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The discourse of cycling in Houten

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ABSTRACT

This paper aims to understand the critical factors behind the development of contemporary cycling practice in Houten, the Netherlands. Eighteen in-depth interviews, with transport and urban planning experts and residents, are used to examine the discourse of cycling in Houten. Beyond the cycling infrastructure, the key socio-historical factors associated with the discourse of cycling in Houten are the regional and urban planning approach, planning objectives for the new town, internal neighbourhood design, regional transport connections, the participatory approach and experience of travel behaviours in Houten.

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Cycling; discourse; urban planning; new town; Houten

Developing the cycle network and cycling practice

Many cities are seeking to develop cycling networks due to the very significant environmental and health benefits associated with active travel. The Netherlands is often referred to as providing the leading practice to replicate. Numerous cities and smaller urban areas in the Netherlands have extensive, segregated cycling networks and cycle parking facilities, supported by compact urban development and traffic demand management measures. As a result, there are high levels of cycling and the Dutch cycle more and longer distances than other countries. Cycle mode share is around 27% of trips and the most popular mode for trips under 7.5 km in length. 22.5 million bicycles are owned in the Netherlands (1.3 bikes per person) and almost a quarter of the population cycle every day. The average cycling distance is 1,000 km per year, with around 300 trips. Dedicated cycling infrastructure extends to 35,000 km across the country. The leading cities in the Netherlands have 30% or more of trips by bicycle (e.g., Amsterdam, Groningen and Utrecht), but even the lesser cycling contexts usually have 15–20% of trips by bicycle (Bicycle Dutch 2018; Netherlands Institute for Transport Policy Analysis 2018). The history of cycling provision has been one of contestation over decades (Oldenziel and Albert de la Bruhèze 2011), with cycle activists and others lobbying for more space on streets, gradually leading to improved cycling provision. Hence, the development of cycling as a prioritized means of travel has involved infrastructure provision, but also socio-historical factors, such as the input of key institutional actors and the public in supporting the approaches taken.

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This paper examines one of the most progressive urban contexts for cycling in the Netherlands: the new town of Houten, located to the south of Utrecht. The town is emblematic of cycling in the Netherlands and was awarded 'Best Cycling City of the Netherlands' in 2008 and 2018. The aim of the paper is to understand the key factors leading to the progressive cycling discourse in Houten. Documentary analysis and interviews with transport planners, urban planners and residents are used to assess the contemporary practice of cycling. The views on cycling are placed within the wider cultural context, hence giving an understanding of how progressive cycling practice can be developed, how this is viewed and experienced and likely transferability issues. Dryzek (1997, 8) suggests that discourse represents:

A shared way of apprehending the world, enabling those who subscribe to it to put bits of information together in coherent accounts. The assumptions, judgements and contentions on which each discourse rests provide the basic terms for analyses and debates.

The contribution of the paper is to examine the key factors associated with the discursive formation, discursive practice and discursive meaning, specific to the cycling discourse in Houten. This helps to provide an in-depth examination of why cycling practice has been so successful. Key themes include the regional planning approach in the Netherlands, the planning objectives for Houten, cycling provision, internal neighbourhood design, regional transport connections, approach to participation, and experience of travel behaviours in Houten.

Literature review

Cycling has been studied in empirical research, mainly in view of the aspiration to increase levels of cycling across different contexts, and the environmental and social benefits that are likely to follow. The levels of cycling found in the Netherlands, or wider contexts such as Denmark, often provide the inspiration for practice elsewhere (Colville-Anderson 2018; Harms, Bertolini, and Te Brömmelstroet 2014; Pucher and Buehler 2012, 2017). Yet, the practice seems difficult to replicate and successful cycling cities or towns are surprisingly rare.

Varied topics are researched within the existing cycling literature, such as the determinants of cycling (Parkin, Wardman, and Page 2008; Heinen, Van Wee, and Maat 2010; Handy, Xing, and Buehler 2010; Vandenbulcke et al. 2011, and many others) and the elements of good cycle provision (Handy, Xing, and Buehler 2010; Parkin, Wardman, and Page 2008; Pucher and Buehler 2008; Vandenbulcke et al. 2011). Psychological and sociological approaches have been drawn upon, in seeking to assess the motivations for cycling at the individual and societal levels. For example, attitudes to cycling are examined (Dill and Mcneil 2013; Gatersleben and Appleton 2007; Heinen and Handy 2012; Heinen, Maat, and Wee 2011), using different behavioural models, with the premise that attitudes are important factors in cycling and perhaps even can be shaped to encourage more cycling. Further analysis explores how and why people cycle and take particular routes (Latham and Wood 2015; Spinney 2011). The differing cultures of cycling are assessed (Aldred and Jungnickel 2014), as well as social practices and cycling (Gössling 2013; Larsen 2016; Spotswood et al. 2015), the diversity of cycling (Aldred, Woodcock, and Goodman

2016; Schmassmann, Baehler, and Rérat 2024) and emerging forms of cycling (Fishman 2016; Rérat 2021). The social practice-inspired research moves beyond the psychological interpretations, seeking to evaluate the wider societal dimensions, framed with the three elements model of materials, meanings and competencies (Shove 2014). A consistent theme has been to argue that infrastructure provision alone is not sufficient to encourage cycling, and that wider place-based social and cultural factors are also critical (Nello-Deakin and Nikolaeva 2021). This breadth of research, drawing on the different disciplinary approaches, helps to understand the complexities of cycling behaviours alongside the provision of infrastructure provision. But, overall, there is less knowledge on the socio-historical perspectives and how this relates to the contemporary practice of progressive cycling provision. There has been a focus on research on good cycling experiences in the larger cities, such as Amsterdam and Copenhagen; but less in the smaller towns, where there can also be high levels of cycling. There is a need to assess why these different types of cycling practices have developed and how the cycle provision is experienced.

