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Policies for Reducing Car Traffic and Their Problematisation. Lessons from the Mobility Strategies of British, Dutch, German and Swedish Cities

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Abstract: The objective of the paper is to explore whether particular problematisations of cars and car use lead to sets of solutions that may not deal with all problems associated with car use, and whether this leads to any internal conflicts within the chosen policies. The paper is based on a review of local transport policy documents from 13 cities in four countries using the lens of policy problematisation as an analytical framework. Some critiques of policy problematisation are discussed in the paper but it is nonetheless shown to be helpful for this analysis. The paper finds that the problems most typically highlighted in the strategies reviewed are poor accessibility (as a "bad" in itself, but also because it is seen to compromise economic growth); the negative impacts of traffic on liveability of the central part of the city and therefore its ability to attract inhabitants, especially those needed to support a knowledge economy; local air and noise pollution; and road safety. The resulting visions are for urban areas less dominated by private cars, with more green and public space, in order to maximise accessibility and liveability to attract economic development; and most cities also seek to reduce car travel as a proportion of trips. However, in many cities this vision covers mainly the central city, with car use set to remain dominant in outer cities and for regional trips. In almost all cities, only one measure, parking management, is proposed as a means of cutting car use. The differing sets of measures envisaged for outer areas of cities threatens to undermine those envisaged for more central cities.

Keywords: policy; problematisation; local transport; mobility plan; Sweden; Great Britain; Netherlands; Germany

1. Introduction

Urban transport, since World War Two if not before [1–5], has been planned with a focus on the private car, and in most cities and countries this focus is still the norm in planning practices. On the other hand, there is an increasing policy imperative to make cities and urban regions more sustainable in transport terms, with less motor vehicle use—for example, the EU's policy goal to make urban transport fossil fuel free by 2030. This can often lead to conflicts between automobility (a car-based norm) and sustainability goals in urban transport policy.

This conflict arises from the problems caused by automobility and sustainability goals, including, among other things, high capacity road systems that induce traffic, or traffic congestion, periods of high particulate levels, reduced physical activity, poor road safety, carbon dioxide emissions, high noise

levels along major roads and so on. However, it is not obvious which of these problems is the most important to solve, nor how to solve them.

This begs the following questions, which are the basis of this paper:

- How are the problems caused by cars framed by politicians and planners when developing their plans for a more sustainable transport system in their cities?
- Does this have an influence on the policies and interventions included in those plans?

The analytical assumption is that the way cars are intentionally framed as a problem in the transport policy-making process will have a significant influence on the choice of objectives as well as measures selected to achieve those objectives; and if problems are deliberately or accidentally left out of this problematisation process, this may (a) lead to conflicts within the resulting policy, and (b) lead to path-dependencies in planning that continue to favour car-based mobility futures. In this paper we apply, following Bacchi [6,7], the lens of policy problematisation to local transport policy making in urban municipalities in four European countries, through a review of their transport policy documents. This theoretical approach draws attention to how policy is created in discourse. Theoretically, it is assumed that the framing of policy problems is a necessary part of the policy-making process. It also assumes, as indicated above, that a specific problematisation tends to lead to certain consequences resulting from how the "problem" is constructed and demarcated. For example, if excessive car traffic leading to congestion in city centres is defined as a problem resulting from a lack of public transport as a suitable alternative to private cars, then the most likely policy response will be to try to improve the quality of public transport, instead of (for example) implementing car restrictive measures on car traffic. The review of the transport policy documents is informed by this theoretical approach and, in line of it, identifies the dominant representations of problems, the assumptions on which these descriptions of dominant problems are based and the measures that are presented as appropriate to implement to solve the problem in question.

The objective of the paper is to explore whether particular problematisations of cars and car use lead to particular sets of solutions that may not deal with all the associated problems, and whether this leads to any internal conflicts within the chosen policies, and/or "silences" regarding problems that are known, but not acknowledged in the policies. The analysis focuses particularly on the role of the private car in cities' mobility futures and the measures selected to realise these futures; this focus is because the private car remains the most significant source of CO_2 emissions and cause of congestion in urban surface transport.

We further hypothesise that:

1. There is a particular definition of the desired mobility future in cities' transport policy documents.
2. This leads to a particular choice of measures dealing with car use in these cities.
3. This generates some possible conflicts between the measures selected (or not selected) and the mobility futures imagined.
4. The policy problematisations observed in the documents result in silences of importance for the transition towards sustainable transport systems—in terms of CO2 emissions and overall km travelled—that partly explain how path dependencies reported in previous research (e.g., [8,9]) are produced.

The rest of the paper is structured as follows. The literature review covers, from a scientific perspective, the key transport problems that cities and urban regions face today. It then summarises literature on policy problematisation, which provides the basis for the analytical framework used in the paper. It also caveats the analytical framework, in particular discussing alternative views of policy problematisation. It further covers relevant literature on path dependence in planning and the relevance of this to our study. The paper then explains the methodology used and the cities selected for the study (as well as the (deliberate) limitations of this selection), before presenting the empirical findings of the document review and relating these to the analytical framework. Finally, the paper

draws a number of conclusions related to our initial objectives and hypotheses, and these are then used to provide some policy recommendations on how to plan for decreased car use.

2. Literature Review Including Analytical Framework

There are many potential measures to be used [10] when creating more sustainable road transport systems and when reducing urban car travel (see [11] for an overview). Measures may either be [12] intended to "pull" passengers to other modes of transport (by making walking, biking and public transport an attractive alternative), or to "push" passengers to other modes of transport (by making the car a less attractive option). Measures such as restricting speeds, reducing road capacity and the management of parking spaces fall into this latter category. Research has also shown which measures that have typically been implemented by those few cities have reduced car use as a proportion of trips (see for example [13–15] for European examples). There is also knowledge of some of the factors that make it possible to implement such measures, such as reorganisation of local administrations [16], the important role of green policy entrepreneurs in local authorities, and research giving concrete policy recommendations for implementing sustainable transport goals, for example about [13] how controversial policies should be implemented in stages. Thus, there are several studies that provide concrete advice on what could be done and how to create change in what has traditionally been a very car-centric planning praxis. At the same time, there is a great deal of research that shows how difficult it is to reduce car use in urban areas. The sustainable transformation of cities' transport systems is often constrained by barriers such as rebound effects, conflicting visions at different levels, lack of consensus among stakeholders, public objections and path dependencies [17,18]. The key issue arising from this short review is how to accelerate the transition towards sustainable transport. This in turn presupposes knowledge of why car-centric planning is produced and reproduced by discourses, established practices, routines and methods applied in planning.

