**Bounded rationality in policy learning amongst cities: lessons
from the transport sector**

Greg Marsden, University of Leeds,
Karen Trapenberg Frick, UC Berkeley,
Anthony D. May, University of Leeds, and Elizabeth Deakin, UC Berkeley
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Greg Marsden
Institute for Transport Studies, University of Leeds, Leeds LS2 9JT, England;
e-mail: G.R.Marsden@its.leeds.ac.uk

Karen Trapenberg Frick
University of California Transportation Center, and California PATH, University of California
at Berkeley, 2614 Dwight Way, Berkeley, CA 94720, USA; e-mail: kfrick@berkeley.edu

Anthony D May
Institute for Transport Studies, University of Leeds, Leeds LS2 9JT, England;
e-mail: A.D.May@its.leeds.ac.uk

Elizabeth Deakin
City and Regional Planning Department, University of California at Berkeley, 228 Wurster Hall,
Berkeley, CA 94720, USA; e-mail: edeakin@berkeley.edu
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Abstract. The internationalization of policy regimes and the reorganization of the state have provided new opportunities for cities to bypass nation-state structures and work with other cities internationally. This provides greater opportunity for cities to learn from each other and could be an important stimulus to the transfer of policies across the globe. Few studies exist however which focus on the processes that shape the search for policy lessons and how they are affected by the institutional context within which they are conducted. This paper describes research conducted in the field of urban transport and planning policy across eleven cities in Northern Europe and North America which seeks to explore the motivations for and mechanisms supporting learning about new policies. Thirty policies were examined across the eleven sites using document review and interviews with key actors. The paper explores the search for lessons and the learning process and considers the influences of institutional context, organizational behaviour, and individual cognitive constraints. The process of seeking out and learning policy lessons is defined by individuals operating within a particular policy space and exhibits a number of characteristics of strongly bounded rational choice. The search parameters are significantly influenced by preconceptions of the nature of the preferred solutions and the likelihood of cities in other contexts offering meaningful learning opportunities. Trusted peer networks emerge as critical in overcoming information overload, resource constraints, and uncertainty in the potential for policy transfer. The mobility of policies seems also to be linked to the mobility of the key transfer agents. Cities adopt quite different approaches to engaging with the communities of policy mobilizers which seems likely to impact on the pace and pattern of the movement of policies.

Keywords: bounded rationality, policy transfer, mobility, transport

1 Introduction

The short-term and long-term challenges facing decision makers in trying to develop and deliver sustainable transport strategies are well rehearsed (May and Crass, 2007). Within the field of transport, there is an extensive literature on the extent to which policies function in particular contexts (eg, Eliasson et al, 2009; Roby, 2010; Smith and Raemaekers, 1998). There is also a considerable emphasis on the ex-ante evaluation of how policies might work in contexts where they are currently not in use (Van den Bergh et al, 2007). At a local or regional scale there therefore exists a range of policy choices which could be selected, and a key dilemma facing cities is to select a package of policies that is feasible and will work best for them now and in the future (May et al, 2006). In Europe the Green Paper on Urban Mobility from 2007 suggests that

"European towns and cities are all different, but they face similar challenges and are trying to find common solutions" (CEC, 2007, page 1). The 2009 Action Plan on Urban Mobility seeks to stimulate best practice and exchange to accelerate the take-up of sustainable urban mobility plans (CEC, 2009). Given the policy importance of innovation and effective policy development surprisingly little is known about how and why transport policies move between cities (Marsden and Stead, 2011).

The promise of 'common solutions' across different political geographies reflects the growing internationalization of policy regimes as part of the reorganization of the state (Jessop, 1997). These internationalization processes are in turn assumed to be contributing to higher levels of policy transfer and diffusion (Dolowitz and Marsh, 2000) or to mobility and 'mutation' (Peck, 2011). The transfer of policies between nation states has been a strong feature of the policy transfer literature (Lodge, 2003; Peck, 2011; Ward, 2007). The role of subnational actors (such as local and regional administrations) in introducing policy change has received comparatively little research attention to date (Betsill and Bulkeley, 2004; McCann, 2011).

Dolowitz and Marsh (2000) described policy transfer as "the process by which knowledge about policies, administrative arrangements, institutions and ideas in one political system (past or present) is used in the development of policies, administrative arrangements, institutions and ideas in another political system" (page 5).

Alternative theoretical positions exist which seek to explore the movement and adaptation of policies. The political science literature typically follows a tradition where the search for policies is defined by a 'rational' (or bounded rational) actor process where cities or countries seek out efficient and effective policy lessons from elsewhere (Marsh and Sharman, 2009). The institutionalist perspective suggests that hierarchical structures of formal governance (such as the European Union and its constituent member states, or the US Federal and State administrations) create mechanisms for coercive transfer of policies through, for example, harmonized regulations or selective finance. Such an approach starts from the "fundamental premise ... that institutions matter, shaping actor preferences and structuring both the processes of policy making and substantive policy" (Bulmer and Padgett, 2004, page 105). Whilst not dismissing the role of more voluntary forms of policy transfer, this perspective suggests that more coercive forms of transfer will lead to stronger forms of policy transfer, putting agency at the forefront of the process; although the evidence of the importance of coercive transfer is relatively weak, particularly in the context of a developed country (Lodge, 2003; Marsh and Sharman, 2009; Peck, 2011).

Rose (2005) suggested that the local context is crucial in the design of policies and that this makes direct copying both less likely to happen and less likely to succeed.[1] Institutional constraints can both be formal (eg, rules and structures) and be informal (eg, traditions and culture) and were important in the rejection by Riga and Wroclow in Eastern Europe of governance models styled on the German regional transport authority (Stead et al, 2008).