Foucauldian discourse analysis is used in this paper to examine the key factors leading to the contemporary discourse of cycling in Houten. The analysis is inspired by the discursive concepts developed by Michel Foucault (Foucault 1969; Hickman 2025; O'Farrell 2005). The production and experience of cycling practice is discussed in terms of: (1) the discursive formation, which refers to the group of statements and knowledge at a given time, e.g., the scientific discipline; (2) the discursive practice, which is the historically and culturally specific set of rules that define knowledge within a given period or social condition, including techniques, effects and scientific practices; and (3) the discursive meaning, which reflects the context within which it emerges. (Figure 1). Further themes are used to assess the development of the cycling discourse in Houten (drawing on a wider set discussed in Hickman 2025), including:

- History: the order underlying any given culture at a given period of time; including the episteme, which is the unconscious structures underlying the production of scientific knowledge.
- Discontinuity: the break and difference over time, including issues of practice, as the conventional ways of doing something; and problematization, which seeks to develop an understanding of an issue requiring a different solution.
- Ethics: the relation one has to others, including experience and exclusion/inclusion, as the process by which societies exclude or include certain groups or individuals.
- Power: a network of relations between actors, including knowledge, viewed as an event and historically-derived in nature; and the apparatus, as the institutional and physical and administrative mechanisms which maintain the exercise of power.
- Truth: an event that takes place in history, rather than something that exists, including the techne, which is the knowledge and know-how; normalization, as the process of making a particular truth become evident; and the regimes of truth, as the mechanisms involved in the production of discourses that function as true in a particular context.
- Subjectivity: the quality of being influenced by individual opinions, including culture, as the organization of values accessible to everyone, and acting as a mechanism for selection and inclusion.



Figure 1. The discourse of cycling in Houten. (Drawing on Hickman 2025).

This conceptual framework helps to examine the objectives for cycling provision and the experiences of cycling, including how urban planning and transport planning came to be viewed, implemented and supported. It is argued that all these features are important in leading to the contemporary discourse of cycling in Houten. The discourse is viewed in terms of the development of an ‘accepted’ view of cycling practice in Houten, from practitioners and residents, notable in terms of its specificity and difference relative to the discourse found in other contexts. Particular viewpoints become dominant with transport and urban planners, politicians and residents, reflecting socially-constructed realities found in Houten. These can be seen as the discourses that are produced and accepted. Critical applications of discourse analysis go beyond the language and viewpoints to involve an interpretative consideration of narrative relative to particular societal issues (Fairclough 1992). The focus, therefore, is on assessing what is specific about the cycling discourse in Houten, leading to an improved understanding of the complexity of the planning and experience of a progressive cycling town.

Method

The planning of cycling facilities and experience of cycling in Houten were explored with 18 in-depth, semi-structured interviews with transport and urban planning experts, politicians and residents (from Lu 2022); together with a review of documents, reports and journal papers on cycling and urban planning in Houten; and a cycle tour with the cycling ambassador for Houten. The document review and cycle tour helped to complement the interview data and provide a more robust assessment of the commentary. The interviews were carried out using a purposive sample of interviews: 5 transport and urban planning experts, including the lead urban planner and traffic engineer for Houten; a member of the Dutch Cycling Embassy and previous cycling ambassador of Houten; an officer of the province of Utrecht and relative to the founder of Houten and now member of the Municipal Council of Houten and chairman of the Cycling Union Houten (Fietzersbond Houten). In addition, 13 resident interviews were identified via the cycling ambassador for Houten and local Facebook groups using snowball recruitment (see respondent details in Annex).

The interviews explored the planning history and aspirations for cycling and urban development (transport and urban planning experts) or the experience of cycling (residents). Interviews were primarily undertaken face-to-face, audio recorded, and varied in length from 45–60 minutes (drawing on the approach in Hickman and Huaylla Sallo 2022). Each interviewee was informed of the research context, aims, objectives and method and sent the interview guide in advance of the interview. Voluntary permission for recording of the interviews was given in each case, and analysis carried out with NVivo 14 software following the interviews. The interviews help to provide a deep understanding of the practice of cycling in its context and the underlying issues (Silverman 2013). Each interview was audio-recorded and transcribed. The interview content was analysed and using a coding scheme (Table 1). Within each theme, the transcripts are marked with phrases or words that include specific signifiers, reflect important elements in the discussion. This includes the obvious, visible components (manifest content) and interpretation of the underlying meaning (latent content) and also linkages between sub-themes (Graneheim and Lundman 2004). The analysis is primarily inductive, grounding the examination of cycling and the inferences drawn in the interview data and identifying key themes through continued reading of the transcripts. Some deductive analysis is used with the discursive concepts applied to help discuss each theme. The content analysis helps to uncover the underlying elements within the text, as well as interpretations of meaning.

Houten case study

Regional planning in the Netherlands

The approaches to urban and transport planning in the Netherlands reflect a specific history, leading to a particular discursive formation, practice and meaning. Spatial planning was used at the regional and neighbourhood scales to plan and design new neighbourhoods, often seeking to meet emerging environmental and social goals (Hickman 2025). For example, post-World War II, there was a need to build more housing, as in many European countries. By the 1960s, there was dissatisfaction with the poor quality of housing being built, often high rise, and the life that this produced. There were debates over the future planning of cities and whether the dispersed and highways-based

Table 1. Coding scheme with key themes and signifiers.

