bike”* (Participant 46F, Section 6.2.2). These participants’ experiences replicate the findings of existing scholarship, that there is an inherent connection between how an individual experiences the urban environment and their gender (Shaikly and Lira 2023; Lewis, Sauko and Lumsden 2021; Kern 2020; International Bank for Reconstruction and Development/The World Bank 2020; Kneeshaw and Norman 2019; Schmucki 2012). The experiences of Participant 46F also align with existing studies that affirm gendered nature of public spaces means women face the dual issue of street harassment, tempered with abuse for taking up space on the road as a cyclist (Kern 2020 p. 91; Bachelor 2018).

When considering the possibility of the practice of cycling in Aberdeen and the data gathered from female participants, it is important to account for the fact that this public gendering of mobile bodies occurs in a way that is not replicated across other transportation mode (Steinbach et al 2011), with existing studies also confirming that both perception of safety as a mobile subject and in the construction of gendered spaces has a role in individuals reproducing the practice of cycling (Ravensbergen, Buliung, and Laliberte 2020). This is particularly significant when considering the gender gap in cycling, given the differences between genders in perceptions of safety (Graystone, Mitra, and Hess 2022) and how this could influence the possibility of cycling as a practice. This further reinforces the idea present in the literature that cultural norms play a role in determining the

(im)mobility of women (Aldred, Woodcock, and Goodman 2016 p. 31), thereby contributing to the existing gender gap (Motherwell 2018 p. 3).

9.5.3. *Gender and the cyclist*

From a meanings perspective, while participants discuss the idea of gender, this is shaped by wider social norms. Specifically, the conflict between social norms and expectations for women, in relation to their professional persona. For example, one participant notes that she is perceived as unprofessional when she arrives at meetings with donors and charity representatives as part of her research job (Participant A20F, Section 7.4.11). This is reinforced by another participant who comments on the scrutiny women who cycle experience around their clothing choices (Participant A11F, Section 7.3.3,). More generally, another participant mentions that cycling is still viewed as an unconventional mode of transport for women (Participant 138F, Section 6.5.3). This is further supported by two interview participants who discuss that women over a certain age choosing to cycle is equally controversial (Participants A11F and A12F, Section 7.4.11,). This is replicated in the literature (Section 2.4), with Psarikidou concluding that, “the prevalence of a certain image for female professionals might be in conflict with the image of a female cyclist” (2020 p. 282). Put simply, there is gap between societal expectation and the lived experiences of those women who choose to cycle, which in turn shapes and mediates the act of cycling, specifically in relation to meanings.

One participant invokes specific reference to the patriarchy, and white male privilege, as being of relevance to the entitlement that accompanies car use in Aberdeen (Participant A4F, Section 7.4.8). While another participant observes that she is shouted at by other road users in a way that her male friends are not (Participant 213F, Section 6.3.1). Male interview participants also reflected on the invisible barriers that gender constructs for female participation in cycling at club level too (Participant A22M and A7M, Section 7.4.8). This emphasises the uneven nature of mobility referred to by Sheller (2021 p. 40).

9.5.4. *Gender and policy*

Participant D applies a specific lens to her policymaking practice, that of being female and of coming from an ethnic minority background¹⁰¹. She reflects on the experience of being one of the only women in the room during senior meetings, and “*one of definitely very few Asian women*” (Participant D,

¹⁰¹ Participant D is also a cyclist and commutes by bicycle in central Edinburgh.

Section 8.4.1.1). Embodying the highly personal nature of transport, she notes that when you have a woman at the table, the gendered aspects of transport discussed elsewhere in this chapter become *“real to an engineer who’s designing”* (Participant D), emphasising that how individuals can positively influence the policymaking practice through interpreting and applying their own practice too.

Taken collectively, this section has demonstrated the role that gender plays in mediating women’s ability to engage in a cycling practice in the city. It has been shown how gender contributes to inequalities between mobile subjects and therefore how this acts as a stressor on the fragile bonds that hold the practice of cycling together, allowing us to question the existence of such a practice in Aberdeen.

9.6. Meanings: velomobility within the system of automobility

Cycling in Aberdeen cannot be understood without examining the socio-cultural norms that participants feel influence and shape their practice, stemming from the system of automobility (Section 1.3.2). This section identifies gaps in understanding between those who cycle and those who do not (Section 9.6.1), facilitated by the construction of a “them and us” ideology (Section 9.6.2) and how meanings and perceptions linked to other actors are integral to cycling too (Section 9.6.3). Also identified is that the dominance of the car, and the associated wealth, creates an artificial gap between differing transport modes that is affirmed through literature on the relationship between social capital and mobility (Section 9.6.2).

Finally, it is established that there is a gap created between the desires of one group (cycle users) on one hand, and the pervasive demands of automobility that is cemented through the spatial and temporal influence of the car, and the act of cycling in opposition to this. Consequently, this can lead to the questioning of the existence of cycling as a practice due to the stresses placed on the bonds between the constituent elements and whether this mediates the performance of cycling as a practice in Aberdeen.

9.6.1. Meanings: societal attitudes towards cycling

A theme that is developed in the data relates to perceived societal attitudes towards cycling. Participants refer to individuals, the print media, and social media as contributors to shaping this idea

of who and what a cycle user is (Section 6.4.3). This is significant because, as noted in Chapter 2 (Section 2.5), there is a connection between the perception of social norms and acts of aggressive driving towards cycle users and that negative attitudes to cycle users are linked to increased incidents of aggressive driving too (Fruhen and Flinn 2015 p. 167). For example, one participant feels that there is a perception of, *“if you cycle [...] there’s something wrong with you [...] you’re some sort of left-leaning hippy”* (Participant A1M, Section 7.4.11). Two other interviewees also note the assumptions around social class that they feel can be applied to cycle users, stating that those who cycle present as if they cannot afford a car (Participant A12F, Section 7.4.11), or that they’ve been told *“only poor guys from Torry do this”* (Participant A20F, Section 7.4.11) and that there is an *“association of cycling with a lower class lifestyle, or poverty”* (Participant A20F, Section 7.4.11).

Such assumptions link with established literature around mobility injustice (Section 2.8) and the restrictions that are placed on certain bodies and the way they are permitted to move due to specific attributes (Sheller 2021 p. 43), such as class and perceived social status. This also indicates that the practical outcome of framing cycling as a social justice issue to promote greater levels of cycling could be hindered by the restrictions on mobile subjects based on their social status unless societal attitudes are adjusted. Particularly when bikes are conceived as *“...expensive toys for middle class men [...] instead of a means to get about”* (Participant 151M, Section 6.4.3), this creates a dichotomy between those who cycle for recreation and those who cycle for transport (Section 9.3.6).

Echoing Aldred’s 2016 work (noted in Section 2.5), while a connection between negative attitudes towards cycle users and acts of careless and dangerous behaviour towards cycle users cannot be definitively made, participants in this research also linked these two ideas as informing one another. Participants frequently label drivers as aggressive (Sections 6.2.2 and 7.4.3), with some participants expressly linking this to the creation of a *“threatening and intimidating”* environment (Participant 42M, Section 6.2.2). This is also discussed in the context of Section 9.3, particularly in relation to driver competences and close pass experiences.

All the above points to a gap in understanding between those who cycle and those who do not. This manifests itself with practical consequences and relates to the idea of mobility capital expressed by Dant (2014). That mobility is a privilege that is not afforded equally to all in society (Dant 2014).

Therefore, how, and where individuals travel is dictated by the effects of class and other structural issues that resonate beyond the spatial and temporal aspects of the journey.

9.6.2. Meanings: automobility and the car

As an object, the car embodies 21st century capitalism and is a significant form of household expenditure, through which the status and values of the owner are signified (Urry 2007 p. 115-116). This is replicated in the collected data where participants characterise car ownership as a *“marker of success”* (Participant 358M, Section 6.4.1) and that the city has *“lots of fancy cars an obsession with motor vehicles”* (Participant 254M, Section 6.4.1) and that the *“car is king”* (Participant A10F, Section 7.4.1). Participants also identify that the type of vehicle is significant, commenting that *“...in Aberdeen it is invariably an Audi”* (Participant 183M, Section 6.3.4). Such high-end vehicles are deemed to represent Aberdeen and the oil-based economy that continues to sustain the North East’s fortunes (Penman 2021; Section 1.2), with one participant commenting that that Aberdeen is the *“home of the hydrocarbon, and everyone driving their big, posh Audis around”* (Participant A1M, Section 7.4.1).

There is a perceived element of performativity in car ownership and that it signifies the “good life” (Urry 2007 p. 117; Urry 2004). This “good life” is summed up by one participant who concludes that there exists, *“...a lot of powerful car owners in affluent Aberdeen”* (Participant 114M, Section 6.4.1), therefore cars embody a whole host of distinctive social practices within a society of automobility that shapes both public and private spaces (Sheller 2004 p. 221).

Urry describes how the car is a “pre-dominant form of mobility” (2007 p. 117) and that is reiterated by survey participants for whom *“everything is based around the idea that cars are the main form of transport”* (Participant 300F, Section 6.4.1). It can be concluded from the above that the dominance of the car, and the associated wealth, creates an artificial gap between differing transport modes that is also linked to literature on the relationship between social capital and mobility (Schwanen et al 2015), and is relevant as an agent of both social change but also of social exclusion. The gap is artificial in the sense that no mode of transport has greater merit than another, it is the dominant system of automobility that dictates this false hierarchy (Section 1.3.2).

9.6.3. Meanings: the car driver and sharing spaces

Reflecting on the perceptions research participants express in relation to other road users, the idea of “aggression” features frequently in participant responses and this is significant. Fruhen, Rossen and Griffin (2019) found that the “importance and social value” that is attached to the car can negatively impact attitudes towards cyclists (2019 p. 240). This also links with the suggestion by Aldred et al (2019) that socio-cultural barriers are not only related to public perceptions but also to institutions that have been shaped by a culture within which the car has been king since the mid-twentieth century. From participant responses, the perceived competences of drivers are also relevant here too¹⁰². This topic generated a significant amount of data, but it was possible to detect themes within the perceived omissions in skills, knowledge, or technique of: (i) close passes; (ii) poor execution of overtaking manoeuvres; and (iii) “failure to see” incidents. It is therefore evident that the actions of others are material in the impact they exert on the constituent elements of the practice of cycling, and therefore the ability for the practice of cycling to exist.

Turning first to close pass incidents, these are recognised as having a detrimental effect of perceptions of safety both within the data set out in Section 6.5.5 but also in practical examples outside of this research. For example, in launching a recent campaign in Greater Manchester, Dame Sarah Story described close passes as being “one of the most frightening things” that a cycle user can experience (Road Safety GB 2023; Aldred and Goodman 2018). As determined by Rubie, Haworth, and Yamamoto (2023), both the relative distance between cycle user and car, along with passing speed impact perceived safety. Furthermore, incidents that could be characterised as punishment passes (where the actions of the driver are perceived to be deliberate) have a greater impact on the cyclist and perceived safety (Aldred and Goodman 2018).

Research participants expressed a desire for improved education and enforcement to address the issue of close passes, and other negative behaviours (Sections 6.3.2 and 7.2.3). Aldred and Goodman (2018) note that the impact of road environment characteristics could represent an avenue for future research (2018 p.169). Such work was subsequently undertaken by Rubie, Haworth, and Yamamoto (2023), who conclude that modifications to traffic and road infrastructure may be of more assistance to improving both the subjective and objective safety of cyclists, rather than on attempts to change driver attitudes (2023 p.93). This suggests that the perceived gap in driver education is not as

¹⁰² As set out in Sections 6.3.2, and 7.2.2.

significant as cycle users believe, and that the gaps in infrastructure in the urban environment are of greater relevance to addressing the issue of perception of safety arising from specific driver behaviours. This also emphasises the interdependence of the constituent elements of a practice and how they all coalesce to enable or constrain cycling performances within a space. Critically, that spaces of shared mobility are complex sites of practice (Barr et al 2021).

9.6.4. Meanings: cycling as transport

The current position of cycling in society, as will be demonstrated by discussion in this Chapter, is one that sits in opposition to the hegemonic transport practices dictated by the system of automobility and the capitalist society within which the practice of cycling is reproduced. As noted by Aldred (2016 p. 702), this is due to dominant paradigms prioritising motorised travel. The role of the car is discussed in Section 9.2.2 (and in Section 1.3.2), so this section will introduce the idea of the cycle user as a mobile subject with reference to transport mode.

As noted in Section 6.5.1 of the data, participants did not dwell on this meaning of cycling as a transport mode with as much depth as some other “meanings” in the data. However, some participants take a very utilitarian approach to cycling and that it has a defined purpose of commuting¹⁰³. While the data do not show whether gender plays a role in selecting cycling as a mode of transport it does highlight significant gendered differences in the cycling experience, reflecting findings in extant literature regarding differing spatial mobilities (Greed 2008 pp. 244-245; Department for Transport 2014; Kneeshaw and Norman 2019; Criado-Perez 2020 p.30; Ravensbergen, Buliung, and Sersli 2020).

This is not to suggest that the bicycle is not compatible with ‘mobilities of care’ (Ravensbergen, Buliung, and Sersli 2020); but rather that there are specific tasks which are more complex to undertake by bicycle (Ravensbergen, Buliung, and Sersli 2020) which require additional planning. However, through applying a practice theory approach, Ravensbergen, Buliung, and Sersli note that as participants gained experience cycling, the meanings associated with the trips that were possible to undertake by bicycle shifted (2020 p. 346). In the present context, this is perhaps why no female participants specifically discuss this aspect of their mobile lives, as their gender and the societal demands placed on them have been assimilated into their individual cycling behaviours.

¹⁰³ Participants 50M, 106M, 140M, 146F, 157F, 161F, 211N, 218F, 302M, 339M, 342F, and 359F.

However, due to women’s multifaceted travel patterns, understanding the mobile lives of women remains complex (Criado-Perez 2020 p. 38-39; Scheiner and Holz-Rau 2017). While it is aspirational that improved infrastructure and policies could be used to encourage greater representation of women (Aldred, Woodcock, and Goodman 2015), these do not and cannot address the wider structural inequalities that may act as barriers to women adopting cycling as a practice, some of which are set out in Section 9.5.

9.6.5. Meanings: cycling & safety

An important gap that can be identified in the data set out above relates to the difference between safety and perceived safety for those who cycle. This gap is already established in the literature (Sections 3.6.1 and 3.6.3) and that cycling is an activity that attracts a perception of risk (Aldred and Goodman 2018; Ponto 2015), and this can construct a barrier to reproduction of the practice (Pucher and Buehler 2017; Hull and O’Holleren 2014).

In examining the meaning participants attach to cycling and safety, this perception is articulated in several ways. Some participants express this as a general sentiment of vulnerability (Section 6.3.1), while others overtly express that perception of safety is a significant factor for them (Sections 6.4.5 and 7.4.9). There is no denying that for some participants, there is a knowledge of risk, either through the experiences of their own in being involved in a road traffic collision or witnessing others get hurt (Section 7.4.9., Participants A14M and A9M) but many other participants cite a distinct perception of risk as a core idea shaping their cycling lives (Sections 6.5.4 and 7.4.9).

A crucial question must be where this perception of risk arises. A useful tool for understanding road safety is the annual reported road casualty figures, indicating the number of individuals in Scotland who are killed or seriously injured due to road traffic collisions. As follows:

Killed by Mode of Transport	2014	2015	2016	2017	2018	2019	2020	2021	2022
Pedestrian	59	44	32	38	34	44	34	38	33
Pedal Cycle	8	5	8	5	6	9	11	10	2
Motorcycle	30	27	30	29	33	25	16	30	25
Car	94	75	106	64	75	75	71	55	101

Other	12	17	15	9	13	11	9	8	12
All modes	203	168	191	145	161	164	141	141	173

Table 6: Summary of road deaths 2014-2022 (Transport Scotland 2023, emphasis added)

Seriously injured by Mode of Transport	2014	2015	2016	2017	2018	2019	2020	2021	2022
Pedestrian	420	424	397	380	362	560	324	302	367
Pedal Cycle	159	164	148	171	156	229	247	196	180
Motorcycle	327	258	268	281	283	313	241	277	280
Car	686	638	762	662	667	1134	622	712	817
Other	109	118	122	100	114	165	101	131	132
All modes	1701	1602	1697	1594	1582	2401	1535	1618	1176

Table 7: Summary of serious injuries on the roads 2014-2022 (Transport Scotland 2023, emphasis added)

To contextualise these statistics, in 2023 Transport Scotland reported that pedal cycle casualty rates in Scotland for 2022 are “substantially lower” than in England (Transport Scotland 2023, p. 25) and this is replicated for other years to varying degrees (e.g., Transport Scotland 2019 p. 38). However, the issue of the identified gap between safety and perception of safety goes beyond these figures. In a review of reported cycling casualties between 1995-2018, it was determined that near misses are far more regular occurrences and that these contribute to the perception of safety around cycling (Young and Whyte 2020). This is evident in this research from the data presented in Chapters 6 and 7, where participants discuss their experiences of negative interactions with other road users that caused a very real sense of danger (e.g., Section 6.5.4).

Furthermore, a significant gap relates to the under-reporting and lack of data regarding cycling, and this has been identified as problematic for accurate determination of risk (Young and Whyte 2020; Short and Caulfield 2014). This contradicts the belief that a fear of cycling is socially constructed (Ponto 2015; Horton 2007) and has clear implications for the planning, design, and implementation of policy as the data is not fully representing the practice of cycling. The data gap around cycling is also referred to by the professionals’ interviews (Section 8.2.2.1), where what data is being collected and the quality of the data is highlighted as a concern (Participants B and C, Section 8.2.2.1). This is particularly significant for the practice of cycling, and where that cycling takes place, as articulated by Participant B: “...because of its [cycling] informal nature when it's non-road, how can you measure [...] how can you possibly hope to measure the current measures in place” (Participant B, Section 8.2.2.1). This is discussed further in Section 9.8.2.

9.6.6. Meanings: automobility and time

Throughout the survey responses and interviews, participants reflect on what can be described as a pervasive dominance of the car in Aberdeen and how this creates obstacles to cycling and the reproduction of cycling by others. The socio-cultural role of the car is reinforced by existing literature. As noted in Chapter 3 (Section 3.6), the lens of automobility is the mechanism through which the benefits of cycling are constructed (Aldred 2010, pp. 35-36). Furthermore, the spatial and temporal ordering of society created by the car and its impact on the urban environment is also significant (Urry 2007 p.120; Section 1.3.2).

Aldred (2010) emphasises the relationship between automobility, and the perceived benefits of cycling through participants' conceptualisation of time. This can be constructed as both a positive and a negative. For example, when discussing why they choose to cycle, some participants refer to cycling as being *“quicker than...”* travelling by car (Section 6.5.7). Again, using automobility as a benchmark, participants also focus on the avoidance of rush hour traffic and queues when they travel by bicycle within the context of time savings (Section 6.5.7). This also contrasts with the experiential element of the car itself, as a *“domestic, cocooned, moving capsule, an iron bubble”* (Urry 2007 p. 120), that is representative of *“another life”* (Urry 2007 p. 115), that is separate from the bicycle.

Participants also provide further observations on time but in relation to other road users and their perceived behaviours. For example, participants discuss other road users being *“in a bloody rush”* (Participant A5M, Section 7.4.12), and that for some this is indicative of modernity, *“I suppose that’s just society now, that people want everything really quickly”* (Participant A21M, Section 7.4.12). This construction of time links with themes discussed in Chapter 3 in relation to cycling as a transport mode, and the relationship between automobility and what Urry describes as *“personalised, subjective temporalities”* (Urry 2007 p.120). The literature also points out that this sense of temporal urgency contributes to a change in driving behaviours (Kimura et al 2022¹⁰⁴) and it is well established that emotions can directly influence driving behaviours (Steinhauser et al 2018), with consequences for risk taking behaviours and violations (Precht, Keinath and Krems 2018; Abdu, Shinar and Meiran 2012). This also connects with the section on safety and perception of safety set out in Section 9.3.7.

¹⁰⁴ An express limitation of this study is the small sample size (n10) and the consequences for generalisability.

Therefore, the belief that cycle users are viewed as a *“nuisance”* (Participant 329M, Section 6.5.7), a *“hindrance”* (Participant 177F, Section 6.5.7) emphasises the gap created between the desires of one group (cycle users) on one hand, and the pervasive demands of automobility that can have practical consequences for cycling. It is captured well by one participant who expresses that *“...time and urgency to get where they are going is more important than my life”* (Participant 351F, Section 6.5.7).

These pervasive demands of automobility, as reflected throughout this section, can lead to the questioning of the existence of cycling as a practice due to the stresses placed on the bonds between the elements of the practice. This in turn mediates the performance of cycling as a practice in Aberdeen and opens the possibility of questioning its very existence in the city as an established practice.

9.7. Policymakers and cycling in Aberdeen

This section considers the data collected from policymakers, as set out in Chapter 8, but also incorporates the data from members of the public in relation to policy too. As noted in Chapter 4, cycling policy in Scotland is a crowded policy landscape that is imbued with a spirit of ambition, but gaps exist between what is contained within this policy documentation and what has been achieved. The purpose of this section is also to explore the idea of policymaking for cycling as a practice, and the distinct competences, meanings, and materials that such policymakers exploit to create the necessary policy environment for cycling in Aberdeen.

In terms of transport policy for the city, this section establishes how the organisational structure of the local authority despite its flaws, is capable of normalising or delegitimising certain forms of transport through its development and implementation of policy and is therefore of integral importance to cycling in Aberdeen. This research also advances that a practice of cycle policymaking exists whereby policymakers operate within an environment of distinctive competences, materials, and meanings that constitute a defined practice. As noted by Parsons (2019), such an understanding of the role that institutions and policy domains play in shaping mobility practices has been instructive in conceptualising the possibility of cycling practices in Aberdeen.

How the practice of policymaking for cycling is comprised is best articulated via the following diagram, drawn from the data presented in Chapter 8:

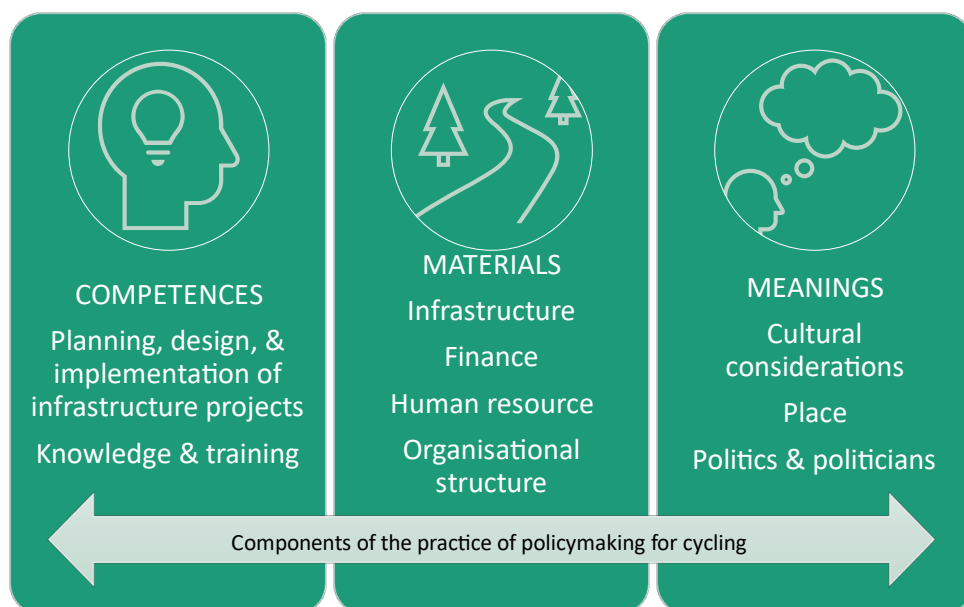


Figure 24: The practice of cycle policymaking in Aberdeen: a summary

Although there is a focus on the material element of infrastructure to create the conditions for cycling in Aberdeen (and the associated funding requirements), it is also evident that meanings are tied to these materialities too, and that the competences associated with the policymaking are critical components. This is reinforced through consideration of Shove, Pantzar, and Watson’s description of the elements of a practice being mutually shaping and interconnected (2012 Fig 2.3). Furthermore, Hampton (2018) explores how practice theory can be applied to “complex bundles of practice” associated with policymaking in relation to policy implementation and notes the value such an interpretation can have by presenting a more holistic view of the process (2018 p. 51).

However, it is important to recognise that within the context of this thesis, cycling operates beyond and despite the organisational structures of the state through a form of self-governance (Foucault 1994) that exists separately from the local authority, as will be explored further in Section 9.8 below.

9.7.1. Competences: The practicalities of planning, design, and implementation of policy

The role of policymakers is summarised neatly by Participant C, “...it’s policy development and it’s project delivery” (Participant, 8.2.1.2). From the data set out in the wider context of Section 8.2.1, it can be determined that policy competences are frustrated by the lack of material resources (Section 8.3) but also by gaps between the skill, know-how and technique applied through policy development (Section 8.22), and the practical implementation of policy delivery (Section 8.2.1).

In trying to locate the perceived significance of policy relevant to cycling, Participant C implies that despite what the national transport hierarchy would imply, cycling does not have a prominent place (Section 8.2.1.2). Starting from the level of national government in Scotland, it was felt that there is a gap in understanding within Transport Scotland, in that high level policy makers fail to understand that “one size doesn’t fit all” (Participant B, Section 8.2.1.1). Section 4.3 above, sets out the national policy instruments that are uniformly applied to Scotland, which are then supported at a regional level by the documents set out in Section 4.4, before finally at local authority level in Section 4.5. All these individual layers inform the planning, design, and implementation of policy; however, this is also mediated by the relative knowledge and training of officials and therefore the level of proficiency they have in the policymaking practice.

From the perspective of members of the public, there is a perceived gap between the content of the policy documents and the desired outcomes contained in these documents and as such, they have minor impact beyond offering an aspiration for how cycling can be better facilitated (Sections 6.3.4 and 7.2.4). There is also a sense that the documents contain policy ideas that are ready to be implemented, but these do not translate into immediately tangible improvements (Participant 261M, Section 6.3.43; Participant 19M, Section 7.2.4).

The assessment of policymaking from professionals external to Aberdeen City Council is also downbeat, with the approach to policymaking by the local authority was described as “scattergun” (Participant B, Section 8.2.1.1) and this is in part due to the gaps identified by interview participants in relevant policymaking competences. For example, Participant A discusses the gap in understanding between transportation planners and roads engineers, whereby the former have a keen sense of place and the latter are driven by what is cheapest and quickest to install (Participant A, Section 8.2.1.2). The

importance of place is noted in Chapter 3 (Section 3.2) and how this shapes cycling for individuals. Therefore, if infrastructure planning is being mediated not only by cost but also a desire for speedy solutions at the expense of place and placemaking, this is weakening the practice of cycling too.