At the same time, researchers have argued that the orientation of transport research means that it rarely asks important questions about how to how to accelerate the transition towards sustainable transport. Marsden and Reardon identify some important gaps in the transportation policy literature that are the consequence of what they call a dominant "techno-rational" approach to studying transportation policy [19]. This dominant approach focuses, according to Marsden and Reardon, on the means and tools of policy making, and little attention is generally paid to the goals and settings of policy making: [19] (p. 245) "The 'policy' literature is therefore currently drawn to answering questions relating to what is, and making that work more effectively, than on critiquing the assumptions of the current status quo, and arguing for what ought to be, or what could be." Their analysis shows that there is a need for a more reflective discussion on how policy is shaped in order to better understand the opportunities for change, a question that, in this paper, relates to ways to reduce motor vehicle traffic.

To meet this research need, we have adopted a theoretical approach to policy that is inspired by research in a critical policy studies tradition that understands policy [20] (p. 1) "in terms of the interests, values and normative assumptions . . . that shape and inform [policy] processes". In analysing how car travel might be reduced in urban transport planning, we are analytically interested in discussing which values are prioritised and how values influence which policy instruments that are seen as appropriate in the local contexts studied.

There are, following [21], three interrelated factors that may produce path dependencies in transport policy and planning: *institutional factors*, relating to practices, routines and methods applied by key organisations; *technical factors*, relating to the momentum resulting from fixed infrastructure serving societal functions; and *discursive factors*, relating to assumptions, justifications or beliefs, that apply within an organisation and shape its practices. Analytically, this paper discusses how policy is created in discourse, allowing a focus on the practices by which conceptions of knowledge and meaning are produced and reproduced in policy practices, with the consequent production of [22] dominant modes of thought and behaviours. There are several theoretical approaches that share this interest, for example Rein and Schön's research into frame-critical policy analysis in which frames are

defined as [23] (p. 89) "generic narratives . . . that tell, within a given issue terrain, what needs fixing and how it might be fixed". Transport research building on Rein and Schön, for example [6] Richardson, Isaksson and Gullberg, illustrates how car-based automobility frames survive and continue to support car-based mobility futures even when seemingly radical policies are implemented (exemplified by these authors by the case of congestion charges in the Swedish capital of Stockholm).

Another theoretical approach is offered by [6,7] Bacchi and is used in this paper. Our theoretical starting point, following Bacchi, is that policies shape "problems", and that local politicians and transport planners are active in creating policy problems rather than reacting to problems "out there" in society. Such policy problematisations involve a "diagnostic" aspect that prescribes solutions to socially constructed problems. As such, a policy represents a particular way of understanding how, in this case, car use as a particular policy issue is created and used to mobilise decisions and implementation. However, problematisations define not just a problem, but also what is not a problem. Alternative problem formulations are eliminated by demarcation and ignored. In summary, the issue of car travel reduction is understood as parts of "problem representations" that create particular ways of understanding car traffic as a policy problem, which in turn influence the measures seen as appropriate or inappropriate in the local contexts studied here.

This theoretical approach has recently been applied to transport policy, also in a Swedish context by [24] Hrelja and [25] Rhenlund. The results from this research indicate that policy changes that may result in car travel reduction are indeed underway in many Swedish cities. At the heart of these changes are narratives about city development in which cities understand the "attractive city" as one where cars are defined as a problem to be addressed. However, the dominant policy problematisation also produce several "blind spots" of importance for the development of car use, which are discussed later in this paper.

The strength of Bacchi's approach is that it both provides a theoretical framework that can be used to analyse the "interests and normative assumptions that shape and policy processes", and that it provides an accompanying methodology. Bacchi suggests studying policy by posing a number of analytically motivated questions to interrogate the empirical material. Inspired by [6,7] Bacchi, in this study, the case cities' transport policy documents were analysed based on the following questions:

- What are the problems that are highlighted? Which problems are most frequently highlighted? Which figure, but are less important? Are there any cities or countries that have particularly unique problems identified? Are there problems that are ignored by the majority of or all cities? Do all cities actually engage in problematisation in these documents?
- Mobility futures imagined—commonalities and differences? What are the mobility futures imagined and how does car use fit into these? Of those cities that imagine a mobility future with an explicit recognition of less car use, do they have anything in common?
- Does the dominant policy problematisation produce any silences, conflicts or ambiguities?
- What measures are seen as appropriate or inappropriate? Are there any major differences in measures proposed linked to differences in policy problematisation?
- What consequences (for mobility, the city or its people and the environment) are produced by the chosen representation of the problem?

The theoretical approach adopted thus implies a specific relationship between policy problematisations and measures, in that the former is supposed to result in measures being understood as appropriate or inappropriate for dealing with the problem of car use. However, the relationship between problem and solutions is in reality often more complicated than this. Other research (often based on [26] Kingdon's Multiple Streams Approach (MSA)) recognises the importance of problematisation but also suggests that other factors influence how policies and related measures are developed. For example, it points out how measures as solutions may exist independently and before problems have been defined, and that there are solutions "floating" and waiting for a problem, which implies that available or measures may influence how policy problems (and related solutions)

are constructed—yet not all solutions will ultimately be implemented, due to factors such as their relationship to existing values, and their technical and financial feasibility. The MSA also brings in concepts such as [27] the political context, the policy entrepreneur, and the window of policy timing.

Another potential problem of the theoretical approach based on Bacchi is the difficulty of linking discursive meaning to effects, that is, actual decisions about implementation of measures in practice. We have only examined which measures appear appropriate or inappropriate within the policy problematisations we identify and based only on a document analysis. This means that the results can only indicate potential effects of dominating policy problematisations and with this form of research we cannot find out whether and why the measures set out in the policy documents reviewed are actually implemented. It is clear from authors such as [28] that public attitudes play a key role in shaping the content of Sustainable Urban Mobility Plans (SUMPs), and the use of public participation activities to shape the documents that we have reviewed is referred to in all of them, but the nature and effects of these activities are not something that we examine directly in this paper, since it is a document analysis.

Whilst we recognise the value of the MSA approach, in this paper our focus is on an international comparison of what cities say that they will do, and why, in their written transport policy. For this, Bacchi's framework is more suitable and we draw some useful conclusions based on this approach. However, further, more in-depth research in a subset of our cities could usefully deploy the MSA to understand why the policies identified were chosen, and why some are implemented and others not.

3. Methodology

As highlighted earlier, the empirical work is based on a document analysis, a recognised qualitative technique [29–31]. Due to the limitations of the project resources, three cities were selected from each of England, Netherlands and Germany, and four from Sweden, making 13 in total whose transport strategy documents were analysed. Each city was in effect a case study but the data from each case study were limited to the document(s) analysed.

In a seminal piece of work on case study selection, Flyvberg [32] identified several strategies for case study selection, as follows:

A. Random selection, to avoid systematic biases in the sample.
B. Information oriented selection, to maximise the utility of information from small samples and single cases.
C. Extreme/deviant cases, to obtain information on unusual cases, which can be especially problematic or especially good.
D. Maximum variation cases, to obtain information about the significance of various circumstances for case process and outcome (cases that are very different on one dimension: size, form of organisation).
E. Critical cases, to achieve information that permits logical deductions of the type, "If this is (not) valid for this case, then it applies to all (no) cases".

