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ENCOURAGING GOOD PRACTICE IN THE DEVELOPMENT OF SUSTAINABLE URBAN MOBILITY PLANS

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ABSTRACT

The European Commission's 2009 Action Plan for Urban Transport identified, as its first Action, the provision of guidance on Sustainable Urban Mobility Plans. The 2011 White Paper subsequently envisaged that there might be a mandatory requirement for such Plans for cities over a certain size, and that the allocation of regional and cohesion funds might be made conditional on the submission and auditing of such Plans. In the last three years, substantial progress has been made in the development of guidance for the preparation of SUMPs, leading to the publication of guidance later in 2013. The purpose of this paper is to review experience with the provision of such guidance, at a European and national level, review the underpinning research and identify areas in which further research is needed.
The paper reviews the background to the preparation of guidance at a European level and also at a national level in Belgium, France, Germany, Italy, Poland, Scandinavia, Spain and the UK. It identifies the weaknesses in the preparation of Sustainable Urban Mobility Plans highlighted by those preparing the guidance, and in related underpinning research. On this basis it lists the principal barriers to effective plan development and implementation. Subsequently it reviews the research which has been undertaken to overcome those barriers, and the extent to which current guidance reflects the findings of that research. Finally, it highlights the remaining research needs, and suggests ways of overcoming them. An earlier version of this paper was discussed at the WCTRS SIG-10 workshop in Vienna in March 2012. The current paper reflects additional suggestions made then and subsequent developments.

Keywords: Sustainable urban mobility plans; Guidance; Policy learning

INTRODUCTION

The European Commission's attitude to urban transport has changed dramatically in the last decade. Ten years ago, its approach was still influenced by the principle of "subsidiarity": avoiding becoming involved in policies which could reasonably be pursued at national, regional or local level. However, its analysis (EC, 2007) demonstrated that urban transport was responsible for 80% of congestion costs and 14% of all carbon emissions. Moreover, urban areas accounted for 60% of Europe's population, but over 85% of its economic output. On both these grounds, it was argued, urban transport was too important to be left solely to local government to manage.
These arguments had first been developed in working groups established by the Environment Directorate in 2003 and 2004, the latter resulting in a report which laid the foundations for future development of Sustainable Urban Mobility Plans (SUMPs) (DGEnv, 2004). Those

working groups in turn drew on the pioneering work of the Land Use and Transport Research cluster of the Commission's fifth research framework, which was subsequently encapsulated in a Decision-Makers' Guidebook on developing sustainable urban land use and transport strategies (May et al, 2005).

The Commission's Action Plan on Urban Mobility (EC, 2009) recommended encouraging the adoption of Sustainable Urban Mobility Plans. In June 2010, the Council of the European Union stated that it "supports the development of sustainable urban mobility plans for cities … and encourages the development of incentives, such as expert assistance and information exchange, for the creation of such plans". More recently the 2011 White Paper (EC, 2011) has proposed that there might be a mandatory requirement for such Plans for cities over a certain size, and that the allocation of regional and cohesion funds might be made conditional on the submission and auditing of such Plans.

A new project, ELTISplus, is currently providing guidance on such plans (ELTISplus, 2011a). In doing so, it has drawn on the experience of local transport planning in member states, and on advice on the essential and desirable elements of the process (ELTISplus, 2011b; ELTISplus, 2012). The resulting guidelines, which have been published for consultation, are based on eleven elements and 32 specific activities under the broad headings of preparing well; rational and transparent goal setting; elaborating the plan; and implementing the plan (ELTISplus2011a).

At the outset the guidelines emphasise the differences between the traditional approach to urban transport planning and that advocated for Sustainable Urban Mobility Plans (ELTISplus, 2011a). Table 1 summarises these differences. As can be seen, it is argued that Sustainable Urban Mobility Planning has a greater emphasis on developing a long term vision, involving citizens and stakeholders throughout the process, specifying objectives and setting targets related to all aspects of sustainability, and developing effective packages of measures, without undue emphasis on supply-side solutions.

The companion State of the Art Report (ELTISplus, 2011b) demonstrates the extent of the challenge still to be faced in Europe. It groups member states into three categories:

- those with a well established transport planning framework (7, but only including Flanders in Belgium and England and Wales in the UK)
- those which are moving towards sustainable urban mobility planning (12, including Wallonia in Belgium and Scotland in the UK)
- those which have yet to adopt sustainable mobility planning (11, including Northern Ireland in the UK).

Even in the first category, most countries fail to meet all the requirements, as illustrated in Table 2. The principal barriers to such planning in these countries are identified as strong pro-car and infrastructure lobbies, lack of joint working between transport and land use, lack of relevant knowledge, lack of funds for the preparation of Plans, inadequate coordination between tiers of government, the demands of intensive public and stakeholder involvement, and political conservatism (ELTISplus, 2011b).

