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Feminist Green New Deal Policy Paper

Towards Gender-Inclusive and Sustainable Transport Systems

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Towards Gender-Inclusive and Sustainable Transport Systems

UK Feminist Green New Deal Policy Paper

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Executive summary

To decarbonise transport and democratise the right to safe mobility, our transport systems must be inclusive and sustainable. This paper discusses four key structural factors that create gender disparities in transport systems and must be addressed to decarbonise transport in a just and inclusive way: access to economic resources and free time, car-centric policy and planning, safety and accessibility, and the technocratic paradigm in transport.

The gendered division of domestic and caring responsibilities means women make more frequent, short journeys throughout the day, whereas men make fewer but longer journeys during peak hours. However, transport systems are designed to optimise peak-hour long distance radial journeys into city centres, which reflects a male bias. Bus deregulation has also disproportionately disadvantaged women, who rely more on buses and walking due to reduced economic resources.

The absence of robust public transport networks and car-centric policy and planning, especially in towns and rural areas, has created 'transport deserts,' where driving is the only practical way to travel. However, women, BAME people, disabled people and people with lower incomes are less likely to own a car, which constrains their ability to participate in public life.

Perceptions and experiences of safety and accessibility are shaped by identity and influence mobility behaviour. Everyday street harassment impedes safe mobility for women and girls. Police racial profiling and hate crimes can make BAME communities feel unsafe in public and deter them from active travel. Inaccessible public transport and streets make sustainable transport unfeasible for disabled people.

Gender and other inequalities in transport stem from the technocratic paradigm that underpins transport, in which 'technical' issues (e.g. engineering, technology) are privileged over 'social' issues (e.g. gender, inclusion). This prioritises top-down, technology-led solutions and produces male bias in transport systems and a male-dominated industry.

This paper offers nine recommendations to achieve gender inclusive and sustainable transport systems:

- **Collect gender-disaggregated data.**
- **Adopt gender-responsive budgeting.**
- **Increase gender-responsive participatory planning.**
- **Strengthen bus networks.**
- **Prioritise active travel for care-related and local journeys to key services.**
- **Conduct gender safety audits and accessibility audits.**
- **Invest in bystander intervention training.**
- **Explicitly prioritise gender equity and inclusion and conduct Equality Impact Assessments.**
- **Invest in mentoring programmes to diversify the transport sector.**

Introduction

Transport facilitates our access to opportunities and participation in public life. Our ability to travel – and where, when, how and why we travel – is contoured by power and privilege. This begs the question: By whom, for whom and for what do our transport systems serve? Gender and other disparities in transport behaviour and usage underscore the need for inclusive and sustainable transport systems that enable *everyone* to move around in a safe, healthy and affordable way. This is essential to democratise the right to safe mobility and decarbonise transport, which is a leading source of carbon emissions in the UK, accounting for one-third of the UK's total carbon output.[1]

Though gender is one of the most robust determinants of journey purpose and mode, it is markedly absent in transport planning processes.[2][3] For example, women typically make more frequent, shorter journeys throughout the day due to domestic and caring responsibilities, whereas men typically make fewer but longer work-related journeys during peak hours.[4] However, transport systems are built to optimise longer distance, work commutes during peak hours.[5] Without an explicit consideration of issues around gender, diversity, inclusion, governance and ownership, transport innovations (e.g. electric vehicles, e-scooters) risk reproducing and further entrenching gender and other inequalities.

Current debates about decarbonising transport focus heavily on electrification, but electrification is not a panacea. Mining raw materials for batteries, manufacturing and generating electricity for electric vehicles produce emissions. The extraction of raw materials for batteries exacerbates global injustices, as consumers for electric vehicles mostly live in industrialised countries while raw materials are concentrated in countries in the Global South.[6] A just transition to low carbon transport requires shifting from polluting fossil fuels and exploitative extractions towards publicly owned sustainable energy.

Tackling the climate and air pollution crises requires significant and rapid reductions in motorised transport, particularly private cars, which account for nearly two-thirds of road transport emissions.[7] This requires more integrated and gender-informed land use and transport policy and planning, alongside increased investments in public transport and active travel, to enable people across the UK to access essential services and amenities by walking, cycling or public transport. Rethinking public transport governance and ownership can increase affordability, accessibility and accountability to the public.

This paper discusses four key structural factors that gender transport and must be considered to decarbonise transport in a just and inclusive way. It concludes with recommendations, including examples of good practice, to achieve gender inclusive and sustainable transport systems.