For this study, we used strategy B, since there was necessarily a relatively small sample size. The sampling was based on pre-selected criteria, listed below. Without reading all the transport strategies of all similar cities in all four countries it is not possible to be certain that our chosen strategies are entirely representative of the "average" transport strategy in the country. However, beyond the criteria below, nothing indicated to us that our selected strategies were atypical of those in the respective country. The selection of case cities was based on the ambition to choose:

- Both those where trends in travel patterns have become more sustainable and those that have followed the national pattern.

Both "leading cities", in the sense of being seen in by peers in their country as leading within the field of sustainable transport (Nottingham, Groningen, Lund and Lindau), and more average cities.

- At least one from each country with a specific objective in its strategy to reduce car traffic.
- Only smaller cities of between 40,000 and 300,000 people without (significant) light rail or tram networks, as the comparison of smaller with larger and especially capital cities with highly developed public transport networks would not be valid (other authors such as [33] have compared transport strategies from capital cities, although using a different methodology).

Further discussion of our city sample is provided in Section 4, below.

The selection strategy was thus one of choosing cities that are different on dimensions such as size and ambitions to obtain information about the significance of policy problematisations for the choice of measures that deal with the problems associated with car use.

In each city, the urban transport plan or equivalent was reviewed, along with the strategy/policy section of the land use plan, and other documents such as parking strategies if these were available (see Table 1 for full details of the documents analysed for each city).

Table 1. Cities and plans analysed.

City	Transport Plan or Strategy	Spatial Plan
Aachen DE	Mobility Vision 2050 (2014) [34]. Mobility Strategy 2030 (*Verkehrsentwicklungsplan* (VEP)), 2015 [35].	Spatial plan policy section (*Flachennutzplan*), 2014 [36].
Bath UK	Getting Around Bath–a Transport Strategy for Bath, (2014) [37]. Draft joint, regional, Local Transport Plan (LTP) number 4 (2019) [38].	Core Strategy of the Local Plan (2014) [39]. The Placemaking Strategy (2017) [40].
Darlington UK	Third Local Transport Plan, (2011) [41].	*Core Strategy* of the *Local Plan*–(2018) [42].
Eindhoven NL	Mobility Vision 2040, *(Eindhoven op Weg)* (2013) [43]. New parking norms (*Nota Parkeernormen*) (2016) [44].	The Land Use Strategy for housing (*Beleidsnota Prioriteiten bouwlocaties*), (2015)–it was not possible to find a policy section for the city's land use plan as a whole [45].
Eskilstuna SE	Transport Strategy (*Strategidel*) 2012 [46].	Comprehensive Plan (*Översiktsplan*), 2013 [47].
Groningen NL	Mobility Strategy (*Nota Mobiliteit*) 2007-2010 (2007) [48]. Multi-year Programme for Transport and Traffic 2018-2021 (*Meerjarenprogramma Verkeer 2018–2021*) (2017) [49]. Parking Strategy (*Ruimte voor de Straat*) (2018) [50].	Spatial Planning Strategy (*Nota Grondbeleid*) (2017) [51].
Herrenberg DE	Integrated Mobility Development Plan (2019) [52].	Various land use projects found on the city's website, accessed 23 October 2019 https://www.herrenberg.de/BayWa.
Jönköping SE	Transport Strategy (*Kommunikationsstrategi Åtgärder För Ett Hållbart Trafiksystem*) 2012 [53]	Comprehensive Plan (*Översiktsplan*), 2015 [54].
Lindau DE	Climate Friendly Mobility Concept for Lindau *(Klimafreundliches Lindauer Mobilitätskonzept)* (2017) [55].	Local land use zoning plan and supporting documents *(Flächennutzplan)*, (2011, modified 2013) [56]. Integrated City Development Concept (ICDC), *(Integriertes Stadtentwicklungskonzept)* (2015) [57]
Lund SE	Transport Strategy (*Trafikstrategi*) 2014 [58].	Comprehensive Plan (*Översiktsplan*), 2017 [59].
Malmö SE	Transport Strategy (*Trafikstrategi*) 2016 [60].	Comprehensive Plan (*Översiktsplan*), 2018 [61]
Nottingham UK	Local Transport Plan 2016 [62].	Local Plan 2017 [63].
Tilburg NL	Mobility Strategy Tilburg, Together Towards Smart Sustainable Mobility in 2040 *(Mobiliteitsaanpak Tilburg Samen op weg naar 2040-Tilburg slim en duurzaam op weg)* (2017) [64]. Further development of the above *(Uitwerking Mobiliteitsaanpak Tilburg)* (2017) [65].	Land Use Vision *(Omgevingsvisie Tilburg)*, 2015 [66]

The plans were read in their original language. The analysis of the plans was performed stepwise including superficial examination of all plans, thorough examination, and interpretation – a qualitative

research method [30,67,68]. All plans were first skimmed through and passages of text about transport, and especially about car traffic, was identified. Then a more thorough examination and re-reading of the plans was done. This step meant that the plans were read several times and key phrases were marked. English language summaries for each city were then produced relating the content of the policy documents to the analytical questions introduced earlier (Section 2). Recurrent regularities in the empirical material or themes and hierarchies of themes were also outlined in this way [67]. In order to reduce cognitive bias, the summaries were then reviewed by both research team members before being finalised [68]. This investigator or analyst triangulation provided an important check on interpretive bias in a situation where two researchers analysed the plans.

Any silences, conflicts or ambiguities produced by the dominating policy problematisation are judgements on our part as to what is actually a problem but is not seen as a problem in the plans. Silences were identified by reading the plans and by identifying text parts not associated with a theme or a policy problematisation.

In addition, the numbers of cities whose documents featured, for example, an explicit policy problematisation; or an explicit recognition that car use must be reduced; or clearly defined, specified and costed measures to achieve strategy objectives, were also identified.

The documents reviewed are of course produced within different national legal and institutional contexts. In order to maximise their comparability, as far as possible, strategic transport policy documents were reviewed containing a vision for future mobility, often a problem analysis, a set of objectives, often a set of targets (for example for mode share or improved road safety) and a set of measures to be implemented to achieve the objectives—although the level of detail to which the measures were specified varied quite widely across the documents reviewed, and time horizons varied from 10 to 30 years. The documents and their statutory basis are below (see also Table 1):

- England—Local Transport Plans, which were formerly statutory but are now optional, based around core objectives and measures to achieve these.
- Germany—Traffic Development Plan (*Verkehrsentwicklungsplan*), statutory but with focus on public transport or non-statutory climate change funded mobility strategies.
- Netherlands—the former system of advisory municipal traffic and transport plans (*GVVP*) is now obsolete, so instead non-statutory mobility vision documents were used.
- Sweden—non-statutory Local Transport Strategies (*Trafikstrategier*) were reviewed, and the transport policy sections of comprehensive land use plans (*Översiktsplaner*).

