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Research

Peddling stories: an investigation of the day-to-day realities for cyclists in Galway

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Abstract

Towns and cities worldwide are challenging the dominance of private cars and seeking ways to limit their use, compelled by the urgency to deal with the climate crisis. There is a growing determination to transition to more active and sustainable transport such as walking, cycling, and public transport, and to reduce our overall need for private car use in urban areas while improving public health and local environs. Cycling is a low-impact aerobic exercise and mobility option that can assist attempts to reduce private car use, cut harmful emissions, and moderate economically damaging traffic congestion in towns and cities. Cycling also offers numerous health and well-being benefits. But in towns and cities where cycling is constrained, marginalised, or ignored by transport planners, little is known about who is cycling, for what purpose, where they are cycling to and from, and their motivation to cycle. In recent times efforts have been made to improve the cycling infrastructure and better promote this mode of travel in Galway, a small city on the West coast of Ireland. This study investigates the experiences of cyclists in the city with data collected from individuals of differing ages and cycling abilities and advocates cycling continues to be marginalised and neglected in the context of implementing transport policy in the city. The findings indicate that most cyclists feel unsafe, and a prevailing car-centric policy mindset prevents cycling from developing to its potential in Galway to the detriment of the local environment, citizens' health, and new economic opportunities.

Keywords Cycling · Multi-level socio-technical transitions · Active and sustainable travel · Sustainability · Galway

1 Introduction

As the climate crisis intensifies and evidence of the human impacts becomes more unequivocal [1], existing transportation networks and systems worldwide continue to add to deteriorating air quality and increasing noise and traffic congestion in our towns and cities. The twentieth century has been the century of the private car. One of the means to reduce climate change's negative effects and consequences and create more sustainable and liveable towns and cities is to make sweeping changes to our urban landscapes and improve how we move around our municipal centres. As space is limited in our towns and cities, it is rational and reasonable to reduce the areas set aside exclusively for private cars from a social, health, environmental, and economic perspective [2] and promote and encourage active and sustainable modes of transport such as walking, cycling, and public transport. Cycling is a lifestyle choice that able-bodied individuals can make, but participation, particularly in urban settings, remains unevenly distributed across cities [3]. Cycling has been shown to have carbon reduction benefits, but these effects are more pronounced when cycling provision is

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coupled with car restraint policies [4]. It offers significant health benefits, can boost the economy, improves air quality in neighbourhoods, and fosters community resilience. Investigating the phenomenon of traffic evaporation may be beneficial for researchers in advancing the cause of urban cycling [5]. Developing a deeper understanding of how such traffic evaporation works in various scenarios [6] allows key decision-makers and policymakers to make informed choices about what interventions to reallocate road space to cyclists are feasible or desirable and over what periods such interventions can or should be carried out.

The European Green Deal provides a broad strategy to make countries in the European Union (EU) more sustainable [7]. It offers an ideal opportunity to reimagine our towns and cities and make them more liveable and healthier through better urban design and transport planning, with reduced air and noise pollution, expanded green spaces and increased physical activity. It aims to make sustainable alternative solutions available to the public and increase modal share for walking, cycling, and public transport. The recent *European Declaration on Cycling* recognises cycling as a sustainable, accessible, and affordable means of transport with substantial added value for the EU economy [8].¹ Acknowledged by European cycling advocates as the bloc's most ambitious cycling initiative [9], it aims to release the full potential of cycling within the European Union with committed new funding streams and policy support to promote cycling and the cycling industry through improvements in urban design. Better urban and transport planning can lead to more liveable and healthier cities through reduced emissions and noise. Integral to such planning is a move from private motorised transportation to active and public travel options.

The need to transform Ireland's car-dependent transport system is now more apparent if we are to meet our internationally binding obligations underpinned by the Paris Climate Accord,² and it is recognised that electrification and vehicle fuel efficiency alone are insufficient to meet such targets [12].³ Current mobility patterns in Ireland are unsustainable and characterised mainly by three dynamics: induced private car demand, unplanned urban sprawl, and 'the sustainable modes low-attractiveness trap' (ibid: 6). Low uptake rates of active and sustainable modes of travel in an Irish context is a persistent trend [14]. Thus, there is a growing need to support these modes and to redesign the Irish transport system to improve general well-being through better air quality, safety, overall health improvement, and fairness for all citizens. Transformative policies will help move Ireland away from an overdependence on private car use to active and sustainable transport options, and the recently announced *National Sustainable Mobility Policy* [15] reinforces the import of such approaches to more lasting sustainable change. An essential focus of this new policy initiative is the promotion of cycling, not only in terms of availability but also through the implementation of demand management strategies and behavioural change mechanisms and measures. But in towns and cities where cycling is marginalised or just beginning to re-emerge, little is known about who is cycling, the exact numbers of cyclists, where they are cycling to and from, and the routes they take. In such cases, the attention of transport departments and decision-makers is not focused on cycling, so tracking such information is not considered a priority [16]. The subsequent lack of worthwhile data is concerning because it limits the potential to invest in effective cycling strategies and infrastructure.