1 Department for Business, Energy and Industrial Strategy (BEIS), 2019, 2018 UK Greenhouse Gas Emissions, Provisional figures http://bitly.ws/d8cd

2 International Transport Forum, 2021, Transport Innovation for Sustainable Development: A Gender Perspective http://bitly.ws/ctem

3 Ramboll, 2021, Gender and Mobility, http://bitly.ws/cteo

4 Women4Climate, 2019, Gender Inclusive Climate Action in Cities http://bitly.ws/cteq

5 Ibid.

6 UNCTAD, 2020, Commodities At A Glance: Special issue on strategic battery raw materials, http://bitly.ws/ctfU

7 Department for Transport, 2018, Energy and environment: data tables, ENV0202 http://bitly.ws/d8cb

The gendered nature of transport

To decarbonise transport in a just and inclusive way, it is important to understand and address four key structural factors:

- **Access to economic resources and free time**
- **Car-centric policy and planning**
- **Safety and accessibility**
- **Technocratic paradigm in transport**

Access to economic resources and free time

There are gender inequalities in economic resources and free time due to the gendered division of household and caring responsibilities, women's lower rates of participation and gender discrimination in the labour market (e.g. gender pay gap). Women are more likely than men to have low incomes, be in part-time and/or precarious work and live in poverty. These gender disparities are compounded by race. BAME women are twice as likely as white workers to have insecure work, largely including low-paid health and social care jobs.[8] The Covid-19 pandemic has increased women's economic insecurity and time poverty, especially BAME women.[9] [10]

The gendered division of household labour and caring responsibilities results in women making more encumbered care-related journeys that may require multiple stops.[11] This makes certain transport modes (e.g. cycling, walking or car sharing) unviable and underscores the need for accessible public spaces and transport systems. Narrow or absent pavements, car parking on pavements and the lack of lifts or ramps in transport stations pose barriers for people using wheelchairs and women traveling with a pram, children or older people.

More importantly, transport systems do not adequately enable care-related journeys, as they are built to optimise long distance radial journeys into city centres during peak hours. This exhibits a male bias because it is based on the historic male breadwinner's work commute from the suburbs into the city centre and continues to reflect men's travel patterns.[12] In the UK, men are twice as likely as women to make commutes lasting at least an hour, while women make the majority (55%) of trips lasting less than 15 minutes.[13] In 2019, men in England made 8% fewer overall trips than women but travelled 17% further.[14] Men in England also made 36% more commuting trips and 24% more business trips than women in 2019, whereas women made 36% more education/escort education trips than men.[15]

Radial planning that prioritises peak hour commutes fails to serve the mobility needs of women, children, teenagers, the elderly, informal workers and others with more varied

8   TUC, 2020, BME women and work: TUC equality briefing http://bitly.ws/ctfC

9   Alon, T.M., Doepke, M., Olmstead-Rumsey, J. & Tertilt, M. (2020) The Impact of COVID-19 on Gender Equality, NBER, Working Paper 26947 http://bitly.ws/ctfA

10   Women's Budget Group, 2020, BAME women and Covid-19 – Research evidence http://bitly.ws/ctfD

11   Women4Climate, 2019, Gender Inclusive Climate Action in Cities http://bitly.ws/cteq

12   Ibid.

13   ONS, 2018, Commuting to work by gender, UK country and region http://bitly.ws/cteu

14   Department for Transport, 2020, National Travel Survey: 2019 report http://bitly.ws/ctel

15   Department for Transport, 2020, National Travel Survey Factsheets 2019 http://bitly.ws/cteK

journeys (e.g. shift workers, night-time economy workers), who may experience longer wait times for transport services in emptier train stations and bus stops, which can feel less safe. Changes in work and travel patterns since the Covid-19 pandemic call into question the primacy of radial planning. Even before the pandemic, work commutes comprised a small proportion of overall travel. In England, the three most common trip purposes from 2002-2019 have been leisure (26%), shopping (19%) and commuting (15%).[16] Transport systems must reflect this and enable a wider range of local and orbital journeys. Places also need to be better designed to reduce the distances people have to travel to access leisure, shopping, work and services.

Although women, particularly women with lower incomes, are more dependent on walking and public transport than men, there are gender differences in public transport usage.[17] In the UK, women are more reliant on buses while men are more reliant on trains and tubes.[18] Women in Scotland make 13% more bus journeys than men.[19] Women in England make a third more bus journeys than men.[20] Meanwhile, men in England make 40% more rail trips than women because rail networks better serve longer commutes that men typically make and 47% of rail trips are for commuting purposes.[21] The high cost of rail travel is also prohibitive for people with lower incomes.

Because women rely more on buses than men, they have been disproportionately disadvantaged by bus deregulation in the UK and subsequent cuts to local bus services under austerity. Reductions in national bus ownership since the 1985 Transport Act have led to fare increases, fewer or withdrawn bus routes and poorer quality services outside of London, especially in rural areas.[22] [23] 134 million miles of bus coverage across the UK have been cut between 2008 and 2018.[24] As a result, local bus journeys can be circuitous, making driving or taking a taxi quicker, safer and more attractive. Cuts to bus services intersect with cuts to public services vital to women's safety (e.g. Violence Against Women and Girls services, refuges) and curtail women's access to basic services (e.g. childcare, health care), work opportunities and social activities, particularly older women, disabled women and women in rural areas.[25]

The failure of central and local governments to consider the gendered impacts of cuts to bus services compounds wider gender inequalities in society and increases women's risk of social and spatial isolation.[26] Women typically live longer than men and older people have free access to many public transport services. However, one-third of people over 65 in England never use public transport and 68% of UK households with someone over 70 own a car.[27] Bringing buses into public ownership can improve services by increasing affordability, accessibility, inclusion and public accountability.

