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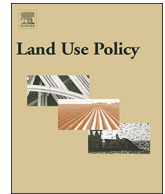
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Cars. Problematisations, measures and blind spots in local transport and land use policy

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ABSTRACT

Goals concerning reduced car traffic are found in most European cities, indicating a potential change in local transport policy and land use planning, which have traditionally been very car-centric. This paper analyses goals and measures to reduce car traffic in Swedish municipalities' long-term transport and land use plans. Theoretically, the paper is based on an understanding of policies 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. The results indicate that changes are underway. At the heart of these changes are narratives about city development in which municipalities understand the 'attractive city' as one where cars are defined as a problem to be addressed. However, the dominant policy problematisation produce several 'blind spots'. Regional car trips, including travel to out-of-town shopping areas, are left unproblematised in this representation of the problem, meaning that measures addressing such trips are ignored in policy making. The paper builds our understanding of how policy practices influence the potential for change towards sustainability by discussing whether municipalities are doing enough to address the big problems with cars.

1. Introduction

Polymakers in most European cities have adopted goals intended to decrease the share of travel by car in relative or absolute terms in order to reduce emissions, accidents, and noise. This is partly due to policy changes at both the national and EU levels. The aim of reducing car traffic is clearly not new. Policy approaches trying to reduce car use can be traced back to at least the 1990s with policy moving towards integrated transport and land use planning and more focus on sustainability. However, several European countries are encouraging cities to reduce car traffic in partly new ways, or simply requiring, cities and local authorities to work towards the sustainable transformation of their transport systems, including through formulating Sustainable Urban Mobility Plans (SUMP; May, 2015). Additionally, recent research shows that transport professionals in some European countries believe that a mixture of changes in social practices and technology could lead to considerable changes in the configuration of the 'automobility system' (Morton et al., 2017).

These changes in policy and potential changes in social practices and technological development indicate that local transport policy and planning may, or at least should, be entering a phase of flux, shifting away from car-centric transport and land use planning towards more

environmentally friendly planning favouring public transport, walking, and cycling (see Docherty et al., 2018 for recent work on governance of 'smart mobility'). This shift cannot be taken for granted, however, as previous research has found that cars often continue to take precedence in local policies and planning (Low et al., 2003; Richardson et al., 2010; Isaksson and Storbjörk, 2012; Næss et al., 2013; Isaksson et al., 2017). Previous efforts at reducing car reliance show that there is a potential, but no guarantee that changes in social practices, automation, digitalisation and other technology might help reduce car traffic. There is therefore reason to analyse how goals of proportionally reducing car traffic are being handled in local planning, what measures are or are not being employed to this end, and how these measures are justified in decision and planning practice.

This paper analyses how the goal of reduced car traffic is being handled in evolving local transport policy and planning, with the aim to build our knowledge about the dynamics influencing transport system development and the potential for change towards sustainability. Here, local transport policy and planning are discussed by analysing how goals and measures intended to reduce car travel are justified and selected in the planning documents (e.g., comprehensive and traffic plans) of Swedish municipalities. Analytically, the paper treat goals concerning reduced car traffic as parts of 'problem representations'

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(Bacchi, 1999, 2009) that create particular ways of understanding car traffic as a policy problem, in turn influencing what measures are seen as appropriate or inappropriate. A starting point is the assumption that particular ways of 'talking' about car traffic (e.g., in traffic and land use plans) and how they represent problems with cars will guide both analysis and action in practical decision making and planning situations. As such, policy problematisations create particular ways of understanding car traffic as a policy issue that have potential consequences for local planning and decision-making practices and for the dynamics influencing transport system development and the potential for change – in this paper illustrated in a Swedish context. By analysing this, the article is aligned with recent research that attempts to understand how to govern and direct mobility towards more sustainable travel modes – a rapidly developing research area (see e.g. Buehler et al., 2017; Lambe et al., 2017; Berger et al., 2014 for recent research; see Fenton, 2017 and Isaksson et al., 2017 for research in a Swedish context). The expected contribution is a new understanding of the current state of local planning. Through analysing policies as reflecting specific policy problematisations, I can reflect on how perspectives, issues, and conflicts are excluded from the policy process by dominant problem representations (see next section).

1.1. Cars as a policy issue in transport and land use planning

There is a wide range of measures available to reduce urban car travel (see Marshall and Banister, 2000 for an overview). A distinction can be made between measures intended to pull passengers to other modes of transport, and measures that push passengers to other modes of transport, by making these more attractive and the car a less attractive option (Marshall, 1999). For example, integrated transport and land use planning may decrease the need to travel by car and make it rational to choose a transport mode other than the car (Naess et al. 2013, van Wee and Handy, 2016). Another way is to use different forms of financial and behaviour-changing measures (Nash and Whitelegg, 2016). These measures can take the form of financial incentives, taxes, and fees, or of information, marketing, and behaviour campaigns – so-called mobility management. Yet another way is to decrease the physical space for cars in the city, for example, through reducing road capacity, restricting speed, and reducing the number of parking spaces. A fundamental condition for developing more environmentally friendly transport is that car traffic must decrease in absolute terms. If there is increased travel by public transport, this must result in decreased car use for the sustainability of the transport system to be improved in real terms (Marshall and Banister, 2000; Banister, 2008; Nash and Whitelegg, 2016). This means in turn that measures to decrease car traffic must be included in any efforts to increase the number of trips made by means of public transport, bicycle, or foot (Marshall and Banister, 2000; Nash and Whitelegg, 2016). Without measures to decrease car traffic, the promotion of walking, cycling, and public transport is liable to have little impact on the modal split (Marshall and Banister, 2000). Despite this, existing targets and measures to increase the sustainability of urban transport are not necessarily intended to decrease car traffic to any great extent (Marshall and Banister, 2000). In hindsight, such efforts often aim for the positive development of alternative modes of transport, for example, doubling public transport use or developing a 'cycle city'.