A substantial research tradition also exists which examines the movement of ideas through a social system (Kern et al; 2007; Rogers, 2003; Wolman and Page, 2002). McCann (2011) and Peck (2011) both argued that much greater emphasis needs to be placed on the motivations of the actors in the system, the forums in which information exchanges occur, and what happens to policy ideas as they move between quite different contexts. This echoes the findings of Wolman and Page (2002) and Salskov-Iverson (2006) which suggested that the motivations and networks of the people engaged in

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[1] Although approaching from a different disciplinary perspective this is related to McCann and Ward's (2009) notions of the importance of territorial contexts.

seeking policy ideas are crucial in learning. Wolman and Page (2002) suggested that a key reason for the continued importance of personal interaction, despite the blossoming of multiple information sources, is that there are significant problems in assessing the validity of information. Organizational learning theory offers an explanation as to why the motivation of individuals may dominate the process. Nonaka et al (2000) suggested that knowledge is context specific and "without being put into a context, it is just information, not knowledge" (page 6, see also Emery, 2004; Lam, 2002; Vygotsky, 1978).

Marsh and Sharman (2009) and Levi-Faur and Vigoda-Gadot (2006) reviewed the differences between the social and institutional transfer literatures. Marsh and Sharman concluded that both literatures point to the importance of four mechanisms for explaining transfer; "learning, competition, coercion and mimicry" (2009, page 271). Institutional theories lean more heavily towards rational policy making, while sociological theories lean more towards the importance of the structure of the system and the behaviour of related decision-making units (DiMaggio and Powell, 1983; Levi-Faur and Vigoda-Gadot, 2006; McCann and Ward, 2009; Marsh and Sharman, 2009). Marsh and Sharman (2009) argued that, as structure and agency interact, the study of the movement of policies must capture both and that far greater emphasis needs to be placed on why and how transfer occurs (see also Evans, 2009).

Dolowitz and Marsh's (2000) framework of the process of policy transfer suggested examining the "Why transfer?" issue through the theory of bounded rationality. Bounded rationality defines two important aspects of relevance to the question of policy search. First, there are cognitive limits to the individual in terms of the choice sets which can be perceived and can be evaluated (Simon, 1955). Secondly, the environment that individuals are in provides some clues as to outcomes, and individuals will therefore seek to make best use of these clues to limit the range of options for the search (Simon, 1956). Simon suggested that individuals or organizations satisfice rather than optimize, settling on solutions which fulfil their goals but which may be suboptimal in a fully rational sense. It is not that individuals are irrational, simply that their choices are 'intendedly rational' within the limits of knowledge, context, environment, uncertainty, timescales, and other constraints.

Simon's (1955; 1956) theory derived not from individual choice theory paradigms but from political science and organizational learning theories. Within this, it is assumed that "the behaviour of organizations mimics the bounded rationality of the actors that inhabit them (March, 1994)" (Jones, 1999, page 302). Further exploration of bounded rationality in administrative decision making suggests not only that the search is "incomplete, selective, and non optimal" but that decision makers do "not need simply to choose among alternatives; they have to generate the alternatives in the first place" (page 302). Peck (2011) suggested that "learning and diffusion are politically channeled, rather than 'open' processes" (page 6) drawing on Robertson (1991).

This paper describes research conducted in the field of urban transport and planning policy across eleven cities in Northern Europe and North America which seeks to explore the motivations for and mechanisms supporting learning about new policies. It seeks to develop the study of policy transfer by taking an actor-centred approach to studying the adoption of a series of significant urban transport policies. This addresses to some extent the comparative lack of focus on the role of cities within a broader internationalized policy regime and tackles a field to which innovation in policy is important but underresearched (Heichel et al, 2005; Marsden and Stead, 2011; Shaw et al, 2009).

By making the policy search process the focus of the research we are able to reflect on the importance of factors including institutional and territorial contexts and

networks, without prejudging their importance in the process. The findings on the behaviour and motivations of actors and how these related to their local context are of interest and relevance well beyond the transport sector as they attempt to answer empirically some emergent theoretical positions on the importance of the rational actor model in policy mobility.

The paper begins by outlining the hypotheses which the research seeks to address and describes the city sample and study methods used to address these. The main results are then presented, organized by the hypotheses, before the paper concludes with reflections on the implications of the conclusions for theory and practice.

2 Research approach
In the introduction several theoretical perspectives on the rationale for and approach to seeking policy lessons were identified. We explore these positions through the establishment of a set of five related research hypotheses which provide insights to these overarching questions.

2.1 What stimulates the search for new policies and how are the boundaries of the search process set?
Both the rational actor and more situated sociological models suggest that the search process for policy lessons will in some way be bounded. In the more rational actor tradition, Rose (2005) identified a key motivation of the search for policy lessons as being the identification of the failure of current policies to achieve one or more key policy objectives. The first instinct of an agency faced with such a challenge is to look internally for policies or projects that are already known and that could be applied more intensively. If these also look unlikely to succeed then this motivates the agency to look outside for lessons. By contrast, Peck (2011) took an almost diametrically opposed position to Rose, describing the search for a new policy as "not only a rigged 'lesson', but ... a moment in an insulated and practically self-fulfilling decision-making cycle: the political proclivities of the supposed 'learners' are conveniently affirmed in a selective search process, while deliberative attention to potential alternatives is eschewed. This is hardly a process of open-minded 'learning', but one of incrementally extending policy practice within ideological parameters" (page 6). It is necessary to explore further what stimulates the search for new policies and how the terms of such searches are developed. Our first hypothesis is that *the search for policies is bounded by a combination of structural, social and individual factors.*

