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A just transition or just a transition? The understanding and relevance of fairness in planning for a decarbonised transport system

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ABSTRACT

The slow progress on reducing carbon emissions from transport means that, in many economies, it is the highest emitting sector. To comply with agreed carbon budgets, a complete transformation of the energy sources used and a shift in how and how much people travel are known to be necessary. Given the UK's target of achieving Net Zero by 2050, little time is left to entirely reconfigure the mobility system. The transport systems of today exhibit large inequalities between people and places. What happens next could reduce or widen these inequalities. The idea of using the required transition to create a fairer society has been recognised in terms such as the 'just transition'. However, what do these ideas mean to the planners in charge of decarbonising transport, and to what extent do fairness considerations actually influence the pathway choices ahead?

The paper reports on a case study of the UK, using content analysis of transport strategies and interviews with transport planners at UK bodies of governance ranging from local to national level. It finds that fairness frames rarely featured in decision making. Inequalities in the current transport system and differences between groups and places were recognised. However, there is no clear recognition of how these inequalities can be resolved and, worryingly, how new ones will be avoided under a rapidly changing and decarbonising transport system. There are significant risks that decarbonisation is seen as just a transition rather than an opportunity which creates a just transition.

1. Introduction

It is well understood that the transport sector has been slow to decarbonise and that action is urgently required to meet global climate commitments. In the UK, transport accounted for 23 % of emissions in 2022 [1]. Various analyses have come to the conclusion that to decarbonise requires a transformation of the energy sources used for moving all forms of motorised transport. However, such a transition remains uncertain for heavier vehicles, shipping and aviation and cannot happen fast enough in the car and van markets to meet climate budgets [2]. Absolute reductions in travel demand have a key role to play in decarbonising transport [3]. This is already recognised, among others, in the most recent transport strategies by both the Scottish and Welsh Governments [4,5]. To decarbonise the sector within the coming decades, how we travel and how we power our travel will have to change at unprecedented speed.

Whilst the need to cut emissions is well documented, much less attention is paid to where the emissions come from and how this is distributed across society. Work by Buechs et al. [6] shows that in the EU, 47.5 % of transport-related energy use comes from just 20 % of the population. Along with this, transport provision itself is unequally distributed. This leaves some people unable to travel to the places and services they need to live their lives, such as jobs or healthcare facilities [7]. So, when discussions about behaviour change and energy transitions occur, it is important to think about how the benefits and the burden of reduction should be allocated and how the costs of paying for the transition might be shared. Given these differences, it is also important to understand which issues are recognised as relevant and whose perspectives are considered in shaping the plans for transition.

Two examples illustrate the complexity of the transition:

The Scottish Government has committed to reduce the car kilometres driven in Scotland by 20 % by the year 2030. In a context where transport provision and car use are distributed unequally, this raises the question of whether reductions should be spread evenly, or whether some need to reduce more than others. Transport Scotland already recognises that people in rural locations depend on car travel more, while people on lower incomes are less likely to own a car [8]. Implicit in the 20 % reduction target, therefore is that there are some people who

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can more easily reduce car travel and will be expected to do more, without harming those for whom car travel is seen as a necessity.

A second example is that of electric vehicle adoption. Subsidies towards the purchase of an electric vehicle (EV) only benefit those who are able to drive, have sufficient money to buy the vehicle, have access to a parking space and charging facilities [9]. And even among EV owners, the cost per mile differs depending on whether you have access to cheaper off-street residential parking or only to on-street charge points [10]. Already, then, there are differences in who is subsidised and how much users of EVs pay. However, the costs for upgrades to the grid capacity required for the shift to EVs could be 'socialised' across all households who pay electricity bills [11], including the 22 % of households that do not own a car. There are also conflicts between pedestrians and EV charging where space is handed over to new charging infrastructure boxes [12]. How can the changes brought about by the transition to electric mobility be managed in a way that is considered to be fair?

A consideration of who wins and who loses in the policy pathways chosen is no new call from transport researchers [13]. What follows then is the question of whether this distribution of wins and losses is considered fair or unfair. The literature has so far explored questions of fairness in transport, both in general terms and looking at case studies [see for example 14–16]. Here, the focus in recent years has been on how transport can provide access to key locations and opportunities for all users [17], from which recommendations for new planning approaches and appraisal methods have emerged [18–20]. Recently, there has been a shift from distribution-focused debates on transport equity to a wider conversation around justice, including aspects of recognition and procedural justice. Scholars here argue that the complexity of power, governance and knowledge that shape transport must be understood [21,22]. However, few of these insights have so far been applied in transport planning practice. Current appraisal methods often focus on cost-benefit analyses and providing value for money within narrowly defined, measurable criteria [23]. The literature suggests, therefore, that there is a risk that the gains and losses in the decarbonisation transition may get overlooked, and more importantly, who wins and loses and whether this is 'fair'.

These debates take place predominantly in academia. Linovski et al. [16] find that there is limited research on how transport planning professionals understand transport equity and so simply raising the issue as one of concern may not lead to effective policy change. This paper addresses these critical research gaps by answering the following research questions:

- How is fairness understood and framed by transport planners?
- How and to what extent are fairness considerations addressed in current plans to decarbonise transport in the UK?

The paper begins with a review of relevant literature to better establish the contexts on transport decarbonisation and on fairness. Then, methodology for documentary analyses and semi-structured interviews is described. The results are presented to enable the discussion to answer the two questions above. The paper finishes with conclusions about what this means for decarbonisation policy and the prospects for a just transition.

2. Background

2.1. Inequalities in transport

Travel behaviour depends on the complex interplay of personal and societal factors, meaning that inequalities can arise at various points in the system [24]. Inequalities often concern an uneven distribution of transport opportunities in different places, of different people's ability to use the existing transport system, or often as a combination of both. Karner et al. observe that the focus on place-based observations can conceal the diverse levels of access that different people in the same place experience [21].

In rural areas, the more dispersed nature of both people and infrastructure, coupled with cuts in public transport provision mean that accessibility tends to be lower [25]. The focus on car based mobility in the last decades means that those unable or not allowed to own and operate a car face greater challenges in accessing transport [26]. Indeed, Simcock et al. find that residents in suburban and rural settings are particularly vulnerable to transport poverty [27]. This connects to land use concerns, as more affordable housing is often in areas served less well by public transport [28]. Also, in dense areas, streetspace allocation becomes a concern, as private vehicles distort the distribution of streetspace to different people and modes [29].

These inequalities can have a profound impact on people's lives. Transport is required to access a range of locations seen as essential for everyday life, such as workplaces, healthcare, education or places for socialising [30]. Where adequate transport is not available, individuals or areas may face transport-related social exclusion or forced car ownership, meaning they have to sacrifice on meeting other basic needs to maintain a car [31,32].

The negative externalities of transport are also unevenly distributed. In the UK, for example, air and noise pollution tend to be higher in more deprived areas [33,34]. Further, transport infrastructure can act as a barrier that limits social contact and community cohesion [35].