However, the chosen measures are not identified, decided on, or implemented in isolation from particular traffic and city planning contexts. The concept of 'policy' can be used to analyse these contexts. The policy concept has been investigated based on wildly differing assumptions; for example, policy has been defined as a course of action or inaction aiming at a certain outcome (Hecl, 1972). Policy is normally performed through 'a set of interrelated decisions ... concerning the selection of goals and the means of achieving them within a specified situation' (Jenkins, 1978, p. 15). Policy research has traditionally often been conducted on a rationalistic basis with a focus on input and

output. In somewhat simplified terms, such research has assumed the presence of a problem to be solved, for which a policy is formulated and then implemented. Implementation results in a feedback loop that provides input for the formulation of a new or amended policy. Over the last two decades, a more problematised analysis of policy has emerged in which policy is understood as a process, and which has an explicit interest in how interests, values and normative assumptions influence policy formulation. Against the background of wide-ranging research into policy, I have adopted an approach to policy that is inspired by Bacchi (1999, 2009) and which tries to understand how policy formulation is shaped by normative assumptions about what values are prioritised and what policy instruments are seen as appropriate in the local context studied.

The starting point of this paper, following Bacchi (1999, 2009), is the view that policies shape 'problems', and that local politicians and 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 is a representation in which a way of understanding a particular policy issue is created and used to mobilise support, agreement, acceptance, resources, decisions, and implementation. Problematisations define not just a problem. Alternative problem formulations are eliminated by demarcation, defined as being inconsequential, and finally ignored. In summary, a problematisation tends to lead to specific consequences resulting from how the problematisation is constructed and demarcated. For example, if excessive car traffic is defined as a problem resulting from a lack of suitable alternative modes, then of course the most likely policy response will be to try to improve the alternatives, rather than (for example) considering restraints on car traffic.

Policy problems are necessary to making policy, and they draw attention to how policy is created in discourse (Bacchi, 2000), 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 dominant modes of thought and behaviours (Foucault, 1976). Local politicians and planners who try to steer and change the transport system should bear in mind that such systems are social creations rather than isolated technologies. The various problems facing transformative policy and planning intended to challenge the private car were classified by Low et al. (2005) as comprising three interrelated factors that may produce path dependencies in the transport system. One of these factors is discursive, relating to assumptions, justifications or beliefs, that apply within an organisation and shape its practices; the others are institutional factors, relating to practices, routines, and methods applied by key organisations, and technical factors, relating to the momentum resulting from fixed infrastructure serving societal functions (Low et al., 2005). This paper discusses discursive factors influencing how car traffic is handled in local transport policy and planning. It analyses a necessary but not sufficient prerequisite for changes in planning and decision-making practices in local authorities.

To reduce car traffic, policy problematisations about car traffic must discursively disrupt taken-for-granted ways of seeing policy problems and solutions, sometimes described as constituting a 'conventional approach' to transport planning and engineering focusing on cars, speeding up traffic, mobility, etc., which is contrasted to a sustainable mobility paradigm by Banister (2008). As mentioned above, previous research has demonstrated that goals about more environmentally friendly transport systems with smaller shares of car traffic have difficulties influencing planning practices in planning supported by car-centric discourses. Previous research has also illustrated how much current transport and land use planning is tied to visions of urban development, for example, in which non-car modes of transport are advocated. For example, with increasing interest in light rail, many cities see light rail projects not only as a way to meet present and future transport needs, but also as a way to implement innovative urban

Table 1
Municipalities and plans analysed (the year the plans were adopted is stated within brackets).

Municipality	Comprehensive plan	Traffic strategy	Parking strategy/ Parking action programme/Parking standard
Borlänge	2014		2016 (parking strategy)
Borås	2018		2017 (parking strategy)
Eskilstuna	2013	2012	2016 (parking strategy)
Gävle	2017	2018	2015 (parking strategy)
Halmstad	2015	2012	2015 (parking strategy), 2016 (parking standard)
Helsingborg	2014	2014	2016 (parking strategy)
Jönköping	2016	2012	2015 (parking strategy)
Karlstad	2012	2014	2016 (parking strategy)
Linköping	2010 (joint comprehensive plan Linköping and Norrköping), 2010 (comprehensive plan for the city of Linköping)	2010	2012 (parking strategy)
Luleå	2013	2016	2016 (parking strategy)
Lund	2018	2014	2013 (parking strategy)
Norrköping	2010 (joint comprehensive plan Linköping and Norrköping), 2017 (comprehensive plan for the city of Norrköping)	2011	2011 (parking strategy)
Sundsvall	2014		2017 (parking strategy)
Södertälje	2013	2017	2017 (parking strategy)
Trollhättan	2014	2015	2016 (parking strategy)
Umeå	2018		2013 (parking strategy)
Uppsala	2016		2014 (parking strategy), 2016 (parking action programme)
Västerås	2017	2014	2015 (parking strategy)
Växjö	2012	2016 (strategy for the city of Västerås), 2014 (strategy for the municipality)	2015 (parking strategy)
Örebro	2018	2008	2016 (parking standard), 2013 (parking action programme)
Östersund	2014	2005	2006 (parking strategy)

planning strategies that connect public transport with urban developments having high ‘urban qualities’ (Olesen and Lassen, 2016; Ferbrache and Knowles, 2017).