In this paper we consider the role of research in overcoming these barriers, and the potential contribution of the research community to the process of policy learning which is needed. In the next section we review the guidance available and the extent to which it draws on available research. On this basis we identify, in the subsequent section, the areas in which research is still needed. Subsequently we consider the way in which guidance is provided, and the extent to which it is likely to stimulate policy learning. By reference to recent research on the factors which stimulate policy learning, we conclude with suggestions on

ways in which the research community might contribute to more effective policy learning. We focus on European experience, but the implications for policy, practice and research may well be relevant to urban areas elsewhere in the world. An earlier version of this paper was discussed at a WCTRS SIG10 workshop in Vienna in March 2012 (May, 2012). In the current paper we reflect the recommendations for research arising from that discussion.

Table 1 – Differences between traditional transport plans and SUMPs (ELTISplus, 2011b)

Traditional Transport Plans		Sustainable Urban Mobility Plan
Often short-term perspective without a strategic vision	Strategic level / vision	Including a long-term / strategic vision with a time horizon of 20-30 years
Usually focus on particular city	Geographic scope	Functional city; cooperation of city with neighbouring authorities essential
Limited input from operators and other local partners, not a mandatory characteristic	Level of public involvement	High, citizen and stakeholder involvement an essential characteristic
Not a mandatory consideration	Sustainability	Balancing social equity, environmental quality and economic development
Low, transport and infrastructure focus	Sector integration	Integration of practices and policies between policy sectors (environment, land-use, social inclusion, etc.)
Usually not mandatory to cooperate between authority levels	Institutional cooperation	Integration between authority levels (e.g. district, municipality, agglomeration, region)
Often missing or focussing on broad objectives	Monitoring and evaluation	Focus on the achievement of measurable targets and outcomes (=impacts)
Historic emphasis on road schemes,; infrastructure development	Thematic focus	Decisive shift in favour of measures to encourage public transport, walking and cycling and beyond (quality of public space, land-use, etc.)
Not considered	Cost internalisation	Review of transport costs and benefits also across policy sectors

Table 2 – The status of SUMPs in the most advanced European countries (ELTISplus, 2011b)

Country	Legally Defined	National Guidance	Plans in Place	Sustainability objective?	Full Public involvement?	Linked with finance	Political support?
Belgium (Flanders)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
France	Yes	Yes	Yes	Yes	?	Yes	?
Germany	No	Under discussion	Yes	No	?	Yes	No
Italy	Yes	Yes	Some	?	?	No	?
Netherlands	Yes	Yes	Yes	Most	Yes	Yes	Yes
Norway	Yes	Yes	Yes	?	No	Yes	Yes
UK (*)	Yes	Yes	Yes	?	Yes	Yes	?

(*) Relates to England and Wales, the Scottish system is more akin to the next block of countries and Northern Ireland to the third block.

THE GUIDANCE AVAILABLE AND ITS UNDERPINNING RESEARCH

European guidance

As noted in the introduction, the draft guidelines for the preparation of Sustainable Urban Mobility Plans are now available (ELTISplus, 2011a). Figure 1 illustrates the proposed SUMP cycle, including its four phases, eleven elements and 32 specific activities. In an independent assessment (May, 2011), we commented positively on the coverage of the draft guidelines. However, we suggested that the guidelines could do more:

- to demonstrate the role of stakeholder involvement throughout the process;
- to encourage consideration of future problems as well as current ones as an input to the development of solutions;
- to bring forward to the second phase the definition of a monitoring programme related to the identified objectives;
- to base targets on the monitoring programme, and to provide further guidance on their specification;
- to establish an appraisal framework based on the objectives and monitoring framework; and
- to disseminate the results of the final evaluation programme in order to assist policy learning.

It is envisaged that these comments will have been addressed in the final version of the guidelines to be published later in 2013.
The draft guidelines draw on three principal sources, each of which is duly acknowledged: good practice in individual cities, national guidance documents, and underpinning research on the barriers to effective planning and on ways of overcoming them. We outline the latter two sets of sources in what follows.

National guidance

Several European countries now encourage or require the production of Sustainable Urban Mobility Plans. The requirements in England and France are the most fully developed, and are outlined below. We also describe briefly provisions in other countries.

Belgium (Flanders) The Flemish government introduced a decree on local mobility policy in 2009 which, while not making local mobility plans compulsory, limited state funding to those cities with plans. Guidance was provided in 2010: www.mobielvlaanderen.be/overheden/mobplan.php. As a result over 90% of Flemish cities have such plans.