Overall then, it is well understood that there are a range of existing inequalities. The shift to decarbonising the economy offers the opportunity to tackle or, indeed, exacerbate some of these and to create new issues. The focus of this paper is on how planning for transport decarbonisation within the UK pays attention to fairness, and therefore recognises inequities. Whilst focussing on the UK for our analysis, we recognise that the impacts of climate change are most felt by those least responsible for it globally [36]. The climate targets are, themselves, outcome of a set of negotiations, influenced by the political, social and technical conversations of the time which are not always taken to be fair [37]. Recent international negotiations on loss and damage payments to countries suffering the worst impacts demonstrate these tensions [38]. However, as a reflection of actual planning practice, this study is led by the content of national and sub-national documents and the thoughts of the planners involved in developing them. Whether fairness across broader geographic scales appears in the study is left to be an outcome of the empirical work.

2.2. Decarbonisation and inequalities

As all motorised modes of transport involve the use of energy and generation of emissions, any inequalities in transport use also translate into an inequality with regards to energy use and emissions. Decarbonisation policies do not land on a level playing field, but rather interact with a complex network of existing inequalities [39]. The scale of the upcoming transition will require profound changes, but these changes will affect people differently – and some will be more able to respond to these changes than others.

Transport decarbonisation policies are often presented through the avoid – shift – improve framework [40]. Here, 'avoid' is about plans to reduce what are seen as avoidable journeys. Cass and Lucas [41] find that in England, the 20 % of people on the lowest incomes are responsible for only 8 % of transport emissions. The people on lowest incomes are also least likely to own a car [15], with 40 % of households not owning a car in the lowest income quintile, compared to 14 % in the highest income quintile in 2022 (NTS0703, in [42]). At the same time, the richest 10 % in the UK are responsible for 41 % of all flights [41]. This means that some people have a much higher potential for reducing their travel than others, and that measures in the 'avoid' category *implicitly* target the travel habits of higher income groups.

'Shift' refers to a move of transport onto other modes than the car. Public transport is a lower emission form of travel. As people on lower

incomes are less likely to own a car [43], they are more dependent on public transport availability. However, it is important to note that the provision of public transport services is spread unevenly with some places having better accessibility than others [26]. Bondemark et al. also note that buying overall cheaper monthly or annual tickets requires a large up-front payment compared to buying overall more expensive day tickets every day – indicating that financial access to public transport is again unevenly distributed [44]. Strategies to enable mode shift would deliver both decarbonisation benefits and improvements to accessibility, which would tackle some transport inequities.

'Improve' relates to change in technology of existing modes, which includes fleet electrification. The comparatively high cost of electric vehicles means some parts of the population will be more able to afford one [45]. Whilst it is understood that electric vehicles will be cheaper to run and maintain than fossil fuel cars [46] there is comparatively little consideration of what this will mean to different places or social groups.

Each part of the decarbonisation agenda therefore has significant potential to amplify existing or create new equity or fairness issues, even though this is not always recognised.

2.3. Fairness

This sub-section introduces different perspectives on fairness which have been developed in transport academia. It highlights that the field remains diverse in perspective and application, hence there is little clarity on which view on fairness should be considered for planning practice.

As described above, observations on inequality in transport have focused on distributive impacts. This is reflected also in debates on what defines fairness. Here, distribution is accessed through three questions: What is distributed? Between whom? And how?

In transport, the distribution of either mobility or accessibility has been most studied. Mobility considers the volume and ways of movement, while accessibility refers more specifically to the ability to reach services and places of interest, also by being able to travel there. Consensus seems to form on accessibility being more important, as it more closely related to a person's quality of life [17]. This good of accessibility is distributed differently between different places, and between different people. This leads to the inequalities described above. Reflecting these differences, Martens defines fairness as "all members of society should be guaranteed a sufficient level of accessibility under most, but not all, circumstances" [14, p.228].

Contestation remains on the question of how to distribute accessibility in a way that is considered fair. A multitude of concepts can be drawn from moral philosophy, ranging from libertarianism to utilitarianism or egalitarianism [19,47–49].

Hay is among the first to study different concepts of fairness specific to transport, identifying eight very different concepts [50]. Since then, a wide range of research on fairness in transport has emerged: For example, Guo and Kontou use a data based approach to calculate how different groups of people are affected by electric vehicle rebates [51]. Hail and McQuaid explore how different concepts of justice apply to women in transport [52]. Pereira et al. discuss how different concepts of distributional fairness apply to transport [48]. Both te Boveldt et al. and Thomopoulos et al. suggest ways to include equity within multi-criteria analysis used in transport planning [18,20]. Given the diversity in the research base, one might, therefore, expect a range of interpretations of equity in planning practice.

In addition, as even this short set of examples demonstrate, the terms equity, fairness and justice seem to get applied synonymously in the literature with Hay and Trinder et al. arguing that there is sufficiently large overlap in common use and definitions to do so [50,53]. However, more recent work calls for a need to distinguish between different terms, particularly between equity and justice. Karner et al. explain that equity lines up with distributive approaches, focuses on outcomes, and is often set within constrains of existing political and financial systems. Justice, on the other hand, also questions the processes and knowledge involved, and is a much wider concept that can involve changing the system itself [54].

Karner et al.'s argument aligns with a wider call to address different forms of justice, including recognition and procedural justice, within the field of transport studies [22,55,56]. Exploring these areas of justice involves asking question on why and how current transport outcomes have come about. Sheller argues that movement is not just an outcome of the political and social structures around it but that, in reverse, these structures are shaped by people's mobility, or lack of mobility [57]. Nikolaeva et al. call for "commoning mobility", which includes communal decision making, rights to mobility and working towards a shared public good. Vitrano and Lindkvist, drawing from ideas of Iris Marion Young, find that using a concept of justice which also addresses questions of recognition and procedures brings about different insights than a purely distributive focus would have [56]. However, what also applies here is that the debate remains wide, and no concept of fairness, or of justice, has emerged as a dominant framing or definition used in planning.

2.4. Just transitions

These calls for a broader conceptualisation of justice in transport link up with questions on energy and environmental justice. Energy justice considers how energy generation and use can be distributed, considering that many globally don't have enough energy to meet their needs while others are able to reduce their energy consumption and associated emissions [6,58]. It therefore looks at questions of deep, structural inequalities. Drawing from work of Schlossberg, Karner et al. note that what transport justice and environmental justice have in common is a wide scope of what constitutes knowledge and an interest in not just addressing injustices, but the structures and processes causing these injustices [54].

All this is encapsulated in the concept of Just Transitions. Coined in the 1970's, it first arose when a shift away from fossil fuels raised concerns among trade unions that the move towards renewables would lead to job losses and harm the livelihoods of those working in fossil fuel industries [59,60]. A just transition thus involves the need to consider multiple factors in understanding how the shift should be managed. Atkins [61] observes that populist movements in the UK currently make similar arguments to those advanced by the trade unions by claiming that net zero policies place an unequal burden on vulnerable parts of society and also that they are undemocratic. Indeed, scholars argue that the concept of just transitions has long broadened out beyond the original theme of workers' rights and that it can help to unite different strands of justice research on e.g. climate, energy and the environment [59,62]. McCauley et al. [59] introduced three tenets to the study of just transitions: *Recognition, procedural and distribution justice*. While distribution justice fits with the earlier debates in transport studies, ideas of recognition and procedural justice are reflected in the above described theoretical shift from transport equity to transport justice. A fourth tenet of *Restorative justice* was added to the debate later [59]. It is concerned with identifying and making reparations for injustices that occurred in the past.