2.2 How is the search process conducted and how is this influenced by individuals, organizations, and broader contextual factors?
Wolman and Page (2002) suggested that the search for new policy ideas occurs at different levels from general scanning and information gathering to formal interactions and exchanges. A common thread in the literature is that personal networks and interchange are the most important elements of effective learning (Kern et al, 2007; Rose, 2005; Salskov-Iverson, 2006) which ties in with the organizational learning theories introduced in section 1. There is evidence that governments look to close geographic neighbours or to those that share some form of philosophical similarity (Ward, 2007), and that this may in some way be influenced by the networks within which they operate (Kern and Bulkeley, 2009). Our second hypothesis is that *the importance of explicit knowledge exchange in policy learning acts to significantly bound the search.* If networks of actors are important in explaining the processes of policy learning then it also follows that the degree to which the cities engage in promoting their policies and in maintaining their networks also influences the extent to which policies might move. Our third hypothesis is that o*rganizations vary in their learning culture and this impacts on the degree to which they look for lessons from elsewhere.*

2.3 Do these processes differ for different types of policies and if so why and in what ways?
If, as section 1 suggests, institutional constraints and territorial contexts are important in the transfer of policies then, as these constraints vary by policy type (Banister, 2003), there could be differential impacts on the nature and focus of policy learning. This could be because different types of lessons are sought or because the information is used in different ways in the decision-making process. Our fourth hypothesis is that *the nature of the learning process varies with the type of policy.* Our fifth and final hypothesis is that *requirements to demonstrate learning are greater with more politically sensitive policies*, which would reflect a greater burden of proof required to take on policies which have higher levels of risk attached to them. The five hypotheses are listed together in table 1.

Table 1. Research hypotheses.

Hypothesis 1. The search for policies is bounded by a combination of structural, social, and individual factors.

Hypothesis 2. The importance of explicit knowledge exchange in policy learning acts to significantly bound the search.

Hypothesis 3. Organizations vary in their learning culture and this impacts on the degree to which they look for lessons from elsewhere.

Hypothesis 4. The nature of the learning process varies with the type of policy.

Hypothesis 5. Requirements to demonstrate learning are greater with more politically sensitive policies.

3 Research methods
The study was conducted with eleven cities in Northern Europe and North America with a core urban population of more than 250 000 and a wider metropolitan area of at least 1 million (table 2). Our selection therefore limits the sources of variation in the study but reduces the transferability of findings to other regions (Roy, 2009). In Europe, the selection of city sites was based on a review of cities involved in innovative transport-implementation projects funded by the European Commission. This was supplemented by discussions with experts. In North America the selection of city sites was based on known innovations in aspects of sustainable transport policy. Whilst this approach potentially biases the sample towards 'leader cities' we note that the interviewees did not describe their cities as demonstrating leader status in all aspects of policy development and also reflected varying status as leader cities over time, making the findings of broader relevance.

Table 2. Cities studied.

Site	Core urban population	Larger metropolitan area population (million)
Lyon, France (LY)	415 000	1.78
Nancy, France (NA)	260 000	0.50
Edinburgh, Scotland (ED)	450 000	0.78
Leeds, England (LE)	443 000	1.50
Bremen, Germany (BR)	546 000	2.37
Stockholm, Sweden (ST)	744 000	1.95
Copenhagen, Denmark (CO)	656 000	1.60
Seattle, USA (SE)	582 000	3.90
Dallas, USA (DA)	1 230 000	6.15
San Francisco, USA (SF)	765 000	7.30
Vancouver, Canada (VA)	600 000	2.50

Data were collected for each city through interviews and document review. The interviews were conducted using a semistructured approach which allowed interviewees to raise additional issues. The interviews were recorded and transcribed in five of the European cities and detailed meeting notes were taken in the remaining six sites. The research is qualitative in nature and the interview process allows for rich insights of

Table 3. Policies studied by city.

City	Innovation type							
	public transport	demand manage-ment	pricing	public transport integration	urban realm	strategic planning	cleaner fleets	active travel
LY	driverless metro			Teceley card				
NA	rubber-tyred tram	demand responsive transport		integrated ticketing	Grand Coeur project			
ED	tram[b]	Greenways bus lanes, City Car Club	congestion charging[a]					public bike hire scheme[b]
LE	trolley bus,[b] guided bus	HOV lanes			home zones			
BR		City Car Club		integrated ticketing			cleaner freight[a] and bus fleets	
ST			congestion charging				cleaner fleets	
CO	metro		congestion charging[b]	integrating networks[b]				cycling policy
SE	fleet renewal				transit-oriented develop-ment			
DA					transit-oriented develop-ment	City of Dallas Plan		
SF			congestion charging[b]					
VA						Vancouver Plan		

[a] Failed.
[b] Under development at time of interview.
Note: LY—Lyon; NA—Nancy; ED—Edinburgh; LE—Leeds; BR—Bremen; ST—Stockholm; CO—Copenhagen; SE—Seattle; DA—Dallas; SF—San Francisco; VA—Vancouver

the processes involved. There are however some important limitations. The cities largely determined who would be interviewed, which in turn was conditioned by the types of innovation that were proposed. In all, thirty innovations were discussed in detail, some of which had had limited success, were currently under consideration, or had failed prior to implementation. These comprised a mix of public transport systems and integration, road pricing, other demand management measures (eg, road space reallocation), land-use policies (eg, Transit Oriented Development), urban realm improvements, strategic planning approaches, and cleaner vehicles (as shown in table 3).