Through the theoretical lens of multi-level socio-technical transitions to sustainability approach [see: [17]], this research investigates cycling in Galway, a small city on the west coast of Ireland, from the cyclist's perspective and seeks to understand why it remains a niche practice in that particular city. The Multi-level socio-technical approach views transition as the result of the interplay between three systematic levels: the niche, the socio-technical regime, and the landscape level, of which the regime is of primary focus to realise. The socio-technical regime is the 'deep structure' that underscores the stability of an existing socio-technical system over time [18]. In the case of the private car, the existing automobility regime is strongly supported by developments and tendencies at the landscape level and locked-in processes and procedures in different regime components [19]. These include road and car-specific infrastructure, the social embeddedness of car cultures, vested interests, consumer preferences, and the conviction of planners and decision-makers who take existing practices as established and legitimate [ibid: 477–478]. The multi-level perspective was developed to understand

¹ The European Declaration on Cycling includes clear commitments such as safe and coherent cycling networks in towns and cities, improved links with public transport options and secure cycling parking spaces. These commitments are to be taken at the European Union, national, regional, and local levels. The declaration stresses that these are all necessary elements in improving the quality and quantity of cycling infrastructure across Member States and making cycling more attractive to a broader public.

² The Paris Climate Agreement is a legally binding international treaty on climate change adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015.

³ While carbon emissions are expected to decrease from the expansion of electric vehicles in the short term [13] it is argued that widespread personal vehicle ownership does not appear to be compatible with significant decarbonisation in the long term [10]. Furthermore, the transition to electric vehicles could require three times as much lithium, cobalt and nickel as is currently produced market, causing destructive environmental damage [11], and private vehicles will remain the space-inefficient entities that dominate urban geographies.

the role of the varying stakeholders and elements in transition processes. There is a growing requirement to ‘understand behaviour [of all stakeholders], and to explore the means by which cooperation and support can be obtained so that real change can take place’ ([20]: 79). This research will aid our understanding of the pressures and barriers to fostering cycling as an active and integral mode of transport in Galway and other urban centres across the country, offering the potential to help move it from a niche to a stable regime practice. In the case of cycling in Galway, this would be the point at which it is regarded as a normative practice and accepted as such by all stakeholders in the city. In addition, better awareness of the day-to-day realities of those who choose to cycle in and around the city will help form the basis of transformative strategies to improve our urban landscapes more generally.

2 Literature review

Cycling is a historical and culturally complex practice that has, over the past decades, become recognised as a response to contemporary transport problems and societal issues such as congestion, air and noise pollution, climate change, personal health, liveability, quality of life, and community and neighbourhood decline [21–25]. As an essential and rudimentary form of physical exercise, cycling aids weight loss over time [26, 27]; can decrease stress levels and improve mental health [28]; helps build muscle mass [29, 30]; reduce heart disease [31] and some cancer-related mortality [32]; improves cholesterol levels [33]; enables people to sleep better [34]; boost the immune system [35]; and improve overall brain function [36, 37]. Cycling can also assist efforts to alleviate the harmful impacts of climate change and improve local environments and conditions. Replacing the car with a bicycle for short trips reduces travel emissions by around 75% [38], with every 7 kms travelled avoiding 1 kg of CO² emissions compared to a similar distance covered by a private car [39]. Moreover, cyclists take up a modest portion of the available road space, thus playing a part in traffic and congestion reduction efforts. Indeed, cycling costs far less in terms of public infrastructure and private investment than private cars or public transport and represents an overall positive benefit to society [40]. According to the Institute for Transportation & Development Policy, every kilometre cycled worldwide generates €0.16 in economic gain to society, and every kilometre driven in a private car costs society €0.15 [41].

In the twentieth century, the built urban landscape was adapted by planners and policymakers to accommodate and serve the interests of motorised vehicles to the detriment of cyclists and pedestrians [42]. But an emergent and growing need to confront the private car and the increasingly uncomfortable dominant position it occupies in our towns and cities—what Popan [43] has termed ‘the elephant in the city’—is palpable. Increasing awareness suggests a shift in cultural attitudes and preferences away from a reliance on the automobile, more support for active and sustainable travel, and increased demand for living in mixed-use, compact developments in or near city centres [44]. Many now recognise the importance of cycling as a simple and practical mode of travel that, apart from its production, consumes limited resources⁴ and the energy required is provided directly by the cyclists, which contributes to their daily physical routine and activity, improving their overall aerobic fitness and cardiovascular health. Recent longitudinal research from London found a solid and reliable dose–response relationship between active travel infrastructure interventions and uptake, evidence of reduced car ownership and use in the areas with most interventions and significant health-economic benefits [45].

In 2019, just 8% of EU citizens said that their principal mode of travel on a typical day was a privately owned bicycle or scooter (including electric), and this figure fell to a mere 1% for Ireland, with 68% responding they had never cycled [46]. In Ireland’s National Travel Survey released in 2019, only 15% of respondents took a journey by bicycle—2.2% at least five times a week, while 1.8% did so three to four times a week and 2.8% one to two times a week [47]. When asked what factors would encourage individuals to cycle, safer cycling routes were the most common factor cited (31.7%), followed by improved health (20.5%), and more cycling-specific routes (17.3%). In commuting figures collected in Ireland from 1986 to 2016, the percentage of people who cycle to and from work dropped from 6.6% to just 3% [48]. Yet walking, cycling, and wheeling⁵ still take approximately 680,000 cars off Irish roads every day in the cities of Dublin, Cork, Galway, Limerick-Shannon, and Waterford, according to the largest survey of active travel in urban areas ever conducted in Ireland [49]. Published in partnership with Sustrans and the National Transport Authority of Ireland, the *2023 Walking and*

⁴ It is important to recognise that cycling does have some resource and environmental changes that need to be acknowledged. In particular, tyres, bike accessories and clothing all require more attention in terms of their long-term sustainability, see <https://road.cc/content/feature/how-to-be-sustainable-cyclist-what-bike-industry-is-doing-305637>.