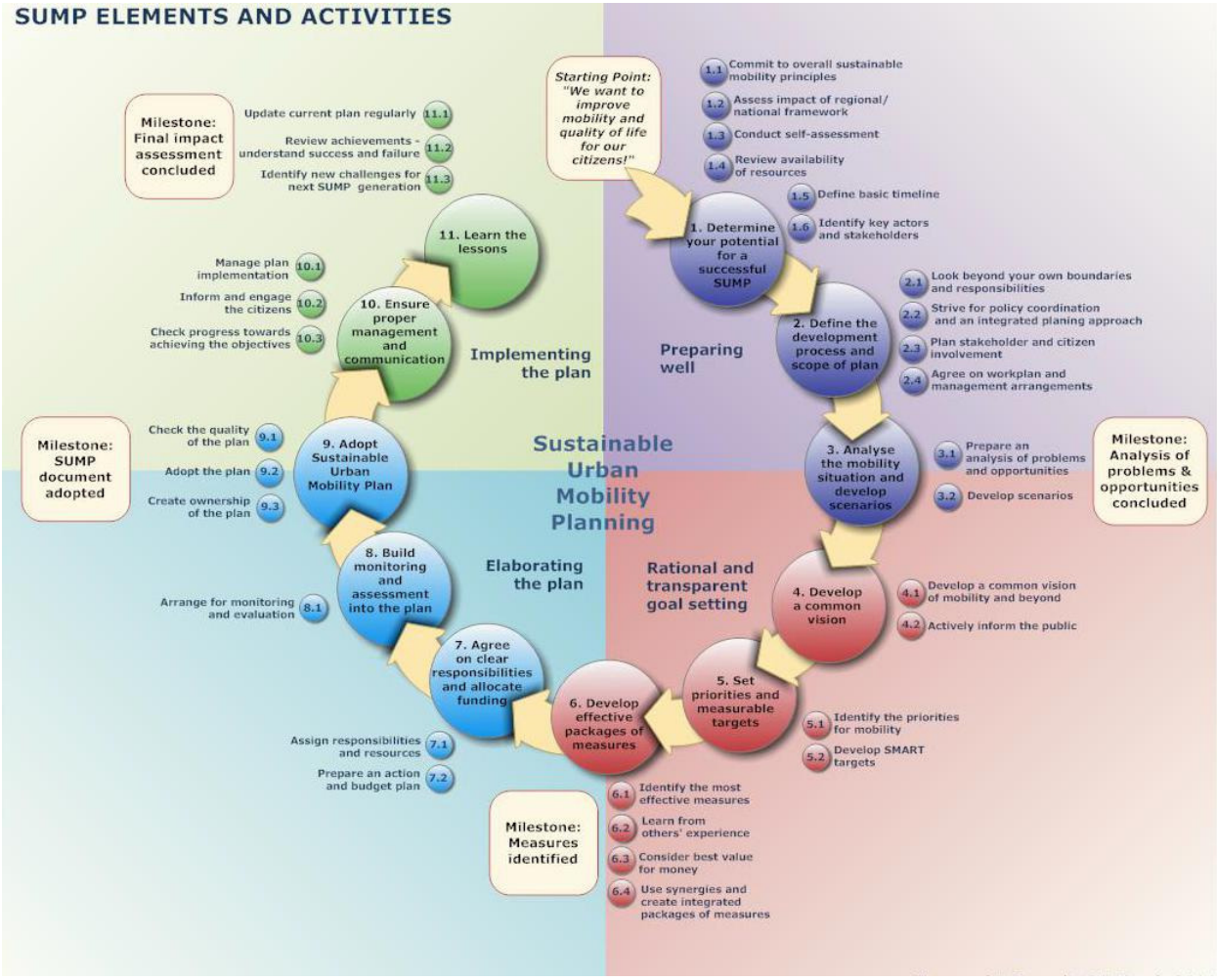

Figure 1 – The SUMP cycle (ELTISplus, 2011a)

France French cities of over 100,000 population have been required to produce Plans de Déplacements Urbains (PDU) since 1996 (ELTISplus, 2012), but the goal of PDUs was first specified in 1982, as ensuring a sustainable equilibrium between the needs for mobility and accessibility and the requirements to protect the environment and health. Subsequent legislation in 2000, 2005 and 2010 has broadened the requirements for PDUs, which now need to include issues of mobility, urban development, social inclusion and environmental protection, to provide a detailed financial and implementation plan, and to be based on a five yearly evaluation and review (ELTISplus, 2011a). Guidance is provided by the Groupement des Autorités Responsables de Transport (GART), who conducted an overview of PDUs (GART, 2009) and a more recent environmental evaluation (GART, 2011). An earlier guidance document is available from CERTU (1999). It is not clear, however, whether such guidance is underpinned by a broader research base.