Theme	Signifiers	Elements of discourse
Regional planning in the Netherlands	Compact urban growth, ABC location policy, VINEX regional planning, energy crisis, traffic fatalities.	Discursive practice; history, problematisation, episteme, normalisation.
Houten planning objectives	Urban growth centre, masterplan, liveable neighbourhood, green space, cycle network, Robert Derks.	Discursive formation; problematisation, practice, normalisation, inclusive.
Cycling provision	Segregated cycle pathways, intersection modifications and cycle priority, traffic calming, cycle parking, public transport and cycle coordination, cycling education and training, traffic laws.	Discursive formation; techne, practice, experience.
Internal neighbourhood design	Green space, landscaping, traffic filtering, cycling convenience, proximity, new town expansion	Discursive formation; knowledge, practice.
Regional transport connections	Railways, polycentricity, connectivity	Discursive formation; techne, experience.
Participation	Debate, consensus, pragmatism	Discursive practice; inclusive, power.
Experience of travel behaviours in Houten	15-minute city, children-friendly, playgrounds, bicycle-friendly, love of cycling, independence, friendly, convenient, healthy, social values, the Dutch way	Discursive meaning; power, knowledge, experience, inclusive.

‘modernist’ development model of the USA should be followed (Oldenziel and Albert de la Bruhère 2011). This was rejected in view of land requirements, constraints on space and the environmental impacts. From the 1970s, a regional and urban planning approach was developed and applied by the Department of Housing, Planning and Environment (VROM). New neighbourhoods were located with good connectivity to the public transport network and the internal layout of neighbourhoods were provided with cycling facilities.

The Dutch, in the 70s, were looking to America. Today, America with the house, the garden, the car and with the two children. They said that is our future [. . .]. We had to convince them that the way they were thinking had been wrong the way, the country’s thinking had been wrong. (Respondent E2, Urban Planner)

People started to realise that this automobile way was not correct: a car is good, but a lot of cars are very dangerous. (Respondent E5, Transport Planner)

The planning approach was gradually refined over the following decades. Initially, a policy of concentrated decentralization focused growth in designated urban centres and restricted the growth of smaller rural settlements. In the 1980s and 1990s, compact urban growth was pursued, with the urban housing stock renewed, out-of-town shopping centres prohibited and new employment guided to locations well served by public transport under the ABC location policy¹ (Schwanen, Dijst, and Dieleman 2004). Open space was protected from urban sprawl, conserving the ‘green heart’ within the built-up areas of the Randstad region, in between the cities of Amsterdam, The Hague, Rotterdam and Utrecht. The VINEX strategy², published in 1991, planned for new housing development, as a 10-year programme of urban growth, following a polycentric and compact form. As part of this process, the new town of Houten was planned from the 1960s onwards. The town was viewed as a ‘Groeikern’ (a new centre of growth) to accommodate the growing population in Utrecht and the surrounding region. Hence, the episteme of environmental planning

and the practice of the compact planning approach underlies the development of new neighbourhoods.

In parallel, the growth in motorization from the 1960s–1970s became unpopular as the energy crisis took hold in the 1970s. Some neighbourhoods objected to the rise in traffic fatalities. In 1972, over 3,000 people were killed on Dutch roads, and 450 traffic casualties were children. In 1973, a pressure group was formed and campaigned to ‘Stop de Kindermoord’ (Stop the Child Murders) (Bicycle Dutch 2011). This problematization of the growth in motorization became influential, moving transport policy towards public transport, walking and cycling, representing a key moment of discontinuity. Cycling was prioritized as an important means of travel over the following decades. Cycling had been well used as a means of travel in the Netherlands since the early 1900s, becoming associated with the values of simplicity, practicality and modesty, with cycling shaped as a symbol of national identity (Oosterhuis 2016). From the 1970s onwards, greater investment was given for cycling facilities and the characterization of cycling as ‘distinction through simplicity’ appealed to the egalitarian social values in the country. Cycling came to be perceived as the ‘sensible’ and most effective means of travel, across different social groups. Even some Dutch politicians are shown riding bicycles to illustrate their ‘common touch’. The lack of consideration given to status and income in relation to the car is also important, and the use of cycling becomes normalized.

The decisions that led to cycling were based upon what were the best solutions for our problem, our small country, lots of people need to move, how do we best facilitate this? And the answer, from a long time ago, was cycling, because it enabled social values to stay strong [...]. People rose up and said, “stop killing our children”. And here’s the thing that was magical to me. The government listened. Here, the government listened. (Respondent R1)

Houten planning objectives

Robert Derks was the lead masterplanner for Houten from the 1970s onwards, designing the new town around the open space and cycle network. He problematized the modernist urban planning approaches from the USA, particularly moving away from the dispersed and motorized elements and applying the emerging compact urban planning principles. This became the discursive formation and basis for the masterplan, seeking to improve liveability in Houten whilst expanding the existing settlement. The small village of 4,000 residents was extended, seeking to maintain the existing village life, and using open space and landscaping to frame the extended urban development. The initial aspiration from national government was for a population of 100,000, but the local residents objected and this was reduced to a target population of 25,000. The new town was planned from 1973 and implemented with 10,000 new dwellings constructed from 1979 (Figure 2).

The transport infrastructure included a new Houten railway station, which opened in 1982, with refurbishment in 2010, together with the open green space and an extensive cycle network. A second phase of growth was planned as part of the VINEX strategy. The population reached 30,000 by the 1990s and 47,000 in 2021. Castellum railway station was built in 2010 as part of the second stage of development. The open space includes a linear park to the north, crossing east to west, and a city wall park to the south, with adjoining lakes, streams and canals.



Figure 2. Houten – masterplan and implementation. (Hickman 2025, based on; Derks 2013)

Houten is still of suburban form, with relatively low densities and residential culs-de-sac (roads closed at one end) in each neighbourhood. The use of the private car is managed, with traffic restricted to the surrounding ring road and no through vehicular movements are allowed between neighbourhoods. Car parking is provided at the edge of each residential area. The network of cycle pathways extends to 130 km and active travel is used as the primary means of internal movement in the new town.