Some additional data about the transport and demographic characteristics of the cities are shown in Table 2. They are remarkably similar, the main differences being the much higher car use in British and two Swedish cities, higher car ownership in the smaller and particularly German cities, higher levels of cycling (replacing walking) in the Dutch cities and the higher rates of unemployment in the Swedish cities. (Note that mode share is for trips to work in British cities, but for all trips in others) These similarities increase the validity of the analysis, since they imply that actual problems are similar, so it is the way these same problems are viewed that instead influences the transport policies developed.

Table 2. Selected demographic and transport characteristics of cities.

City	Population of Municipality (Year of Data)	Mode Share % All Trips by:				Daytime PT Frequencies Per Hour Main Routes	Car Ownership Per 1000 People (2019)	% Population with Higher Education (Year)	% Workforce Out of Work 2019
		Car	PT	Bike	Walk				
Aachen DE	248,000 (2019)	47	13	11	29	4	491	26	5.2
Bath UK	192,000 (2019)	50	10	10	30	5	610 *(2011)*	34	3.3
Darlington UK	100,500 (2019)	72	9	3	16	4	510 *(2011)*	20	5.6
Eindhoven NL	232,000 (2020)	40	5	40	5	8	470	38	3.4
Eskilstuna SE	105,000 (2020)	58	8	13	21	5	461	29	7.7
Groningen NL	231,000 (2020)	44	5	33	18	6	350	40	5.4
Herrenberg DE	32,909 (2019)	57	13	11	19	2	680	35	2.9
Jönköping SE	137,000 (2019)	68	10	10	12	6	486	36	5.2
Lindau DE	25,253 (2019)	49	6	27	18	2	750	32	2.3
Lund SE	120,000 (2020)	42	16	26	16	5	522	55	9.0
Malmö SE	316,000 (2020)	42	21	22	15	7	352	41	9.0
Nottingham UK	331,069 (2019)	57	20	4	19	6	330 *(2011)*	19	3.0
Tilburg NL	220,000 (2020)	57	6	23	14	6	650	31	4.0

Note: For data sources see Appendix A. PT = public transport

4. Limitations

The approach chosen, based on documents only, limits the analysis to the field of policy content. Whilst policy documents will at times provide some details of the public consultation processes used to build their legitimacy, the full process of how the policy was produced is almost never described. This focus on content is a potential shortcoming of our work, but nonetheless we argue that a document analysis, particularly one theoretically anchored and comparing documents across countries, yields important results, the "why" of which could then be explored in further research.

Another potential shortcoming of our work it that the results are not statistically generalisable to a larger population of cities. As with the issue about the full process of how the policy was produced, we argue that it is the theoretically anchored arguments we make that will enable other researchers and practitioners to deduce whether or not the findings are analytically generalisable to other cities and countries. That our results are valid and relevant for other cities is shown by how [24,25] previous studies, which have used the same theoretical framework in analyses of a larger population of cities in one and the same country, have reached similar conclusions as we have done in this article.

It is a further limitation of this paper that these are all rather small cities in similar countries in northwest Europe. It could be argued that more meaningful results could be obtained from a comparison of very different cities, for example, from selecting cities in northern and southern Europe, or Europe and Asia. However, this limitation was a deliberate choice that the authors argue to be analytically important. The four countries from which cities were chosen have a lengthy history of structured transport planning in relation to objectives (see for example [69] for a review) that contrasts with a traffic engineering focused approach in most of the rest of the world. In addition, the similarity of their transport planning cultures means that the relatively subtle differences in problematisation that this paper seeks to analyse can be unpicked, whereas if cities with very different transport planning cultures were selected, a comparison would be much less valuable. Finally, these cities all produce some form of transport strategy document, which is not the case in many cities in the world. There is an extensive literature on spatial (if not transport) planning cultures (see for example [70]) and the four countries, and particularly Germany, Netherlands and Sweden, are identified within this literature as having similar planning cultures. Other researchers reviewing transport strategy documents have also limited their sample—in the case of [33], for example, to English language documents in EU capital cities. For all these reasons, the authors argue that it is wholly justified to deliberately limit the scope of this paper in this way.

Finally, whilst the documents reviewed are broadly similar in their purpose and the broad topics that they cover, they are absolutely not identical in structure nor in level of detail. Therefore, a wholly systematic analysis of identically structured documents that would be possible if, for example, reviewing the Local Transport Plans that were produced in England in the early 2000s according to quite rigid central government guidelines, was simply not possible in the case of the documents reviewed across cities and countries for this paper.

5. Cross-Case Comparison and Discussion

5.1. What Are the Problems that Are Highlighted?

The problems most typically highlighted in the strategies reviewed are *poor accessibility* (as a "bad" in itself, but also because it is seen to compromise economic growth); the negative impacts of traffic on liveability of the central part of the cities and therefore its ability to attract inhabitants, especially those needed to support a knowledge economy; local air and noise pollution; and road safety. This is exemplified by the way in which Swedish cities of Lund and Malmö describe how excesses in car use and space allotted to cars have produced unattractive city centres and unsustainable transport systems. This, they argue, has led to a lack of "urban cohesion"—a functionally mixed city that is an aesthetically attractive place to live, visit and shop—which, they argue, risks leading to lower economic growth and fewer jobs. In these two Swedish cities, the desire is to change conventional planning's focus on the car

by no longer planning for (car) mobility but instead planning for accessibility. Similar ideas are found in Eindhoven, which seeks to create:

> An attractive living environment: the centre, residential and leisure areas are free of excessive traffic and there is high quality green and public space. It is pleasant to live, work and spend time . . . [whilst] . . . multimodal accessibility of the prime economic locations contribute to an excellent business climate. [42] (p. 7)

Bath is another city that can be used to illustrate the most common problematisation found in our sample cities:

> Bath will enhance its unique status by adopting measures that promote sustainable transport and reduce the intrusion of vehicles, particularly in the historic core. This will enable more economic activity and growth, while enhancing its special character and environment and improving the quality of life for local people. [36] (p. 5)

This concept of (poor) "accessibility" is one that is mentioned in most of the documents reviewed, but is not well-defined—in a sense, this is a shortcoming of the problematisations in many of the cities' transport strategies. In the scientific literature [71] (p. 1), it is defined as "the potential for reaching spatially distributed opportunities (for employment, recreation, social interaction, etc.)". However, the same authors acknowledge that whilst the general concept is widely used, there has been a historic disconnect in translating the scientific concept of accessibility into practice. It is not, therefore, surprising that in the documents reviewed, accessibility is at the same time both very important and poorly defined. As [72] (p. 236) point out in their study of how accessibility is treated in 32 metropolitan transport plans from North America, Europe, Australia and Asia, "there is a trend toward a greater integration of accessibility objectives in transport plans [but] . . . plans need to have clearly defined accessibility goals" [emphasis added]. There is a further assumption in the documents reviewed, made without reference to scientific evidence, that if "accessibility" is threatened, this will have negative economic impacts. Furthermore, many but not all of the case study cities see congestion from cars as a threat to accessibility in certain parts of their geographical area, but mobility by car as a core element of guaranteeing accessibility in other parts. Overall, then, accessibility is a priority for cities but its causes and effects are poorly defined and sometimes appear to be in conflict.

