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**VIEWPOINT**

# Towards an Intersectional Perspective in Cycling

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In recent years, concerns about climate change have elevated cycling on urban policy agendas worldwide. The rapid implementation of temporary cycling infrastructure in cities across the globe during the COVID-19 pandemic has further elevated the importance of cycling in facilitating a green and just recovery. However, if cycling is to be a key part of a green and just recovery for cities, an intersectional perspective is needed to ensure that cycling can be an equitable and inclusive mode of transport. An intersectional perspective acknowledges that there are multiple systems of oppression, which interact in complex ways to compound inequalities and reinforce certain power dynamics. Structural and spatial inequalities contour urban mobility, as evidenced by well-documented gender, racial and socioeconomic disparities in cycling. This paper provides an overview of gender and other inequalities in urban cycling and makes the case for adopting an intersectional perspective to cycling policies and infrastructure projects so that cycling in cities can be more diverse, equitable and inclusive.

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**Keywords:** Intersectionality; Cycling; Inclusive cycling; Equity

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## Introduction

City leaders across the globe have increasingly prioritised cycling on urban policy agendas to tackle the dual climate and COVID-19 crises. The rapid implementation of temporary cycling infrastructure and the increased cycling in cities worldwide during the COVID-19 pandemic have been promising, raising questions around how to sustain these trends. However, increased cycling does not necessarily translate to more diversity in cycling (Aldred, Woodcock and Goodman, 2016; Lam, 2020; Steinbach et al., 2011; McCullough, Lugo and Stokkum, 2019; Goodman, McDonald and Lavery, 2021). To fulfil the potential of cycling in a green and just recovery for cities, it is important to address inequalities in cycling so that it can be an inclusive mode of transport for diverse urban populations. Intersectionality is a useful analytical framework that can help promote more equitable and inclusive cycling.

Legal scholar Kimberlé Crenshaw coined *intersectionality* in 1989 as an analytical framework to observe, analyse and ultimately dismantle unequal power relations in society. She argued that existing anti-discrimination legal frameworks were limiting in their single-issue analyses, which only considered racism or sexism in isolation. She developed intersectionality

to acknowledge the ways in which multiple systems of oppression interact and compound each other (Crenshaw, 1989). An intersectional perspective in cycling can shine a light on power dynamics and the ways in which structural and spatial inequalities contour urban cycling (Lam, 2020; Daniel and Dolan, 2020). It can enable a robust distributional analysis to make explicit who benefits and who is excluded from cycling investments to devise transformative solutions that address the root causes of inequalities in city cycling.

This paper makes the case for an intersectional perspective in cycling policies and projects to increase equity and inclusion. It primarily draws on research done in North American and European cities to provide an intersectional analysis of two key factors that create gender and other disparities in cycling: (i) structural inequalities in access to economic resources and free time and (ii) differential perceptions and experiences of safety, which are shaped by identity. To conclude, the paper explores initial steps towards more equitable cycling policies: expanded and spatially equitable orbital route provisioning as well as more robust data collection. Given the Western-centric evidence base in this paper, it is important for future research on cycling and equity to include perspectives from the “Global South” through multilingual references and/or co-authorship with researchers from Global South countries.

### ***Access to economic resources and free time***

The gender gap in urban cycling is a well-documented cycling inequality, as women comprise one-third or fewer of adults cycling in countries with low levels of cycling, such as the United Kingdom, United States, Canada, Australia and New Zealand (Shaw et al., 2020; Mitra and Nash, 2019; Uteng, Christensen and Levin, 2020; Lam, 2020; Women4Climate, 2019; Sustrans, 2018; International Transport Forum, 2021; Sustrans, 2019; Transport for London, 2019; Burns, Man Oram and Claris, 2020). The gender gap is compounded by inequalities along the lines of socioeconomic status, ability and ethnicity, for instance, which makes an intersectional perspective relevant (McCullough, Lugo and Stokkum, 2019; Women4Climate, 2019; Andrews, Clement and Aldred, 2018). This section discusses structural inequalities in access to economic resources and free time that create gender differences in urban mobility patterns, male bias in transport systems and spatial inequalities in cycling investments and infrastructure.

