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Developing the High-Quality Dutch Cycling Experience:

Lessons from Houten

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Being a dissertation submitted to the faculty of The Built Environment as part of the requirements for the award of ***< MSc Transport and City Planning>*** at University College London:

I declare that this dissertation is entirely my own work and that ideas, data, and images, as well as direct quotations, drawn from elsewhere are identified and referenced.

Acknowledgement

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Abstract

A growing recognition has addressed the benefits of cycling to both individuals and the city, accordingly arising interest globally in how to promote cycling in practice, by emulating premier experiences such as the Netherlands. Yet, this remains difficult in practice, because both the provision of cycling and cycling behaviour is grounded in place-specific context.

This gap limits the understanding of subjectiveness when transferring cycling knowledge and policies, indicating that in-depth studies are immensely needed where discursive practice of practitioner's viewpoint and cyclists' experience are important elements to explore.

Hence, using a leading exemplar in the Netherlands, the town of Houten, this study aims to examine why Houten manage to promote cycling. 18 in-depth interviews with practitioners and local cyclists are conducted as the main method to collect qualitative data. The language used by diverse actors is analysed drawn on the critical discourse analysis approach.

It is proposed that first, the high-quality provision of cycling infrastructure along with related measures in Houten include 8 themes: segregated cycle network, intersection modifications, traffic calming, bike parking, integration with public transport, integration with the built environment, education and programmes, social and cultural norms. These perform as both 'push' and 'pull' measures to facilitate people cycling and discourage driving. Second, the implementation is contributed to a participatory process where the municipals, planning team, cyclist groups and residents together play active roles against the dominant car-centred narratives. Third, the high-quality provision and positive interference of governance benefit cyclists with pleasant experiences by meeting the travel need for a fast, coherent, safe and interesting journey, and the social need for mobility independence and social identity. The three aspects together gradually form a cultural identity of Houten as a bicycle city, and residents as well-behaved cyclists, hence consolidating and normalising cycling in terms of changing narratives.

1. Introduction

1.1 Research context

Cycling is a powerful policy intervention to increase public health and speed the transition to sustainable transport development in cities globally. It is healthy and affordable, sustainable, and requires less road space and financial cost (Handy et al., 2014; Pucher and Buehler, 2008). Motivated by these benefits, a growing number of cities are implementing policies to promote cycling, especially in the infrastructure and surrounding built environment (Handy et al., 2014; Pucher and Buehler, 2008). However, successful practices remain exceptional. Still, many countries and cities fall behind and seek transition pathways by looking to pro-cycling countries (Goel et al., 2022; Handy et al., 2014; Larsen, 2017; Pucher and Buehler, 2008).

Yet, the evidence on how to effectively plan and implement cycling policies remains limited. The Netherlands, with the highest cycling rate in the world (Harms et al., 2014), is often referred to as an example, particularly due to its successful transition from a car-dominated to a pro-cycling travel pattern (Dekker, 2021; Hickman, 2020; Larsen, 2017; Oldenziel et al., 2016), yet little research has examined the spatial and socio-historical contexts, especially through the perspective and experience of practitioners and cyclists. A lack of context-specific understanding may hamper the development of effective policies to promote cycling (Harms et al., 2014).

This highlights the need for in-depth research on successful cases to examine why some cities manage to promote cycling. Houten, a small town near the city of Utrecht in the Netherlands that twice won the Dutch Bicycle City Award, was chosen for this case study due to its excellent characteristics and relevance to the research focus. The Dutch cycling ambassador programme provides opportunities for researchers and students to learn from local experience, ensuring data accessibility in this study.

Researchers have identified Houten as an exemplar for its outstanding cycling provision of high-quality bicycle infrastructure and built environment for journeys to everyday activities and its attractive lifestyle for residents, contributing to a high modal share of active travel (Foletta, 2011; Hickman, 2020).

Figure 1. People walking and cycling in Houten.

1.2 Research aim, question and objectives

The aim of this research is to examine the discourse surrounding the development of cycling practice why Houten successfully promotes cycling. This evidence-based, context-specific study could significantly contribute to a detailed understanding of the subjective experience informing a best practice, facilitating the transfer of planning practices to different contexts.

This study posed the following research questions: What is the quality of Houten's cycling infrastructure and surrounding built environment? Why and how were they planned and implemented? How are they experienced by cyclists? How can lessons from Houten be transferred? To answer the questions, the study embraced five key research objectives:

1) To investigate the scholarly and public cycling discourse in the literature and identify key themes in regard to cycling infrastructure, governance process and experience, particularly in the Netherlands
2) To explore and acquire the viewpoints of cycling planning practitioners regarding their processes and experiences of individual cyclists in terms of the cycling infrastructures and related measures in Houten
3) To identify the context and outcome in relation to cycling in Houten
4) To examine Houten's key cycling infrastructure and its quality, critically analyse Houten's planning history and cycling experience
5) To propose a set of lessons from Houten's experience of promoting cycling and recommend potential foci when transferring its lessons to other cities

1.3 Outline

This study is structured as follows. Section 2 critically reviews the existing literature on developing cycling, identifies the research gap and describes the theoretical framework. Section 3 outlines the method used for data collection and analysis and reason, research ethics and limitations. Section 4 introduced the case study, and Section 5 analyses the case study in terms of infrastructure, governance process and user experience. Section 6 provides the conclusions and reflections.

2. Literature Review

The rest of this study is grounded in the following literature review, which focuses on cycling infrastructure, the rationale and process of pro-cycling policies and the cycling experience.

2.1 Types and qualities of cycling infrastructure

Many studies conceive cycling infrastructures as one of the key determinants to promote cycling for more sustainable urban mobility and a healthy lifestyle (Buehler and Pucher, 2021; Caimotto, 2020; Dill and McNeil, 2016; Larsen, 2017). Some identify the effectiveness of key interventions on cycling infrastructure by evaluating cycling before and after the implementation to determine the causality between them the interventions and their outcomes, such as the level of cycling or reduction in injuries, often by conducting pre and post evaluations. However, robust evidence on which interventions are more efficient remains sparse given the practical challenges associated with data collection, choosing an appropriate control group and distinguishing the effects of strategies used concurrently (Pucher et al., 2010).

Some research compares people or places to identify factors associated with higher levels of transport cycling in the provision of cycling infrastructures, often using qualitative approaches. Some studies stress overall bicycle lanes (Pucher and Buehler, 2008), traffic calming (Morrison et al., 2004). van Ommeren et al. (2017) summarise the measures in the Netherlands as hardware and software, suggesting focus on related measures apart from infrastructure.

Pucher and Buehler (2008) summarise the key measures and their effects of cycling infrastructures in Dutch, Danish and German cities, providing seven themes deemed crucial to make cycling 'irresistible': extensive systems of separate cycling facilities; intersection modifications and priority traffic signals; traffic calming; bike parking; coordination with public transport; traffic education and training; and traffic laws. Supported measures such as

planning form, programmes, educations are also summarised (Handy et al., 2014; Handy and Xing, 2011; Heinen et al., 2011; Pucher et al., 2010).

Research on the preferences of cyclists highlights design requirements for superior cycling conditions, such as a dense route network, steady cruising speed, absence of sharp turns or obstacles (Handy and Xing, 2011; Heinen et al., 2011; Pucher et al., 2010; Pucher and Buehler, 2012) and adequate capacity, specifically, sufficient lane width (Kirner Providelo and da Penha Sanches, 2011), direct routes (Aultman-Hall, 1996) and a well-maintained surface (Brezina et al., 2020).

2.2 Governance of cycling in the Netherlands

Governance has inspired many transport-related studies in recent decades. Kennedy et al. (2005) define *governance* as the government structures with mandate, responsibility and power to make decisions to achieve sustainable transport. Dekker (2021) endorses the perspective of public administration scholar Walter Kickert, who defines governance as the mutual steering relations between the state and society (Kickert, 2004). Dekker (2021) uses the term *steering to* allude a society-centred view, as opposed to a state-centred one, suggesting that this is important in analysing the political and administrative processes that have shaped Dutch cycling, as a key element is that non-state actors played an important role. To examine the Dutch discourse, this section adopts Dekker's understanding of governance to explore the theoretical and political context of cycling governance in the Netherlands through the literature.

Reviewing cycling history from different perspectives, Dekker (2021) and Oldenziel et al. (2016) indicate that political appreciation of cycling in the Netherlands has changed enormously over the past century, alongside the rise of the automobile and auto-centred planning policies, along with a significant shift of cycling share in the 1950s to 1970s as in many European cities.

Many of the research point out that Dutch social movements of the 1970s played a crucial role in the transition from car-centred to people-centred planning, when cycling became governmental policy, as a result, simultaneously legitimate non-government interest groups' participation in the policy-making (Dekker, 2021; Oldenziel et al., 2016; Pucher and Buehler, 2008). In a discursive struggle to frame cycling infrastructure as a public good, these social movements argued that its construction benefited all of society. The convincing argument provoked a government response and justified state funding and coordination (Dekker, 2021).

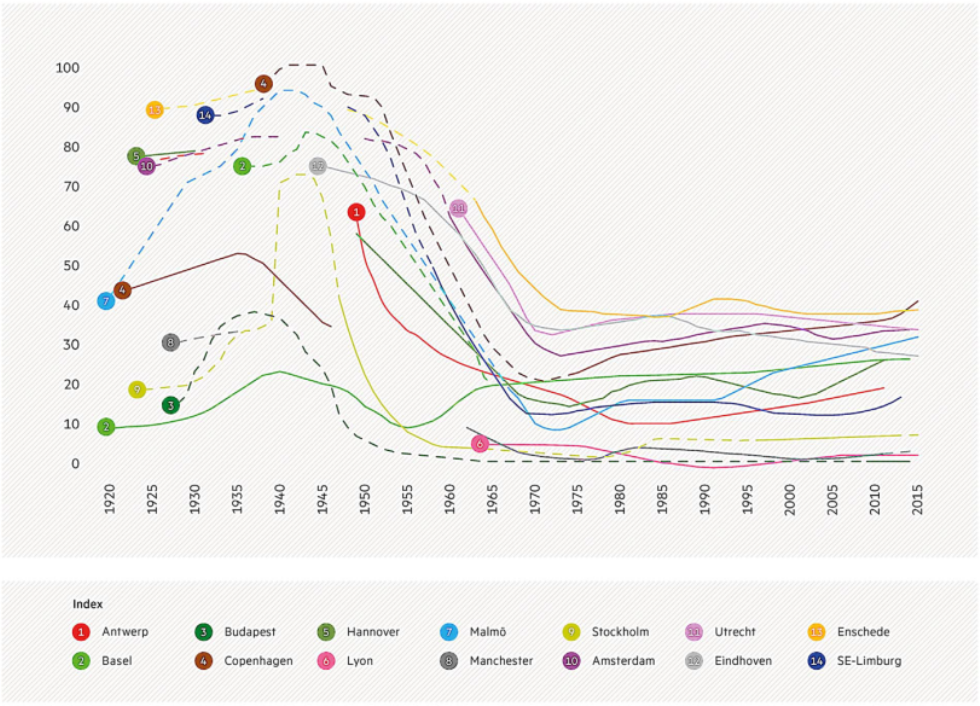

Figure 2. The trend of cycling share in 14 European cities 1920-2015.
Source: Oldenziel et al., (2016)

Research explores the governance process through the roles of national and local authorities in cycling governance. Some studies show that, under the Netherlands' decentralised planning system, the national government is involved mainly in developing spatial planning, setting planning boundaries and controlling financial distribution (Dekker, 2021; Schwanen et

al., 2004). Subsequently, local authorities develop their own bicycle policy or integrate it with general policy (Andeweg et al., 2020; Dekker, 2021; Hilbers, 2008; Kickert, 1997). Harms et al. (2016) and Rietveld & Daniel (2004) suggest local policies contain both 'push' and 'pull' measures, with push policies aimed at making car use less attractive and pull policies enhancing the attractiveness of cycling.