Equally, from a policy delivery perspective, Participant C feels that there is a gap between what they describe as “*appraisal and delivery*” (Participant C, Section 8.2.1.2). Specifically, that delivery itself is not the issue but that there are difficulties with “*design [...], engagement and decision-making*” (Participant C, Section 8.2.1.2). Around the question of engagement, public participants also comment on the perceived lack of meaningful engagement with cycle users (Participant 197F, Section 6.2.3) and that consequently when plans for new infrastructure are presented, there are numerous issues with the plans (Participant 12F, Section 7.2.4). The issue of public consultation will be considered in Section 9.7.2.

9.7.2. Competences: Knowledge and training

During interviews, policymakers noted three specific areas around knowledge and training that they felt were of significance to their own policymaking practice and the practice of other policymakers too. These are: (i) data and data gathering; (ii) joined up policy; and (iii) training competences.

9.7.2.1. Data and data gathering

In relation to data and data gathering, interview participants expressed frustration about the quality of data available to inform decision making and evaluate initiatives, and the corresponding gaps in knowledge that this creates. Participant B approached the issue from a policy legitimacy and transparency perspective. They note that the lack of transparency and accuracy in the data, particularly around cycle counters and polling or public opinion, is detrimental to the public understanding of what the Scottish Government (and by proxy Sustrans) are doing as far as cycling is concerned (Participant B, Section 8.2.2.1).

There is an important distinction between consultation and participation, with consequences for a redistribution of power between those involved in the process (Gil, Calado, and Bentz 2011, p. 1311; Section 3.6.4). Participant B is scathing of one local authority’s online consultation about its Active

Travel Strategy refresh and describes it as being performative, that is a “*consultation for consultation’s sake*” (Participant B, Section 8.2.2.1). Therefore, the gap in knowledge that is created between failing to account for cycling in planning new infrastructure, is problematic because it marginalises cyclists but also prevents the variety of cycling that exists within the city to be considered. It is acknowledged that these competences cannot be considered in isolation and that material resources need to be considered too.

Participant C is also concerned with the accuracy of data in respect of how many people cycle, but also how multi-modal trips are captured too (Participant C, Section 8.2.2.1). They conclude that there needs to be a much stronger focus on determining how many people are cycling if the goal is, in fact, to increase the number of cycle users in the city (Participant C, Section 8.2.2.1). Given that a lot of cycling may take place away from where static counters are located, there requires to be a reliance on more diverse forms of data such as the Strava heatmap data utilised to map cycling patterns in Glasgow (McArthur and Hong 2019). There requires to be a shift in thinking about data collection, and new competences adopted that move away from methods that are associated with the traditional methods existing in automobility and to ones embracing velomobility and an end to “hegemonic automobility” (Cox 2019 p.4). However, that would require a significant culture adjustment for policymakers as part of their practice, just as such a request would for the public (e.g., Section 9.4).

9.7.2.2. Joined up policy

Another point policymakers discussed is the importance of joined up thinking when it comes to policy development and implementation. This is evidence that the policymakers themselves perceive that there is a gap in the current policymaking approaches where cycling is concerned. What emerged was a different approach between local authorities. For example, from Participant D’s account (Section 8.2.2.2) of cross-cutting policy, it appears that Edinburgh City Council is developing new policy competences that place transport more centrally and informs decision making in other policy areas.

On the other hand, policymakers within Aberdeen City Council appears to possess the requisite competences to engage in more collaborative approaches and have been doing so to a limited extent, (Participant F, Section 8.2.2.2) but have been unable to do so to any great significance; while progress has been made, there is still a gap in between the shared knowledge available across Aberdeen City

Council and the relevance of transport to other policy briefs, such as health and education, that offers the opportunity to, *“strengthen any case for change”* (Participant F).

9.7.2.3 Training competences

How policy makers acquire the relevant skills, knowledge, and techniques to shape the competences of their practice is discussed by policymakers. Here the focus was around the specific knowledge that could be gained through specialised training, and that there is an identified gap in the skills, knowledge, and techniques employed by professionals when it comes to developing and implementing cycle-specific policies. For example, one participant discussed the lack of qualified professionals with specific active travel knowledge operating in the small community of policymakers in Scotland (Participant A, Section 8.2.2.3). While another participant reflects on the demographics of the profession, commenting that younger staff are likely to have a different skill set than those individuals who have been in post for longer (Participant C, Section 8.2.2.3). This is also something that members of the public have commented upon, with participants noting the requirement for specialist help to design and redesign infrastructure (Participant 71M, Section 6.4.1.).

The cumulative effect of these knowledge gaps, according to one participant, is that the city has lost its direction on cycling and describes the situation as a *“mystery tour”* due to the lack of focus on how transport impacts other themes (Participant B, Section 8.2.2.3). This is certainly a position echoed by public participants in the research. Indeed, one participant comments on the apparent disconnect between funding bodies such as Sustrans and the local authority, which acts as a barrier to progress (Participant 179M, Section 6.3.4). This is echoed by another participant who assesses the status quo as representing a *“disjointed and inconsistent application of funding and policy”* (Participant 304M, Section 6.6.3).

9.7.3. Materials: Human resource

In the overall practice of policymaking within Aberdeen City Council, a key material element mentioned by the professional interviewees was in relation to human resource; having adequate staff numbers, with adequate capacity to undertake the required work. This gap was discussed by Participants A, E, F and G (Section 8.3.3). The situation is best described by one participant who states, *“they’re all*

spinning plates, because they're doing the jobs of several people that existed previously" (Participant B, Section 8.3.3).

Participant B makes the connection between human resource and the ongoing crisis in Scottish local government funding. For example, figures released by Audit Scotland in 2023 show that revenue funding for local authorities in Scotland has only increased by 2.6% in real terms over the last decade and critically that local government funding has not been on a par with other parts of the Scottish public sector for "many years" (Audit Scotland 2023 p. 15). This financial picture is replicated by information set out by COSLA about the state of local government finances in 2023 (COSLA 2023). Moreover, in reporting the results of a survey of Local Authority Chief Executives in the UK, it is noted that transport is a service that is identified as being at risk (Audit Scotland 2023 p. 16). Therefore, this gap is far more complex and relates to a national funding picture.

Other participants discuss the time and effort placed on bidding for funding, and how these impacts on time available to complete other tasks (Participants A and E, Section 8.3.3). Whereas, in relation to the funding model, one participant notes the impact this has on whether it is possible to bring someone in to support the project, when the funding is for such short durations, against a lengthy recruitment process (Participant G). The relevance of the funding model is discussed in Section 9.8.2.

What is apparent from participant responses set out in Section 8.3.3, is that the question of human resource is vital to understanding the "materials" component of the policymaking practice and that there are strong linkages between this issue and funding and funding cycles.

9.7.4. Meanings: Organisational structure

As noted in Section 8.3.4 above, organisational structure is also a significant component of the "materials" relevant to policymaking and therefore to cycling in Aberdeen. While there are positives highlighted by participants, there are also issues with the organisational structures that impact on the development, design, and implementation of cycling-specific initiatives, such as the committee structure and (Participants F and G, Section 8.3.4), organisational structure (Participant C, Section 8.3.4) and a lack of strategic direction for the organisation (Participant B, Section 8.3.4). Participant D

offers a different insight around organisational structure and the desire for instead of all these diffuse teams covering transport, there would be a singular team with the policy brief for transport focussed on the urban environment or embedding active travel policy into the strategic direction of the organisation (Participant D, Section 8.3.4)

In comparing the perspectives of Participant D, with those of Participant C, F, and G there is a gap between aspiration and reality for what the optimum conditions are for policy development and delivery within local authorities. These gaps are relevant as it demonstrates areas in the organisational structure where cycle-specific policy can become stuck and stagnate due to the lack of strategic direction that is noted by Participant B above. However, beyond the context of the immediate question of cycling policy, the organisational structure of Aberdeen City Council is too extensive an issue to be fully interrogated within the scope of this thesis.

There is a significant body of work that examined local government reform in the late 1990s in Scotland (e.g., Midwinter and McGarvey 1997; McCrone, Paterson, and Brown 1993), as well as devolution and the impact on local government (e.g., McGarvey 2012; McAteer and Bennett 2005; Midwinter 1997). However, there is not a significant amount of recent literature on the organisational structure and operation of local government in Scotland. McTigue, Rye and Monios (2020) offer valuable insight into barriers in local government policy implementation across the UK, with reference to bus policy. The commentary provided in Table 3 around the relative impact of specific aspects of the policy process indicates that organisational characteristics are highly important, and both “economic, social and political environments”, and “collaboration and interaction between those involved in the policy process” as having medium-high impacts on the policy process (McTigue, Rye, and Monios 2020 p.21). Reflecting on the comments made by participants above, it can be seen how Participant D’s suggestion of high levels of integration could assist in addressing the issues emphasised by McTigue, Rye, and Monios (2020) and that the fragmented approach operating with Aberdeen City Council is not conducive to a policy development and implementation practice.

9.7.5. Meanings: Cultural considerations and perceptions

9.7.5.1. Interpreting public perceptions

The final part of this section will focus on the meanings that are relevant to cultural considerations and perceptions for the practice of policymaking. As set out in Section 8.4.1.1, interview participants focus on workplace cultural considerations and considerations that are relevant to members of the public too.

Beginning with the issue of managing public perceptions and cultural norms, participants obliquely reference the issue of automobility in their responses (Participants A and C, Section 8.4.1) and how this shapes mode choice. As with public participants, professional participants also dwell on how perceptions of cycle safety are relevant to cycling in the city too, including that of personal safety (Participants B and C, Section 9.6.5). There is also reflection on the status of cycle-use within society, and that it has not reached universal acceptance as a legitimate mode of transportation (Participant F, Section 8.4.1) but it is believed that it could do so, with the correct level of public and political support (Participants A and F, Section 8.4.1).

The acknowledgement by the interviewed professionals that the symbolic meanings, ideas, and aspirations that are part of cycling also impact policy making, is significant as it offers a way of closing the gap between policymakers and cycle users. It demonstrates that policymaking is multifaceted, seeping beyond the often-standardised competences and materials, and absorbing these intangible “meanings” ascribed by others too.

9.7.5.2. Workplace culture¹⁰⁵

Participants also discuss how facets of workplace culture, such as individual personalities and attitudes can influence their policymaking practice. For example, Participant B is unequivocal on how specific individuals within the local authority have used their position to advance their own agenda, and negatively impact policy development and implementation, to the point where they are described as “*obstacles to progress*” (Participant B, Section 8.4.1.1). Participant E elaborates on this further, noting

¹⁰⁵ I was provided with off the record information that cannot be disclosed due to reasons of confidentiality, but which informs this section. It relates to who the specific individuals are, their role, and their position with the organisation.

that there are still some policymakers wedded to the *“car is king”* ideology, and that trying to advance cycle policy that is potentially disruptive to this narrative is implied to be a challenge (Participant E, Section 8.4.1.1). Therefore, the culture within which these policymakers operate, particularly in relation to Aberdeen City Council, is one where power dynamics within the management hierarchy are important.

In relation to automobility and the cultural norm of the car, participants express a desire that policymakers, *“need to be bold and then politicians have to have the courage of their convictions and be bold about these things as well”* (Participant A, Section 8.4.1.1). This is echoed by Participant B, who feels that policymakers need to be a *“bit braver”* and that the reality of prioritising other forms of transport over the car will not be as disruptive as feared (Participant B, Section 8.4.1.1), emphasising the sentiment that policymakers need to be braver and embrace the disruption too.

Participant D applies a specific lens to her practice, that of being female and of coming from an ethnic minority background¹⁰⁶. She reflects on the experience of being one of the only women in the room during senior meetings, and *“one of definitely very few Asian women”* (Participant D, Section 8.4.1.1). Embodying the highly personal nature of transport, she notes that when you have a woman at the table, the gendered aspects of transport discussed elsewhere in this chapter become *“real to an engineer who’s designing”* (Participant D), emphasising that how individuals can positively influence the policymaking practice through interpreting and applying their experiences too.

9.8. The practicalities of cycle policy and funding in Aberdeen

Finally, this section builds on the previous Section 9.7 by considering the practicalities of policymaking for cycling in Aberdeen and the specific competences, materials, and meanings identified by policymakers in relation to this process. This section will also consider the limitations of the policymaking process, policy failure, and how this shapes cycling in Aberdeen.

While the practice of policymaking for cycling exists, as established in Section 9.7, there are numerous challenges to the practice identified by practitioners. Policymakers identify a gap between the aspirations contained within policy documents, and the lack of tangible impact they have on

¹⁰⁶ Participant D is also a cyclist and commutes by bicycle in central Edinburgh.

communities in the city (Section 9.8.1). Part of this difficulty is in the funding structure that operates in Scotland (Section 9.8.2) and the identified gaps that are set out in this section. What is evident, is that there is a gap between the perception of how active travel should be funded in Scotland from the perspective of practitioners, with the reality of the practical application of the Scottish Government's approach. This gap in the material element of funding, is compounded by perceived gaps in leadership within the local authority (Section 9.5.4). However, the most significant gap identified is the disconnection between the politics of the North East of Scotland and that of the Scottish Government, from both a party-political perspective but also on a much deeper ideological level (Section 9.8.3).

The section will demonstrate that, while capable of being influenced by the practice of policymaking, cycling in Aberdeen is not solely dependent upon policy and policymakers and is instead formed by the multifaceted elements of competences, meanings, and materials detailed in this Chapter. What the insights into cycle policymaking offers, in line with Parsons' observations, is a wider understanding of a "system of practice" (2019 p. 321), and a clearer understanding of the place of velomobility within the competing and dominant system of automobility.

9.8.1. Competences & Materials: the role of policy documents

As noted in Section 8.3.5, during interviews there was a sense of frustration from some participants about the gap between the aspiration of these policy instruments and their lack of tangible impact on communities. Participant B was particularly vocal about the perceived utility of policy documentation such as the Cycling Action Plan for Scotland (CAPS), which they describe as a "*huge catastrophic failure*," and that many policies are in place at local authority level because the Scottish Government requires their creation (Participant B, Section 8.3.5). This is due to the perception that the documents are toothless because they set targets but lack meaningful monitoring or evaluation or a route map to achieve (Participant B, Section 8.3.5)¹⁰⁷.

Following on from the frustration of Participant B, another participant comments on the lack of a strategic vision within Aberdeen City Council, as far as transport is concerned, and how that can hamper advancing existing policy and meeting policy objectives too (Participant F, Section 8.3.5). Once again, reflecting on a gap, they comment that the bitesize policy segments that are presented to local

¹⁰⁷ This was also clarified in a subsequent conversation between me and the participant.

authority councillors during committee meetings get lost. To overcome this barrier, what they feel is required is a “*big vision*” that these bitesize policies can then contribute to achieving (Participant F, Section 8.3.5). Furthermore, for elected members to comprehend this wider vision, and that this would consequently permit funding approval for projects if an overarching strategic vision were present (Participant F, Section 8.3.5). This also links with the role that politics and politicians play, as set out in Section 9.9.3.

However, it is important to also consider the wider systemic causes of policy failure and their application to the current context. There is acknowledgement in the literature that the factors shaping policy development and implementation are increasingly complex, with multiple causes and solutions, and that they are also highly context dependent (Hudson, Hunter, and Peckham 2018). Four factors relevant to policy failure are identified: (i) overly optimistic expectations; (ii) implementation in dispersed governance; (iii) inadequate collaborative policymaking; and (iv) vagaries of the political cycle (Hudson, Hunter, and Peckham 2018 pp.2-4). Moreover, as noted in Section 4.8 above, what these policies are trying to address are deeply structural issues such as automobility, alongside ingrained challenges associated with gender and class inequalities, therefore tipping these issues into the realm of “wicked problems” (Hartley, Kuecker, and Woo 2019).

From the list of contributing factors identified by Hudson, Hunter, and Peckham (2018), it can be seen how they are relevant to cycling specific policy in Scotland. First, there are high targets set for numbers of journeys made by bicycle that are continually missed¹⁰⁸ (Section 4.3) and are therefore capable of being classed as overly optimistic targets. Secondly, the policies are implemented across the multi-level governance system that operates in Scotland, involving Transport Scotland, Regional Transport Partnerships, local authorities, and non-government organisations disbursing funding (i.e., Sustrans) (Section 4.2). Thirdly, as identified in Section 9.7.2 above, there is a lack of competences relating to collaboration with both professionals and the public in developing cycling policy, at least at the local level. Fourth, due to the perceived political risk of the policies, barriers exist to investing in cycling policies that do not exist elsewhere (Aldred 2019 p. 156) and that the perceived palatability of policies to the public and elected members can mediate policy implementation too (Forrester 2009 p. 317).

¹⁰⁸ Although the narrative has flipped more recently, with emphasis on a 20% reduction in car kms by 2030.

Cyclist participants also comment on a perceived gap between the Scottish Government policy aspirations, and the policy direction pursued by Aberdeen City Council (Participants 261M and 270M, Section 6.2.3) but also on a gap in their own knowledge of relevant policy too (Participant 90M, Section 6.2.3). As noted above, for these practitioners, these policies are only relevant to cycling insofar as they have a tangible impact on the material aspect of cycling. The absence of knowledge does not matter. However, when the practitioners have an awareness of the policies themselves, these can contribute to shaping meanings associated with cycling (Section 6.3.4.).

For participants who did have an awareness of policy, it can be determined from the responses that there is a feeling of perceived unimportance when it comes to cycling and cycling policy in Aberdeen (Section 6.3.5). Participants feel that there is scant consideration of cyclists (Participant 107M, Section 6.3.5) and that because it is a secondary activity to driving. Also from a policy perspective, one participant felt that the political colour of Aberdeen City Council versus the Scottish Government had an impact on willingness to apply for funding (Participant 26M, Section 6.3.5). However, all these issues relate back to the above discussion of policy failure, and how these observations are inherently linked to this idea too.

9.8.2. Materials: funding

As noted above, finance and financing of projects is a recurring theme within interviews with policymakers and represent some of the most important “materials” to many participants; however, this is not uniform across all interviewees. For example, one participant felt that there was too much emphasis on funding, and that where the focus should be is on delivering policy (Participant C, Section 8.3.2). Public participants in the research also make the connection between policy and funding requirements (Sections 6.3.4, 6.42), with frustration expressed at both the perceived lack of progress.

Funding is a critical element for cycling and this section will consider the three elements of: (i) match funding; (ii) ring fencing; and (iii) Sustrans as a funder¹⁰⁹. First, the general gaps or barriers identified in connection with funding that participants note can be summarised as follows:

- Gaps in human resource, time resource, and financial resources for matched funds for certain applications (Participant G, Section 8.3.2)
- No funding for active travel from the Aberdeen City Council budget (Participant F, Section 8.3.2)

¹⁰⁹ Section 4.8 provides detail on how policies are funded.

- No funding for maintenance costs of new infrastructure (Participant G, Section 8.3.2)
- No flexibility in funding cycles (Participants A and F, Section 8.3.2)
- Gaps in forward planning due to budget uncertainties associated with funding cycles (Participant F, Section 8.3.2)
- Short term nature of funding acting as a barrier to multi-year projects (Participant F, Section 8.3.2)

From the above, funding presents a serious challenge to policy implementation, due to both the precarious nature of funding and ease of access. Moreover, the pot of funding available had historically represented approximately 2% of transport investment in Scotland, increasing to 4% in 2018/19 and with a commitment to increase this to at least £320 million or 10% by 2024/25 (Transport Scotland 2023).

The requirement to find match funding was identified by participants as a barrier to the development and implementation of cycling policies, due to funding pressures on local authorities (Participant G, Section 8.3.2.1). This is perhaps why participants found the idea of ring-fenced funding for active travel to be so appealing (Section 8.3.2.2). However, one participant while supportive of ring -fencing, felt that the funds could not be left to the whims of the political process and that the organisational structure of the local authority would need to be considered, i.e., full council decision making (Participant B).

Referring to the discussion in Section 9.5.2, it can be seen how funding plays a part in the policy failure scenario set out by Hudson, Hunter, and Peckham (2018 pp.2-4) and has relevance to all four influencing factors. Further, it reinforces this idea of a gap in funding. Specifically, that there is a gap between the perception of how active travel should be funded in Scotland from the perspective of practitioners, with the reality of the practical application of the Scottish Government's approach.

All the policymakers interviewed, except for Participant D¹¹⁰, expressed frustration with the significant power Sustrans has been permitted to wield over active travel in Scotland and whether this represents value for money. At the core of the issue is that the Scottish Government has charged Sustrans with disbursing public funds, through a process of open tender, to facilitate the construction of infrastructure in Scotland. It relates to issues associated with multi-level governance, such as diffuse

¹¹⁰ At the time, a Sustrans employee

democratic accountability (Papadopoulos 2010) and is a manifestation of the hollowing out of the state, through the process of alternative service delivery systems (Rhodes 1994). What Aldred describes as the “outsourced cycling state,” driven by the perceived political risk of appearing anti-car (2012 p.99).

In moving the power to Sustrans, the Scottish Government has enabled cycling and cycling policy to be distinguished from other transportation modes, to be set apart as an out-group. As noted by Participant D, the aspiration is not for local authorities to have an active travel team, but to “*just have an urban team or they would have transport team where active travel is so embedded in that you don't need a specific [...] cycling team*” (Participant D, Section 8.5.4). As iterated above (Section 8.5.4), artificial gaps are created through the silo mentality of local government, and layers of the multi-level governance system (Section 4.2) that create barriers for the development and implementation of cycling policy and it would require a shift in the multi-level governance approach in Scotland to change these power dynamics.

What can be determined from the above, is that there are significant gaps in the approach to funding adopted for cycling in Scotland (Section 4.8). These gaps are ideological between the local authorities and Sustrans (meanings), practical gaps in funding caused by match funding requirements and the competitive nature of the funding (materials), and reliant on the skills of policymakers and their teams to meet the requisite funding criteria (competences). Furthermore, the failure or success of all these elements to combine materially impacts cycling in Aberdeen via infrastructure provision (Section 9.7.2).

9.8.3. Meanings: the role of politics and politicians

This section will focus on the role of politics and politicians in the practice of both policymaking and for cycling in Aberdeen. As Participant D notes, “*...transport is political, it's personal and political.*” From the data set out in Section 8.4.4, it is apparent that politics and the views of politicians themselves also impact the development and implementation of policy, and so therefore needed to be considered as part of the wider discussion of “meanings” within the data. The purpose here is to identify and articulate the competences, materials, and meanings relevant for cycling, aiming to identify gaps in the organisational, practical, and social aspects of cycling in Aberdeen.

In reflecting on how politics can shape the ideas and aspirations of policy development, Participant A comments that there is sometimes a “gap between perception of what politicians will agree and approve” and reality (Participant A, Section 8.4.4). Another participant identifies a perceived gap in political leadership in terms of how the tough decisions are made about improving the urban realm with walking and cycling initiatives (Participant C, Section 8.4.4). However, the most significant gap identifies is the disconnection between the politics of the North East of Scotland and that of the Scottish Government, from both a party-political perspective but also on a much deeper ideological level (Participant B, Section 8.4.4).

Chapter 10: Conclusions

10.1. Aim & objectives in context

The aim of this research has been to evaluate the practice of cycling in Aberdeen and the associated organisational, practical, and social influences on the implementation of cycling-specific policies in the city and the preceding chapter has identified several gaps in the composite of competences, materials, and meanings that are associated with cycling in Aberdeen. The purpose of articulating these gaps is to demonstrate the complexity of cycling in Aberdeen, which in turn opens the possibility to question the existence of the practice of cycling in Aberdeen, due to the interrelationships between the meanings, materials, and competences that define a practice. Therefore, these gaps are significant as they represent potential stressors on the bonds between the elements forming a practice, thereby mediating the elements of the practice itself.

If a practice is “defined by interdependent relations between materials, meanings, and competences” (Shove, Pantzar, and Watson 2014 p. 24), these elements are put under pressure by the gaps identified throughout Chapter 9 and the fragile bonds are not capable of sustaining a cohesive practice. To fully explore the significance of these gaps, this chapter will revisit the aim and objectives of this research and contextualise the findings accordingly below.

Objective 1 – To interrogate the nature of cycling practices in Aberdeen (Section 1.3.2; Chapter 2; Chapter 3; Sections 4.7; Sections 9.4, 9.5, 9.6)

From the data presented in Chapters 6 and 7, and through the discussion in Chapter 9, it is possible to demonstrate how perceptions of cycling in Aberdeen are shaped by the three components of competences, materials, and meanings associated with the practice. As follows:

Competences

There exists a wealth of competences associated with cycling in Aberdeen (Section 9.2), some of which are specifically gendered (Section 9.2.1) and others which seek to mediate the meanings associated with the “good” cyclist (Section 9.2.2). Cyclists discuss the specific skills required to negotiate the shared spaces (both with motorised vehicles and pedestrians) in Aberdeen, and there is evidence that some of these skills are contested (e.g., in relation to speed, Section 7.2.5). In line with the findings of Spotswood et al (2015), learning to negotiate what are perceived as “dangerous” roads also shapes the competences required for cycling. What can be concluded is that the wide range of competences required to navigate the materialities associated with cycling but also the meanings set out in Sections 9.4 to 9.6, coalesce with the gaps identified to present several barriers to the practice of cycling in Aberdeen. The outcome is a diverse and contested arrangement of elements that, unlike as explored by Parsons (2019) cannot similarly claim to constitute a practice of cycling albeit performed in different ways. In Aberdeen, the circumstances create a situation where one or more element is missing or contested, and therefore preventing performance of the practice of cycling (Parsons 2019 p. 293; Shove, Pantzar, and Watson 2012).

Materials

A significant factor in the perceptions of cycling in Aberdeen relates to infrastructure and was discussed by both cyclists and policymakers alike (Sections 9.3.1 and Section 9.8). In Section 9.4.2, it is discussed how materials can mediate meanings within the context of clothing and accessories. However, the absence of interconnected and good quality infrastructure is a critical issue for cycling in Aberdeen and has a tangible impact on the perceptions and meanings associated with cycling in Aberdeen.

The fragmented nature of the infrastructure (Section 9.3.1), absence of high-quality parking and storage (Section 9.3.2), and the divisive issue of shared use paths (Section 9.3.3) all contribute to

shaping perceptions of cycling in Aberdeen. These issues are also exacerbated by the identified gaps in both general maintenance and winter maintenance of infrastructure and the impact this has on an individual's ability to cycling in Aberdeen (Section 9.3.1). As set out in Section 9.3, there is evidence of aspirations to greater levels of segregation of traffic in the city, but there is a gap between what is desired by cyclists and what is achievable within space and finance constraints (Section 9.8.2). The findings of this thesis therefore align with recent research by Buck and Nurse (2023), which determined that materials play a key factor in supporting modal shift. For present purposes, it can therefore be concluded to contribute to the performance of the practice of cycling more generally too.