This example can be taken as illustrating how new narratives concerning the role of different transport modes, attempting to disrupt taken-for-granted ways of seeing policy problems and solutions (including the role of cars), have emerged around Europe. When discussing transport, attention used to concentrate on capacity, but now it seems much more focused on the contributions of particular transport modes to the ‘image’ of cities, and on developing urban areas to emphasise ‘attractiveness’ and ‘liveability’. This illustrates how policy problematisations in planning and decision-making practice provide integrated accounts of policy issues, in this case, the role of cars in urban development. These accounts often take the form of stories (Sandercock, 2003) that shape and frame what a place is and what it could become in the future. To conclude, policies give form to ‘problems’, and such policy problematisations involve a ‘diagnostic’ aspect that prescribes solutions to socially constructed problems. Previous research has often shown these problematisations to be about the ‘visioning of cities’ and the role cars should play in the future.

1.2. Method

Sweden is divided into 290 municipalities and 20 county councils/regions. The Swedish land-use planning system is strongly decentralised, with a weak regional planning level and a national level merely providing a legal framework and rules and goals to be fulfilled (though without any strong control or steering mechanisms). Swedish municipalities have the exclusive right to formulate and adopt land use plans. Each municipality is also solely responsible for the local road system, unless changes affect national roads, which are planned, built, and operated by the Swedish Transport Administration. The territory over which a Swedish municipality has jurisdiction encompasses several cities and villages, and almost always rural areas. Many so-called private roads in rural areas within municipalities are not municipal. Nor, in most cases, is the municipality the sole public transport authority. In the Swedish organisation of public transport, municipalities

and county councils in each county share the financial and political responsibility for public transport.

The goal of reducing car traffic is most common in ‘larger’ Swedish municipalities, becoming less prevalent with decreasing municipal size. The most common goal is for the share of car trips to decrease, although it is also common for municipalities to have the goal of reducing the absolute number of car trips (Hansson et al., 2018). Therefore, ongoing efforts to reduce car traffic in all 21 ‘larger Swedish cities’ will be analysed here. ‘Larger cities’ are defined in Sweden as municipalities with at least 40,000 but fewer than 200,000 inhabitants in their largest urban area (Swedish Association of Local Authorities and Regions, 2017). These municipalities have also been chosen as cases because they are large enough that a customer base does exist for public transport that can offer a real alternative to the car as a mode of transport, with the result that they are of interest from an analytical standpoint (compared to smaller Swedish municipalities). Additionally, the major Swedish cities of Stockholm, Gothenburg, and Malmö are subject to other conditions and factors (as the basis for public transport and reduced congestion), so the municipalities examined here should be analysed based on the conditions prevailing in them. Notably, there is less congestion on their roads and a smaller customer base for public transport than in the major Swedish cities.

Swedish municipalities’ plans constitute one of several arenas in which policy problematisations are created and used to guide the development of the transport system. The empirical data consist of long-term plans and action programmes, in the area of traffic and urban planning: first, they comprise municipal comprehensive plans (i.e., legally mandated plans setting out long-term goals and including strategic trade-offs between goals) in all of the chosen municipalities plus traffic strategies, if available, and, second, parking strategies or parking action programmes, if available. It is voluntary for the municipalities to adopt traffic strategies. Which plans that are analysed therefore partly differ between municipalities (see Table 1). Other types of plans and action programmes could be relevant, such as anti-noise programmes, bicycle plans, public transport plans, urban environment programmes, traffic safety programmes, and energy and climate strategies, but these do not fall within the scope of this analysis.

1.2.1. Policy problematisations as analysis tools

As analysed here, policies are not self-defining phenomena derived directly from the analysed plans; rather, they are analytical constructs that result from analysing the plans. The analysis of the plans was performed stepwise including superficial examination of all plans, thorough examination, and interpretation (Bowen, 2009). First, all plans were skimmed through and pertinent passages of text about transport, and especially about car traffic, was identified. Second, in a more thorough examination and re-reading of the plans, themes and hierarchies of themes were outlined. Specifically, this step meant that I read the plans several times and marked key phrases. Themes, here understood as recurrent regularities in the material (Ryan and Bernard, 2003), were identified in this way. The identification of themes was guided by the theoretical understanding of cars as a policy issue in transport and land use planning described above. Inspired by Bacchi (1999, 2009), the studied municipalities' plans were in this second step interpreted based on the following questions (the transport-related questions are my additions to Bacchi's original ones):

- a
 - a What is the problem?
 - i What is the impact of cars?
 - ii What mobility futures are imagined?
 - b What assumptions underlie this representation of the problem?
 - i What are the key concepts and categories that underlie the representation of the problem?
 - ii What actions are required?
 - c What is left unproblematic in this representation of the problem?
 - i What are the silences?
 - ii How would actions differ if the problem were framed differently?
 - d What consequences (for mobility, the city or its people, and the environment) are produced by this representation of the problem?

Any silences produced by the dominating policy problematisation, or issues that are left unproblematised (question c), are judgements on my part as to what is actually a problem but is not seen as a problem in the plans. Unproblematic issues are discussions about factors that affect car travel, which do not occur frequently in the plans. They were identified by reading the plans over and over, and by identifying text parts not associated with a theme or a policy problematisation (Ryan and Bernard, 2003). Silences are discussions on car journeys and factors affecting car travel, which are not mentioned in the plans, but as previous research has shown to be of importance for the development of car traffic and emissions. In particular, I looked for silences that affect CO₂ emissions (see section 4.2 for an empirically based analysis).