Several studies also explore the role of state and non-state actors, particularly cycling groups. For example, the Dutch Cyclists Union (Fietstersbond), a prominent activist group, applies user knowledge, to cooperate and lobby with policymakers at the national and local levels for a better bicycling environment (Dekker, 2021; Ebert, 2004; Harms et al., 2016). The political basis is also examined, which identifies the Netherlands' democratic tradition of bottom-up interest representation in which the state recognises, commits and subsidises a limited number of interest associations, and involves them in decision-making and delegates to them the execution of some public tasks (Dekker, 2021; Kickert, 1997). A wider democratic mechanism among multiple-actor negotiations is identified as the 'polder model', a term that alludes to the nation's cooperation history to avoid sinking (Dekker, 2021; van der Linde et al., 2021).

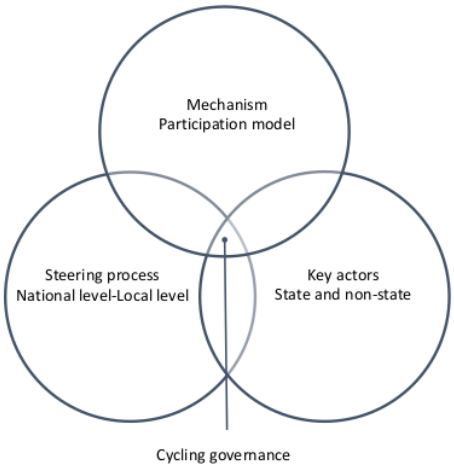

Figure 3. Key aspects of cycling governance in the Netherlands.
(Summarised from papers above)

2.3 Cycling experience

Recent research stresses the cycling experience in connection with the provision and quality of cycling infrastructures and surrounding environments. van Ommeren et al. (2017) suggest that planning a people- and bicycle-friendly environment requires understanding individual needs and preferences, both physical and psychological, specifically the qualitative aspects of the travel experience (such as comfort, safety, attractive surroundings, noise, social interactions, social activities). Sigurdardottir et al. (2013) note that people more readily make cycling a habit if they had positive cycling experiences when young.

Some studies analyse the impact of environmental indicators on the cycling experience in the Netherlands and other European cities (den Hoed, 2020; Nello-Deakin and Nikolaeva, 2021; van Duppen and Spierings, 2013); For example, van Duppen and Spierings (2013) suggests that commuter cyclists in the Netherlands prefer continuous rhythm and conscious experience; Larsen (2017)compares the experience and behaviour of cyclists in Copenhagen and London and shows that the former choose cycling because it is routinised and bike facilities make it convenient and fast. However, Larsen, (2017) notes that, while new cycling infrastructure may change the emotional and perceptual experience and thus potentially increase ridership, there is no proven causality, and some facilities may be more crucial than others.

Besides, some studies examine the social environment (Titze et al., 2008; Willis et al., 2015), as the cycling experience is affected by social influences, such as information sharing among acquaintances (Bartle et al., 2013) and community cultural norms of a larger community such as the normalisation of cycling behaviour (Handy et al., 2014; Larsen, 2017).

2.4 Research gap

Excellent papers have explored the nature of cycling infrastructure, the Dutch governance process and the cycling experience about travel behaviour. However, a deeper understanding is required of particular cases in the place-specific context, especially through individual

practitioners' and users' viewpoints and experiences, as language and discourse are central elements of structuring knowledge and social practice in specific contexts (Fairclough, 1992).

2.5 Theoretical framework

While discourse analysis remains rare in the transport and urban planning field, it may help to explain various transition pathways and possibilities for changed narratives. It scrutinises elements of discourse as units of analysis, examines the properties of texts and becomes critical discourse analysis when conducted in relation to wider social practice (Fairclough and Fairclough, 2012; Fairclough, 1992). Silk and Andrews (2011) suggest that 'physical cultural forms (e.g., practices, discourses, and subjectivities) can only be understood by the way in which they are articulated into a particular set of complex social, economic, political, and technological relationships that comprise the social context' (p. 9).

This study employs Fairclough's (1992) discourse analysis framework to examine why Houten achieves high-level cycling as a practice connected to a particular discourse that impacts the nature of society .

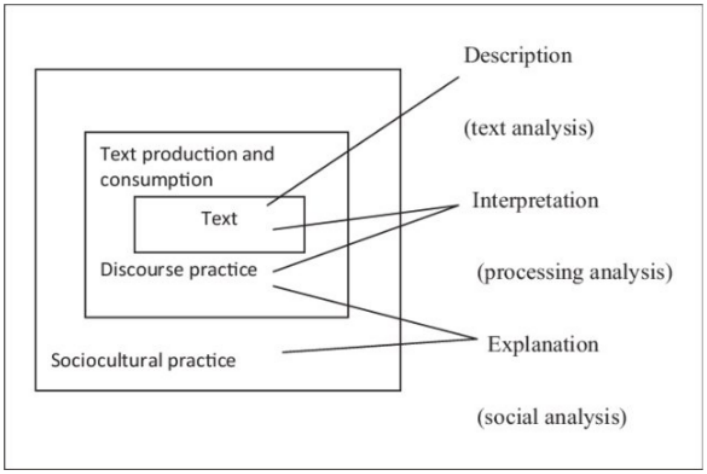

Figure 4. Fairclough's three-dimensional framework of discourse analysis.
Source: Fairclough, 1992

There are three dimensions to examining linguistic form in relation to social and political processes: the description of the text, its interpretation in terms of interaction between the elements and the explanation in viewing the text as reflecting and influencing social practice (Fairclough, 1992). Such analysis clarifies exactly how language is used in the discourse, explores why it is employed in a particular way and considers which user experiences and perceived benefits are achieved.

3. Methods

3.1 Research design

To answer the research questions, this study takes a qualitative approach using a case study to examine the production of cycling infrastructure and related measures in Houten and analyse the historical discourse of the process and cyclists' experiences. The language used by actors as the unit of analysis.

A broader desktop analysis related to the case study was conducted, including national policies, planning documents, previous case studies, survey reports and recent information and extensive comments from websites such as Cyclists Union Houten, Municipality Houten, Bicycle Dutch). This provided a comprehensive understanding of the analytical context.

The analysis adopted two main empirical elements: 1) cycle tours with key actors familiar with Houten's design and 2) in-depth interviews. Based on walking interviews, the cycle tours can provide first-hand data to explicate the surrounding environment (Evans and Jones, 2011). The method of in-depth, semi-structured interviews could provide qualitative data that help reveal participants viewpoints and experiences (MacCallum et al., 2019; Silverman, 2013).

The key process and method used in this research are summarised in Figure 4 and explained in the following sections.

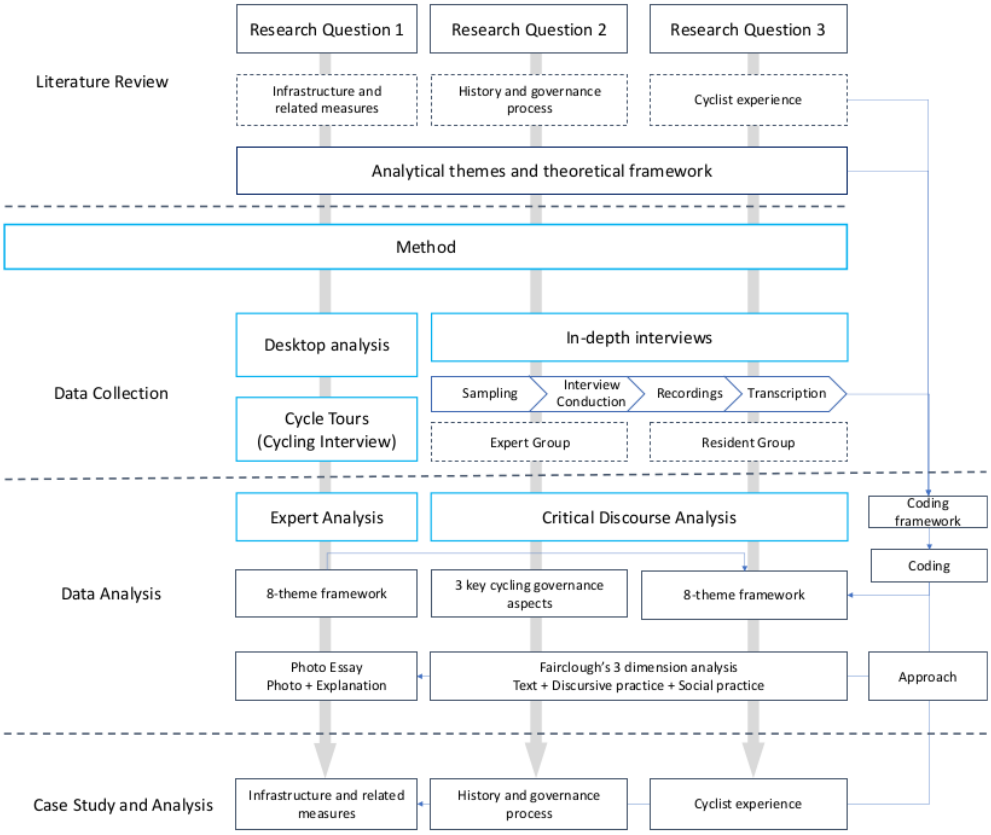

Figure 5. Structure of research design.

3.2 Data collection

3.2.1 Sampling

Drawing on relevant studies (Hickman and Huaylla Sallo, 2022; Larsen, 2017; Song et al., 2021), a sample size of around 18 was appropriate in this research. A purposive sampling (Etikan, 2016) was adopted to ensure that key actors participated in the expert group; one expert from the Dutch international cycling ambassadors offered the cycle tour and five experts were interviewed (Table 1). For the resident group, both purposive sampling and snowball sampling were adopted to produce an inclusive and equitable sample diversity. In pursuit of diversity, the initial participants were recruited from local Facebook groups and then identified other potentially interested resident cyclists. The carefully selected group comprised 13 individual or group participants (Table 2).