Meanings

Automobility and the meaning ascribed to the car within society is also significant in shaping the practice of cycling. For example, Sections 9.4.1 and 9.6.1 establish how societal attitudes towards cycling shape and control how certain bodies are permitted to move and where they can move (Sheller 2021 p. 43), acting as a preventative force against the practice of cycling. That drivers are constructed by participants as creating a threatening atmosphere (Section 9.6.1) emphasises how the meaning attached to cycling is challenged by external forces, and how mobility is not afforded equally to all (Dant 2014). This is echoed in the gap between cycle users and other road users when considering the role and function of time in the system of automobility too (Section 9.6.6). A gap is also revealed in relation to the them/us ideology that pervades society and creates a fissure between cycle users and others (Section 9.6.2).

Equally, it is evident that gender (Section 9.5) can mediate the competences, materials, and meanings associated with cycling for some participants. There is a gap between societal expectation and the lived experiences of those women who choose to cycle, reinforcing the existing gender gap (Section 9.5.3). Equally, this also extends to perception of safety and the construction of gendered spaces, further reinforcing the structural gender gap through the medium of transport (Section 9.5). In sum, this also acts to context the meanings associated with the practice and brings into question the stability of the bonds that exist between the three layers of competences, materials, and meanings and the ability to successfully reproduce the practice.

Objective 2 – To investigate policymaking in relation to cycling-specific policies within local government (Sections 4.2, 4.6, 4.7, 4.8; Sections 9.7 and 9.8)

From the data presented in Chapter 8, and through the discussion in Chapter 9, it is possible to demonstrate how cycling policy is a practice defined by specific competences, materials, and meanings. This is against a background of wider policy failure and deeply structural issues such as automobility (Section 9.8.1), gender and class inequalities, therefore tipping these issues into the realm of “wicked problems” (Hartley, Kuecker, and Woo 2019). However, despite these challenges, a distinct practice of policymaking in relation to cycling can be identified. As follows:

Competences

While participants were more focused on the gaps they perceived existed in knowledge relevant to cycling, it is evident that there are distinctive competences associated with the practice of cycle policymaking. Policymakers discussed the knowledge base used to inform policymaking such as data (Section 9.7.2.1), along with the perceived gaps in the ability to operate within an environment of joined-up policy (Section 9.7.2.2). It can also be argued that while funding occupies a role in the materialities of the practice (Section 9.8.2), there are associated competences in applying for funding and knowing how to navigate the complex policy landscape that is set out in Chapter 4 (Section 9.8.1).

Materials

A crucial element in the practice of cycle policymaking relates to funding and the availability of funding to design and implement infrastructure (Section 8.3.2). However, the question of funding is also relevant in connection with the ability to achieve the level of human resource required too (Section 9.7.3).

In the data set out in Chapter 8, policymakers identify a gap between the aspirations contained within policy documents (Chapter 4), and the lack of tangible impact they have on communities in the city (Section 9.9.1). Part of this difficulty is in the funding structure that operates in Scotland (Sections 4.8 and 9.9.3) and the identified gaps. There is a gap between the perception of how active travel should be funded in Scotland from the perspective of practitioners, with the reality of the practical application of the Scottish Government’s approach (Section 9.9.2). This creates a question of what purpose the current status quo serves, and whether the true beneficiary is the hegemonic idea of the automobile,

reinforcing the automobility/velomobility duality (Section 1.3.2). It also requires policymakers to ask who the city is for and how that space is a product and means of production (Sections 9.3 and 9.5.2).

Meanings

As expressed by Participant D, “...*transport is political, it’s personal and it’s political*” and this encapsulates the meanings associated with the practice of policymaking for cycling. Politics in the sense of organisational structure (Section 9.7.4) and cultural considerations (Section 9.7.5), are just as significant as party politics (Section 9.8.3) in mediating the meanings associated with cycle policymaking in Aberdeen.

Objective 3 – To understand the impact of the organisational, practical, and social influences on cycling practices in Aberdeen (Chapter 2; Chapter 3; Chapter 4; Sections 4.5, 4.6, 4.7, 4.8; Section 9).

In considering the embodied experience of cycling in Aberdeen, it has been possible to identify numerous gaps that are relevant to the production of cycling in the city. These gaps shape, inform, and contest the competences, materials, and meanings associated with cycling. Objectives 1 and 2 have established the key the organisational and practical influences on cycling in Aberdeen, and the focus here will be on the social influences.

Cycling, self, and identity

The aspects of identity set out in Section 9.4 can act to include or exclude individuals from cycling. Specifically, the labels that are applied in the road space (either by the individual themselves or by others), the clothing choices, and competences of the cyclist mediate the meanings associated with the bicycle as a mode of transport, as a mechanism of transport, and as a facet of wellbeing. The presence of contested elements of the practice work to fragment the bonds holding the practice together and are further challenged by the lack of embeddedness of cycling in everyday life (Camilleri, Attard and Hickman 2022), as is the case in Aberdeen.

Cycling & gender

The female gender is also relevant to the practice of cycling and how the spatial, temporal, and social aspects of the practice of cycling are related to gender in the policy process (Ravensbergen, Buliung, and Laliberte 2020; Ravensbergen, Buliung, and Laliberte 2019) but also in the practice of cycling itself too. For example, female cyclists discuss making tactical choices around the competences displayed and material elements incorporated into their cycling behaviours (Section 9.5.2) to navigate certain spaces. In addition to the active choices done *by* female cyclists, there is also the question of the public gendering of mobile bodies done *to* female cyclists (Shaikly and Lira 2023; Lewis, Sauko and Lumsden 2021; Ravensbergen, Buliung, and Laliberte 2020; Kern 2020). This process of public gendering shapes female perceptions of safety but also the perceptions others have of mobile female bodies too (Section 9.5.3). Social norms are therefore a powerful force in mediating the component elements of cycling, particularly in relation to meanings, and this process applied to female cycling in Aberdeen aligns with the uneven nature of mobility described by Sheller (2021 p.40).

Velomobility and the petro-spaces of Aberdeen

An important element of this thesis has been how cycling relates to automobility and the role of the car in Aberdeen. Automobility has permitted the displacement of spaces of sociality, thereby reshaping fundamental aspects of our lives (Parsons 2019 p.4), and its “flexibility and coercion” has remade our urban spaces (Urry 2005 p. 27). In Aberdeen, the car is “an object of desire” (Sheller 2014 p. 235). Aberdeen’s petro-spaces shape and are shaped by the “flows of information, population, petroleum oil, risks and disasters, images and dreams” (Hinde 2021 p. 84, citing Sheller and Urry 2006 p. 209) that render the car with particular significance (Section 1.2).

This auto-dominance has created a gap between different modes of transport that is rooted in fundamental truths of social capital and mobility (Section 9.6.2). Cycling in Aberdeen is required to co-exist alongside the pervasive demands of automobility that are reinforced through not only the spatial and temporal influences of the car, by the socio-cultural role of the car in the city’s foundations too. The act of cycling is in opposition to these ideals. This again allows us to question the existence of the practice of cycling due to the stresses placed on the bonds between the elements that define cycling in the city, and how this in turn prevents the performance of the practice of cycling in Aberdeen.

10.2. Key findings

Based on the aim and objectives set out above, this thesis puts forward the following key findings:

- (i) **Within the theoretical framework of practice theory, at present the practice of cycling does not exist in Aberdeen.**

The focus of this thesis has been on the three-component model of competences, materials, and meanings advanced by Shove, Pantzar and Watson (2012). Therefore, for the practice of cycling to exist, the three constituent elements of competences, meanings, and materials need to “overlap and [...] become linked through the performance of someone cycling” (Parsons 2019 p. 293). The practice of cycling in Aberdeen exists when connections between the three elements are made but it is also important to understand that practices can be sustained, changed, or even broken because of changes to these connections (Shove, Pantzar, and Watson 2012 pp. 14-15).

While the constituent elements of competences, materials, and meanings are present in the data set out in preceding chapters and discussion, and therefore it could be argued the practice as an entity exists (Shove, Pantzar, and Watson 2021 p.15), participants describe factors within each of the elements that contribute to the prevention of cycling in specific spaces in the city. Therefore, the disruption in the linkages connecting these three elements prevent the performance of the practice being sustained (Shove, Pantzar, and Watson 2012 pp. 7-8). These disruptions move beyond conceptualising the performance as a “diversity of ways of doing” (Parsons 2019 p. 28) and instead acting as a preventative force in allowing a true practice of cycling to exist in Aberdeen.

This contrasts with the practice of policymaking for cycling which can be determined to exist, as articulated in Section 10.1. This is due to the presence of constituent elements (and therefore practice as entity) *and* the ability to sustain performance of the practice in the “diversity of ways of doing”, described by Parsons (2019 p.28).

- (ii) **There are significant gaps in the organisational, practical, and social structures in Aberdeen and the wider context of Scotland that act as barriers to policy development and implementation of cycling specific policies in Aberdeen.**

As evidenced in Chapter 9, and set out in connection with Objective 3 above, there are multiple organisational, practical, and social constraints that function as barriers to policy development and implementation for cycling in Aberdeen.

From a social perspective, the discussion set out in Objective 3 above provides an understanding of the socio-cultural barriers that are present to cycling in Aberdeen. The challenges presented by automobility and auto-dominance to wider acceptance of cycling are document in the extant literature and in the data analysis of this thesis.

From an organisational and practical perspective, the practice of policymaking is subject to the influence of external power relations. Therefore, the external power dynamics between ACC and the RTP, Sustrans, and Transport Scotland are of significance in understanding the process of cycle policymaking at local authority level in Scotland. A significant gap identified is the disconnection between the politics of the North East of Scotland and that of the Scottish Government, from both a party-political perspective but also on a much deeper ideological level (Section 9.8.3).

Overall, the organisational structure of Aberdeen City Council, despite its shortcomings, is capable of normalising or delegitimising certain forms of transport through the development and implementation of policy (Section 9.8.4). However, as part of a wider multi-level governance structure, the “increasingly complex architecture” of multi-level governance systems creates “accountability vacuums” that allow policymakers and politicians alike to hide from complex socio-political issues (Bache et al 2015 p. 65); Sections 4.2, 9.9.1 and 9.9.2).

It is possible that the practice of cycling could operate beyond and despite the organisational structures of the state through a form of self-governance (Foucault 1994), that exists separately from the local authority and is instead bound by the multifaceted elements of the cycling practice (Chapter 9). However, this would require the constituent elements of the practice to exist cohesively beyond the practice as entity phase and extend into the active performance of the practice.

10.3. The context of practice theory

Categorising an action such as cycling as a practice and contesting it into its constituent components has not been without its difficulties. For example, when considering cycling competences, the *perceived* competences of others are also included in the data sets above (Sections 6.6, 7.2.2, 7.2.4). The decision was taken to include perceptions of competences, rather than recording it within the “meanings” section because it relates to skills, knowledge, and techniques of others that have a tangible impact on the ability of cyclists to engage in cycling in Aberdeen. Similarly, although the “good” cyclist (Sections 6.3.1, 6.3.3 and 7.2.6) could potentially be described as an idea or aspiration, it was felt more appropriate to include it within the section on “competences” as it relates to skills, knowledge, and techniques.

It is acknowledged that this is a compromise from a data analysis perspective, in recognition that it is not always possible to neatly segregate each facet of a practice, particularly when they are multilayered. Indeed, that sometimes the boundaries between elements of a practice are imperfect and blurred. This is a potential flaw in the practice theory approach that has been followed in this thesis, due to the situational analysis that it facilitates and the ability to “zoom in and out between different elements and relations” (Leger 2023 para 37). However, what it does not allow, Leger contends, is for understanding of interrelationships (Leger 2023 para 39) which potentially accounts for the difficulties encountered in data analysis.

10.4. Limitations

A potential limitation of this research is geographic location of the case study, and the socio-economic and socio-cultural factors that shape and have shaped Aberdeen (Sections 1.1 and 1.2). However, the culture of automobility is not confined to Aberdeen (Section 1.3.2) and therefore it is regarded that the findings of the research are meaningful.

Also of relevance is the consequent small sample size of policy professionals interviewed for the data presented in Chapter 8. However, I believe that given my partial insider status (Section 5.2) that the sample universe is representative of the policy community in Aberdeen who are directly involved in the development and implementation of cycling policy in the city. Therefore, I believe that this has not had a negative impact on the outcome of the research.

There is also a question as to whether the post-Covid landscape and the socio-cultural impacts of the pandemic would have produced a different data set than that which is presented above, from both cyclists and policymakers. This is, in part, due to the impact of the *Spaces for People* initiatives (Section 4.7) but also through changes to individual travel habits and work patterns induced by the pandemic, and the reshaping of cycling during the pandemic (Francke 2022; Rerat, Haldimann and Widmer 2022; Nurse and Dunning 2021).

10.4.1. Limitations of practice theory

Framing the research through the lens of practice theory has provided a specific interpretation of the data and other approaches could have been adopted. In considering the elements that constitute the practice of cycling, it has allowed for an understanding of how the practice(s) of cycling is produced and reproduced in Aberdeen, and underpins the key findings set out in Section 10.1. Utilising practice theory has allowed interpretation of the elements of the practice of cycling in Aberdeen outside of theories rooted in behaviour change (e.g., Ajzen's (1991) theory of planned behaviour), thereby avoiding the prioritisation of human agency (Spotswood et al 2015; Shove, Pantzar, and Watson 2012 p.4). It has also facilitated an understanding of the relevance of space, time, and temporalities to cycling (Cass and Faulconbridge 2016 p.2; Shove, Pantzar, and Watson 2012 pp. 132-133).

However, it is recognised that there are several limitations associated with the application of practice theory in the present context, specifically in relation to the flat ontology discussed in Section 1.5 (Nicolini 2017) and how this relates to the application of the multi-level governance approach to understand the policy landscape in Scotland. As noted in Section 4.2, in relation to cycling in Scotland, it is necessary to interpret and analyse the multi-level governance system involving Transport Scotland, Regional Transport Partnerships, local authorities, and non-government organisations disbursing funding (i.e., Sustrans) (Section 4.2) and in the design and implementation of policy (Chapter 4). This does not sit comfortably with the concept of the flat ontology, implying that there are limitations to the utility of practice theory in examinations of policy and policymaking.

Hampton (2018) successfully combines both multi-level governance and a practice theory approach in examining efforts to decarbonise transport in the UK. Here, connected situationalism is used to analyse policy implementation as a "bundle of practices" (Hampton 2018 p.42). This approach makes use of

Kuijer's three-element "bubble model" (Hampton 2018 p.42), as an evolution of the model proposed by Shove, Pantzar and Watson (2012). Overall, this highlights the limitations of practice theory, and the requirement to conceive of adaptations to the practice theory approach to account for such limitations in relation to policy implementation. Indeed, these limitations are evident in the research presented in this thesis and the requirement of theory to be successfully adapted for practical application through viewing practice theory as a tool for understanding a routinized type of behaviour, rather than a constraining lens through which to view the activity.

10.5. Contribution to knowledge

This thesis has presented a qualitative assessment of cycling in Aberdeen, incorporating the discourses of both cyclists and policymakers. In applying the practice theory framework to cycling and the policymaking processes associated with cycling in Aberdeen, the identified competences, materials, and meanings have uncovered gaps in and between the constituent element of cycling in the city. These gaps have been used to evaluate the missing and misunderstood elements of cycling that influence and function as barriers to the existence of the practice of cycling in Aberdeen. In parallel, it has allowed an understanding of the practice of policymaking for cycling, and how policymakers navigate the complex policy and funding environment.

Through interrogating both the nature of cycling and policymaking for cycling in Aberdeen through the theoretical framework of practice theory, this thesis has addressed a significant gap in this field of knowledge and offers a contribution to both theoretical and practical knowledge. The following Sections 10.5.1 and 10.5.2 will expand on these areas in further detail, beginning with the thesis' theoretical contribution to knowledge.

10.5.1. Theoretical contribution to knowledge: practice theory & cycling

This thesis extends the current body of knowledge focussed on applying practice theory to cycling and to cycle policymaking in the UK. In following the tradition of the three-element model of practice theory established by Shove, Pantzar, and Watson (2012), it contributes to a specific canon of literature focussed on cycling as a practice that has been advanced by scholars from across disciplines (e.g., Ravensbergen et al 2024; Kent (2022); Buck and Nurse 2023; Nurse and Dunning 2023; Ihlstrom, Henriksson, Kircher 2021; Bruno & Nikolaeva 2020; Larsen 2017; Cass and Faulconbridge 2016; Spotswood et al 2016; Cox 2015; Aldred & Jungnickel 2014).

More specifically, this thesis seeks to build on the work of Peter Cox (2019; 2015) in contributing to the sociological understanding of cycling and specifically the sociology of velomobility (Cox 2019). It also contributes to an understanding of urban cycling, building on existing literature by Spinney (2020), Rerat (2021), Hoor (2022), and Psarikidou, Zuev, and Popan (2020), placing this thesis within the broad disciplinary field of mobilities studies.

10.5.2. Practical contribution to knowledge: cycling and policymaking

In including policymakers and their practice, this is a novel aspect of the research. This is due to both the focus on cycle policymaking in Scotland and the use of practice theory as a tool to view the collected data. Moreover, aligning with Buck and Nurse (2023), Kent (2022) and Spotswood et al (2015), this thesis demonstrates the value that practice theory offers as a conceptual tool for understanding cycling and the skills, materials, and influencing factors that shape mobility choices in not just Aberdeen but across Scotland and the wider UK. Buck and Nurse denote the importance of the centrality of materials in relation to cycling modal share and therefore how conclusion offered by practice theory can have “considerable relevance” beyond the local context of the research (2023 p. 72).

Therefore, from a practical perspective, this thesis demands that policymakers: (i) consider how practice theory can inform their decision making in relation to cycling policy, over traditional behaviour change models; and (ii) rethink their approach to policymaking for cycling through the following actions:

- Incorporating the lived experiences of cyclists into the public participation stage of policy development.
- Engaging the voices of women (both as cyclists and policymakers) in the policy development and implementation process.
- Addressing the data gap in relation to cyclist-involved road traffic accidents and near-misses, to inform the policy development and implementation process.
- Addressing the data gap in relation to the numbers of cyclists in the city, and their routes, to inform practical and relevant improvements to infrastructure.

- Ensuring that improvements to infrastructure are meaningful, working to address gaps in infrastructure that can improve perceptions of safety and accessibility of the network for users.

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Appendix 1 – Map of AWPR

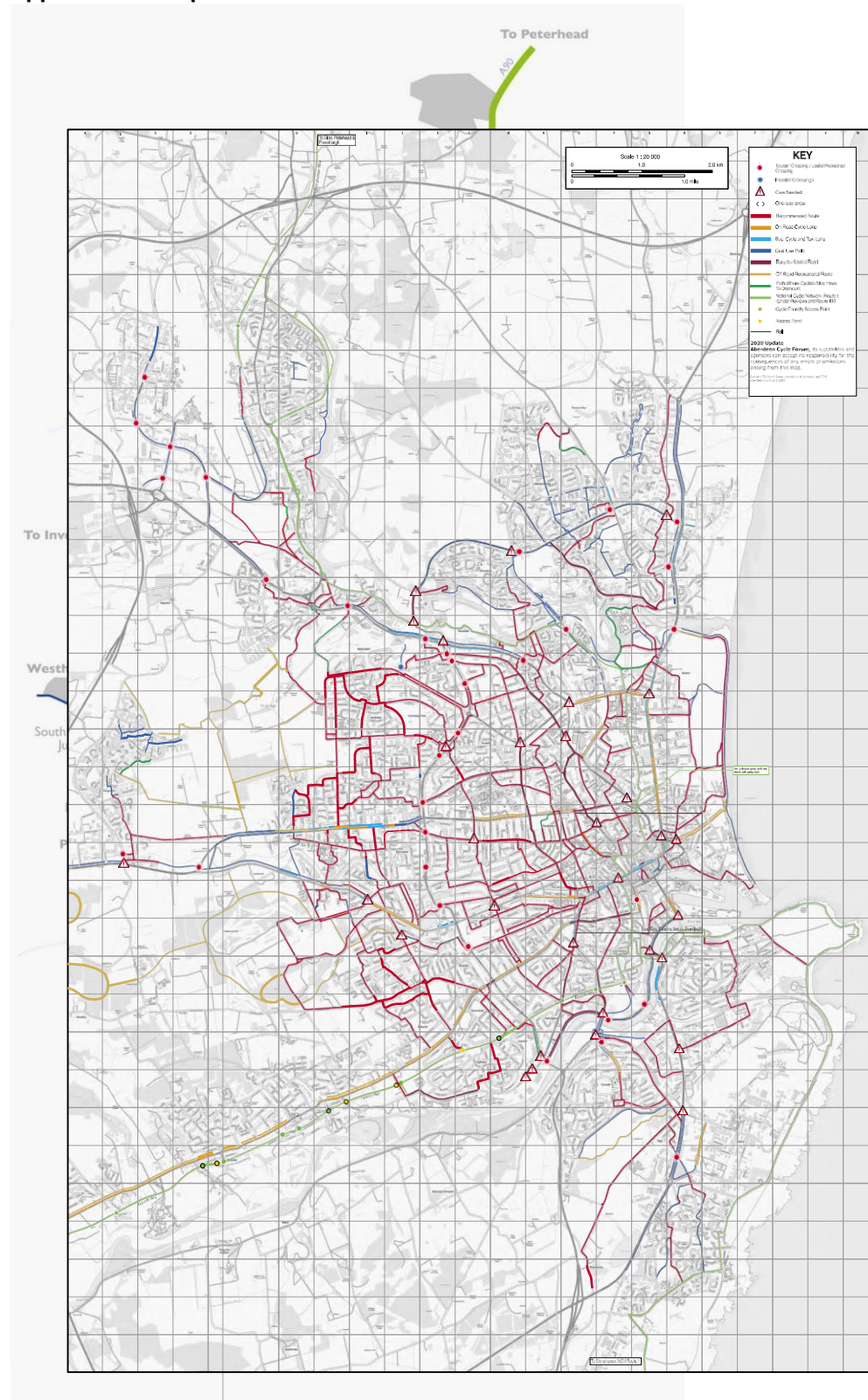


Figure 25: Map of AWPR (Copyright Transport Scotland 2018)

Appendix 2 – Aberdeen Cycle Map

Appendix 3 – Key to Aberdeen Cycle Map

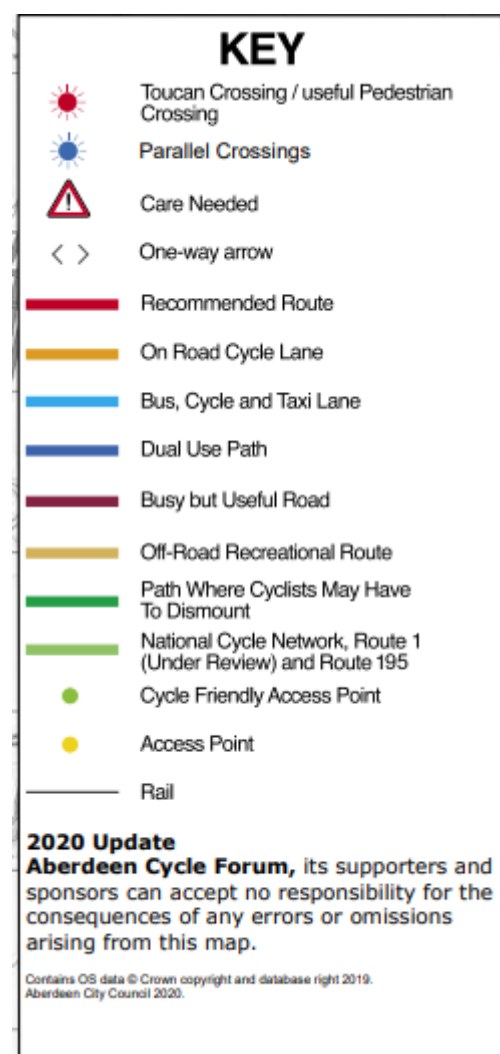


Figure 26: Key to Aberdeen Cycle Map in Appendix 2 (Copyright Aberdeen City Council 2020)

Appendix 4 – Demographic Data and Travel Information from Survey Participants

1. Demographic Information – Survey Data

To create as in-depth a picture of cycling in Aberdeen as possible, survey participants were asked to provide some basic demographic and transport specific information. This is set out below and is intended to: (i) aid in the overall interpretation of the survey results; and (ii) to demonstrate the context from which the qualitative data extracted from the survey is drawn.