What remains though is a lack of knowledge on how this applies in transport planning. Few studies have so far applied these insights to the real transport planning process. For example, Vitrano and Lindkvist, studying transport strategies in Sweden, found that the documents saw transport as a mechanism for economic development, and travellers as mere customers [56]. Here, though, an existing concept of fairness was the starting point for the research. Only few studies have so far brought an open approach to understanding which ideas on fairness are present within transport planning documents. Trinder et al. studied UK government documents released between 1960 and 1988 and found that a number of concepts were used alongside each other, with little difference between political parties [53]. Linovski et al. studied documents

and interviewed planners involved with introducing bus rapid transit in several Canadian cities. They found that no document contained a definition of equity, and that several different definitions of equity were in use [16]. Tennoy et al. argue that transport planners tend to learn within their communities of practice, and less from experts [63]. There is thus a risk that the academic debate on transport justice remains centred on academic knowledge. In line with Schwanen's call for more hermeneutic discourses in transport justice, academia needs to be aware of its own limitations and knowledge gaps, and needs to study a wider range of evidence [55].

2.5. Framing

Framing describes the presentation and contextualisation of any piece of information [64,65]. According to the definition of Entman, "To frame is to select some aspects of a perceived reality and make them more salient in a communicating text" [64]. Frames thus evoke certain perceptions within the recipients [66]. In the process of communication, information is always framed [67]. Frames can be introduced consciously to trigger specific thoughts in those receiving the information [68,69]. But most often, framing takes place subconsciously, with the frame used depending on the communicator's background and context [67]. Hulme notes that each frame also comes with notions on what the problem is, who is responsible for solving it, and in which way [67]. Therefore, each frame might highlight a different understanding of the problem and different solution. Where different frames are used alongside each other, this may lead to conflict and misunderstandings [66].

As explained, there is no clarity on what fairness definitions are used in planning. Still, some information might evoke fairness-related thoughts in people. Therefore, framing can be used to guide the search for information in the data. As Matthes and Kohring observe, frames addresses questions of problem definitions, proposed solutions, responsibility, moral evaluation [70]. Looking for these elements in the data will reveal how information is framed and which fairness-related frames are used.

2.6. Scalar governance considerations

In order to explore how fairness is treated in transport decarbonisation policies, it is important to recognise that competencies for transport policy are distributed at different scales. Whilst overall the UK Government is responsible for the UK reporting and compliance with UNFCCC protocols and has adopted a Climate Change Act for the whole of the UK, the picture for transport is more complex [71].

Transport policy in the UK is spread across multiple levels of governance, with a complex interaction between national and local policy. Strategic policy approaches and targets, taxation and vehicle standards, and funding for service subsidy and new infrastructure are set nationally. Local authorities have responsibility for coordinating public transport provision to varying degrees, managing roadspace reallocation, promoting cycling, setting parking charges and land-use planning [71]. This offers many points of interaction between transport policy and decarbonisation at all levels of governance. In order, then, to understand whether and how fairness is considered it is necessary to explore different scales of governance and the policy approaches proposed.

The UK Department for Transport sets both UK-wide policies and policies more specifically for England. In July 2021, the UK Government published its Transport Decarbonisation Plan, setting out a roadmap of how the transport sector can decarbonise by 2050. The key strategies in this document include support for a shift to active and public transport, decarbonising the freight system through e.g. modal shifts and a focus on research and innovation. A ban on the sale of new fossil fuel powered cars and vans by 2035 is also in place [72]. The Transport Decarbonisation Plan recognises that transport is place-based. It also remarks that, while not included in current emission figures, aviation and shipping must be included in strategies [73].

The Scottish, Welsh and Northern Ireland governments however all have agreed their own carbon budgets and targets and, to varying degrees transport is a devolved matter [4,5,74]. This means there is divergence in policy approaches between the four nations of the UK. Therefore, the devolved nations release their own transport strategies.

Seven sub national transport bodies (STBs) exist in England outside of London. Their responsibility is to coordinate transport on a more regional level. Transport for the North was the first STB to be awarded statutory status in 2018, which brings the responsibility to create a strategic transport plan [75]. In 2021, it published its Transport Decarbonisation Strategy [76].

Local governance is complex and varies by area type. Local governments have a statutory requirement for producing local transport plans. Given the complexity of local governance structures across the UK, different local governance bodies will hold this statutory requirement in different places of the country [71]. While not required to do so, any other body of governance may also release a transport strategy to share their visions and priorities. From this starting point, it would be expected that multiple and potentially inconsistent and contested views on fairness will be in use and this influences our research design accordingly.

2.7. Research gaps

Academic work on transport justice has focused on debates around which approach or thinking is preferable when examining fairness questions in transport. Despite the shift towards justice, and towards questions of recognition and procedure, these debates are still led by theoretic and academic input. Transport planning decisions however are made outside of academia, and largely outside the reach of these theoretical debates. The knowledge of transport planners is largely learned and passed on among industry colleagues [63]. Therefore, understanding the views on fairness held within the transport planning community is essential, as these views will be carried forward and amplified within their community of practice.

While such a study still requires theoretical guidance to direct data acquisition and analysis, the research needs to be defined by an openness towards the views in the sector, as opposed to a desire to fit findings into existing theory. In the absence of any dominant frameworks for understanding fairness from within academia, we are looking to understand how fairness-related information is framed in the transport strategies. The three tenets of justice are adopted to guide the development of an open coding framework, allowing for open data analysis that reflects the width of academic debate.

The study seeks to meet two overarching goals:

i) to explore which definitions and framings of fairness are employed in UK planning for decarbonised transport; and
ii) to establish the extent to which fairness considerations are part of the decarbonisation policy making process.

We sought to understand the way in which policy and policy makers understood fairness in their framing of decarbonisation. As discussed, both the terms 'equity' and 'justice' are laden with theoretical debates. The aim for this study however is to understand the views of those working in transport planning, who are unlikely to be immersed in academic explorations of justice. We therefore have chosen to use the term 'fairness', but remain open to mapping the use of 'equity' and 'justice', as the literature suggests they might be used interchangeably in some framings.

3. Methods

In order to answer the two goals above, the study qualitatively looks

at how transport strategies and the people who worked on them conceptualise fairness. This is done through content analysis of transport strategies and interviews with transport planners at a range of spatial scales. While transport strategies are formal documents and products of an extensive writing process, interviews reveal the spontaneous thoughts of the interviewee and allow for consideration of issues which might not be formally reported. Using both data sources alongside each other, and applying the same analytical framework, gives insights into where conversations on fairness might occur, start or get lost in the process.

3.1. Selecting the case study places

The 2008 UK Climate Change Act set a target for an 80 % reduction in climate emissions by 2050 and was amended in 2019 to enshrine a net zero target in law [77], thereby calling for increased efforts to decarbonise. Whilst decarbonisation should have been on the agenda for more than a decade, the increased emphasis of the 2019 Act amendment means that we only selected bodies of governance for inclusion in the study if they released their latest transport strategy since the start of 2019, and up to August 2022. This resulted in a number of eligible bodies of governance at the national and sub-national levels, which were shortlisted for this research.