Table 1. List of interviews: expert group

No.	Name	Profile
E0	André Botermans	Cycling ambassador, Houten
E1	Robert Derks	Urban planner, Houten
E2	Toon van de Horst	Traffic engineer, Houten
E3	Herbert Tiemens	Expert on slow traffic; officer of the province of Utrecht; member of Dutch Cycling Embassy; Cycling ambassador of Houten until 2011
E4	Wijnand Jonkers	Expert on energy transition; officer of the province of Utrecht; grandson of Alderman Gijs Jonkers, a founder of Houten
E5	JanPeter Westein	Chairman of Cycling Union Houten (Fietstersbond Houten)

Table 2. List of interviews: resident group

No.	Name	Gender	Age groups	Nationality
R1	Kylie and son	Female; male	16–59; 1–15	Australian; Dutch
R2	Peter	Male	60+	Dutch
R3	Danny	Male	16–59	Dutch
R4	Gemma and son	Female; male	16–59; 1–15	Dutch
R5	Carina and Frank	Female; male	16–59	Danish; Dutch
R6	Anonymised	Female	16–59	Colombian
R7	Lizzy	Female	16–59	Dutch
R8	Georgette (Electric wheelchair user)	Female	16–59	Dutch
R9	Figen	Female	16–59	Turkish
R10	William (Non-regular cyclist)	Male	16–59	Dutch
R11	Dasha	Female	16–59	Ukraine
R12	Maria	Female	16–59	Dutch
R13	Bob	Male	16–59	Dutch

Note: the use of personal information is based on participant's preference of using real name, anonymising or using general identifier/pen name, see section 3.4 and Appendix C, D.

3.2.2 Cycle tours

Two cycle tours were undertaken, during which André Botermans (E0) and Kylie van Dam (R1) explained Houten's key interventions in the design of cycle facilities and the surrounding environment as well as the designs' rationale and benefits.

3.2.3 In-depth interviews

All 18 interviews were conducted in-person and audio-recorded; they ranged from 45–60 minutes for individuals and 60–90 minutes for groups. Interviews explored different viewpoints and experiences. The recordings were transcribed and analysed in NVivo software.

Before the interviews, two experts from the original planning team, Robert Derks and Toon van de Horst, delivered two 30- to 60-minute lectures on the generation of planning ideas, the political background and team organisation. The expert interviews elicited the history of cycle facility development, particularly how and why the cycling infrastructure and built environment were planned and implemented. The resident interviews focused on how the cycling infrastructure and built environment were experienced. Resident interviews began by eliciting a description of a typical cycling trip and its feeling and continued with follow-up questions on the participants' experience and commentary on the cycling infrastructure and related measures. The interviewees were encouraged to explain their feelings.

3.3 Data analysis

The expert analysis sought to understand the exact measures used in Houten and their quality before the discourse analysis of the interview transcripts. The analysis was primarily inductive, grounding the investigation and the inferences drawn from the collected data, but a deductive approach was also adopted to frame the analysis.

3.3.1 Expert analysis

In the expert assessment, the author, drawing upon expert knowledge acquired from the collected data, reviewed and analysed Houten's cycling facilities and related measures using an assessment framework originating in Pucher and Buehler's typology (2008) but modified and supplemented with wider factors identified in the literature review. An eight-theme framework (Figure 6) was devised to isolate the detailed measures in Houten and evaluate their quality and effect. The identified key measures were illustrated in photo-essay style.

3.3.2 Critical discourse analysis

The text analysis of interviews drew primarily upon Fairclough's three-dimensional framework of critical discourse analysis (Fairclough, 1992). Critical discourse analysis enriched the articulations of particular topics from multiple perspectives within the practice of planning activities around cycling.

Content analysis of the resident interviews identified frequency patterns in the content across texts (MacCallum et al., 2019). Expert interviews were analysed in terms of the three aspects summarised from literature (Figure 3).

Resident interviews were analysed in NVivo using a coding framework from the expert analysis framework (Figure 6). The language was analysed on the basis of factors such as its conditions, intertextuality, interactional control, cohesion, politeness, ethos, metaphors, and social and hegemonic relations (Fairclough, 1992).

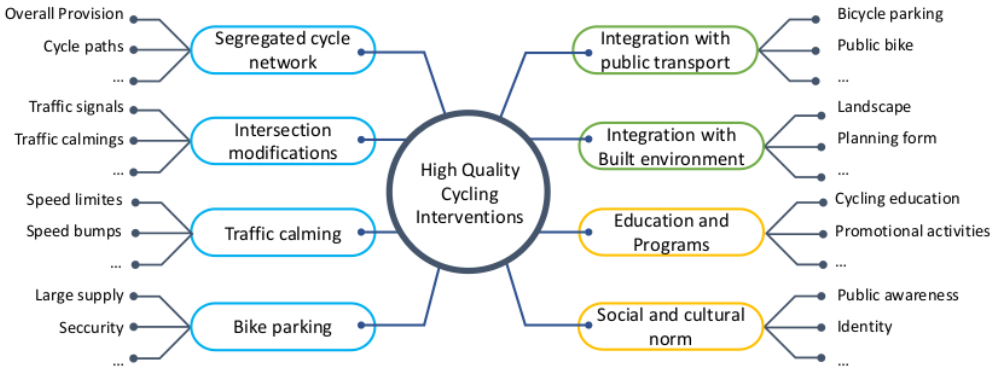

Figure 6. Expert analysis and coding framework.

3.4 Research ethics

The Risk Assessment form (Appendix A) and Ethical Clearance Questionnaire (Appendix B) indicated that this research presented a low ethical risk to potential respondents. Measures were taken to ensure that interview participation posed no potential risk. Beforehand, respondents were told the research topics, aims, objectives, and forms and informed of the recording. Permission was obtained from all participants by signing Information Sheet and Consent Forms (Appendix C, D). They could choose to be anonymised or voluntarily use real names. The collected data were used only for research purposes.

3.5 Limitations

Some limitations prevent the data from fully representing the case study and addressing the research aim. A limited number of participants were interviewed due to difficulties in contacting residents and cancellations because of Covid-19. Thus, limited perspectives are provided, which may involve subjectivity and influence the data analysis (Burnard, 1991).

4. Case Study: Houten

Located on the edge of Dutch green heart, eight kilometres south of Utrecht, Houten is a medium-density suburb on 820 hectares (Foletta, 2011). Grew from a village, it was built as a Dutch growth centre in the late 1960s to a population of around 48,000 in 2020 (Hickman, 2020). Houten has a 10-minute public transport connection to Utrecht. Its two train stations, Houten and Houten Castellum, connect to the south and elsewhere via Dutch national railway.

Figure 7. Houten's location and master plan.

Source: Hickman (2020)

Houten's village-like design and implementation prioritise people (especially children) and active travel (Foletta, 2011; Hickman, 2020). Its initial planning featured an innovative traffic layout called filtered permeability, which reverses conventional planning hierarchy by prioritising soft elements (particularly green space, walking and cycling) over hard ones (such as buildings and vehicle transport) (Derks, 2013; Foletta, 2011)

The north and south part of Houten are surrounded by a butterfly-shaped ring road for vehicular transport. Within it, a segregated, fishbone-structured cycle network, almost completely separated from traffic, provides a safe environment for cyclists and easy access to the train stations and most schools, shops and amenities within 15 minutes by bike (Figure 8). Electric bicycles, motorised scooters and electric wheelchairs may also use the cycle paths. Motorists have no direct links between Houten's various communities and must first drive to the ring road, adding time. Furthermore, cyclists have priority when meeting cars on other streets. Thus, cycling is faster than motoring in most situations.

Houten's built environment and bicycle-friendly policies contribute to high levels of walking and cycling, particularly for short trips within the city. In 2010, the mode share of non-motorised traffic was 55% compared to 52% in Amsterdam and 50% in Utrecht (Foletta, 2011; Oldenziel et al., 2016). The share of bicycles in 2010 was 28%, also much higher than in the surrounding region (Foletta, 2011). Car use is 25% lower than in similar cities (ibid), and 42% of journeys shorter than 7.5 km are by bicycle and approximately 21% by walking (Figure 9)(ibid). 64% of people go to the town centre by bike, 12% on foot and only 24% by car (ibid).

Figure 8. Transport system: segregated cycle network and the ring road.

Source: Adapted from Bicycle Dutch, see original map at:

https://bicycledutch.wordpress.com/2011/04/21/houten-celebrates-cycling/

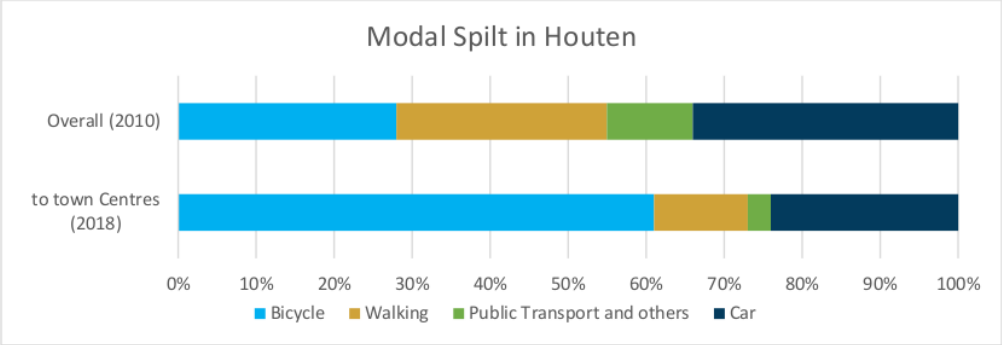

Figure 9. Modal spilt in Houten.

Source: data from André Botermans; Foletta, 2011; figure by author

An earlier survey on resident attitudes towards the quality of cycle infrastructure in southeast Houten found that 95.6% of respondents were satisfied with the number of unhindered bicycle paths, 90.2% thought the quality of the paths was good and 77.5% were satisfied with their safety (Hilbers, 2008). In the election for Cycling City 2018, Houten scored high on cycling for 8- to 80-year-olds, experience, network, infrastructure and maintenance (Bicycle Dutch, 2018).

Overview, Houten exemplifies Dutch practice on promoting a more sustainable future and lifestyle by developing a bicycle-friendly city, but a more in-depth analysis through subjective perceptions is vital.

5. Case Study Analysis

5.1 Structure of analysis

Analysing discourse entails studying language use as a social practice that shapes society by constructing versions of the social order (Candlin 1997; Fairclough 1992). This section adopts Fairclough's critical discourse analysis as a theoretical framework to analyse the participants' language associated with social situations.