The interpretation of the liveable neighbourhood was developed by the transport and urban planning experts over decades, and was enthusiastically supported by residents. This can be viewed as the production of a new truth for urban planning in the Netherlands, rejecting the USA-based modernism. The principles become accepted and normalized (Hickman 2025), albeit being very different to practice in wider contexts.

Houten was built as a satellite town for the growth of the region. So, there's demand for housing in the region of Utrecht [...] and, in the 1970s, the northern part of Houten was appointed as a place to grow [...]. The vision was to make it possible for everyone to have a car, but not to use a car for daily transport. So you can have a car and you can use it if you want, but it's not a necessity. We wanted everyone, especially children, to be able to cycle safely from their homes, to the schools, to other places, to their friends, to the sports, wherever you go on a daily basis. (Respondent E1, Transport Planner)

We wanted to create a social environment in which people have small amounts of property themselves, but there is a large amount of property that belongs to everybody together. And that is a very confrontational idea [...]. Houten was developed as an idea in that mindset of the 1970s [...]. It's different because you're starting from a fundamentally different place. You are not starting from "cars own this space". You were starting from "people here". We need cars. But how do we keep cars from dominating everything? And that's a totally different way of coming to the discussion. (Respondent E2, Urban Planner)

We built over 1,000 houses a year, and for a small municipality like Houten, that was a big challenge. (Respondent E1, Transport Planner)

Multi-disciplinary planning was central to the masterplanning, alongside consistency in implementation over decades.

We started in 1973, so I've been working on this project for 50 years [...]. The planning team included the town planner, traffic engineer, civil engineer and the landscape architect. The town planner was the leader of that group of people. (Respondent E2, Urban Planner)

The neighbourhood was planned to facilitate high levels of walking and cycling, with residential areas located close to the local, mixed-use town centres. The aim was that residents would socially interact, visit their local facilities by cycle or walking without having to use the car, and an inclusive community would be developed. The railway from the two stations, Houten and Castellum, connects directly to Utrecht, with an approximate 10-minute journey time. From Utrecht, the railway links to the rest of the Randstad and beyond. The resulting cycle mode share is high: cycle mode share for all journeys within Houten is at 34%, walking at 14%, public transport at 5% and private car at 46%. For shorter journeys <7.5 km, cycling mode share is at 48%, walking at 21%, and car at 29%; and for journeys to the town centre, cycling mode share is at 61% (OVIN/Goudappel-Coffeng 2018).

Cycling provision

Cycle infrastructure provision was central to the success of the development. A range of interventions were used to provide a high-quality cycling network and facilities (Pucher and Buehler 2008). These can be viewed as the discursive formation for effective cycle planning in Houten. Cycling was seen as a central element of transport and urban planning practice, and this has since become influential in many wider contexts, such as popularized through the 15-minute city.

The big challenge for us was how to run as a cycling city. How to finance it, but also how to design it, and how we could engage all the stakeholders in this in this plan. (Respondent E1, Transport Planner)

If you prioritise cycling, this is the most user-friendly form of transport for individual people. There's a certain distance within 15 minutes. Then you can add other forms of transport, but only as secondary to the cycle because the bike is the most functional and satisfactory tool. So, you begin first with the bike, then the rest. (Respondent E2, Urban Planner)

The design of the cycle network is guided by the techne, i.e., the technical skills, techniques and procedures used. In the Netherlands, the techniques of cycle planning are guided by the CROW design manual for bicycle planning (CROW 2016), giving a standardization of design. Houten illustrates many of the technical design features deemed important to high-quality cycling (Pucher and Buehler 2008):

- Separate cycling facilities: an extensive network of segregated cycling pathways have been developed, which are well connected and maintained, including direct cycle routes between residential areas, the town centres and other activities.
- Intersection modifications and cycle priority traffic signals: advanced green lights and waiting positions for cyclists are used at intersections, together with brightly-coloured intersection crossings and 'green wave' traffic light synchronization for cyclists. These interventions ensure safety and direct routes for cyclists.
- Traffic calming: residential neighbourhoods have a general traffic speed limit of 30 kmph, bicycle streets are used where cyclists have priority over vehicles, and home zones have even lower speed limits at 15 kmph, where vehicles are expected to yield to pedestrians and cyclists.
- Cycle parking: generous cycle parking provision is used at different locations throughout the city, including in city centres and at major employment or activity sites.
- Coordination with cycling and public transport: extensive cycle parking is provided at railway stations, including cycle repair and cycle rental (e.g., OV-fiets, cycles provided by the public transport operator).
- Traffic education and training: cycle training courses are provided for school children and for motorists.
- Traffic laws: legal protection is given to cyclists, including that motorists are assumed by law to be responsible for crashes with cyclists.

The compact urban planning strategy supports the cycle network, with the cyclist given access to the public transport system serving the major cities in the Netherlands. The result is an exemplary cycling network and experience, and one that is gradually refined over time.

It's faster to go from here to there with your bike than with the car. So, why should you take the car if you're faster with your bike? (Respondent E2, Urban Planner)

The most important thing to encourage people to cycle is to make cycling "safe, safe, safe". Safety is the first thing; if it doesn't feel safe, people are not going to use it, and then it has to be smooth. It has to be comfortable and it has to be pleasant. (Respondent E1, Transport Planner)

You have 100% cycling safety; it's much safer than in other cities, because there is no place where a car can cross the cyclist. (Respondent E4, Urban Planner)

As in many contexts, there were demands for increased highway provision, from the early 1970s onwards, but these were rejected by the planning team in Houten.