At the local level of governance, this study focuses on the North of England. The North of England has a population of about 16 million, around 28 % of that of England [78]. This region is of interest as it has already undergone a large transition during the deindustrialisation of the last decades. Still, income levels, GPD per capita and life expectancy tend to be lower in regions in the North, compared to London and the South East [79]. With 'Transport for the North', it also has the only statutory Sub-National Transport Body in the country. Transport for the North is responsible for developing a Strategic Transport Plan for the region, fostering connections to deliver transport services and infrastructure for the North [78]. Also in the North of England, local authorities continue to have a statutory responsibility to produce transport strategies. Hence, all transport strategies released by local authorities in the North of England are shortlisted for the research.

This results in 17 potential case study places, all of which were approached for an interview (see Table 1). It was possible to arrange interviews with nine places, which form the set of case study places for this research.

Each body of governance is a unit of analysis. While planning processes do consider decisions made at higher levels of governance, each level of governance has different planning responsibilities, meaning the resulting strategies are stand-alone documents.

3.2. Data acquisition

For each case study place, their latest transport plan or transport strategy was downloaded from their respective websites in August 2022. These documents were referred to by different names, but for ease of reading will be called "transport strategy" throughout this paper. As the strategies can be accessed from the internet and are therefore already available to the public, quotes shared in the results section will be attributed to a particular strategy.

Interviews were sought out with people who worked in transport planning at the case study places. Interviewees were recruited through the professional networks of the researchers, and through directly contacting the bodies of governance. Potential participants were asked to self-identify whether they fit the following criteria for participation:

- Worked at the body of governance that owns the plan/strategy while the plan/strategy was created.
- Actively involved in creating the plan/strategy, e.g. through research, modelling, consultations, planning, writing.
- Understanding of all or most aspects or chapters of the plan/strategy.
- Where plan/strategy was created by a larger team, the participant should have some level of seniority or staff responsibility over other team members.

This resulted in 10 interviews with 12 participants, carried out between September and November 2022. To a sufficient level of privacy in reporting interviews, pseudonyms were assigned that reveal only the level of governance: N for national, STB for sub-national transport bodies, LA for local authorities.

The semi-structured interviews took place on Microsoft Teams and lasted an hour. The questionnaire (see Appendix) included questions about the job role of the interviewee and their work on the transport

Table 1
Shortlist of bodies of governance of interest for the study. All were approached for an interview, and the places for which an interview was conducted form the set of case study locations.

Tier of governance	Body of governance	Document	Interview conducted?
UK	UK Government	Transport Decarbonisation Plan (2021)[73]	No
Nation	Welsh Government	Llwybr Newydd Wales Transport Strategy (2021)[4]	Yes
Nation	Transport Scotland	National Transport Strategy (2020)[5]	Yes
Sub-national transport body	England's Economic Heartland	Transport strategy (2021)[80]	Yes, two interviewees in one interview
Sub-national transport body	Transport for the North	Transport Decabonisation Strategy (2021)[76]	Yes
Sub-national transport body	Transport for the South East	Transport Strategy for the South East (2020) [81]	No
Sub-national transport body	Western Gateway	Strategic Transport Plan 2020–2025 (2020)[82]	No
Regional	Transport North East	North East Transport Plan (2021)[83]	Yes, two interviewees in one interview
County	East Riding of Yorkshire Council	Local Transport Plan (2021)[84]	No
Combined authority	Transport for Greater Manchester	Greater Manchester Transport Strategy (2021)[85]	Yes
Combined authority	South Yorkshire Combined Authority	Sheffield City Region Transport Strategy 2040 (2019)[86]	Yes, two interviewees in separate interviews
Combined authority	Tees Valley Combined Authority	Strategic Transport Plan 2020–2030 (2020)[87]	Yes
Local authority - not in a Combined authority	Cheshire East Council	Local Transport Plan 2019–2040 (2019)[88]	No
Local authority - not in a Combined authority	Hull Council	Local Transport Plan 2020–2026 (2020)[89]	No
Local authority - not in a Combined authority	Warrington Council	Local Transport Plan 4 (2019)[90]	No
Local authority - part of a Combined authority	Leeds City Council	Connecting Leeds Transport Strategy (2021)[91]	Yes
Local authority - part of a Combined authority	North Tyneside	The Transport Strategy for North Tyneside, 2017–32 (revised 2021) (2021)[92]	No

strategy. As the strategies themselves don't go into detail about how they were created, questions on the planning process were asked. Discussions on fairness were started by asking for the interviewees' spontaneous reactions to hearing a description of a recent development in transport (e.g. fuel price increases), before discussing the role of fairness in planning more directly. Interview transcripts were created for further analysis.

3.3. Coding approach

A directed content analysis approach as described by Hsieh and Shannon [93] is used. In this approach, prior research identifies what the key coding variables are. The coding themes are set out in Table 2. They are drawn from Matthes and Kohring, who note that frames include problem definitions, proposed solutions, assignment of responsibility and moral evaluation [70], as well as from the three tenets of just transition (recognition, procedural and distributive - see Section 2.4). This structures was used to code both the transport strategies and interview transcripts.

The software 'NVivo' was used for coding. At the start of the coding process, each quote was assigned to the relevant theme. After a number of documents were coded and quotes identified, more narrowly defined codes were created under the themes. In an iterative process, the coding structure was revisited every time after a strategy was coded, and new or more detailed codes were created wherever a new topic or idea emerged. The identified codes were then analyses qualitatively and interpreted in context of existing literature.

Table 2
Overview of the themes for coding, as set up from literature. Following an inductive approach, these were then expanded on and refined during the coding process.

Theme	Definition	Relation to frame component (based on Matthes & Kohring)	Relation to three tenets of justice
Concepts of fairness	Explicit mentions of fairness, of any concept of fairness, equity or justice, or of specific definitions of fairness (e.g. equality of opportunity).	Moral evaluation	n/a
Current state of transport	Descriptions of what transport is like right now, including descriptions of inequalities. It links to recognition justice, as it shows which themes are recognised as inequalities in the current system.	Problem definitions	Recognition justice
Policy suggestions	Policies that are recommended or discussed. This gives insight into distribution justice considerations and can show to what extent the impact of decarbonisation on different people and places is understood.	Proposed solutions	Distribution justice
Procedural and working with other people	References towards working with other people, and descriptions of how knowledge or views from different sources are included in transport planning.	Assignment of responsibility	Procedural justice
Visions for transport	Quotes describing how transport should be in the future, listing visions and goals. This links to recognition justice, as it highlights which qualities of the transport system are recognised as important.	Proposed solutions	Recognition justice

3.4. Limitations

Only one or two planners were interviewed at each body of governance. While in one instance the two interviewees from one place represented the entire transport planning team of the body of governance, most interviewees explained that there is large team of colleagues involved in developing the transport strategy, and that political input played a role as well. The views of those people may be different to that of the interviewees here, who all exhibited different viewpoints on decarbonisation and fairness. To mitigate this, interviewees were interviewed in their professional context, which allowed them to speak about the views held by the body of governance they work for.

An added limitation here is that in the UK, transport strategies are commonly co-developed by external consultants. While interviewees spoke to the involvement of consultants, they were unable to share details about this involvement. Also the strategies themselves didn't list details of how consultants were involved. Hence, it is not possible to further understand the influence of consultancies in this research project.

4. Results

This section presents relevant insights from the data, structured alongside the three tenets of justice. Firstly, it is explored whether fairness was recognised as an important topic. Then, data around the procedural aspects of transport planning are presented. Lastly, distributional aspects are discussed.