Two questions primarily interest language users and analysts: "what does it mean in this situation?" and "why is this being said or meant in this situation?" (Leech, 1983). Section 5.2 provides an expert analysis of the quality of cycle infrastructure under eight themes; Section 5.3 provides practitioner views on the history and rationale of cycle facility implementation by analysing the key process from acknowledging cycling promotion to creating infrastructure, the key practitioners involved and their roles, and the institution that enabled participation. Section 5.4 analyses cyclists' experiences based on 13 interviews, providing an overview of the frequency of the language used and followed by a more detailed exploration of the language under eight themes addressing the linguistic dimensions of discourse practices(Fairclough, 1992).

5.2 Expert analysis of cycle facilities

Table 3 summarises key cycling promotion measures in Houten under eight themes. The subsequent discussion analyses their quality using representative examples.

Table 3. Cycling infrastructures and related measures used in Houten

No.	Measures
Segregated cycle network	
1	Well-maintained brick-red cycle paths as the main inner connection, entirely separate from cars
2	Multiple routes connecting various communities to provide flexible options for cyclists; no through-traffic for cars
3	Motorised scooters and electrical wheelchairs may use cycle paths.
4	Cycle path connecting Houten with Utrecht along nearby canal and river
Intersection modifications	
5	No traffic signals within Houten
6	Speed limit traffic signs to indicate priority at intersections, where cars must yield to pedestrians
7	Specially designed speed bump before intersections on cycle paths to reduce scooter speed
8	Raised rail tracks, bicycle bridges and tunnels to maintain smooth cycling traffic
Traffic calming	
9	Speed limit (30 km/h) and physical infrastructure (such as road humps) deter cars
10	Curved paths and streets with no straight sections longer than 75 m to moderately reduce car
11	Bollards to block cars from through-traffic
12	Bicycle streets allowing shared use with cars but prioritising bikes, facilitated by signs and dual
Bike parking	
13	Adequate bicycle parking and facilities near high-traffic areas
14	Covered bicycle parking near big car parks at the ring road's main entrances to encourage "park and ride"
Integration with public transport	
16	Adequate, staffed, well-maintained 24-hour bike parking integrated within and near train
16	OV-Fiets, the bike rental service at the train station
17	Bicycles can be carried to train carriages with tickets.
Integration with the built environment	
18	Most houses can reach the city centre and train stations by bicycle within 15 minutes
19	All schools are directly accessed by cycle paths. Children's play facilities are near cycle paths and houses.
20	Most cycle paths are designed close to nearby houses on at least one side.
21	Cycling facilities are well integrated with landscape: small forests, parks, streams, lakes
Education and programmes	
22	Comprehensive cycling package, including exams for children
23	Special practical driving courses required for non-EU driving licence

Social and cultural norms	
24	A naming and labelling system indicates each community with its characteristic, shows the
25	Traffic signs: 'Car as guest' sign in the bicycle street, 'School route' signs, speed bump signs, etc.

Segregated cycle network

Houten's segregated cycle network constitutes the main road structure, indicating the priority of cyclists and pedestrians; cycle paths' brick-red colour reinforces their identity. The flat kerbside and well-maintained road surface provide a friendly user experience. Outside bicycle connections from Houten to Utrecht and nearby attractions are provided. This network provides a complete, safe, direct system that allows different cyclists to travel from home to almost all main destinations.

Figure 10. Red-painted cycle path in Houten's town centre.

The tracks were lifted to provide a level crossing for cyclists. The kerbside can be recognised by colour but one need not stop when crossing it, benefitting pullchair and wheelchair users. The black marks on the surface result from maintenance, but the path is in good condition.

Intersection modifications

Houten's intersections contribute to the design purpose of reducing hindrances and minimising meetings between cyclists and cars. There are no traffic lights in Houten, which provides a fast, continuous experience for cyclists. These measures have efficiently reduced hindrances and, consequently, travel time.

Figure 11. An intersection modification.

Instead of using lights to control traffic, priority is indicated by road surface design and signs at the crossing. This smart measure for low-density communities minimises stops and waiting times for all users.

Traffic calming

Many localised traffic calming measures address diverse situations, all with the purpose and benefit of limiting cars' (and scooters') speed and movement and indicating priority.

Figure 12. Traffic calming design on a bicycle street.

Bicycles have higher traffic priority than cars over the entire width of the street. The curved streets slow cars naturally, with no straight sections longer than 75 m. The brick pavement on both sides of bicycle streets implies that cars have to slow down when meeting other cars in the narrow space. Because of Houten's scale, cars usually spend less than 10 minutes in such controlled situations.

Source: André Botermans

Bicycle parking

Bicycle parking is provided in most busy spaces: the town centre, schools, train stations, etc. Despite the adequate provision, many parking facilities, especially in north Houten, offer only standard-size bicycle racks and no sheds (apart from the train stations), thus not accommodating different types of bicycles and bad weather.

Figure 13. Bicycle parking at Houten centre and Castellum centre.

Near the plaza in Houten town centre, the scooter must park outside the bike racks. In the later-built Castellum, the racks accommodate wider bicycles and scooters.

Integration with public transport

Both train stations provide indoor bicycle parking spaces, one integrated in the station (Houten Station) and the other separately nearby (Castellum Station). Multiple functions are integrated, so bicycles can be parked safely and conveniently or carried on the train. This bike-train-bike system (Oldenziel et al., 2016) extends bicycles' travel distance.

Figure 14. Bicycle facilities at Houten Station.
The station building offers 3,000 bicycle parking spaces on the ground floor, providing a smooth, integrated transfer experience. The number of spaces was calculated using the existing bicycle population and a model predicting future increases. In the middle is the OV-Fiets (public bike) rental office.
Source: Herbert Tiemens, photo by author

Integration with the built environment

The inversion concept that prioritises the green element, pedestrians and cyclists ensures that cycling is faster than driving for most internal travel. The balance between attractiveness and social safety was also considered in the design, with most main bicycle paths adjacent to landscape on one side and houses on the other.

Figure 15. Integration of school location and cycle network.

Education and programmes

Like elsewhere in the Netherlands, Houten provides education, especially to children and new residents. Cyclists Union Houten conducts regular surveys to gather updated cycling-related data.

Figure 16. "Traffic Package" in Houten.

The municipality provides a traffic package for schools, including training materials, education games, on-the-road cycling exams and so on. Source: Municipality of Houten

Social and cultural norms

The Netherlands' cycling ambassador regime plays an important role in representing the experience of Houten to the world. Many other measures reinforce its identity as a cycling city to every resident and imply that the primary travel option should be cycling, which has become a cultural norm.

Figure 17. Signs and maps on a cycle path.

These are ubiquitous, and most of the latter resemble cycling maps. A code system represents every potential cycling route from the current location to the centre and every community.

Overall, Houten's measures reflect general practices in the Netherlands but with advanced design interventions for the local context. The dedicated-designed and well-maintained segregated bicycle infrastructure is the cornerstone, making cycling fast, easy and attractive for all levels of cycling ability. This relies on integration with the public transport system, built environment and motorised system. Furthermore, many non-physical measures are part of the solution, such as cycling education, programmes and cultural initiatives. These findings show that push and pull measures work together, improving the cycling experience to the highest level and making competing modes less attractive for short trips.

5.3 Practitioner views of the process of cycle facility implementation

5.3.1 Process: Local practice of a national strategy

The expert interviews and related studies revealed four key stages of cycle facility planning (Table 4). It is found that Houten can be seen as a long-term ongoing local practice of the Netherlands' regional growth strategy.

Table 4. Summary of overall planning process of Houten

Year	Key Context	Key Promoters	Key Delivery
1960s–1970s	Houten identified as a "high growth area"	Dutch government, local council, Robert Derks and a team of city advisors	North Houten around the existing train station
1990s	Houten again identified as a VINEX location	National government, Utrecht council, railway company	Houten south, Houten Castellum station
2010s	A need for increased railway volume identified	Utrecht council, technical teams	Four-track railway, elevated railway tracks, new bicycle parking integrated with train station
2020s	Plans for a new extension	Local council, Fietstersbound Houten, Robert Derks	(Likely) East Houten

Houten was chosen and involved in the regional strategy largely due to its location and transport accessibility; the existing train station provided a good connection to the nearest big city, Utrecht.

> Those big cities had to expand. And what we do is to use the railway line that was already there. This is better than not-smart growth in landscape. And Houten is one of the first, the second place the government chose. (Interview E1)

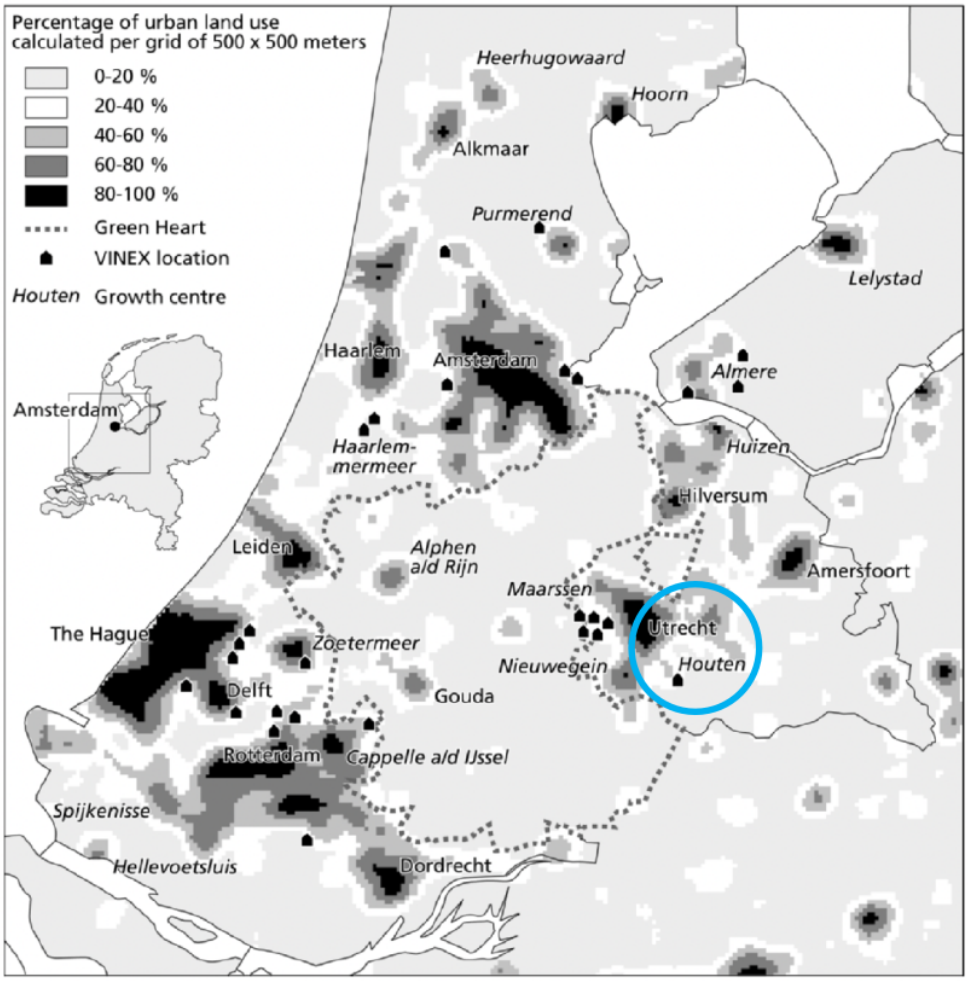

Figure 18. Growth centres and VINEX locations in the western Netherlands.