Different post-holders were interviewed in different cities and the responses from each city represent the views only of these individuals. The key 'gatekeepers' were interviewed however and these individuals seem to exert strong influence on implementation processes. Whilst consultants, suppliers, and operators were interviewed, the overwhelming majority of interviewees were past or current local government officials. This will inevitably colour the view of the relative importance of different players in the process, although we maintain that they are critical to the implementation process.

The cities shared a good degree of commonality in their overall objectives for transport policy. Some local differences, for example related to poor air quality in some cities or the presence of large historic core areas, were present. This suggests that the cities could all at least consider very similar solution sets as being potentially appropriate. Indeed, there was a significant degree of overlap among the policies already in place. The institutional arrangements were however different which, as noted in section 2, will have an important impact on what gets implemented and how. The study was not set up to isolate the importance of specific institutional differences, rather to understand whether such differences shaped the search process in different ways.

4 Analyzing the search process
4.1 What stimulates the search for new policies and how are the boundaries of the search process set?
Where does the impetus for considering new policies come from? It is well understood that major projects often have long gestation periods within the planning system. The Copenhagen Metro for example had been discussed for around fifty years, Leeds Supertram and the Edinburgh tram for twenty or more years. A fully rational search process would imply the repeated search for systems, policies, or packages which generate a set of attributes giving maximum expected returns from their adoption. Such an open, solution-neutral search was not reflected in the processes observed. Three broad classifications of process that stimulate the search for new policies can be identified: structured strategic planning (top-down local), windows of opportunity (often stimulated by top-down national or international processes), and social learning through professional communities (bottom-up). These are discussed in turn.

All of the cities adopt strategic planning approaches which are common practice in the sector. This typically consists of examining, using some form of transport demand model, the impacts of a 'business as usual' approach in the face of employment, housing, and traffic growth. Business as usual is usually the more intensive or widespread application of existing internally understood policies (as suggested by Rose, 2005). The identification of preferred solutions then comes from the assessment of packages of alternative policies which comprise, typically, of different levels of demand management and public transport investment. Whilst this might suggest a dispassionate rational assessment of alternative scenarios identified, the options to go into models have to be generated somehow (Jones, 1999; Peck, 2011). It seems clear that this is not an 'optimal process' and was sometimes strongly steered by preconceived notions of the preferred outcomes.

"[The Scottish Transport Assessment Guidance] concluded that what you needed to do was to look at every mode ever devised. Driverless trains to you know guided bus to trolley bus to all the rest. Now that is fine and it is important it is done. But somewhere you have to provide some closure to that process ... I said to them 'Ok you do that. The answer is a tram, but we go through the process'" (Bernard, Edinburgh).

"When supertram was cancelled at the end of 2005 it became apparent that there was a need to not just develop a ... we were given a knee jerk reaction from the council to develop a new strategy for developing a new supertram-type project" (Harry, Leeds).

It was also apparent, particularly in the European context, that city pride and competition to attract investment and new residents (see Boland, 2007) were important stimuli in the types of projects included in such exercises (eg, in Lyon's decision to adopt a driverless Metro to steal a march on Paris).

The case studies also presented a number of instances whereby the policies being proposed happened to fit the policy needs, political circumstances, and funding opportunities of the time (see also Dudley and Richardson, 2000). Elected officials, the local population, and policy entrepreneurs all had some influence on the consideration of policies, even if this is less common than local officials bringing the ideas forward (Marsden et al, 2011). This circumstantial progression of specific projects or policies takes place in 'windows of opportunity' (Kingdon, 2003) and this was reflected in the discourse of the participants.

In Stockholm a hung national parliament created the opportunity for the Green Party to make their participation in a coalition government contingent on the introduction of a congestion tax trial in Stockholm. In San Francisco the foundation for pursuing congestion pricing was strengthened because of the potential for receiving federal congestion pricing demonstration funds combined with elected officials and staff supportive of the concept. Nancy selected its rubber-tyred tram following a national demonstration project. Whilst these windows of opportunity were often opened by government funding, instances of private sector initiatives, citizen lobbying, and local political influence were all also identified.

The bottom-up accumulation of knowledge by professionals was identified as an important factor in the types of projects and policies that make their way into the strategic planning exercises and other policy processes (Kingdon's 'policy soup'). At a general level, individuals reported a fairly passive but open 'receptor' mechanism whereby short news articles in the professional press, sent through e-mail lists and passed through personal networks, were stored away for consideration at some unspecified future point. Conference attendance also was an important way of learning about innovations and providing key contacts who could then be reached later for additional information (McCann, 2011). Any visit would inevitably lead to a reflection on whether things that had been seen would work back at home.

In general, the approach to collating awareness of alternatives was described as ad hoc. This was coupled with a consistent message about an overload of information and concerns about the value or robustness of it.

"And of course newspapers, magazines but it's not this systematic search for new ideas packaged in something useful" (Eva, Stockholm).

"The problem is not the lack of information. The problem is the amount of information" (Peder, Stockholm).

The analysis leads us to conclude that our first hypothesis is correct and that there is evidence of the search process being bounded by a combination of structural, social,

and individual factors. The motivation for seeking new policies is a mix of bottom-up curiosity, opportunistic development, and strategic steering, each adopting a different importance at different stages in the planning cycle. Nowhere was the motivation to consider new policies a value-neutral search for the best solution, with significant influences from personal preferences, local institutional context, peer-city actions, and the prevailing funding and legislative opportunities.

4.2 How is the search process conducted and how is this influenced by individuals, organizations, and broader contextual factors?

The process of deciding to seek experience from another city was mostly described in terms of a specific project or solution search where the parameters of the search were already fairly well defined. The establishment of a 'project' clearly provides a focus to a search but it is indicative of an early closing off of the option generation process.