⁵ Wheeling refers to a wheelchair or a mobility scooter and is the term to ensure as much inclusivity as possible.

Cycling Index indicated high levels of support for increased spending on cycling infrastructure. In Galway, for example, 88% of residents supported building more cycle paths physically separated from traffic and pedestrians, even when this would mean less room for other road users [50]. Such critical infrastructure is specifically outlined in the National Transport Authority's new *Cycle Design Manual*, launched in September 2023 [51]. Yet, the discourse of everyday mobility continues to be shaped by the everyday practices that are primarily undertaken with and through the use of a private car in Ireland, and these practices have been institutionalised by the histories of planning for the car as the preferred mode of transport in Ireland [52].

In several studies and reviews, connectivity and the presence of safe segregated cycling routes were found to be the most significant built environment factors that can boost cycling broadly [53–55]. The introduction of new segregated cycle lanes boosts the number of cyclists and the frequency of cycling [56, 57]. Research from ESRI's Behavioural Research Unit in Ireland, commissioned by the National Transport Authority and Fingal County Council, found solid evidence that improving active travel infrastructure increases cycling rates and that knock-on effects on local food and retail businesses tend to be positive or neutral [58]. A review of the evidence of the economic impacts on local businesses of improved safe cycling infrastructure indicates positive or non-significant outcomes on retail and food services [59–61]. Yet, in Ireland, there remains a strong disconnect and considerable localised vested interest resistance to building segregated cycling infrastructure and supporting cycling in many towns and cities. Egan and Caulfield [62] provide a unique conceptualisation of the dominant planning discourse based on a Critical Discourse Analysis of public consultation submissions opposing a major active travel planning proposal in Ireland. They argue that such discourse sustains car-centric thinking and planning, which forgoes the possibility of active and sustainable alternative modes of transport. In the case of Galway, the decision to abandon a trial of a temporary cycleway in Salthill in the spring of 2022 would tend to strongly support such a premise.⁶

While research has established the positive impacts of active travel such as cycling, particularly for public health and wellbeing, there are some concerns about increasing cycling in our towns and cities. Conflict and contestation over scarce public space is an ongoing issue, and the perception of traffic and congestion and solutions to these issues may vary significantly depending on the perspective and transportation mode of the road user [63]. It is necessary, therefore, to consider the perspective of all road users in shared-space urban transportation situations. While many urban roads are shared by drivers and cyclists, safety concerns can push cyclists onto city streets and pedestrian walkways, shifting welfare anxieties down to the more vulnerable walkers and pedestrians. Research has indicated that cyclists prefer to avoid pedestrian-dominated streets and are concerned about intermodal encounters with pedestrians but weigh this against time travel and efficiency and the avoidance of motorised traffic [64]. In most countries, the greatest number of encounters and crashes experienced by cyclists are with motorists [65], and motorised vehicles continue to dominate the structuring of space for mobility, leaving cyclists with a 'precarious entitlement' to this scarce municipal space [66]. In terms of emissions, it can also be argued that cyclist trips are generally short, so CO² savings may be negligible, and with the rollout of electric vehicles, emissions from motorised vehicles, in general, may assume less relevance in Climate Change action but will still be substantial contributors in terms of their production environmental costs and energy use, as well as inefficient users of scarce resources in terms of battery technology.

Although not a specific focus of this research, it is important to briefly discuss the emerging and growing significance of electric bikes, or e-bikes, across many European countries, including Ireland. E-bikes have quickly developed from being a technological novelty to a conventional transport mode, and the evolution of such bikes has been made possible by both advances in technology and exceptional market demand [68]. Despite the differences between traditional bicycles and electric bikes, both are frequently considered as a uniform mode in much of transport thinking and modelling [69]. In terms of urban mobility, e-bikes can move faster than conventional bikes, particularly going uphill, they do not, as yet, require a driving license, road permits, or insurance. In Ireland, the recently enacted Road Traffic and Roads Act 2023 [70] outlines that e-bikes with a maximum power output of 250W and a motor cut-off speed of 25 km/h will be treated as bicycles under Irish law. E-bikes that can go faster than 25 km/h or have a power output greater than 250W and those that can operate without pedalling will now be classified as an e-moped, requiring a licence, registration, tax, and insurance to be used on Irish roads. This is an attempt to provide a definition and to reduce the speed of e-bikes and limit the conflict with other road users and pedestrians. The carbon emissions produced by e-bikes are considerably less than those of combustion engine cars and electric cars [71], although the manufacturing footprint is higher than that of ordinary peddle-only bikes [72]. Several features influencing consumers' intention to purchase e-bikes have been

⁶ Local councillors had voted seventeen to one in favour of the proposal but quickly backtracked on plans after opposition from some residents, businesses, and emergency services, with traffic and access issues topping the list of concerns [67].

identified, including how different sociocultural contexts influence the mobility culture, the importance of environmental factors in explaining consumers' intentions, the positive and negative features of e-bikes compared to regular bikes, and similar to regular cyclists, concerns over safety, cycling infrastructure, and increased sharing options [73].