The analysis clearly involves judgments on the part of me as a researcher. The validity of the results was tested by giving three officers from three municipalities (who participated in a reference group associated with the project which this article is written within) the opportunity to read and comment on a preliminary analysis. Should the result differ radically from their knowledge of local transport and land use planning, they would have reacted.

When presenting the empirical results, text quotes from individual municipalities are used to illustrate general patterns (although a qualitative analysis as this is more about describing recurring themes than frequencies).

1.3. Results: what is the problem with cars?

The car has been the standard for societal and transport planning since the 1950s. This standard has led to the separation and differentiation of both modes of transport and society's other functions. Traffic routes and large carparks that take up a great deal of land have been built. We now face the challenge of breaking with this standard and creating conditions more favourable for sustainable

travel (Sundsvall Municipality, 2014, p. 27, my translation).

This quotation illustrates one municipality's account of the history of urban development and conventional traffic planning, in which the car has served as the standard. It is highly consistent with how Swedish planning in the post-war period is described in the scientific literature (Hagson, 2004; Lundin, 2008). Swedish cities are normally planned in the form of functionally delimited areas for work, residence, leisure, services, etc., just as different modes of transport are separated. This historical account also represents most other Swedish municipalities, including the negative consequences asserted to result from conventional planning's focus on the car. Conventional planning is said to have created a transport system with over-dimensioned road system capacity that, in addition to promoting traffic congestion and emissions, is leading to a lack of 'urban cohesion', i.e., a functionally mixed city that is an aesthetically attractive place to live, visit, and shop. Municipalities clearly justify the goal of reducing car traffic by pointing to greenhouse gas emissions, traffic safety problems, high noise levels along major thoroughfares, less daily exercise, and periods with high particulate levels in the outdoor air. However, it is the car's negative effect on urban development that clearly constitutes the most important reason for reducing the share of car traffic. Municipal plans also focus very clearly on the central parts of their regional centres.

The car also has a role to play in the city of the future, but it does not really fit in aesthetically when municipalities plan for 'attractive' cities. The *attractiveness* of the city is the recurrent key theme that appear in descriptions of future cities and the role of car traffic in them over and over again. Attractiveness is mentioned in the plans of many, but not all, municipalities, though all municipalities' plans do include goals that can be understood in terms of this concept. Attractiveness is formulated as follows in one municipality's comprehensive plan:

Linköping will be an attractive city that draws people to itself. A city core with beautiful, vital, and inviting environments for people will make the city interesting for visitors. ... Steadily increasing car traffic also increases the congestion on our streets and roads. Heavy traffic negatively impacts the urban environment and our well-being. The barrier effect, which major roads entail, contributes to physical boundaries between the built-up areas and their inhabitants. A traffic structure that offers favourable means of travelling by foot, bicycle, or public transport offers an attractive and pleasant urban environment where surfaces can be used for urban life rather than for car traffic (Linköping Municipality, 2010, p. 70, my translation).

This quotation illustrates how attractiveness usually pertains mainly to the attractiveness of the inner cities as places to live, and as centres for shopping and services. The 'attractive city' is a competitive tool, and the quality of the city is affected by its transport system:

Many cities are currently undertaking clear and conscious initiatives to achieve 'the good city' or 'the attractive city'. Becoming attractive meeting places also confers economic benefits on cities. ... Businesses will want to locate where people are thriving and want to live, with the result that the location enters a virtuous spiral. The transport system means a great deal in terms of how the city is perceived (Eskilstuna Municipality, 2012, p. 43, my translation).

There are also major similarities between the municipalities in terms of *how* they intend to create 'the attractive city'. In principle, all municipalities believe that a more integrated transport and land use planning approach than before is needed. Municipal planning has been broadened from its conventional land use or transport orientation, and now focuses on the broader impacts of transportation and what it can achieve in urban areas. For example:

We have to undertake city planning rather than traffic planning and land use planning. The goal is a mixed and attractive city for everyone, a walking and bicycling city with efficient public transport

and car traffic that works (Örebro Municipality, 2014, p. 4, my translation).

The above quotation illustrates, above and beyond the strategy of integrated traffic and city planning, a desire to change the approach taken to traffic and city planning by no longer planning for *mobility* but instead planning for *accessibility*. This will make it possible for residents and visitors to share in the city's offering of goods and services. According to municipalities, conventional planning (with its unilateral focus on traffic) has concentrated on greater mobility for car traffic, resulting in congestion in the traffic system and in poor accessibility.

In the attractive city, walking, cycling, and public transport play more important roles than before, and car traffic should be accorded a correspondingly lower priority. All municipalities have the goal of a long-term sustainable transport system in which the populace opts to walk, cycle, or take public transport (modes of transport described as more 'surface efficient' than car traffic) to a greater extent. Such goals are sometimes subject to time limitations and expressed in terms of changes in the shares of different modes of transport, but rarely is the increase in travel by walking, cycling, or public transport achieved by restricting car traffic. However, an efficient and highly functional car traffic system is still viewed as an important precondition for an attractive and highly functional city. This can be achieved by 'minimising the negative effects of car traffic' (e.g., Gävle Municipality, 2008, p. 16). The goal of high accessibility in the city also extends to accessibility for car traffic:

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 good passability and accessibility in the city and the municipality (Jönköping Municipality, 2012, p. 52, my translation).