Participants in the survey were predominantly located within the **35-44** and **45-55** age groups. As follows:

Age Range	Number of Respondents
18-24	24 (6.49%)
25-34	67 (18.10%)
35-44	105 (28.38%)
45-54	105 (28.38%)
55-64	45 (12.16%)
65+	24 (6.49%)
TOTAL	370 (100%)

Table 8: Age Range of Survey Respondents

As anticipated, there were more respondents identifying as male than female:

Gender	Number of Respondents
Male	220 (59.46%)
Female	128 (34.59%)
Not specified	22 (5.95%)
TOTAL	370 (100%)

Table 9: Gender Identity of Respondents

2. Transport Mode and Frequency – Survey Data

Respondents were also asked to indicate which mode(s) of transport they used for journeys over 0.5 miles to, from, and around Aberdeen:

Mode of Transport	Number of Respondents
Walking/on foot	261 (70.5%)

Bicycle	306 (82.7%)
Motorcycle	12 (3.2%)
Bus	130 (35.1%)
Train	75 (20.3%)
Taxi	60 (16.2%)
Van	23 (6.2%)
Car as driver	274 (74.1%)
Car as passenger	128 (34.6%)

Table 10: Modal Choice of Survey Respondents

Respondents were also asked to indicate how often they made use of specific modes of transport from daily, weekly, to less frequent intervals:

Mode	Frequency				
	Daily	Weekly	Monthly	Every Three Months	Every Six Months
Walking/on foot	188	85	26	6	1
Bicycle	166	141	29	6	6
Motorcycle	3	5	6	1	1
Bus	7	36	66	51	24
Train	9	3	41	40	33
Taxi	-	4	38	43	34
Van	12	10	6	1	5
Car as Driver	146	137	17	5	4
Car as Passenger	18	114	40	8	4

Table 11: Frequency of Mode Use of Survey Respondents

Respondents were also asked to indicate which mode of transport they made use of most frequent on journeys to, from, and around Aberdeen:

Mode	Number of Respondents
Walking/on foot	37 (10%)
Bicycle	141 (38.1%)
Motorcycle	3 (0.8%)

Bus	9 (2.4%)
Train	5 (1.4%)
Taxi	-
Van	10 (2.7%)
Car as driver	162 (43.8%)
Car as passenger	3 (0.8%)
TOTAL	370

Table 12: Most Frequent Transport Mode

Finally, respondents were asked to indicate their average journey time for their most frequent journeys to, from, and around Aberdeen:

Duration	Number of Respondents
Less than 20 minutes	74 (20%)
Less than half an hour	136 (36.8%)
Less than an hour	131 (35.4%)
One hour or more	29 (7.8%)
TOTAL	370

Table 13: Average Journey Time for Most Frequent Journeys

Appendix 5 – Cycling in Aberdeen: A Cyclists’ View of the Practice – Survey Data

1. Competences (Section 6.3)

1.1. Other road users (Section 6.3.2.)

“...improve driver training, so that they have at least an inkling of what it feels like to be overtaken at speed” (Participant 38M)

“Education. Car drivers understand very little of the Highway Code” (Participant 46F)

“People becoming aware of how to behave in their car around cyclists” (Participant 116F)

“Starting early in schools and making it part of the driving test would also raise awareness on the driver’s side” (Participant 163F)

“Drivers need to be educated to cyclists’ room, to understand how they see the road, that bicycles have wildly varying speeds and are very vulnerable” (Participant 171M)

“There is still a lot to be done to educate non-cyclists on sharing the road space with cyclists. They tend to give way to other road vehicles but not cyclists” (Participant 293M)

“Make everyone sitting a driving test have to spend a day on a bike of a road in town to teach them how it feels” (Participant 338F)

“...teach drivers to share the road” (Participant 341M)

Several participants comment on being close passed by motor vehicles:

“Cars pass very close, often not slowing down...” (Participant 16F)

“...often pass so close they almost touch my arm” (Participant 25F)

“If I commute 5 days in a week there are at least two instances where I am passed very closely by cars” (Participant 37M)

“As a driver in Aberdeen I have seen others overtaking cyclists leaving no space” (Participant 65F)

“On nearly every journey at least one car will pass me deliberately too close at speed” (Participant 79F)

“Frequently passed too close (i.e. wing mirror brushing arm)” (Participant 109M)

“Close passes are a regular feature, too often to count” (Participant 112M)

“Almost daily I am overtaken by people who give less than the expected 1.5m margin” (Participant 143M)

Survey participants also describe the detrimental impact of what could be characterised as a lack of roadcraft in overtaking manoeuvres:

"...there are numerous occasions where I have been approaching a red light and a car has squeezed past dangerously in order to get past only to stop at the red light" (Participant 29M)

"...overtaking in inappropriate places just to get past" (Participant 58M)

"...Cars and lorries passed me at unsafe distances, on blind corners and at speed" (Participant 78M)

"I often find in town cars get too close or risk squeezing past when they shouldn't, only to catch them at the next set of lights" (Participant 122F)

"...every time I go there is always at least one driver that makes a bad choice when overtaking" (Participant 124F)

"I would say that any cyclist travelling through town from say Cults to Seaton and back during the day will experience a near miss through poorly judged overtake" (Participant 160M)

"On the country roads at high speed the drivers are worse for passing you, they speed up to get past but don't pull out in time so are metres ahead of you by the time they are out at a distance acceptable for passing and have actually passed you within elbow clipping distance" (Participant 163F)

"Drivers that are also impatient and overtake on blind corners and nearing causing accidents as there is something coming the other way" (Participant 165F)

"I've also experienced cars cutting me off and not giving me enough room when overtaking. I've also witnessed a number of times cars overtaking me with enough space but almost hitting oncoming traffic because they were so impatient" (Participant 18M)

"I have had a car accelerate to pass only for it to pull in at my side as the driver suddenly notices the island in the middle of the road - these islands positioned where buses stop are lethal as cars think they can squeeze through alongside you" (Participant 194F)

"Traffic islands to help pedestrians get across have caused several close calls recently as motorists tried to get through before cyclist and either overtaking dangerously or braking violently." (Participant 321M)

Finally, participants comment on the failure of drivers to see cyclists in the carriageway:

"...sharing the road with motorists [...] who also often appeared unaware of my presence in low light conditions despite wearing hi viz and using lights" (Participant 53M)

"...and some (particularly older people) do not seem to see cyclists at all" (Participant 88F)

<i>"Had people pull out without looking"</i> (Participant 98M)	<i>"I have been knocked off twice by cars whose driver 'did not see me' (despite full lighting and high vis clothes)"</i> (Participant 103M)
<i>"I have had a number of near misses with cars who have not looked before pulling out of junctions/onto roundabouts"</i> (Participant 111F)	<i>"Drivers seem oblivious to vulnerable road users - I regularly get 'I just didn't see you!' [...] when dressed in hi-vi and covered in lights"</i> (Participant 131F)
<i>"I have had cars come out of junctions in front of me as if I wasn't there"</i> (Participant 229M)	<i>"Especially on the main roads, people don't look out for bikes"</i> (Participant 252F)
<i>"I feel the main barrier really is the fast and aggressive nature of driving in the city, and how threatening and intimidating this can feel to cyclists"</i> (Participant 42M)	<i>"...better driver awareness will also help"</i> (Participant 74M)
<i>"High speed driving in the city"</i> (Participant 131F)	<i>"Dangerous driving"</i> (Participant 213F)
<i>"Some drivers are very impatient as well"</i> (Participant 245F)	<i>"Road manners, safety and education"</i> (Participant 316M)

Attitudes of drivers:

<i>"This does not stop the minority of drivers having zero tolerance of cyclists. Dangerous passing, verbal abuse and threats of violence have all been encountered"</i> (Participant 18M)	<i>"...there seems to be a culture in motorists of 'I need to overtake this cyclist' no matter what is in front of you"</i> (Participant 29M)
<i>"Road users don't believe we are allowed on the road, this causes a lot of tension between some"</i> (Participant 90M)	<i>"Motorists do not and will never accept anything that interferes with the free flow of traffic even if it is the Police, so what chance does a cyclist have"</i> (Participant 101M)
<i>"Regularly a car driver drives aggressively (inches from rear wheel, occasionally revving engine)"</i> (Participant 109M)	<i>"...a visible minority is anti cycling and unafraid of intimidating cyclists on the road (close passes, brake testing, verbal abuse)"</i> (Participant 110M)

"It is always a worry that a car will hit you either due to driver inattention or aggression"
(Participant 135M)

"Cars and buses are very hostile to cycling in and around Aberdeen" (Participant 230M)

"I have found drivers in Aberdeen to be relatively aggressive compared to the rest of Scotland"
(Participant 238M)

"It has become a war zone out there. I don't understand why motorists have so much animosity towards us" (Participant 79F)

"Aggressive - Van driver used expletives at me and threatened to punch me because I went around a queue of traffic to use the Advanced Stop Line" (Participant 80M)

However, some participants did feel drivers exhibited a positive attitude towards cyclists:

"Drivers generally have a positive attitude"
(Participant 14M)

"...99% of drivers in Aberdeen are very courteous and considerate towards cyclists" (Participant 239M)

"...although attitudes have in general improved over recent years" (Participant 38M)

"I have been in Aberdeen since 1970 and motorists' attitudes to cyclists have improved greatly since then" (Participant 321M)

1.2. Policing & enforcement (Section 6.3.3.)

<i>"...lack of law enforcement" (Participant 112M)</i>	<i>"...failure to curb aggressive driving" (Participant 114M)</i>
<i>"...lack of law enforcement" (Participant 123M)</i>	<i>"...endemic law breaking and little or no enforcement of road traffic laws" (Participant 261M)</i>
<i>"...derisory penalties for dangerous driving" (Participant 288M)</i>	<i>"Lack of adequate policing of incidents" (Participant 349M)</i>
<i>"...have more sanctions against poor behaviour of motorists [...] Poor driving in relation to cyclists should result in fines and points on drivers of motor vehicles" (Participant 368N)</i>	<i>"I think nationally we need to adopt the presumed liability laws that many other European countries have that would provide extra protection to pedestrians as well as cyclists" (Participant 111F)</i>
<i>"In my opinion the police need to be more proactive in enforcing road sense of cyclists" (Participant 8M)</i>	<i>"...prosecute drivers passing too close to cyclists and/or engaging in aggressive behaviour such as engine revving and horn honking" (Participant 42M)</i>
<i>"Police campaigns like safe pass to educate drivers" (Participant 46F)</i>	<i>"...more active policing to promote cycling (more police on bikes etc)" (Participant 74M)</i>
<i>"...policing of both cyclists and drivers who threaten them and their safety" (Participant 100M)</i>	<i>"...more prosecutions/warnings for bad driving involving vehicles with cyclists and the same for bad cyclists who don't follow the Highway Code" (Participant 120F)</i>
<i>"Policing busy/notorious roads for dangers to cyclists" (Participant 147)</i>	<i>"A positive awareness campaign like that from the police in Edinburgh promoting awareness about respect for all road users" (Participant 156)</i>
<i>"Awareness campaigns, the Police Scotland safe passing distance campaign was interesting and highlighted the misconception by drivers that they can safely 'squeeze' past a cyclist" (Participant 163F)</i>	<i>"For cyclists there needs to be a crackdown on road safety also. I've seen a number of cyclists without helmets, jumping on and off placements, no lights and in black" (Participant 163F)</i>

"There also needs to be more enforcement of rules for all road users so that people don't feel the other group is giving preferential treatment"
(Participant 189M)

"...active policing" (Participant 263M)

1.3. Policy competences (Section 6.3.4.)

<i>"... [lack of] Understanding of cyclists needs"</i> (Participant 5M)	<i>"Large number of uneducated city planners"</i> (Participant 27F)
<i>"Poor consideration of cyclists needs by the LA"</i> (Participant 117F)	<i>"Poor quality of thought for cyclists and pedestrians when planning"</i> (Participant 141N)
<i>"Lack of consultation with cyclists. Lack of vision for cycle-friendly city by the local authority"</i> (Participant 197F)	<i>"Failure of local council and politicians to engage with the cycling community. Prioritisation of car transport (AWPR) over environmentally friendly modes such as cycling. Ignorance of proven health benefits and ultimate public health impact of promoting cycling to work, school and city centre"</i> (Participant 208M)
<i>"...lack of forethought into major infrastructure projects"</i> (Participant 241M)	<i>"Lack of commitment to considering cycling needs and road use in planning design. There are all sorts of words and statements used in various documents but the resulting developments are not progressive at all"</i> (Participant 281F)
<i>"Lack of initiative and imagination"</i> (Participant 295F)	<i>"...car centric Roads Department; lack of design expertise to deliver (or even imagine) improved infrastructure"</i> (Participant 334M)
<i>"Cycle lanes [...] are added as an afterthought as opposed at the planning and design stage"</i> (Participant 10M)	<i>"...quality of what is available is poorly designed"</i> (Participant 11F)
<i>"They don't understand the issues"</i> Participant 35M)	<i>"...it needs better input from a real cyclist"</i> (Participant 37M)
<i>"...the council's approach while well intentioned isn't adequate. No real thought goes into cycle infrastructure"</i> (Participant 57M)	<i>"The local authority needs to employ specialist help to design new infrastructure and redesign existing as they clearly don't have the resource in-house"</i> (Participant 71M)
<i>"No joined up thinking"</i> (Participant 87F)	<i>"...poor design and management of junctions"</i> (Participant 92M)

"The didn't apply for any funding for any projects from Sustrans: free money and they didn't even ask" (Participant 123M)

"Poor provision of cycle lanes often with no "cycle awareness"" (Participant 144M)

"What provision there is tends to be poorly thought out" (Participant 181M)

"I believe a lot of the infrastructure has been put in where planners think it is required but probably not designed by an actual cyclist and hence does not flow" (Participant 182M)

"They mark routes on a map that take you into roads that are far too busy" (Participant 194F)

"...there is a will from the local authority with the Active Travel Action Plan, City Centre Masterplan and bidding for funding new infrastructure" (Participant 228M)

"The council has no leadership of multi year plans" (Participant 242M)

"Crossing points are ill conceived" (Participant 263M)

"Cycle facilities provided indicate an appalling lack of understanding regarding the use of bicycle as serious transport option" (Participant 277M)

"ACC don't ignore cycling, but efforts are disjointed and ineffective" (Participant 287M)

"Communications with planners and the Council drag on for years without anything positive being done" (Participant 305F)

"The road designer MUST be a cyclist. In so many instances you notice the absence of a cyclist's view" (Participant 325M)

"a lack of vision of what the city should feel like to live and a complete lack of understand of how cycling can transform a city" (Participant 347M)

*"Consulting the cyclists of Aberdeen before implementing any *improvements* to the cycling infrastructure" (Participant 269)*

"They have little or no impact as they are not put into practice" (Participant 3M)

"It seems like a lot of talk and little action" (Participant 58M)

"...the 10% active travel target is seen as inspirational and it is not a target being chased with any vigour around Aberdeen city or shire" (Participant 99M)

"Government policies are well meaning but implementation is half hearted at best" (Participant 77M)

“External bodies such as Nestrans, Cycling Scotland, Sustrans for example are all looking to provide support and make changes, but don't seem to be on the same page as the folk with the money and authority (ACC) that can actually carry out the BIG changes that are needed” (Participant 179M)

<i>“Having policy is one matter, implementing it is something entirely different” (Participant 208M)</i>	<i>“The Council have ample policy and strategy documents to say they want more cycling, but we have yet to see any real proof of that” (Participant 261M)</i>
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<i>“Disjointed and inconsistent application of funding and policy” (Participant 304M)</i>	<i>“Lot of rhetoric but very little action” (Participant 340F)</i>
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1.4. Aberdeen City Council (Section 6.3.5.)

<i>"Lack of vision by Aberdeen City Council"</i> (Participant 4M)	<i>"Commitment by those able to effect change"</i> (Participant 7F)
<i>"Council attitudes (city and shire)"</i> (Participant 13M)	<i>"Those at the top are not interested in achieving greater levels of cycling"</i> (Participant 23M)
<i>"Governance of the local authority and influence within it to improve the facilities available for cycles and cyclists. It needs a joined up consistent effort and a long term viewpoint and investment"</i> (Participant 39M)	<i>"It's possible the prejudices, or a lack of understanding of those in charge at the local authority"</i> (Participant 44F)
<i>"Real commitment, belief, leadership"</i> (Participant 47M)	<i>"Lack of political leadership and will from council"</i> (Participant 64M)
<i>"Political will"</i> (Participant 99M)	<i>"...lack of interest on a city level"</i> (Participant 164F)
<i>"The City Council sending a very clear message where its priorities lie. Cars all the way"</i> (Participant 243M)	<i>"Low priority given to this by govt at all levels"</i> (Participant 256M)
<i>"It's not difficult but it requires genuine application of resource and a will to drive through what might be viewed as unpopular change"</i> (Participant 277M)	<i>"Council/government - cyclists and potential cyclists are the voting minority and any changes to the infrastructure are likely to be seen as 'anti motorist' so a fear of an adverse reaction to initiatives"</i> (Participant 284M)
<i>"Backward thinking Councillors"</i> (Participant 291F)	<i>"Attitude and desire of the Council"</i> (Participant 370M)
<i>"Cycling is not considered by the local authorities as a mode of transport"</i> (Participant 68F)	<i>"Politicians will talk about it but do not seem to want to lead or drive infrastructure changes"</i> (Participant 99M)
<i>"Hopeless lack of ambition"</i> (Participant 110M)	<i>"...just about but I think they should be aiming higher than that"</i> (Participant 147M)
<i>"...how many councillors do you know that cycle around Aberdeen or am I stereotyping them?"</i> (Participant 215M)	<i>"The local authority show very little political will or courage and only think in short term"</i> (Participant 261M)
<i>"We need a vision for the bike in Aberdeen"</i> (Participant 272M)	<i>"I think they do not really care. But eventually, I'm afraid they use this topic to do greenwashing"</i> (Participant 348M)

2. Materials (Section 6.4)

2.1. Infrastructure (Section 6.4.1)

Participants reflect on the absence of infrastructure as being of critical importance to this question of barriers:

<i>"Lack of cycle infrastructure and what there is, is poorly maintained"</i> (Participant 3M)	<i>"...limited infrastructure"</i> (Participant 30M)
<i>"...appropriate infrastructure"</i> (Participant 53M)	<i>"The road system does not lend itself to take away space for cycles at the cost of cars and there is little room to put in cycle lanes"</i> (Participant 66M)
<i>"INFRASTRUCTURE!!!!!!!!!"</i> (Participant 75M)	<i>"...safe and connected infrastructure"</i> (Participant 101M)
<i>"When it comes to cycling infrastructure; if you built it, they will come"</i> (Participant 104M)	<i>"Lack of easy access to some cycle routes. Maps and lack of signage. Lack of apps to use to plan cycle routes"</i> (Participant 173F)
<i>"Poor infrastructure, unavoidable black spots"</i> (Participant 195M)	<i>"Infrastructure - providing a safe cycling infrastructure for all ages"</i> (Participant 241M)
<i>"...abysmal lack of contiguous cycle routes"</i> (Participant 350M)	<i>"...lack of physical space for infrastructure"</i> (Participant 362M)
<i>"...appropriately maintained cycle infrastructure"</i> (Participant 18M)	<i>"Better road surfaces"</i> (Participant 51M)
<i>"Clear cycle lanes which are in good condition and so cyclists actually use them"</i> (Participant 116F)	<i>"...better maintenance of current cycle ways so more people use them"</i> (Participant 122F)
<i>"... better quality surface - there is not point having designated cycle lanes if they are full of lethal potholes, broken manholes or drain covers and worse are blocked completely by parked cars"</i> (Participant 224F)	<i>"The part of the road people cycle on are not maintained. Gravel, debris, sunken drain covers and potholes are daily hazards. Blocked drains are very obvious when you are on a bike and should all be cleared twice a year. Bad drainage or camber can mean you are cycling in water if it is wet"</i> (Participant 229M)

Survey participants also make several suggestions around specific infrastructure that they feel would assist in creating a positive cycling culture in the city. These range from specialist facilities:

"Get a purpose built cycle track and velodrome"
(Participant 43N)

"...more dedicated facilities like the Fife cycle track, even a velodrome" (Participant 50M)

"Pump tracks in parks for kids" (Participant 124F)

To practical adjustments to facilitate the navigation of specific areas of the city:

"Eliminate any "give way to traffic behind you" junctions (e.g., heading east on A944)"
(Participant 71M)

"...more bike friendly roads i.e., cycling paths on uphill sections of busy roads" (Participant 95F)

"Lanes starting and ending in random places - Riverside Drive, across bridge, under bridge, back over bridge to get to other side of Riverside Drive?!" (Participant 87F)

"...Diamond Bridge stop/start nonsense"
(Participant 106M)

"Have a cycle path on the pavement along the Anderson Drive - no one walks there but it's a direct route and I wouldn't cycle on the road there" (Participant 193M)

"Proper infrastructure for cyclists - especially at the Bridge of Dee" (Participant 245F)

"Quality, robust, joined up network of cycle paths, especially on commuter routes (e.g., Dyce-Aberdeen)" (Participant 255F)

"Safe well kept cycle routes to Aberdeen from surrounding towns" (Participant 256M)

Several survey respondents expressed frustration that a segregated lane had not been included with the AWPR:

"The new bypass says it all when a bike path following the route was totally ignored"
(Participant 12M)

"If there was a cycle path around the bypass that would show some consideration" (Participant 14M)

"I don't think cycling is adequately considered by the local authority they are in the middle of installing the AWPR with no use for cyclists"
(Participant 40M)

"The AWPR is an example. This is a brand new road completed in 2018 and not a single thought given to cycling" (Participant 61F)

"The AWPR should have had a segregated cycle lane" (Participant 82M)

"It was a lost opportunity to not include cycle paths alongside the AWPR when it was built" (Participant 89M)

"If truly committed to alternative transport the local authority would have included a network of cycle lanes to complement the AWPR, providing a safe and efficient system for commuting across 60 miles" (Participant 101M)

"It would have been so little incremental effort to put proper cycle lanes on the new bypass" (Participant 239M)

"...just compare AWPR budget vs cycling budget" (Participant 289M)

"...why isn't there a cycle path running parallel to the WPR? How much extra would it have cost?" (Participant 331M)

Others express frustration about the disruption the AWPR has brought to other routes¹¹¹:

"...has made cycling more dangerous in some areas" (Participant 99M)

"...the manner in which the AWPR has disrupted the Deeside way" (Participant 105M)

"...the new cycle lane from Westhill to Kingswells was not prioritised at the new roundabout for the bypass" (Participant 164F)

"...the AWPR has intersected established cycle paths with no provision for crossing" (Participant 199M)

2.1.1. Road and route conditions

In recounting their cycling practices, participants discuss the tangible features of potholes, degradation of road surfaces and debris.

"Poor road surfaces make use of dedicated cycle lanes very tricky" (Participant 5M)

"The footpaths down the A90 are badly worn and strewn with debris making them difficult to cycle on" (Participant 27F)

"Road conditions especially in the so called cycle lanes is appalling with ruts, sunken drain covers, poorly repaired potholes etc" (Participant 39M)

"Roads are terrible - cycle lanes full of holes/massive protruding metal grates/water logged/rocks/uneven tarmac" (Participant 46F)

"Some cycle lanes and routes are more dangerous than cycling on the roads, with potholes and overhanging branches whipping your face (near Maidencraig)" (Participant 304M)

¹¹¹ The main concerns were the transection of the Deeside Way in the Milltimber Brae area

Participants comment on the relevance of road and route conditions as representing a barrier, with a specific emphasis on maintenance of the network:

"...maintenance of these cycle lanes" (Participant 31M) *"...local authority road maintenance"* (Participant 33F)

"Being unable or unwilling to fix the roads" (Participant 62M) *"...provision of maintained cycling paths is the way forward"* (Participant 81F)

"...cycle paths are not well maintained – potholes [...] boundary lines are fading or removed due to new roads" (Participant 84F) *"...the state of the roads"* (Participant 121F)

"Carry out maintenance on cycle lanes" (Participant 165F) *"...lack of gritting done in winter; poor road surfaces"* (Participant 219F)

"Road conditions (far too many dangerous potholes)" (Participant 220F) *"Bad drainage at the side of roads is most unpleasant"* (Participant 229M)

"Road surfaces at cycle lanes are often extremely uncomfortable" (Participant 238M) *"On some roads I'm outside the cycle lane because the surface is bad inside them and the road around the drains is missing and full of great holes"* (Participant 338F)

Winter maintenance:

"Cycleways are NOT gritted and cleared from snow during winter" (Participant 26M) *"Even on the newer cycle paths, in colder weather, there's no gritting of paths leaving them"* (Participant 167M)

"The Altens 'Shell' path is poorly maintained in ice or snow and means that it is dangerous to use" (Participant 187M) *"...never get treated in winter"* (Participant 188F)

"...winter maintenance is nil..." (Participant 217M) *"...in addition the limited cycle paths are never gritted or treated during winter and are often covered in sheet ice making them dangerous"* (Participant 282M)

2.1.2. Segregated infrastructure¹¹²

<i>"...lack of segregated cycle lanes"</i> (Participant 60N)	<i>"...limited segregated cycling routes make it dangerous"</i> (Participant 139M)
<i>"Difficult due to there not being dedicated lanes"</i> (Participant 180M)	<i>"Pleasant on segments with segregation of bike from cars"</i> (Participant 306F)

There are also several comments relating to the desirability of segregated infrastructure, and how the absence of it represents a barrier too:

<i>"...lack of segregated routes"</i> (Participant 11F)	<i>"Sharing road space with cars is the main barrier"</i> (Participant 22M)
<i>"Better cycle lanes with proper segregation"</i> (Participant 98M)	<i>"The key issue is that dedicated cycle paths are few and far between"</i> (Participant 187M)
<i>"...inability to segregate roads"</i> (Participant 233M)	<i>"...there will only be a significant increase in cycling when segregated routes are improved"</i> (Participant 261M)
<i>"Lack of quality segregated infrastructure"</i> (Participant 287M)	<i>"Lack of separation between cyclists and motorists owing to little/no cycle infrastructure"</i> (Participant 330M)

2.1.3. Shared use paths

<i>"Only real incidences of conflict have been with pedestrians on shared use paths"</i> (Participant 48M)	<i>"The shared use path at Causewayend is pointless due to the volume of pedestrians using it during peak hours"</i> (Participant 210N)
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¹¹² Some participants also make use of the word "dedicated" when describing cycling-specific infrastructure, and for the purposes of this thesis, this has been interpreted as inferring segregation from cars and other motor vehicles.