I wanted to first develop Houten, knowing that the car would be there. Because it's such a dominant machine, it will have a place; but I wanted to make sure, first of all, that everything else was settled in place, the cycling, the water, the communal spaces, the green spaces and then we knew the car would find its way. (Respondent E2, Urban Planner)

Planning a new town based on cycling infrastructure is inexpensive relative to one based on highways and car parking. Particularly if the wider adverse impacts of motorization are estimated and included, such as the environmental, social and health impacts.

I don't think that it cost much more than in other cities. The other cities also have roads, and these are expensive. We have more cycling paths here than in other cities. But it's not like we have more concrete here. (Respondent E4, Urban Planner)

Internal neighbourhood design

The neighbourhoods of Houten are intentionally designed around the open space, landscaping and cycle network, providing an attractive environment and opportunities for local activity participation. Car usage is discouraged by ensuring that car journeys cannot be made across neighbourhoods, only around the external ring road, and then with access into the residential areas for car parking. This discursive formation was consistently applied and has become known as the practice of 'traffic filtering'. This has been applied in wider contexts, where cycling and walking are purposively given the quickest and most convenient routes, relative to the car. Hence, knowledge is developed and applied in a specific manner, in this case to prioritize active travel and develop social interaction in the local community.

The inversion theory is to turn the conventional thinking upside down. The priority is the human and the greenery that the human needs. And then the hardware comes later, the cars and the trains. (Respondent E2, Urban Planner)

Every neighbourhood is accessible by car but only from one place to the ring road. So, if you are here and you want to go over there, you always have to go a long route by car. But, it's very quick to make this connection by bike or by foot [...]. We also found out that people want to travel by car only for 3–4 minutes at a slow speed, and then at the ring road to have faster speeds. That's the kind of threshold that you have, just four minutes of slow driving. (Respondent E1, Transport Planner)

So, if they want to come in by car, they can, but they have to make a longer detour. That stimulates the use of bike, because you're faster with the bike [...]. In the city centre, if you make it really easy to park your car, then people will take the car. So, I know that car driving people don't like it, but if you go into the centre you don't know how long it will take, because it's difficult to park there and you will pay a lot to park your car. (Respondent E4, Urban Planner)

As a car driver, it can be a little bit annoying, but that also makes it so that if you have to make a decision when you take your car or the bicycle, you might be inclined to take the bicycle rather than the car. (Respondent R3)

The high-quality cycle network, cycle parking facilities and the compact urban neighbourhoods mean that the cycling journeys to many activities are quick and comfortable.

In general, in the Netherlands, there is a high level of cycle awareness with people. We all know that Netherlands is known as the bicycle country. But, even then, Houten really sticks out. And that is mainly, I think, because the infrastructure is set in such a way that there are more opportunities to cycle and the town is literally built so that you can do way more things by bike [...]. What makes it nice here is that there is a combination of nature and the infrastructure. Cycling here makes you feel not only happy, but also, it's pleasant. You go out and you're in the nature. (Respondent R9)

The most important thing was proximity. It's really close to school. So, in the first part, every school was within 400 metres, and also in the new part, the distance sometimes is a bit longer, but still 400–600 metres and that's a good distance to cycle and to walk. (Respondent E1, Transport Planner)

The main cycling route, it goes through a park, but it's always close to the houses. So, you don't feel unsafe in the evening. So social safety was a very important issue. (Respondent E1, Transport Planner)

The numbers of children cycling to school are very high, including young children travelling without parents. This results from the segregated and safe cycling routes away from the traffic.

The schools are located because of the pivotal thought that children would cycle to school. In other countries, they would say children need to be driven to school and there needs to be car access for this. But the thought process and design here were that people cycle. (Respondent E2, Urban Planner)

The severance from the railway tracks was a difficult problem in Houten town centre, but this was eventually resolved by raising the railway tracks and allowing a pedestrian and cycle route underneath.

We came up with a solution to lift the rail tracks and put cycling underneath. And that was an idea developed by an urbanist. Initially, we didn't believe in it, but then we said, ok, this could work, but it's expensive. So, let's see how we can organise the money. (Respondent E1, Transport Planner)

Houten was further expanded with a second phase of growth and a neighbourhood centre and railway station at Castellum. This allowed the pedestrian and cycling distances to remain short from the new residential areas to the new neighbourhood centre.

In the 1990s, the national government asked the city: how do you want to expand again? And then there was a discussion, how should we expand, should we jump over the ring road somewhere to the east, to the west or even south? Make a jump over the canal? Just expand the ring road and make it longer and along the railway line? Well, it was chosen to build a new ring road with a new train station and new shopping centre [...]. It was mostly the train connection. The national government said we want to have good public transport, so expanding along the railway line would be a good opportunity. (Respondent E1, Transport Planner)

A lot of people went from the old part to the new part because they needed more space in their homes. So, the houses were a little larger. And, also, they were looking better. Most of the homes in the northern part were built in the 1980s, and were dull in architecture. And the

housing from the 2000s was more joyful, more colourful, more creative. (Respondent E1, Transport Planner)

Regional transport connections

An important discursive formation has been to connect Houten into the public transport network and hence improve access across the Randstad region. A central principle was to allow residents to live and visit activities within Houten, but also to be connected to other cities across the Netherlands, including through rail and bicycle/rail integration.

