Successful Travel Awareness Campaigns & Mobility Management Strategies

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WP D Integrating Mobility Management and Land Use Planning

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MAX - introduction

MAX ran from 2006 to 2009 and was the largest research project on Mobility Management within the EU's sixth framework programme. The MAX consortium, of 28 partners, served to extend, standardise and improve Mobility Management – it did so in the fields of quality management, campaigns, evaluation, modelling and land use planning. Much of the work was directly endorsed by the European Platform on Mobility Management (EPOMM) and continues to be supported by EPOMM – in order to provide truly Europe-wide expansion, standardisation and dissemination of Mobility Management.

The work has resulted in several products and services that can be downloaded via *www.epomm.org*.

For more information, please visit *www.epomm.org* or *www.max-success.eu*

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Table of Contents

Executive Summary

This report summarises the work done by MAX WP D team during the 3 years (September 2006 - September 2009). WP D concerns the better integration of mobility management with land use planning. Report presents the results of the State of the Art (SoA) review, and of the three main tranches of work - Working stages (WS):

- WS Analysis,
- WS Simulation and,
- WS Guidelines.

The SoA review found how generally little knowledge there is currently on how MM and LUP can be integrated. It found rather more prior research on the integration of sustainable transport objectives with LUP, however; this was important, as the WP D research team believes it to be an important precondition for greater integration of MM and LUP. Several major research gaps were identified, particularly the reasons why actors might choose to integrate MM with LUP, and the mechanisms that help to bring this about. Most importantly, the SoA report identified the need for research on how in practice to integrate MM with LUP.

WS Analysis was carried out by partners who looked at their own countries' LUP systems, and how far sustainable transport objectives, and the integration of MM with LUP, were integrated within these. Three groups of countries were identified: those with almost no integration, those with integration at a policy level (especially at higher levels of government) and some *ad-hoc* integration on the ground, and those with more consistent integration in both policy and practice. This latter situation was seen to be a product of more political will for the integration at various levels of government, plus the creation and/or identification of various tools to assist integration. Nonetheless, ways in which greater integration of MM with LUP could be brought about were seen to exist in most of the states whose planning systems were reviewed.

In WS Simulation, five planning simulation workshops were conducted in Germany, Lithuania, Poland, Slovenia and Spain. These all considered the planning and building permission process for real sites for large new developments, and brought together a number of local professionals who are involved in planning decisions for a simulation workshop to discuss how MM might be integrated into the process for the site in question. Many sites were poorly integrated with walking, cycling and public transport (PT) networks, as transport was not really considered in site selection. MM was a new concept to most participants, and one whose possible successful transfer to their local contexts was greeted with some scepticism. No legal mechanisms were found that require or facilitate the integration of MM with the permission process for new buildings, but it was agreed that such integration could sometimes be achieved through negotiation.

Finally, in WS Guidelines the main public deliverable from the WP D were developed. WP D products consist of three levels of outputs:

- **Guidelines** for the better integration of land use and transport planning and for the integration of MM in the planning and the building permit process of new building.
- **Tools / Instruments** as active support for the awareness raising at the different target groups.
- **Recommendations / Summaries** as support for the awareness raising at the different target groups in the form of a short list with the most important key points to be considered.

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1 Introduction

WP D concerns the better integration of MM with LUP, as it appears from some European states' and US experience that the LUP process can provide points where MM can be leveraged into new developments and renewed developments in order to reduce reliance on the private car for travel to and from those developments. According to the »Description of Work« (DoW) set out in the Technical Annex of the MAX proposal, the central objective of WP D was to find ways to integrate MM into the LUP processes.

The ultimate objective of the integration of MM into LUP should be to ensure the location of new development in areas where it is served by a range of modes of transport; and the implementation of MM measures associated with new /renewed buildings or newly-developed /redeveloped areas (e.g. housing estates, shopping centres). For example, developers can be encouraged or given incentives to build good PT access into their developments, or to fund new PT, cycling or walking links to the development, to ensure good access by all modes. Sometimes, also, parking at the development may be limited in order to restrain car travel. In this way, the affected target groups can take advantage of the measures from the first day that the site comes into use, and car use for trips to and from the development will be lower than it would otherwise have been.

This integration of MM and LUP does occur in some European states and US already, with beneficial effects. Experience from the UK, for example, shows that the planning process has been used successfully to negotiate with and/or require developers to implement MM at new sites, and several have reduced car travel to their site by 15-20% in consequence (DfT, 2008). One example is Wellcome Trust in Cambridge, England, which has paid for bus links to nearby rail stations, built cycle paths, secured new bus services and organised car sharing as part of a planning agreement with the local authority. As a result, between 2002 and 2007, the percentage of staff driving on their own to work fell from 70 % to 56 % (DfT, 2008, p 19).

A review of the current level of knowledge and practice set out in the WP D SoA report showed that there is relatively little knowledge about how to develop and implement this area of MM practice in the majority of MSs. Therefore, the WP D research plan (http://www.max-success.eu/downloads.phtml), set out a number of steps whereby knowledge of this area could be increased, with the overall objective of producing useful guidance for planners and developers in all MSs on how the LUP system can be better used to secure more MM.

This report summarises the work completed in WP D:

- The findings of the SoA report and its implications (Chapter 2) .
- The results of WS Analysis, in which the current state of the integration of sustainable transport objectives with LUP, as well as MM with LUP, was reviewed for ten countries – all WP D partner countries together with the Netherlands and Ireland (Chapter 4.1).
- The results of WS Simulation, in which planning simulation workshops were held in five locations in five partner countries to explore ways in which MM could be integrated with the planning of actual new developments (Chapter 4.2).
- Results of the final stage of the work, WS Guidelines, where the main public deliverable from the WP D were developed as Guidelines, Tools / Instruments and Recommendations / Summaries (Chapter 5).
- WP D dissemination activities during the run-time of the project, as well as overview of planned activities after the end of the project (Chapter 6).
- The final chapter reflects on remaining research gaps and areas for further work (Chapter 7).

Complete reports of the all mentioned stages are available at http://www.max-success.eu/downloads.phtml.

1.1 List of abbreviations

DoW - description of work

DSDP - Detailed Site Development Plan

EIA - environmental impact assessment

ECOMM - European Conference on Mobility Management

EPOMM - European Platform on Mobility Management

HFS - heavily frequented sites

LUP – land use planning

MM – mobility management

MS – member state

NMS – new member state

PT - public transport

SoA – state of the art

SSR - short structured template

TDM - transport demand management

TIA - transport impact assessment

WP – work package

WS - working stage

2 The State of the Art Review

The State of the Art (SoA) Review set the stage for the WP D by identifying relevant work that has been carried out by other projects, by identifying research gaps and thereby helping to define and guide the research work that was carried out in the rest of the WP. WP D's specific objectives relevant to SoA analysis were:

- advance knowledge in MM by building on expertise and previous research findings and own investigations,
- identify principal gaps in existing projects.

In general SoA Review attempted to summarise the findings of various research and practical projects, and existing guidance on LUP and MM, with respect to the predefined criteria from DoW. That said, as shown in the proceeding pages of the report, the WP D team has discovered that in some cases there is very little existing research on some of those criteria. It was not the purpose of the SoA report to then attempt to fill such research gaps once identified, but simply to flag them up as being in need of further research in the rest of the project. In general, the integration of MM into the LUP process is not a practice of which many states have a great deal of experience and so in some areas the SoA review was limited by this; but this also presented an opportunity, since it meant that there was a great deal to be researched in the rest of MAX.

A further aspect of the SoA report was to consider what LUP instruments exist that can be used to secure MM. This began a very practically-oriented element of the work in the WP D, that was continued throughout, to ensure that the recommendations of the guidance produced at the end of the project were relevant to the needs and working practices of those actually employed in LUP and MM.

Thus, the SoA report summarised in a structured way the research and experience that exists currently into the integration of MM with the LUP process; it showed how key LUP instruments are used to secure MM; and it indicated the most important gaps for future research.

Complete report of the SoA Review is available at http://www.max-success.eu/downloads.phtml.

2.1 Methods

Briefly, the methodology used was to survey the WP D members' knowledge of relevant practice, research and other projects, mainly from EU and US that might be a source of information for the WP D. This was sifted by the WP leader to produce a finalised list for investigation. Each selected project was then reviewed by a member of the WP D team using a short structured template (SSR) which is built around the criteria from the DoW. The content of the completed SSRs was then used by the WP Leader to write the SoA report.

2.2 Consequences from the state of the art

In this section only main consequences from SoA review are summarised, detailed findings are available in the SoA report.

The SoA review clearly showed that in many ways, the theory and practice of integrating MM and LUP is at an early stage, and the literature reflects this. However, there is a considerable amount of existing knowledge and experience on the following topics:

- The use of LUP policies to encourage sustainable transport development. This has shown that a package approach of measures is most effective. Projects dealing with this issue have also paid considerable attention to implementation processes and barriers, including the role of stakeholder involvement. It is also clear that a widespread integration of the general LUP and transport planning is

missing. However, these projects did not in the main look specifically at the integration of MM with LUP, but rather the wider integration of LUP and transport planning.