Individuals identified the problem of too much information and not enough intelligence. Interviewees would refer to large reports ("the size of the New York phone book") and frequently expressed a preference for short articles or snippets of information about which they might find out more. Whilst attempts have been made to provide more consolidated databases of information about transport innovations (eg, the European Local Transport Information Service), none of the participants referred to them.

In the face of information overload and an expansive potential choice set, officials described various heuristics which they applied to narrow the search space. The interview data were analyzed to examine the frequency and purpose of references that were made to examples in other countries within the sample. This provides a qualitative assessment of the extent to which the different cities looked outwards, and the extent of their horizons.

Within Europe, typically one half of all references to other cities were of a national (more so in the UK and France) or regional international nature (eg, within Scandinavia for Stockholm or Copenhagen). Slightly under one half of references were made to other European cities, with fewer than 10% of cities quoted being from other parts of the world. There were only two examples of real motivations for learning from elsewhere in the world, both related to clean fuel technology. Aside from this, global examples were usually illustrative of background knowledge rather than evidenced from an actual search. In the North American cases, the comparator cities were often national examples; however, international examples also were pervasive. For example, Vancouver looked to Portland, Seattle, and Copenhagen for pedestrian, bicycle, and transit planning; Seattle looked to Copenhagen and Vancouver as well as US cities; and San Francisco looked to international congestion pricing examples.

Figure 1 provides a qualitative assessment both of the extent and of the breadth of the search process for each city. The height of the bars indicate the degree to which the cities described engage in active lesson learning with approximate divisions of the relative proportion of examples from a local, national, and international context.

Cities that are referred to tend to be drawn from those with a similar problem set to the investigating city and those which share some form of administrative, cultural, or geographical similarity. The extent to which individuals identified themselves with other cities and their solutions seemed to be conditioned by the institutional setting. In the UK, for example, respondents found it difficult to translate public transport experiences from other countries (apart from system components) due to the different regulatory regime which operates. Dallas looked mainly at Denver on planning as it was a similarly growing city and also hired a consulting team with broad experience in the US, particularly in Portland, well known for its integrated transportation and
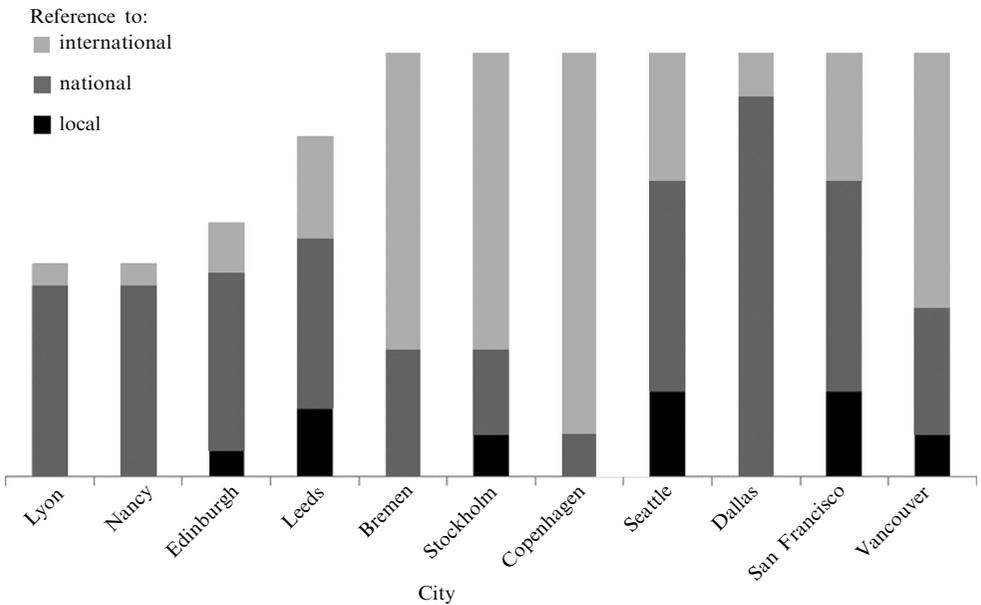
Figure 1. Qualitative comparison of the extent and location of the search in the cities.

land-use planning. Lyon and Nancy referred in the main to other French cities, though Lyon sought experience in rail timetabling from across the border in Switzerland, and Nancy referred to good practice in neighbouring German cities. Stockholm and Copenhagen looked most often to other major Scandinavian cities. It seems that individuals are therefore seeking to maximize their chances of finding relevant lessons by selecting environments with higher probabilities of adopting solutions which may fit their own city.

> "Generally it's easy for me to compare with some societies and countries that I understand and know with democracy systems like ours who have a political situation that sometimes looks like ours—but may be a little different" (Linus, Copenhagen).

> "I don't believe that you can find the best knowledge—let me tell you. You can spend your whole life to look for that. But at least we know where there is knowledge that is interesting for us" (Alex, Copenhagen).

> "What's probably more useful is the core cities [major metropolitan cities in England] network ... if we've got an issue we'll probably run it through core cities and see what they're doing" (Angus, Leeds).

Cities can engage in a range of alternative means to support the sharing of knowledge and the development of networks between cities. In North America, cities described the importance of national working groups coordinated through the Transportation Research Board, Institute of Transportation Engineers, and American Public Transport Association. In the EU, more discussion was held around the role of joint research projects funded through the European Union.

Within Europe, even within the sample of 'leader' authorities, very little spontaneous reference was made to trans-European municipal networks. Bremen was particularly active within the European-Union-funded CIVITAS network of cities and was leading a project specifically aiming to facilitate exchange visits. Leeds made reference to the role of the Union of International Public Transport as a means for networking on trolley buses. Under prompting, other networks were mentioned such as C40 and Eurocities

(car-free network and climate action groups). However, participants did not ascribe value directly to the networks as a source of information exchange, particularly in comparison to the personal contacts they had developed.