Germany Many larger German cities have a form of urban mobility plan, but there is no national requirement for such plans, and there has until recently been no national guidance. As a result, there is considerable diversity in the scope and quality of the plans which have been produced (ELTISplus, 2012). Recently a national advisory body has sought to remedy this by providing detailed guidance (FGSV, 2012).

Italy A law of 2000 introduced the Piano Urbano della Mobilità (PUM) as a means of managing mobility in urban areas. All cities of over 100,000 population are required to have a PUM as a basis for obtaining government funding. Guidance was issued in 2005.
Scandinavia Denmark, Norway and Sweden all encouraged cities to introduce sustainable transport plans from the 1990s onwards (Gudmundsson, 2007). Under an Urban Transport Project, Denmark provided guidelines and encouraged all towns and cities with more than 10,000 inhabitants to develop plans to reflect national objectives and targets. However, it subsequently limited its objectives to ones focusing on road safety. Sweden also adopted a flexible approach to the requirement for urban transport plans, but still encourages action to satisfy a wide range of national sustainability objectives. Norway went furthest, in requiring the ten largest towns and cities to produce sustainable transport plans from 1989, and in issuing formal, but rather general, guidelines for doing so (Ministry of Environment, 1993). A fuller description of the Norwegian guidelines, in English, can be found in Tennoy (2010). The approach in all three countries has helped enhance the capacity for strategic planning, increased stakeholder involvement in planning, and encouraged synergy in the selection of policy instruments (Gudmundsson, 2007).
Spain Non-binding guidance was published in 2006 on the development of Planes de Movilidad Urbana Sostenible (PMUS). The guidance drew heavily on the work of PROSPECTS, and included a series of case studies from around Europe. However, it was not until 2012 that national funding for transport in cities of over 100,000 population was made conditional on the provision of a PMUS.
UK (England outside London) May (2013) provides a detailed assessment of the 37 years' experience of providing guidance on local transport plans in England, and offers an assessment matrix to which we return later in this paper. Since 2000, local authorities in England outside London have been required to produce three sets of Local Transport Plans (LTPs). The first round of LTPs covered the period 2001-6, based on guidance which prescribed in detail the coverage of the Plans, their need to be consistent with regional guidance, the specification of objectives, the measurement of indicators and the setting of targets (DETR, 2000). The Plans and subsequent annual progress reports were assessed in detail by national government, with funding based in part on the quality of the Plan and on the achievement of targets (DfT, 2006).
The guidance for the second round of LTPs, covering 2006-11(DfT, 2004), was somewhat less prescriptive, in particular reducing substantially the requirement for extensive monitoring. However, it required all local authorities to focus on four "shared priorities" which had in practice been specified by government: accessibility, congestion, air quality and road safety. It required statements of strategy for each "priority", as well as parallel statements for each principal transport mode (DfT, 2004). They were again assessed in detail by national government, with the funding allocated based in part on that assessment.
The guidance for the third round of LTPs (for the period 2011-16) was issued in 2009 (DfT, 2009), and reflected a desire in government to give local authorities more autonomy. Local authorities were given greater freedom to choose the period and area of coverage of their plan, with greater opportunities for sub-regional collaboration. They were encouraged to set their own objectives, while being expected to consider their contribution to specified national transport goals: supporting economic growth, reducing carbon emissions, promoting equality of opportunity, contributing to better safety, security and health, and improving quality of life and a healthy natural environment.
The first round of guidance drew little on research. However, the government commissioned an evaluation of the LTP process and outcomes (Atkins, 2005; 2007), and based its requirements for the second round of LTPs (for the period 2006-11) in part on that study's

interim findings. In parallel, a UK research programme, DISTILLATE (May, 2009), was established to develop decision-support tools for plan development. The third round of LTP guidance drew substantially on both the Atkins study and DISTILLATE.

Research into the barriers to effective planning

The ECMT study The European Conference of Ministers of Transport (ECMT) conducted a 15 year programme of work into urban transport policy, which recommended a series of policy instruments (ECMT, 1995), carried out an international survey of cities' ability to implement such policies (ECMT, 2002) and followed this up with a number of case studies. The 2002 report found that cities considered the implementation of the advocated policies "more easily said than done". It highlighted the principal barriers as poor policy integration and coordination, counterproductive institutional roles, unsupportive regulatory frameworks, weaknesses in financing and pricing, poor data quality and quantity, limited public support and lack of political resolve. It and the subsequent study developed a set of recommendations to national governments, who were seen as crucial in enabling and supporting local government initiatives. Briefly, these were that national governments should:

- establish a national policy framework for urban travel which supports and influences policy on land use, health and the environment;
- improve institutional coordination and cooperation, horizontally between policies and vertically between tiers of government;
- decentralise responsibilities where possible and centralise them where necessary;
- support local or regional authorities through technical, financial or other means as necessary and appropriate in the development, appraisal, monitoring and evaluation of integrated, sustainable, urban travel strategies;
- encourage effective public participation, partnerships and communication;
- provide a supportive legal and regulatory framework, particularly for public transport, demand management, emissions and safety;
- ensure a comprehensive pricing and fiscal structure which sends appropriate signals to users and operators;
- rationalise financing and investment streams so that they are consistent across all modes;
- improve data collection, monitoring and research, particularly by carrying out consistent monitoring of the implementation of urban transport policies (ECMT, 2002, 2006).