- Earlier European MM projects such as MOST have considered the MM implementation process in some detail and identified that MM is more easily implemented where there is some other reason for change in transport patterns (e.g. a move of site; a parking problem). There are obvious synergies here with the LUP process.

- There are some key differences between the new member states (NMS) in the EU and the older ones that make the implementation of MM – and therefore the integration of MM and LUP - more difficult in the NMS than the old.

- Practical experience in the integration of MM with the LUP process seems largely limited to Switzerland, the UK and certain cases in Germany, Belgium, Netherlands and Sweden. In the former two countries, MM is used to attempt to reduce the number of car trips generated by new developments; in some cases this includes the imposition of targets or limits to the number of vehicle trips to and from a new development. Much of the information that the WP D SoA review was able to uncover in specific relation to the evaluation criteria appears to come from UK case studies in particular.

- North American experience in the integration of MM with LUP was included in the SoA report. Some five out of 35 of the reports reviewed in the SoA report were of North American origin. In addition, other European work that was reviewed (e.g. the OPTIMUM and TRANSLAND project reports) drew on North American experience. At this point a view was taken, based in particular on one of the reviewed reports, *Incorporating TDM into the Land Development Process (CUTR at University of Florida (2005))*, that US experience is similar to that of the UK and Switzerland. For example, Figure 3 on page 11 of that report illustrates the tactics available to incorporate MM into land development; with very few exceptions, all of these tactics have been employed in the UK and/or Switzerland. This report also shows that the effectiveness with which MM can be integrated with LUP depends on factors such as the policy lead from the centre, the way in which negotiations are conducted with developers, the robustness of the legal mechanisms and agreements used to secure MM through LUP, and the local political situation. These are conclusions that can also be drawn from the UK and Swiss experience. For these reasons, further analysis of the North American situation was not considered a high priority for further work, although references to this experience were included in the final outputs of WP D.

Therefore, a large number of evaluation criteria (from the DoW) remained to quite a large degree unanswered in the SoA review. The nature of certain factors in relation to the LUP process *in general* is known: for example, there is information on the integration of stakeholders, and on implementation barriers and how to overcome them. We also know why actors may wish to take up MM. But a European-wide perspective on the specificities of the integration of MM with LUP appeared to be lacking. In particular, there was little information on market demand; on correspondence and compatibility in LUP processes; and the quantification of benefits. Nor was there much information on how states' LUP processes can or cannot be adapted so that MM becomes more integrated with them.

Research Gaps

The discussion above has begun to identify some of the most important research gaps in the area covered by this WP. The research gaps were grouped into three categories which emerged from an inspection of the full list of gaps, rather than being a pre-defined grouping.

BEGINNING THE INTEGRATION OF MM AND LUP

The SoA showed that there is little existing knowledge on why actors take the initiative to integrate MM into LUP. This relates to another important factor, which is market demand from the development industry, and how they may view the integration of MM with the existing LUP process – do they see it as of benefit to them?

PLANNING PROCESSES

What mechanisms and instruments are available to bring about the integration of MM into LUP – for example, in the UK, there is a strong policy stimulus for this from national government, and LUP law lends itself to such integration. Are such synergies found in all European states, or do in fact MM and LUP processes work against one other? More generally, the barriers to the integration of MM with LUP are also examined, and how these might be overcome. In relation to MM across Europe, the research has also examined whether it is feasible to think of a standard approach to the integration of MM with LUP in European states and, if not, what kind of variations can be envisaged, given differing framework conditions.

PRACTICALITIES

The research needed to examine the practicalities of integrating MM and LUP – how it can actually be done, and the LUP instruments that can be used to do so – and, if possible, to quantify the benefits of so doing. This information was critical in developing the final output from the WP.

3 Research plan

A review of the current level of knowledge and practice set out in the WP D SoA report showed that there is relatively little knowledge about how to develop and implement this area of MM practice in the majority of European states. Therefore, the WP D research plan set out a number of steps whereby knowledge of this area could be increased, with the overall objective of producing useful guidance for planners and developers on how the LUP system can be better used to secure more MM. The research in WP D was organised in three Working Stages (WS):

1. WS Analysis: Data collection and analysis,

2. WS Simulation: Planning simulation workshops and

3. WS Guidelines: Guidelines and recommendations.

WS Analysis analysed the current level of the integration of sustainable transport and MM with LUP in the MAX WP D member countries and two other states (Sweden, Germany, Spain, Lithuania, Poland, Slovenia, Switzerland, the UK, as well as Ireland and the Netherlands). WS Analysis consists of two thematic fields. The first field deals with the preconditions for the integration of MM into LUP. The second field deals with the actual planning process for a new or renewed building / area and asks where and how MM can or should be included.

WS Simulation - using a planning simulation workshops, the possibilities of the integration of MM in the process of planning of new or renewed buildings and sites were explored in the context of concrete cases, each grounded within an actual planning context. In these planning simulation workshops the identified best practice MM measures and / or supporting measures were selected and their transferability to single countries and their planning system was analysed. Two planning simulation workshops took place in old MS (Germany, Spain) and three in NMS (Slovenia, Lithuania, Poland).

WS Guidelines - the final WS was dedicated to the development of recommendations and guidelines regarding the integration of MM in the LUP process of a new/renewed building or area. WS Guidelines consists of two steps:

- compilation of main findings of WS Analysis and WS Simulation and
- elaboration of guidelines and recommendations.

Complete WP D Research plan is available at http://www.max-success.eu/downloads.phtml. The structure of WP D research is shown in Figure 1, below

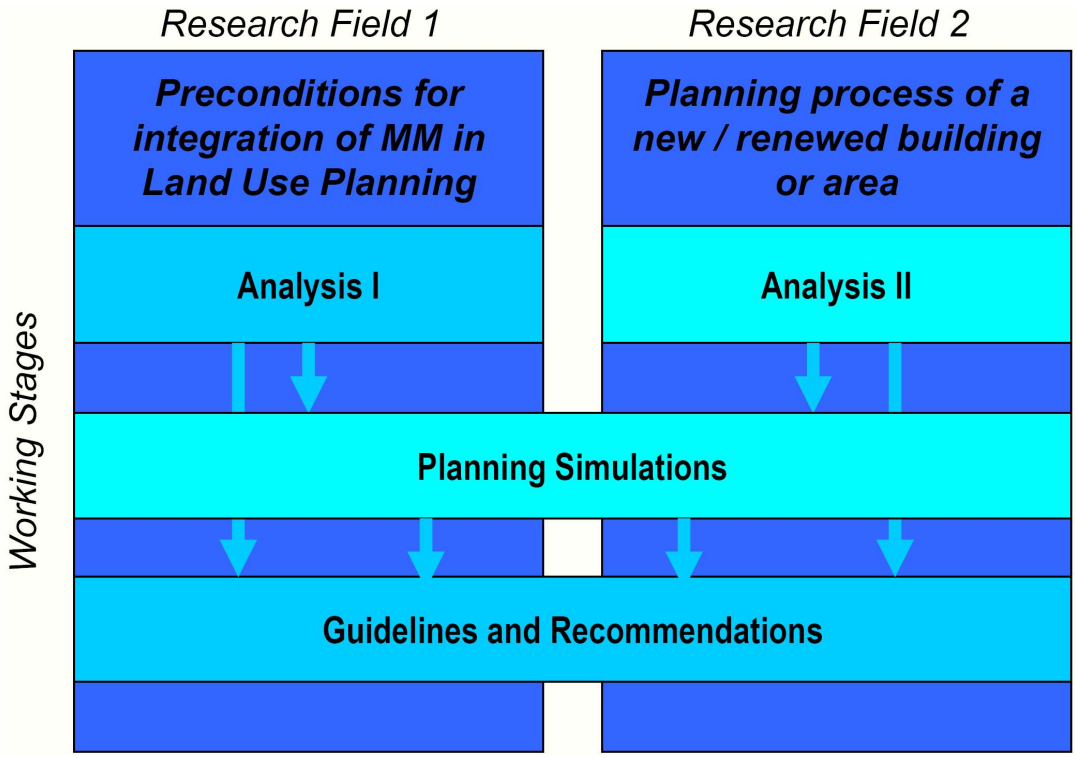

Figure 1: Structure of WP D Research

4 Tasks and Results

This chapter presents tasks and results of the two main research steps within WP D: WS Analysis and WS Simulation. Results of the last WS Guidelines are presented in the following chapter as outputs of the WP D.

4.1 WS ANALYSIS - current level of integration in selected European states

As the first step of WP D research the current level of the integration of sustainable transport and MM with LUP was analysed in 10 European countries states (WP D MSs: Sweden, Germany, Spain, Lithuania, Poland, Slovenia, Switzerland and the UK, as well as Ireland and the Netherlands).