2.1 Methodology

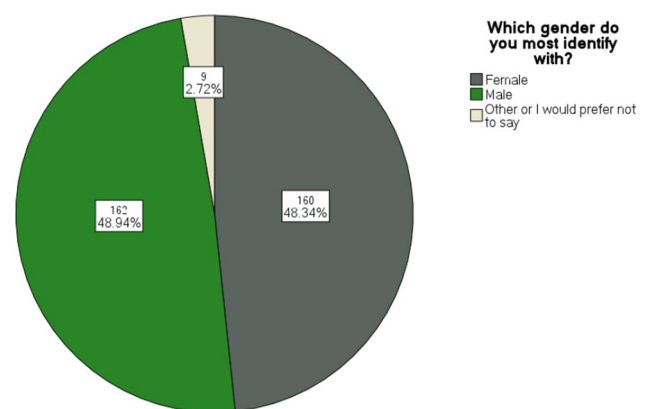
Data was collected for this study as part of the Research Experience and Learning (REaL)⁷ initiative. This is an innovative programme established by the Social Sciences Research Centre (SSRC) at the University of Galway to provide opportunities for undergraduate students to participate in applied research projects and gain crucial research skills and experience over the course of their undergraduate studies. The research began with the design of a ten-question survey, made available online through the LimeSurvey open-source platform. An open question at the end allowed participants to openly discuss cycling in the city, producing rich and extensive responses, some of which are provided in the findings. Participants were also asked to take consent to an accompanying interview. Data collection took place at two time periods—from Tuesday the 18th of July to Wednesday the 30th of August, and from Thursday the 14th of September to Friday the 13th of October 2023 using a simple random sampling approach. The rationale for two separate collection periods was the first would focus on cyclists who live and work in the city all year round. The second collection instatement paid particular attention to university students in the city given they make up a significant portion of the population during term time. Many student cyclists leave the city during the summer months, returning for the beginning of the teaching semester in September. However, their perspective on cycling needed to be gathered as part of this research, given they form approximately 20% of the population of Galway during term time [74]. Some 'back-of-the-envelope' calculations determined the sample size. The population of Galway City is currently 85,910 [75], and individuals who cycle make up just under 5% of the population [76], suggesting approximately 4000 cyclists in and around the city ($N = 4295$). Using a confidence level of 95% with a margin of error of 5%, this implies a sample size of over 350. After removing respondents who do not cycle in Galway, the total number of fully completed questionnaires stood at 321 and partially completed 33, making a total of $n = 354$. Several follow-up email communications were initiated with some of the survey participants, and five semi-structured interviews were conducted. These interviews were largely to determine the context of the cyclist experience and did not form a significant element of the findings.

2.2 Findings

Of the cyclists who participated in the survey, just under 50 per cent (48.34%) identified as female and 48.94% as male (see Fig. 1). There was a uniform spread of age, with the majority of participants (62.95%) falling within the 26 to 45-year age group (see Fig. 2).

Survey participants were asked how often they cycled in and around Galway, and over 76 per cent indicated they cycle daily or a few times a week (see Fig. 3). Just under 15 per cent were occasional cyclists in the city. Regarding how they perceived their cycling ability, just under half (49.29%) were motivated and confident cyclists, while nearly 20 per cent

Fig. 1 Gender of the participants



⁷ For more details, see <http://ssrc.ie/REaL/>.

felt they were strong and fearless cyclists (see Fig. 4). A thought-provoking response from one cyclist was an appeal to broaden our understanding of what a cyclist is and convey the day-to-day realities of cyclists in the city, a process this research has begun:

Start by getting cyclists of all ages and abilities to tell their personal cycling stories and share their experiences. The term "cyclists" is too all-encompassing, too easy to knock, too easy to criticise, too easy to ignore. What we want is to deconstruct this homogenous mass into thousands of individual accounts, stories and experiences (female, 57 years of age).

Of those who responded to the questionnaire, all were motivated to cycle for different reasons (see Fig. 5) and over 62 per cent were car owners (see Fig. 6). Top of these motivations were the efficiency of cycling in the city (43.55%), the

Fig. 2 Age of the participants

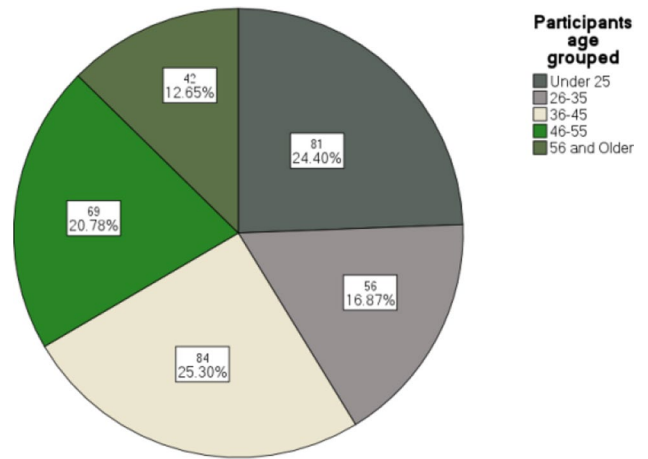


Fig. 3 How often do you cycle in Galway?