4.1. Recognising fairness

No explicit definition of fairness and only few mentions of the word fairness were found in the strategies. These few references were mostly made in statements around the future state of transport, and the visions laid out in the strategies. Here, "fair" was mentioned in passing, along with other adjectives on what transport should be like, as illustrated by this vision statement in the Scottish transport strategy:

> "This Strategy advocates a Vision for Scotland's transport system, that will help create great places - a sustainable, inclusive, safe and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors."
>
> Transport Scotland

None of the interviewees spontaneously mentioned fairness, or related terms like justice, at any point. This was despite the interview script prompting people to discuss changes in fuel and public transport prices, for example.

Towards the end of the interview, participants were explicitly asked about fairness, and about whether the body of governance they work for has a definition of fairness spelled out. The interviewees here took a longer than usual break to think, before starting to answer the question. The interviewees were then happy to share their thoughts about fairness and engage in further conversation. Many of them said that they don't have such a definition, and that they are considering this question and the lack of a clear definition for the first time now. One interviewee summed up the responses received in the following quote:

> "I don't think we've ever sat and thought about our definition of fairness. It's not something that we've ever really considered."
>
> LA1

Other interviewees shared their spontaneously formed definition of fairness, making explicit that they were here speaking in their personal capacity. A broad set of ideas was brought up here: addressing barriers, not missing out on opportunities and reducing inequity as parts of fairness. These answers shared a framing of reducing something negative. Interviewees also spoke about equality of opportunity, inclusion and benefits of transport reaching everyone, here with a positive framing of working towards something desirable. They also spoke about the way they plan and prioritise in their work, or about the appraisal process and guidelines for it.

When discussing fairness, multiple interviewees stated that they use different terms or concepts of which they believe mean the same thing as fairness. These include equality, inclusion and accessibility. Fairness currently seems to be left to the interpretation of professionals with no formal processes for defining and operationalising it. As one interviewee noted, while the different terms used might appear as if they are synonyms, they might still be perceived differently by people.

Despite the absence of clear fairness definitions, it may still be possible that fairness ideas may be represented in the strategies. Indeed, a number of statements made map onto definitions of fairness found in the literature (see Section 3.3).

> "We want Leeds to be brilliant for the bus with a bus network that connects everyone and everything."
>
> Leeds City Council

As the quote illustrates, the majority of references were made towards benefits "for everyone". It was implied here that "everyone" referred to people in the region covered by the strategy. This maps onto ideas of equality.

The nature of these benefits was either not further defined, or vague references towards "opportunities" were made. Here, the connection was made to ideas on equality of opportunity. These were mentioned in a context of growth and the economy, or they referred to formal settings such as school, employment or healthcare. Statements on inclusivity and accessibility tie in here. Access should be given to the transport system itself and particularly to public and active modes, or to abovementioned opportunities. Very few references were made towards the social and community benefits of transport, and to transport's ability to connect people outside of formal settings.

Some statements dig deeper and promise benefits for particular places or groups of people. This refers to people living in rural or more remote locations, and to the areas just outside the remit of the strategy. Special mentions were also given to businesses, who should benefit from the plan alongside people, indicating an economic focus. What is absent in these statements is an explanation as to why these groups or places should receive the described benefits.

Most fairness definitions here revolve around access to places or services. Absent from most of the strategies and the interviews were a recognition of how the imminent decarbonisation transition will affect fairness. When the interviewees were asked to explain how decarbonisation affected the development of the strategy, they gave a range of answers: Some stated that the strategy was already way under development when decarbonisation arrived on the agenda (despite over a decade of legislated commitment), and that therefore it didn't play a role. Some stated that decarbonisation was relevant to their body of governance already before there was a drive from the UK government. And some explained that the new political input on decarbonisation indeed added momentum to the development of a new strategy. Only one interviewee recognised here that decarbonisation would also affect other aspects:

> "[…]obviously we weren't just trying to solve the climate issues. You know there's all the other issues around inclusivity, making a fairer and better transport system for everyone and obviously also the health benefits […]. So the rationale for it wasn't just purely climate, but I think climate made us go that extra step in terms of, well, actually you can't do just tinkering at the edges. You've got to do something more radical and change the way it is."
>
> LA3

Similar findings were obtained for the transport strategies. Throughout the documents, decarbonisation was described as an important theme. However, the only effect of decarbonisation on people's lives was recognised to be the influence on health, through the exposure to pollution, a lack of active travel opportunities and road safety risks. What is absent from the strategies is a framing on how decarbonisation will affect fairness, or how some people will be impacted by decarbonisation policies more than others. This is particularly visible looking at references to future visions for transport: Both transport decarbonisation and sustainable transport were among the most mentioned visions, whereas fairness visions and comments regarding distribution were largely absent.

While inequalities are not always unfair, the nature of the recognised inequalities can give insights into fairness views. Descriptions of inequalities were most commonly found in the strategies as opposed to the interviews, and there mainly in descriptions of the current transport system. The statements draw comparisons based on location: Either between the region covered by the strategy and the UK as a whole, between places within the area, or between rural and urban population. The differences and inequalities described were about the transport situation, about the economy, deprivation or job provision, or about health.

Some inequalities were presented as neutral observations, often including statistics. Most of them however were framed as negative. This negative sentiment shows in the use of negatively connoted words in places where neutral words were available, and by discussing solutions and ways to change the situation. This shows that inequalities are indeed seen as negative. No positive sentiments were made here, and no situations of equality were described. Where positive statements about the current state of transport were made throughout the strategies, they were either general comments that transport has improved without describing how, or they referred to very specific measures that were introduced. None of these statements were placed in the context of equality.

Further absent were any quantifiable indicators about what makes an inequality and or about which level of inequality could be considered acceptable. Also, no mentions of people who are well off, use too much transport or benefit too much were made. The focus is entirely on those who are seen as losing out or as disadvantaged. Where these disadvantages were discussed, they were not put in a time context so is not possible to say whether these inequalities have improved or worsened over time.

4.2. Procedural justice

Procedural justice in this context refers to the people and the knowledge included in the planning process, and the weight and power given to these different perspectives. Several interviewees noted that not everyone's voice has so far been able to shape transport in similar ways, as the quote below illustrates. While this quote also touches upon distribution justice, it focuses on the relative influence of different views and voices, hence referring to procedural aspects.

> "I think the fact that the transport system in the UK is so car dominated reflects the fact that many people's voices over years and decades haves not been heard and reflected, and that the needs of commuters commuting from a suburb to a city centre has dominated rather than say those taking a trip between neighbourhoods to fulfil caring responsibilities. The fact that those voices have been heard differently and to different extents has produced the outcomes that we've seen."
>
> STB1

The strategies remained vague when describing which groups of people were involved in creating the strategies. A large number of references was made towards 'stakeholders' or 'partners', with no further description of who they are. The most described mode of interaction was working in partnership, this being with other bodies of governance, the abovementioned undefined stakeholders or the private sector. The following quote is representative of how vague most statements here were:

> "*We will work with partners to reduce transport carbon emissions to support Greater Manchester's ambition to be net zero carbon by 2038*"
> *Transport for Greater Manchester*

The higher levels of governance (nations, UK government, sub-national transport bodies) most often described giving work, power or support, either to other bodies of governance, to industry or to undefined stakeholders. The lower levels of governance more often referred to asking for support, again from other bodies of governance or from the private sector. This is likely reflective of the top-down nature of government in the UK.