The analysis consisted of two thematic research fields. The first research field deals with the preconditions for the integration of MM into LUP. Framework conditions (legal, political, governance) influence the possibilities of integration. Additionally the potential and actual effect of site-based MM is strongly dependent on the quality of the accessibility of a site/area by different means of transport (infrastructure framework and transport service supply). The research team argues that it is most effective to invite landowners and developers to consider MM if the site-related target groups have the possibility of a real choice between modes to access the site. That means that the whole aspect of the integration of transport (in terms of supply) into LUP with the overall objective of promoting sustainable mobility is part of this research field and has to be considered as a form of precondition in the research.

The second research field deals with the actual planning process for a new or renewed building / area and asks where and how MM can or should be included. Here the whole process is of interest, from the intention to build and the planning procedure up to the construction phase and putting the site or the building into use. The main actors are the landowner and developer of a new building or a new developed or redeveloped area and the local authority as the main counterpart in the process.

Complete report of the WS Analysis is available at http://www.max-success.eu/downloads.phtml.

Methods

A common analysis framework was developed for both research fields and was used by all partners to analyse two aspects of their LUP systems (plus in Netherlands and Ireland): firstly, the degree to which sustainable transport is an objective integrated within the planning system as a whole; and, secondly, how far MM is seen as an outcome of the building permission process for new, expanded or renewed developments. The common analysis framework was based on initial thoughts on analysis criteria contained in the WP D Research Plan, which themselves refer back to the original criteria for analysis as set out in the project proposal. The framework also identifies the gaps in knowledge that were highlighted by the SoA report for the WP D. It thus has a rational basis and has permitted a structured analysis that forms a solid base for the next work stages in the project.

Integrating transport and land use planning

WP D is concerned with integrating MM and LUP. However, it is argued by the WP D team that a key **pre-condition** for this to occur is that transport planning and LUP are generally more integrated as well. Transport or spatial planners, when considering the LUP system as a means for the achievement of sustainable transport, look to it to produce urban structures that reduce the need to travel, especially by car, and provide better conditions for sustainable transport modes (PT, non-motorised modes), such as the following:

- A poly-centric urban structure.

- Medium and high land use densities with a mix of different uses.
- Concentrating development at nodes and along the corridors of the PT network.
- Re-use of brownfield sites to contain urban sprawl.
- Routine assessment of the transport impacts of new development.
- Parking standards that limit the amount of off-street parking required.

For their implementation to be most consistent, all the mechanisms above should be supported by their explicit inclusion in policy documents from all levels of government that are involved in the LUP process.

4.1.1 Results of common analysis

Governance frameworks and planning instruments

The governance framework in which transport and land use planning take place

It is very difficult to compare levels of governance across countries. However, in this report, an attempt is made to define them as follows:

- National or federal government – the highest level of government in a country.
- The state (Germany) or autonomous community (Spain) – the next level down – does not exist in all countries, and its competencies vary considerably from country to country.
- Region – the next level below, covering a smaller area – again, this does not exist in all countries. Examples here include provinces in the Netherlands, Poland and Spain, cantons in Switzerland and counties in Sweden. In addition, the administrative districts that exist only in some German states can be seen as a form of region.
- Sub-regions. These exist in Switzerland, England, Germany and the Netherlands, amongst others.
- Municipality. There are no countries where some form of municipality does not exist. In Lithuania alone, there are also sub-municipalities.

In all countries there are at least two levels of government involved in planning, and in most, three. There is no clear relationship between the number of levels and the degree to which sustainable transport is a declared or actual outcome of the LUP system. Where one level of government – particularly the lowest (municipal) level - can run its local LUP system without much reference to higher levels of government, as in most countries, then this can work against the LUP system being integrated with sustainable transport and MM. Where there is policy and/or legal support for such integration at the national and regional level, as in the UK for example, then this supports lower levels of government in working to bring that integration about. A clear relationship between levels of government, and an ability for higher levels of government to take a role in LUP decisions, helps in integrating MM with LUP – in the UK, Ireland and Switzerland (and also Sweden and the Netherlands) it is possible for planning decisions made by the municipality (lowest level of government) to be over-ruled by a higher level of government, and higher levels of government have a day-to-day involvement in building permission decisions for, at least, larger developments.

Planning instruments that exist

By planning instruments this report means those elements of the LUP system that planners use when coming to decisions about the land use plans and about building permission decisions. Common categories include:

- National law governing the making of plans (in some cases this may be passed by the level of government below the very highest level e.g. the Land (state) in Germany).
- National law governing the grounds on which building permission should be granted and how/whether conditions can be attached; this may be largely the responsibility of the state/autonomous region level.
- National planning strategies and planning policy guidance, to guide lower authorities when they make land use plans and in their decisions on granting building permission.
- Statutory land use plans; often the only one is the local (single municipality) development plan and/or a plan covering an area less than the whole municipality. They are usually the most important instrument in deciding whether or not building permission should be granted for a development.
- Plans at the level of the province/state/autonomous community exist in some countries and where they do they are statutory, but the link between them and municipal plans is often not clear.
- National or state environmental laws. These can or have the potential to play an important role in stimulating MM at the level of building permission for a new development.
- Parking standards. In most states, these are set locally and as minimums, but can be limited in certain circumstances. In Switzerland and the UK they are set as national maxima.
- Assessment of the transport impacts of new developments (sometimes as part of the Environmental Impact Assessment (EIA) procedure).

Sustainable transport as an objective or outcome of the LUP process

Three groups of countries emerged from the analysis: a small number where there is very little recognition of sustainable transport as an objective of LUP (e.g. Lithuania, Poland) because it is a very new idea in these countries; a larger group (including Germany, Spain, the Netherlands and Slovenia) where in policy statements, especially at national level, the benefits for sustainable transport of certain planning policies are all recognised and encouraged but less often put into effect; and a final group (UK, Switzerland, Ireland) where such policies are put into practice more systematically. In the second group, most local authorities choose to implement such policies selectively because they are independent from higher levels of government and because they do not want to do things that they perceive might discourage inward investment, jobs and taxes. In Switzerland, there is a long tradition of environmental protection, and the ability for regional government to intervene actively in planning decisions, that makes integration less ad-hoc. In the UK, a strong steer from central government caused by concerns about traffic growth and congestion, and its ability to influence actual planning decisions, may account for the wider adoption and implementation of such policies.

Policy and institutional conflicts

Policy on integration varies considerably across the countries surveyed, but there is a general pattern of national and state level policy being more supportive of integration, but local land use plans and building permission decisions being less so. In this sense, there is a policy conflict, even in the more integrated countries such as Switzerland and the UK, as municipalities compete with each other to attract new developers. In general, also, in almost all countries there is functional disintegration between the bodies responsible for transport planning and those responsible for LUP.

Policy outcomes sought from integrating sustainable transport, MM and LUP, and whether they have been achieved

Those completing the analysis frameworks were asked whether any policies exist in their countries that seek any of the outcomes e.g. poly-centric urban structure or re-use of brownfield sites (listed on page 14 of this section of the report). *Policies* supporting most of these exist in many states. However, the degree to which they occur in practice varies considerably, due to the relative autonomy/independence of the lowest level of government over planning decisions – both in terms of the content of local plans, but also regarding decisions over granting building permission. Even where national or regional policy guidance exists that encourages the incorporation of MM into the LUP and building permission process, local authorities may choose to ignore or interpret it in a very broad way. This is due to market pressures: the need to attract more business, and residents, and a political perception at the local level that municipalities are in competition for development. In addition, there is a lack of strong regional planning in states such as Slovenia, Lithuania, Sweden, the Netherlands, Ireland and Germany. Several states also indicated that they have little tradition of transport planners and land use planners working together or communicating with each other, and that this works against integration.

In any of the countries studied, very little work was found that considered developers' views and attitudes to these types of policy, but examples in the UK and Switzerland where MM has been built into the building permission process show that it can reduce their car-dependence without compromising their economic performance.

Integration of MM and LUP in the building permission process

This section of the report considers the actual process for a developer who wants to build, redevelop or extend a building, and the scope for introducing MM measures within that process.

The detailed steps in the building permission process (intention > planning > construction > building is in use);

This section of the analysis framework considered the planning instruments and levels of government that play a role in the building permission process, and the influence of these both in theory and in practice.

In general, the most important planning instrument in making a decision over whether to grant building permission is the local plan or its equivalent; the municipality has to be satisfied that the building that the developer wants to build conforms to the requirements of the local plan. In addition, national and state laws must be seen to have been followed in making a decision.

In some countries there are other higher level plans and guidance that need to be taken into account in the building permission decision. In general, however, the decision on whether or not to grant building permission is largely or exclusively the responsibility of the municipality and cannot be directly influenced by other levels of government.

Other factors that influence the building permission decision include, variously, the following:

- The size of the development (sometimes measured in terms of how much traffic it will generate). Larger developments often merit special/different treatment both within plans, and in the building permission process.
- Infrastructure provision – municipalities in many countries wish to be satisfied that, before the building opens, utilities and road and footway infrastructure is in place.
- The environmental impact of the development.

- Parking provision.