VINEX refers to the Netherlands' Fourth Memorandum on Physical Planning-Plus, a national policy document under spatial planning every 10 years. It provided locations for new housing developments in response to the anticipated housing shortage and aimed to lure better-educated people back to the city. To attract these people to VINEX locations such as Houten, these areas had to be made attractive.

Source: Foletta, 2011; Hilbers, 2008; Harms et al., 2016; Schwanen, et al., 2004

Utrecht's city council played an important role in providing both technical and financial support when the railway tracks were doubled from two to four to accommodate the new Houten Castellum station in the 2010s, concurrent with the refurbishment of the old Houten Station.

> How should we be incorporating more people in Houten itself and more volume of traffic? And how should we organise that? So, that was my role as a traffic planner at that moment. (Interview E3)

> Partly, it was paid by the national government because they wanted the enlargement. But, on the other hand, we had to pay for it to lift the track. As a city, we made savings in the past to expand the city centre, but also we made money by selling houses in the new part. (Interview E3)

Houten is still being expanded today, with new plans on the location under discussion and multiple actors collaborating to build consensus for Hooten's future.

5.3.2 Practitioners: Multiple active roles involved

Beyond following the national strategy, Houten has rolled out its own model in the past decade and adjusted to the current conditions ahead of the general discourse. Evidence shows that the key actors involved include both government and non-government roles. The first key actor was the original planning team from different fields working for over 20 years as city advisors, offering an "inversion" plan.

> There was a design team. Robert was the town planner and the leader; I was a traffic engineer, and there was also a civil engineer led by the head of the project office and a landscape architect. (Interview E2)

> The Dutch in the 70s was looking to America, cars and tall buildings. I said no, it should always be the soft element first, the water, the green, the people. This is embedded in human's history and psychology. (Interview E1)

While the government was a key promoter as usual, particular actors in the authority were identified as the main powers pushing the process.

> The design team had weekly consultations with the municipality, with Mayor Bijleveld and Alderman Jonkers regularly joining us. (Interview E1)

> There were some people, like the mayor, like my grandfather, who was in the city council and **played an important role**. There was a lot of pressure, because some people had to make a difference before we set the example or changed from a car city to more bicycles. If you face problems, we have to stick to that idea. Like we always do it. (Interview E4)

As a local branch of the national Cyclists Union, Cyclists Union Houten played an active role in advocating for cycling infrastructure and cycling rights, working as a fixed formal actor in the governance process.

> We try to influence the parties and those people to use more bicycles. For example, we found there were 200 bollards that weren't necessary and not safe for cyclists. We went to the council and said, "You have to get rid of a lot of these bollards", and we succeeded. (Interview E5)

The residents also played an active role, aiming to affect the authorities' policy positions of where to make efforts and how to distribute money. This is ongoing:

> I heard from a woman, they saw some new technology in electric wheelchairs, so they asked for financial support from the council, but they don't want to give. So I tried to make connections with the new councillor for support. **We fight for our freedom**. (Interview R8, a wheelchair user)

5.3.3 Participation: Steering the process through debates and cooperation

The interviews described many negotiations, discussions and debates both within the planning team and with other actors, which could be complex and time-consuming.

> People still don't feel comfortable with this idea. They still believe the future must look like car-focused. Within the team, there were a lot of conflicts. I was shot a lot there. They questioned me. **So I have to be well prepared**. (Interview E1)

> There were a lot of debates; Robert was **stubborn**. But I think he was right. (Interview E2)

The negotiations were grounded in Houten's institutional mechanisms. The Dutch tradition of participation (the "polder model") informed the basic style of negotiation, but there was also a special mechanism for pushing the process forward through endless discussion: the planning team could report to the leading alderman directly, which was rare even in the Netherlands.

> In this country, if you don't manage the water, the country sinks. **That's why we are a basic democracy** because we had to stick together. We have a weekly meeting on Friday morning. (Interview E1)

> The alderman was very important. We reported to him, and skipped ahead of other people at the party. **This saved a lot of time.** If the person in charge approved, others would do so. But this was very **uncommon**. (Interview E2)

How did the pro-cycling actors overcome practical challenges? In these interviews, affirmative responses indicated that sticking to the idea and maintaining concern for design details as supporting evidence were crucial to persuading other stakeholders.

And the doctors and the fire brigade all strongly disagreed; they worried cutting down the through road would cost much more time to cross. So, we had to make a lot of engineering calculations to prove that the standard time was okay. It was a very heavy and very important moment. If this doesn't work, the plan can't stand**. But we were successful at it.** (Interview E2)

We made a list of our wishes for good cycling in Houten by doing **surveys**. And we sent it to all the political parties, saying, 'Put data in your election programme, and then people will vote for you', and then the political parties would make their judgement. (Interview E5)

Score of the election programmes per ambition
Houten Bicycle Choices 2022

List	Party	Ambitions 1. Good cycling and walking paths	2. Car-free	3. More bicycles and fewer car parking	4. Safe cycling in rural areas	5. Complete cycle routes to neighbouring municipalities	6. Stimulate cycling	7. Other: extras in the proposals	**Total Score**
1	CDA HOUTEN	☆	☆			☆☆	☆		5 ☆
2	GROENLINKS HOUTEN	☆☆☆	☆☆☆	☆☆☆	☆	☆☆☆	☆☆☆	☆☆	18 ☆
3		☆	☆☆	☆	☆	☆☆		☆☆	9 ☆
4	VVD Houten, Schalkwijk, Tull en 't Waal, 't Goy.	☆		☆	☆	☆		☆	5 ☆
5	D66 houten	☆☆	☆☆	☆	☆☆	☆☆	☆	☆	11☆
6	ChristenUnie	☆☆☆	☆☆	☆	☆☆	☆☆	☆☆	☆	13 ☆
7	PvdA	☆	☆	☆☆	☆	☆☆	☆☆	☆☆	11 ☆
8	SGP VOOR HOUTEN	☆☆	☆	☆	☆	☆☆		☆☆	9 ☆
9	HA! HOUTEN ANDERS	☆☆		☆			☆	☆	5 ☆
10	NatúúrlijkHouten	☆☆	☆☆☆	☆☆☆	☆☆	☆☆☆	☆	☆☆	16 ☆

Figure 19. Bicycle electoral guide for Houten's municipal elections, 2022

Cyclists Union Houten provided an assessment of all parties' election proposals to guide residents. The assessment criteria were based on the wishes they submitted to the political parties the previous summer. Source: https://houten.fietsersbond.nl/fietskieswijzer/

There are challenges and uncertainty in the current discourse, such as increasing types of bicycles with diverse sizes and speeds, the growing population and the emerging need for energy transition to address climate change. Ongoing effort remains necessary to maintain the position of cycling in policy-making. While government traditionally plays a role, endorsing the people's right to primacy in the long term may be crucial in transitioning from car-promoting to pro-bicycle policies as mentioned by residents and practitioners:

> It started in the late 60s; people were steering away from bicycles and getting more into the car. And that increased the number of people killed in traffic. When that happened, the Dutch government really decided to make a conscious effort trying to diminish that, to get people on the bike and … to make the infrastructure safer. I think that's when they started to make separate bike lanes. **I always use it as a very good example of where and how government interference is not a bad thing.** (Interview R3)

> If you want to have something like Houten, you have to have a long-term vision and stick to it, and someone wants to continue that vision, not changing every four years. That is where we are already at. (Interview E4)

This requires effort. Participation has become a characteristic of Houten politics to accommodate diverse interests among authorities and other stakeholders through the dedicated negotiation of policy options and the distribution of costs and benefits across society. However, the direct-report institute and a strong leader contribute to the shortcomings of such participation.

5.4 Cyclist experience

The most frequent language used by resident groups includes “bike”, “people”, “cycling”, “car” and “school” and is closely related to daily life and individual perspectives, including behaviour (“work”, “live”, “cycle”, “driving”), experience (“safe”, “easier”), family and neighbours (“children”, “friends”, “daughter”) and the built environment (“infrastructure”, “park”).

Figure 20. Word cloud of resident interviews

5.4.1 Segregated cycle network

The segregated cycle system draws far more responses than other themes, usually relate to personal experiences. The responses are strongly coherent and cohesive, with a logical explanation of causality and perceived benefit. All the interviewees saw the cycle network as providing a free (using “free”, “freedom”, “everywhere”, “easy”, “accessible”), speedy (“fast”, “quicker”) and comfortable journey superior to using cars, and some described it as providing a safe, fun experience. Explanations are often provided on how they make judgements in various scenarios based on conditions, time costs and purposes.

> I feel really **free** because I can take it **whenever** I like, and it's the **quickest** way to go anywhere in Houten. I don't think you can get anywhere **within 15 kilometres quicker than by bike**. (Interview R4)

> The separated bike lanes are almost **everywhere**. So, **if** you go from one neighbourhood to another, you will be **quicker** with the bicycle than with the car, and the whole city was designed like that, which I think is quite good. (Interview R3)

> The cycle path doesn't have a kerb. It is very **comfortable** and very **accessible**. Here, I can go **everywhere** with my wheelchair **without injuries**. That's **freedom**. I can go to **every** shop, the swimming pool and go dancing. **I don't feel disabled; I feel I am me.** (Interview R8, electric wheelchair user)

Likewise, people who don't like cycling also gave rational reasons for not cycling if conditions made cycling slower or less comfortable.

> I usually go by car. For me, one supermarket is three minutes by car, eight minutes by bike. The other is four minutes by bike, but one minute by car. **I do everything faster.** And sometimes cycling makes me **sweaty.** (Interview R10)

One contribution of the experience derives from the filtered permeability of the cycle network, which benefits cyclists and pedestrians not only for travelling but also for living.

> Because you're cycling, you have the benefits of the **shortest route**. (Interview R13)

> Kids can get on the bikes to their school. They have to cross … larger bike paths, but we know that is safe because there are **only bikes.** (Interview R2)

> I'm from a different country, and it's not safe on the streets, because the **cars** drive really fast. And it's prone to accidents. But there are different rules here; bikes take precedence. So, that's why I feel safe and why I can send **my daughter playing outside**. (Interview R6)

Many interviewees use absolute words ("everywhere", "perfect") with an active voice as well as rhetorical questions to express their clear opinions and overriding certainty. Little hedging is used ("likely", "could be").