It may seem contradictory that, despite their goal of reduced car traffic, the studied municipalities are still planning for car traffic accessibility; however, it is not really contradictory given how they view the purpose of the transport system within the framework of developing an attractive city. What the municipalities seek with the goal of a reduced share of car traffic is to create a more attractive city by making the transport system *more efficient*, and they want to achieve this by no longer giving car traffic the same priority or as much space as before. This is also obvious in the choices of strategies and measures that the municipalities intend to use to reduce the share of car traffic.

1.4. Strategies and measures to reduce the share of car traffic

There are three main commonly occurring measures that the municipalities want to use to reduce the share of car traffic. The first is to *make walking, cycling, and public transport more attractive* relative to car use. In other words, these measures apply mainly to other modes of transport that could have a direct impact on car traffic, for example, if street space is redistributed in favour of public transport. All municipalities' plans include measures of this kind. Measures are being proposed to reduce travel times, increase passability for public transport, etc. One closely related measure is predicated on increasing travel by means of walking, cycling, and public transport by making it easy for travellers to use modes of transport other than the car (Luleå, 2013, p. 18), as expressed here in the joint comprehensive plan of two municipalities:

... developing sustainable transportation is, to at least as great an extent, about reducing travel by car. The best approach has proven to be to offer good alternatives. The region and the municipalities themselves have control over the most important tool, i.e., public transport. (Linköping and Norrköping Municipalities, 2010, p. 64, my translation)

Initiatives regarding walking, cycling, and public transport are sometimes described as means of *reducing the need to use a car* by limiting the relative advantages and relative passability of cars (particularly in areas where walking, cycling, and public transport are real options): 'People are not dependent on cars in Gävle' (Gävle Municipality, 2008, p. 13).

Another common measure to reduce the share of car traffic is to *give priority to walking, cycling, and public transport* wherever they compete with car traffic for space, via speed limits, priority rules, street space regulation, and signal prioritisation (the so-called green wave). However, such measures are not as prevalent as the strategy of enhancing the attractiveness of walking, cycling, and public transport. The strategy to give priority to walking, cycling, and public transport are found in 12 of the 21 municipalities studied. Municipalities that seek to give priority to walking, cycling, and public transport set priorities that delineate how they are to prioritise between modes of transport when there are conflicting goals, for example:

Conflicting goals arise fairly often between the claims of different modes of transport. One example is passability for car traffic versus public transport. The basis is to continually analyse the effects of the modes of transport at the system level. When conflicts arise between goals, the stretches available for walking, cycling, and public transport must be prioritised over passability for car traffic. Any exceptions to this prioritisation must be analysed and justified from a system perspective (Karlstad Municipality, 2014, p. 10, my translation).

Although the strategy of prioritising walking, cycling, and public transport is relatively common, few municipalities describe the relationship between cars, walking, cycling, and public transport as a state of competition. It is consequently reasonable that few municipalities recognise that the goal of more travel by walking, cycling, and public transport will be difficult to achieve if passability for cars is maintained, or if measures countering car traffic are not implemented in parallel with initiatives regarding walking, cycling, and public transport – although there are exceptions:

There is no absolute attractiveness in traffic. The perceived attractiveness of any mode of transport always depends on its competition. This means that initiatives to make improvements for walking, cycling, and public transport need to be configured in such a way that they enhance the attractiveness of those modes of transport relative to car use If passability for car traffic is continuously increasing, investments in cycling and public transport will not yield the desired 'return' in the form of more cyclists and bus passengers. (Västerås Municipality, 2014, pp. 18 and 29, my translation)

Of the measures identified in the analysed plans, direct restrictions on car traffic are not, as already mentioned, the most important strategy for decreasing the share of car traffic. A third type of common measure to reduce the share of car traffic, and the one that comes closest to direct restrictions, involves *parking measures*. All municipalities studied use parking measures to affect car ownership and the car as a mode of transport. In isolated instances, initiatives pertaining to walking, cycling, and public transport are seen as ineffective if they are not complemented with active parking policies (Umeå Municipality, 2013, p. 4). Because parking measures are, by far, the measures most used by municipalities, parking strategies will be addressed separately in the next section.

1.5. Parking

The ways in which the municipalities discuss parking tie in well with how they view traffic planning as a tool for urban development and creating 'attractive cities'. The goal is often to reduce the traffic passing through the central portions of regional centres, or to reduce

long-term parking and workplace parking. The intent of the latter goal is primarily to increase parking turnover and free up parking space for short-term downtown visits, which benefit businesses even as the available parking shrinks when cities grow. The municipalities tend to prioritise short-term and residential parking over workplace parking, sometimes justifying this prioritisation by claiming that it is easier to influence car use than actual car ownership (e.g., Karlstad Municipality, 2016, p. 4).

Several municipalities report that the use of parking measures to achieve long-term urban planning goals is relatively new for them. For some, this concerns reviewing pre-existing parking standards in an existing parking policy, while for others it is about formulating a 'well-reasoned parking policy' by achieving 'optimum capacity utilisation' (Linköping Municipality, 2012a, p. 2) through a combination of measures that regulate the need and demand for parking (Örebro Municipality, 2013).