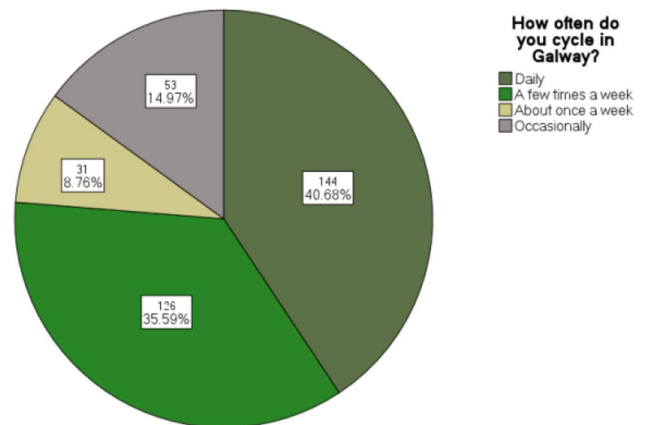


Fig. 4 How would you best describe yourself as a cyclist?

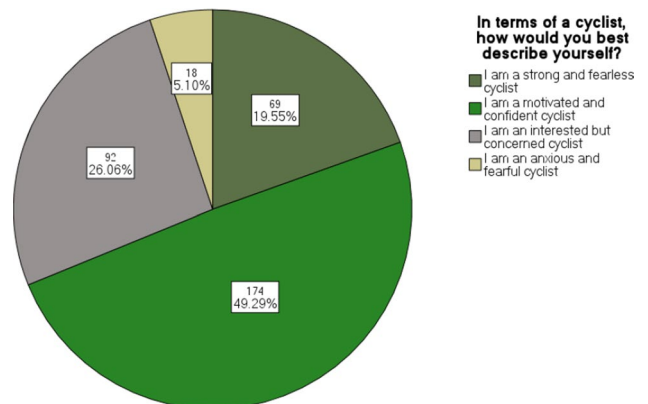


Fig. 5 What motivates you to cycle in Galway?

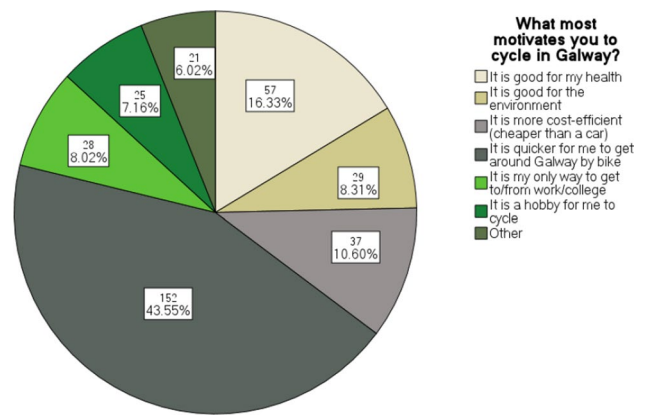


Fig. 6 Do you own a car?

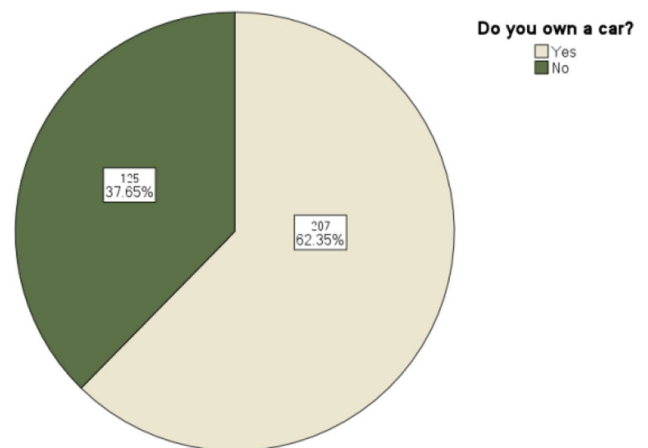
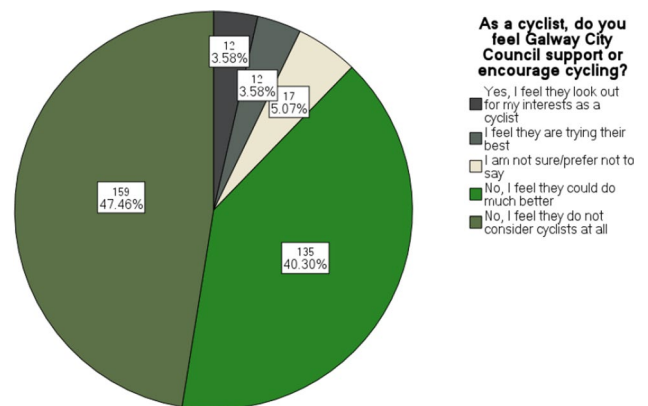


Fig. 7 Do you feel Galway City Council supports cycling?



cost-effectiveness of cycling (10.60%), and health and environmental concerns (16.33% and 8.31%, respectively). For just over 8 per cent, cycling was their only option to get to work or college. Still, for others, it was the practicalities of daily practices and transport and mobility options that mattered most:

I share my car and therefore need to cycle three days a week to work. I also take my two young children to school in a trailer several days a week (female, 47 years of age).