While the threat to accessibility and therefore economic growth is the problem most typically highlighted in cities' strategies, there are small and economically very successful cities, such as Herrenberg and Lindau in Germany, that place less emphasis on transport contributing to economic growth than do the other 11 cities reviewed. Smaller cities also place more emphasis on the severance effect of major roads than do the larger cities—slightly paradoxically perhaps, but indicative of how major roads can be very significant in scale in terms of their contribution to the transport system of small towns.

In the "second rank" of problems in terms of how often they are mentioned come greenhouse gas emissions, public health and the occupation of public space by cars. These are mentioned by most cities but do not receive the same level of attention as the problems in the "first rank". In only a minority of cities is car use in itself seen as a problem; it is rather the consequences of "excessive" or "unnecessary" car use that are viewed as problematic. Table 3 summarises the main problems identified in the cities reviewed.

Table 3. Problems identified in each city.

City	Accessibility Economic Impact	Noise and/or Local Air Pollution	Greenhouse Gases	Liveability	Road Safety	Social Inclusion	Health	Space for Cars	Car Use
Aachen DE	X	X	X	X	X		X	X	X
Bath UK	X	X	X	X	X	X	X	X	X
Darlington UK	X	X	X		X	X	X		
Eindhoven NL	X	X	X	X	X	X		X	
Eskilstuna SE	(X)		X						
Groningen NL	X	X		X	X		X	X	
Herrenberg DE		X	X		X			X	
Jönköping SE	X	X	X		X			X	X
Lindau DE	X	X	X	X	X	X		X	
Lund SE	X	X	X	X	X			X	
Malmö SE	X	X	X	X	X	X	X	X	
Nottingham UK	X	X	X		X	X	X		
Tilburg NL	Lack of a comprehensive view of problems								

Differences and Cities Lacking Explicit Policy Problematisations

Despite the similarities, there are differences between cities and their particular focus. For example, Groningen is quite unique in identifying parking on street as a problem of *privatisation* of public space, although many cities see the use of street space for parking as an opportunity cost. All the British cities and the Swedish city Malmö stress social exclusion as a transport-related problem; in other cities and countries, there is much less focus on this issue, although several others do mention their ageing populations and the need to ensure that the transport system caters to the needs of older people. This can be explained by how economic downturn and population decline in the British cities and in Malmö the last decades have led to a focus on social exclusion as a problem and on an improved transport system as a remedy.

Four cities (Eindhoven, Eskilstuna, Herrenberg and Tilburg) do not, at least in the plans we have examined, provide explicit problematisations; rather, the transport-related problems they suffer are only implied via the choice of objectives in the strategies (all strategies include a statement of objectives). There appears to be no link between not identifying problems explicitly and failing to have reduction in car use as an objective in Tilburg and Herrenberg. Tilburg is a city where there is no problematisation and there is also no objective to reduce car use; in contrast, Herrenberg's strategy, in spite of having no problematisation, nonetheless is very explicit that car use should be reduced.

To conclude, differences between cities clearly exist, and they seem partly to be related to city differences in terms of economic development. Nevertheless, there are significant similarities between cities regardless of country and similar policy problematisations. Importantly, policy problematisations often have a geographical delimitation, with a focus on cars in inner city and city centres as a problem that compromises the "accessibility" of these areas. We describe this in detail in the next section when linking policy problematisations to mobility futures imagined. There is less of an explicit process of policy problematisation regarding outer city and regional transport. It must be assumed that this is a result of how the problem of cars is defined, i.e., that the major problem of cars arises in inner city and city centres.

5.2. Mobility Futures Imagined—Key Elements, Commonalities and Differences

The cities that explicitly state that, in their respective future mobility systems, car use will be lower than it is today are Lindau, Lund, Aachen, Bath, Nottingham, Herrenberg and Eindhoven—so the majority of the 13 studied. Lindau, Lund, Bath and Herrenberg fall into the category of "smaller historic city", but on the other hand, the three other cities are mixed industrial/university cities and all amongst the largest cities studied for this research.

Other than this, there are considerable commonalities in the mobility futures imagined, particularly with respect to the central city, where, in general in pursuit of greater "liveability" cities, imagine streets where more space is given to sustainable modes of transport and used as public space, and where car use, even if not reduced, is directed to locations such as underground car parks where its immediate impacts are lessened compared to the current situation, as shown in Table 4. All cities imagine futures where at least in central areas more of the available on-street parking is reduced and, even if there is no explicit recognition of a need to reduce car use, nonetheless the implication is that, in these areas, travel by car will become relatively less important as inner-city populations grow. Even though the extension of car traffic in the cities are often explicitly seen as a problem in the strategies, and constructed as a condition that needs to be changed by means of interventions in future planning, it is not necessarily a completely different transport future that is imagined, below exemplified by Jönköping (SE) and Groningen (NL):

Table 4. Elements of mobility futures imagined identified in each city.

City	Car reduced City Centre, with Further Reallocation of Space from Car	Reduced on-Street Parking	Cycle Routes	New Road Building Supported/ Planned	Cut Road Space for Car Outside Centre	Maintain Car Accessibility	Better Public Transport	Lower Speed Limits	Explicit Aim to Reduce Levels of Car Use
Aachen DE	X	X	X		X		X	X	X
Bath UK	X	X	X		X		X	X	X
Darlington UK			X	X		X	X	X	
Eindhoven NL	X	X	X		X		X	X	X
Eskilstuna SE			X	X		X	X		
Groningen NL	X	X	X	X		X	X		
Herrenberg DE	X	X	X	X		X	X	X	X
Jönköping SE		X	X	X		X			X
Lindau DE			X	X		X	X	X	X
Lund SE	X	X	X				X	X	X
Malmö SE	X	X	X				X	X	
Nottingham UK	X	X	X	X	X		X	X	X
Tilburg NL	X	X	X	X		X	X	X	

> The majority of all trips made in the municipality are made by car, both now and in the future. ... Roughly 20% of all car trips could be replaced with other options. ... Such a change in travel mileage would entail that those car trips that cannot be replaced with other, more sustainable options could also continue to offer free flowing travel conditions. [53] (p. 52)

> In all future scenarios the car remains as a dominant mode and a solid basic vehicle infrastructure is therefore necessary. [48] (p. 32)

Most cities thus believe that the car will continue to play an important role in the transport system. In other words, a change including radical reductions in car use is often not imagined. Instead, as populations grow and pressure on transport systems increases, there is a desire to make it possible for those who wish to drive their cars to the central parts of cities with ease to continue to do so in the future. The ambition is more about making the transport system more efficient by cutting the space allotted to cars within it, rather than radically reducing car use. Access by car is to be restricted in only three or four cities, including Eindhoven, Aachen and (in the shape of demand management) Nottingham.