"It's hard to imagine that there are any effective shortcuts to this building up of a network over time because you are involved in different projects and you get to know individuals…I don't know how you would short-circuit that process" (Dougal, Stockholm).

Networking through these umbrella networks, conferences, and working groups were used as means to support general awareness raising, but the interviews strongly suggested that the personal networks of trusted contacts are overwhelmingly preferred as a means of seeking out lessons and potential transferability. The value of understanding what worked, what did not, and the processes (political and technical) that were adopted seemed to explain this. Institutional differences between contexts matter a lot to implementation and it is difficult to identify and then formally document the full range of institutional issues that will be important to policy transfer in a concise manner. This also implies that the narrative of the individuals communicating the lessons that have been learnt are important to the process.

The evidence confirms the second hypothesis that the importance of explicit knowledge exchange in policy learning acts to significantly bound the search. The search for policies is constrained by cognitive and institutional or environmental factors (Khisty and Arslan, 2005). The search for solutions within a given policy or system set is bounded by difficulties in identifying good comparator systems or circumstances for implementation. Interviewees overcome this by working with colleagues in cities where the key transferability issues are understood. This is an intendedly rational bounding of the search process. The responses largely focused around the practical constraints of understanding how to implement new approaches, although there is some evidence of lesson drawing specifically to support preferred preexisting positions.

Borins (2002) contended that the wider organizational culture is important to the approach to learning from other areas. This is certainly a key feature in the organizational learning literature, where issues such as rigidity of management structures and the degree to which individuals are given freedom to interact are identified as important in the uptake of innovation (Lam, 2002). The purpose of this study was not specifically to understand the internal workings of the organizations involved. However, it became apparent that different cultures existed within the different cities with regard to learning and this in turn led to different levels of support for these activities.

In the North American cities interviewees felt that there was a real desire on the part of elected officials and fellow staff to innovate and be creative in the development of transportation policy even in the face of constrained resources. One staff person said, "we are a total learning culture" and that management expected staff to bring in new ideas, and three of the four cities had agencies that set funds aside for staff to attend conferences for this purpose. Others would include informal study tours of innovative cities during personal holidays and would bring this new information back to the office.

In Europe, Edinburgh identified itself as having been in a period of relatively limited innovation with little impetus for external search. It was suggested that it was sometimes unhelpful to use overseas examples to demonstrate the potential worth of projects as the politicians were not convinced or became antagonized by such approaches.

"We reduced our involvement in European projects over the last few years, again partly because of attitudes from senior management. This is kind of a you know, this is a waste of time, this is like not core business. Erm we are far too busy doing other things erm we were really, we are really insular, we spend so much time on kind of focusing on just getting the job done" (Brian, Edinburgh).

At the opposite end of the spectrum, Bremen saw the use of examples from elsewhere in Europe as critical to building local political support and challenging institutional barriers that existed, essentially using lessons from elsewhere to try and break existing paradigms (Howlett and Cashmore, 2009). Bremen was at the heart of the CIVITAS European network of cities and was actively facilitating exchange visits.

"You need quite often someone coming from a faraway place to tell things and this is getting a higher level of credibility than anyone of us would ever get .... I can go then to Rome or Bristol and have the same role there ..." (Gavin, Bremen).

It was also evident that support for external networking varied over time with particular senior individuals being central actors in facilitating this. The tone of the organization was said to be important in reflecting the freedom and support individuals had to draw down on resources for engagement. Stockholm and Copenhagen both engaged partly from necessity as they recognized the limits to their own knowledge and had few national peers of similar size through which they could learn (eg, on congestion management).

Despite the varying levels of top-down support, a common constraint was limited time to devote to learning activities. It is worth noting that these time constraints operated amongst participants in cities with a reputation for innovation and, by North American and European standards, in large cities which are more generally associated with some 'slack resources' (Berry, 1994). Individuals described themselves as highly time constrained. This manifested itself in descriptions of failure to keep on top of even local or nationally specific information sources, failure to review ongoing projects to see if further innovations could be adopted, and difficulties in investing time to develop new ideas. This is potentially problematic as it was also noted that it takes time to build up trusted networks and to talk the same language.

"There is so much running just to keep up with every day, answering phone calls, you don't have the time to step back and think and look at things in a larger perspective and look at how you can use other pieces of information" (Dougal, Stockholm).

The data suggest our third hypothesis is confirmed. Different learning cultures were identified between cities and over time within a city and this was specifically ascribed as having an impact on the extent to which the cities inserted their achievements into the policy space, sought to learn from or use information from others, and ultimately introduced new policies.

4.3 Do these processes differ for different types of policies and if so why and in what ways?
For some policies, the choice set of cities is small. For example, when considering the potential to introduce congestion charging cities (Stockholm, Edinburgh, San Francisco, and Copenhagen) looked initially to London and latterly to Stockholm as the only large city congestion-based urban charging schemes in Europe. Leeds identified Essen in Germany and Adelaide in Australia as the only two cities with guided bus systems at the time they were developing their system.

For other more established systems or policies, which can nonetheless be innovative in a particular national or local context, there is much more choice available. This is true of bus-based, light rail, and underground Metro systems where there are many different configurations in existence and policies such as parking management, traffic-systems control, traveller information, road-safety interventions, and mobility-management approaches.