When asked about the commitment of Galway City Council to the promotion and support needed to encourage cycling in the city, the vast majority of cyclists (87.76%) felt that the council do not consider cyclists or could do

Fig. 8 Do you feel local businesses support cycling?

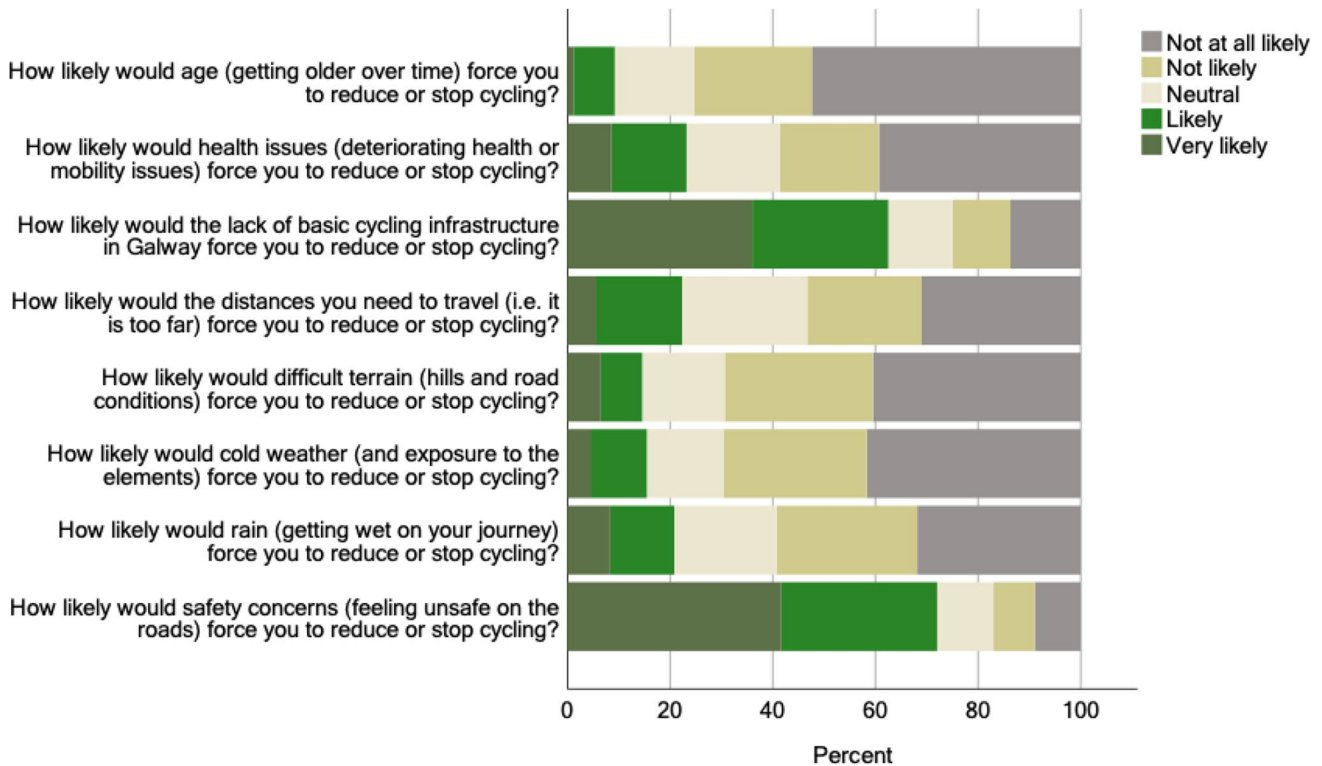
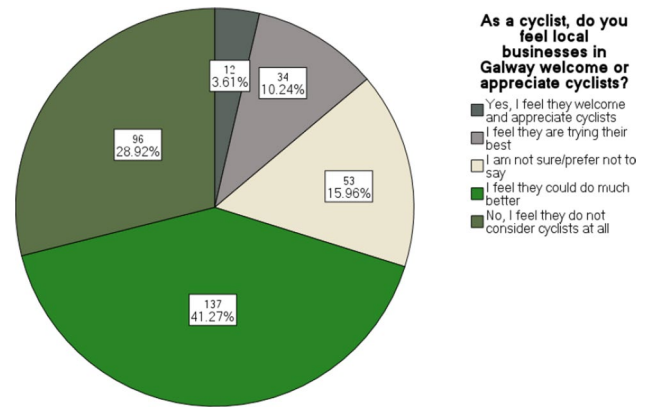


Fig. 9 Issues that would force an individual to reduce or stop cycling

much better in this respect (see Fig. 7). Similarly, when asked about local businesses’ commitment to cyclists, 70.19 per cent of respondents expressed an opinion that businesses do not consider cyclists or could do better (see Fig. 8). Less than 4 per cent, in each case, felt that their interests were considered or their value appreciated. The frustration of some cyclists was expressed in the following way:

The task of campaigning for the City Council to implement a decent infrastructure for cycling feels like a losing battle. It seems like a major cultural change is required (female, 43 years of age).