5.3. What Measures Are Typical and Less Typical in These Mobility Futures?

The Dutch cities, in particular, are very enthusiastic about the use of big data, self-driving vehicles, new forms of mobility (such as car sharing [73]) and electric mobility, although it is not always clear how big data and self-driving vehicles will be used as measures to further the objectives of the strategies. The majority of strategies reviewed include measures such as charging points and some electrification of public transport and municipal vehicle fleets in order to help meet pollution reduction objectives, but these are not a major feature of the majority of the strategies reviewed. The Dutch municipalities are all proponents of inter-city cycle superhighways, something not mentioned in strategies from other countries. The importance of park and ride diminishes with city size, in general. However, other than these points, there is great commonality between all cities in the nature of the measures they propose: management of on-street parking, some conversion of street space to public space, improved conditions for walking, improved public transport and much improved cycle networks and cycle parking (see Table 3).

These measures that apply mainly to other modes of transport *could* have a direct impact on car traffic, for example, if walking, cycling and public transport are made more attractive relative to car use, by redistributing street space in favour of pedestrians, bicyclists and public transport [15]. However, this reallocation of space is discussed explicitly in only a minority of cities. While certain cities, such as Tilburg, Groningen, Lindau, Herrenberg, Darlington and Eskilstuna, are explicit about road improvements that will take place during the lifetime of their strategy on the local and/or national road network in their areas, only a few cities, such as Eindhoven and Aachen, rule out new roads, or additional road capacity, completely. Eindhoven, Aachen, Nottingham and Bath are more explicit about managing demand through reallocating road space (and through the use of the workplace parking levy in the case of Nottingham) than are any of the other cities examined. For example, Eindhoven's strategy talks positively about making certain key arterials one-way streets in order to free up space for other uses; Bath's strategy strongly supports further pedestrianisation in the city. These points are summarised in Table 3, which shows that the key similarities and differences between the mobility futures imagined are:

- Almost all cities plan to reallocate road space away from cars in their central areas and to manage on-street parking.
- At the same time, most want to maintain car access to these areas (meaning that car access will not be restricted but parking will be more expensive and/or off-street).
- All cities plan to improve conditions for cyclists and most conditions for public transport.

- A small number of cities plan to reallocate road space away from cars outside their central areas.
- The majority of cities plan or support road capacity increases within their areas.

Finally, the majority of land use plans examined are also supportive of transport policy goals, and vice versa—an integration that [2,74] previous research has shown to be of strategic importance when decreasing the need to travel by car and make it rational to choose public transport, walking or cycling. For example, a reduction of car travel in Lund [58] (p. 13), [59] (p. 37) is planned to result from the integration of land use and transport planning (described as urban planning) that results in densification and a mix of functions in locations with good conditions for public transport. Similarly, Aachen's land use plan is clear about the need to increase densities and to locate new residential and commercial developments along corridors and at nodes with good public transport service, rather than on promoting low-density, car-based development. It also envisages some controls on out-of-town shopping in order to maintain and strengthen the role of the city centre as a retail destination [35,36].

Due to the timeframe of the documents reviewed, the most recent being from 2017, the issue of COVID-19 and its implications for mobility futures was not considered in any of the policy documents reviewed. If repeated five years hence, our review might find policy documents that pay more attention to providing space for social distancing, to increased reliance on personal micromobility instead of public transport, to increased use of virtual mobility and to greater uncertainty in planning inputs and outcomes. However, this is obviously highly speculative at this point in time.

5.4. What Ambiguities/Conflicts/Silences Are There in the Imagined Mobility Futures?

The most significant ambiguity in the majority of the cases studied is whether or not the scale of the measures proposed, particularly the demand management and road space reallocation measures, is sufficient to meet the level of change in travel behaviour to which most cities aspire. In addition, where cities support the addition of new road capacity on their own roads or on those of national authorities, then there is some ambiguity in that this new capacity may induce more car travel that will then undermine the achievement of other objectives in the strategies.

A related point is the view that most strategies take on regional, national and international travel, for which in the majority of plans there is no desire, either explicit or implicit, to reduce car use; it is seen as a necessity, yet the ease with which this could undermine the achievement of sustainable mobility objectives at the local level is not acknowledged. The principal conflict is between a more car-based mobility future in suburbs and regions around cities, and restraint of car use for a higher quality of life in central cities, with no recognition that the former could well undermine the latter. Regional car use is often not seen by cities as a "problem" to be solved, and some, such as Groningen, even explicitly recognise the need to maintain and even increase car use in these areas. However, there are exceptions, such as Aachen, which envisages a mobility future where, in their entire area, sustainable modes of transport become the most important modes.

The unproblematised role of regional car use in transport policy can be understood in the light of the assumption some cities make about how economic development depends on a high degree of intraregional mobility among the cities in their region. An underlying assumption appears to be that spatially integrated cities, through increased regional *accessibility* (the potential to reach jobs and services regionally) will lead to opportunities for both employers and employees to choose labour and work. The mobility future imagined on a regional scale is thus a future with "high mobility-high accessibility". For example, the Mobility Vision of the Dutch city of Tilburg aspires to improvements in all modes of transport at the regional scale, whilst the City of Groningen states that [51] (p. 22) "further intensification of land uses in the A7 motorway corridor is only possible if the traffic infrastructure around it grows at the same time". Whilst the historic city of Bath rules out new road building within the city, there are many proposals for new road as well as public transport capacity increases at the level of the region within which Bath sits, again evidence of a high mobility-high accessibility strategy in this English case.

Finally, there are major silences related to freight transport and deliveries; few strategies (only from Aachen, Lund, Malmö and Tilburg) explicitly mentioned this issue.

The cities reviewed for this paper that have a reputation for being more "ambitious" in their transport policies are Lund, Malmo, Nottingham, Groningen and possibly Lindau. From the documents reviewed, it is not possible to say that these cities are all "stronger" in terms of either their mobility futures imagined or the measures that they propose to bring about these futures, than other cities that feature as cases in this study; there is no consistent pattern. So, for example, Nottingham is the only city that employs a measure other than parking management and road space reallocation to restrain car traffic, but at the same time it proposes a major road infrastructure scheme. Aachen in Germany, although not a city with a reputation for radical transport policies, nonetheless describes a radical mobility future and measures to achieve it.