"...the cycle route is shared with pedestrians on the north pavement of the road out to Bucksburn. There are several bus stops along this with very limited space between the bus stop shelter and the road. The bus stop shelters are typically not transparent, so it is impossible to tell when approaching, whether there is a pedestrian about to step out in front of you" (Participant 246M)

"Too many pavements now 'dual use' with no proper segregation for pedestrians" (Participant 306F)

I regularly use the old Deeside way [...] This is without a shadow of a doubt the best path in Aberdeen. However, it still comes with its problems in the conflict changes from bikes and motor vehicles to bikes and pedestrians" (Participant 347M)

"Designate all suitable paths as shared use" (Participant 110M)

"Use of wide empty pavements for cyclists. White line to split pedestrian/cyclist" (Participant 194F)

"More cycle paths/shared paths with pedestrians" (Participant 194F)

"Splitting pavements for cyclists/pedestrians" (Participant 231M)

"...split pavement use where feasible" (Participant 298M)

"More shared paths, wide enough to safely accommodate other users" (Participant 359F)

2.1.4. Specific infrastructure

"I have enjoyed commuting daily from Echt to Aberdeen. This positive experience has been majorly affected, in a negative way, by the AWPR. It has been an obstacle course between Westhill and Kingswells. And now it is dangerous. A new roundabout with no traffic lights and sharp turns - the former is a death trap and the latter will inevitably lead to accidents" (Participant 204F)

"Cycling to Westhill is dismal and now even worse with the AWPR roundabout requiring five give ways to travel 50m [...] The AWPR has managed to slice up dozens of C roads that were previously used for my fitness rides" (Participant 71M)

"There is no real infrastructure for cyclist in Aberdeen, and where there was some (Westhill to Kingswells) it has been wrecked to improve/increase car use" (Participant 68F)

"The Deeside way is a wonderful route, but the AWPR has significantly affect it; crossing it is now very difficult, and this impacts on the desirability of cycling" (Participant 105M)

There were also several participants for whom specific areas of infrastructure are seen to represent barriers in themselves:

"Some of the existing paths are poorly neglected and need to be upgraded, for example the existing path by the A90 from Stonehaven" (Participant 66M)

"...the pollution issue on certain roads such as Wellington Road" (Participant 189M)

“Some people put off because they need to cycle along Union Street before being able to reach official cycle paths” (Participant 216F)

“...insufficient cycle paths through/to commuter areas” (Participant 366F)

2.1.5. Cycle parking & storage

Participants make the following suggestions:

“...secure lockers for bikes at all key transport points” (Participant 38M)

“...bike lockers” (Participant 65F)

“...more places to chain up bikes (with cover from the weather)” (Participant 75M)

“Secure bike storage areas are also very important around all major amenities and workplaces” (Participant 137F)

“Better facilities for cycle storage at transport hubs (compare Aberdeen railway station with Waverley in Edinburgh)” (Participant 208M)

“More bike racks (with security cameras to help deter thefts)” (Participant 213F)

“Secure bike lockers would help” (Participant 223M)

“Create parking nodes where cycles can be left locked in a fully enclosed cabinet with either an RFID tag or SMS lock that people can just use as and when” (Participant 243M)

“...without the bother of having to look for parking spaces wherever I travel.” (Participant 26M)

“...don’t have to worry about parking” (Participant 60N)

“No parking at work” (Participant 104M)

“Cycling is the most convenient way for me to go to work, as there is nowhere to park a car” (Participant 201F)

“...parking space is limited at my workplace” (Participant 217M)

“My workplace has limited parking.” (Participant 286F)

“Nowhere to park my car at uni or ARI [Aberdeen Royal Infirmary]” (Participant 351F)

“...no parking issues” (Participant 363M)

“...insufficient bike parking facilities” (Participant 108M)

“...I think having more safe places to leave your bike around the city would also help as well” (Participant 122F)

"...bike storage" (Participant 135M)

"...where to keep your bike, risk of bike getting nicked or vandalised" (Participant 143M)

"...lack of cycle storage provisions" (Participant 147M)

"Cycle Parking - extremely lacking, cyclists need covered secure parking which prevents pilfering of components and outright theft" (Participant 243M)

"...facilities to keep bikes safe at the end of a journey" (Participant 311F)

2.2. Public sector funding (Section 6.4.2.)

"Insufficient investment to make any material difference" (Participant 130M)

"Slow progress. All need funding" (Participant 155M)

"Aberdeen CC/Shire does not have a visible program of applying for funding from Sustrans etc or have an approach to going after every penny of funding to promote cycling" (Participant 142M)

"Money is spent on feasibility studies and policies are written stating that developments should include x,y and z but then work is done and the studies are ignored or forgotten" (Participant 300F)

"...actual allocation of resource and spend is key" (Participant 327M)

"Cyclists are at the bottom of the consideration when infrastructure is being created" (Participant 15M)

"Local cycling groups feel that they are not listened to and that the policies and initiatives are simply paying lip service" (Participant 102M)

"...people who cycle are not a priority for the Council and are second class to people who decide to drive" (Participant 107M)

"Neither Scottish or local government have any interest in providing for cyclists [...] Scottish govt only interested in central belt" (Participant 123M)

"Cycling as a mode of transport in Aberdeen is a tiny percentage of daily journeys. As such there is very very limited lobbying power. Therefore the councillors are not particularly interested in the subject" (Participant 347M)

2.3. Clothing (Section 6.4.3.)

"Cyclists in Aberdeen often wear high-viz clothing for safety reasons, which can also set them apart, whereas cyclists in other European countries often wear every day clothing (e.g., shirts, suits, dresses etc) making them more relatable to drivers" (Participant 197F)

"...road bike clothing like Lycra makes you an easy target for road rage" (Participant 97M)

"The stereotype of the 'MAMIL' on a road bike exacerbates the conflict between other road users" (Participant 151M)

"Many drivers will act very differently around cyclists wearing proper gear, compared to those who are just on a bike in normal clothes. They seem to assume cycle commuters are very different people and should be treated as a sub-class or road users" (Participant 104M)

"I think there is a perception that cyclists are very angry and wear lots of Lycra. I think this is counter-productive in encouraging people to take part" (Participant 228M)

"Lots of high viz, Lycra clad riders - think Aberdeen has virtually no women in high heels or old men in flat caps cycling around" (Participant 342F)

2.4. Weather & topography (Section 6.4.5)

"For a lot of the year the weather in Aberdeen is not nice for cycling" (Participant 68F)

"...the winter months when commuters are travelling in cold, wet, and dark conditions" (Participant 113N)

"...weather is an obvious barrier for 4 months of the year" (Participant 114M)

"The spectacularly bad weather in Aberdeen" (Participant 205F)

"Weather has a bit to do with it" (Participant 229M)

"...t's difficult to convince people that cycling in poorer weather makes sense and is practical" (Participant 246M)

"Winter weather/summer rain. Even spending a fortune on infrastructure, I feel uptake would be limited as at times it can be pretty uncomfortable (either cold, or wet from an unexpected downpour" (Participant 367M)

3. Meanings (Section 6.5)

3.1. Car culture & cycling as transport (Section 6.5.1)

"The majority are not interested...they prefer their fancy 4WD, privacy and comfort" (Participant 60N) *"People's perception that they can't do without a car"* (Participant 67M)

"SUV culture" (Participant 87F)

"People commute 40 miles to get to work with their only option the car. Aberdeen is worse than other parts of the country for mode share i.e. 85% single occupancy cars due to the above, affluence, lack of investment. it will take a great deal to turn this around" (Participant 91M)

"...a car-culture that will take real effort and commitment to move away from" (Participant 102M)

"Aberdeen is happy to allow large traffic jams all over the city, polluting lungs, and marginalizing cycle travel. The car is king" (Participant 142M)

"People are too wedded to their cars" (Participant 176M)

"The city's opinion is largely swayed by a history of oil, lots of fancy cars an obsession with motor vehicles" (Participant 254M)

"Aberdeen's obsession with expensive cars and 4x4s" (Participant 357C)

"The culture of Aberdeen (and the UK), with car ownership (and BIG car ownership) being seen as a marker of success is also an issue that will be hard to overcome purely by behaviour change" (Participant 358M)

"Put cycling above car use so people feel safe and it can become the norm" (Participant 68F)

"Cyclists are such a small minority on the roads so a culture will only exist when more people see cycling as a viable and irresistible mode of transport" (Participant 104M)

"...driving should be made more inconvenient to encourage people to cycle" (Participant 105M)

"Public service announcements about the dangers of driving/benefits of cycling" (Participant 132F)

"Compromising the absolute priority that seems to be given to car drivers" (Participant 246M)

"Everything is based around the idea that cars are the main form of transport (which is the case) but also that they should always have priority" (Participant 300F)

"By recognising how cycling fits into the overall public transport choice - not above others, but as a factor in decision-making alongside walking,

"Give up on oil & gas (you did not say it has to be easy)" (Participant 348M)

public transport and vehicular movements”
(Participant 326N)

Cycling as transport:

“...my main form of transport to and from work” (Participant 29M) *“Favourite form of transport”* (Participant 47M)

“...preferred mode of transport for commuting” (Participant 57M) *“...it’s just the way I get about”* (Participant 64M)

“Getting from a to b on a bicycle” (Participant 86F) *“Convenient travel for short to medium journeys in and around town and/or cycling.”* (Participant 113N)

“...using a bike as a means of transport” (Participant 118F) *“Cycling: the way I get around”* (Participant 132F)

“Active transport” (Participant 176M) *“Commute, commuting, travel to work...”* (Participant 197F)

3.2. Cycling & identity (Section 6.5.2)

<i>"Cyclist is a cycling enthusiast not someone on a bike"</i> (Participant 98M)	<i>"I'm just a normal person who cycles in normal clothes to normal activities - a cyclist has special equipment, maybe funny shoes"</i> (Participant 121F)
<i>"...me, my friends and family"</i> (Participant 128M)	<i>"...rebel..."</i> (Participant 131F)
<i>"A person who is all the gear and is obsessed with cycling"</i> (Participant 154F)	<i>"Me"</i> (Participant 69M)
<i>"Cycling is part of my life"</i> (Participant 170M)	<i>"I feel these words represent me on the roads"</i> (Participant 202M)
<i>"I cycle reasonably frequently but don't consider myself a cyclist."</i> (Participant 210N)	<i>"I would not class myself as a cyclist as I feel that's more of a term used to describe a person that does it for sport"</i> (Participant 218M)
<i>"...something I am"</i> (Participant 223M)	<i>"Even though I cycle to work almost every day I don't usually describe myself as a cyclist, I tend just to think of myself as someone who cycles."</i> (Participant 271F)
<i>"What I am"</i> (Participant 297M)	<i>"...non-conventional"</i> (Participant 313M)

3.3. Cycling & society (Section 6.5.3)

Stereotypes of cyclists:

"Arrogant, inconsiderate, rude and dangerous" (Participant 52M) *"...sometimes rude"* (Participant 87F)

"Cyclists can be people like me but are now often Lycra clad (& usually male) with an aggressive sense of entitlement" (Participant 113N) *"I think 'cyclist' has come to denote someone who wears Lycra and takes the speed at which they cycle rather seriously."* (Participant 121F)

"Cyclist [is] an obstruction on the road" (Participant 173F) *"Cyclists are people with all of the gear who cover large distances daily (and enjoy it)"* (Participant 210N)

"Lycra clad losers" (Participant 218F)

Attitudes of society:

"Aggressive attitudes to cyclists mean that most will give up quickly" (Participant 132F) *"Culture of anti-cyclists (see comments on Fubar¹¹³ for how bad it gets)"* (Participant 164F)

"Aberdonian drivers are relatively aggressive and roads are mainly shared with them" (Participant 238M) *"Media Climate - where it's always 'cyclists' while the reality is that it should be just about a person using a bicycle"* (Participant 243M)

"Entrenched public attitudes" (Participant 255F) *"Bikes are not considered effective transportation methods"* (Participant 273F)

"Changing the culture to make people want to cycle for their own good - we need to value moving our bodies more" (Participant 342F) *"The oil manna. It determines the 'cultural' attitude towards more sustainable alternatives"* (Participant 348M)

"There is an us vs them attitude in most activities including transport" (Participant 14M) *"Car drivers think the car is king"* (Participant 56F)

"... local authorities to media pitching it as a car v cyclist mentality rather than looking at safe travel options for all" (Participant 64M) *"There is a huge amount of tribalism in Aberdeen city. Car drivers feel very entitled, possible due to the amount they pay to use their cars"* (Participant 104M)

¹¹³ "Fubar News" is a Facebook page focussed on local news in the North East of Scotland providing contemporaneous traffic news, community updates, and associated information perceived to be relevant to the community.

<i>"There are a lot of powerful car owners in affluent Aberdeen 'Petrolheads' who show much disdain to cyclists" (Participant 114M)</i>	<i>"It's still viewed as an odd choice of transport especially for women" (Participant 138F)</i>
<i>"Stereotypes always seem to be driven by the media who like to stir things up" (Participant 170M)</i>	<i>"There seems to be a lot of hate towards cyclists on social media" (Participant 193M)</i>
<i>"Sometimes I feel like the way people shout at me because of my gender as male friends haven't experienced similar things" (Participant 213F)</i>	<i>"Whenever there is a feature or letter in local press, it's invariably of the 'uninsured, no road tax, reckless cyclists' variety and difficult as it may be to get a fair reply from any one person or a prepared statement group representing cyclists, until that happens it's an uneven argument." (Participant 217M)</i>
<i>"Conduct of cyclists can be popular moan/anecdote in social situations" (Participant 255F)</i>	<i>"Cycling seen as a hobby, not a mode of transport" (Participant 313M)</i>

From the viewpoint of creating disincentives to cycling, participants suggest that the following conceptualisations of cycling/cyclists are unhelpful:

<i>"The current resurgence gained impetus from the sporting success of British Cycling. This has resulted in the all pervading image of apparently race ready cyclists riding potentially very fast machines often in a manner beyond their abilities and safely not always in keeping with the rules of the road" (Participant 77M)</i>	<i>"Stop pushing hi-vis and helmet use (apportioning blame to the cyclist in accidents)" (Participant 117F)</i>
<i>"When the word 'cyclist' is mentioned, people picture confident/aggressive middle aged men in Lycra riding expensive road bikes" (Participant 248F)</i>	<i>"Cyclists are viewed in the UK as road tax dodgers who shouldn't be allowed on the road" (Participant 4M)</i>
<i>"...unfortunately I feel that cyclists are often viewed as self-righteous busybodies who are angry at everything for no reason" (Participant 42M)</i>	<i>"Motorists see all cyclists through the stereotypes of non-law abiding, frustratingly slow, self righteous eco-nazis" (Participant 80M)</i>

"...cyclists are seen as oddballs and a minority who shouldn't exist" (Participant 105M)

"The two stereotypes of cyclists tend to be negative. They tend to be 1) MAMIL, 2) Cycling through red lights" (Participant 107M)

"Behaviour towards cyclists seems to be strongly influenced by a mix of confirmation and outgroup bias" (Participant 118F)

"There is a definite attempt to divide people and label them as a particular thing ("cyclist"), even though most cyclists are car drivers too!" (Participant 253M)

"A lot of people see cycling as a sport rather than a form of transport" (Participant 232M)

"...environmental zealots" (Participant 277M)

"...elitist, fitness driven and confrontational" (Participant 322M)

"Lycra clad middle aged men who flout the road laws" (Participant 302M)

"I think some people also think cycling is for 'poor' people or people who can't drive and would be embarrassed to cycle on the roads" (Participant 357F)

"...ecologically pure" (Participant 369F)

3.4. Safety & perceptions of safety (Section 6.5.4)

"I've been knocked off my bike when commuting" (Participant 4M)

"Rubbish, dangerous and abusive. I've also broken a leg due to a careless driver" (Participant 12M)

"I feel like I'm on the set of Terminator 2 where I'm the young boy on a motorbike being chased by the Terminator in a lorry behind me. That's what it feels like on Union St to have a bus right behind me. Bikes are small and vulnerable and the difference in mass between a cyclist and a bus is significant" (Participant 61F)

"I had an experience where a car tried to force me off the road because I wasn't using a new cycle path - I wasn't using it as I had a 12-mile commute to work and the cycle path introduced mini junctions where the cyclist had to give way...slowing my journey and increasing my risk if I failed to stop." (Participant 73M)

"I don't know anyone who cycles frequently who hasn't been involved in an accident or a dispute involving other road users" (Participant 118F)

"When I used to cycle from Kirkhill Ind estate into town I regularly got shouted at by a group of men in a van, no idea what they were saying as I could never make it out" (Participant 145F)

"I've been run off the road by a lorry, honked at for just being on the road and had items thrown at me from cars (all on the A90 dual carriageway)

"So cycling Aberdeen is generally a pretty horrible experience" (Participant 347)

<i>so I've had quite a few bad experiences. A neighbour shouted at me for not being able to take a gap when joining the A90"</i> (Participant 300F)	<i>"I cycle daily to university and to work. In 3 years, I've had one minor crash, and one major crash that left me hospitalised for a little while, which happened on a B road near Banchory"</i> (Participant 369F)
<i>"You take your life in your hands when cycling around Aberdeen"</i> (Participant 22M)	<i>"Don't cycle in the city. Feel it is too dangerous"</i> (Participant 41F)
<i>I have enjoyed cycling with my 8yr old daughter on the Deeside line and around Duthie Park. However, I don't feel that I can ride safely with my family elsewhere"</i> (Participant 102M)	<i>"Cycling in Aberdeen feels less safe and accepted than in a substantial number of much bigger cities where there is much more traffic"</i> (Participant 118F)
<i>"I haven't much, I felt safer in London than Aberdeen"</i> (Participant 251M)	<i>"I cycled in London for 8 years and often feel safer commuting in London than in Aberdeen"</i> (Participant 268M)
<i>"I have been cycling in cities all my life. I would never encourage anyone to get on their bike in Aberdeen as for someone without experience it is frankly dangerous!"</i> (Participant 286F)	<i>"Aberdeen is in my experience, feels like one of the most dangerous cities to cycle in"</i> (Participant 339M)
<i>"I have never cycled properly in Aberdeen, but I know from friends it is quite dangerous [...] know friends who have gotten into serious accidents trying to cycle in the city"</i> (Participant 354M)	<i>"Very dangerous [...] Several people I know have been hit by cars while cycling due to no fault of their own"</i> (Participant 364F)
<i>"The city centre, you fear for your life"</i> (Participant 370M)	
<i>"...perception that cycling is dangerous"</i> (Participant 11F)	<i>"Perceived risk of injury amongst non or occasional cyclists"</i> (Participant 24M)
<i>"Perception of unsafe riding due to other road users making current and new cyclist feel unsafe to use roads"</i> (Participant 34M)	<i>"Perceptions of cycling safety vs car safety"</i> (Participant 71M)
<i>"The safety of the roads. The safety of your bike when you lock it up at your destination"</i> (Participant 72F)	<i>"The safety/risk perception of people reticent to try it"</i> (Participant 89M)
<i>"...90% of general public will never attempt cycling in Aberdeen or anywhere else due to the danger of interacting with motorists"</i> (Participant 101M)	<i>"...incredibly dangerous conditions for cyclists"</i> (Participant 104M)

"...a lot of people I speak to say they don't cycle because they don't feel safe" (Participant 111F)

"Perceptions probably a little worse than reality, and the reality is pretty poor!" (Participant 128M)

"Moving from car to vulnerable road user is too much for most people and if they can't see a complete safe route to get where they want to go they won't make that change" (Participant 138F)

"The perception that it is not safe. I regularly cycle with small children (3 and 5) and the response from other adults is always disbelief that I let them ride in Aberdeen" (Participant 169F)

"The danger factor is a primary reason" (Participant 189M)

"...associated danger that comes with cycling on the roads" (Participant 202M)

"People assume cycling must be highly dangerous - rather than realise that its 20 times safer than sitting on the couch" (Participant 243M)

"Road safety in terms of infrastructure and attitudes" (Participant 257N)

"The perceived level of safety for a cyclist is not going to make someone want to bike to work or anywhere in the city" (Participant 297M)

"Safety - so many of my colleagues said they would commute in by work too if they felt it was safe and had segregated bike paths" (Participant 328F)

3.5. Connection with nature (Section 6.5.5)

<i>"...environmentally conscious"</i> (Participant 74M)	<i>"...climate change prevention"</i> (Participant 80M)
<i>"...a different kind of transportation which do [sic] not ruin the environment"</i> (Participant 85F)	<i>"...environmentally aware"</i> (Participant 87F)
<i>"Sustainable, green..."</i> (Participant 131F)	<i>"...saving the environment"</i> (Participant 176M)
<i>"Eco friendly"</i> (Participant 216F)	<i>"...environmentally sensible mode of transport when feasible"</i> (Participant 301F)
<i>"Conscientious"</i> (Participant 308M)	<i>"...environmentally thoughtful"</i> (Participant 310M)
<i>"...contribute to reducing pollution"</i> (Participant 77M)	<i>"...has no carbon footprint"</i> (Participant 80M)
<i>"I'm not driving, I feel like I'm doing something good for the environment"</i> (Participant 84F)	<i>"Environmentally responsible"</i> (Participant 174N)
<i>"...plays a part in reducing the environmental impact I have"</i> (Participant 187M)	<i>"I also cycle to reduce the number of cars on the road and to reduce pollution"</i> (Participant 197F)
<i>"Mainly to be environmentally friendly on short journeys around the city."</i> (Participant 213F)	<i>"Especially for environmental reasons. I want to live as carbon neutral as possible."</i> (Participant 252F)
<i>"Environmental [sic] friendly lifestyle"</i> (Participant 273F)	<i>"Reduced environmental impact"</i> (Participant 308M)
<i>"...to reduce negative impacts of driving a vehicle"</i> (Participant 370M)	
<i>"...seeing our environment from a different perspective"</i> (Participant 49M)	<i>"I love to be out in fresh air and see lots that people miss when driving"</i> (Participant 98M)
<i>"Love the feeling I get being on a bike with the world coming towards me. Being immersed in nature travelling rather than being in car"</i> (Participant 142M)	<i>"I love the feeling of being exposed to the elements and appreciating the environment..."</i> (Participant 182M)

"I enjoy being out in nature: hearing, smelling, and seeing all around me. It makes me happy and I feel free" (Participant 328F)

"I love being out in the open air - wind through my hair - whizzing downhill." (Participant 342F)

"When I do cycle it is to enjoy being outdoors"
(Participant 364F)

3.6. Wellbeing (Section 6.5.6)

In the wider data, participants focus more specifically on the exercise benefits of cycling such as:

<i>"...a way to keep fit"</i> (Participant 14M)	<i>"Fit and healthy..."</i> (Participant 43N)
<i>"Fit, healthy [...] physically active"</i> (Participant 59F)	<i>"Cardiovascular health"</i> (Participant 80M)
<i>"Healthy, active, fit"</i> (Participant 166M)	<i>"Cycling – a form of exercise"</i> (Participant 173F)
<i>"As a sport for [a] means [of] exercise"</i> (Participant 281F)	<i>"Getting exercise"</i> (Participant 320F)
<i>"...keeps the weight off"</i> (Participant 19M)	<i>"I am diabetic on insulin so cycling apart from the enjoyment also helps keep my blood sugar levels in check"</i> (Participant 22M)
<i>"Keeps me healthy"</i> (Participant 25)	<i>"...use the time spent commuting to get fitter, beat the traffic and feel better"</i> (Participant 37)
<i>"...it keeps me fit and provides valuable exercise"</i> (Participant 42)	<i>"Exercise [...] Wakes me up before/after work"</i> (Participant 46)
<i>"...exercise and low impact"</i> (Participant 54)	<i>"Weight loss, fitness"</i> (Participant 64)
<i>"It makes me feel strong"</i> (Participant 84)	<i>"...good for the waistline"</i> (Participant 89)
<i>"...cycling has a lot of health benefits and relieves a lot of stress from the knees in comparison to running"</i> (Participant 90M)	<i>"Easy on joints, can do it into later life"</i> (Participant 114M)
<i>"...because it gets me moving outside of my sedentary job"</i> (Participant 121F)	<i>"...gives me a chance to combine my commute with exercise"</i> (Participant 160M)
<i>"...it works towards my daily activity goals"</i> (Participant 167M)	<i>"Cycling gives me the opportunity to build physical activity into my day"</i> (Participant 197F)
<i>"...it wakes me up in the morning"</i> (Participant 205F)	<i>"...drop my blood pressure"</i> (Participant 215M)

<i>"Health & fitness - depending on my route, it's 15-60 minutes of exercise twice a day"</i> (Participant 217M)	<i>"I feel better and sleep better on days where I've cycled (or done some other exercise)"</i> (Participant 236F)
<i>"Impact my health in positive way"</i> (Participant 274F)	<i>"I cycle for fitness and general health benefits"</i> (Participant 339M)
<i>"...essentially 'sneak' more exercise into my routine"</i> (Participant 359F)	

In this survey section, some participants make explicit references to mental wellbeing, whereas other are more implicit references:

<i>"Relaxation"</i> (Participant 15M)	<i>"Free space time"</i> (Participant 34M)
<i>"...gives me some headspace"</i> (Participant 84F)	<i>"...stress relief, thinking time"</i> (Participant 124F)
<i>"Reduce stress"</i> (Participant 141N)	<i>"Relaxing"</i> (Participant 158M)
<i>"Therapy"</i> (Participant 311F)	<i>"Endorphins"</i> (Participant 316M)

A selection of quotations from the data set are presented below for further context as to how participants conceptualise this idea:

<i>"I cycle to get away from stress"</i> (Participant 8M)	<i>"...think about noy much or think through my worries and it helps my mental health"</i> (Participant 21F)
<i>"...to clear my head"</i> (Participant 34M)	<i>"...mental wellbeing"</i> (Participant 36M)
<i>"...de-stressing time to and from work"</i> (Participant 42M)	<i>"...stress release"</i> (Participant 47M)

"More pleasant and less stressful than being in a car. Feel good during and afterwards"
(Participant 48M)

"...relax after work" (Participant 65F)

"...find it good for mental health" (Participant 81F)

"...reduces stress" (Participant 125M)

"...stress busting" (Participant 131F)

"...it's good for my mind" (Participant 143M)

"...less stressful than sitting in traffic"
(Participant 169F)

"Health benefits (physical and mental)"
(Participant 179M)

"...mental wellbeing" (Participant 195M)

"...reduce stress and improve both my mental and physical health" (Participant 197F)

"Primarily for fitness (including mental health)"
(Participant 233M)

"I find it a lot more relaxing and fun than driving in traffic and I find I'm more focussed if I cycle into work." (Participant 239M)

"I cycle to work as it helps keep me fit and in a better mood" (Participant 263M)

"...it also makes me feel good and give me time to process my thoughts in a way that I wouldn't be able to if I were in a car or bus where it's easy to be distracted by other people/mobile phone"
(Participant 271F)

"...good way to unwind from the stresses of the day" (Participant 284M)

"It is my favourite way to reduce stress and keep active" (Participant 311)

"Headspace" (Participant 351F)

3.7. Time (Section 6.5.7)

<i>"...time saving"</i> (Participant 37M)	<i>"...faster mode of transport"</i> (Participant 74M)
<i>"Fast"</i> (Participant 79F)	<i>"...travelling to and from places faster..."</i> (Participant 93F)
<i>"...freedom to get where I want to without delay"</i> (Participant 138F)	<i>"Traffic jam avoidance"</i> (Participant 142M)
<i>"Cycling is the most efficient way to get around"</i> (Participant 171M)	<i>"...quick and easy transport"</i> (Participant 261M)
<i>"...efficient"</i> (Participant 270M)	<i>"Easiest and quickest way to get around the city"</i> (Participant 273F)
<i>"...often quicker than car"</i> (Participant 10M)	<i>"...quicker than the car due to volume of traffic"</i> (Participant 59F)
<i>"It's quicker than the car or bus"</i> (Participant 64M)	<i>"Cycling is faster than walking"</i> (Participant 93F)
<i>"...often quicker for short journeys than the car"</i> (Participant 115F)	<i>"Quicker than walking: less sweaty than running"</i> (Participant 144M)
<i>"Always quicker than bus, often quicker than driving"</i> (Participant 147M)	<i>"On most occasions I can travel as quickly on bike as I can by car"</i> (Participant 187M)
<i>"...in some cases faster than the bus"</i> (Participant 216F)	<i>"Minimal additional time between me cycling and using any other alternative (no benefit really from the others)"</i> (Participant 241M)
<i>"My 6km journey takes 20+ minutes by car, 45-60 minutes by bus and 70 minutes to walk but only 15 minutes to cycle"</i> (Participant 248F)	<i>"I live out of town and cycle into my place of work from the park and ride in Kingswells twice a week. It is quicker as the traffic gets very congested"</i> (Participant 286F)

Participants who focus on a slightly different meaning of time and efficiency; that time cycling is positive, against the negative association of being static in traffic:

<i>"Less time stuck in traffic"</i> (Participant 46F)	<i>"...beats sitting in rush hour traffic"</i> (Participant 145F)
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“...to avoid [the] heavy traffic I would be in if driving” (Participant 236F) *“Avoid queues”* (Participant 249F)

“I prefer to cycle whenever possible to avoid wasting time getting stuck in traffic” (Participant 281F) *“...fast, not getting stuck in traffic”* (Participant 314F)

4. Additional data

4.1. The Bicycle

In interpreting what the terms “cyclist” and “cyclist” mean, almost one third of participants¹¹⁴ refer to the fundamental skill of riding a bicycle. A small sample of responses are set out in Appendix 5 for reference. It should be noted that how this information is expressed by participants is also strongly linked to the material aspect of a bicycle itself and the rider, demonstrating how elements of a practice are inherently linked and can often not be easily separated.