> It makes **perfect** sense. **Why would you** get in a car to visit your neighbour three streets away? That's insane. (Interview R1)

> As a car driver, **it could be** a little bit annoying, because all the streets are rather more bike-friendly than car-friendly. But **I don't** find it annoying. And I think people are used to it in Houten, and almost **everybody** who's driving a car in Houten also rides a bike. I think **everybody** understands that there's a good **reason** for that. (Interview R3)

The responses also show that many residents see this as an important space for other activities, such as family time, individual time, or social activities, both from individual experiences and collective perspectives.

> And when you come to the Netherlands, and particularly in Houten, what you see is that a child can often walk out the front door and cycle around from a very early age. And it means that they develop as human beings in a much healthier way because they're **independent**. They get to learn responsibility and develop their social connections because they're with other children, and other children are also cycling. (Interview R1)

> You can talk with others when you are on a bike, you can feel the wind, and that is what you can't do in a car. (Interview R1)

Figure 21. An elderly woman rides a bike, with a yoga mat

Figure 22. Young people stop on the cycle path for a chat.

5.4.2 Intersection modification

The responses indicate that interviewees perceived the design of intersections mostly if they had to stop or continue a journey.

> I grew up in another city, and, if you cycle there, you **always** have to **stop** and look around. There are no traffic lights in Houten; you can just cycle and **always** go on, which makes it **relaxed**. (Interview R13)

> There are no traffic lights near that bus station. You have to **wait a long time** for a car to stop; that's the only thing I think should be improved. (Interview R4)

Strong evidence and examples are often used in responses to support their argument when explaining the reason for particular behaviours. For example, despite rarely recognising specific interventions near intersections, interviewees give reasoning on how they would behave and feel, which shows their sensitivity to the coherence of a journey.

> If I have 10 metres to guess what the other person will do, everybody sort of mutually understands that. That makes a crossing much **nicer** for me to grasp … All intersections here have these 10 metres. This is also where city planning becomes interesting; maybe, how much time do I have to estimate what the other person is like? If the time is zero, I'm going to be on the super-cautious side. (Interview R5)

5.4.3 Traffic calming

The interviewees who mostly live in Houten generally do not recognise traffic calming measures during their daily experience, indicating that these facilities may have become a normative social relation embedded in everyday life. Some interviewees who had moved to Houten recently identified a special design:

I love those **bumps**; that's really **fun**. I've never seen those in Denmark, actually. Our daughter also likes it. (Interview R5)

So, when you're driving a car here, you are more or less forced to drive in the middle of the road, which means, if there is any upcoming traffic, you will have to slow down even more. I think this is really **smart**. So, you get used to it pretty quick, and now **I'm not really aware of it anymore,** but I do notice that I tend to keep to the middle a little bit more. This is a solution that is **not very expensive,** and it does work. And it's, I think, it's **clever**, it's genius. (Interview R3)

I think it makes it cosy that the streets are designed not to let you drive fast. I found the concept of wavy streets is user-friendly for everyone. (Interview R11)

Figure 23. Speed bump, bicycle street and signs.

5.4.4 Bike parking

The interviewees generally use positive expressions about bike parking, with suggestions to provide safer, more high-quality parking facilities.

There are a lot of places to park your bike, also in the train station, a big place to park our bike. When I am on my racing bike, I do not have a lock, so I always put it inside, because it's **safer**. (Interview R7)

They could make more parking in the city centre that is under a roof. Then it would be nicer to park your bike there when it's raining; it doesn't get wet. (Interview R5)

5.4.5 Integration with public transport

Only a few interviewees use the train as a regular travel mode. Apart from the need for diverse parking as mentioned above, there are few other findings on the integration of public transport and cycling which may need further exploration.

I have a very big bike with a large basket. It's very difficult for me to park in the station, because it is too large to be put in the rack. It would be nice if they had various sizes. (Interview R12)

I usually use a bike. But, when it's raining in the morning, and I need to get on my work, I take the car; and if the car is not available, I take the train. (Interview R13)

If I go to work, I usually travel by train. And … for me, it's approximately one hour. But what I like … is, in the train, I can do my work. Usually, I walk to the station, because it's like seven minutes. When I get close to time, I will be cycling to the station.

5.4.6 Integration with the built environment

The cycle paths adjacent to nature bring a positive experience to the interviewees. Some negative metaphors ("grey part", "industrial") are used by children to identify places with unpleasant associations.

I know I'm safe. There are some roads that look like the middle of nowhere; there are no houses around, just **jungles**. I like that too. (Interview R6)

It's the **grey** part. It's also very **ugly**. I don't know what's that; I always call it **industrial.** It isn't really interesting, like **nobody** lives there. That's not a really nice place to ride. The rest of Houten is really nice and green; it's almost like **nature**. (Interview 4, the son)

In addition, the design form makes necessary daily destinations accessible by bike within 15 minutes.

The infrastructure is **built in such a way** that you can do way more things by bike. (Interview R9)

Figure 24. Cycle path integrated with planning ideas.
This photo shows a typical section of scenery along cycle paths. The side with rivers or landscape provides natural views while side with houses increases perceived safety.

Figure 25. People cycle along the colourful Houses and lakes in South Houten

5.4.7 Education and programmes

Although the municipalities and schools provide many educational and training programmes to children, parental instruction also plays an important role in teaching children to cycle at a young age.

> I taught the kids … when they were two or three years old; walk first and then the bike with side wheels, and then we saw that it was going fine; we took off the wheels and then, within one or two years, they needed a bigger bike. (Resident R2)

> I am **pretty confident** about the exam, always. (Interview R1, the son)

> Some children walk to school, and **they never really learned** cycling. So, for some kids, the school training might be helpful, **but I didn't really learn anything.** We have a theory and a practical exam but hardly any practice in Houten, because it's really safe. It's far more complex in Utrecht; I had to get used to it. (Interview R4, the son)

Figure 26. Children learn to cycle from family members

The extra exam for non-EU drivers is perceived as useful as Interviewee R9 explained in a positive tone; this also shows that people can think as both drivers and cyclists.

> Turkey is not an EU country, so you need a practical exam to verify your driving license. I was not used to driving **in a culture** where you also need to **pay attention to cyclists**. And, if you don't know, it could be very dangerous for … **the cyclists but also for myself**. So, from that perspective, it was **definitely** useful that I needed to have a test to show that, hey, **I can be careful**.

5.4.8 Social and cultural norms

As indicated above, cycling is largely normalised, especially for Dutch people, as R4 and R13 used a similar metaphor to express:

> I never thought about cycling; it's just like **breathing**. (Interview R4**)**

> I have never heard anyone grow up here who cannot cycle in the Netherlands. It's just part of your life, like **eating, drinking and breathing**. (Interview R13)

Responses from Dutch interviewees express a strong Dutch social identity as individuals and about the Dutch as a people, describing a "Dutch thing". Thus, the discourse involves how social members categorise themselves (van Dijk, 1997). This mutual identity overcomes differences in travel behaviour, travel attitude and experience between ages, genders and physical abilities. People regard "cycling country", "care for cyclists" and "care for children" as representing a proud identity that they embrace.

> I don't think the attitude towards cycling has changed a lot within the **Netherlands**; it's always been **a part of the culture**. (Interview R3)

The physical infrastructure gradually strengthens this identity in both Dutch and new residents from abroad:

> That's really because **we're Dutch**. It was a lot of **traffic signs** there. That's a very **Dutch thing**. We have extremely well-organised traffic systems. (Interview R5)

> Not only in Houten but **in the Netherlands,** there is a high level of awareness of people, because **we all know** that the Netherlands is known as the **bicycle country**. But, even then, Houten really sticks out. Houten has been also selected as **the city of bicycles** three times or twice. Even … in the suburbs, you will see that there is a **sign,** "Houten, City of Bicycles". (Interview R9)

Interview R11 suggested that this cycling culture could become a social and hegemonic element for newcomers to the Netherlands, not only in Houten; newcomers embrace this new ethos by getting on a bike.

> In the first place where I lived, one day I walked, and … people are looking at me like I'm **strange,** because everyone was cycling. … like, "Great, well, you're getting the **strange** gazes". It really felt **strange** to walk, so then I bought myself a bicycle, and I felt a bit more **normal**. (Interview R11)

Some responses provide "expert views" explaining the phenomenon, based on personal experiences but extended to social issues, for example, when referring to the high children fatalities in the 1970s and Dutch government's response:

> At the core of that is the ways of thinking that the Dutch people have … they're mature, responsible and intelligent. **The government make decisions to create a built environment that facilitates these values.** Here, the government listened. In my two countries, Australia and England, those voices would be irrelevant: "Sorry, your children are dead. It's the way it is." (Interview R1)

The above experiences and the efforts of multiple actors led to high satisfaction and social inclusion made possible by cycling:

> It is more like a village, a big village. It's bigger and bigger, but the feeling is the same. I say to everybody, "Hi, how are you doing today?" (Interview R8)

> I'm very **happy** living here, because I feel very **free** here. I like to hang out, because of all the greenery and the parks and the water nearby in the forest, the shops nearby, and the train nearby. It's **perfect**. (Interview R4)

> Since we have a daughter, we love it even more, because it's a super children-friendly city. (Interview R9)

Figure 27. Social activities by cycling: People stopping to say hello

6. Conclusion

Houten represents a typical cross-disciplinary case in the transport and city planning field, from the initial acceptance of an inversion concept prioritising people to its translation into concrete measures for implementation and continuing effort in response to changed narratives and challenges. Houten has achieved a high mode share of cycling and a good cycling experience.

Drawing on critical discourse analysis from the perspective of sociocultural practice to examine the language used by diverse actors, this study used the Houten case study to explore why the Netherlands succeeded in promoting cycling. The analysis inspires conclusions related to the research aim and objectives.

Generally, Houten uses “push” and “pull” measures on cycling infrastructure and related measures to benefit individuals’ cycling and living experience. This is done through a deliberative participatory process involving multiple practitioners from government, technical teams, interest groups and individuals.

In particular, three lessons emerge from the specificity of cycling facilities, culture and experience in Houten. First, Houten implements comprehensive measures, among which the separate cycle path with a good view of nature and easy, safe access to destinations plays a key role in Houten’s pro-cycling development model along with supporting measures, such as localised traffic calming interventions, intersection modifications without traffic lights, bicycle parking, integration with public transport and the built environment, cycling education, programmes and signs that establish the “bicycle city” as a cultural norm. A special factor is Houten’s use of appropriate, moderate car restriction measures. On the one hand, it reverses the traditional design structure and shapes the traffic system around cycle paths without vehicle traffic. On the other, it restricts driving properly by making it possible to drive to almost every home but with physical design interventions that slow down cars unconsciously and speed-controlled times for cars of less than 10 minutes. Thus, the physical environment maximally benefits people’s experience with acceptable car-use limitation.