From our problematisation-based analysis, it is *not* possible to conclude that those cities with the greatest ambiguities and silences in their policy packages (for example, Tilburg, Groningen, Lindau or Darlington) are those that also have significantly different problematisations from those such as Aachen or Eindhoven that have few ambiguities and silences. The conception of problems is similar, but differences arise at the level of responses to those problems; however, a document analysis does not reveal the reasons for those differences.

To conclude, the key factor excluded in the most mobility futures is how mobility is to be provided for in the more suburban areas of the cities studied. Similar silences exist for inter-regional trips. There are also differences regarding the degree to which any demand management measure other than parking management (such as road space reallocation, or some form of pricing) is included in the measures in the strategy. Statements about encouraging sustainable modes of transport are common in the mobility futures, but it is only in a minority that there is an acceptance of reducing road capacity for private vehicles. By far the most common demand management tool included in the strategies reviewed is management of on-street parking, but many cities at the same time make no commitment to reduce off-street parking. Some mobility futures imagine unfettered car access even to central cities, for those car users willing to pay higher rates for parking.

Table 5, below, summarises the findings of Section 5.4.

Table 5. Analysis of problem representations, comparison cities.

City	Problem with Cars/?	Mobility Future Imagined?	Assumptions Underlying This Representation of the Problem: Key Concepts; Actions Required	Unproblematic Issues/Silences in This Representation of the Problem	Potential Consequences Produced
Aachen DE	Car use is threat to economic development; pollution; quality of life; road safety.	Much less car dependent and car dominated including in wider region.	Assumptions: relationship between accessibility, quality of life and economic development; Measures: reallocation of road space to sustainable modes plus parking management.	Will traffic restraint measures will be enough to reduce car use?	If restraint measures are not sufficient, car use will to grow, undermining measures in central city.
Bath UK	Car use as threat to quality of life; protection of historic environment; road safety; economic development; wider environment.	Less car dependent within central city at least but not wider region.	Assumptions: relationship between accessibility, quality of life and economic development; Measures: reallocation of road space to sustainable modes plus parking management. Land use to be planned to support sustainable transport.	Will traffic restraint measures will be enough to reduce car use? Interrelationship between city level and regional level Managing freight transport.	As above. Also, conflict between city level and regional level.
Darlington UK	Poor accessibility as threat to economic development, to social inclusion, to safety and to environment.	Continuation of existing situation but with increased choices and no constraint on car use.	New road infrastructure very important in mobility future. Little attempt to link land use and sustainable transport. Assumption that transport system can continue broadly "as is".	How lack of measures to restrain car use is consistent with problems identified.	Problems caused by car use unlikely to be tackled.
Eindhoven NL	Poor accessibility as threat to quality of life and thus to economic development, to safety and to environment.	Increasing choice of modes and better accessibility, but car takes much-reduced role within this at all geographical scales, not only in central city.	Assumptions: relationship between accessibility, quality of life and economic development; Measures: reallocation of road space to sustainable modes plus parking management. Land use to be planned to support sustainable transport.	Will traffic restraint measures will be enough to reduce car use? Interrelationship between city level and regional level Managing freight transport.	If restraint measures are not sufficient, car use will continue to grow, undermining measures in central city especially.

Table 5. *Cont.*

City	Problem with Cars/?	Mobility Future Imagined?	Assumptions Underlying This Representation of the Problem: Key Concepts; Actions Required	Unproblematic Issues/Silences in This Representation of the Problem	Potential Consequences Produced
Eskilstuna SE	Vaguely expressed. Main problem: continuation of economic and demographic decline.	Mobility futures imagined–"High mobility-high accessibility".	Key assumptions relate to relationship between accessibility, quality of life and economic development.	Interrelationship between city level and regional level.	Increasing number of trips due to the vision of increased accessibility and mobility.
Groningen NL	Poor accessibility as threat to quality of life and thus to economic development, to safety and to environment. Opportunity cost of space used by cars.	Increasing choice of modes and better accessibility and car takes much-reduced role within this but only in central city.	Assumptions: relationship between accessibility, quality of life and economic development; Measures: reallocation of road space to sustainable modes plus parking management in central city. Outside that, key measures include improved public transport, long distance cycle routes and increases in road infrastructure.	Inconsistency between restraint measures in central area and measures for increased transport supply in outer city and wider region. Freight transport.	Risk that strategy for outer city will undermine that for central city.
Herrenberg DE	Safety; Local and global pollution; Road safety; Severance caused by major roads.	High accessibility by sustainable modes Improved quality of life in city centre especially.	Car use should be reduced Policy fields such as pollution reduction, land use and mobility are all mutually interlinked There is a link between transport and the quality of life in the city centre.	How to manage regional car trips—Will traffic restraint measures will be enough to reduce car use? Links to the surrounding areas.	Risk that strategy for outer city and regional trips will undermine that for central city.
Jönköping SE	Volume of car traffic restricts public transport, leading to traffic safety and air quality problems, noise and climate change.	Car traffic has to give room to sustainable modes of travel. However, a radical change is not imagined. The majority of travels will be by car now as well as in the future.	The importance of individuals and choice of transport modes are emphasised, leading to a focus influencing travel behavior through "soft governance", such as information and offering alternatives to the car.	Regional transport, "hard measures", like changing the physical space for cars in the city.	Car use will continue to grow. Problems caused by car use unlikely to be tackled.

Table 5. *Cont.*

City	Problem with Cars/?	Mobility Future Imagined?	Assumptions Underlying This Representation of the Problem: Key Concepts; Actions Required	Unproblematic Issues/Silences in This Representation of the Problem	Potential Consequences Produced
Lindau DE	Pollution, safety, congestion, severance, impact of vehicles on historic environment.	High % of trips by sustainable modes, all areas, but within a highly mobile region. Car traffic still very important for at least trips transiting the city.	More control of parking for private cars required across city. Improvement of alternative modes. Road safety black spot approach. Capacity enhancements at major road junctions.	How to manage regional car trips—Will traffic restraint measures will be enough to reduce car use? Contradiction between demand management and road capacity improvements. Freight traffic and deliveries.	Aspirations for a more liveable city where sustainable transport carries majority of trips undermined/threatened by unproblematic issues, especially capacity enhancements.
Lund SE	Emissions (particularly greenhouse gas emissions); Negative effects on living environments.	Sustainable transport system; Attractive living environments.	Planning for *accessibility* (not for mobility); *Priority* for walking, cycling and public transport; Increasing *attractiveness* of environmentally friendly transport modes; *Integrated* land use and transport planning.	None, compared to other cities.	Some problems caused by car use (negative effects on living environments) likely to be tackled.
Malmö SE	Justice, equity, inclusion, accessibility; climate.	Sustainable urban mobility with emphasis on social sustainability. Walking, cycling, public transport is the "natural" choice.	Key measures include improved conditions for walking, cycling and public transport; street will have to be transformed, space reallocated.	None, compared to other cities.	Some problems caused by car use likely to be tackled.
Nottingham UK	Poor accessibility as threat access to jobs and thus to economic development, to safety and to environment. Social inclusion and road safety.	Future imagined is one where alternative modes predominate for all trips especially in more central city.	Assumptions: relationship between accessibility and economic development; Measures: reallocation of road space to sustainable modes plus parking management, improved public transport and one major urban road building scheme.	Will traffic restraint measures will be enough to reduce car use? Whether improvements in transport will improve social inclusion.	Possibility that planned major road investment (ring road) will undermine achievement of other objectives.