Interviews gave more insight into the procedural aspects of creating a transport strategy. When describing this process, interviewees said that the starting point is characterised through a combination of an existing previous strategy, data and evidence on the current state of transport, overarching political visions such as the need to decarbonise, and local events that generated public interest in transport planning. Still, this leaves decision makers with a wide set of potential priorities and different issues to focus on.

Interviewees were asked about how they navigate and decide between the different potential priorities. They generally agreed that some opposing views and conflict are inevitable, and that it is impossible to find perfect solutions. There was consensus between interviewees that some voices are louder than others, among the public or even within the body of governance itself. To address this, interviewees describe that they work with a wide range of colleagues and that they consult widely to consider everyone's needs to an extent.

There is a noticeable difference in the self-perception and understanding of the role of the interviewees as practitioners. Some interviewees felt that it was their role to remain neutral and to present the decision makers with "objective" or "good" solutions, while it was up to the decision makers, such as elected politicians, to decide what is seen as valuable and which goals are set. They noted that they as transport planners are not the ones to make decisions or balance values, but that this should rather be left to politicians who are elected and therefore carry a mandate by the public. Such a perspective is reflective of the distant rational planning paradigm which marginalises the importance of technical choices and data filtering in supporting and influencing decision-making process [94]. This sits in stark contrast to the earlier statements which suggests that there is no guidance on fairness and that it is the practitioners' own judgement to decide what evidence to consider and what might be significant as an inequality. Other interviewees felt that they were also involved in decision making process. While no interviewee here said directly that they held some decision making power, these people spoke more directly about their visions and preferences. They argued more strongly for one outcome and gave reasons as to why this outcome would be desirable, rather than presenting a range of solutions. These interviewees also spoke more about their career background and explained how their personal stories have influenced the way they work.

Half of the interviewees also mentioned that consultancies played a role in creating the strategy. These paid consultants were engaged in organising the public consultations, analysing data, policy appraisal and writing the strategy. This is interesting as most strategies did not mention the involvement of consultancies. Where consultants were mentioned, their contributions to the strategies were not specified. Also, the interviewees did not reflect or comment on the role of consultancies. They remained vague in regards to their role and no critical thoughts about involving consultants were shared. This could be important as consultants are likely to be an important filter of what data gets reported back.

This sits in contrast with conversations on public consultations. Here, interviewees shared more details about how the consultations were done and attached their own views and judgements. The interviews revealed a wide variety in approaches and views. Some interviewees stressed the importance of consultations, both for getting input into the planning process and for getting public support for the strategy. Others felt that the consultations rather were something that had to be done, without the consultations being expected to bring about new findings. One interviewee describes this view as follows:

> "Now that the problem with a lot of public consultations is what the public gets to see is something that's quite often really, very, very nearly finished. And they don't really get much of a say in how it's come about. So it's a corporate and political expectation that when the public gets to see something, it's already quite polished."
> LA2

The wide range of attitudes towards the importance of consultation findings is also is reflected in how interviewees describe the consultation process itself. Some interviewees put large amounts of effort into the consultation process, considered how to get a diverse set of respondents, and used new technology such as interactive virtual consultations. The majority of respondents however spoke about how they followed the standard guidelines issued by the government or repeated previously used approaches. Interestingly, one body of governance stated that no consultations took place for their transport strategy, as they felt that they had sufficient knowledge already.

Interestingly, consultations were the only occasion where interviewees referred to official guidance. Otherwise, no reference was made to legislation such as the public sector equity duty or official guidance that could be used in creating fair processes and outcomes, or in making decisions and value judgements. Instead, they all framed these decisions as something made by people, who draw from professional experience and personal background to decide. There is a risk that the view of individual people can have an overly strong influence on planning processes.

Regardless of these differences in how interviewees spoke about the consultations, what most consultation processes had in common was that they took place towards the end of the planning cycle. Often bound by external deadlines, this means that the scope for consultations to change the strategies was small. Combined with the absence of direct conversations on fairness, this means that it is unlikely that the strategies will have addressed fairness in a way that the public deems suitable.

4.3. Distributional justice

Distributional justice refers to how the benefits and costs of something are spread across people and places. As the decarbonisation transition will cause large changes here, a particular focus is on how this transition will affect people and places differently, as this understanding is crucial in mitigating unwanted side effects of decarbonising.

In the strategies, a number of decarbonisation related policies are shared. Infrastructure changes to support active travel and public transport are often put in the context of emission reduction. Here, a distinction is made only by which specific locations will receive infrastructure changes. No references are made towards how these locations are chosen, or which kinds of people use these locations. Similarly around policies on behaviour change, the strategies mention that the goal is to get more people to use active or public transport, but it is not explained who these people are or why they currently don't use these modes of transport.

Even policies that are more people-centric are only mentioning people as if they were one coherent unit. These policies include measures to change the cost of travel or information campaigns for transport

users. Rarely any strategies mention that different places need different measures. The Leeds transport strategy is a strong exception to that, as the following quote illustrates:

> "Our targets are set across Leeds but we know that the different characteristics of our district will mean different choices in different location."
>
> Leeds City Council

Similar observations are made when looking more closely at policies that are seen as crucial to reduce transport emissions in line with net zero targets. When discussing EVs, the only recognition of distributional impacts is around access to charging infrastructure, with some of the strategies mentioning that people without off-street parking have less access to EV chargers. But it is not mentioned that not all people will be able to use EVs, and that some will be affected by negative externalities like chargers taking up footpath space or that public charging will be more expensive than domestic charging.

Interestingly, some documents mention that in order to achieve the objectives of the strategy, there is a need to reduce the travel volume particularly by private car. In these strategies, the narrative of benefits for all is largely absent. This indicates that there is some understanding also of the role of high mileage travellers. However there was no differentiation regarding which people should change or which kinds of trips should be reduced. Other than that, the conversation around driver behaviour speaks more generally to notions of behaviour change, and to mode shift to public and active modes. The following quote is an exception to these findings, as it illustrates the only occasion through the strategies where a group of people was mentioned that should particularly change and reduce emissions:

> "[…]to effectively reduce surface transport emissions, proportionately greater focus will be needed on transport decarbonisation measures that are likely to affect higher-income groups."
>
> Transport for the North

Interviewees were asked about the key points of the strategy for them. Most of them listed a number of policies from the strategy, but didn't take this question as an opportunity to expand more on the impacts of this policy on different people. Only one interviewee mentioned that there's "no silver bullet" (interviewee LA3) and that each journey should have an alternative. Only when pointed towards the fairness impact of different policy scenarios did the interviewees speak about how different people would be affected (see Section 4.1).

5. Discussion

Fairness and justice ideas are widely discussed in academia. But transport plans are made by bodies of governance, who are not usually involved with these debates. This led us to seek better understanding of how transport planners think about fairness, and how they use fairness concepts in planning for a decarbonised transport system. We argue that this understanding will influence whether the upcoming decarbonisation transition will be proactively used as an opportunity to address known inequities.