16   Department for Transport, 2020, National Travel Survey: 2019 report http://bitly.ws/ctel
17   International Transport Forum, 2021, Transport Innovation for Sustainable Development: A Gender Perspective http://bitly.ws/ctem
18   ONS, 2018, Commuting to work by gender, UK country and region http://bitly.ws/cteu
19   Transport Scotland, 2021, Scottish Transport Statistics No 39 2020 http://bitly.ws/cteS
20   Department for Transport, 2020, Mode of Travel Statistical Data Set, NTS0601 http://bitly.ws/cteT
21   Department for Transport, 2020, National Travel Survey Factsheets 2019 http://bitly.ws/cteK
22   Campaign for Better Transport, 2019, Future of the bus: future funding arrangements http://bitly.ws/ctfE
23   CPRE, 2021, Every village, every hour 2021 buses report http://bitly.ws/d8j2
24   Wilde, C., Lynch, P. & Belcher, A. 'Britain's bus coverage hits 28-year low.' BBC News, 16 February 2018 http://bitly.ws/cthB
25   National Federation of Women's Institutes, 2021, A New Route for Local Bus Services http://bitly.ws/d8iA
26   Ibid.
27   Age UK, 2015, The Future of Transport in an Ageing Society http://bitly.ws/ctfI

Car-centric policy and planning

The lack of robust public transport networks in towns and rural areas increases car dependency. Public transport journeys in rural areas also tend to be more expensive than in urban areas and harder to plan due to inadequate route planning apps. There is high public demand in some rural areas, like South Wales, for improved bus services to reduce car dependency.[28] Part of the problem is the centralisation of transport policymaking in London, which overlooks the transport needs of smaller cities, towns and rural areas. Furthermore, urban and town development has built in car dependency by prioritising car travel and investment in roads.[29]

Car-centric policy and planning has created 'transport deserts,' where driving is the only practical form of transport due to absent or inadequate public transport, pavements and cycling infrastructure, as well as long distances needed to access services, opportunities and amenities.[30] Over one million people in the southwest and northeast of England live in transport deserts.[31] The cost of a car can drive those with lower incomes into poverty.[32] Transport deserts compromise the provision of and access to health and social care, particularly in rural areas with large ageing populations, like Somerset in Southwest England.[33] [34] This has a gendered impact, as women comprise 77% of the NHS workforce and 82% of the social care workforce and women outlive men.[35] [36] [37]

Despite increased car dependency in smaller cities, towns and rural places, access to a car is not equal. Women, BAME people, disabled people and those with lower incomes are less likely to own a car.[38] [39] Men are more likely to hold a driving license than women. In Scotland, 77% of men have a driving license compared to 66% of women.[40] In England, the figures are 80% and 71% respectively.[41] Black people in England are also over twice as likely as white people to live in a household without a car.[42] Similarly, in Scotland 60% of 'African' households and 49% of 'Caribbean or Black' households lack car access.[43] In Wales, 65% of households in the lowest income quintile have access to a car, compared to 89% of households in the top income quintile.[44] Figures in England are 55% and 86% respectively.[45]

People with lower incomes are disproportionately harmed by road collisions and traffic-related air pollution, despite lower levels of car ownership and usage. In areas of higher deprivation in the UK, there are more road collisions and pedestrians are disproportionately

28   IPPR, 2021, South Wales Valleys Climate and Fairness Panel http://bitly.ws/dMjy

29   Common Wealth, 2019, Away with all Cars (Redux) http://bitly.ws/dfIG

30   CPRE, 2021, Every village, every hour 2021 buses report http://bitly.ws/d8j2

31   Ibid.

32   Ibid.

33   Somerset County Council, 2016, State of the Somerset Economy Report http://bitly.ws/d8kK

34   New Economics Foundation, 2020, Community Micro-Enterprise as a Driver of Local Economic Development in Social Care http://bitly.ws/d8nK

35   NHS Employers, 2019, Gender in the NHS infographic http://bitly.ws/dfJh

36   Ibid.

37   Skills for Care, 2020, The state of the adult social care sector and workforce in England http://bitly.ws/db5f

38   Stats Wales, 2014, National Survey for Wales results, 2013-14 http://bitly.ws/ctfG

39   Transport Scotland, 2021, Scottish Transport Statistics No 39 2020 http://bitly.ws/cteS

40   Ibid.

41   Department for Transport, 2020, National Travel Survey: 2019 report http://bitly.ws/cteI

42   Department for Transport, 2019, National Travel Survey NTS0707 http://bitly.ws/ctfJ

43   Transport Scotland, 2021, Scottish Transport Statistics No 39 2020 http://bitly.ws/cteS

44   Stats Wales, 2014, National Survey for Wales results, 2013-14 http://bitly.ws/ctfG

45   Department for Transport, 2020, National Travel Survey: 2019 report http://bitly.ws/cteI

at risk of road traffic injuries.[46] Children, particularly males, in the most deprived areas in England are at greatest risk of road traffic injury across all transport modes.[47] In Scotland, the rate of traffic collisions involving children walking or cycling in the most deprived areas is triple that of the least deprived areas.[48]