Structural inequalities in the labour market create disparities in access to economic resources and free time, which produce differences in how, where, when and why we travel in the city. Compared to men, women have reduced economic resources and free time due to lower rates of participation in the labour market, gender-based discrimination (e.g., the gender pay gap and workplace harassment) and the gendered division of household and caring responsibilities (Law, 1999; Levy, 2013; Hanson, 2010; Lam, 2020; Kern, 2020; Coffey et al., 2020; Cohen and MacGregor, 2020). As such, women, particularly those with lower incomes, are more reliant on walking and public transport than men (Levy, 2013; Kronsell, 2013; Law, 1999; Women4Climate, 2019). The COVID-19 pandemic has exacerbated women’s economic insecurity and time poverty, particularly women of colour, heightening their need for low-cost transport (Fortier, 2020; Alon et al., 2020; Women’s Budget Group, 2020; Patel et al., 2020; Daniel and Dolan, 2020; TUC, 2020).

Despite women’s increased reliance on public transport, transport systems are designed for the default middle-class, white male user. While men are more likely to make less frequent but longer trips during peak hours, often for or related to work, women tend to travel more frequently over shorter distances throughout the day, and their journeys tend to be more encumbered, involving traveling with other people or shopping for domestic and care-related purposes (Law, 1999; Levy, 2013; Kronsell, 2013; Lam, 2020; Women4Climate, 2019). However, transport infrastructure, including cycling infrastructure, is built to optimise radial journeys from urban peripheries into city centres during peak hours (Lam, 2020; Kern, 2020;

Levy, 2013; Kronsell, 2013; Law, 1999). Radial planning reflects a male bias, as it is based on the historic male breadwinner's commute from his suburban home to his office in the city centre and continues to reflect men's travel patterns whilst failing to serve the mobility needs of women, children, the elderly, informal workers and those with more varied journeys (Lam, 2020; Levy, 2013; Kronsell, 2013; Law, 1999).

Cycling may be a spatial and/or economic necessity for people with lower incomes and those who are underserved by public transport, such as immigrant communities and low-paid, precarious workers, but there are spatial inequalities in cycling infrastructure provision. Cycling investments occur within a broader political-economic context of neoliberal urbanism, characterised by the hyper-commodification of public space and the unequal distribution of benefits of sustainable infrastructure investments, skewed towards wealthy elites (Stehlin, 2019; Anguelovski et al., 2019; Anguelovski et al., 2018). US cities have used cycling investments as a "creative class carrot" to attract and benefit those for whom cycling is a lifestyle choice or amenity, while ignoring those for whom cycling is a necessity due to spatial isolation and/or socioeconomic deprivation (Hoffman and Lugo, 2014; Stehlin, 2019). New cycle lanes and cycle hire schemes in North American cities have disproportionately benefited whiter, wealthier and more educated populations with good public transport access (Braun, Rodriguez and Gordon-Larsen, 2018; Wachsmuth et al., 2019; Houde, Apparicio Séguin, 2018; Stehlin, 2019). Consequently, those reliant on cycling tend to cycle in riskier road conditions (Torres-Barragan, Cottrill and Beecroft, 2020; Stehlin, 2019; Bernstein, 2016; Reid-Musson, 2017; Lee et al., 2016).