City councillors pretend to be interested, yet have a proven record of going back on their word. City council executives are very much anti cycling (female, 46 years of age).

Educate businesses that cyclists are just as good customers as drivers, maybe even better. Keep the cycling movement positive and welcoming so there’s less opportunity for it to be dismissed as fanatics (male, 30 years of age).

When asked what would force survey participants to reduce their cycling or stop altogether: age, health, distance, terrain, and weather were not significant factors for cyclists (see Fig. 9). The two issues of unease and worry to participants were safety concerns and the lack of basic cycling infrastructure in the city, with over 70 per cent and just over 60 per cent, respectively, indicating these may reduce or stop their cycling activities because of these issues. In addition, there is a perception amongst many cyclists that motor vehicle movement and convenience are prioritised over the safety of cyclists:

Reduce speeds to 30kmh in city centre. Police illegal parking and dangerous driving. Build safe, cycling lanes that are easy to use - it's not rocket science. In Dublin they just put concrete barriers and planters on existing road lanes, reducing two lanes to one and giving the other lane to bikes. Could easily be done if the will was there. Prioritise the safety of cyclists over the convenience of motorists (male, 45 years of age).

Make it safe, make it safe, make it safe... ..I have had close calls, been hit by wing mirrors, had close passes and Galway City Council are actively hostile to cyclists (male, 54 years of age).

The first thing that needs to be done is to create real, safe, pleasant-to-use cycling infrastructure. No one should be 'promoting' cycling to anyone until it is equally safe and pleasant for a 90-year-old, a 9-year-old, and someone with disabilities to do so. By 'real, safe cycling infrastructure' I do not mean painted lines on the sides or roads or isolated cycling/walking bridges that don't lead to safe road crossings (male, 51 years of age).

More safe routes from high population areas to town/shopping centres/employment centres. So creating ONE safe route from for example Knocknacarra to Parkmore but investing in that route with cycle lanes, including off road cycle lanes, two-way cycle lanes etc. Just get one set of safe routes and do them well. We need these to ensure cycling across the life course (male, 43 years of age).

3 Discussion

Evident in this research, the dominance of the existing automobility regime in the context of the transport network and transportation thinking in Galway continues to inhibit efforts to develop and promote cycling in the city. Galway City Council and some local business interests—operating at the landscape level of the multi-level, socio-technical transitions to sustainability approach—view the private car as the exclusive and principal mode of travel in and around the city and efforts to provide basic but crucial safe cycling infrastructure are viewed as anti-car measures rather than a practical solution to Galway's sporadic but chronic traffic congestion problems. The irony of such a position and approach is that over 62% of frequent cyclists are car owners or have the use of a car but chose cycling for various practical, personal, and selfless reasons. If these cyclists are compelled to reduce or stop cycling for safety or other concerns, the logical corollary would see these particular cyclists utilise their cars more often, significantly adding to this traffic congestion across the city and further afield.

Cycling in Galway must be viewed as strategically essential in terms of overall transport policy and traffic congestion mitigation efforts. It must be encouraged and supported, and appropriate, safe, segregated cycling infrastructure must be provided if we are to tackle Galway's traffic congestion problems. Yet in Galway, cycling is being suppressed and remains at the niche level kept there by institutionally locked-in car-centric thinking and urban planning decisions. Exasperation and frustration with the existing transport network and system in Galway were evident throughout the research, and cyclists believed they were undervalued as urban citizens and underappreciated by key decision-makers and business interests in the city. The role that cyclists play in terms of congestion reduction and their contribution to climate action is significant. The focus and attention for key decision-makers in Galway must, therefore, be on promoting and supporting cycling and other active and sustainable modes of travel and removing the barriers and pressures that exist in moving cycling from the niche to the regime level.

Despite the frustration with the lack of basic safe cycling infrastructure and support, most participants in this research were motivated and confident cyclists who regularly cycle in and around Galway. In terms of rationale, the list of reasons provides some critical insight and evidence that will contribute to the development of cycling in the city. Leveraging motives like cost-effectiveness and efficiency will assist marketing and promotional strategies and efforts, as well as personal health and environmental concerns. However, such strategies will have a limited chance of success without a serious commitment to providing safe, segregated cycleways across the city and connecting these routes to the city's significant institutions and amenities, such as hospitals, colleges and universities, and major sporting venues. The lack of

cyclists' perspectives on road and city planning and decision-making has led to the absence of even basic infrastructure, endangering the safety of those who choose to cycle in Galway. While other towns and cities across Ireland ramped up efforts to deliver active travel networks post-COVID,⁸ Galway remains a laggard in terms of its cycling and walking infrastructure and support for active and sustainable travel.