Socioeconomic inequalities in traffic-related air pollution exposure have worsened in the UK over the past decade, with households in poverty experiencing the most exposure.[49] In England, air pollution is higher in deprived neighbourhoods, particularly those where BAME people comprise over 20% of the population.[50] This is problematic, given emerging evidence that long-term exposure to air pollution is a key contributor to Covid-19 fatalities and the disproportionate deadly impacts of Covid-19 on BAME populations in the UK and beyond.

To optimise the potential of investments in walking and cycling to create safer streets, improve air quality and democratise public space, they must be fair and seen to be fair. Gender and racial disparities in cycling and perceptions of cycling, coupled with a lack of inclusive representation and community input in planning, lead to an inequitable distribution of cycling infrastructure and associations of cycling infrastructure with gentrification.[51] [52] New active travel projects must be distributed in a spatially just way and meaningfully involve underserved communities in planning processes. Active Travel England, a new government body established in 2020 to implement local authorities' walking and cycling plans, could play a role in ensuring safe, accessible and inclusive active travel infrastructure. Moreover, integrated housing, land use and transport policy and planning can ensure places are designed to enable people safe and easy access to key services and amenities on foot, cycle or public transport.

Safety and accessibility

Identity shapes our perceptions and experiences of safety and accessibility in public space. This influences our decisions about whether, when, where and how to travel. People who experience multiple vectors of discrimination cannot enjoy unfettered access to public space and public transport. This is especially the case when streets and transport systems are designed for the 'default' user – a white, middle-class, able-bodied and younger male.

Gender-based violence in public space (e.g. street harassment) is a barrier to safe mobility and participation in public life for women and girls. The intersection of sexism with racism, ableism, homophobia or transphobia compounds the vulnerability of BAME women, disabled women and LGBT+ people to street harassment. Women's increased dependence on public transport increases their vulnerability to gender-based violence in public since they spend

46   Road Safety Analysis, 2015, The Link Between Deprivation and Road Safety http://bitly.ws/ctfL

47   O, Toole, S. & Christie, N. (2018) 'Deprivation and Road Traffic Injury Comparisons for 4 to 10 and 11 to 15 year-olds' Journal of Transport and Health 11: 221–229.

48   Sustrans Scotland, 2019, Investing in cycling to tackle transport poverty and promote equity http://bitly.ws/ctfP

49   Barnes, J., Chatterton, T. & Longhurst, W.S. (2010) 'Emissions vs. Exposure: Increasing injustice from road traffic-related air pollution in the United Kingdom' Transportation Research Part D: Transport and Environment 73: 56–66.

50   Fecht, D., Fischer, P., Fortunato, L., Hoek, G., de Hoogh, K., Marra, M., Kruize, H., Vienneau, D., Beelen, R. & Hansell, A. (2015) 'Associations between air pollution and socioeconomic characteristics, ethnicity and age profile of neighbourhoods in England and the Netherlands' Environmental Pollution 198: 201 – 210.

51   People for Bikes, 2021, Where Do We Go From Here? Breaking Down Barriers to Bicycling in the US http://bitly.ws/ctg9

52   Transport for All, 2021, Pave the Way: The impact of Low Traffic Neighbourhoods (LTNs) on disabled people, and the future of active travel http://bitly.ws/ctfs

more time waiting in or walking through poorly lit and isolated places.[53] Violence against bus drivers has increased during the pandemic and staffing cuts have increased the vulnerability of public transport workers to gender-based violence on the job.

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.[54] 66% of girls in the UK have experienced sexual harassment in public and try 'avoiding' it by taking longer routes and pretending to talk on the phone.[55] London has the highest rates of public sexual harassment in the UK and 40% of sexual assaults occur in public spaces, particularly on public transport.[56] [57] 55% of women in London have experienced sexual harassment on public transport, mainly the tube.[58] Globally, safety concerns can lead women to drive, take a taxi/ private hire vehicle, or not go out at all, especially at night.[59] [60] [61]

Women are more likely to be disabled than men (21% and 17%, respectively) and globally, disabled women are disproportionately victims of sexual harassment and assault, including in public.[62] [63] Disabled people, including those with hidden disabilities (e.g. learning difficulties, hearing impairments), require more assistance from public transport staff to access services, but disabled women often experience intrusive and non-consensual touching by passengers and staff.[64] [65] Safety and accessibility concerns can increase disabled people's dependency on taxis as an alternative to public transport, which can exacerbate socioeconomic deprivation.[66]