Table 5. *Cont.*

City	Problem with Cars/?	Mobility Future Imagined?	Assumptions Underlying This Representation of the Problem: Key Concepts; Actions Required	Unproblematic Issues/Silences in This Representation of the Problem	Potential Consequences Produced
Tilburg NL	Poor accessibility as threat to economy; Road safety; Local and global pollution; Deteriorating quality of life due to increased car use.	High accessibility by all modes; Improved quality of life in city centre especially.	Car use is still a given and cannot or should not be reduced Improved accessibility by all modes is achievable and one mode does not conflict with another Regional connectivity must be provided by road and is necessary for economic growth.	How to manage regional car trips—Will traffic restraint measures will be enough to reduce car use? Whether improving traffic flow for private vehicles will induce more vehicle trips onto network.	Risk that strategy for outer city and regional trips will undermine that for central city.

6. Conclusions

An analytical framework based on [6,7] Bacchi's work on policy problematisation was used for this work. Some of the limitations of the framework were discussed earlier in this paper—principally that that the focus on problems as the foundation of policy-making ignores the possibility that solutions and measures are already selected and thus the definition of the problem is used as a post-hoc justification of the already-chosen measures. However, since this paper is based on a document analysis, it would be difficult to identify a post-hoc justification of the measures selected by cities, and therefore a problematisation-based analytical framework lends itself better to such an analysis. In addition, we present below a number of important conclusions regarding the documents that we have analysed and, as these stem from our analytical framework, that demonstrates its usefulness.

There is of course other research that has analysed the urban mobility strategies of cities (see for example [74–78]). However, only one of these papers undertakes an international comparison of more than four strategies, and all are focused on the quantitative indicators used in the plans to measure their success. None analyses the problem statements in the plans in depth as this paper has done, and none identifies the conflicts within the mobility futures imagined. Therefore, our paper complements this earlier work, but clearly also adds to it.

It is clear from our analysis that the majority of the cities reviewed have similar conceptions of the problems caused by or are related to car use. The relative importance of these problems varies somewhat according to the social and economic context of the city, but in general the key problems are *poor accessibility as a threat to economic growth*, followed by local then global environmental impacts and road safety problems. The majority of the cities also state that they seek to reduce car use as a proportion of trips, with a minority of these setting a quantitative target for this. More broadly, the desired mobility future seen in most cities is one where the use and dominance of the private car are reduced, leading to improved public space and liveability, particularly in the central part of cities. The mobility future in all cities envisages a broader range of mobility options compared to the situation today.

The key differences between cities lie in the degree to which the measures that will restrain and reduce private car use are emphasised. Some cities are more ready to use such measures than others, and some make it clear in addition that car use will remain the dominant mode of transport in their mobility system. Furthermore, there are differences in the degree to which car restraint measures are planned to be used in the outer city and regionally, as compared to the central city. Whilst there are exceptions, *the general pattern is that restraint measures are mostly envisaged for the central city, whilst it is planned that the outer city and region will benefit from increased mobility by all modes*.

This clearly leads to a number of "silences" and ambiguities between the policy problematisation and the measures proposed. Principally, these include the lack of clarity as to whether car-restraint measures will be sufficient to actually reduce car use, and *the conflict between measures proposed for the central city and those proposed for areas further out from the central city*. These silences are of great importance for the transition towards sustainable transport systems in terms of CO_2 emissions and overall km travelled.

The paper did not set out to explain *why* the patterns identified are as they are. However, the issue of path dependence referred to in the introduction is clearly relevant (e.g., [1,8,9,21] regarding path dependence in transport planning). There is a continuum of cities here in the 13 considered. Some remain in an "old" traffic engineering-based paradigm, with only a few cursory "nods" towards sustainable transport in their policies. The majority have moved some way towards a more thoroughly sustainable transport paradigm, where cars are not part of their vision for the central city. A very small number are rejecting the car as a basis for future mobility for the whole city. This is a path-dependent transition, as cities in the first stage are unlikely to jump straight to the last, without going through the intervening stage).

In addition, our work highlights at least two important potential consequences for urban transport policy in general:

- Firstly, the policies that we have reviewed suggest that if they are implemented as planned, suburbs may in fact become more car-dominated. The resulting increase in vehicle kilometres due to regional car trips is likely to increase local and global air pollution until a high proportion of the fleet is electrified. This is a silence that could have major consequences for the energy efficiency of the transport system since these trips account for a large part of total personal transportation mileage.
- Secondly, car mobility is rarely put at stake in the design of policy interventions. Few measures that directly aim to restrict car use are presented. Possible measures that will drastically reduce car use, such as car-free urban areas, are ruled out.

For planners working in cities, the analysis in this paper is an important call for them to recognise the silences in their own policy documents, and for them to think more critically about how to manage suburban and regional car use. For researchers, our work should encourage a more critical view to be taken of the discourses in urban mobility strategies, particularly with respect to how conflicts in the problematisations in those strategies are dealt with.

In summary, it is true that the cities analysed in this paper have taken some potentially important steps towards sustainable transport planning (principally in the planning of central parts of the cities, that is). However, the dominant policy problematisation, with its geographical delimitation focusing on cars in city centres, produces silences that risk segmenting car-based mobility futures in suburbs and at the regional level. In order to at all be able to handle these car journeys, cities need explicit policy problematisations for car journeys in suburbs and at the regional level. If not, these car journeys will not be dealt with as they are discursive blind spot.

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Appendix A Sources of Data, Table 2

City populations: city authority websites, latest available year

Mode share for Dutch and Swedish cities: latest available year from http://www.epomm.eu/tems/cities.phtml

Mode share for German cities: from transport strategies reviewed, for 2018 (2017 Aachen).

Mode share for British cities: 2011 National Census travel to work data.

Education levels, car ownership and unemployment rates:

Britain: 2011 census (education and car ownership); city websites (unemployment).

Germany: car ownership from transport strategies reviewed. Education and unemployment from Employment Ministry data of respective German Federal State

Netherlands: Central Bureau for Statistics (CBS) (Dutch Government)

Sweden: CBS (Sweden) for unemployment and education; Lansstyrelsen for car ownership.

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