> It is still convenient to use cars. it is just not as convenient as bikes. (Interview R11)

Second, Houten's practice engages and mediates diverse viewpoints to form a sanctioned discourse in the decision-making process. Project development can be political and contested, with various actors and interest groups pursuing political goals by trying to establish a particular narrative (Jacobs, 2006). The bottom-up and top-down cycling promoters in the Netherlands—including actors in authority, cycling groups, technical teams and active residents—together form a power as a potential changed narrative that forces the central narrative to respond. What grounds this potential is an institutional regime that benefit from the Netherlands' polder model participation tradition and the direct-reporting organisational form peculiar to Houten.

Third, individual experiences are associated with psychological needs, which can be quite complicated and diverse. Cyclists value benefits beyond a speedy journey: the safety of children, a good landscape, the availability by bike, mobility independence and an identity as part of society. People made choices through judgement; only when people's need were met would they accept a small extra cost, such as closing a road. However, individual views may vary according to predisposition and the weight given to political, contextual, theoretical, methodological and empirical factors (Keller, 2012). Hence, dedicated, localised design measures and in-depth understanding are required in a long process.

> **In the beginning, we had complaints from people** who said, "Oh, it's so hard to drive a car from one place to another … can we open a cycle path over here for cars?" **We said no, of course not.** … After some time, they understand how it works, and that it's **quicker** and **better** also for them to ride a bike or to walk, and it's **safe for children**. But we also made some **experiments** on different measures; for example, we found **signs** are more effective to slow drivers … than printing it on the road. (Interview E3)

Fourth, in an environment suffused with the social identity of “being a cyclist”, and “living in a bicycle city”, individuals self-construct part of their social identity by starting to cycle. This identity can be indirectly shaped by physical facilities and the built environment as well as by dissemination, education, programmes and participation.

However, Houten’s experience of developing cycling remains to become a “contingent universal”. (Healey, 2012, p.191) that is generally in line with Dutch experience, but rooted in the accumulation of planning practices in the local context. Still, specific case studies can provide general lessons for both research and practice when transferring such experience.

For researchers, it is proposed that future studies could further develop an in-depth understanding of discourse when transferring transport ideas and practices to reveal the possibilities for taking different, changed pathways in particular contexts. Failing to identify crucial elements and differences might otherwise result in an uninformed transfer (Dolowitz and Marsh, 2000).

For practitioners, understanding various subjectivities and identifying the potential for changed narratives in the local context, especially in the voices outside the promoter group, is crucial in addressing localised practice respectfully and sensitively. In terms of scale, it may initially not be easy to replicate Houten’s practice at city scale, especially where car culture remains dominant. However, every big city comprises small neighbourhoods; hence, transitions could start at community scale and gradually expand. In the political process, much effort is still needed for policymakers to strengthen participatory mechanisms to involve multiple voices outside of authority in the planning and process as well as mechanisms to wisely promote the decision-making process.

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Appendix A Ethical Clearance Questionnaire

Ethical Clearance Pro Forma

It is important for you to include all relevant information about your research in this form, so that your supervisor can give you the best advice on how to proceed with your research.

You are advised to read though the relevant sections of UCL's Research Integrity guidance to learn more about your ethical obligations.

Submission Details

1. **Name of programme of study:**
   MSc Transport and City Planning

2. **Please indicate the type of research work you are doing (Delete that which do not apply):**
   Dissertation in Planning (MSc)

3. **Please provide the current working title of your research:**
   How discourse on cycling practice was developed on implementation and use for cyclists in Houten, Netherlands

4. **Please indicate your supervisor's name:**
   Robin Hickman

Research Details

5. **Please indicate here which data collection methods you expect to use. (Tick all that apply/or delete those which do not apply.)**
   - Interviews
   - Observation / participant observation
   - Audio-visual recordings (including photographs)

6. **Please indicate where your research will take place (delete that which does not apply):**
   - Overseas only

7. **Does your project involve the recruitment of participants?**
   'Participants' means human participants and their data (including sensor/locational data and observational notes/images.)
   Yes

Appropriate Safeguard, Data Storage and Security

8. Will your research involve the collection and/or use of personal data?

Personal data is data which relates to a living individual who can be identified from that data or from the data and other information that is either currently held, or will be held by the data controller (you, as the researcher).

This includes:

- Any expression of opinion about the individual and any intentions of the data controller or any other person toward the individual.
- Sensor, location or visual data which may reveal information that enables the identification of a face, address etc. (some post codes cover only one property).
- Combinations of data which may reveal identifiable data, such as names, email/postal addresses, date of birth, ethnicity, descriptions of health diagnosis or conditions, computer IP address (of relating to a device with a single user).

No

9. Is your research using or collecting:

- special category data as defined by the General Data Protection Regulation*, and/or
- data which might be considered sensitive in some countries, cultures or contexts?

*Examples of special category data are data:

- which reveals racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership;
- concerning health (the physical or mental health of a person, including the provision of health care services);
- concerning sex life or sexual orientation;
- genetic or biometric data processed to uniquely identify a natural person.

No

10. Do you confirm that all personal data will be stored and processed in compliance with the General Data Protection Regulation (GDPR 2018)? (Choose one only, delete that which does not apply)

  - Yes

11. I confirm that:

- The information in this form is accurate to the best of my knowledge.
- I will continue to reflect on and update these ethical considerations in consultation with my supervisor.

Yes

Appendix B Risk Assessment Form

RISK ASSESSMENT FORM
FIELD / LOCATION WORK

DEPARTMENT/SECTION: BARTLETT SCHOOL OF PLANNING
LOCATION(S): HOUTEN, THE NETHERLANDS
PERSONS COVERED BY THE RISK ASSESSMENT: PING LU

BRIEF DESCRIPTION OF FIELDWORK (including geographic location):
18 in-depth interviews with local inhabitants and ride-along survey will be conducted in Houten, the Netherlands

COVID-19 RELATED GENERIC RISK ASSESSMENT STATEMENT:
Coronavirus disease (COVID-19) is an infectious disease caused by coronavirus SARS-CoV-2. The virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. Droplets fall on people in the vicinity and can be directly inhaled or picked up on the hands and transferred when someone touches their face. This risk assessment documents key risks associated fieldwork during a pandemic, but it is not exhaustive and will not be able to cover all known risks, globally. This assessment outlines principles adopted by UCL at an institutional level and it is necessarily general. Please use the open text box 'Other' to indicate any contingent risk factors and control measures you might encounter during the course of your dissertation research and writing.
Please refer to the Dissertation in Planning Guidance Document (available on Moodle) to help you complete this form.

Hazard 1: Risk of Covid -19 infection during research related travel and research related interactions with others (when face-to-face is possible and/or unavoidable)
Risk Level - Medium /Moderate

Existing Advisable Control Measures: Do not travel if you are unwell, particularly if you have COVID-19 symptoms. Self-isolate in line with NHS (or country-specific) guidance.
Avoid travelling and face-to-face interactions; if you need to travel and meet with others:
- If possible, avoid using public transport and cycle or walk instead.
- If you need to use public transport travel in off-peak times and follow transport provider's and governmental guidelines.
- Maintain (2 metre) social distancing where possible and where 2 metre social distancing is not achievable, wear face covering.
- Wear face covering at all times in enclosed or indoor spaces.
- Use hand sanitiser prior to and after journey.

- Avoid consuming food or drinks, if possible, during journey.
- Avoid, if possible, interchanges when travelling - choose direct route.
- Face away from other persons. If you have to face a person ensure
that the duration is as short as possible.
- Do not share any items i.e. stationary, tablets, laptops etc. If items need to be shared use
disinfectant wipes to disinfect items prior to and after sharing.
- If meeting in a group for research purposes ensure you are following current country specific guidance on face-to-face meetings (i.e rule of 6 etc.)
- If and when possible meet outside and when not possible meet in venues with good ventilation (e.g. open a window)
- If you feel unwell during or after a meeting with others, inform others you have interacted with, self-isolate and get tested for Covid-19
- Avoid high noise areas as this mean the need to shout which increases risk of aerosol transmission
of the virus.
- Follow one way circulation systems, if in place. Make sure to check before you visit a building.
- Always read and follow the visitors policy for the organisation you will be visiting.
- Flush toilets with toilet lid closed.
-'Other' Control Measures you will take (specify):

NOTE: The hazards and existing control measures above pertain to Covid-19 infection risks only. More generalised health and safety risk may exist due to remote field work activities and these are outlined in your Dissertation in Planning Guidance document. Please consider these as possible 'risk' factors in completing the remainder of this standard form. For more information also see: Guidance Framework for Fieldwork in Taught and MRes Programmes, 2021-22

Consider, in turn, each hazard (white on black). If **NO** hazard exists select **NO** and move to next hazard section.
If a hazard does exist select **YES** and assess the risks that could arise from that hazard in the risk assessment box.
Where risks are identified that are not adequately controlled they must be brought to the attention of your Departmental Management who should put temporary control measures in place or stop the work. Detail such risks in the final section.

ENVIRONMENT	**The environment always represents a safety hazard. Use space below to identify and assess any risks associated with this hazard**
e.g. location, climate, terrain, neighbourhood, in outside organizations, pollution, animals.	Examples of risk: adverse weather, illness, hypothermia, assault, getting lost. Is the risk high / medium / low ? Low

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	work abroad incorporates Foreign Office advice
	only accredited centres are used for rural field work
✓	participants will wear appropriate clothing and footwear for the specified environment
	refuge is available
	work in outside organisations is subject to their having satisfactory H&S procedures in place
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EMERGENCIES	Where emergencies may arise use space below to identify and assess any risks
e.g. fire, accidents	Examples of risk: loss of property, loss of life No

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	participants have registered with LOCATE at http://www.fco.gov.uk/en/travel-and-living-abroad/
✓	contact numbers for emergency services are known to all participants
✓	participants have means of contacting emergency services
	a plan for rescue has been formulated, all parties understand the procedure
	the plan for rescue /emergency has a reciprocal element
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

EQUIPMENT	Is equipment used?	NO	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
e.g. clothing, outboard motors.	Examples of risk: inappropriate, failure, insufficient training to use or repair, injury. Is the risk high / medium / low ?		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	the departmental written Arrangement for equipment is followed
	participants have been provided with any necessary equipment appropriate for the work
	all equipment has been inspected, before issue, by a competent person
	all users have been advised of correct use
	special equipment is only issued to persons trained in its use by a competent person
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

LONE WORKING	Is lone working a possibility?	YES	If 'No' move to next hazard If 'Yes' use space below to identify and assess any risks
e.g. alone or in isolation *lone interviews.*	Examples of risk: difficult to summon help. Is the risk high / medium / low? Low		

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	the departmental written Arrangement for lone/out of hours working for field work is followed
	lone or isolated working is not allowed
✓	location, route and expected time of return of lone workers is logged daily before work commences
✓	all workers have the means of raising an alarm in the event of an emergency, e.g. phone, flare, whistle
✓	all workers are fully familiar with emergency procedures
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