Inaccessible public space and transport networks restrict disabled people's autonomy, spontaneity and access to economic and other opportunities. Nearly half of disabled people in England, Scotland and Wales are completely dependent on public transport because they lack car access.[67] Yet 20% of disabled people find public transport inaccessible due to inadequate or absent signage, staff, wheelchair space, priority seating and step-free access.[68] Temporary cycling infrastructure and Low-Traffic Neighbourhoods implemented across UK cities during the pandemic have been critiqued for compounding accessibility barriers for disabled people.[69]

53   UCL Urban Laboratory and UCL STEaPP's Urban Innovation and Policy Laboratory, 2020, Scoping Study: London's participation in UN Women's Safer Cities and Safe Public Spaces Programme http://bitly.ws/dbe8

54   AAPG – UN Women, 2021, Prevalence and reporting of sexual harassment in UK public spaces http://bitly.ws/cteV

55   Plan International UK, 2018, Street Harassment http://bitly.ws/dbbf

56   YouGov, 2020, YouGov Survey Results http://bitly.ws/cteW

57   UCL Urban Laboratory and UCL STEaPP's Urban Innovation and Policy Laboratory, 2020, Scoping Study: London's participation in UN Women's Safer Cities and Safe Public Spaces Programme http://bitly.ws/dbe8

58   YouGov, 2020, YouGov Survey Results http://bitly.ws/cteW

59   Women4Climate, 2019, Gender Inclusive Climate Action in Cities http://bitly.ws/cteq

60   UCL Urban Laboratory and UCL STEaPP's Urban Innovation and Policy Laboratory, 2020, Scoping Study: London's participation in UN Women's Safer Cities and Safe Public Spaces Programme http://bitly.ws/dbe8

61   Plan International UK, 2018, Street Harassment http://bitly.ws/dbbf

62   ONS, 2019, Disability pay gaps in the UK: 2018 http://bitly.ws/ctev

63   Iudici, A., Bertoli, L. & Faccio, E. (2017) 'The 'invisible' needs of women with disabilities in transportation systems' *Crime Prevention Community Safety* 19(304): 264–275.

64   Ibid.

65   Mason-Bish, H., 2019, Private Places, Public Spaces blog http://bitly.ws/cteY

66   Centre for Disability Studies, 2006, Secondary analysis of existing data on disabled people's use and experiences of public transport in Great Britain http://bitly.ws/dfBl

67   Ibid.

68   Radar, 2012, Doing Transport Differently http://bitly.ws/dfxY

69   Transport for All, 2021, Pave the Way: The impact of Low Traffic Neighbourhoods (LTNs) on disabled people, and the future of active travel http://bitly.ws/ctfs

Racism and hostile environment immigration policies can impede safe mobility for BAME people and immigrant communities. Increased hate crimes towards Asian people, especially women, since the pandemic can restrict their mobility by making them too afraid to go out.[70] [71] Fear of being stopped by the police can deter immigrant communities from cycling.[72] Black people in the UK are nine times more likely to be stopped and searched than white people; racial disparities in stop and search and increased police powers during the pandemic heightens their vulnerability in public.[73]

Fear of street harassment and inaccessible cycling infrastructure can exacerbate concerns about road safety and deter underrepresented groups from cycling. In the UK, 85% of people over age 65, 78% of disabled people, 76% of women, 75% of people at risk of deprivation and 74% BAME people do not cycle.[74] In UK cities, men are over twice as likely to cycle as women, with BAME women least likely to cycle.[75] Female cyclists are also at greater risk of near misses and road abuses from drivers.[76] However, gendered perceptions and experiences of safety are omitted in cycling and wider transport planning.[77]

Technocratic paradigm in transport

Despite its social, cultural and political dimensions, transport is largely framed as a technical issue that requires engineering, economic and technological skills and solutions.[78] This reflects a technocratic paradigm, which privileges 'technical' over 'social' considerations.[79] This makes gender and inclusion seem irrelevant, produces male bias in transport systems – as evidenced in the primacy of radial transport planning, and encourages top-down, technology-driven solutions, like electric vehicles, to complex societal problems.[80]

The '15-minute city,' a city where everyone can walk or cycle to essential services within 15 minutes of their home, has gained traction as a way to build back better from the pandemic.[81] However alluring, this concept fits neatly within a technocratic framework that prioritises speed and efficiency over access and inclusion.[82] It also fails to consider how austerity and historic underinvestment in areas experiencing high deprivation have deepened socio-spatial isolation and inequalities in service provision access.[83] [84] Finally, it risks perpetuating the urban/rural divide, in which transport policy and planning revolves around cities.