A key finding of this research project is that fairness was hardly mentioned in the transport strategies and interviews. Where it was mentioned, no clear definition of fairness was shared. This finding is in line with Linovski et al.'s work, who found that Canadian transport planning documents did not include any definitions of 'equity' [16]. The here presented study used an open, qualitative research approach to understand how transport planners think about fairness and which frames are used. It found that a wide range of themes were brought up in recognising which problems are relevant and which values should guide the planning process. Also during the interviews, where participants were prompted to elaborate about fairness, they brought up a number of different and sometimes conflicting frames. The frames found here are distinctly different to the current debates in academia (summarized in Section 2). The wide range of academic debates is not reflected in the limited views on fairness held within the planning community.

The documentary analysis suggests that a partial representation of debates on transport inequality has become mainstream. This tends to focus on a relatively narrow set of transport access issues and it is framed terms of sufficiency and bringing up accessibility for those worse off. This framing is nothing new. Transport poverty and the importance of transport to provide access and avoid social exclusion have been mentioned in a report to government from the Social Exclusion unit in 2003 [95]. In 2016, Lucas et al. found that at that time still, transport poverty was poorly understood and not well communicated to practitioners [7]. The findings of this research show that this has changed and the access-related elements of transport poverty are now more clearly recognised by planners. This however is still a long way from full recognition of and policy remediation for transport poverty and transport-related social exclusion. This reinforces findings by Tennoy et al., who note that academic research has only limited influence on debates in transport planning [63]. It appears that the current focus of academic research on transport justice has not transpired into the planning sector.

Discussions of demand reduction are largely absent and even where travel demand is mentioned, it's insignificant compared to other topics. Discussions of "not enough" are not mirrored by discussions of "too much". Following Shue, it addresses the question of who should receive more, but not whom this "more" should be taken from [96]. This omission will have fairness implications: For example, energy demand reduction is seen as a crucial component towards decarbonisation, and transport emissions are spread very unevenly. However, people with high-emitting lifestyles employ a range of discursive strategies to justify their lifestyles and inaction [6,41,58]. Hence, a reliance on voluntary behaviour change will not be sufficient to reduce transport emissions, and targeted measures towards high emitters are required.

Particularly when referring to fairness in relation to a distribution of benefits and disadvantages, most statements were framed in an economic context. This raises the question of whether planners see fairness as something that brings specific benefits in line with formal settings and opportunities. This operational view is also supported by the statements of multiple interviewees who described fairness as a composite measure of various other themes that are already of relevance to the body of governance they work for. This indicates an extrinsic motivation to mention fairness, it is seen as something that ties in with other, more dominant values, rather than being a core value in itself. This is problematic: Tennoy et al. note that where an objective isn't explicitly stated, it'll likely be overruled by more visible themes in the planning process [63]. Here, fairness is not mentioned as a key driver. Therefore, any progress on fairness that does come out of the strategies would be accidental.

Conversations around responsibility reveal conflicting ideas on who should make decisions around fairness. While some interviewees saw themselves as neutral brokers of information, others felt that they had an active role in shaping and selecting information. When planners were asked about their thoughts on fairness, a number of them made it clear that they spoke in their own capacity. This shows that there is no official view on fairness within their body of governance that the interviewees could rely on. This observation lines up with the absence of references towards legislative duties addressing fairness. There is a risk here that assumptions are made that fairness is being tackled somewhere else in the system, while in reality fairness is tackled nowhere [97].

In the absence of an agreed position, people may follow either their own interpretation of fairness, or none at all. This makes it harder to scrutinise the decision making process. Where it was possible to imply or map an existing definition of fairness onto the data, multiple different views on fairness were found in the same transport strategies and interviews. This again indicates that there is no clarity on what is considered fair. As Hovardas and Korfiates point out, using

contradicting frames leads to misaligned or ineffective policies [66]. Thus, the lack of clarity on what fairness means, and the resulting spread of different frames used, indeed bring a risk that resulting policies will not be effective. This is especially problematic as no mention towards legislation or guidance to support fairness decisions was made.

In light of the urgency of transport decarbonisation, these research findings point towards a large gap in the current work of transport planners. Throughout the strategies and interviews, decarbonisation and fairness appear as two distinctly different topics. Both decarbonisation and fairness were discussed by the interviewees, but in different parts of the conversation. In the strategies, decarbonisation was presented as a theme of importance, however discussions on the inequalities found in transport did not connect in any way to the decarbonisation challenge ahead. Thinking here is focused on current and longstanding inequalities, however without acknowledging that decarbonisation poses both a threat and an opportunity to addressing these inequalities.

It seems that, only 26 years away (at the time of writing) from the net zero target and well within the planning horizon of bodies of governance, transport planning has not yet recognised the scale of the challenge. Transport includes longstanding inequities, which are recognised by planning professionals. Regrettably, these inequities seem to be widely accepted, as no conversation take place around how they can be addressed within the decarbonisation transition. More so, there appears only little recognition that both the lack of focus on fairness and the processes by which these inequities have come about is potentially central to the replication of inequity over time - and therefore through the next transition. Still, conflicts will arise between the needs to decarbonise and to provide access, and decisions will have to be made to address these, sometimes competing challenges. The findings here show that, in the absence of spelled out definitions on fairness, this responsibility to decide and make value judgements lies in the planners' own judgement and the input of elected officials, rather than with research input.

6. Conclusion

Decarbonising transport represents one of the most significant transitions to how we travel since the mass adoption of the car. It presents a major opportunity to address some of the failings of the current system and deliver on a notion of a 'just transition'. However, given the historic limited consideration of issues of justice and fairness in transport policy making there is a significant risk that this opportunity will be missed, or worse, that it will exacerbate problems and open up new ones.

This research has collated a rich set of discourses with the aim of enabling a better understanding of the meanings of and implications for fairness in transport decarbonisation. What we found instead was a worrying lack of depth in conversations around fairness, and a complete absence of fairness framings in most conversations on transport decarbonisation. This absence of depth stands in stark contrast to the rich and varied research on transport justice carried out in academia. Regrettably we conclude that fairness is not a high priority when it comes to setting out the goals of a transport strategy, nor, therefore, is it influential in the choice or design of policy interventions. Instead, fairness currently remains an empty signifier.

Our research is based on the UK, although we draw from international literature which reports similar findings on how planning practice works. It appears from the literature research that no place has yet found a full answer for how to truly embed fairness concerns at the heart of transport planning. While planning structures will differ between countries, the need for transport planners to engage with ideas on fairness more deeply will be similar. Further, the method presented here can in itself be replicated in other national and regional contexts, to understand which frames are used in conversations around transport fairness. These frames can form the start of a deep and open conversation with planners.

This conclusion does not mean that transport planning and transport planners pay no attention to inequities. However, attention is focussed on those who currently do not have good options to travel and reach key facilities. While this is indeed an important area of policy, the communities impacted are those who contribute least to climate emissions from transport. Little discussion is being had about who travels too much, how space should be renegotiated between people and infrastructure or who is going to win and lose from the massive shift in financial incentives which electrification is bringing. Here, it seems an opportunity for planners to utilize both equity legislation and public engagement stronger and towards the start of a planning process, where there is scope for the plan to change meaningfully. These sources of knowledge can be used to challenge or redraw boundaries as to how fairer outcomes can be achieved. Further research can draw from interpretive policy analysis to understand how transport planner's knowledge on fairness has been shaped [see e.g. 98].