The country analyses completed by the partners show that certain instruments offer the potential to include MM, *given sufficient political will*. Some examples are listed below, and also in more detail in Table 1:

- In Sweden, in the contract between developer and local authority that governs the development of land, there is scope to include requirements for MM.

- In Spain, the traffic impact assessment of sites that is already undertaken could be expanded to include other modes of transport and MM for managing transport to the site.

- In Poland, it seems that it could be a legal possibility to require of developers the provision, not only of roads into the development, but PT and cycle infrastructure as well; and possibly to limit parking provision in addition.

- In Germany, Slovenia and Lithuania, building permission could be granted subject to conditions such as the provision of free trial bus tickets for new residents of an area, or the installation of bicycle parking, or the provision of a free bus by the developer. The latter case has already happened in Vilnius in Lithuania.

The countries in which this process has developed beyond an *ad-hoc* approach are the UK, Switzerland and, to a lesser extent, Ireland and Sweden. In the UK, national concern with traffic congestion related to large new developments has made the transport impact assessment (TIA) process for new developments an important part of the building permission process. Led initially by forward-thinking local authorities, national government now encourages all local authorities, through Planning Guidance documents, to include requirements for MM in building permission decisions, normally in the form of a site based mobility plan (travel plan). Where national government disagrees with local building permission decisions, it can take the decision out of the hands of the local authority. This could be, for example, if it believes that insufficient attention is being paid to MM.

In Switzerland, there are a number of factors that bring about the use of MM in the building permission process:

- The special land use plan, which covers an area smaller than the local land use plan, and is typically produced for large new developments such as regional shopping centres, as well as for the revitalisation of districts or for new employment zones. This offers the opportunity to specify the accessibility of the site and to make contracts with landowners about MM in any development on the site.

- Normative national *maximum* parking standards, including reductions in areas of higher PT accessibility, so that there is not enough parking for everyone who wants to drive to a development.

- The right of objection for environmental organisations, such as the Swiss Transport and Environment Association, who can and do suggest conditions with which new developments should conform.

- EIA for developments with more than 300 parking spaces, with MM frequently specified to mitigate traffic impacts.

There is a national framework for MM for urban agglomerations in Switzerland and this is reflected in cantonal (regional) and local plans. The involvement of the canton in building permission decisions also raises the importance of MM in these decisions. In this way, the application of MM within the process has become a regular activity rather than something applied on an *ad-hoc* basis by a small number of municipalities.

What are the most important factors in integrating LUP with sustainable transport and MM?

It appears from the foregoing analysis that there are a few key factors that assist in bringing about this integration on a more systematic basis. The most important are:

- National and/or regional guidance/policy that reinforces the idea that such integration should occur.
- The existence of a nationally-recognised system of assessment of the transport impacts of new developments.
- A clear operational link between national/regional guidance and both the making of land use plans, and the building permission decision. This effectively means that higher levels of government have to have at least some level of control (or the threat of control) over the content of plans and building permission decisions made by lower levels of government.
- Political will at the level where the building permission decision is made to incorporate MM into that decision.

This does not mean that in countries without these factors in place, MM cannot be integrated into LUP and the building permission process; as we have seen, there are opportunities already for it to be brought about in several of the WP D partner countries. However, for this integration to be more widespread and systematic, the above factors are seen to be very important.

4.1.2 Conclusions

WS Analysis showed that there is wide variation in the level of integration at the current time, and that there are new developments underway in this field. Encouragingly, it has shown that there are existing avenues in many of the partner countries through which greater integration could be pursued. Examples of ways to integrate MM with the building permission process are shown in Table 1 on the next page. It has also highlighted the most important factors in ensuring that such integration becomes more systematic and nationwide.

Table 1 – Most promising approaches for integrating MM with the building permission process

Instrument	*Exists in*	*Description*	*Based on*	*Controlling authority*	*Effect with regard to MM*	*Included in*	*Level of application*
Environmental Impact Assessment (EIAS)	CH	Applicants of new buildings have to deliver an EIAS if more than 300 new parking spaces are requested	Federal Law of Environment	Cantonal public authority	Indirect; if environmental impact is considered to be too high, then number of requested parking spaces has to be reduced, applicant is in the situation of limited offer on parking spaces and has to apply MM strategies	Building permission process	Local level (municipalities)
Transport impact assessment (TIA)	UK, EI, ES, DE, SI, PL, SE	Applicants must show how transport impacts of development will be dealt with – includes mitigation/MM in UK, and (sometimes) SE and EI	Various; not always statutory (e.g. advisory in UK)	Normally, municipality	Concept can be extended from ensuring that development has sufficient access by car to managing access by all modes.	Building permission process	Local level (municipalities)
Maximum parking standards	At national level in UK and CH; at local level in SE, NL, EI	Limits on number of parking spaces that can be provided in new development, sometimes further reduced in areas of high PT accessibility	Various; not always statutory (e.g. advisory in UK)	Normally, municipality, except where standards are national	Can have a powerful influence on how people travel and stimulate introduction of MM at development	Building permission process	Normally local but sometimes national
Conditions on or contracts within building permission process	SE, SI, LI, UK, EI, CH, DE	Conditions and contracts require developers to deliver certain improvements/benefits as part of development process e.g. to fund new bus services	Various e.g. State planning law (UK); National Land Development Law (NL)	Municipality, sometimes advised by next level of government up (e.g. canton in CH)	Very useful for providing MM measures at/around the site, but in most countries, rarely used to do so due to novelty of idea and/or lack of political will	Building permission/land development process	Local level (municipalities)
Infrastructure provision with new development	NL, PL	Developers required to deliver transport infrastructure required by development including links to existing networks	Various	Municipality	In certain countries this is already used to provide PT infrastructure; has potential to be extended to do this and provide walking and cycling infrastructure in all countries	Building permission process	Local level (municipalities)

4.2 WS SIMULATION – discussing potentials for integration at the planning simulation workshops in five European countries

In Working Stage Analysis, the WP D partners' countries (plus Netherlands and Ireland) planning laws and systems were analysed. In line with the research plan, five planning simulation workshops as next research steps were carried out within the WS Simulation. Planning simulation workshops explored the possibilities of the integration of MM in the process of planning of new or renewed buildings and sites in the context of concrete cases, each grounded within an actual planning context.

During the planning simulation workshops WP D team obtained valuable insights in the participants' views and opinion about suggested changes and measures, about the acceptance and perceived barriers for integration and implementation of MM.

Complete report of the WS Simulation is available at http://www.max-success.eu/downloads.phtml.

Methods

Within a planning simulation workshops the main focus is laid on the goal-oriented and planned action (decision making) of the participants for getting more information about human decision making processes within the (simulated) systems and their impacts. It thus can be tested, what could be achieved by organisations or single persons if different courses of action are taken. The focus point is not to identify one single best alternative but to show barriers and limits as well as backgrounds of actions. At the same time the planning simulation workshop aims at clarifying participants' relationship to the project and their freedom of action as well as simulating duties, responsibilities and options for decision making in given framework conditions (Diekmann and Leppert 1978).

Five planning simulation workshops in WP D were conducted between June and August 2008 in Dortmund (Germany), Vilnius (Lithuania), Cracow (Poland), Ljubljana (Slovenia) and Getafe (Spain), all countries where no or only little integration of transport and LUP and/or planning and MM takes place. These workshops all considered the planning and building permission process regarding real sites for large new developments with significant predicted traffic impact on the surrounding area. For the selection of cases some predefined criteria were set. In order to minimise the potential barriers for discussing suitable instruments and measures, some basic preconditions had to be met, like no green-field development at the very outskirt areas of a city or in rural areas and the general existence of a PT network within the chosen city.

The state of the local planning processes for the selected development sites were analysed in further detail and some partners discussed the scope and program with the main stakeholders e.g. transport planning department or the actual developer of the site prior to the actual meeting.

Depending on the local situation, each partner defined the scope for the planning simulation independently. Some partners used suggestions regarding a change in land use plans and transport planning practice to make the planning structure more conducive to sustainable transport and thus to MM (e.g. Spain). Some partners like the ones in Poland and Slovenia discussed also single MM measures for the planned development and the users of the sites, which could be implemented by the developer to cope with predicted transport problems. The local building permission process and suitable regulations and contracts were discussed as well, e.g. in Germany.

A number of local professionals who are involved in planning decisions and site development were brought together for the workshops to discuss how MM might be integrated into the planning process for the site in question. Typically people from the local departments which are responsible for land use and urban planning, transport planning or giving building permission were invited and joined the discussion. Important for the discussion were the invited local (and some regional) PT provider, which participated in all cases.

In these planning simulation workshops the identified best practice MM measures and supporting measures were selected and their transferability to single countries and their planning system were analysed. Existing examples of how to integrate MM and LUP were taken from more advanced countries, where such integration has a longer tradition. Case studies and regulations from England and Switzerland were found especially useful, but also university or businesses travel plans from other countries were analysed (e.g. Austria, Belgium).