To achieve what is referred to above as optimum capacity utilisation, first, the studied municipalities' parking strategies are predicated on making parking *more efficient*, to free up space for other purposes. This is done by increasing parking turnover, thereby increasing the accessibility of the central portions of the city centres. The rationale is sometimes said to be that the centres are growing, so the cities need to update their parking standards and regulate surface use more effectively (Eskilstuna Municipality, 2016, p. 4). As part of this effort to increase efficiency, the municipalities seek to reduce the share of travel by car in the cities, and to situate the parking that is to be available in dedicated parking facilities, preferably underground. There is a desire to eliminate parked cars as a visual element and decrease the space they take up in the urban environment, as they are considered to 'uglify' the city:

The desire to create parking may conflict with aspirations to create more street life, particularly downtown, and to beautify the various parts of the city. This applies in particular to carparks, which can both occupy a great deal of space and are perceived as ugly and unsafe (Linköping Municipality, 2012b, p. 13, my translation).

Second, there are also attempts to *decrease the demand* for parking by consciously developing regulations and pricing that result in car users having to bear the costs of parking (e.g., Norrköping Municipality, 2017, p. 34). Other means of reducing the demand for parking include implementing guidelines for acceptable walking distances to parking places and, when updating parking standards, adapting the standards to location-specific conditions, such as access to walking, cycling, and public transport, as well as enterprise situation, enterprise type, etc. Selected municipal measures to make parking more efficient or reduce demand for it are summarised in Appendix 1.

1.6. Discussion

The effects and role of car traffic in the future transport system are addressed by the municipalities within the framework of their urban development goals, and the measures they present to manage car traffic can only be understood based on their aspirations for city development. Very few municipalities have a problem formulation that deviates from the others in any decisive way (I will elaborate on this below). The dominant problem formulation claims that conventional planning have created a transport system with over-dimensioned road capacity that in addition to congestion, exhaust, and emissions, also leads to a lack of 'urban unity', i.e., a mixed-function city that is aesthetically attractive for residents, visitors, and commerce. Municipalities are not seeking to eliminate the car from the cities, as car traffic is viewed as a precondition for city functioning. The issue facing the municipalities is rather to subordinate car traffic to the city's needs through integrated transport and land use planning, and not, as was previously the case, to subordinate the city to the needs of the car in terms of passability and capacity in the transport system. The presented measures are

consequently based on making the transport system *more efficient* to allow car users to continue to use their cars to access the city's services and workplaces, but without being too detrimental to the city's 'attractiveness'. City attractiveness is a key concept of a framework determining the measures deemed relevant in making the transport system more efficient by guiding the evolution of car traffic in the desired direction.

The municipalities' policy problematisations are often built by engaging in polemics against conventional planning and the negative effects such planning is said to have had on city attractiveness. Consistent with their desire to make the transport system more efficient with a view to creating more attractive urban environments, Swedish municipalities are now seeking to plan for accessibility, rather than for mobility for cars, as in conventional planning. The measures proposed for reducing the share of car traffic can also be understood within the framework of aspirations to make the transport system more efficient, so that it contributes to city attractiveness. As noted above, when the municipalities propose changes in their parking policies, they seek to achieve 'optimum capacity utilisation', regulating the supply and demand of parking to free up space for purposes other than parking by increasing parking turnover and, in turn, the accessibility of central portions of the regional centres.

These desires to make the transport system more efficient are characterised as a change in perspective in several other ways. The focus now is on the people in the city, rather than on the capacity of the transport system, as was formerly the case – i.e., the transport system is to serve as a means of creating the attractive city. Many of the Swedish municipalities' problematisations can be illustrated using antithetical conceptual pairs, such as accessibility versus car mobility, the street as a road versus a space, and the segregation versus integration of people and traffic. These conceptual pairs exemplify relationships between the advocated planning principles and their negative and positive effects on urban development. When the municipalities themselves employ such conceptual pairs (e.g., accessibility vs. car mobility) in their plans, they do so to create policy problematisations and, in that sense, create meaning intended to underpin their choices of measures.

1.7. Seeing through 'blind spots'

The dominating policy problematisation lead to specific consequences resulting from how the problematisation is constructed and demarcated. Alternative problem formulations are, as already mentioned, eliminated by demarcation, defined as being inconsequential, and finally ignored. What are then the silences produced by the dominating policy problematisation? The view of car traffic as a problem that arises primarily in cities (and principally in the central parts of regional centres) leads to several 'blind spots'. These blind spots pertain to car travel and to the conditions surrounding car use, but are seldom discussed; they also pertain to seldom-discussed measures to reduce car traffic. These blind spots mainly concern car trips that do not obviously have the central parts of the urban areas as their starting points or destinations, and that consequently do not affect city core attractiveness, which accounts for the relative silence surrounding them. Such car trips can to some extent be the target of cities' interest in planning and contexts other than those analysed here. Moreover, the municipalities do not necessarily have full authority (see Section 2) over all the car trips described below as blind spots, but the lack of discussion and measures concerning such car trips is of sufficient magnitude to justify that characterisation.