The PROSPECTS project PROSPECTS was one of a number of projects funded by the EC Directorate General for Research as part of the Land Use and Transport Research (LUTR) programme. It developed three levels of guidance for the preparation of urban land use and transport plans, focusing on decision-making, methodology and policy. To provide a context it conducted a survey of 60 European cities which asked them, *inter alia*, to identify the principal barriers which they faced. These were identified as institutional, financial, attitudinal and technological (May and Matthews, 2007). The decision-makers' guidance included a section on ways of overcoming these barriers through strategy development. The initial guidebook developed by the project was subsequently expanded to include the findings of the other projects in the LUTR programme (May, 2005).

The Atkins study The interim report of the Atkins study (Atkins, 2005) concluded that the first round of UK LTPs had been welcomed by local authorities, that it had introduced a

step change in the level of consultation and partnership working, that local authorities were using long term funding more effectively, and that there had been a focus on wider policy goals and on support for sustainable transport modes. However, it also highlighted a series of weaknesses, including conflicts between transport plans and those for other public policy sectors, managerial and political barriers to cross-boundary working, lack of integration between transport and land use planning, a weak evidence base, limited expertise in setting targets, reluctance to share good practice, limitations of staffing and skills, and inappropriate financial and political structures. To some extent the second round of LTPs was designed to overcome these problems. The final report (Atkins, 2007), carried out in parallel with the implementation of LTP2, reinforced the positive impacts of the Local Transport Plan process, but identified weaknesses in option generation, and particularly in the use of demand management measures, in efforts to achieve national targets, in balancing capital and revenue funding, in the delivery of major schemes, in the fragmented decision-making structure in some local authorities, and in the lack of powers over public transport operators. It concluded that guidance needed to become less prescriptive, but that local authorities needed to "raise their own competence, ability and confidence to pursue innovative, inclusive and locally-relevant transport (policies)". The third round of Local Transport Plans was designed to overcome these weaknesses.

The DISTILLATE project In parallel with the Atkins review, a four year research programme, DISTILLATE, was established in 2004 to conduct research into the barriers faced by local authorities and into ways of overcoming them. At the outset, the research reviewed the principal barriers. Funding was the most widely experienced problem, followed by problems with modelling and monitoring and evaluation. Strategy option generation and strategy appraisal were both problems for half the respondents, while only a minority experienced problems with scheme option generation, design and appraisal. Table 3 indicates the severity of these problems as they affect different types of policy instrument (May, 2009).

Table 3 – Seriousness of barriers to the implementation of policy instruments at each stage of the policy process (source: May, 2009)

	Overall Implementn	Monitoring	Option generation	Finance	Modelling	Appraisal	Coordination
Buses	•••	••	○○	○○○	•••	••	○○○
Demand management	•••	••	○○○	○	•••	•••	○○
Fares	•••	••	○○	○○○	•••	•••	○○○
Land use	•••	••	○○○	○	•••	••	○○○
Light rail	••	-	○	○	••	••	○○○
Mobility management	••	-	○○	○○○	••	•	○
Traffic management	••	•	○	○	••	•	○
Information	•	-	○	○	•	•	○○
Walking and cycling	•	•••	○	○○	•	•	○
Roads	•	•	○	○	••	••	○

Key:
- ••• Seriousness score > 0.5 (Hull, 2009)
- •• Seriousness score 0.4 – 0.5 (Hull, 2009)
- • Seriousness score < 0.4 (Hull, 2009)
- ○○○ Most severe problems identified in DISTILLATE case studies and Atkins (2007)
- ○ Least severe problems identified in DISTILLATE case studies and Atkins (2007)
- - Not addressed in the survey

The IMPACT project A similar project, IMPACT, was conducted in Sweden. It identified the principal barriers to the Scandinavian approach outlined above as being government failure, in terms of an absence of guidance and legislation; institutional failure, both within cities and between the tiers of government; interaction failures, in terms of a failure to integrate policy instruments; and acceptance failure, whereby some policy instruments are rejected by public and politicians (Gudmundsson, 2007). Further details are available in http://www.mistra-research.se/mistraenglish/news/research/transportmistraamultilevelsuccessstory.5.7549e4d91267b3b988780008536.html

Research on ways of overcoming the barriers

PILOT The PILOT project was funded by the European Commission to demonstrate the process of SUMP preparation and to propose tools and guidelines for their development. It produced a manual, a series of training tools, and a series of recommendations (www.pilot-transport.org). Among its recommendations were the need to provide financial incentives for SUMP preparation; to provide training, including national contact points; to encourage the exchange of experience; to establish legal frameworks in member states; and to conduct further research, particularly into easy to use decision support tools. The current SUMP guidelines draw heavily on the outcome of PILOT, particularly in the elements involving policy coordination, vision, objectives, targets and monitoring.