A sample of responses are presented below for context:

“Using a bicycle” (Participant 19M)

“Riding a bike” (Participant 53M)

“The act of using a bicycle. A person using a bicycle” (Participant 69M)

“Cycling: riding about on a bike” (Participant 71M)

“Cycling – riding your bike” (Participant 72F)

“Cycling is pedalling on a bike.” (Participant 98M)

“Cycling is using pedal power in a circular motion to propel yourself long a route” (Participant 107M)

“Cycling is the process of using a bicycle. A cyclist is the person doing the cycling.” (Participant 157F)

“Cycling is the act of riding a bicycle. A cyclist is someone who engages in riding a bicycle” (Participant 248F)

“Riding a bicycle, someone who is using a bicycle” (Participant 314F)

However, some participants were keen to emphasise that the *type* of bicycle an individual cycles is irrelevant. As follows:

*“...someone who rides **any type of bike**”* (Participant 108M, emphasis added)

*“Cycling is **any kind of bike**”* (Participant 92M, emphasis added)

Participants comment that the words “cyclist” and “cycling” have the following meanings:

“Person who uses said bike” (Participant 2F)

“People on cycles” (Participant 6M)

“Cycling is any kind of bike and cyclist is anyone on a bike” (Participant 92M)

“Simply a person on a bicycle” (Participant 179M)

¹¹⁴ 94 individual references manually coded in NVivo.

"Someone who rides a bike to get around" *"Cyclist is the rider"* (Participant 253M)
(Participant 201F)

"Everyone who owns a bicycle" (Participant 287M)

When setting out the reasons for choosing to cycle, several participants are explicit about the physical object of the bicycle itself, commenting on its aesthetics, visual appearance, and functions. For example:

"...and because our tandem is the most adorable machine out there (it has cupholders)"
(Participant 121F)

"I use an electric assist cargo bike. I can whizz about town without getting into a sweaty mess and can carry my young children in the bike or my household shopping or take my wife to a restaurant in it" (Participant 151M)

"As an engineer they are brilliant mode of transport with all mechanisms visible." (Participant 182M)

"I love bicycles from an aesthetic perspective"
(Participant 277M)

"...availability of public use bikes" (Participant 214M)

"...access to public bikes for short journey (particularly from train/bus station)" (Participant 332F)

4.2. Hobby/Leisure

Unsurprisingly, for several participants there is a strong association between cycling and the idea of it representing a sport, recreation, or hobby and at a variety of levels. For example, *"an enjoyable pastime"* (Participant 223) or simply *"I love cycling as a hobby"* (Participant 222F). Again, this is one of the "meanings" that are replicated elsewhere in the data, featuring in Section 6.3 and in the interview data in Chapter 7.

"I love cycling as a hobby" (Participant 222F)

"An enjoyable pastime" (Participant 223M)

"...professional athlete" (Participant 259M)

"...cyclist is a person who exhibits this sport"
(Participant 237F)

“...the word cycling represents a hobby for me” (Participant 280F) *“Cyclist to me means someone who cycles regularly, perhaps competitively”* (Participant 311F)

4.4. Freedom

Although a smaller segment of the data, 19 participants used the word *“freedom”*¹¹⁵ to describe what cycling means. This was supplemented by 3 participants who described a feeling of *“independence”*¹¹⁶ associated with cyclists and cycling. Several participants simply use the word *“freedom”* or *“independence”* to capture this meaning. Other participants were more expressive in the language used to capture the idea of freedom, with one stating that, *“I find cycling liberating”* (Participant 160M).

4.5. Way of life

Finally, in the discussion of *“cyclist”* and *“cycling”*, participants discussed the idea of cycling representing a way of life for them. Although this occupies a relatively small proportion of the responses to this question, it is a *“meaning”* that is replicated in the interview data presented in Chapter 7.

For the purposes of this section, it is noted that participants described cycling using words and phrases such as, *“lifestyle and passion”* (Participant 16F), a *“way of life”* (Participant 46F), and *“...my passion”* (Participant 25F).

4.6. Cost or money

Another material relevant to why individuals practice cycle is that of money. Several participants cite general cost savings as being a significant motivation for choosing to cycle. For example:

“...save money” (Participant 14M)

“It’s cheaper...” (Participant 86F)

¹¹⁵ Participants 4M, 8M, 17M, 27F, 29M, 41F, 56F, 60N, 67M, 78M, 110M, 133F, 138F, 146F, 172F, 245F, 258F, 311F, 316M

¹¹⁶ Participants 9M, 60N, 252F

<i>"Cheaper commute to work"</i> (Participant 95F)	<i>"Cheap running costs"</i> (Participant 202M)
<i>"It's the cheapest form of transport for a student"</i> (Participant 237F)	<i>"...cheapest way for me to get to and from work each day"</i> (Participant 271F)
<i>"It's free after you have the bike"</i> (Participant 276F)	<i>"It's a very cheap mode of transport which allows me to save money"</i> (Participant 359F)

Whereas other participants are very clear on the type of cost savings they experience through the practice of cycling:

<i>"...don't pay road tax [Vehicle Excise Duty]"</i> (Participant 2F)	<i>"...don't need to pay for parking"</i> (Participant 11F)
<i>"...saving money on fuel"</i> (Participant 12M)	<i>"I save money on fuel and gym"</i> (Participant 37M)
<i>"For work related journeys I save money on fuel"</i> (Participant 77M)	<i>"Cheaper than diesel"</i> (Participant 89M)
<i>"It is cheaper than having a car"</i> (Participant 93F)	<i>"To avoid paying for parking (commute)"</i> (Participant 164F)
<i>"I did not have a car for many years and did not want to pay the exorbitant bus fares so got myself a bike."</i> (Participant 201F)	<i>"Cost - a bus ticket would be maybe £20 per week and value for money would depend on number of shifts worked/days off/holidays. Running a car is expensive enough"</i> (Participant 217M)
<i>"Avoid buying a second car"</i> (Participant 262M)	<i>"It also reduces my fuel and car expenses"</i> (Participant 263M)

4.7. Public transport

Participants discuss the material element of public transport in the following terms:

<i>"No waiting for a bus"</i> (Participant 2F)	<i>"...to make up for Aberdeen's ridiculous public transportation network."</i> (Participant 118F)
<i>"...buses aren't necessarily available to fit around my work shifts"</i> (Participant 217M)	<i>"...bus not always viable"</i> (Participant 324N)

4.8. Convenience

Several participants directly cite “convenience” or a derivative of the word as a facet of cycling¹¹⁷.

Some participants offer a more detailed understanding of why it represents convenience to them:

“...a convenient way to exercise and I don’t have time in other parts of my life” (Participant 216F) *“...it helps me to get around very flexibly”* (Participant 252F)

4.9. Facilities

A further practical adjustment survey participants felt could contribute to creating a positive cycling culture in Aberdeen relates to enabling individuals to change and shower after cycle commuting. As follows:

“...showering facilities in public buildings” (Participant 10M) *“...suitable change facilities including drying facilities in new office, warehousing developments etc”* (Participant 187M)

“Public toilets with showering facilities - would be willing to pay” (Participant 279M)

“Encourage people to provide changing facilities for staff” (Participant 84F) *“...washing and drying facilities¹¹⁸”* (Participant 271F)

“...engagement with businesses and employers to provide the full gambit of facilities (safe/secure storage, changing/showering facilities, and equipment lockers/drying facilities) which will allow cycling every day. Recognise that investment in these facilities is a better spend than a car park” (Participant 179M) *“Have a cycle/active travel hub in a key city centre or workplace location, that has the facilities that some workplaces lack (secure storage, showers, changing facilities, drying room etc)”* (Participant 358M)

¹¹⁷ Participants 11F, 47M, 68F, 107M, 123M, 127M, 160M, 162M, 183M, 210N, 216F, 253M, 259M, 272M, 284M, 294F, 296F, 305F, 334M, 338F

¹¹⁸ In this context, “drying facilities” refers to kit drying facilities.

4.10. Signage

<i>"More signs to make cars aware"</i> (Participant 20F)	<i>"...clear signage to be aware of cyclists"</i> (Participant 115F)
<i>"Clear signage for shared pathways"</i> (Participant 121F)	<i>"Visible cycling signage"</i> (Participant 187M)
<i>"...more signposting of cycle paths for other road users to see"</i> (Participant 222F)	<i>"More signs explaining the rules when passing cyclists"</i> (Participant 232M)

Survey participants also discuss the potential for improving signage around the city. For example, connecting with the previous section on shared use paths:

<i>"Better signage for shared paths"</i> (Participant 123M)	<i>"...clear indications where cyclist on the pavements is permitted and/or preferred"</i> (Participant 300F)
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Other participants feel that improved signage could help with cycle awareness:

<i>"...improvement of signage (i.e., when a bike lane is squashed with the car lane briefly on N Deeside there should be a sign to cars indicating that bikes have the right of way)"</i> (Participant 164F)	<i>"Think bike" signs at major junctions/roundabouts"</i> (Participant 302M)
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With others noting the practicality that enhanced signage can offer the practice of cycling:

<i>"...review of cycle paths to ensure clear distance to cycle and signage"</i> (Participant 84F)	<i>"Waymarked side-street routes"</i> (Participant 233M)
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4.11. Events

Survey respondents also discuss the role that events can play in contributing to a culture that positively supports cycling:

<i>"Regular cycling events similar to Etape Loch Ness or Etape Caledonia would be a great way of creating a positive cycling culture"</i> (Participant 81F)	<i>"Cycling events; for example, the Baker Hughes 10K run has encouraged lots of people to run. Something similar and regular may encourage cycling"</i> (Participant 300F)
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One participant states that such events needed to be planned alongside the “*cycling community [...] the community knows best how to increase cycling and create a positive culture*” (Participant 311F).

Appendix 6 – Chapter 7 Data Set – Cyclist Interviews

This section sets out additional data in relation to Chapter 7. Sections are marked with corresponding Chapter 7 Section numbers for ease of reference.

1. Competences (Section 7.2)

1.1. Driver Competences (Section 7.2.2)

In common with the survey participants, the subject of perceived driver competences is also discussed during the interviews with members of the public:

“95% of the time, I don’t have any issues at all [...] It’s the other 5%. It’s always that 5% that you remember, you never remember the good things, I suppose. (Participant A21M)

A core focus of discussion relates to drivers’ ability to judge the speed of cyclists, and the consequences that this can have. For example:

“I find a lot, that you can quite easily be travelling at 30 miles-an-hour on a push bike, and people don’t expect that...” (Participant A14M)

“For a left-hand turn, for example, they can just go, ‘Oh, I’ve just got enough time to nip round – that cyclist isn’t going very fast’.” (Participant A12F)

“That’s why I slow down every time a car passes me. Because they just cut in far too early. [...] I could be going at about 16 miles-an-hour. Some of the road people go at 20 miles-an-hour, or even faster, on a road bike. But they just don’t have any idea.” (Participant A13F)

Participants also discuss the techniques (or lack thereof) of drivers passing cyclists on the carriageway:

“Don’t overtake by a fraction of an inch, because that’s what they do. They’re particularly unwilling to cross a solid white line” (Participant A13F)

“...they don’t wait until it’s clear the other way, and actually pull properly round you, onto the other carriageway. They actually just try and squeeze past you [...] they won’t wait” (Participant A16F)

“They should go on to the other side of the road, if it’s safe to do so, to overtake. Don’t just try and squeeze down, just because you think it’s a cyclist, therefore it’s maybe half-a-metre across, or something like that” (Participant A3M)

“And car drivers don’t seem to understand, when it’s wet, and rubber on metal is not a good mix, they need to give you a wider berth” (Participant A4F)

1.2. Education (Section 7.2.3)

There is a clear desire from participants that better education of drivers about cyclists and cycling is required. As follows:

“So, I think we need some sort of public [awareness campaign]. And some better thing in the driving test side of things. As they’re learning, it’s got to be part of the instruction” (Participant A15F)

“...the Dutch Reach. That is something that is being taught in German driving schools as well, and it’s standard. It helps everybody...” (Participant A20F)

“If the government are serious about that, they need to take that hit and say, ‘We need to have this, and share the road message’” (Participant A7M)

There is a clear desire from participants that better education of drivers about cyclists and cycling is required. As follows:

“The drivers are just so uneducated about what it’s like being a cyclist. And there should be...even if it was like a simple advertisement on the television, to say that two abreast is okay, in certain circumstances. Or, look out for islands – don’t pass a cyclist when there’s an island.” (Participant A13F)

1.3. Policy & design competences (Section 7.2.4)

Participants make the distinction between the aspiration of the policy content on one hand, and the translation of this into tangible improvements on the other:

“All those strategies, and policies, they’re words, they never say anything. You look at it, and there’s absolutely no detail. [...] ‘We will do this’, and then the next year it’s, ‘We will do this’. There’s no baseline established, there’s nothing” (Participant A11F)

Participants establish there is a gap in the knowledge demonstrated by policymakers with respect to design and usability of infrastructure:

“I often wonder, when they plan cycling provision, whether they actually go and think, or actually use a bike” (Participant A1M)

That cycle path was okay before¹¹⁹. I’ve now got another five junctions to navigate. It clearly wasn’t planned by a cyclist, the junction...” (Participant A1M)

1.4. Techniques, skills, and acquired knowledge (Section 7.2.5)

Participants discuss specific techniques that they apply to navigating the city. These range from which routes to select, based on the related meaning of perception of safety:

¹¹⁹ Participant is referring to the shared use path that runs alongside the A944 from Aberdeen to Westhill and the new infrastructure created around the Kingsford interchange for the Aberdeen Western Peripheral Route

“But one thing I’ve always done, when I’m on my road bike, is avoid popular routes. I’ll try and find the quietest road in the world. There’s certainly quiet roads around here, that I do all my cycling on. And I’ll try and find somewhere where I very rarely see a car” (Participant A14M)

Participants also note the specific techniques that they adopt for sharing a space with other road users.

These range from defensive cycling techniques:

“I know a lot of people who ride, especially more out into the country, people who cycle...they deliberately sit further into the road, to force cars to have to overtake safely” (Participant 16F)

Participants also describe material adaptations that they have made, based on acquired practical knowledge:

“[re bike parking] Once, somebody stole my lights. So, my husband usually takes his lights, but I leave mine on. In New York, I always took my seat [laughs]. It makes it really unattractive” (Participant A20F)

“...if I got a helmet cam, then, if something like that happened again, it would be recorded, and I could report it. Since then, I’ve actually had a lot less incidents, I’ve noticed [...] I’m pretty sure I’ve seen people sort of realise, ‘He’s got a camera on, I’m going to be more careful.’” (Participant A18M)

“Well, we put winter tyres on, first of all...” (Participant A4F)

1.5. The “good” cyclist (Section 7.2.6)

The impression is that somehow these individuals are contributing to the gap between public acceptance of cycling and rejection of the practice. For example:

“But also, being a cyclist, I will also berate cyclists that are not being road safety conscientious, or courteous, or just damn crazy for cycling on the A96¹²⁰...” (Participant A15F)

“And I was coming up to the lights at the Bieldside Inn, on to the North Deeside Road, waiting there. And there’s a woman, in her early 60s maybe, and she came down Baillieswells [Road] on a straight up and down, folding bike, and just kept [going] [...] And I’m thinking, ‘You’re not helping’” (Participant A7M)

“I think there’s a lot of road cyclists out there that spoil the reputation of road cyclists, because [...] when they see a drain or a pothole, they’ll jump out into the road, to avoid damaging the bike, and they don’t realise they’re going into the path of a motorist” (Participant A14M)

¹²⁰ The A96 is part of the trunk road network in the North East of Scotland and runs in a westerly/north westerly direction from Aberdeen to Inverness, taking in major commuter towns and villages such as Blackburn, Kintore, Inverurie and the surrounding locality.

“... the male cyclists, I’ve seen so much bad cycling. You can’t use the railway line as a training route” (Participant A13F)

Participants also comment on the need for cyclists to be visible, and capable of making their presence known to others too:

“A friend of mine’s a taxi driver, so he’s got the dash cam. And he puts stuff up on Facebook and says, ‘Spot the cyclist’. And you see people that are dressed in black, no lights on. And it’s like, ‘You’re asking for trouble’.” (Participant A7M)

“The thing is, I’ve also witnessed, as I said, people without lights” (Participant A11F)

2. Materials (Section 7.3)

2.1 Bike parking & storage (Section 7.3.2)

In relation to storage in public spaces, participants comment that:

“That’s an issue in town now, I can’t find cycle parking. Because, you know, a two-shackle stand isn’t enough” (Participant A4F)

“I think that is a big problem with Aberdeen city – the lack of a decent amount of places to actually chain your bike to. And visible” (Participant A16F)

Participants also comment on the role that storage plays in facilitating cycle commuting:

“...the College itself provides lockers, and I managed to get a locker” (Participant A18M)

Participants raise some practical questions about where bikes can be stored at home:

I also think there’s a difficulty for people in houses – where are you going to park your bike? [...] I’ve got a friend...and she’s going to get a pulley, and have her bike hanging off the ceiling, in her kitchen” (Participant A11F)

“I locked it to the lamppost, thinking, in a car park, where cars are parking in front of this lamppost, it would be safe. After the first one got stolen, I got permission from the landlord to install two dead bolts into the foundations of the building” (Participant A2M)

2.2. Clothing & practical accessories (Section 7.3.3)

Participants also discuss the pros and cons of having a camera on their bike or helmet:

“I’ve considered it [...] I think it can be really useful. Not necessarily just for the incident itself, but sometimes for the follow-up, if you see the confrontation” (Participant A16F)

“I’m kinda mindful that, when I cycle, I try not to look too much like... But I do look like a cyclist. I wear a jacket and a pair of shorts” (Participant A8M)

2.3. Infrastructure & infrastructure improvements (Section 7.3.4)

2.2.1. General infrastructure (Section 7.3.4.1)

A common observation amongst participants relates to the gaps in the cycling network in the city. For example:

“Like the new bit at Prime Four, at Kingswells¹²¹. So somebody’s said, ‘Okay, you’re going to build Prime Four, so you’re going to build something with a cycleway’. And you’ve got about 200 metres, tops, of cycleway, and then you’re back on to your very narrow pavement” (Participant A19M)

“The cycle ways then narrow to nothing, when you come to a central reservation” (Participant A19M)

“Usually, the bike path ends at the roundabout - there’s no indication of what a cyclist should do. The flow ends, and then what?” (Participant A20F)

“There’s the occasional cycle path. There’s the occasional pavement which is cycle as well” (Participant A2M)

“Every time there’s like a crossroads, or a roundabout – and those are the danger points for cyclists – there’s no cycle path” (Participant A17F)

The cycle lanes peter out when you need them [...] You’re safe and everything, and then, ‘Uh-oh, coming to a junction, no cycle lanes, nothing’. (Participant A11F)

Participants also discuss the advisory cycle lanes that are a feature in some areas of the city:

“...some of them are really narrow. There’s a few in the city that are really narrow, and you think, ‘Why are they suddenly that size?’” (Participant A17F)

“The current demarcation for bike paths is too narrow, I think. So, it needs at least another line that demarcates that the driver...that they realise that they’re coming way too close” (Participant A20F)

“I go up Ashgrove Road, and there’s painted bike lanes, which I tend not to stick to, because they’re too close to the edge” (Participant A4F)

“An advisory cycle lane is a non-cycle lane. It annoys two sets of people. It annoys the car drivers, because they go, ‘Why have these guys got their own lane?’ And then it annoys cyclists, because cyclists don’t necessarily know that there’s a dashed instead of a solid line, and they go, ‘Look, there’s cars in the cycle lane’” (Participant A1M)

¹²¹ Referring to the shared use path on the A944 Aberdeen to Westhill route.

“For existing roads, if they’re going to put cycle lanes in, they might as well not bother, if they’re advisory” (Participant A1M)

Participants express a desire for much improved infrastructure:

“I think it goes back, actually, to if there was better infrastructure” (Participant A12F)

“...perhaps if there was better infrastructure, I might cycle in town more” (Participant A14M)

“Better infrastructure would be excellent [...] If the infrastructure was there, I’d use it a lot more often” (Participant A21M)

“As a keen cyclist, you want the infrastructure to be better than it is” (Participant A22M)

“...maybe have more designated cycle lanes” (Participant A3M)

“It could be a lot better, to put it politely” (Participant A2M)

“Well, definitely better infrastructure. You couldn’t get away from that” (Participant A11F)

“I think, for making any journey in the town better, we need cycle lanes” (Participant A23F)

“... defined cycle paths that are wide enough for cyclists” (Participant A23F)

“It’s off-road stuff I like, and I think there’s a real lack... There’s loads of trails here, but you’ve to know about them, and you’ve got to go and find them yourself. Even if they were publicised a bit more” (Participant A5M)

2.2.2. Specific infrastructure – shared use paths (Section 7.3.4.2)

“Another thing about the Deeside Way for me, I don’t like shared space [...] if you’re actually wanting to get a proper cycle, then I just don’t think it’s suitable” (Participant A16F)

“I don’t come along the Deeside Way, because then you’ve conflict with all the other users” (Participant A9M)

“Now there’s some lanes where we’re sharing them with pedestrians, but the pedestrians don’t seem to realise that we’re allowed to be on them as well” (Participant A23F)

“If you’re on a road bike, commuting, you’re coming in that road at 15-20 miles-an-hour, you don’t want to be stopping every 30 seconds, or ringing your bell, because there’s a boy with his dog” (Participant A5M)

“...not everybody who’s sharing a path knows how to share a path [...] There’s a lot of people, when they get on any kind of path, forget about keeping left. Why wouldn’t you keep left? Why would the rules change?” (Participant A4F)

“The other thing I’m a little bit critical of is that, in certain areas, you can see they’ve actually segregated cyclists from pedestrians, and the pedestrians and cyclists totally ignore the two segregation” (Participant A19M)

“I’ve got a bell, I ring the bell, but if they’ve got earphones in they don’t hear. And then you’ve got the extending leads, for dogs” (Participant A21M)

“And then you’ve got your proper cyclists, the road cyclists. And they create an issue as well, down the railway line, because they cycle too quick” (Participant A8M)

2.2.3. Specific infrastructure – roundabouts (Section 7.3.4.3)

“I do sometimes find myself coming on the roundabout at 5 o’clock. But I would, by choice, avoid it if I possibly could” (Participant A13F)

“You can’t get across Queen’s Cross roundabout. Who thinks that’s a safe design of a roundabout? No one’s really [thought about it]” (Participant A9M)

2.4. Road and route conditions (Section 7.3.5)

“...the state of the roads, and the potholes” (Participant A11F)

“And the bane of other road users, be that cars or whatever - potholes and the state of the roads” (Participant A15F)

“Oh, potholes, yeah. I think that’s a real hazard, because it’s a difficult one for motorists to see the reason why you’ve suddenly moved into the middle of the road, or have really slowed down because you’ve seen a pothole” (Participant A17F)

“The entirety of Aberdeen, isn’t the best in roads. I know we get a lot of frosts that really damage the roads, but that’s no excuse for the massive potholes and all these things that are damaging cars. It’s just dangerous” (Participant A18M)

“There are definitely potholes that take forever to repair. And some of them are actually really dangerous [...] After the winter, of course, there are more potholes appearing” (Participant A20F)

“...there are times when you feel that your teeth are going to come out [laughs]” (Participant A21M)

“The potholes are just terrible. And the roughness of the road, the road surface is awful [...] I think the problem is that there’s just such bad surfaces everywhere” (Participant A12F)

“The cycle lanes we do have are pretty unrideable. The North Deeside Road¹²², from Culter heading into Aberdeen, is unrideable, just with grids. It’s not potholes, per se, it’s just so many sunken grids” (Participant A9M)

“If there is a cycle lane, on the road you’re on, that’s where all the drains are, and that’s where all the holes are, and that’s where all the potholes are” (Participant A23F)

“Half the time, they’re so potholed they’re actually dangerous for cyclists” (Participant A13F)

“And it’s not like you can cycle round the potholes, because it’s the entire stretch of road. You can’t avoid it. And it’s hard when you’re on a road bike. It gets really painful” (Participant A16F)

“If you go through a puddle, you’re always thinking, ‘Is there a pothole hidden under here?’, and just trying to remember on your route” (Participant A18M)

¹²² A93

2.5. Motorised vehicles (Section 7.3.7)

Participants also discuss a variety of aspects of cars, both in terms of their physical presence but also the specific size and type of vehicle too:

“Maybe like a reduction in the amount of traffic in the city [...] just get rid of all the cars completely from there” (Participant A3M)

“Well, in terms of the way forward: less traffic” (Participant A6M)

3. Meanings (Section 7.4)

3.1. Confidence (Section 7.4.2)

Participants also discuss the role that confidence plays in their practice:

“I need to feel confident and comfortable on my bike for that. To be comfortable on the bike is probably the most important thing” (Participant A17F)

“I wasn’t as confident back then. It’s only because of my experience I feel as confident now” (Participant A2M)

3.2. Driver attitudes (Section 7.4.3)

“I definitely notice that it is an aggressive culture, up here” (Participant A16F)

“...they’re impatient, less mannerly. Sometimes they’re aggressive” (Participant A13F)

“I do find that Aberdeen drivers tend to get aggressive” (Participant A14M)

“Just the general level of drivers in Aberdeen. I just find them very impatient. And I can say that from being a cyclist and being a driver. They’re very quick to toot their horn, blast their horn” (Participant A21M)

“...the driving in Aberdeen is really bad. There’s so much attitude of drivers, that they’ve got a car and they’re entitled” (Participant A10F)

“I think inconsiderate motorists tend to be inconsiderate to everybody. That is, they’ll be inconsiderate to pedestrians and other motorists – they just generally act as inconsiderate on the road” (Participant A17F)

3.3. Fitness & physical wellbeing (Section 7.4.6)

Participants explain their understanding of what this means to them:

“I think the other thing is they’ve said there’s been lots of studies on cycling, and how good it is for health. [...] Because it’s a good way of people keeping healthy. The ‘whole self’ kinda thing” (Participant A17F)

“It benefits me physically, in fitness. And it gives me a greater sense of well-being” (Participant 6M)

“It’s a lifestyle thing, you know? It’s a benefit to yourself” (Participant A19M)

“I do it to keep fit, I suppose. I’m approaching 60, so I’ve got to think about my fitness, and my wellbeing” (Participant A22M)

Participants also describe the role that cycling has played in allowing tangible improvements to their physical wellbeing, adding further depth to the meaning that they attach to their practice:

“I lost quite a lot of weight in 2012, and I just thought I needed to try and keep the weight off. So I thought cycling would be the easiest way” (Participant A21M)

3.4. Mental wellbeing (Section 7.4.7)

While others simply reflect on the positive impact on their mental wellbeing:

“And I get daylight as well. That’s quite important. I get really depressed if I don’t see daylight, so that is really important to me [...] If I can’t move, I’m unhappy. It’s very strongly tied.” (Participant A20F)

3.5. Way of Life (Section 7.4.13)

Finally, participants also discuss the ingrained nature of their cycling practice, and the idea that it is a way of life for them.