Car trips to and from out-of-town shopping centres constitute a first such blind spot. Evidence suggests that out-of-town shopping centres generally generates CO₂ emissions (Määttä-Juntunen et al., 2011) due to more and longer trips by car. Out-of-town shopping centres often generate trips that would not otherwise have been made (Neergaard et al., 2006. See Hrelja et al., 2011, 2012, Isaksson and Storbjörk, 2012 for more in-depth analyses of how Swedish municipal planning for out-

of-town shopping is segmenting car dependency and generating more and longer trips by car, and thus increasing CO₂ emissions). A second blind spot pertains to *car traffic in urban areas in the municipalities other than in their regional centres*, including in rural towns. Those municipalities that, despite everything, are discussing strategies for reducing car traffic in other urban areas and in rural towns are seeking to do so by expanding the urban areas that offer the most favourable conditions for public transport. *Regional car trips*, such as work commuting and shopping trips between municipalities, constitute a third blind spot, and one that could have major consequences for the energy efficiency and CO₂ emissions of the transport system. Such regional trips account for roughly 76% of the personal transportation mileage in Sweden (Holmberg and Brundell-Freij, 2012). There are, however, a few municipalities, for example Västerås, that have strategies for managing regional car trips by enhancing the attractiveness of public transport in cooperation with the public transport authority, or by making public transport more competitive and attractive by guiding, through land use planning, the evolution of land use to create areas offering favourable conditions for public transport (Västerås, 2014). A few municipalities, for example Linköping and Norrköping, are also looking to create highly efficient transfer points, e.g., commuter carparks that facilitate transfers from cars to public transport (Linköping and Norrköping, 2010).

However, Västerås, Linköping and Norrköping municipalities are not different than most other municipalities; their problem formulation does not deviate from the others in any decisive way. A municipality that distinguishing itself from other municipalities by having a partly different problem definition, and which also tries to handle regional travel by car in a more ambitious way is Lund. Also Lund is trying to reduce travel by car because of the negative effects of cars on the city centre, but Lund municipality has a much clearer focus on CO₂ emissions than most other municipalities. In fact, the basis for the transport policy goals are based on the decision taken by the City Council on a halving of greenhouse gases by 2020 and an emission level close to zero by 2050. If global warming is regarded as the big problem with cars, it makes sense to also try to reduce regional car trips by investments 'in bus and train connections, hubs, stations, bus stops, and commuter and bicycle parking facilities' (Lund, 2014, p. 23).

2. Conclusions

This paper builds our knowledge of how the goal of reduced car traffic is being handled in evolving local transport and land use planning. Theoretically, the paper contributes to the discussion about the dynamics influencing transport system development and the potential for change by viewing goals concerning reduced car traffic as part of policy problematisations. One analytical point of departure of this paper was that policies give form to 'problems', and that local politicians and planners are active in creating policy problems rather than simply reacting to problems 'out there' in society. Such policy problematisations about cars involve a 'diagnostic' aspect that prescribes solutions to socially constructed problems, which influence the measures seen as appropriate or inappropriate in the local context studied.

The dominant policy problematisation in the Swedish municipalities studied here was shown to concern the negative effects of car traffic on city development, affecting how the Swedish municipalities understand the concept of the 'attractive city'. The results indicate that the municipalities' plans contain very similar descriptions of how conventional car-centric planning has negatively affected the urban environment and the residents, enterprises, and visitors wishing to do business, shop, or use the services available in the cities. These plans describe how what was previously an excessive focus on car traffic in transport planning has resulted in, for example, over-dimensioned roads and large areas devoted to parking that reduce the attractiveness of the city.

However, the municipalities still believe that the car will continue to play an important role in city development. As populations grow and

the 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 good accessibility to continue to do so in the future. In summary, the municipalities' strategies are based on making the transport system more efficient by shrinking the space allotted to cars within it. The municipalities often have a clear system perspective on the function of the transport system in the form of traffic flows and the accessibility of trip destinations. To create more attractive cities, they consequently seek to develop car traffic that is in 'balance' with other types of traffic, create the right 'mixes' of traffic modes in the right places, or plan for accessibility based on a holistic view in which the various traffic modes complement one another. The relationship between traffic modes is usually viewed not as a state of competition and conflict. It is not the car per se that is deemed 'the problem', but rather the negative effects on the city's attractiveness resulting from the unilateral focus on the car in earlier planning.

The municipalities are consequently seeking primarily to reduce the share of car traffic by making walking, cycling and public transport more attractive relative to car use. Few municipalities believe that measures to decrease car traffic must be included in any efforts to increase the number of trips made by means of public transport, bicycle, or foot, and few municipalities are discussing direct restrictions, reduced accessibility, or reduced road capacity for car traffic. However, many do want to prioritise walking, cycling, and public transport in cases in which different types of transport are present and making claims on space. One common measure to reduce the share of car traffic, the one that comes the closest to direct restrictions on car traffic, involves certain parking-related measures, such as lowered parking standards. The strategies for parking are predicated on reducing demand for parking and making it more efficient, so as to free up space for other uses.

One consequence of the prevailing policy problematisation is that measures to counter car traffic that would dramatically degrade car traffic access to the central portions of the municipalities' regional centres or make car use impossible (e.g., car-free downtowns and prohibitions against car traffic on streets) are being ruled out. A different problem formulation, for example, one based on emissions of hazardous particles in city centres, could have resulted in the implementation of such measures. Even so, one should see the municipalities' problem creation and use of concepts such as 'attractiveness' as ways to influence the development of planning practices, and to escape from a car-centric planning tradition. The results indicate that the goals and departure points of Swedish municipal planning have clearly been re-defined, recalling in many ways earlier attempts to theorise a sustainable mobility paradigm. Streets are no longer seen simply as a means of moving people and goods around the city. There is instead a focus on the broader impacts of transport and on what transport can achieve in urban areas, as illustrated by objectives about enhancing the quality of the urban environment.