GUIDEMAPS The GUIDEMAPS project, also funded by the European Commission, focused on project management and stakeholder involvement in the preparation of SUMPs. Its handbook provided a framework for good project management and stakeholder engagement, and a series of fact sheets, including some 32 engagement tools (www.osmose-os.org/documents/316/GUIDEMAPSHandbook_web[1].pdf). The current SUMPs guidelines draw on the GUIDEMAPS handbook particularly in their advice on stakeholder involvement, monitoring, implementation and reviewing achievements.

DISTILLATE and PROSPECTS The DISTILLATE programme (outlined above) developed a set of 18 decision-support tools to tackle the main barriers to transport policy formulation at strategy and scheme level. Table 4 lists these in terms of the barriers which they were designed to overcome, their applicability to strategy formulation or scheme design, and whether they were analytical tools or guidance documents. Further detail is available in May (2009) and its associated papers, and in www.distillate.ac.uk. The programme drew on earlier work in the PROSPECTS project (also outlined above), which produced a Decision-Makers' Guidebook, designed to provide an introduction to the principles of urban transport policy development, a methodological guidebook and a policy guidebook. The Decision-Makers' Guidebook was updated in 2005, drawing on research elsewhere in the Land Use and Transport Research cluster (May, 2005). It and the policy guidebook are now combined in the web-based Knowledgebase on Sustainable Urban Land Use and Transport (KonSULT) (www.konsult.leeds.ac.uk). The methodological guidebook is separately available (Shepherd et al, 2003). The current SUMP guidelines refer to DISTILLATE and PROSPECTS in their advice on problem analysis, scenario development, monitoring and target setting.

Other sources The only other area in which the SUMP guidelines draw on related research is in their advice on developing effective packages of measures. Here they draw on KonSULT (www.konsult.leeds.ac.uk) as well as the ELTIS portal (www.Eltis.org), the European Platform on Mobility Management (www.epomm.eu), and the outcome of CIVITAS projects such as CATALIST and CARAVEL (www.civitas-initiative.org).

Table 4 – The DISTILLATE products (source: May, 2009)

Project	Product for		
	Strategy development	Scheme design	Both
Indicators	*Integration of indicators across sectors*		*Selection and use of indicators*
			Specification of new indicators
Option generation	KonSULT option generator	Road space reallocation option generator	
	Accessibility strategy planner	Public realm improvement generator	
Finance	*Implications of funding mechanisms*		*Funding toolkit*
			Advice to funding agencies
Predictive models	MARS optimisation tool	Demand management modelling	
	STM public transport and land use model	Public transport modelling	
Appraisal	Distributional impacts of strategies	Distributional impacts of schemes	
	Good practice in appraisal	Small scheme appraisal tool	
Effective collaboration			*Good practice in partnership working*

Key: standard font: Tools; *Italic font: Guidance*

THE NEED FOR FURTHER RESEARCH: TOWARDS A RESEARCH AGENDA

The ELTISplus State of the Art Report (ELTISplus, 2011b) is remarkably consistent with the earlier ECMT (ECMT, 2002, 2006), PROSPECTS (May and Matthews, 2007), Atkins (Atkins, 2005, 2007), DISTILLATE (May, 2009), and IMPACT (Gudmundsson, 2007) reports in its assessment of the barriers to effective planning. The principal ones are:

1. conflicting institutional roles, both vertically and horizontally;
2. hesitant political commitment to the principles of sustainability and to the solutions needed;
3. poor integration between the policy sectors, and particularly between transport and land use;
4. inappropriate financing, both for plan preparation and for implementation;
5. limited skills in option generation and undue emphasis on supply-side solutions;
6. limited public support and lack of experience in stakeholder involvement; and
7. poor data and lack of evidence of the performance of specific solutions.

At a more detailed level, the Atkins and DISTILLATE studies highlight weaknesses in monitoring, target setting, appraisal and implementation. This suggests the need for further research in seven broad areas.

The seven research requirements

Institutions and policy integration These related barriers concern the ways in which responsibilities are split between and within organisations, and the approaches adopted to working in partnership. The SUMP guidelines provide advice on the institutions and policy sectors which need to be involved, and some case studies of good practice in doing so. The PILOT project provided an input to this, and the DISTILLATE programme included guidance on partnership working (Forrester et al, 2009). However, there is a case for further research which demonstrates the benefits of partnership working and the ways in which those benefits can be most readily achieved.