Moreover, gender and racial disparities in both cycling and perceptions of cycling, coupled with a lack of inclusive representation and community input in infrastructure planning, have led to an inequitable distribution of cycling infrastructure and associations of cycling infrastructure with gentrification (Brown et al., 2021; Hoffman and Lugo, 2014; Hoffman, 2016; Stehlin, 2019; Lugo, 2012). To promote inclusive cycling, investments in cycling must be fair and be seen to be fair. This requires more research and deeper engagement with people who may not identify as "cyclists", such as migrants and precarious workers, including delivery cyclists (Bernstein, 2016; Lee et al., 2016; Lee, 2018; Popan and Anaya-Boig, 2021). Meaningful community engagement can help build trust and reduce perceptions among some communities of colour that cycling infrastructure is a tool for gentrification and displacement (Brown, et al., 2021; Hoffman and Lugo, 2014; Hoffman, 2016; Lubitow, 2016; McCullough, Lugo and Stokkum, 2019; Lugo, 2012).

### ***Perceptions and experiences of safety***

Increased engagement with marginalised groups can also illuminate how identity shapes people's perceptions and experiences of safety, which, in turn, affects their urban mobility patterns (McCullough, Lugo and Stokkum, 2019; Reid-Musson, 2017; Lam, 2020; Sheller, 2018; Stehlin, 2019; Hoffman, 2016; Hoffman and Lugo, 2014). After all, streets are not equally safe for all, and safety means more than safety from road traffic (Untokening, 2017). This section discusses how perceptions and experiences of safety are informed by gender, race and socioeconomic status due to factors like street harassment, police racial profiling, hostile environment immigration policies, inequalities in road collisions and traffic-related air pollution and the global expansion of food and grocery delivery platforms.

Gender-based violence in public space, including street harassment, is a barrier to safe mobility for women, girls and LGBTQIA people (Hanson, 2010; Law, 1999; Levy, 2013; Kash, 2019; Kern, 2020; Lam, 2020; Quiñones, 2020). Women's increased dependence on public transport and walking increases their vulnerability to gender-based violence in public since they spend more time waiting in or walking through isolated or poorly lit places (Cosgrave, Lam and Henderson, 2020). In the UK, 86% of women aged 18–24 and 71% of women of all

ages have experienced sexual harassment in public spaces, including public transport (APPG for UN Women, 2021). London has the highest rates of public sexual harassment in the UK, and 40% of sexual assaults occur in public spaces, particularly the public transport network (YouGov, 2020; Cosgrave, Lam and Henderson, 2020). Disabled women disproportionately experience sexual harassment and assault, sometimes by other passengers and staff on public transport (Iudici, Bertoli and Faccio, 2017). Gender non-binary and transgender people are also particularly vulnerable to harassment, discrimination and violence in public spaces and on public transport (Lubitow, Abelson and Carpenter, 2020; Cosgrave, Lam and Henderson, 2020).

There is a need for data disaggregated by gender and other sociodemographic characteristics to enable a more robust and intersectional analysis of sexual harassment in public spaces (APPG for UN Women, 2021). Fear of street harassment can compound concerns about road safety, therefore deterring women and gender minorities from cycling. Female and non-binary delivery cyclists also report routine street harassment, including by fellow couriers (Lee, 2018; Cant, 2020; Popan and Anaya-Boig, 2021). While further research is needed on the cycling and broader urban mobility experiences of LGBTQIA people, US and UK studies demonstrate that female cyclists are at increased risk of near misses and road abuse from drivers (Lubitow, Abelson and Carpenter, 2020; McCullough, Lugo and Stokkum, 2019; Aldred, 2016; Lindsey, 2019). However, gendered perceptions and experiences of both personal and road safety do not adequately enter cycling infrastructure design and decision-making processes (Spinney and Xie, 2018; Lam, 2020; Women4Climate, 2019).

Perceptions and experiences of safety are also racialised. One of the top barriers to cycling for Black and Latinx people in the US is fear of racial profiling by the police (Brown, 2016). Immigrant communities similarly cite fear of being stopped by police and stress about encounters with law enforcement as barriers to cycling, particularly within the context of hostile environment immigration policies (McCullough, Lugo and Stokkum, 2019; Reid-Musson, 2017; Lee et al., 2016; Lee, 2018). In North America and increasingly in the UK, immigrants and people of colour are disproportionately stopped for cycling offences, such as pavement riding or running red lights, which can have disastrous consequences for migrants without documentation (Reid-Musson, 2017; Lee et al., 2016; Lee, 2018; Bernstein, 2016; McCullough, Lugo and Stokkum, 2019; Brown, 2016; Rielly, 2021). This exemplifies how “cimmigration”, the convergence of criminal and immigration law to target, criminalise and dispose of migrants through harsh detentions and deportations, manifests in cycling (Lee, 2018).