In general the planning simulation workshops offered a good mechanism whereby new ideas, solutions and possibilities were discussed in an open atmosphere and more or less free from existing constraints. The informal discussion alongside existing cases supported the participant's critical but realistic appraisal of the suggested solutions. They were free from pressure to produce certain results. The workshops were good starting points for finding suitable solutions for the cases studied.

Planning simulation workshops – detailed overview

The planning simulation workshops were prepared and organised in several steps. Based on the summary of WS Analysis results, the transferability of suitable planning instruments, MM measures and case studies were discussed in general. The countries for the planning simulation workshops were then selected. WP D decided to choose those countries, where no or only some integration of transport and LUP or planning and MM takes place, i.e. Germany, Lithuania, Poland, Slovenia and Spain. In this Working Stage, all WP D partners of the chosen countries were able to conduct a planning simulation workshops, thus five instead of the planned three workshops took place.

WP D planning simulation workshops were arranged around five 'real' development sites, which were carefully selected for further investigation. Thus the second best choice, to discuss a hypothetical case could be avoided. In all countries the case studies / development sites were chosen in order to match some predefined criteria such as large to medium size and significant predicted traffic impact on the surrounding area.

Germany – Dortmund: brown-field re-development for technology park '**Phoenix-West**'

The German planning simulation workshop in Dortmund functioned as a pilot. Phoenix-West was chosen as a case study for a re-development of a brownfield area. The former steel mill site is under re-development and the city of Dortmund aims to transform it into a 'technology park', a high density business area for micro-techniques and related businesses.

The planning simulation workshop took place on 11th of April 2008.

Lithuania– Vilnius: brown-field re-development for mix-use area '**VELGA**'

In Lithuania the planning simulation workshop in Vilnius looked at the brown-field conversation of VELGA. It is aimed to develop the former industrial area into a mixed-use site for shopping and leisure, offices and housing.

The planning simulation workshop took place on 11th of August 2008.

Poland – Cracow: further development of a mix-use area to include an exhibition & conference centre '**Czyżyny-Dąbie**'

The Polish planning simulation workshop concentrated on a mix-use site in Cracow. It will be developed as an area for housing, student accommodations and other university buildings. But the main development in this area is the planned Cracow exhibition and conference centre, including a hotel and shopping centre.

The planning simulation workshop took place on 25th of June 2008.

Slovenia – Ljubljana: new development site for a university campus containing the faculties of chemistry & chemical technology and computer & information science '**FCCT & FCI**'

The Slovenian case study for the planning simulation workshop site is the new university complex which is about to be built close to the city centre of Ljubljana.

The planning simulation workshop took place on 11th of June 2008.

Spain – Getafe: new development site for residential use '**Los Molinos**'

In Spain, the planning simulation workshop in Getafe, a city close to Madrid was completed in the housing district Los Molinos. The main part of the site is dedicated to a development for residential use, some retail and public service is planned as well.

The planning simulation workshop took place on 18th of June 2008

Austria – Vienna - Aspern: new city development site for mixed use **'Seestadt Aspern'**

The site in Austria has been added after all the other simulation workshops and has served more as a demonstration site. It is a whole new city quarter in planning for 20.000 residents and 20.000 jobs. FGM-AMOR has been commissioned to make a mobility concept for this development and connected the expertise from WP D and the experience from the workshops. The planning simulation workshops took place on the 2nd, 16th and 29th October, 20th November and 1st December 2008. As the Austrian site was added at a much later stage results couldn't be fully incorporated.

At the different sites the actual states of the planning processes vary, but in all planning simulation workshops the cities have produced a (general) land use plan and a detailed site development plan (DSDP) for the selected areas. In some cases there are designated developers, which already have prepared a detailed description of technical aspects of the planned buildings, e.g. in Lithuania and Slovenia.

A number of key actors from the public sector as well as private parties were invited to join the country's planning simulation workshops. The participants were briefed about the development and its context, as well as about the concept of MM. If feasible, suggestions were made where to change the actual planning, where and how to change the planning process or planning laws and regulations to offer the possibility to integrate selected MM measures or supporting measures into LUP. The acceptance of changes and suggested measures and the feasibility of the new concept were discussed as well.

During the planning simulation workshops WP D obtained valuable insights in the participants' views and opinion about suggested changes and measures, about the acceptance and perceived barriers for integration and implementation of MM. Thus, a valuable and deeper insight into existing possibilities and barriers for integrating MM into planning in two of the 'Old' and three of the 'New' MSs of the European Union could be gained.

Planning simulation workshops procedure within the WS Simulation

Selection of planning simulation workshops sites

In a first step the countries in which the planning simulation workshops should take place were chosen as described above. Secondly a suitable case study (development site) for each country was selected. To do so, some predefined criteria were set, which are similar to the Swiss example of 'heavily frequented sites' (HFS): significant predicted transport impact at medium or large developments. In order to minimise the potential barriers some basic preconditions had to be met, like the general existence of a PT network within the city.

The sites, scopes and contents of the planning simulation workshops were discussed and approved by WP D partners at the MAX project meetings in Leuven (April 2008) and London (June 2008). The planning simulation workshops took place between June and August 2008.

The German planning simulation workshop was an exception due to its method testing character. In Leuven the German example was presented, showing the whole procedure, in particular organisation, participant list, defined scope and produced input material as well as first results from the discussion itself.

The Austrian site was added at a much later stage, served as a demonstration site and results from it were available much later than was originally anticipated. It was, therefore, not ultimately possible to incorporate it into WP D outputs. However, a summary of the findings of the Austrian site is available on the ELTIS website.

Analysis of legal conditions and defining scope of planning simulation workshops

Existing examples of how to integrate MM and LUP were taken from more advanced countries, where such integration has a longer tradition. Good examples for existing MM measures were identified and suitable case studies selected. Case studies and regulations from England and Switzerland were found especially useful.

Those examples were taken as a source of inspiration to transfer ideas and instruments to the respective country or they were taken as a more or less direct input for the planning simulation workshops to look at the transferability into the planning system or the building permission process.

The analysis of the planning system (WS Analysis) included a first check of legal opportunities for integrating MM and / or supporting measures into the selected countries' planning system. This analysis built the background information to define the scope and the program of each discussion. One aim of WP D was to suggest theoretically suitable MM measures in the planning simulation workshops and to discuss how the integration could be possible within the existing framework. An important question was as well, to discuss the defined barriers in laws and regulations or in other fields and come to a possible solution of how they could be overcome.

The state of the local planning processes for the selected development sites were analysed in further detail and some partners discussed the scope and program with the main stakeholders e.g. transport planning department or the actual developer of the site prior to the actual meeting.

Depending on the local situation, each partner defined the scope for the planning simulation workshop itself. Some used suggestions regarding a change in land use plans and transport planning practice to make the planning structure more conducive to sustainable transport and thus to MM (e.g. Spain). Some discussed single MM measures for the planned development and the users of the sites (e.g. Poland and Slovenia). The building permission process and suitable regulations and contracts were discussed as well (e.g. Germany).

Selection and invitation of participants

All planning simulation workshops dealt with real cases, thus the participants were mainly from local level and the majority was from the public sector. Only few private parties participated, although the main developers were present.

Typically people from the local departments which are responsible for land use and urban planning, transport planning or giving building permission were invited and joined the discussion. Important for the discussion were the invited local (and some regional) PT provider, which participated in all cases.

Where feasible, the actual planners who produced the land use / DSDP were invited as well. In some cases they are (private) planning consultants (e.g. Spain), in some they are the responsible persons within the cities planning departments (e.g. Germany).

From the 'private' side, namely the main developers were invited. In Poland, Lithuania and Slovenia the main area of the selected case study sites will be used and developed by only one developer. They were invited and were present at the discussion. In Germany only some small developers were involved in the project, and only one of this group (an architect) was present. In Spain, the land-promoter and land developer was invited and took part, but the actual building contractors (developers) were not yet identified.

In Poland, representatives of cycling organisations were present, in Slovenia and Poland student representatives participated as well.

Higher level public authorities participated only in some of the planning simulation workshops, in Slovenia a representative from the national level participated; in Spain the national energy agency was involved in the discussion.

Programs and inputs for the planning simulation workshops

The programs for the one day discussions were developed alongside with the input material for the planning simulation workshop, which was presented to the participants. All participants received the program prior to the

date of simulation workshop. In Slovenia some smaller personal briefings took place with each group of participants. This was found to be very useful in discussing the planned scope of the simulation workshop and dealing with the expectations of the invited persons.

All programs included an introduction round, short presentations of the MAX project and of the scope and aims of the planning simulation workshop itself. In most countries this part was followed by general information about MM, to raise the awareness and knowledge about this concept and support a common understanding for the following discussion.

Another basic and necessary input was the information about each site and the state of the planning and development. In the presentations the focus was laid on the mobility aspects of the planned development and about the grade of integration of transport and land use planning for the given site. Here the forecast of numbers of trips, which will be generated by the development and the number of planned parking spaces offered a good starting point for the discussion in all workshops.

Such background knowledge about the planning system and the status at the given site is needed to involve participants, who are not (yet) directly involved in the planning or building permission process. In some planning simulation workshops these inputs were made by the respective participants themselves e.g. cities planning departments or developers.