Around Utrecht, the big cities, Amsterdam Utrecht, Rotterdam, The Hague, had to expand. And what we do is to use railways as the structure for growth [...], use the lines you have [...]. Look at what infrastructure already existed, and then developing that further, as opposed to creating new roads and more public transport. (Respondent E2, Urban Planner)

One of the important things is that the many people living in Houten work somewhere else. And we have two train stations. So, people can use them to go to work. (Respondent E4, Urban Planner)

We chose this place because I was working in Amsterdam and he was working in Eindhoven, and Houten is right in the middle. We are both not city people, so we were looking for smaller suburban places. And we checked almost all the possible villages. What was important for me, was the possibility of travel by public transport. And, here, you have easy access to public transport. I actually chose to be here because of the concept of the city without traffic. (Respondent R11)

I go back to Amsterdam quite a bit because a lot of my friends live there. And then I cycle to the train station. And when I come back later, late at night, it's really enjoyable to get off the train and have that 20–30 minute bike ride back to the house. (Respondent R3)

Integration between cycling and rail has been gradually refined so that it is possible to use cycling at either end of the rail journey, with high-quality cycle parking for bicycles and cycle hire and repair. The experience of travel between Houten and adjacent cities is therefore enhanced.

It's important to have door-to-door journeys. You can first take the bike to the station, then from the station to the next station, and at the station you have a bike that you can use to go to your work or to the place that you want to go to. NS Railway has the OV-fiets. The bike sharing system at stations works very well [...]. Maybe elsewhere you have electric car sharing for those places which are really difficult to get to. (Respondent E1, Transport Planner)

The train operator has a model that predicts within one kilometre, 800 metres and then 1.5 kilometres, how many people are coming by foot and bike, and after 1.5 kilometres most people are coming by car or by public transport. Houten works differently because the cycling facilities are that good. So, we counted the amount of bicycles that we saw, all the bicycles parked at that moment in the different spaces. We made an estimate about the number of people that would use the train station, also in the future. So, initially, there were 1,300 places, something like that. And it was estimated by the Dutch Railways, that it would be 1,700. And we made our own calculations, and we said, ok, it should be around 3,000 for the future. And now it turns out that there's 2,900 places, so we were a bit too optimistic. (Respondent E1, Transport Planner)

There remain some highway expansion proposals in the region and it is easy to weaken the sustainable mobility proposition, so a continued and consistent focus on public transport, walking and cycling investment and traffic demand management is required.

One big issue is the plan to widen the highway near Utrecht. This means that the nature will be impacted. The government has said to the region “if you have an alternative plan, we won’t widen the highway”. The alternative plan is that we use less cars and use more the train and the bus. But the best thing is to use more bicycles. (Respondent E4, Urban Planner)

Participation

The discursive practice of participatory planning has helped to shape Houten. Consensus-based decision-making, derived from the ‘Polder Model’, has been used over decades in the Netherlands and been integral to the successes of environmental planning. This was initially developed as an approach to water management, helping the fight against flooding and sea intrusion. The approach is based on cooperation and became central to the Dutch democratic process (Schreuder 2001). In the planning of Houten, decisions were debated and implemented in a cooperative manner, reflecting a productive application of institutional power and an inclusive process.

The Polder Model is a way of thinking that enforces a community working together and has happened since the 1200s. The country was draining marshes and reclaiming land from year 1000 or so. To do that, they had to work together. If they didn’t, then all their farms would go under water. And that water management created a mentality of people working together. And this is foundational in the Dutch mentality that you must work together. (Respondent E2, Urban Planner)

It is perceived as important to develop the initial vision, as encapsulated through the masterplan, and for this to be discussed and debated to help develop political and public support. This support can then be consistently drawn on for the implementation of the masterplan over decades.

Robert Derks was the one who designed the whole plan. And my grandfather was here in politics, who helped implement it and he has been a long time in the City Council [...]. It’s important that you have people with ideas, and we’re prepared to continue this idea for years. And, during an important period, when Houten was growing from a little town to 25,000 and now 50,000 in population. (Respondent E4, Urban Planner)

The local council was very committed to the plan. They understood this was the best way to develop and they asked to develop in a way that would preserve the old village. (Respondent E1, Transport Planner)

The first thing, I think, is to know what people think and want. So, you have to have participation with the people and hear what they want. Also, one of the main principles is the long-term vision, that you don’t do something for only the coming years. But, if you implement something, that’s also how it is built for the long term. (Respondent E2, Urban Planner)

Discussions were held, over decades, on the approach to development and a consensus reached on the principles and content of the masterplan.

The Alderman, the political parties and citizens were really up for this and they wanted to show that this was a real possibility. So, there was a lot of support for this idea. (Respondent E2, Urban Planner)

We took them on journeys, and showed them ways that they could discover would work. On the bike, and also by train, going to France, England and Germany. We took them to different places around Europe to show them where it works. (Respondent E2, Urban Planner)

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 road over here for cars?” And then we said “No, of course not. Because it will spoil the concept”. And then 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. (Respondent E1, Transport Planner)

We had to defend the initial ideas a lot of times. For example, the Province or the Federal Government have other ideas that you have to say “No, this is the vision that we have here in Houten and we want to stick with it” [...]. But, now, the advantage we have here is that people who live in Houten know how nice it is to have this infrastructure. (Respondent E4, Urban Planner)

Experience of travel behaviours in Houten

Ultimately, the residents views on and positive experiences of cycling are the critical indicators of the success of the cycling network in Houten. There is sometimes a difference between how transport and urban planners envisage the use of space and the users of space (Lefebvre 1974). But, in Houten, interviews with residents illustrate the widespread satisfaction with the cycling facilities and the priority given to cycling. This includes a knowledge of and support for the history and objectives of urban planning as applied in the new town. The convenience and comfort of active travel is associated with an enjoyment of living in Houten.