However, the nature of the policy type is not the only defining factor. It is clear that the nature of the adopting city with regards to social, geographical, and political context also has a clear impact on the nature of the learning process

(in line with McCann, 2011). Copenhagen and Edinburgh both focused their learning on congestion-charging schemes on the back-office functionality of the system as the political implementation environment and physical characteristics of the cities were the biggest drivers of system design—a finding largely echoed through Stockholm's experiences of learning from London. For some innovations such as the adoption of cleaner public transport fleets or public realm innovations which were largely evolutions of existing policies then the transfer context appeared to have less of an influence. In Seattle for example, staff looked to the few cities in the US that also have electric buses: San Francisco, Philadelphia, Boston, and Vancouver, even though they are quite different cities.

The fifth hypothesis suggests that the requirements to demonstrate learning are greater with more politically sensitive policies. In broad terms the evidence supports this statement. Politically sensitive demand-management projects such as congestion charging and those with significant financial risk such as major public transport investments are typically associated with broader evidence of cross-comparative analysis. Whilst elements of learning are evident from these exercises, not all of this analysis is undertaken with the sole purpose of learning. Some of the visits have been organized to generate political buy-in to a preferred solution (developing support for new public transport schemes in Bremen and Leeds, for example) or as part of the process for legitimizing a preferred technical solution (such as the Edinburgh tram or the second phase of the Copenhagen Metro) as identified by Lodge (2003). Both of these findings serve to underscore, as with hypothesis one, the importance of context in the rationale for seeking lessons, the framing of the search and the utilization and translation of any policy lessons.

5 Conclusions

This paper has explored the rationale for the search for new policies and the processes which city planners adopt in undertaking that search in the field of transport planning. It takes forward understanding on the various ways in which the search for policy lessons is bounded.

The motivation for seeking new policies was found to be a mix of different processes which varied in importance at different stages in the planning cycle. Despite the apparently strong rational basis for the long-term plan-led approach in transport it is clear that the outcomes have to be steered by the preferences developed by practitioners or other policy actors and by windows of opportunity generated by wider institutional factors such as funding streams or public opinion. City practitioners have considerable freedom to shape the choice of the policies that might form relevant solutions.

The range of potential transport systems and policies that could be examined for most decisions is substantial. The volume of information available is so large and the quality often uncertain such that practitioners rely heavily on trusted peer networks to filter information and to learn from. These peers are typically located in cities which have broadly similar sociocultural and institutional settings (for policies where such settings are important). This is indicative of a highly bounded approach to seeking out new lessons and underlines the importance of the combination of policy and context in the movement of policies. Whilst politically sensitive policies were more likely to be associated with more substantial comparative study processes, such processes fulfilled a number of roles beyond direct lesson learning including legitimization and consensus building.

Within this general conclusion about learning processes, cities vary significantly in the extent to which they look over a broad international scale for lessons. This is

partly driven by the availability of suitable peers within a national or neighbouring international context. However, there was also strong evidence that culture of the organization as defined by political and senior management support for investing in such activities influenced the breadth of the search and the use to which the information could be put. This varies over time within a city as personalities change but does at least offer the potential for management action to stimulate more proactive learning.

Theoretically, our findings add further to the calls for far greater attention to be paid to the processes of transfer and the role of context (Peck, 2011; Rose, 2005). They also suggest that, despite the volumes of information available at a desktop in a click, the agents of transfer are critically important in how and why policies move and as such further study of the mobilities of policy transfer actors should be fruitful as hypothesized by McCann (2011).

In considering what might further accelerate the consideration of more radical sustainable transport policies it is worth noting that time and funding to support networking are critical to the growth of strong networks. This can be supported through participation in professional committees, joint research and implementation projects, conferences or exchanges. We note with some concern that the current tightening of resources (even in the large cities studied here) will further constrain the ability of practitioners to maintain and grow their networks which will surely act to dampen the potential for knowledge sharing, transfer, and innovation.

References
Banister D, 2003, "Overcoming barriers to the implementation of sustainable transport", in *Barriers to Sustainable Transport, Institutions, Regulation and Sustainability* Eds P Rietveld, R R Stough (Spon Press, London) pp 54 – 68
Berry F S, 1994, "Innovation in public management: the adoption of strategic planning" *Public Administration Review* **54** 322 – 340
Betsill M, Bulkeley M, 2004, "Transnational networks and global environmental governance: the cities for climate protection program" *International Studies Quarterly* **48** 471 – 493
Boland P, 2007, "Unpacking the theory – policy interface of local economic development: an analysis of Cardiff and Liverpool" *Urban Studies,* **44** 1019 – 1039
Borins S, 2002, "Leadership and innovation in the public sector" *Leadership and Organization Development Journal* **23** 467 – 476
Bulmer S, Padgett S, 2004, "Policy transfer in the European Union: an institutionalist perspective" *British Journal of Political Science* **35** 103 – 126
CEC, 2007, "Green Paper: towards a new culture for urban mobility, COM(2007) 551 final", Commission of the European Communities, Brussels
CEC, 2009, "Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions, Action Plan on Urban Mobility, COM(2009) 490 final", Commission of the European Communities, Brussels
DiMaggio P, Powell W, 1983, "The iron cage revisited: institutional isomorphism and collective rationality in organisational fields" *American Sociological Review* **48** 147 – 160
Dolowitz D, Marsh D, 2000, "Learning from abroad: the role of policy transfer in contemporary policy making" *Governance* **13** 5 – 24
Dudley G, Richardson J, 2000 *Why Does Policy Change? Lessons from British Transport Policy 1945 – 99* (Routledge, London)
Eliasson J, Hultkrantz L, Nerhagenc L, Rosqvist L S, 2009, "The Stockholm congestion-charging trial 2006: overview of effects" *Transportation Research Part A* **43** 240 – 250

Emery M, 2004, "Open systems theory: implications for development and learning", in *Dynamics of Organizational Change and Learning* Ed. J J Boonstra (John Wiley, Chichester, Sussex) pp 43 – 69