The predicted transport impact to the surrounding neighbourhood and other expected transport problems were addressed by the MAX partners as well.

The situation which would occur without a change in plans built the starting point, then in most cases MM measures were introduced as part of possible new solutions for the problems of the actual site.

The discussions then got into more detail about the planned development and suggested solutions, depending on the country and the case study, the discussion focussed on different aspects and included pre-defined leverage points within the legal framework, examples of MM measures and planning instruments and principles.

The planning simulation workshops offered a mechanism whereby new ideas, solutions and possibilities were discussed more or less free from existing constraints.

Last step: summary of results and review of method

All five partners, who were involved in the planning simulation workshops prepared separate country reports. They described the planning framework, the development site, predicted traffic and transport problems, scope, program and input for the discussion as well as results of the planning simulation workshops.

A short description about lessons learnt and recommendations for improving the method were included as well.

The next and final step for WS Simulation was the summary of the results and a review of reported experiences in order to feed the last WS Guidelines with relevant input. This work was finished in November 2008.

Results

The planning simulation workshops were a diverse set of cases but all shared the common characteristic that they referred to actual and not hypothetical sites. The possibility of using the latter had been considered but all partners were able to identify real sites for their workshops. The planning simulation workshops also shared the characteristic that their participants all found the process valuable. From the process, some common findings about the integration of MM into the building permission process can be drawn, and these are summarised below.

Acceptance and transferability of MM into the planning process

The general question of transferability from other places or countries' experiences remains – to a certain degree – unanswered and cannot finally be solved within such a workshop. To discuss transferability seems to be more difficult when concepts, measures and legal details are not well known and new to the participants. Nevertheless, the fact alone that there are good examples to be found is a starting point for introducing these kinds of new solutions. Generally, MM and its measures are accepted by most participants, but the feasibility and direct transferability for their own country, town or development is doubted. Another reason for scepticism in regards to transferability and effectiveness of measures are the poor preconditions for car alternative modes in some of the selected case studies. New EU MS' participants (from Poland, Lithuania and Slovenia) seem to be especially reluctant to accept solutions which are coming from western countries, good practice from those countries could be a big step further towards a wider acceptance of MM.

A direct transfer is difficult due to differences in (mobility) culture as well. Those differences are expressed especially related to bicycle use and bicycle parking facilities. In some countries bicycles are use as an everyday mode, in some they are not widely used or mainly for leisure activities. To ask for sufficient bicycle parking for new developments is in some countries like Germany included in respective laws and regulations. Such standards are seen as hard to transfer to countries where bicycles are not widely used as every day transport means (e.g. Lithuania).

Some partners stated that in their countries, the car has a great importance as a status symbol. Measures which aim to limit car use or car parking spaces are in many countries quite unknown and are seen as the very unpopular ones. Some participants doubted that such measures would be supported or enacted by politicians, even if it is accepted that these measures can be very supportive for achieve a change in transport behaviour towards less car use.

Accessibility of sites considered

It was found that in most of the development sites, the integration of land use and transport is not very good, especially the planned connections to the existing PT network and bicycle or pedestrian routes are in most cases of poor quality. The access to and from surrounding neighbourhoods or major destination points (e.g. train stations) within the city is rarely taken into consideration when preparing the DSDP. Thus mobility needs of future users, especially of those without a car and the generated traffic are not sufficiently taken into consideration in planning process. It was perceived that many land use planners didn't seem to be aware of user needs and emerging transport problems. Alternative modes of travelling, i.e. other than car, are normally not taken into consideration. On the other hand the planning for a special site does normally not need to deal with further connections to other parts of the town, it's seldom within the scope and responsibility e.g. of the single site development plans.

Here, the problem of poor preconditions for MM comes into focus. MM alone can't solve all problems of accessibility, a minimum of infrastructure and namely PT supply is needed to suggest additional measures which are based on information and promotion about car alternative modes and on cooperation between different stakeholders. This is especially true in countries, where PT (infrastructure, supply and organisation) is seen as the exclusive responsibility of the public sector.

This relates to the assignment of public and private tasks within the countries planning system. Problems emerge especially, where the public sector seems not to be a reliable partner e.g. for providing the planned PT supplies. In the planning simulation of Vilnus this seems to be the case, there the private developer is not willing to finance the solution of such problems (i.e. bad PT accessibility) because if the city would realise it's own plans, the PT accessibility would not be such a big problem. A strategy for and the implementation of a network of comfortable and safe pedestrian and bicycle paths is also seen as a task for the whole city. Nevertheless the local connections to major destinations like train stations, main shopping areas for daily consumer needs, schools etc. should be considered in the planning of the new or renewed development or a development area.

Parking standards

In most countries the parking standards for new developments are minimum standards. For those it mostly seems to be a totally new concept to offer a reduction of those numbers if other measures are implemented instead. The

aim of such a reduction is to minimise transport problems for new developments and to push the use of car alternative modes. This matter was discussed in all workshops. In most cases, the parking regulations are not completely under the responsibility of the local authority but these standards are set by higher level of government. E.g. in many German states, some flexibility is possible in order to take into account local conditions like the quality of accessibility by PT.

In contrast to the other workshops, where high numbers of planned parking spaces were discussed as one of the major problems, the small number of parking spaces was one of the main problems for the site in Ljubljana. Here, a small number of car parking spaces was accepted within the building permission process without an obligation to implement additional measures. The planned parking spaces will not fulfil the expected demand, therefore additional efforts are needed to cope with the situation that no parking spaces will be available for the students of the new university campus. To avoid a massive spill-over to the neighbourhood (search traffic & parking) the need for implementation of additional measures was discussed and accepted during the planning simulation workshop.

Developers contributing to MM and obligations on developers to undertake MM

The suggestions that developers could contribute to an improvement outside of the development area is generally seen as a problematic task which is not accepted by the private party. Furthermore, in most countries this suggestion is not legally possible within the existing planning laws and regulations. Developers were, perhaps not surprisingly, not particularly supportive of being asked to pay for measures that they do not currently fund. However, in some cases, including Poland and Spain, it was noted that the DSDP could, with sufficient political will, be modified to require developers to provide MM measures. However, this is perceived as risky, and leadership from higher levels of government is required in order to make MM a more accepted and common part of the LUP and building permission process.

In none of the five countries exists an obligation to include MM into the planning process but in most of them there are some points within the planning process where either the preconditions could be improved or MM could be negotiated with the developers on a voluntary basis. For example, in Dortmund (Germany), there exists the possibility to negotiate, to a certain degree, the number of parking spaces required at a new development between the city authority and site developer. Here, the local conditions have to be taken into account and a reduction of the number of spaces in exchange for the adoption by the developer and site occupier of other measures e.g. a travel plan could be possible. But, as long as there are no higher level standards, any obligation to reduce parking spaces and use MM instead was rejected also in the German workshop. These kinds of solutions are only accepted as a voluntary and additional option to existing regulations. The main barrier seems to be fear of competition between cities / sites for new developments and businesses. The participants perceive a strong competition between the cities and fear to weaken their cities' attractiveness if they would oblige the developer to undertake additional efforts in order to minimise transport from new developers.

Additionally there are many open questions about how to secure and guarantee such commitments and about the monitoring of the effectiveness of agreed MM measures. In Slovenia, the traffic impact assessment process is an opportunity to negotiate about accessibility improvements to the site, and not only access by car.

However, once again, the use of these "leverage points" depends a great deal on local knowledge and political circumstances. Given that the simulations all showed a quite low level of knowledge about MM in general, let alone MM in the planning process, then the research project MAX can have an important role in enhancing knowledge throughout the EU.

Usefulness of the planning simulation workshops

The planning simulation workshops were generally viewed as a useful exercise by both WP D partners as well as by workshop participants. They were viewed as a useful 'tool' to introduce and/or raise awareness about MM and to prompt discussion about the integration of MM within the planning process. The value of similar workshops was identified to be most useful at the initial (early) stages of the planning process.

5 Outputs

The final step of WP D was dedicated to the elaboration of outputs - guidelines and recommendations. The outputs haven't focused only on the integration of MM into the planning and building permit process of a new building but also on the better integration of land use and transport planning. It is considered as a basic condition for an effective take-up of MM at the site level. This is because the better integration of land use and transport planning guarantees that the accessibility to a new site is given with all sustainable modes and not only with the car. The research done in the analysis and also the results of the planning simulation workshops has shown that there is a considerable requirement in knowledge transfer and also in establishing good preconditions for the integration of MM at the site level.

WP D outputs were subdivided into 3 levels:

Part A to C: Guidelines for the better integration of land use and transport planning and for the integration of MM in the planning and the building permit process of new building.

Part D: Tools / Instruments as active support for the awareness raising at the different target groups.

Part E: Recommendations / Summaries as support for the awareness raising at the different target groups in the form of a short list with the most important key points to be considered.