Whilst change is possible, it is far from inevitable. The advent of the decarbonisation agenda has yet to impact on how fairness is considered. Whether the pathways we follow will improve conditions for different groups and areas is deeply uncertain. We conclude therefore that currently, rather than planning for a just transition, we are instead just planning for a transition.

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CRediT authorship contribution statement

Vanessa Ternes: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Greg Marsden:** Writing – review & editing, Supervision, Methodology, Funding acquisition, Formal analysis. **Gillian Harrison:** Writing – review & editing, Supervision, Methodology, Conceptualization.

Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Vanessa Ternes reports financial support was provided by Arup. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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Appendix A

A.1. Interview script

A.1.1. Introduction

Hello, thank you for joining me for this interview.

I'm [name redacted], researcher at [institution redacted]. It's so nice to meet you, and thank you for your time!

You have had a chance to read the information sheet and you have sent back the consent form – thank you!

Just to recap, this interview will take about 1 h. It will be recorded and the recording will be stored safely. You will receive a pseudonym in the analysis.

This is a semi-structured interview. So I have a list of questions prepared and will ask follow up questions based on your answers. Of course, you can refuse to answer a question or end the interview at any time.

Do you have any questions?

Okay, I will start the recording now.

A.1.2. Planning

Question	Probing	Rationale
Please tell me about the work you do at [body of governance]	Tasks Responsibilities Duration of employment	To get to know the interviewee. Easy-to-answer question to break the ice.
I have approached you for this interview because you were involved in creating the latest transport plan/strategy for [body of governance]. Could you tell me more about your work on this?	Responsibilities Timescale of involvement – all the way or from a certain point on?	To understand the role the interviewee played in creating the plan/strategy. To double-check that they meet the criteria for participation.

A.1.3. Procedural

Question	Probing	Rationale
How did [body of governance] go about creating the transport plan/strategy?	Timeline? Which kind of expertise was included in the team working on this? Did you get in external agencies, consultancies or other bodies to help? If so, which ones? Was the plan/strategy an update of a previous one or created from scratch?	To understand the work and processes involved To get a first understanding of which knowledge was and wasn't included
What were your key sources of information when creating the plan/strategy?	Whom did you consult? Which resources did you use?	To understand which information was (and wasn't used)
Could you tell me about the public consultations process?	Who was addressed? Who participated? What was the setting? Where in the process did this take place?	To understand which people had a chance to contribute
How is the information gained in consultations used in the process?	When is it used? Who uses it further and in which way? Could you give an example of how information from consultation has shaped the plan/strategy?	To find out more about procedural fairness of consultations
What happens if info from consultations is in disagreement with other information you have? Do you think the consultation process manages to capture everyone's views, or are some people's perspectives more dominant?	Give an example, if interviewees can't answer this. E.g. "Imagine"	
How is the plan/strategy turned into action?	How do you use it in your day to day work? What about your colleagues? What has changed as a result of publishing the plan? Which parts of the plan were already actioned upon? How?	To understand how the plan/strategy is used in further work

A.1.4. Outcomes, distributional

Question	Probing	Rationale
We've talked a lot about the process of creating the plan/strategy. Now let's talk about the plan/strategy itself. What are the key points in it?	Goals	To get their first, unfiltered thoughts about the plan/strategy
	Priorities	
	Guiding principles	
Earlier, we talked about different goals of the transport plan. What happens if some of the goals are in conflict to each other?	E.g. decarbonising transport and providing access to things	
The UK government declared a climate emergency in 2019 and set a goal of reaching net zero emissions by 2050. The strategy was published prior to this being set in law, but debates on net zero were ongoing already. How has this influenced the plan/strategy?	Which policies to decarbonise	To understand if this really was informed by the climate emergency, and to what extent.
Now let's look at some examples. Fuel prices are increasing in the UK, a liter of petrol now costs 40p more than it did one year ago.[1] What do you think about this?	Is it fair? Why, why not?	
This summer, Germany introduced a ticket to access country-wide public transport for €9 per month. What do you think about this?	Is it fair? Why, why not?	
	The scheme will likely be discontinued. What do you think about this?	
	Could it be made better?	
These questions already hint at fairness. I am asking this because there are many different definitions of fairness, but I hardly ever found a definition spelled out. Do you have a definition within [body of governance]?		
Can you generalise what criteria are needed to consider a transport project or situation fair?		
Is a fair process needed for a fair outcome? Or can unfair processes lead to fair outcomes?		
This is the end of the interview. We have moved from specific examples to more general views on fairness. Is there anything you feel is missing? Anything you'd like to add?		

A.2. Codebook

- Insights from INTERVIEWS
  - Balancing different views
  - Relevance of decarbonisation
  - Role and background of interviewee
- CONCEPTS of fairness
  - Accessibility to things, places
  - Benefits for everyone
  - Benefits for people in certain place
  - Different things for different places
  - Equality of opportunity
  - Reduce inequality
  - References to FEASIBILITY
  - Special consideration for some groups
- CURRENT state of transport
  - Are inequalities observed
    - Economic
    - Geographical
    - Health and (dis)ability
  - COVID things - not coding them elsewhere
  - How does transport affect other things
    - Air quality & pollution
    - Economic
    - Emissions
    - Health
    - Safety
    - Social impacts
  - Moral judgements
  - Politics, decision making, power
  - What is transport like right now
    - Connectivity and integration
    - Cost of travel for end users
    - Infrastructure
    - Investments
    - Knowledge
    - Policy, regulations
    - Significance of area
    - Technology, electrification, research very broadly

- Traffic flows
- Modal split
- Traffic volume & capacity
- What others do

- POLICY suggestions and justifications
  - Broader changes to traffic system
  - Economic
    - Cost of travel for end users
    - Investment
  - Infrastructure
  - Knowledge based
    - Education, information campaign, communications
    - Further strategies, documents
    - Monitoring policies and reflections
    - Research, innovation, finding out stuffs
  - Legal
    - Processes and organisation
    - Regulations and policies
  - Place-based
  - Sounds like policy, feels like vision
- PROCEDURAL and involving other people
  - Asking for support, lobbying
    - From government
    - From private sector
    - Other bodies of governance
    - Undefined stakeholders
  - Consult
    - Public
    - Specific groups of people
    - Undefined stakeholders
  - Give work, power or support
    - Other bodies of governance
    - Private sector, industry
    - Unknown stakeholders
  - Work in partnership
    - Academia, research
    - Government departments
    - Other bodies of governance
    - Private sector, industry
    - Public
    - Specific groups of people
    - Undefined stakeholders
- VISION for transport
  - Accessibility
  - Addressing climate change overall
  - Affordable transport
  - Air quality and pollution
  - Capacity
  - Congestion and road space
  - Connectivity and integration
  - Economic benefits and job provision
  - Fairness
  - Fast, efficient, frequent
  - Good, high quality, generic positive
  - Health benefits
  - Information system for transport users
  - Infrastructure & building
  - Low or zero carbon or sustainable transport
  - Modal split and shift
  - Nature and heritage
  - People-centred and pleasant places
  - Reduction to overall travel volume
  - Regulation and support
  - Reliable transport
  - Resilience
  - Safe transport

- Technology uptake and leadership
- Things staying as they are
- Wellbeing, quality of life

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