Evans M, 2009, "Policy transfer in critical perspective" *Policy Studies* **30** 243 – 268

Heichel S, Pape J, Sommerer T, 2005, "Is there convergence in convergence research? An overview of empirical studies on policy convergence" *Journal of European Public Policy* **12** 817 – 840

Howlett M, Cashmore B, 2009, "The dependent variable problem in the study of policy change as a methodological problem" *Journal of Comparative Policy Analysis: Research and Practice* **11** 33 – 46

Jessop B, 1997, "Capitalism and its future: remarks on regulation, government and governance" *Review of International Political Economy* **4** 561 – 581

Jones B D, 1999, "Bounded rationality" *Annual Review of Political Science* **2** 297 – 321

Kern K, Bulkeley H, 2009, "Cities, Europeanization and multi-level governance: governing climate change through transnational municipal networks" *Journal of Common Market Studies* **47** 309 – 332

Kern K, Koll C, Schophaus M, 2007, "The diffusion of Local Agenda 21 in Germany: comparing the German federal states" *Environmental Politics* **16** 604 – 624

Khisty J C, Arslan T, 2005, "Possibilities of steering the transportation planning process in the face of bounded rationality and unbounded uncertainty" *Transportation Research Part C* **13** 77 – 92

Kingdon J W, 2003 *Agendas, Alternatives and Public Policy* 2nd edition (Addison-Wesley, New York)

Lam A, 2002, "Alternative societal models of learning and innovation in the knowledge economy" *International Social Sciences Journal* **54**(171) 67 – 82

Levi-Faur D, Vigoda-Gadot E, 2006, "New public policy, new policy transfers: some characteristics of a new order in the making" *International Journal of Public Administration*, **29**(4) 247 – 262

Lodge M, 2003, "Institutional choice and policy transfer: reforming British and German railway regulation" *Governance* **16**(2) 159 – 178

McCann E, 2011, "Urban policy mobilities and global circuits of knowledge: toward a research agenda" *Annals of the Association of American Geographers* **101** 107 – 130

McCann E, Ward K, 2009, "Relationality/territoriality: towards a conceptualisation of cities in the world" *Geoforum* **41** 175 – 184

March J G, 1994 *A Primer on Decision-making* (Free Press, New York)

Marsden G, Stead D, 2011, "Policy transfer and learning in the field of transport: a review of concepts and evidence" *Transport Policy* **18** 492 – 500

Marsden G, Frick K T, May A D, Deakin E, 2011, "How do cities approach policy innovation and policy learning? A study of 30 policies in Northern Europe and North America" *Transport Policy* **18** 501 – 512

Marsh D, Sharman J C, 2009, "Policy diffusion and policy transfer" *Policy Studies* **30** 269 – 288

May A D, Crass M, 2007, "Sustainability in transport: implications for policy makers", in *Proceedings of 86th Transportation Research Board Annual Meeting*; copy available from Transportation Research Board, Washington, DC

May A D, Kelly C E, Shepherd S P, 2006, "The principles of integration in urban transport strategies" *Transport Policy* **13** 319 – 327

Nonaka I, Toyama R, Konno N, 2000, "SECI, *Ba* and leadership: a unified model of dynamic knowledge creation" *Long Range Planning* **33** 5 – 34

Peck J, 2011, "Geographies of policy: from transfer-diffusion to mobility-mutation" *Progress in Human Geography*, advance online publication, 21 February

Robertson D B, 1991, "Political conflict and lesson drawing" *Journal of Public Policy* **11** 55 – 78

Roby H M, 2010, "Workplace travel plans: past, present and future" *Journal of Transport Geography* **18**(1) 23 – 30

Rogers E, 2003 *The Diffusion of Innovations* (Free Press, New York)

Rose R, 2005 *Learning from Comparative Public Policy: A Practical Guide* (Routledge, Abingdon, Oxon)

Roy A, 2009, "The 21st-century metropolis: new geographies of theory" *Regional Studies* **43**(6) 819 – 830

Salskov-Iverson D, 2006, "Learning across borders: the case of Danish local government" *International Journal of Public Sector Management* **19** 673 – 686

Shaw J, MacKinnon D, Docherty I, 2009, "Divergence or convergence? Devolution and transport policy in the United Kingdom" *Environment and Planning C: Government and Policy* **27** 546 – 567

Simon H A, 1955, "A behavioural model of rational choice" *The Quarterly Journal of Economics* **69** 99 – 118

Simon H A, 1956, "Rational choice and the structure of the environment" *Psychological Review*
    63(2) 129 – 138
Smith H, Raemaekers J, 1998, "Land use pattern and transport in Curitiba" *Land Use Policy*
    15 233 – 251
Stead D, de Jong M, Reinholde I, 2008, "Urban transport policy transfer in Central and Eastern
    Europe" *disP — The Planning Review* **44**(1) 62 – 73
Van den Bergh J, Leeuwen E, Oosterhuis F, Rietveld P, Verhoef E, 2007, "Social learning by doing
    in sustainable transport innovations: ex-post analysis of common factors behind successes and
    failures" *Research Policy* **36** 247 – 259
Vygotsky L S, 1978 *Mind in Society: The Development of Higher Psychological Processes* (Harvard
    University Press, Cambridge, MA)
Ward S V, 2007, "Cross-national learning in the formation of British planning policies 1940 – 99:
    a comparison of the Barlow, Buchanan and Rogers Reports" *Town Planning Review* **78**
    369 – 400
Wolman H, Page E, 2002, "Policy transfer among local governments: an information-theory
    approach" *Governance* **15** 477 – 501