Part D and part E have to be seen as kind of spin-off products of Part A to C. The full set of outputs is shown in Figure 2, below

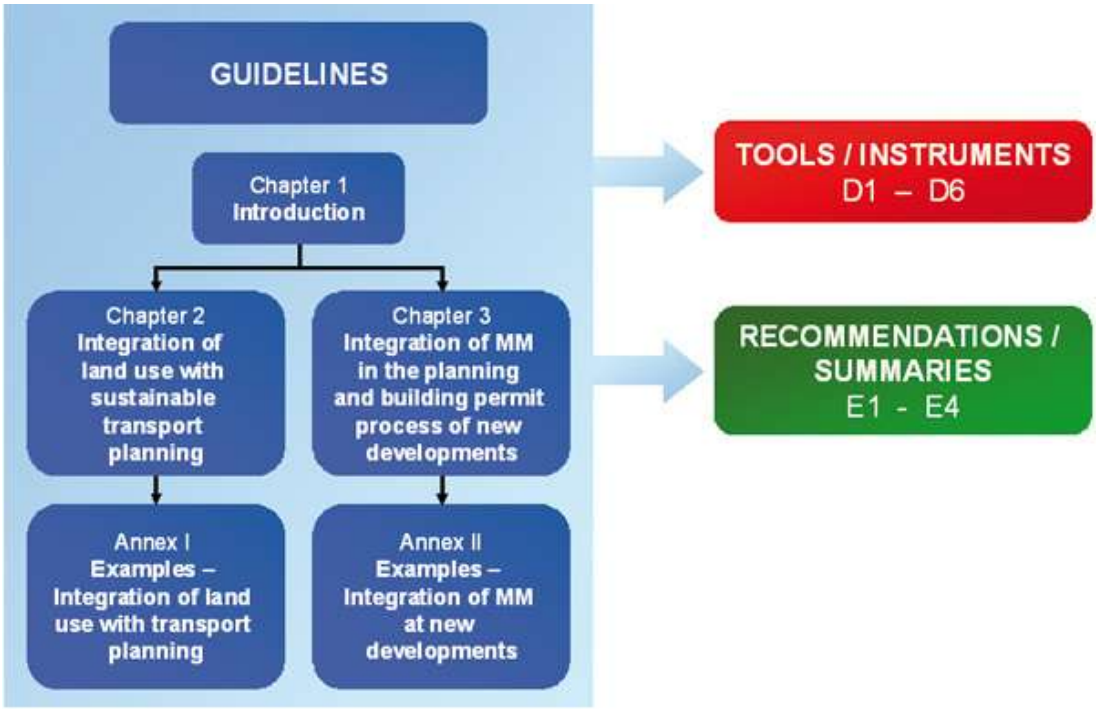

Figure 2: Structure of WP D outputs

This chapter summarises the structure, content and potential users of the outputs, which can be downloaded from http://www.max-success.eu/downloads.phtml.

Main Target Groups

WP D outputs are dedicated to different *target groups*:

- **Transport, land use and environmental planners working in the national and regional administrations (especially Guidelines)**

  WP D output should encourage them to bring forward new policies or adaptexisting policies for the better integration of land use and transport planning.

- **Transport, land use, environmental planners and departments in the local administrations involved in the stipulation of the building permit processes (especially Guidelines)**

  WP D output should encourage them to bring forward new policies or adapt existing policies for the integration of land use and transport planning. Furthermore they should receive detailed advice on how to incorporate MM in the planning and the building permit process.

- **Local politicians (especially Tools / Instruments and Recommendations / Summaries)**

  WP D output raises awareness of local politicians with regard to the benefits of integration of MM in the land use and planning and building permit process.

- **Developers (especially Tools / Instruments and Recommendations / Summaries)**

  WP D output will raise awareness of the benefits of integration of MM at new developments in general and also in order to fulfil requests from the public administration during the planning and building permit processes. Furthermore it will show the possibilities (MM measures) that developers have.

- **Universities, Planners etc. (all outputs)**

  WP D output helps to integrate the aspect of integration of LUP with transport planning and MM in the education of future transport, land use and environmental planners.

Methods

The developed outputs where based on the findings and results of the former research steps. Especially the results of the common framework analysis showed that there are several policies to enhance the integration of LUP with sustainable transport planning on the one hand and MM in the planning and building permission process of the other. The simulation process was usefull to show and raise awareness about possiblities of integration of MM at specific cases.

Common analysis and simulation showed that there exists a wide range of policy as “tackle points” for enhancing integration. According the existing framework conditions in a country, region or municipality in terms of legislation, planning instruments, political acceptance and willingness a certain policy strategy maybe more realizable then other.

For that reason the guidelines as the core part of the outputs realized in WP D where developed as practice oriented as possible. That means that the focus was lead to show existing policy strategies and examples where those policies have been applied. Planning practioners have then the opportunity to decide themselves, which of the presented policies can be applied easy or with some changes of existing framework conditions.

The guidelines, as already said, are the core port of the outputs. The tools/instruments but also the recommendation/summaries are condensed contents of different parts of the guidelines. They where produced as helping instruments especially for planners of municipalities or regions which

- have to convince politicians and developers about the benefits of MM as an approach to promote sustainable transport at the site-level,
- have to show to the politicians but also to other planning departments with which kind of policies the consideration of MM at the developers, land-owners and other site-occupiers can be enhanced.

The policies presented in the guidelines where collected from the WP D partners and principally in their countries. Starting points where the results of the former research steps where some policies have been already briefly described. Due to fact that WP D team members where already experienced in the topic further promising policies could have been investigated. All the existing policies and cases of application have been described in a systematic way in form of a data-sheet.

External review of outputs

Draft versions of WP D outputs were send to subcontracted external reviewers for revision and comments. Each of the below listed reviewers received a questionaire in order to give a structered overview of the outputs. All the comments were collected, organised and discussed during the two telephone conference of the core WP D team in July 2009, some remaining comments were solved at the WP D meeting in Edinburgh in August, 2009. Subcontracted external reviewers were:

GERMANY

Dr. Volker Blees, Verkehrslösungen, Darmstadt, volker.blees@verkehrsloesungen.de

SPAIN

Santiago Peñalba, urban planner, Municipality of San Sebastián, Santiago_Penalba@donostia.org

SLOVENIA

Luka Mladenovič, urban planner, Urban Planning Institute of the Republic of Slovenia, Ljubljana, luka.mladenovic@uirs.si

Andreja Kuzmanič, urban planner, ZUM urbanizem, planiranje, projektiranje d.o.o., Maribor, andreja.kuzmanic@zum-mb.si

Mateja Kukovec, transport planner, ZUM urbanizem, planiranje, projektiranje d.o.o., Maribor, mateja.kukovec@zum-mb.si

USA

Eric N. Schreffler, Transportation consultant, San Diego, estc@san.rr.com

Peter Valk, consultant, Transportation Management Services, Pasadena, valk@tms85.com

WP D team also received valuable inputs on outputs from the Swedish workshop on MAX results organised by Trivector in spring 2009 and from the Training workshop: »How to better integrate Mobility Management with urban planning« held at ECOMM 2009 in San Sebastian, Spain.

Transferability of WP D outputs

The key tests of transferability in MAX WP D were a cross-national analysis of planning systems and the planning simulation workshops, in which the idea of integrating MM with the building permission process at specific sites in five partner countries was explored.

There is evidence from these two pieces of work that even in countries where MM itself is a very new idea, consideration is already being given to integrating it with the LUP process: examples include Slovenia, Spain and Poland.

An important caveat on our findings on transferability is that it is impossible within the scope of MAX WP D to give detailed guidance on the legal feasibility of transferring practice from one planning system to another; this is a key issue, but one that we have to leave to the user of these outputs if they have a strong interest in applying practice from another country to their own.

From this research, WP D team concluded that:

- There are many similarities in planning systems, particularly in the ways that Local Plans and DSDP are made; and in the responsibilities of different levels of government in the planning system.

- This means that *there is "space" for the integration of MM in the planning process of many countries*, through negotiation at least; and this can be done on a municipality-by-municipality and case-by-case basis: the integration of MM with the planning process (through negotiation) is something that can be adopted easily and can be extended incrementally.

- Therefore, many of the means we have identified to include MM in the planning process *are transferable,* but they may only be transferred *in the first instance to few developments* where one or two site-occupiers or local politicians have a particular interest in or knowledge of MM, or where management of transport impacts of new development is a particularly high local political priority.
  For example, it is possible to negotiate a travel plan for a new development in Slovenia, if local interests supported the idea and where there are people involved who have some knowledge/awareness of the concept – but this may only be the case for a few developments, initially at least.
  In contrast, in England, this is a more widespread practice because it is now supported by local and national policies as well as, now, by some years of practical experience of implementing these policies.
  Nonetheless, the basic concept can be seen to have been transferred from England to Slovenia. The challenge for Slovenia is then to make this practice one that is normal and consistently applied, rather than one that is ad-hoc and one-off.