The technocratic paradigm creates barriers to women's participation and leadership in the transport sector, as STEM (science, technology, engineering and mathematics)

70   Stop AAPI Hate, 2021, National Report http://bitly.ws/dfXf

71   Stop Asian Hate, 2021, Support the ESEA Community Fund http://bitly.ws/dkU5

72   McCullough, S.R., Lugo, A. & Stokkum, R.V. (2019). 'Making Bicycling Equitable: Lessons from Sociocultural Research', UC Davis: Institute of Transportation Studies http://bitly.ws/ctf3

73   Home Office, 2020, Police powers and procedures England and Wales, year ending 31 March 2020 second edition http://bitly.ws/ctf8

74   Arup and Sustrans, 2020, Cycling for everyone http://bitly.ws/ctf9

75   Sustrans, 2019, Bike Life: Cities for people http://bitly.ws/ctfb

76   Aldred, R. (2016) 'Cycling Near Misses: Their frequency, impact, and prevention' *Transportation Research Part A: Policy and Practice* 90: 69–83.

77   Xie, L. & Spinney, J. (2018) "I won't cycle on a route like this; I don't think I fully understood what isolation meant': A critical evaluation of the safety principles in Cycling Level of Service (CLoS) tools from a gender perspective' Travel Behaviour and Society 13: 197–213.

78   Kronsell, A. (2013) 'Gender and Transition in Climate Governance' Environmental Innovation and Societal Transitions, 7: 1–15.

79   Women4Climate, 2019, Gender Inclusive Climate Action in Cities http://bitly.ws/cteq

80   Ibid.

81   C40 Cities, 2020, How to build back better with a 15-minute city http://bitly.ws/dfFc

82   Zivarts, A. 'The '15-Minute City' Isn't Made for Disabled Bodies,' Bloomberg CityLab, 22 April 2021 http://bitly.ws/dfFj

83   Institute of Health Equity, 2020, Health Equity in England: The Marmot Review 10 Years On http://bitly.ws/dkUk

84   New Economics Foundation, 2021, Local Conversations: Final Evaluation Report (forthcoming)

and economics are male-dominated fields. In the UK, only 5% of women work in STEM occupations, compared to 28% of men.[85] Globally, women are underrepresented in the built environment and transport sectors.[86] In the UK, women represent just 14% of the built environment sector and 21% of the transport sector, and BAME people represent just 4% of the transport planning workforce.[87] [88]

Women in the UK transport sector characterise it as a male-dominated industry with a macho culture, in which women experience unconscious bias, sexist behaviour or language and increased barriers to career progression.[89] The transport sector needs to diversify. Expertise on gender and social inclusion is needed alongside increased diversity for transport systems to be more inclusive and responsive to community needs.[90]

85   EIGE, 2019, Gender Equality Index 2019: United Kingdom http://bitly.ws/cteB

86   Women4Climate, 2019, Gender Inclusive Climate Action in Cities http://bitly.ws/cteq

87   European Commission, 2019, EU Transport Scoreboard: United Kingdom http://bitly.ws/cteC

88   Commission for Architecture and the Built Environment, 2005, Black and Minority Ethnic Representation in the Built Environment Profession http://bitly.ws/cteD

89   AAPG – Women in Transport, 2021, Gender Perceptions and Experiences Working in Transport http://bitly.ws/cteF

90   Women4Climate, 2019, Gender Inclusive Climate Action in Cities http://bitly.ws/cteq

Recommendations

Decarbonising transport in a just and inclusive way will require an overhaul of the technocratic paradigm and car-oriented development. Rather than focusing on electric vehicles, investments in active travel and public transport are necessary to redress socioeconomic inequalities in transport systems and air pollution exposure. Investments in cycling are more effective than electric vehicles, as the overall lifecycle emissions from cycling are ten times lower than driving an electric car.[91]

Active travel and public transport must be perceived and treated as essential and universal services. To nurture the gains in walking and cycling during the pandemic, it is important to respond to the safety and accessibility concerns of women and marginalised groups. In the pandemic recovery, substantial and sustained investments in public transport are needed to keep it afloat and generate new green jobs.[92] [93] Investment in electric bus services could generate 12,000 jobs and scaling up rail services could create 129,000 jobs.[94] Rerouting current investments in road building to bus services could ensure hourly bus service from 6am-12pm in every village in England.[95] Public ownership models can also improve public transport routes, service reliability, affordability and accessibility.

Below are nine recommendations to achieve gender inclusive and sustainable transport systems, structured around the four themes discussed.

Addressing socioeconomic inequalities in transport

Collect gender-disaggregated data. This helps identify the differential needs of diverse populations and highlight how different groups experience intersecting inequalities, which can inform public spending decisions.

Example: In 2020, the Scottish government launched a Working Group on Sex and Gender in Data to identify gender gaps in data collection and provide guidance to public bodies on collecting gender-disaggregated data to promote more inclusive policies and services.[96] It continues to clarify guidance on interpreting, presenting and using gender-disaggregated data.[97]

Adopt gender-responsive budgeting, particularly in transport investments. The allocation of public resources and funding has differential impacts across different demographics. Gender-responsive budgeting makes visible the gendered impacts of public spending decisions, including budget cuts, to promote more equitable distribution of public resources.