It makes perfect sense. Why would you get in a car to visit your neighbour three streets away? The idea in Houten was that it’s a 15-minute city. It takes a maximum 15 minutes to cycle from one side to another. That was Robert Derks’ thinking in the 1970s. (Respondent R1)

Yesterday, I cycled to take my kids to the day care. It took 12 minutes and this is exactly the same as the car. So, basically, if the weather is good, then I would go two times per day. (Respondent R11)

Cycling becomes more than a means of travel as it also facilitates well-being, social interaction and health.

I love cycling to work 8 kilometres away. I only have to cross one road with cars. Mostly it’s just me riding through nature on a bike lane. It’s less than half an hour and I can just think and listen to podcasts and then arrive at the university. I park my bike underneath the building and walk straight into my building [...]. It’s exercise, fresh air and lovely surroundings. Once a week I cycle with a friend and we get to catch up. (Respondent R4)

It’s common to say hello and smile. We pass each other. And you smile your smile, and that means hello; we are in the world together and this is our space together. (Respondent R8)

I love cycling. It gives me joy and freedom. And, also, it makes me feel more fit. It’s a workout two times a day when I ride to work and back. (Respondent R7)

Cycling is viewed as a safe means of travel, even for parents concerning their children, due to the segregated routes away from traffic. The cycle network facilitates access to activities for a wide range of users.

We love Houten because it is first of all very close to Utrecht, it's very close to one of the cities we love. But, from the very beginning, we also didn't want to live in the city. Because it's crowded and everything. And Houten is actually a city where you can first of all reach everywhere by bike. And with public transport, it's very close to the city. Since we have a child, we love it even more because it's a super children-friendly city. (Respondent R9)

Cycling feels like a nice mode of transport. To me, it feels like you're getting somewhere quickly. But, also, it's kind of safe. And it feels good to be to be moving around [...]. Houten feels like a very safe environment for living; the boys can just walk the streets without fear of them getting hit by a car, which is wonderful. (Respondent R3)

A child of three years old cannot see the danger of a car. So, you have to look out as a parent. Yeah, and here you don't have that. (Respondent E2, Urban Planner)

In Houten, you also see playgrounds everywhere outside for children. The playgrounds are in their natural habitat, where there is water or sand or wood [...]. You can literally hop on the bike and go anywhere you want. (Respondent R8)

When you come to the Netherlands, and particularly in Houten [...] from a very young age, a child can often walk out of the front door and will be independent, from age seven, eight, sometimes earlier. And it means that they develop as human beings in a much healthier way [...]. There's no parent chaperoning them. And that speaks a lot about the values of the society, and the commitment from the government to create a built environment that facilitates these values. (Respondent R1)

A lot of people move to Houten from a different place. And it may not be the decisive factor for people. It's not like, "Oh, let's go to the most bicycle-friendly place". But it's definitely an important part of the decision. (Respondent R3)

When people come here they think, "Oh, this is just for rich people". But it's not for rich people. It's for everybody. They say, "In my country, the greenery belongs to the rich people. If you want to live somewhere green, you have to pay a lot of money. (Respondent E2, Urban Planner)

The cycling and pedestrian environment supports independence and inclusiveness in the neighbourhood, including assisting the young, elderly and people with disabilities to access activities. Mobility vehicles are allowed to use the cycle network. People know many of their neighbours, hence supporting vitality and cohesiveness in the community. Some upcoming challenges are becoming evident, such as the rising popularity of electric bicycles, and their role has to be considered carefully.

I can travel independently, even though I have a wheelchair. I can go to the shops, I can go everywhere [...]. Here it is like a village, a big village. It gets bigger and bigger, but the feeling is the same [...]. And I don't feel disabled, I'm just a part of the community. (Respondent R8)

The challenge now is that we have different bicycle types and speeds, so the electric bicycles come and the speeds, and you have to race like this. So, we have to look at the way that the bicycle lanes will become broader, because the different speeds are becoming too much. (Respondent E4, Urban Planner)

Within Houten, governmental power has been used in a positive manner, providing a transport system that facilitates active travel. The public are influential in suggesting refinements to the cycling facilities. Over time, cycling as a means of travel is supported and becomes normalized.

We wanted to be somewhere where they said, "It may be the trend to use cars and to prioritise cars, but we don't see that's good for our citizens". And, then, the provision of cycling facilities. And that, to us, was the magic of the country. They still continue to do it and they do it more. We find it's like being in a room full of grown-ups. (Respondent R1)

Many non-cycling countries, who are being given the message about cycling, are often defensive about cycling because they're in a car-based society and they can't envisage a different way of living. I think a lot of people think that the Netherlands doesn't have cars. Everybody, almost everybody I know, has a car. We just don't use it for everything. (Respondent R1)

It's so normal to cycle. It's like breathing, just as normal as breathing [. . .]. So, it's very strange to see other countries that don't cycle as much, because it's here. Even very old people cycle. The mother of my sister-in-law is now in her 90s, but she cycled until she was in her late 80s. (Respondent R12)

And it's just quite, you know, in a Dutch way, quite beautiful. (Respondent R4)

Conclusion

The impact of transport and urban planning in Houten has been very positive in environmental, social and well-being terms, reflecting a particular discursive formation, practice and meaning. The town has become an emblematic case study for cycling in the Netherlands, but also one that is not well-researched in the existing literature. Houten is a small town, purposively-built around an open space and extensive cycling network, achieving high levels of cycling. It is a case study that all transport and urban planners should know; indeed, all politicians and the public involved with transport and urban planning in wider contexts – but perhaps it is less well known than it should be. In-depth interview analysis helps to understand the special context of Houten and the use of cycling as a central part of everyday life. In general, the discourse of cycling is of shared enjoyment of the facilities provided and the preferential treatment given to active travel within the neighbourhood. More specifically, the critical factors associated with the cycling discourse in Houten can be instructive for practice elsewhere. The discursive formation, practice and meaning are shaped by elements of history, discontinuity, ethics, power, truth and subjectivity. The high levels of cycling involve much more than high-quality cycling provision (the *techne*), though of course this is also required. The progressive cycling network design incorporates segregated cycling pathways, intersection priority, traffic calming, cycle parking, traffic education and training, favourable traffic laws, compact urban planning and access to public transport. This is implemented through specific technical procedures, including the cycle design standards. A discursive formation develops that urban development can be based around active travel and that the car can be managed and de-prioritized to an access-only role.