Monitoring, target setting and appraisal There is now extensive guidance on the selection of appropriate performance indicators and their use in both monitoring and appraisal, including guidance developed in the DISTILLATE programme which is now cited in the SUMP guidance (Marsden and Snell, 2009). However, further research is still needed on the most effective use of indicators in benchmarking. One specific area in which our understanding is still weak is in the process of setting targets. It is generally accepted that targets are best based on outcome indicators, such as emissions and accidents, and intermediate outcome indicators, such as modal shares, which help explain performance against outcome indicators. However, there is less understanding of the level at which such targets should be pitched, and the basis for doing so. Further research on alternative approaches and their effectiveness would be valuable.

Option generation Option generation remains a serious weakness, both in the initial selection of possible policy instruments and in the ways in which they are packaged. The KonSULT website includes an option generation tool for both individual instruments and packages, based on research in the DISTILLATE programme (May et al, 2012). But there has to date only been limited experience of its use, and there would be merit in a research project which tested it and alternative approaches for stimulating an objective approach to option generation.

Financing The barriers to effective financing of urban transport arise both through inconsistencies in funding policy and lack of awareness among cities of the full range of funding options. The ECMT study (ECMT, 2002) found that governments typically provided funding for infrastructure and for operations through different budgets, and implicitly at least imposed different benefit/cost ratio thresholds on each. As a result infrastructure projects are often more easily funded by the public sector, even though they are often less cost-effective. Similar biases towards capital investment almost inevitably result from the involvement of the private sector. A more recent review for the Volvo Foundations of funding practice in France, Germany, Japan and the UK found similar inconsistencies (May et al, 2009). The DISTILLATE programme provided guidance to funding bodies, and also established a financing toolkit, specific to UK practice, to help cities identify a wider range of funding streams (Binsted and Paulley, 2009). Further research could usefully assess the effectiveness of different approaches to funding and provide more generally applicable advice both the funding bodies and to cities.

Stakeholder involvement It is now generally accepted that stakeholders need to be involved in the policy process from the initial stages of determining objectives to the final process of implementation and evaluation. As noted above, the GUIDEMAPS project has

provided a number of tools to help with this process. However, experience on the wider scale application of such tools is still limited. There is a case for comparative research which helps identify good practice in stakeholder involvement at all stages in the policy cycle.

Effective political leadership While enhanced analysis, option generation and financing can help identify more effective policies, and greater stakeholder involvement will enhance their acceptability, the final decisions on strategy are usually the responsibility of politicians, who are likely to be influenced also by partisan policies and short electoral cycles. Research on the role of policy entrepreneurs demonstrates the key role of strong policy advocates, who are often politicians (Borins, 2002). In the absence of a single political leader, decision-makers need to rely increasingly on network governance to achieve a convergence of political aims. While those aims may well still be shorter term ones, a longer term perspective can be encouraged through a focus on transition management (Loorbach and Thissen, 2011).

Implementation It is easy to assume that, once a strategy has been accepted, the most serious problems have been overcome. However, experience indicates that public opposition to controversial projects often only materialises once the proposals become more concrete, and that unanticipated side effects can often disrupt the best planned of policies. Despite this, there is a surprising dearth of research on good practice in implementation, whether it concerns public involvement, detailed design or rapid response to problems. A research programme which focused on the implementation stage of projects and collated evidence on good (and less good) practice would be particularly valuable.

Evaluation and evidence of performance Evaluation of implemented projects is important in helping a city learn from its experience, but also provides the source of empirical evidence on the performance of individual policy instruments on which advice such as that in the KonSULT website is based. It remains the case that many opportunities for evaluation are lost because cities do not see the need for such action, and because funding for a thorough evaluation is often not available. There remains a pressing need to conduct more detailed evaluations of the newest and least well understood policy instruments. Moreover, there is virtually no empirical evidence of the effectiveness of packages of policy instruments.

THE APPROACH TO POLICY GUIDANCE AND THE ENCOURAGEMENT OF POLICY TRANSFER

In our review of UK practice, we identified a continuing tension between national and local government in the way in which guidance is provided (May, 2013). Over the decade of operation of the Local Transport Plan (LTP) programme, the UK government has moved from an approach involving detailed prescription (in LTP1 and LTP2), to one in which guidance was offered while giving cities considerable flexibility (in LTP3), to one in which national government argues that local government knows best, and does not need guidance (post LTP3).