“I was the cycling social worker. That was what everybody knew me for” (Participant A17F)

“It started off as just a means of transport, to prevent me buying a very expensive car, and it’s just kinda evolved into ‘that’s the way it is now’. A kind of habit, little by little” (Participant A1M)

“It dictates where you go on holiday. It dictates, maybe, what food you eat, and what beer you drink, or what clothes you buy, or what music you listen to. I think it totally dictates your life” (Participant A3M)

I've cycled since [...] I could walk...it was one where you could just pedal with your feet. So, I've always enjoyed this smooth movement that cycling provides" (Participant A20F)

"Well, obviously, I'm originally from Denmark. So, I was cycling to kindergarten, when I was definitely five, on my own [...] I'm trying to live the Danish way" (Participant A4F)

"So the cycling's just always been there, and it always sticks, and it's always one of the first things I do" (Participant A5M)

"I've always cycled. As a teenager, I used to race and cycle a lot, competitively. So it's almost ingrained. So it's leisure cycling at the weekend, and it's commuting cycling during the week" (Participant A9M)

3.6.Safety & perception of safety (Section 7.4.9)

For others, it is about infrastructure and the sense of safety (or lack of safety) this can create:

"I just don't feel safe on that roadside" (Participant A19M)

3.7.Social connections (Section 7.4.10)

Several participants also discuss the importance that the social side of cycling provides for their lives, through an idea of an imagined community:

"But I'm a member at Montrose [cycling club] – Montvelo – so, I'm down there. Most Sundays, it's a Sunday social, and I've got mates that I go out with as well" (Participant A22M)

"I think I would tend to migrate towards people who have those common interests anyway. [...]. Just that kind of fraternity. I would be drawn towards that" (Participant A3M)

3.8.Societal attitudes to cycling (Section 7.4.11)

Some participants comment on the negative associations that can attach to the practice of cycling:

"...because there is so much publicity and stuff, in the press, and social media, about this whole driver versus cyclist rivalry, some people might be put off, because they don't really want to get involved in that" (Participant A16F)

Appendix 7 – Chapter 9 – Gaps in Specific Infrastructure

This Appendix sets out specific infrastructure that is mentioned by research participants and is intended to highlight the physical gaps and barriers that the cited infrastructure represents. It covers a range of infrastructure from carriageway features, advisory cycle lanes, roundabouts, shared bus/cycle lanes, to shared use paths, and relevant signage. As set out in Chapter 5, the infrastructure is illustrated by both a map and relevant photographs derived from Google Maps to provide as clear an understanding of the infrastructure from the cycle user's perspective as possible.

Cycling competences: specific knowledge and techniques

The bridge is one of two crossings over the River Dee that allows access to the city, and its narrow width prevents its use by HGVs¹²³. The following excerpt from Google Maps provides an overview of the area under discussion:

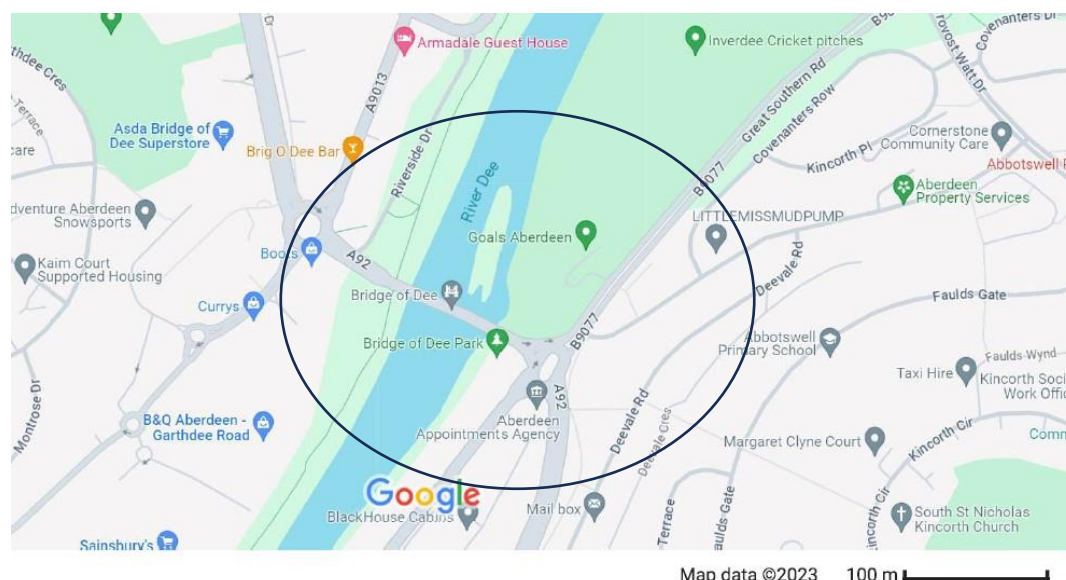


Figure 27: Map of A92 Bridge of Dee and A9013 Riverside Drive area (Google LLC 2023f)

Figure 22 below depicts the bridge from the A92 Stonehaven Road, heading in the direction of the A92 South Anderson Drive, where it can be seen why the pavement would appear attractive to cycle users but unworkably narrow:

¹²³ The advertised width restriction applied to the bridge is 7ft/2.1m



Figure 28: A92 Bridge of Dee (formerly A90 prior to the opening of the AWPR), June 2017 (Google LLC 2023c)

The Bridge of Dee is positioned ahead of a shared use path along the A9013 Riverside Drive, with cycle users travelling in a southerly direction (i.e., out of the city) left with no choice but to rejoin the carriageway to negotiate the bridge. Figure 23 below illustrates the physical gap in infrastructure between the exit of the shared use path, Riverside Drive and the bridge that lies ahead:



Figure 29: Exit of the shared use Riverside Drive path (left) on to Riverside Drive (A9013), with the A92 Bridge of Dee in the background (left), October 2016 (Google LLC 2023d)

Slightly further up the path on the left is also the site of a “ghost bike” in memorial of Milena Gott-Konopacka, a cycle user who died in 2010, 18 months after becoming involved in a RTC with an HGV at the nearby Garthdee roundabout in July 2009 (Macdonald 2011; Davidson 2010).



Image capture: Jun 2022 © 2023 Google

Figure 30: "Ghost bike" in memory of Milena Gott-Konopacka on the corner of A9013 Riverside Drive and A92 South Anderson Drive/Bridge of Dee, June 2022 (Google LLC 2023e)

Therefore, for cycle users, there is a very visual reminder of their vulnerability in this area of the city, emphasising the safety consequences of gaps in infrastructure too.

Aberdeen Western Peripheral Route (AWPR)

The AWPR generated a significant number of comments from participants, particular in relation to the lack of provision for non-motorised users. At the time of construction, it represented one of the largest infrastructure projects in Scotland, stretching to 58km, and encompassing 22km of new slip roads, two new river crossings, and more than 150 other supporting structures along the route (Nestrans 2023). As evident from the data and wider public discourse, the AWPR has come to dominate discussion on cycling in city (e.g., McKay 2018; Paton 2018). The bypass is, as it sounds, intended to skirt around Aberdeen before rejoining the A90 at Stonehaven (see Appendix 1 for a map). Throughout the route, the bypass is subject to significant elevation changes along its 58km extent, due to the two river crossings and the terrain through which the infrastructure was built. The River Dee crossing to Cleanhill Roundabout example is set out below by way of example of such an elevation change. The arrows in Figure 25 mark the river crossing and roundabout:

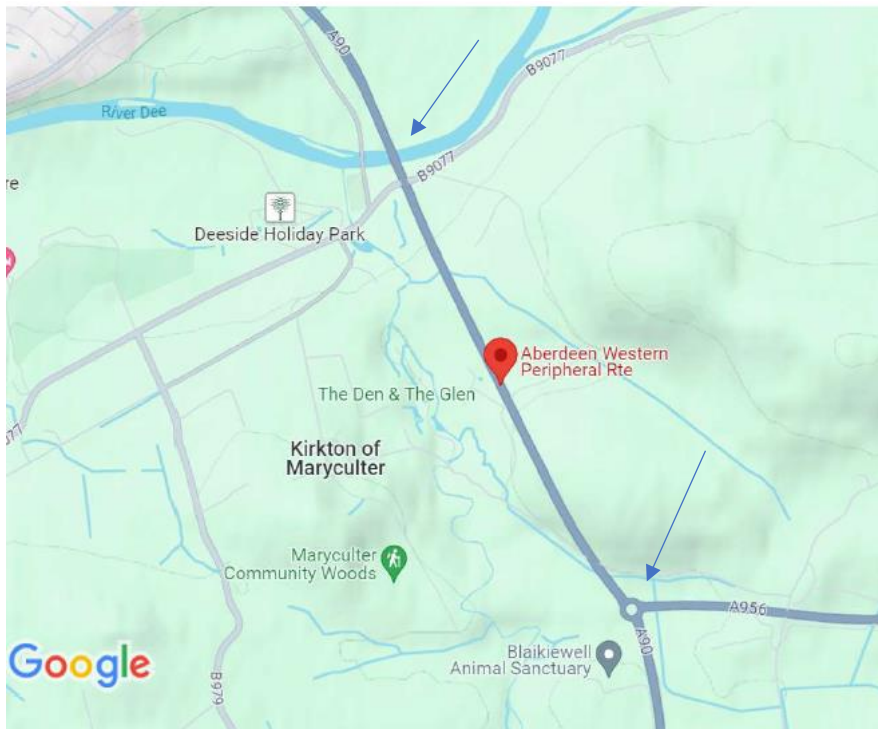


Figure 31: A90 AWPR from Milltimber to Cleanhill (Google LLC 2023h)



Image capture: Apr 2023 © 2023 Google

Figure 32: A90 AWPR looking from Dee crossing to Cleanhill roundabout (Google LLC 2023 i)

The reason the elevation changes on the bypass are discussed is that in the data set, several participants refer to the topography of Aberdeen and the role of hills in representing a barrier to cycling (Section 6.2.4) with participants noting that “hills”¹²⁴, “hilly terrain” (Participant 292M) and it being “too hilly” (Participant 227M) all act as barrier to the uptake of cycling in Aberdeen. Therefore, the topography and location of the bypass itself are relevant factors for considering who would use such

¹²⁴ Participants 130M, 143M, 171M, 203F

infrastructure and for what purpose. The insistence that cycle users have been let down by the absence of infrastructure running parallel to the bypass is a distraction. It is not about the gap in the infrastructure itself, but rather about the symbolic meaning attached to the gap and what this conveys about the perceived unimportance of cycling and cyclists.

Diamond Bridge/Third Don Crossing to University of Aberdeen

From the data, there appears to be no firm consensus on the relatively new infrastructure put in place over the Diamond Bridge¹²⁵. A shared use path runs parallel to the roadway along the C157C Gordon's Mills Road/Tillydrone Road with segregation marked for cycle users and pedestrian users. The following image provides an illustration of the infrastructure:



Figure 33: Segregated path along C157C Gordon's Mills Road (Google LLC 2023j)

For one participant it is described as *“excellent”* and that it should be extended further (Participant 281F). However, other participants describe the infrastructure as *“stop/start nonsense”* (Participant 106M) and *“confusing and inconvenient”* (Participant 117F), with another feeling that it is *“strangely disjointed”* (Participant 281F). With another commenting that the infrastructure is good but the way in which *“routes beyond the new sections still spit you back into traffic”* (Participant 89M) as representing a less welcome feature. What all these comments point to are gaps in the infrastructure that fail to provide a continuous cycle network. The following images illustrate the points made by participants.

¹²⁵ Also known as the “Third Don Crossing”, the bridge opened in 2016 linking the communities of Bridge of Don and Tillydrone (Healy 2016). Therefore, at the time of data collection in 2018, this was relatively new infrastructure for Aberdeen.

The comments of participants above in relation to the stop/start nature of the route and the confusing layout can be seen in the following image:



Figure 34: C157C Tillydrone Road at its junction with U309C Coningham Terrace (Google LLC 2023k)

The path on the right of the picture is segregated with cycle users in one area, and pedestrians in another area, with both separated by a small area of grass. After the junction, the path then merges to a shared used path, with cycle users and pedestrians sharing the same space.

That this layout is confusing can also be seen by the following image of Tillydrone Road where pedestrians are quite clearly in the cycle path (the path on the right is for cycles, the left for pedestrians as marked by paint and signage):



Figure 35: C157C Tillydrone Road, illustrating pedestrian usage of the cycle path (Google LLC 2023)

As can be seen from the above images, even in new infrastructure there are gaps. These gaps are both physical and knowledge based. Physical, in that cycle users are required to give way at junctions and move from segregation to sharing with cycle users, but also knowledge-based in that the community either chooses to ignore or does not appreciate the function of route segregation between pedestrians and cycle users. This more than vindicates the observations of participants above and creates barriers from both a competences and materials perspective to the practice of cycling.

A944/A90 AWPR Interchange

Another specific piece of infrastructure referenced by participants is the shared use path that runs parallel to the A944 Aberdeen to Westhill route. Following the construction of the AWPR, the route has been disrupted by additional infrastructure to accommodate the interchange between the A944 and the A90 AWPR. The consequences of this have been commented upon by several participants¹²⁶ and can be summed up by the comments of one participant, *“That cycle path was okay before¹²⁷. I’ve now got another five junctions to navigate...”* (Participant 1M, Section 7.2.4). What is being referring to, is set out in the following set of images. First, Figure 30 provides an overview of the A944 area. To the right of the map is the Prime Four Business Park, while at the centre of the image is the roundabout interchange with the A90 AWPR¹²⁸:

¹²⁶ Section 6.7

¹²⁷ Participant is referring to the shared use path that runs alongside the A944 from Aberdeen to Westhill and the new infrastructure created around the Kingsford interchange for the Aberdeen Western Peripheral Route

¹²⁸ This roundabout was initially without traffic light control. However, after several RTCs, provision was made for the installation of permanent traffic light signals (Aberdeen Business News 2020)



Figure 36: A944 Kingsford Interchange with the A90 AWPR (Google LLC 2023m)

Within a very short space of cycleway, individuals are required to negotiate three separate junctions that are set out in the following three images. First, cycle users must cross the junction between the A944 and the Old Borrowstone Road:



Image capture: Apr 2023 © 2023 Google

Figure 37: Junction between the A944 and Old Borrowstone Road (Google LLC 2023p)

The second image relates to the crossing with the A944 and the slip road for the AWPR, as illustrated by Figure 32 below.



Figure 38: A944 eastbound/A90 AWPR exit slip road, December 2021 (Google LLC 2023b)

Next, cycle users are required to navigate the junction with the A944/A90 AWPR slip road:



Figure 39: A944 to A90 AWPR slip road, May 2021 (Google LLC 2023n)

From Figure 33 above, it can also be seen the sharp turn that cycle users are required to make after crossing the carriageway and rejoining the shared use path. After negotiating this junction, cycle users then finally navigate the Borrowstone Road junction, as follows:



Image capture: May 2021 © 2023 Google

Figure 40: A944 junction with the C93 Borrowstone Road (Google LLC 2023o)

It should be noted that the route has been disrupted previously by the construction of the Prime 4 Business Park¹²⁹ and further by the construction of Aberdeen Football Club's Cormac Park¹³⁰ facility, but that the bypass represents a much more significant disruption to the route. Particularly when considering what the route looked like before the AWPR:



Image capture: Aug 2008 © 2023 Google

Figure 41: A944 in 2008 at the site of the current A90 AWPR Kingsford interchange (Google LLC 2023q)

What participants are obliquely referring to in their commentary on the A944 and the concomitant disruption created by the new infrastructure of the AWPR is a lack of continuity in the network. This once again offers a physical manifestation of the identified gaps in the network, which have a tangible

¹²⁹ See further <https://www.drumpropertygroup.com/development/prime-four-business-park-aberdeen/>

¹³⁰ See <https://www.hfm.co.uk/projects/aberdeen-football-club-training-facilities-cormack-park/>

consequence for the practice of cycling due to the additional competences required and the subjective meanings attached to the new infrastructure too. Moreover, there is an overarching emphasise on the dominance of automobility as journey time for motor vehicles is granted priority over other road users (Transport Scotland 2019).

A93 North Deeside Road

Another theme in relation to specific infrastructure is that of the A93 North Deeside Road. This is the main access point to the city from the west and carries freight and public transport in addition to private vehicles. Participants comment on the impact that traffic islands such as that depicted in Figure 36 below have on their practice. As can be seen from the image, cycle users *should* have priority through the islands as a continuation of the advisory cycle lanes marked by the red surface treatment and white lines, but participants note that this is not the case in practice and that this is down to perceived driver competence (Section 6.6.1). it is therefore understandable why for one participant, better signage around the priorities of this type of infrastructure is require (Participant 164F).



Figure 42: Advisory cycle lanes, bus stop and traffic island on the A93 North Deeside Road, before its junction with Station Road (U124C), June 2017. (Google LLC 2023a)

From a verbal conversation between me and the local authority officer then in charge of road safety at Aberdeen City Council¹³¹, I was advised that a site visit was conducted in 2019 to look at these traffic islands and their representation of a “pinch point” for cycle users on the route. However, due to the presence of the bus stop and the pedestrian risk associated with alighting a bus and crossing the road, it was noted that no further action could be taken. This is, of course, in line with the road user hierarchy

¹³¹ Now “Operations and Protective Services”

but again presents another challenge to cycle users and emphasises a gap in terms of the policy aspirations of greater numbers of cycle users, and the perceived importance of those cycle users.

Lang Stracht

Another piece of infrastructure that is of relevance to understanding the physical gaps in cycling infrastructure in Aberdeen relates to the A944 Lang Stracht. This is a route that connects the city with the West and conversely into the city and Aberdeen Royal Infirmary along Westburn Road. It is therefore a route with a variety of purposes, including public transportation. At the junction of the A944 Lang Stracht with Mastrick Drive, a shared use path begins on the left-hand side of the road as follows, with an arrow indicating that cycle users should move from the main carriageway to the shared use path:



Figure 43: A944 Lang Stracht (heading West), beginning of shared use path (Google LLC 2023r)

On this route, cycle users are then required to give way to buses entering and exiting the bus stop as follows:



Figure 44: A944 Lang Stracht cycleway (Google LLC 2023u)

Before being directed to leave the raised pavement area, and rejoin the carriageway, albeit within an advisory cycle lane area:



Figure 45: A944 Lang Stracht cycleway, bus stop exit to rejoin carriageway (Google LLC 2023v)

Before the advisory cycle lane ends, and cycle users are directed to join the bus lane:



Figure 46: A944 Lang Stracht cycleway, merge with bus lane (Google LLC 2023w)

This pattern is then repeated along the Lang Stracht, until the junction with the U307C Skye Road, when cycle users are again asked to move off the carriageway and onto a shared path which continues towards Kingswells along the A944.



Figure 47: A944 Lang Stracht cycleway, carriageway exit to shared path at U307C Skye Road (Google LLC 2023x)

At the opposite side of the road, the following infrastructure is present, again indicating cycle users should move from the main carriage way to join this designated area of cycleway:



Figure 48: A944 Lang Stracht (heading East), beginning of segregated cycle infrastructure (Google LLC 2023s)

This then ends, with cycle users left to join the main carriageway and negotiate a traffic light-controlled junction with the A92, signified by the “End of Route” signage.



Image capture: Sept 2016 © 2023 Google

Figure 49: A944 Lang Stracht at its junction with the A92 Anderson Drive (Google LLC 2023t)

The point of using the Lang Stracht as an example is that it relates to the earlier issue raised by participants about the creation of a continuous network that is desirable to use (Section 6.7) and the gaps in infrastructure discussed elsewhere too. However, also of relevance is the vital importance of including cycle users’ input into the infrastructure design process, and considering the question of “how can higher user perceptions of pleasure, safety, and avoids vehicle lane by attained by means of design?” (Barrero and Rodriguez-Valencia 2023 p.255). Given what is set out above in relation to the Lang Stracht, it is difficult to see how anyone making use of such infrastructure could rate these attributes highly.

Auchmill Road

In terms of specific infrastructure one participant discussed the unique hazards of shared use paths with specific reference to the A96 Auchmill Road area of Aberdeen. In Section 6.7.3, Participant 246M discusses the difficulties of navigating a shared use path with pedestrians, particularly when there is an interface with public transport. They note that the bus stops “...are typically not transparent, so it is impossible to tell when approaching, whether there is a pedestrian about to step out in front of you” (Participant 246M, Section 6.7.3). This is indicative of another gap in relation to infrastructure, this time in reference to knowledge of how users of the path might navigate the space, again highlighting the requirement for user input as noted by Barrero and Rodriguez-Valencia (2023).

The following image illustrates the specific difficulty. It shows the A96 Auchmill Road shared use path on the right, with the path crossing a bus stop. When approaching the bus shelter heading south east, into the city centre, the glass panel allows cycle users to see if there are any pedestrians in the bus stop and likely to step out into the path of the cycle user. When travelling in a north westerly direction away from the city centre, it is not possible to see whether any pedestrians are present in the bus stop¹³². This is replicated across other bus shelters on the route.



Image capture: Jul 2018 © 2023 Google

Figure 50: A96 Auchmill Road looking north west (Google LLC 2023y)

This has two impacts: (i) it creates a hazard, thereby impacting meanings, for both pedestrians and cycle users (e.g., Beitel et al 2018); and (ii) it alters the competences element of cycling, as practitioners

¹³² I have used this route and can confirm that when travelling out of the city, pedestrians are unsighted if within the bus shelter.

potentially adjust their speeds to account for shared path conditions (Boufous, Hatfield, Grzebieta 2018). These elements are considered in more detail in Section 9.3.3. next.

Roundabouts

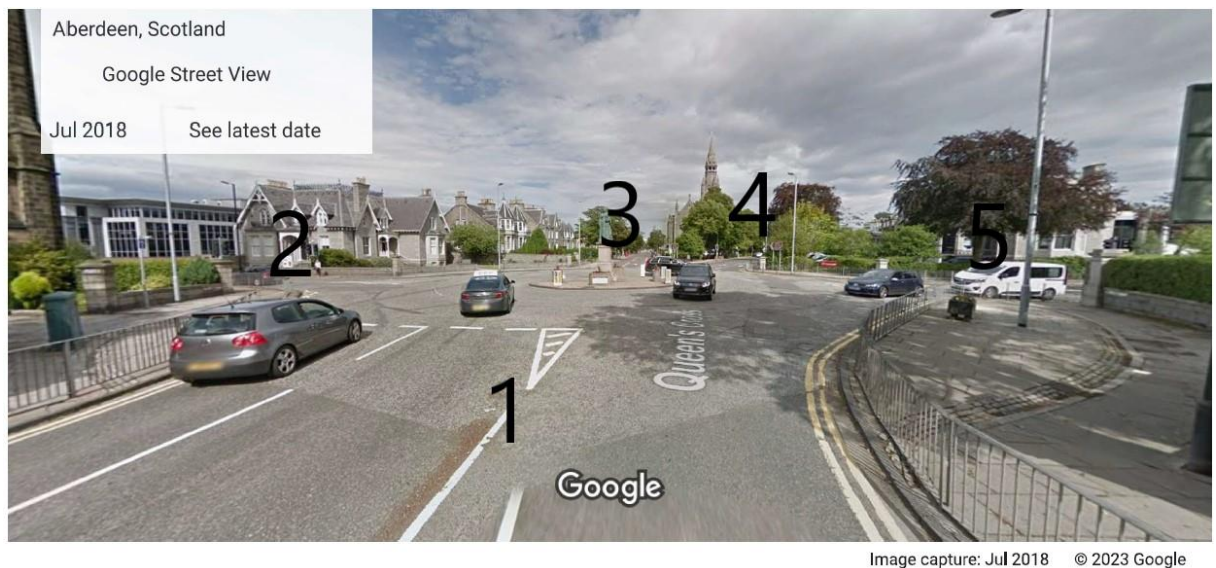
Finally, in relation to gaps in infrastructure, a key feature of many city routes that research participants reference as a particular hazard is roundabouts (Section 6.7.4). A systematic review of literature relating to bicycle safety at roundabouts determined several factors influencing the safety of cycle users at roundabouts (Poudel and Singleton 2021). Material factors such as lower vehicle speeds and volume, a single lane of traffic, and a smaller physical size, albeit with higher central islands are identified as having a positive impact on cycle safety (Poudel and Singleton 2021 p. 634). From a risk perspective, they conclude that roundabouts do not act to enhance cycle safety and are associated with increased crash risk (Poudel and Singleton 2021 p. 634).

Therefore, this element of the cycling practice is also strongly linked to cycling and safety and it was felt important to include some examples of the specific infrastructure that participants reference. Three examples are utilised here are all multiple land roundabouts of varying sizes: (i) Queens Cross Roundabout; (ii) Mounthooly Roundabout; and (iii) Haudagain roundabout. Both Queens Cross and Haudagain roundabouts have relatively low central reservations with contrasting footprints, whereas

the Mounthooly roundabout previously held the dubious title of the biggest urban roundabout in Europe (Waterston 2021).

Queen's Cross roundabout

The Queen's Cross roundabout is an intersection in the west end of the city, the has five routes¹³³ which converge on the roundabout, these are numbered in the image below.



From the criteria set out above by Poudel and Singleton (2021) above, while the roundabout has a low central reservation, it has two lanes, and is also within a 30mph speed limit¹³⁴, to enable an understanding of traffic speed to be provided. Finally, given other vehicle counters in the city, it can be assumed that the area experiences relatively high traffic volume for the urban space (Aberdeen City Council 2022). It can be seen, from a perception of safety perspective, which participants would describe this roundabout as “a nasty one” (Participant 12F, Section 7.3.4.3) and would leave one participant to question how this design can be considered safe (Participant 9M, Section 7.3.4.3).

Mounthooly roundabout

The Mounthooly roundabout is in central Aberdeen and comprises the intersection of the A96 (Powis Place), A956 (West North Street/Commerce Street), A944 (Hutcheon Street), and C157C (Gallowgate) as illustrated on the map below:

¹³³ Intersection of B9119 (Carden Place/Queens's Road) with the U317C (St Swithin Street) and U316C (Fountainhall Road)

¹³⁴ Although very close to 20mph zones.