Governmental power is applied through institutional apparatus to shape urban development and transport systems in a specific manner, providing a regime of truth

supporting active travel. The trajectory taken in the 1970s has been refined over years, and subsequent iterations of masterplanning apply the principles discussed and agreed in the early years. The discursive practice of regional and compact urban planning shapes the new development. The transport and urban planners develop the masterplan, but the vision of liveability becomes a shared way of apprehending life amongst residents, and an accepted discursive formation. There was some early debate over the principle of traffic restriction, but over time, this has become widely-accepted amongst the residents. The prioritization of active travel is, in part, why people choose to live in Houten. Cycling is viewed as the optimal means of internal travel in the neighbourhood, for convenience, safety, social, environmental and well-being impacts. Cycling and walking help facilitate social interaction and community inclusion. The active modes promote independence for many, including for the young, old and people with disabilities. The cycling culture has been developed through a consensus-based decision-making process used throughout the expansion of Houten. Additionally, the use of cycling, characterized as distinction through simplicity, appeals to the Dutch social values; with cycling becoming a central feature of the national culture. Hence, the progressive cycling practice becomes a social construction as well as the technical design of a cycle network. The residents are aware of the urban planning objectives, demonstrating a discursive meaning and support for the approaches taken and their continued use.

This is in strong contrast to cycling practice in contexts where lower levels of cycling are found, such as in the UK. For example, cycling distance in England has doubled since the 1990s, yet from an almost negligible base, and cycle mode share by trips remains at only 3% in 2020. Only 10% of the population cycle more than three times a week, 61% do not cycle at all and only 2.5% of children (aged 5–16) cycle to school. These figures remain stubbornly low, and levels of cycling in Scotland, Wales and Northern Ireland are even lower (Cycling UK 2022). In this type of low cycling context, here needs to be significant, concerted efforts to improve cycling facilities and increase levels of cycling. A central part of this will be to provide improved cycle infrastructure, but, as can be seen from Houten, achieving high levels of cycling requires more than this. The difficulty is that the important socio-historical and cultural features of cycling practice are often found when high levels of cycling are evident. As Nello-Deakin and Nikolaeva (2021) suggest, many of the factors identified as important in encouraging cycling are themselves the outcome of the normality of cycling. The only solution appears to be to build high-quality cycling infrastructure alongside a compact urban form and to gradually support the developing culture of cycling, as it appears over years. But, examining the experience of Houten brings further clarity, in that a number of factors are critical, including: an effective regional and urban planning approach, consistent application of neighbourhood-level planning to prioritize walking and cycling, internal neighbourhood design that facilitates local activity participation, regional public transport connections, effective rail-cycle integration, and a participatory and cooperative-based approach to masterplanning.

Much can be learnt from the discourse of cycling in Houten and to consider how cycling cultures might be realized in other contexts. A first step is to examine the socio-historical planning processes in different contexts, including how and why these were developed and are experienced (Hickman 2025). High-quality cycle networks and facilities can be designed and implemented alongside supportive social values. In Houten, and wider in the Netherlands, the bicycle has become a symbol of national identity; the result of associating

cycling with positive social values. This is perhaps the defining product of transitioning towards progressive high-quality cycling infrastructure.

Notes

1. The ABC location policy was introduced by the Dutch Ministry of Housing, Spatial Planning and the Environment (VROM) in the Fourth Report on Physical Planning in 1988. The policy sought to match new employment locations with public transport accessibility. The highly accessible 'A' locations were allocated for higher intensity employment uses and reduced car parking provision, the poorly accessible 'B' and 'C' locations were allocated for less intensity employment.
2. The VINEX strategy was introduced by VROM to locate new employment, housing and transport infrastructure. Designated housing areas provided for almost one million new homes over the period 1995-2010, mostly within the Randstad. The VINEX neighbourhoods were based upon compact urban planning principles, high-quality public transport connections and the protection of open space.

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Annex. Interview respondents

Expert practitioner		Detail	
Respondent E1	Urban planner, Houten		
Respondent E2	Traffic engineer, Houten/Goor		
Respondent E3	Expert on slow traffic, officer of the Municipality of Utrecht, member of Dutch Cycling Embassy, former cycling ambassador for Houten		
Respondent E4	Expert on energy transition, officer of the Province of Utrecht		
Respondent E5	Officer of the Cycling Union Houten (Fietzersbond Houten)		
Resident	Detail	Age group	Nationality
Respondent R1	Female, male	16–59; 1–15	Australian; Dutch
Respondent R2	Male	60+	Dutch
Respondent R3	Male	16–59	Dutch
Respondent R4	Female; male	16–59; 1–15	Dutch
Respondent R5	Female; male	16–59; 16–59	Danish; Dutch
Respondent R6	Female	16–59	Colombian
Respondent R7	Female	16–59	Dutch
Respondent R8	Female	16–59	Dutch
(Electric wheelchair user)			
Respondent R9	Female	16–59	Turkish
Respondent R10	Male	16–59	Dutch
(Non-regular cyclist)			
Respondent R11	Female	16–59	Ukraine
Respondent R12	Female	16–59	Dutch
Respondent R13	Male	16–59	Dutch