91   Brand, C., Dons, E., Anaya-Boig, E., Avila-Palencia, I., Clark, A., de Nazelle, A., Gascon, M., Gaupp-Berghausen, M., Gerike, R., Gotschi, T., Iacorossi, F., Kahlmeier, S., Laeremans, M., Nieuwenhuijsen, M., Orjuela, J., Racioppi, F., Raser, E., Rojas-Rueda, D., Panis, L. (2021) 'The climate change mitigation effects of daily active travel in cities' *Transportation Research Part D: Transport and Environment* 93: 102764

92   Marsden, G., Anable, J., Doucherty, I. & Brown, L. (2021) 'At a crossroads: Travel adaptations during Covid-19 restrictions and where next?' Centre for Research into Energy Demand Solutions: Oxford http://bitly.ws/ctfW

93   C40 Cities, 2021, The Future is Public Transport, http://bitly.ws/ctfY

94   IPR, 2020, Transforming the Economy After Covid-19 http://bitly.ws/dMpe

95   CPRE, 2021, Every village, every hour 2021 buses report http://bitly.ws/d8j2

96   Halliday, R. 'Working Group on Data about a Person's Sex and Gender.' Scottish Government Blogs (blog), 20 September 2019 http://bitly.ws/ctgi

97   Halliday, R. 'Working Group on Data in Data – March update.' Scottish Government Blogs (blog), 23 March 2021 http://bitly.ws/ctgr

Example: The City of Vienna was an early adopter of gender-responsive budgeting. Since 2006, all municipal departments and city districts must evaluate the distributional impacts of public spending and service provision to ensure they do not exacerbate gender or other inequalities.[98] Some districts collected gender-disaggregated data on urban mobility and found that women walk and take public transport more than men. Officials then allocated resources for pedestrian safety improvements.

Increase gender-responsive participatory planning. This enables governments to involve diverse women, particularly those whose voices are underrepresented or excluded, in local planning and decision-making processes, which increases public participation, transparency and accountability.[99]

Example: Leeds will become the UK's first women-friendly city, following a successful bid from Women's Lives Leeds, a consortium of 11 local women's and girls' organisations.[100] A women-friendly city is a city where women can access health, education, social services, employment opportunities, high quality and comprehensive infrastructure (e.g. transport, housing) and protection from gender-based violence.[101] Engagement with local women and girls and gender-responsive participatory planning are necessary for a women-friendly Leeds that supports women's full participation in urban life.[102]

Redressing car-centric policy and planning

Strengthen bus networks by increasing public ownership. Currently, only nine bus networks are in public ownership in the UK: Dumfries and Galloway, Newport, Cardiff, Lothian in Edinburgh, Nottingham, Reading, Warrington, Ipswich, Blackpool and Translink in Northern Ireland.[103] Bringing buses under public ownership can enable local authorities to improve service coverage, availability, affordability and accessibility and increase public accountability.

Examples: Nottingham City Transport is the largest local authority-owned operator in England and has one of the highest satisfaction rates, in terms of punctuality, value for money and overall passenger satisfaction.[104] Greater Manchester plans on bringing buses under public control to ensure a more joined-up, affordable and publicly accountable bus network.[105] Campaigners in West Yorkshire are also demanding a public bus system that works for everyone.[106]

Prioritise active travel for care-related and local journeys to key services. Investments in safe, quality active travel infrastructure are needed to enable safe local journeys to key

98   City of Vienna, Gender mainstreaming in Vienna, http://bitly.ws/ctgt
99   Women4Climate, 2019, Gender Inclusive Climate Action in Cities http://bitly.ws/cteq
100   Women's Lives Leeds, 2019, Leeds to Become UK's First Women Friendly City, http://bitly.ws/ctgR
101   Women Friendly Leeds, http://bitly.ws/ctgT
102   Ibid.
103   We Own It, Buses are better in public hands, http://bitly.ws/ctgC
104   Brown, L.G. 'Nottingham's Buses Show that Public Ownership Works.' Tribune (blog), 21 March 2021 http://bitly.ws/ctgE
105   Topham, G. 'Greater Manchester bus services to be brought under public control.' The Guardian, 25 March 2021 http://bitly.ws/ctgK
106   Forest, G. 'Taking Back West Yorkshire's Buses.' Tribune (blog), 29 March 2021 http://bitly.ws/ctgL

services by walking or cycling. Physical infrastructure investments should be accompanied with investments in education, outreach and peer support schemes to promote cycling among underrepresented groups.