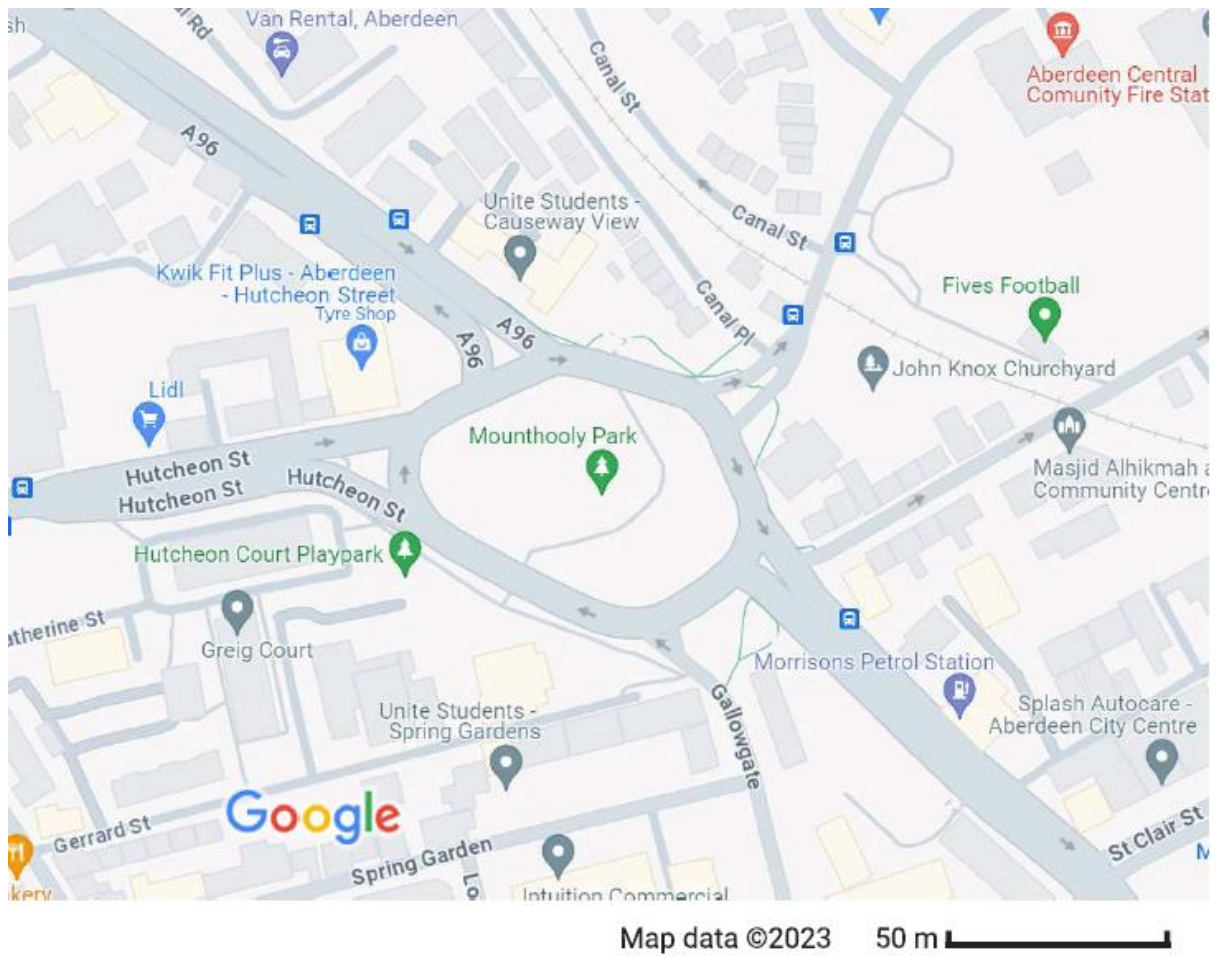


Figure 51: Map of Mounthooly roundabout (Google LLC 2023z)

It is challenging to replicate the scale of the roundabout, but the following image is approaching the roundabout proximate to Canal Place on the above map:

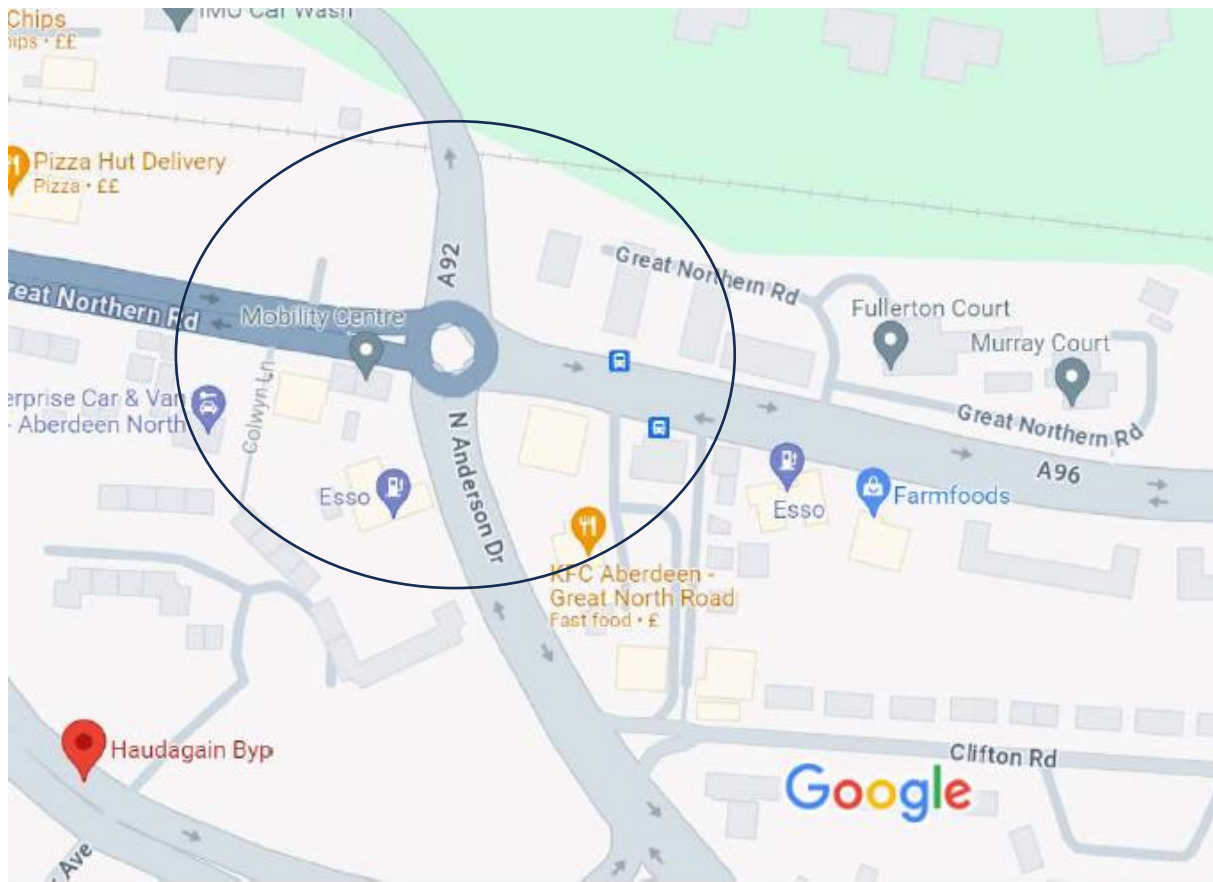


Figure 52: Mounthooly roundabout viewed proximate to Canal Place (Google LLC 2023aa)

While there is a shared use path to the left, this is not continuous and ultimately cyclists will have to use a pedestrian crossing or join the carriageway to navigate the area on a through journey. From the criteria set out above by Poudel and Singleton (2021) above, the roundabout has a high central reservation of large volume, multiple lanes, and is located within 30mph zones. It is also in a central location that can presumably expect higher levels of traffic flow for Aberdeen (Aberdeen City Council 2022). As with the previous example, it can be seen why a participant would declare *“I refuse to cycle round that”* (Participant 16F, Section 7.4.3.4), or would indeed *“avoid it if I possible could”* (Participant 13F, Section 7.4.3.4) at times of peak traffic, again representing a gap in the network that cycle users are required to negotiate as part of their practice.

Haudagain roundabout

Finally, the Haudagain roundabout is another infrastructure feature mentioned by research participants. The roundabout is at the intersection of A92 (North Anderson Drive), with A96 (Great Northern Road). The A92 was previously part of the trunk road network and known as the A90 but was “de-trunked” after the opening of the AWPR 2019.



Map data ©2023 50 m

Figure 53: Map of Haudagain roundabout (Google 2023ab)

The following two images set out the roundabout from the perspective of the A96 Auchmill Road. This was previously discussed in connection with it being a shared use path, and in Figure 48 the shared path ends beside the pedestrian crossing (note: this is not a toucan) and cycle users can then choose to walk their bike across two separate crossings on the A96, before a further two on the A96. In the alternative, they can choose to join the carriageway and navigate the roundabout with other road users. This represents a significant gap in the infrastructure that mediates how cycle users travelling in the A947/A96 corridors can access the city centre safely and effectively.



Figure 54: Approach to Haudagain Roundabout from A96 Auchmill Road with shared use path to the left (Google LLC 2023ac)



Figure 55: Haudagain Roundabout from A96 Auchmill Road (Google LLC 2023ad)

From the criteria set out above by Poudel and Singleton (2021) above, the roundabout has a low central reservation, multiple lanes, and is located within 40mph zones. Significantly, it is also part of the trunk road network (A96). One participant describes being “terrified” (Participant 149F, Section 6.4.2.4) of the Haudagain roundabout, with another simply expressing a dislike for the infrastructure (Participant 16F, Section 7.3.4.3).

Appendix 8 – Cycle Infrastructure and Behaviour Change Funding via Scottish Government Funding Streams

Funding Call	Funder	Purpose	Who can apply
Places for Everyone	Sustrans Scotland	Creation of infrastructure that makes it easier for people to walk and cycle for everyday journeys.	Local authorities, National Parks, Regional Transport Partnerships, FE and HE institutions, housing associations, constituted community groups, development trusts, NHS, public bodies, schools, and educational institutions. Private sector organisations may be able to apply in conjunction with their local authority.
Cycle Friendly Programme	Cycling Scotland	<p>Promote and support cycling locally and make workplaces, schools, campuses, and communities more cycle friendly.</p> <p>Provides grants for infrastructure changes such as cycle parking, upgrading pedestrian/cyclist access routes, facilities such as changing areas, showers, lockers, and drying areas.</p> <p>Funding is also available for the purchase of bike pools, hire fleets and creating maintenance areas.</p>	Colleges, universities, employers, communities, schools.
Low Carbon Travel and Transport (LCTT) Challenge Fund	European Regional Development Fund	Support the delivery of active travel and low carbon hubs and paths	Public, third and community sector organisations

Smarter Choices, Smarter Places	Paths for All	Projects that work to make walking and cycling a transport mode of choice for short local journeys.	Any formally constituted body.
Active Travel repair stations	Sustrans Scotland	Installation of bicycle repair stations and information points	NHS, colleges, universities, and schools.
Campus Cycling Officer	Cycling Scotland	Recruitment of a Cycling Officer to promote active travel.	Colleges and universities.
National Cycle Network improvements and signage	Sustrans Scotland	Delivery of physical improvements to the National Cycle Network	Local authorities, constituted community groups, public or third sector organisations.
National Monitoring Framework	Cycling Scotland	Monitoring counters and surveys	Local authorities and Regional Transport Partnerships
Play Together on Pedals	Cycling Scotland and Cycling UK	Bikes, equipment and resources for pre-school children and their families	Local authorities, Early Years, and nursery groups.
Pocket Places	Sustrans Scotland	Low cost, temporary installations to manage traffic speeds and improve small community spaces.	Local authorities, constituted community groups, public or third sector organisations.
Regional Transport Partnerships support	Sustrans Scotland	Funding to support the delivery of active travel infrastructure.	Regional Transport Partnerships
School Cycle and Scooter Parking Grant	Sustrans Scotland	Cycling and scooter parking facilities in schools – cycle stands, shelters, cycle lockers and secure storage.	Local authorities, constituted community groups, public or third sector organisations.

Strategic Partnerships	Sustrans Scotland	Sustrans Officers to support active travel infrastructure development	Local authorities, constituted community groups, public or third sector organisations.
Street Design	Sustrans Scotland	Outline designs that the local authority can progress to detailed design and construction with support from the Places for Everyone fund.	Local authorities, constituted community groups, public or third sector organisations.
Workplace engagement	Sustrans Scotland	Sustrans officers who will work in organisations to develop a culture of active travel.	Large workplaces
Active Travel Champions	Sustrans Scotland	Recruiting, training, and supporting volunteers within workplaces to promote walking and cycling to work.	Workplaces (including
Active Travel Champions	Sustrans Scotland	Recruiting, training, and supporting volunteers within workplaces to promote walking and cycling to work.	Workplaces (including FE and HE institutions) in Edinburgh and Glasgow
Big Bike Revival	Cycling UK	To provide community cycling events	Community organisations
Bikeability Scotland	Cycling Scotland	Cycle training scheme designed to give children the skills and confidence they need to both cycle safely on the roads, and to	Local Authorities

		encourage them to carry on cycling into adulthood	
I Bike	Sustrans Scotland	Schools-based project to empower children, parents, and teachers to travel actively, safely, and confidently to school	Local authorities, constituted community groups, public or third sector organisations
Regeneration Capital Grant Fund	Scottish Government (delivered in partnership with COSLA and local government)	Any project that meets the aims and objectives of the fund and can demonstrate clear regeneration outcomes in line with the “Achieving a Sustainable Future” strategy document.	Local authorities

(Adapted from Transport Scotland 2021. Information stated is correct as of April 2021)

Appendix 9 – Participant Materials

1. Online Questionnaire Materials

1.1. Participant Information Sheet

Cycling in Aberdeen – Project Information Sheet

The purpose of the research project is to evaluate the experiences of individual citizens cycling in and around Aberdeen.

Professor Richard Laing (Professor of Built Environment Visualisation) and Caroline Hood (Research Assistant) both of the Scott Sutherland School of Architecture and Built Environment at Robert Gordon University, will be responsible for the data collected in this study. The information will be used in a way that will not allow you to be identified individually in any reports or publications.

Researchers undertaking research within or outside the EU, and where personal data will be stored within the EU, are required to comply with the requirements of the GDPR from 25th May 2018. To ensure that personal data is obtained, held, used and stored in accordance with GDPR, RGU has adopted a robust Information Governance Policy. Further information on RGU's data safeguarding policies can be found here - <https://www3.rgu.ac.uk/about/planning-and-policy/information-governance/data-protection>

Data gathered as part of this research will be stored securely in an electronic format and accessed only by the study team. Research data is archived and held indefinitely.

By consenting to your participation in this study, you are consenting to your data being used in the way described in this Project Information Sheet.

In order to evaluate the experiences of individual citizens cycling in and around Aberdeen, you have been invited to participate in some research using a questionnaire format.

You will be asked to provide some basic personal information about yourself (Age, Gender, and Occupation) and to indicate the modes of transport you use for travel in and around Aberdeen and some additional information about the main type of journeys you make. This information will be confidential and will only be used for comparison purposes with this research study. The information provided will not allow you to be identified individually.

The responses provided will be reviewed and analysed and will contribute to research currently being undertaken into sustainable urban mobility in Aberdeen.

As far as possible your contribution will be kept confidential.

Taking part in the research is voluntary. You may choose not to take part or subsequently cease participation at any time without giving reason and with no adverse consequences.

If you have any further questions or concerns about this study, please contact:

Caroline Hood

Research Assistant

The Scott Sutherland School of Architecture and Built Environment

Robert Gordon University
Tel: +44 (0)1224 263724
Email: c.m.hood1@rgu.ac.uk

The RGU Data Protection Officer can be contacted as follows:

Data Protection Officer
Robert Gordon University
Garthdee
Aberdeen
AB10 7QB
Email: dp@rgu.ac.uk
Tel. +44 (0)1224 262076

1.2. Online Consent Form

All questions were presented for completion via a Yes/No radio button.

1. I confirm that I have read and understood the above Project Information for the study and can contact the responsible researcher to ask any questions that I may have.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.
3. I understand that personal information collected about me, that can identify me, will not be shared beyond the study team.
4. I agree to take part in the above study.
5. I agree to the use of anonymised quotes in published research.

1.3. Questions

1. Age

	Please Select
18-24	
25-34	
35-44	
45-54	
55-64	
65+	

2. Gender (please leave blank if you prefer not to answer)

3. Occupation (please leave blank if you prefer not to answer)

4. Please indicate which mode(s) of transport you use for journeys over 0.5miles to, from and around Aberdeen

	Please Select
Walking/on foot	
Bicycle	
Motorcycle	
Bus	
Train	
Taxi	
Van	
Car as driver	
Car as passenger	

5. Please indicate how often you use each of the following modes of transport to, from and around Aberdeen

	Daily	Weekly	Monthly	Every Three Months	Every Six Months
Walking/on foot					
Bicycle					
Motorcycle					
Bus					
Train					
Taxi					
Van					
Car as driver					
Car as passenger					

6. Please indicate which mode of transport you use most frequently on journeys to, from, and around Aberdeen

	Please Select
--	---------------

Walking/on foot	
Bicycle	
Motorcycle	
Bus	
Train	
Taxi	
Van	
Car as driver	
Car as passenger	

7. Please indicate the average journey time for your most frequent journeys (as identified in the previous question) to, from and around Aberdeen

	Please Select
Less than 20 minutes	
Less than half an hour	
Less than an hour	
One hour or more	

8. What do the words “cycling” and “cyclist” mean to you?
9. Please explain (briefly) why you choose to cycle
10. What role do you feel stereotypes play in shaping the attitude and behaviours of other road users towards cyclists in the city?
11. In your opinion, how can a positive “cycling culture” be created in Aberdeen? Please explain
12. Using examples, please can you describe your experiences of cycling in and around Aberdeen?
13. Thinking about existing infrastructure, do you feel that cycling is adequately considered by the local authority here in Aberdeen as a valid mode of transport? Please explain
14. From a cyclists’ perspective, what are the changes to infrastructure that you would like to see in the city?
15. Based on your knowledge of current Scottish Government and local authority policy initiatives, what is your perception of the impact that these policies have on cyclists and cycling in Aberdeen?
16. In your opinion, what are the main barriers to achieving increased levels of cycling in Aberdeen?
17. Any other comments?

2. Interview materials – cyclists

2.1. Project Information Sheet

About the Project

The purpose of the research project is to evaluate the experiences of individual citizens cycling in and around Aberdeen.

What is involved in the study?

In order to evaluate the experiences of individual citizens cycling in and around Aberdeen, you have been invited to participate in some research using an interview format, building on research conducted by RGU in late 2018.

The responses provided will be reviewed and analysed and will contribute to research currently being undertaken into sustainable urban mobility in Aberdeen. All the interviews collected will also contribute to research articles, papers and policy documents.

Who is responsible for the data collected in this study?

Professor Richard Laing (Professor of Built Environment Visualisation) and Caroline Hood (Research Assistant) both of the Scott Sutherland School of Architecture and Built Environment at Robert Gordon University, will be responsible for the data collected in this study.

The information will be used in a way that will not allow you to be identified individually in any reports or publications.

General Data Protection Regulations (GDPR)

Researchers undertaking research within or outside the EU, and where personal data will be stored within the EU, are required to comply with the requirements of the GDPR from 25th May 2018.

To ensure that personal data is obtained, held, used and stored in accordance with GDPR, RGU has adopted a robust Information Governance Policy. Further information on RGU's data safeguarding policies can be found here - <https://www3.rgu.ac.uk/about/planning-and-policy/information-governance/data-protection>

Data gathered as part of this research will be stored securely in an electronic format and accessed only by the study team. Research data is archived and held indefinitely.

By consenting to your participation in this study, you are consenting to your data being used in the way described in this Project Information Sheet.

What are the risks involved in this study?

As far as possible your contribution will be kept confidential.

What are your rights as a participant?

Taking part in the research is voluntary. You may choose not to take part or subsequently cease participation at any time without giving reason and with no adverse consequences.

For more information

If you have any further questions or concerns about this study, please contact:

Caroline Hood

Research Assistant

The Scott Sutherland School of Architecture and Built Environment

Robert Gordon University

Tel: +44 (0)1224 263724

Email: c.m.hood1@rgu.ac.uk

2.2. Consent Form

Researcher Name: Caroline Hood

1. I confirm that I have read and understood the information sheet and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason. In addition, should I not wish to answer any particular question or questions, I am free to decline.
3. I understand that personal information collected about me, that can identify me, will not be shared beyond the study team.
4. I agree for this interview to be recorded. I understand that the audio recording made of this interview will be used only for analysis and that extracts from the interview, from which I would not be personally identified, may be used in any report or journal article as a result of the research. I understand that no other use will be made of the recording without my permission, and that no one outside the research team will be allowed access to the original recording.
5. I agree to the use of anonymised quotes in published research.

Name of Participant

Date

Signature

Name of Researcher

Date

Signature

2.3. Interview Questions

1. Why do you cycle?
2. How would you describe cycling culture in Aberdeen?
3. Do you feel that stereotypes play a role in shaping the attitude and behaviours of other road users towards cyclists in the city?
4. How could a positive “cycling culture” be created in Aberdeen & Aberdeenshire?
5. Using examples, could you describe your experiences of cycling in and around Aberdeen?
6. Thinking about existing infrastructure, do you feel that cycling is adequately considered by the local authority here in Aberdeen as a valid mode of transport? Please explain.
7. From a cyclists’ perspective, what are the changes to infrastructure you would like to see in the city?
8. In your opinion, what are the main barriers to achieving increased levels of cycling in Aberdeen?
9. When you thought about our meeting today, was there anything else connected with the topic that you’d like to discuss?

3. Interview materials – policymakers

3.1 Project information sheet

Participant Information Sheet

“The successful implementation of active travel projects: an investigation into the impact of policy drivers and governance structures on local authorities in Scotland”

Please take some time to read this information and ask questions if anything is unclear.

What is the purpose of this study?

The research is located within the field of sustainable urban mobility with specific reference to the role that policy drivers and internal governance structures have in influencing the implementation of active travel policies undertaken at local government level in Scotland. Through adopting a case study format, the research seeks to critically evaluate how these factors converge to shape and impact upon the success or failure of active travel policies and initiatives in Scotland.

Who is organising this research?

The research for this study is being undertaken by Caroline Hood who is a doctoral student in the Scott Sutherland School of Architecture and Built Environment at Robert Gordon University.

Robert Gordon University Research Ethics Committee has reviewed and approved this research.

Why have I been chosen?

By using the interview this project hopes to provide context to the policies, internal governance structures and barriers that impact upon the development and implementation of active travel policies with the final ambition of developing a framework to determine best practice. We aim to interview a number of participants from those working in the field of active travel in both the Aberdeen and Edinburgh areas of Scotland.

Do I have to take part?

Participation in this study is voluntary and you may ask the researcher questions before agreeing to participate. However, we believe that your contribution will assist in achieving the aims of the research and enhancing understanding of how active travel policies are developed and the perceived barriers and enablers to successful implementation.

If you agree to participate, you will be asked to sign a consent form. However, at any time, you are free to withdraw from the study and if you choose to withdraw, we will not ask you to give any reasons.

What will happen to me if I take part?

If you agree to take part in this study the interview will be audio recorded.

The interview will be conducted by Caroline Hood and will last approximately 1 hour.

What are the possible benefits of participating?

Your participation will assist in achieving the aim and objectives of the research. The aim of the research is to contextualise the impact that policy drivers and internal governance structures have on active travel policies implemented by Scottish local authorities. To achieve this aim, there are four objectives, all to be regarded within the context of local government in Scotland:

- Objective 1 – To investigate the position and status of active travel policies within local government through the identification of appropriate policy drivers.
- Objective 2 – To evaluate the impact of internal governance structures on the development and implementation of active travel policies within local government.
- Objective 3 – To evaluate the impact of the relationship between local authority officials and elected political representatives on active travel policies within local government; and,
- Objective 4 – To develop a conceptual framework and demonstrate the practical application of the framework to determine “best practice” relating to policy development and implementation within active travel policy at local government level.

It is the intention of this research that it will be disseminated with the view of improving how active policies are developed and implemented at local government level.

What are the possible risks of taking part?

While we hope that your experience will be pleasant, and steps have been taken to minimise any risks to participants. At any time during the interview, you can choose to withdraw.

How will my interview be used?

Your interview will be analysed along with other data gathered throughout the project to achieve the project aim and objectives.

On the consent form we will ask you to confirm that you are happy to assign your (or where relevant, your child or vulnerable adult in your legal charge) copyright for the interview to us, which means that you consent to the researcher using and quoting from your interview.

What will happen to the results of the project?

All the information that we collect about you during the course of the research will be kept strictly confidential. You (or where relevant, your child or vulnerable adult in your legal charge) will not be identified in any reports or publications and your name and other personal information will be anonymised.

What happens to the interviews collected during the study?

Interviews will be transcribed, recorded and stored digitally, managed by the researcher for the duration of the project. Only the researcher and supervisor will have access to the interviews and personal information.

What happens at the end of the project?

If you agree to participate in this project, the research will be written up as a thesis. You may request a summary of the research findings by contacting the researcher. On successful submission of the thesis, it will be deposited both in print and online at Robert Gordon University, to facilitate its use in further research. The digital online copy of the thesis will be deposited in the OpenAIR@RGU institutional repository and will be published with open access meaning that it will be available to all internet users.

What should I do if I have any concerns or complaints?

If you have any concerns about the project, please speak to the researcher, who should acknowledge your concerns within ten (10) working days and give you an indication of how your concern will be addressed. If you remain unhappy or wish to make a formal complaint, please contact **Professor Richard Laing, Scott Sutherland School of Architecture & Built Environment, r.laing@rgu.ac.uk**

3.2. Consent Form

Researcher Name: Caroline Hood

1. I confirm that I have read and understood the information sheet and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason. In addition, should I not wish to answer any particular question or questions, I am free to decline.
3. I understand that personal information collected about me, that can identify me, will not be shared beyond the study team.
4. I agree for this interview to be recorded. I understand that the audio recording made of this interview will be used only for analysis and that extracts from the interview, from which I would not be personally identified, may be used in any report or journal article as a result of the research. I understand that no other use will be made of the recording without my permission, and that no one outside the research team will be allowed access to the original recording.
5. I agree to the use of anonymised quotes in published research.

Name of Participant

Date

Signature

Name of Researcher

Date

Signature

3.3. Interview Questions

1. Please describe how your role relates to active travel
2. Do you feel that active travel policies are regarded as being “core” and therefore adequately prioritised by: (i) local government and Scottish Government; and (ii) Scottish Government?
3. Thinking about the development and implementation of active travel policies, how would you characterise the relationship between local government and Scottish Government?
4. Do you feel that the wider public are aware of the benefits offered by active travel?
5. Thinking about the development and implementation of active travel policies, how would you characterise the role of advocacy groups?
6. What are the changes that you would like to see in the development and implementation of active travel policies?
7. Thinking about the structure of local government, do you feel that this is an enabler to the development and implementation of active travel policies?
8. Two-part question: (i) do you feel that society is accepting of an active travel culture. and (ii) do you feel that local government has a role in influencing such a culture?
9. Do you feel that there is a “joined-up” approach across local government to the development of active travel policies and how this translates into practice?
10. Reflecting on your own experience, what would you identify as the main barriers to the implementation of active travel policies by local government