ILL HEALTH	The possibility of ill health always represents a safety hazard. Use space below to identify and assess any risks associated with this Hazard.
e.g. accident, illness, personal attack, special personal considerations or vulnerabilities.	Examples of risk: injury, asthma, allergies. Is the risk high / medium / low? Low

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	all participants have had the necessary inoculations/ carry appropriate prophylactics
✓	participants have been advised of the physical demands of the research and are deemed to be physically suited
✓	participants have been adequate advice on harmful plants, animals and substances they may encounter
	participants who require medication should carry sufficient medication for their needs
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

TRANSPORT	Will transport be required	NO		Move to next hazard
		YES	X	Use space below to identify and assess any risks
e.g. hired vehicles	Examples of risk: accidents arising from lack of maintenance, suitability or training Is the risk high / medium / low? Low			

CONTROL MEASURES	Indicate which procedures are in place to control the identified risk
	only public transport will be used
	the vehicle will be hired from a reputable supplier
	transport must be properly maintained in compliance with relevant national regulations
	drivers comply with UCL Policy on Drivers http://www.ucl.ac.uk/hr/docs/college_drivers.php
	drivers have been trained and hold the appropriate licence
	there will be more than one driver to prevent driver/operator fatigue, and there will be adequate rest periods
	sufficient spare parts carried to meet foreseeable emergencies
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

DEALING WITH THE PUBLIC	**Will people be dealing with public**	**YES**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. interviews, observing	Examples of risk: personal attack, causing offence, being misinterpreted. Is the risk high / medium / low? Low		

CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
✓	all participants are trained in interviewing techniques
	advice and support from local groups has been sought
✓	participants do not wear clothes that might cause offence or attract unwanted attention
✓	interviews are conducted at neutral locations or where neither party could be at risk
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

WORKING ON OR NEAR WATER	**Will people work on or near water?**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. rivers, marshland, sea.	Examples of risk: drowning, malaria, hepatitis A, parasites. Is the risk high / medium / low?		

	CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**
	lone working on or near water will not be allowed	
	coastguard information is understood; all work takes place outside those times when tides could prove a threat	
	all participants are competent swimmers	
	participants always wear adequate protective equipment, e.g. buoyancy aids, wellingtons	
	boat is operated by a competent person	
	all boats are equipped with an alternative means of propulsion e.g. oars	
	participants have received any appropriate inoculations	
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:	

MANUAL HANDLING (MH)	**Do MH activities take place?**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. lifting, carrying, moving large or heavy equipment, physical unsuitability for the task.	Examples of risk: strain, cuts, broken bones. Is the risk high / medium / low?		

	CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**

☐	the departmental written Arrangement for MH is followed
☐	the supervisor has attended a MH risk assessment course
☐	all tasks are within reasonable limits, persons physically unsuited to the MH task are prohibited from such activities
☐	all persons performing MH tasks are adequately trained
☐	equipment components will be assembled on site
☐	any MH task outside the competence of staff will be done by contractors
☐	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

SUBSTANCES	**Will participants work with substances**	**NO**	**If 'No' move to next hazard** **If 'Yes' use space below to identify and assess any risks**
e.g. plants, chemical, biohazard, waste	Examples of risk: ill health - poisoning, infection, illness, burns, cuts. Is the risk high / medium / low?		
CONTROL MEASURES	**Indicate which procedures are in place to control the identified risk**		

	the departmental written Arrangements for dealing with hazardous substances and waste are followed
	all participants are given information, training and protective equipment for hazardous substances they may encounter
	participants who have allergies have advised the leader of this and carry sufficient medication for their needs
	waste is disposed of in a responsible manner
	suitable containers are provided for hazardous waste
	OTHER CONTROL MEASURES: please specify any other control measures you have implemented:

OTHER HAZARDS	**Have you identified any other hazards?**	**NO**	**If 'No' move to next section** **If 'Yes' use space below to identify and assess any risks**
i.e. any other hazards must be noted and assessed here.	Hazard: Risk: is the risk		
CONTROL MEASURES	**Give details of control measures in place to control the identified risks**		

Have you identified any risks that are not adequately controlled?	**NO**	✓	**Move to Declaration**
	YES		**Use space below to identify the risk and what action was taken**

DECLARATION	The work will be reassessed whenever there is a significant change and at least annually. Those participating in the work have read the assessment.
	Select the appropriate statement:

✓	I the undersigned have assessed the activity and associated risks and declare that there is no significant residual risk
✓	I the undersigned have assessed the activity and associated risks and declare that the risk will be controlled by the method(s) listed above

NAME OF SUPERVISOR

Robin Hickman
4th April

Appendix C Interview Information and Informed Consent Sheet

Information and consent form

Project Title
Exploring the relationship between the built environment, cycling infrastructure and cyclist's experience in Houten, Netherlands(drafted)

Researcher
Ping Lu

Introduction
You are being invited to take part in a research project being undertaken by a Masters student from the Bartlett School of Planning, University College London (UCL).

Before you decide whether or not to participate it is important for you to understand why the research is being conducted and what participation will involve. Please read the following information carefully, feel free to discuss it with others if you wish, or ask the research team for clarification or further information. Please take time to decide whether or not you wish to take part.

Why is this research being conducted?
The aim of this project is to explore why Houten manages to achieve cycling including to the perceived under-represented groups, in terms of the planning of cycling infrastructure and built environment and associated experience of cyclists.

Why am I being invited to take part?
You are being invited to take part due as an expert participated in Houten's Planning and implementation/ Resident living in Houten

Do I have to participate?
Participation is entirely voluntary. If you do choose to participate and then change your mind, you may withdraw from the research at any time with no consequences and without having to give a reason.

What will happen if I choose to take part?
If you do choose to participate, you will be invited to face-to-face interview, explore the issues highlighted above. The interview will be conducted at a mutually agreed location. The interview will last approximately 45 minutes-60 minutes and will be audio recorded (and transcribed at a later date). You will have the opportunity to see the interview transcript and agree any amendments with the researcher after the interview is concluded. Travel and subsistence expenses are not offered for participation.

What are the advantages of taking part?
There are no immediate benefits for participating in this project and no financial incentive or reward is offered, however it is hoped that this project will acquire a deep understanding on cycling in Houten, thereby encouraging cycling in other places and wider context.

What are the possible disadvantages of taking part?
We anticipate no significant disadvantages associated with taking part in this project. If you experience any unexpected adverse consequences as a result of taking part in the project

you are encouraged to contact the researcher as soon as possible using the contact details on page 2 of this information and consent sheet.

If I choose to take part, what will happen to the data?
The interview data will be named with permission from you at the point of transcription, or anonymised and identified by a general identifier. A record of participant identities and any notes will be kept separately and securely. All data and information affiliated with this project will be securely stored.
The data will be only used for the purposes of this research and relevant outputs and will not be shared with any third party. The data may be utilised in the written dissertation produced at the end of this project, and this dissertation may then be made publicly available via the University Library's Open Access Portal, however no identifiable or commercial sensitive information will be accessible in this way.

What will happen to the results of the research project?
It is anticipated that the data collected in this project will be included in the dissertation produced at the end of this project, submitted for the award of a Masters degree at University College London (UCL). If you choose to be identified by a general identifier, you will not be personally identified in any of the outputs from this work, and attributions and quotations will be anonymised. If you would like to receive an electronic copy of any outputs stemming from this project, please ask the contact below who will be happy to provide this.

Contact Details
If you would like more information or have any questions or concerns about the project or your participation, please use the contact details below:

Primary contact
Role MSc student
Email ping.lu.20@ucl.ac.uk

Concerns and/or Complaints
If you have concerns about any aspect of this research project, please contact the MSc student contact the student in the first instance, then escalate to the supervisor.

Informed Consent Sheet

If you are happy to participate, please complete this consent form by ticking the boxes to acknowledge the following statements and signing your name at the bottom of the page.

Please give the signed form to the researcher conducting your interview at the interview. They will also be able to explain this consent form further with you, if required.

1.	I have read and understood the information sheet.	☐
2.	I agree to participate in the above research by attending a face-to-face interview as described on the Information Sheet.	☐
3.	I understand that my participation is entirely voluntary.	☐
4.	I understand that I may withdraw at any time without giving a reason and with no consequences.	☐
5.	I agree for the interview to be audio recorded.	☐
6.	I understand that I may see a copy of the interview transcript after it has been transcribed and agree any amendments with the researcher.	☐
7.	(Ticking one box from 7-8) I agree to use my name in the interview and related outputs, and if any of my words are used in the research output, they will be directly attributed to me.	☐
8.	(Ticking one box from 7-8) I prefer to be anonymised in the interview and related outputs, and if any of my words are used in the research output, they will not be directly attributed to me unless otherwise agreed by all parties.	☐
9.	I understand the data from this project will be considered for repository in the UCL Open Access repository as described on the Information Sheet but that this will be anonymised data only unless I agree to be named.	☐
10.	I understand that I can contact the student who interviewed me at any time using the email address they contacted me on to arrange the interview.	☐

Participant name: **Signature:** **Date:**

Researcher name: **Signature:** **Date:**

Appendix D Sample Scanned Copy of Signed Resident Consent Sheet

Informed Consent Sheet

Title of project

If you are happy to participate, please complete this consent form by ticking the boxes to acknowledge the following statements and signing your name at the bottom of the page.

Please give the signed form to the researcher conducting your interview at the interview. They will also be able to explain this consent form further with you, if required.

1.	I have read and understood the information sheet.	☑
2.	I agree to participate in the above research by attending a face-to-face interview as described on the Information Sheet.	☑
3.	I understand that my participation is entirely voluntary.	☑
4.	I understand that I may withdraw at any time without giving a reason and with no consequences.	☑
5.	I agree for the interview to be audio recorded.	☑
6.	I understand that I may see a copy of the interview transcript after it has been transcribed and agree any amendments with the researcher.	☑
7.	(Ticking one box from 7-8) I prefer to be named in the interview and related outputs, and if any of my words are used in the research output, they will be directly attributed to me unless.	☑
8.	(Ticking one box from 7-8) I prefer to be anonymised in the interview and related outputs, and if any of my words are used in the research output, they will not be directly attributed to me unless otherwise agreed by all parties.	☐
9.	I understand the data from this project will be considered for repository in the UCL Open Access repository as described on the Information Sheet but that this will be anonymised data only unless I agree to be named.	☑
	I understand that I can contact the student who interviewed me at any time using the email address they contacted me on to arrange the interview.	☑

Participant name: Georgette Gogné **Signature:** **Date:** 11-6-2022

Researcher name: Piyah **Signature:** Piyah **Date:** 11-6-2022

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GRADEMARK REPORT

FINAL GRADE

/100

GENERAL COMMENTS

Instructor

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