Although there is less research on racial profiling by police as a barrier to cycling for migrants and people of colour in the UK, racial disparities in stop and search are well documented (Bowling and Phillips, 2007; HMICFRS, 2021). In 2019/20, people of colour across the UK were over four times more likely to be stopped and searched than white people; Black people in particular were nine times more likely to be stopped and searched than white people (HMICFRS, 2021). Under Section 60 of the Criminal Justice and Public Order Act 1994, which grants police officers the power to stop and search people without justification, Black people were 18 times more likely to be searched than white people (HMICFRS, 2021). People of colour were up to seven times more likely to be fined for breaching COVID-19 lockdown regulations than white people in parts of the UK (Gidda and Dodd, 2020). Further research is needed to understand the impact of police racial profiling on people of colour’s mobility behaviour and experiences.

In addition to personal safety concerns, socioeconomic status compounds gendered and racialised perceptions and experiences of road safety. In the US, immigrants, people of colour, people with lower incomes and people with disabilities are disproportionately represented in pedestrian deaths (Schmitt, 2020). Black and Latinx people are also overrepresented in cycling fatalities, with the fatality rate for Latinx cyclists 23% higher than for white cyclists

and the fatality rate for Black cyclists 30% higher than for white cyclists (Goddard, 2016). Similarly, in Europe and the UK, people with lower incomes are disproportionately harmed by road collisions and traffic-related air pollution despite lower levels of car ownership and usage (Fosdick, 2015; Barnes, Chatterton and Longhurst, 2019; Fairburn et al., 2019). Children in the most deprived areas, particularly males, are at greatest risk of road traffic injury across all modes of transport (O'Toole and Christie, 2018). In England, air pollution is higher in neighbourhoods experiencing high deprivation, particularly those where people of colour constitute over 20% of the population (Fecht et al., 2015).

Inequalities in personal and road safety as well as air pollution exposure highlight the need to democratise the right to safe, sustainable urban mobility. This could include more research on delivery cyclists, who are at the intersection of precarious streets, precarious labour and sometimes precarious migration status (Lee et al., 2016; Lee, 2018; Popan and Anaya-Boig, 2021; Woodcock, 2021; Tassinari and Maccarrone, 2020; van Doorn, Ferrari and Graham, 2020). Most cycling research focuses on cycling as transport rather than cycling as work (Popan and Anaya-Boig, 2021; Lee, 2018). This leaves out delivery cyclists, a grave omission, given the recent explosion of on-demand food and grocery delivery platforms (e.g., Deliveroo, Weezy) in cities worldwide (Popan and Anaya-Boig, 2021; Gregory, 2021; Gregory and Maldonado, 2020; Christie and Ward, 2018; Cant, 2020). Despite comprising a class of key workers and a sizeable proportion of overall people cycling in cities, delivery cyclists are marginalised in cycling policy, planning and advocacy (Lee et al., 2016).

### ***Towards equitable cycling policies***

Cycling does not occur in a vacuum, and structural inequalities in society are reproduced in city cycling, therefore creating uneven experiences of city streets, public spaces and cycling (Lam, 2020; McCullough, Lugo and Stokkum, 2019; Lee et al., 2016; Bernstein, 2016; Reid-Musson, 2017; Stehlin, 2019). Policymakers, planners and advocates must understand and take into account these differential experiences of cycling to create more equitable and inclusive cycling policies and environments. This section explores two initial steps towards more equitable cycling policies: challenging the radial planning fallacy and improving data collection and disaggregation. Our urban mobility systems need to enable a wider range of journeys beyond the radial commute, especially local and orbital journeys related to caring responsibilities (e.g., the school run) (Ravensbergen, Buliung and Sersli, 2020). Creating more orbital cycle routes that support care-related trips could make cycling more inclusive, and, importantly, new cycling infrastructure must be provided in a spatially equitable manner (Lam, 2020).