The desire and hope for the provision of such basic cycling infrastructure and improved safety for cyclists were significant findings of this research, which reflects broad international findings on supporting and developing cycling in towns and cities. As Spinney ([77], 114) argued, in low-cycling towns and cities 'cyclists are expected to perform largely in the same way as their motorized counterparts despite strikingly different affordances and possessing divergent capabilities'. The willingness and commitment to provide segregated cycling infrastructures and space for cycling must be prioritised to make it safe, mainstream, and an integral part of the overall transport regime. Hull and O'Holleran [78] suggest eight essential factors to consider when designing new cycle lanes and infrastructure, the most crucial elements being safety, comfort, and continuity. In terms of Galway, cyclists did not have any significant concerns about ageing or deteriorating health, the weather conditions or landscape of the city, or travel distances by bicycle. However, personal health and safety when cycling featured high as a concern. Providing safe, segregated cycle lanes that connect the city's significant amenities and institutions will improve the travelling conditions and welfare of existing cyclists and help nurture and encourage others to take up this active and sustainable mode of travel. In its current form, cyclists perceived that they put themselves at risk to compete for legitimacy on the roads with private cars and that it is competition for scarce space rather than cooperation and respect between all road users that is the order of the day.

While this study focussed specifically on the cyclist's perspective and day-to-day experience in Galway, lessons for other similar-sized towns and cities can be discerned. The dominant position of the car in transport policy and thinking—the established automobility regime—must be challenged from the landscape level. Key local, regional, and national transport policy- and decision-makers must lead the transformation away from a car-dominated and dependent society to one which embraces the range of mobility options and modes, not less active and sustainable modes of travel. They must be fully supported in this transformation by business leaders who acknowledge the futility of persistent car congestion for the city's and wider region's economic well-being. Transformational and strategic transportation policy leadership that promotes and legitimises active and sustainable modes, including cycling, will significantly challenge the dominant automobility regime and paradigm and will lead to positive and sustainable change for all stakeholders. Tackling the locked-in automobility regime and reducing congestion on our roads will benefit everyone: those who take public transport, those who choose to cycle or walk, and those who need to drive in a car in our towns and cities.

4 Conclusions

Using the multi-level socio-technical transitions to sustainability theoretical lens, this research seeks a clearer understanding of cyclists' day-to-day conditions and experiences in Galway and explores the barriers that continue to exist that keep cycling as a niche pursuit in the city. While broad research is available on the health, social, and environmental benefits of cycling and, in terms of climate action, the need to boost this active and sustainable mode of transport, particularly in urban areas, little is known about the practical realities and daily actualities for people who choose to cycle the city. This research attempts to bridge this gap in our understanding. Moreover, there is a pressing need for increased participation, involvement, and authentic engagement between cyclists and the local authority on issues vital to the future promotion and support of cycling and transport in the city. Such a collaborative approach stands a higher chance of success and will limit unnecessary objections to essential changes in critical infrastructure and attitudes. The participants in this research, cyclists in Galway, were considered in their views and cognisant of the congestion problems faced by many in the city. They wanted to, and are, contributing to seeking solutions. But shifting cycling into the established regime level will require overall landscape changes. This will only be possible if cycling is acknowledged as a legitimate and important component of the overall transport system in Galway.

Some research limitations must be acknowledged. An increased sample size is always more desirable, and while this study largely consists of survey research, future studies should take a stronger qualitative approach to uncover deeper motives, attitudes, and reasoning behind specific lifestyle choices. Furthermore, the lack of attention to the emergence of e-bikes and scooters, a significant new development in understanding cycling and mobilities in towns and cities and,

⁸ For more details on Dublin City Council's Active Travel Network Delivery Programme, see <https://www.dublincity.ie/residential/transportation/active-travel/active-travel-network/active-travel-network-delivery-programme>.

in this instance, Galway, is a limitation of this study. Future research will need to incorporate these new modes of transport into any consideration of mobility patterns and transport policy and decision-making. Nevertheless, a noteworthy finding is that many cyclists are also car owners and choose cycling for personal, societal, and environmental reasons. Under the prevailing conditions, cyclists feel unsafe and undervalued as citizens of the city, and the logical long-term response to these conditions may well force them back into their cars, with obvious consequences for traffic congestion. Policy and decision-makers must recognise this, strive to provide a level playing surface for all road users, and constrain existing car-centric thinking. Galway City Council and local business interests must also acknowledge and appreciate the contribution cyclists make to the city regarding the social and environmental benefits as well as the economic contribution of people who choose to cycle. The problem of sporadic traffic congestion, air and noise pollution in our towns and cities, and our sedentary lifestyles, which contribute to a growing obesity problem, is not an insurmountable issue for this generation, but changes in how we view active and sustainable modes of travel is a prerequisite to actual real transformation in our transport system.

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Author contributions MH designed the study. MS, NC and LA collected and analysed the data. MH wrote the paper with inputs for all authors.

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Data availability Data supporting this study are available from the Social Sciences Research Centre (SSRC) at <https://ssrc.ie/REaL/galway-cyclists.html>. Access to the data is subject to approval and a data-sharing confidentiality agreement.

Code availability Not applicable.

Declarations

Ethics approval and consent to participate Ethical approval for this study was waived by The School of Political Science & Sociology's Ethics Committee at the University of Galway. All participants were over the age of 18 years of age and freely consented to participate in this research, all participants were made aware of the purpose and nature of the data collection, all participants were free to withdraw from the research at any stage and were informed in advance, and all data was managed securely and confidentially and will be deleted after six months. The protocol was approved by The School of Political Science & Sociology's Ethics Committee in accordance with the School's Ethical Clearance policy. Informed consent was obtained from all individual participants included in the study. Further information on this is available from <https://ssrc.ie/REaL/galway-cyclists.html>.

Competing interests The authors declare no competing interests.

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