Each stage has also involved a different approach to national review and funding. In LTP1, the UK government assessed the quality of each Plan as submitted, and awarded additional funding to those local authorities which had submitted what they considered to be the best Plans. It also required local authorities to set targets in their LTPs, and subsequently allocated additional funds to those which had come closest to meeting their targets. Some elements of the financial rewards were withdrawn in LTP2, and by LTP3 funding was being provided to a strict national formula, independent of the quality of the LTP. Indeed, the present government indicated that it did not intend to review the Plans submitted.

In practice, each of these approaches has its merits. Prescription encourages consistency, and avoids undue reliance on local skills, but stifles initiative and discourages a sense of ownership. Guidance helps in the development of skills and the encouragement of good practice, but is demanding and can be considered patronising. A laissez faire approach is less demanding of resources, and avoids suggesting to effective local authorities that government knows best. It is, however, very dependent on the skill base in local government.

The European Commission has implicitly adopted a middle road on this issue, assuming that many city authorities do not have the skills to develop effective urban transport strategies, but using programmes such as CIVITAS to enable them to learn from more successful cities, and developing guidance, including that for SUMPs (ELTISPlus, 2011a) to support them. Perhaps understandably, it has done less to advise national governments on how best they can assist in this process, or to advocate the recommendations of the ECMT study, as listed above.

In our own review of UK practice, we argued that the role of national government should be to encourage a partnership between central and local government in which central government provides a supportive policy and regulatory framework, devolves to local government the powers and finance to enable it to meet its own needs as effectively as possible, and provides guidance on the processes for effective local transport planning (May, 2013).

However, such an approach, and the related activities of programmes such as CIVITAS, depend on an understanding of how cities learn from one another, and hence of the underlying process of policy learning, on which relatively little is known. A recent study conducted interviews in eleven cities in Europe and North America which were known to be innovative in their approaches to transport policy (Marsden et al, 2011). Six principal motivations for looking for policy lessons from elsewhere were identified. Strategic need was the dominant motivation, but other factors included policy collapse, curiosity, political intervention, financial support and the desire for legitimisation and influence.

Local officials and politicians dominated the process of initiating policy transfer, and local officials were also the leading players in transferring experience. Private suppliers and consultants also played a role in the provision of information but, in Europe at least, there was much less reliance on academia. These actors used a range of sources of information. Informal networks and information sharing through professional contacts were the predominant methods of initial knowledge transfer. Although local officials heard about new developments through shorter media articles in newspapers and the technical press, they placed much greater trust in findings reported by known colleagues and in objective empirical data. Good practice guides and project reports were not seen to tell the full story and were thus thought to risk displaying a positive reporting bias. The most common approach, involving informal information scanning and reliance on personal contacts, was seen as unsystematic and potentially sub-optimal.

This unsystematic approach is a significant barrier to effective policy transfer, as is the perceived inadequacy of the available information. However, the lack of an organisational learning culture in cities appears to be the most critical barrier to cities learning from one another. The effects of learning culture are closely linked to the constraints on time and the degree of reliance on informal networks. Cities which reported more supportive learning cultures made more resources available for policy learning and reported much larger networks of contacts.

A prioritisation exercise which assessed solutions proposed by the interviewees against the barriers to policy transfer led to four key proposals of: improving cities' policy learning; investing in policy networks; developing more concise policy focused literature which deals with transferability issues; and developing better techniques for information searching (Marsden et al, 2011). The study concluded that investment in understanding the lessons from

the first handful of implementations of a new policy or practice is crucial to determining the potential for transfer.

CONCLUSIONS: IMPLICATIONS FOR A FUTURE RESEARCH AGENDA

In this paper we have reviewed progress in the development of guidance on Sustainable Urban Mobility Plans (SUMPs) and summarised the underpinning research. By reviewing the continuing barriers to effective policy development, we have identified seven areas on which further research might usefully focus, and which could form an agenda for future research workshops:

1. understanding good practice in partnership working;
2. improving the processes of benchmarking and target setting;
3. testing the application of option generation methods for policies and packages;
4. assessing the effectiveness of different approaches to financing;
5. identifying good practice in stakeholder involvement at all stages in the policy process;
6. understanding effective political decision-making and leadership;
7. evaluating alternative approaches to policy implementation; and
8. continuing to evaluate novel policy instruments and, in particular, policy packages.

While all of these should contribute effectively to further improvements in guidance on the development of SUMPs, it is clear that such guidance will only be fully effective if cities can be encouraged to adopt a more robust learning culture. It is also notable, in Europe at least, that cities do not look to academia for information on new policies. It is to be hoped that the research community can help to tackle both of these issues by stimulating interactive learning in urban transport policy. Inputs which the research on policy transfer has shown are particularly needed are more objective empirical evidence on novel policies (which should emerge from research topic (7) above); an improved understanding of the transferability of such evidence; improved tools for information searching (linked in part to research topic (3) above); and more active participation in, and support for, policy networks.

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