Improving data collection and disaggregation to gain a better understanding of who cycles when, where and why is another crucial step towards more equitable and inclusive cycling policies. City planners use cycle counts to guide decisions on where to install cycling infrastructure (Golub et al., 2016). However, cycle counts typically rely on methods like automatic traffic counters and camera sensors, which only capture quantitative data about the total numbers of cyclists and not socioeconomic demographics, like age, ethnicity or gender (Goodman, McDonald and Laverty, 2021; Golub et al., 2016). Although some city cycle counts record a cyclist's gender as a concession to monitoring the gender gap in cycling, it assumes that gender can be ascertained visually, which can marginalise gender minorities (Golub et al., 2016). Furthermore, cycle counts usually take place in commuter corridors and around city centres or busy areas and not urban peripheries, where more people may cycle due to socioeconomic deprivation and/or spatial isolation (Golub et al., 2016; Stehlin, 2019). This further skews cycling investments towards already visible and privileged cyclists, while continuing to systematically render other cyclists invisible in official planning processes (Golub et al., 2016; Lee, 2018; Lam, 2017).

Disaggregated data is also important to understand how and why cycling is changing in particular areas as well as who is using and benefitting from new infrastructure (Goodman, McDonald and Lavery, 2021; Women4Climate, 2019; Lam, 2017). For example, a study of the impact of new low-traffic neighbourhoods (LTNs) on cycling volume and diversity in South London found that one LTN in Walworth had the highest proportion of food delivery cyclists (37%), which contributed to a 237% increase in total cycling numbers (Goodman, McDonald and Lavery, 2021). Meanwhile, cycling increased by 71% in another LTN in Dulwich, largely driven by increased women's and children's cycling to and from school (Goodman, McDonald and Lavery, 2021). While cycling increased in both areas, in Walworth, there was no increase in cycling diversity in terms of age and gender, as nearly all delivery cyclists were men (Goodman, McDonald and Lavery, 2021). Though the study did not note the change in ethnic diversity among cyclists, it illustrates the value of disaggregated data capturing cycling diversity to guide more equitable investments.

## Conclusion

The gains in cycling and cycling infrastructure during the COVID-19 pandemic exemplify our ability to imagine and enact alternatives. But for cycling to play a role in a green and just recovery, it is not enough to prioritise cycling; cities must prioritise inclusive cycling. We cannot continue planning our cities and transport systems for the “default” cisgender, heterosexual, able-bodied, middle-class, white male user. We cannot continue to privilege the voices and experiences of those for whom cycling is a lifestyle choice, whilst ignoring those for whom cycling is an economic or spatial necessity. We cannot continue to ignore how our identities and structural inequalities contour our perceptions and experiences of city streets and public spaces.

This paper has demonstrated that incorporating an intersectional perspective in cycling policies and projects can help urban policymakers and planners ensure that growth in cycling not only continues but is equitable and inclusive. This paper started with an explanation of intersectionality and its utility in understanding and tackling inequalities in cycling. It then applied an intersectional perspective to examine two key structural factors that contribute to gender and other inequalities in urban cycling: access to economic resources and free time as well as perceptions and experiences of safety in public space. To conclude, the paper put forth two suggestions towards equitable cycling policies: increased provision of, and spatial equity in, orbital cycle routes and improved data collection and disaggregation. These steps are necessary to increase equity and inclusion in cycling, along with more research on and intersectional analysis of cycling inequalities, such as research focusing on delivery cyclists, LGBTQIA people and immigrant populations.

## Competing Interests

The author has no competing interests to declare.

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