Example: The UK School Streets initiative promotes safe walking and cycling routes to school and cleaner air by temporarily restricting vehicular traffic at and around schools at certain times.[107] A comprehensive rollout of School Streets in four major UK cities (London, Birmingham, Bristol and Leeds) can reduce air pollution exposure and road danger for 1.25 million children.[108] School Streets can complement other initiatives, like Low-Traffic Neighbourhoods and Manchester's Bee Network. The Bee Network aims to connect and enable active travel for all communities in Greater Manchester and will be the largest joined-up walking and cycling network in the UK.[109]

Incorporating gendered perceptions of safety and accessibility

Conduct gender safety audits and accessibility audits. Gender safety audits are a participatory tool to understand women's and girls' perceptions and experiences of safety in public space. They involve working with women and girls to identify where they feel unsafe and measures to improve safety. Similarly, accessibility audits are a participatory method to identify barriers to accessibility for disabled people and older people. Both audits engage local people and systematically integrate lived experiences into data collection, design and decision-making processes.

Examples: Although currently dormant, the Women's Design Service was founded in 1984 to increase women's participation in urban design and planning in the UK and promote gender inclusive built environments and transport systems.[110] Between 2002 and 2005 they conducted gender safety audits in London, Manchester and Bristol and developed recommendations to improve women's safety (e.g. rerouting paths, public art).[111]

Sustrans conducted accessibility audits with older people in Tyburn as part of a wider project to reduce social isolation and ensure Tyburn is 'age-friendly.'[112] Ideas to improve accessibility and connectivity identified through the audit will be trialled and evaluated to inform future planning.

Invest in bystander intervention training. We need to build a culture of collective responsibility so that we, as a society, can stand up and stop street harassment and hate crimes in public. The more people call out street harassment, the less normal and acceptable it will become. However, many people do not know how to safely intervene in harassment, which is why bystander intervention training is necessary.

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107   School Streets, http://bitly.ws/ctgP
108   Hopkinson, L., Goodman, A., Thomas, A., Aldred, R., & Sloman, L. (2021) School Streets: Reducing children's exposure to toxic air pollution and road danger. Report by Transport for Quality of Life and Active Travel Academy for Possible and Mums for Lungs. http://bitly.ws/ctgf
109   Transport for Greater Manchester, The Bee Network, http://bitly.ws/ctgQ
110   WDS – Women's Design Service, http://bitly.ws/ctgx
111   WDS – Women's Design Service, Making Safer Places, http://bitly.ws/ctgv
112   Sustrans, 2019, Age-Friendly Tyburn: Year 1 Audit Report, http://bitly.ws/ctgy

Example: Hollaback!, a global movement to end street harassment, provide bystander intervention training and online resources to empower people to safely stand up to bias and harassment in public.[113]

Shifting the technocratic paradigm

Explicitly prioritise gender equity and inclusion and conduct Equality Impact Assessments in transport and land use policy and planning. Putting gender equity and inclusion on the agenda enables governments and transport authorities to dedicate time and resources to build institutional expertise and capacity to understand and address issues around gender and inclusion.

Examples: In 2019, the City of Bogota established gender equity in cycling as a public policy goal. This has increased investments in research and gender-disaggregated data collection, including a gender impact analysis of new cycling infrastructure, to build evidence and drive action to promote inclusive cycling.[114] This has also increased collaboration among government departments and engagement with feminist organisations, women's cycling campaigners and local women to make Bogota safer and more inclusive.

In South Yorkshire, the Gender Equality Duty (2007) prompted local authority officers and designers to conduct a 'walkabout' with local women in an area earmarked for development to understand their experiences of the neighbourhood. Findings were added to planning briefs and the local authority now requires proposals for engagement with local women in tenders for new developments.[115]

Invest in mentoring programmes to diversify the transport sector. The lack of role models and peer support networks can impede career progression for women in male-dominated industries, like transport. Women's mentoring programmes can play a vital role in strengthening women's participation and leadership. Monitoring and evaluating mentoring programmes can help improve their efficacy.

Example: Women in Transport, a membership-based organisation to promote gender parity in the UK transport sector, offers professional development, mentoring and networking opportunities. The APPG – Women in Transport also provides a forum to address the underrepresentation of women in the sector. Women in Transport designed a unique mentoring programme for members, Advance, which is in its fourth year and has supported 160 mentors and mentees so far.[116]

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113   Hollaback!, Show Up: Your Guide to Bystander Intervention, http://bitly.ws/ctgA
114   C40 Cities Finance Facility, 2021, Gender equality and urban cycling in Bogota, http://bitly.ws/ctga
115   Burgess, G. (2008) 'Planning and the Gender Equality Duty – why does gender matter?' People, Place and Policy Online 2/3: 112–121.
116   Women in Transport, Advance, http://bitly.ws/ctgu

The Feminist Green New Deal is bringing a gendered and intersectional approach/perspective to the Green economy/Green Recovery - ensuring that the voices of women, people of colour and other marginalised groups are heard during environmental and political debates.

Through a programme of nationwide grassroots workshops and policy roundtables a Feminist Green New Deal Manifesto will be created and launched at COP26 Glasgow Climate Talks.

This Project is a collaboration between Wen (Women's Environmental Network) and the Women's Budget Group (WBG).