An important question is whether the findings reflect or do not reflect policy changes and planning practices in other countries. Naturally, differences between countries affect the dynamics of locally adapted transport systems. This paper contributes by illustrating how goals regarding reduced car traffic are being handled in a Swedish context. In countries other than Sweden, car traffic is likely understood and handled in other ways. For example, we would expect to find less integrated transport and land use planning approaches or infrastructure-heavy approaches in some countries, compared with Sweden's 'sustainability'-focused approach with its clear aim of integrating transport and land use planning. However, some of the findings should be recognisable for both researchers and politicians and planners from other countries. The assumption is that the policy problematisations in Swedish municipalities also exist in other countries, and that the Swedish case can elicit critical thinking and action among practitioners and researchers in such countries. For example, similar discourses about transport and growth in cities are influencing British local

transport policy and planning practices (see e.g. Mullen and Marsden, 2015; Marsden et al., 2014). The Swedish municipalities' plans are also, in several ways, in line with a European policy change supported by the EU, as illustrated, for example, by attempts to induce cities to formulate Sustainable Urban Mobility Plans (SUMPs). As opposed to conventional traffic planning, SUMPs often incorporate a desire to initiate a shift towards measures to encourage public transport, and to balance social equity, environmental quality, and economic development (May, 2015).

The transport planning of the studied Swedish municipalities can be used to highlight the long-term consequences of the policy problematisations described here. Despite similarities to the so-called sustainable mobility paradigm, the dominant policy problematisation assumes that the car will continue to play an important role in urban transportation. The dominant policy problematisation partly explains the path dependence of Sweden and other countries as described in earlier research. Given that it is car trips whose starting points or destinations lie in city centres that are defined as the problem, it is unsurprising that the Swedish municipalities are making few and half-hearted efforts to reduce car travel to and from out-of-town shopping centres. Measures that would degrade access to such shopping, such as fewer or fee-based carparks, are not being discussed at all. Car travel to and from out-of-town shopping centres can be viewed as a 'blind spot' arising from the dominant policy problematisation. Regional car trips, i.e., commuting to and from work and shopping trips between cities, constitute another such very important 'blind spot'.

These silences in local transport policy raise the questions; *what are the big problems with cars, and are municipalities doing enough to address them?* The answer to the second question is no, if the goal is to reduce the carbon dioxide emissions of car traffic, or if the goal is to reduce car traffic drastically. The findings show that it is important to consider how certain particularly potentially 'problematic' or 'loaded' problematisations could be re-phrased, and how this would then influence the choice of measures in local planning. A different problem formulation would probably have been needed to induce the municipalities to introduce more measures to reduce regional car travel. A different problem formulation based, for example, on global warming (above exemplified by Lund municipality) might have resulted in more measures to counter regional car travel with respect to such car trips as well, as they account for such a large share of personal transportation mileage in Sweden. The municipalities could then have worked more forcefully to achieve the inter-municipal integration of traffic and land use planning that is also integrated with regional public transport planning. Knowledge about how to re-phrase potentially 'problematic' problematisations requires a deeper analysis of the role politicians and planners play, and the assumptions they have in the process of policy formulation, but it would require a study on its own.

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Appendix 1 Selected measures in the studied plans that streamline or reduce demand for parking

Selected measures that streamline or reduce demand for parking
Prioritisation among different parking needs in public spaces, street spaces, and visitor and customer parking, exemplified here by the prioritisation of public spaces:

- 1 Pick-up/drop-off and short-term parking
- 2 Parking for residents
- 3 Workplace parking

Maximum standards rather than minimum standards for parking

Flexible parking standards, which means that the parking standard is defined as a range. Flexible parking standards entail that a lowering of the parking standard is offered in return for the property owner or developer undertaking to implement measures that can reduce the demand for parking. For residents living in new construction, the parking standard can be lowered if residences are built in central locations and are close to services, good public transport, good connections for walking and cycling, the road system, high-quality bicycle parking, and/or access to carpooling.

Zoning for parking standards conformed based on the various conditions that prevail in terms of access to services, housing density, car density, city structure, public transport access, and access to alternatives to the car as a mode of transport, based on acceptable walking distances to public transport. This may also involve a reduction in the number of parking places in the city core, and the relocation of parking for residences and workplaces from publicly accessible locations with a view to facilitating errands in the city.

No-parking areas

Guidelines for co-utilisation entailing that parking places for workers and residents, for example, are combined in joint facilities. The total need for parking can then be kept down through co-utilisation. Co-utilisation is usually discussed in connection with business parking (e.g., for stores and workplaces) and, to a lesser extent, in connection with residential parking, as all residents should have the option of leaving their cars at home in favour of walking, cycling, or using public transport when commuting.

Parking space purchasing that facilitates co-utilisation and enables lowered parking standards. Parking space purchasing means that a property owner or developer arranges, through an agreement with the municipality, for the parking places required to obtain a building permit to be sited somewhere other than the actual property. This makes it easier for the municipality to determine where and how many parking places will be created, and makes it possible to have more spaces in common parking facilities.

Pricing/fees intended to make the costs clear by not offering free street parking, to change the pricing of the municipality's parking supply (including parking places owned by the municipal corporations), and by working for solutions that lead in this direction in connection with detailed development plans and building permits:

- Fee differentiation with zoning. Higher fees are collected for attractive parking places, often near the city centre, in order to promote higher car turnover and facilitate short errands. The prices may be set higher than the cost of public transport.
- Progressive fees, i.e., the fee increases the longer the car is left parked.
- Increased regulation of workplace parking through fees or time limits.

Time restrictions on parking

Parking management systems that shorten search times.

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