- Therefore, *to begin transferring* experience and practice from one country to another, the key requirements are a *knowledge of that practice* (e.g. what is a travel plan and why it can realise benefits when integrated into a new development) and the *political will or interest* to make the transfer and try something new.
  As noted earlier, the interest or will may sometimes be amongst civil servants rather than politicians: for example, the first steps in integrating MM with the planning process in Nottingham, UK, were taken because of the interest and knowledge of local authority staff, not politicians. How and how far the idea of integrating MM with LUP is well known and accepted is therefore crucial to its initial take-up.

- The *next stage in policy transfer* is for the policy to move from one that is adopted and implemented in an ad-hoc way to one that is *institutionalised within the land use/transport planning system* of a country or region. To do this, changes *in regional and national policy and law* may be required. This therefore needs lobbying and awareness-raising at the national and regional level; and some political recognition that such policies are beneficial – as there has been in Ireland or Sweden, for example.
  In the UK and Switzerland, the integration of MM and LUP occurs in practice both because policy exists, but also because planning law gives higher levels of government some control over municipalities in the areas of plan-making and the granting of building permission. It is possible that in countries where there is less control by higher levels of government, the implementation of any national/regional policy on integration – if it exists - will be more variable (the converse of this of course is where national government has some influence over local government and national government policy does *not* encourage integration of MM and planning).
  How to adapt the policy or practice is a matter for local judgement, based on knowledge of how it is used in another country, and what the differences are in the new country. From the limited experience of the MAX planning simulation workshops, it seems that policies can be transferred without very much adaptation.

- Finally, and importantly, *in certain cases there are legislative barriers* to directly transferring policies: for example, Slovenian national construction by-law would have to be changed to allow the use of maximum parking standards for residential use. In this situation, creative thinking is called for; or the policy may simply not be transferable and this must be accepted.

In the case of policies explored in MAX WP D, we concluded that many are capable of being transferred and that they do not require being greatly adapted for transfer to work. For their use to become widespread in whole countries or regions to which the policy is transferred, regional or national policy guidance is required, together with requirements or incentives for municipalities to use it in their planning activities.

5.1 Guidelines for the integration of Mobility Management with Land Use Planning

Aimed at planners, planning consultants, local authorities, developers and university planning schools, these guidelines give practical advice on and real life examples of how to better integrate sustainable transport with LUP and thus how to make MM a core part of the building permission process for new developments. There is also an appendix with 75 case studies of integration of sustainable transport and land use, and of MM in the building permission process.

The MAX team is convinced that the best way to achieve the mentioned objectives is not to strengthen on theoretical reflections but to show to the target groups of the guidelines which kind of promising policies and examples of their implementation already exist in practice. This approach makes the guidelines more concrete. The readers start from practical examples where they can decide if the framework conditions in their “own case” allows to act in a similar way with much or less adaption or if it is not possible at all because of hindering framework conditions, which are e.g. politically almost impossible to overcome.

In this sense the question of transferability of the illustrated policies can only be treated in a very broad view by this guidelines because it would be “out of proportion” to consider the legal, planning or other framework condition of each country, region or municipality within Europe in order to find tailor-made policies. This process of judgement of the usefulness of the guidelines has to be made by the readers themselves.

Target groups

These guidelines are addressed to different target groups, involved in urban planning and development:

- *Planners* working in land use, transport or environmental planning departments in national, regional or local administrations.

  The illustrated policies serve as base for the further development or the launch of new policies for the better integration of land use with transport planning but also for the amendment of existing laws, planning instruments, etc. which are promoting MM at new developments. Planners working in the public administrations can bring forward adequate policies where at the end the politicians have to decide on it.

- *Personnel of units* in the local and regional administrations involved in the planning and building permit process of developments.

  These guidelines can help these people to understand where the processes with which they work can be modified, often with little administrative effort, to better integrate transport, and MM, with LUP – and so reduce the transport problems that often arise when new developments are built.

- *Urban and transport planning consultants as MM experts* working for public administrations or for developers / owners of developments.

  In the framework of developing new or revising existing land use plans, parking regulations, MM strategies or other types of policies public administrations are often relying on the expertise of private consultants. Urban and transport planners as MM experts help developers or owner of developments to prepare requests for building permissions or DSDP. For planners as for MM experts these guidelines serve as fund for further improvement of their work towards their clients.

- *Universities, Schools of Planning, etc.*

  For faculties within Universities dealing with LUP, transport planning or MM these guidelines serve as fund for the development of tailor made study courses, seminars, etc.

5.1.1 Overview of the Guidelines

This section presents overview of the Guidelines' content by summarising its chapters. The structure of Guidelines for the Integration of MM with LUP is shown in Figure 3, below

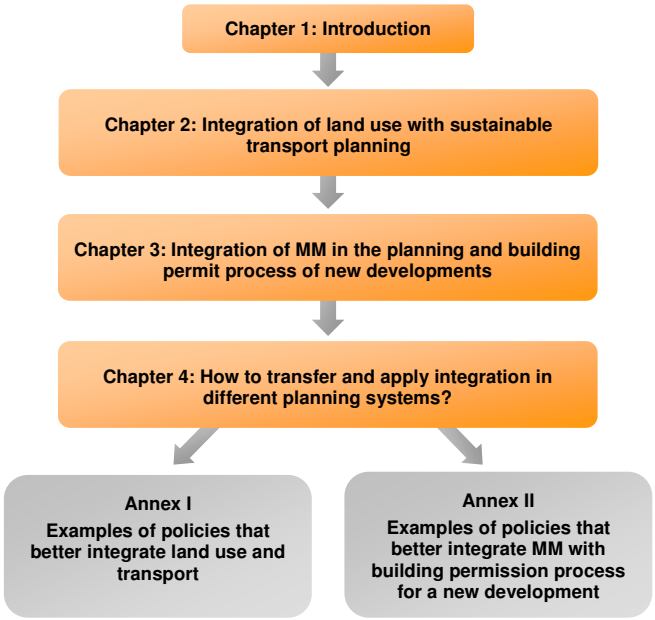

Figure 3: Structure of Guidelines for the Integration of Mobility Management with Land Use Planning

1 INTRODUCTION

Integration of Mobility Management with Land Use Planning: What is it about?

Starting situation – what is the problem? Description of problems of non-existing integration of land use and transport planning with regard to traffic generation. Description of problems of car-oriented planning at new developments, etc.

Integration of land use planning and transport planning. What is land use and transport planning? What is integration and what are the benefits in social, economic and environmental terms?

Integration of MM in the planning and building permit process. What is MM? What is site-based MM? What are the measures? How can it be incorporated in the process and what are the benefits?

What do the Guidelines cover and what not?

Structure of the Guidelines and how to use it. Background of the information and framework conditions of the elaboration, and their transferability.

Who are the Guidelines for?

Target groups: Description of the target groups of the output and in what way they can use the output to their advantage.

2 Integration of land use planning with sustainable transport planning

Why integrate land use and transport?

Starting situation – why integration? For MM at the site level to be effectively integrated into the building permission process, it is important that, as far as possible, sites are located in places where they can be accessed by a variety of modes. MM at the site is made easier, for example, if it is located close to major PT routes. This is a task of the LUP system and is discussed at more length in Chapter 2 of described guidance. If this precondition is not satisfied, it does not mean that MM at the site level cannot work, but it becomes more difficult, and measures such as encouraging cycling and PT use may be less relevant than, for example, car sharing or shuttle buses.

Policies with the potential to better integrate sustainable transport with land use planning

Summary and description of policies. This section first provides a summary of all policies and then further sub-sections describe each policy in detail and illustrate them with a number of actual case studies. Described policies are presented below.

Policy guidelines - planning policy guidelines are developed by regional or national government in many countries to influence local government land use plans and building permission decisions. Guidelines can be written to encourage the integration of land use and sustainable transport; and to encourage local government to seek MM measures in new developments.

Policies deriving from environmental laws - in some countries there are environmental laws that have a strong influence on the content of local plans and/or building permission decisions. For example, EU law requires that cities meet certain air quality thresholds; MM measures for a new development could contribute to this.

Plan-making and plans - local plans set out the locations for new developments in different land use categories, as well as sometimes for new transport infrastructure. Plans can be drawn up in such a way so as to promote / encourage the use of sustainable transport. For example, the location of different land uses like housing or retail and the design of the area (footpaths, a limited number of on-street parking spaces, etc.) will influence how people choose to travel. Thus, these plans have the potential to better integrate land use and transport.

Functional/organisational integration - LUP can influence how people travel. Therefore it is important that land use planners understand how this can happen, and are generally made aware of transport issues. One way to achieve this is to ensure that transport and land use planners actually work together and are able to comment on and influence each other's work.

3 Integration of Mobility Management in the planning and building permit processes of new developments

Introduction

Starting situation – what is site based MM and why integrating it in planning and building permit processes of a new developments? Introduction section describes what is site based MM, what are common measures used, why integrating MM in planning and building permit processes of a new developments, main benefits for site owners, developers and tenants, and what are strategies for municipalities to engage with developers.

The Detailed Site Development Plan

Description of the mechanism for integration. This section describes the DSDP as one of two mechanisms with which MM can be integrated. DSDP can be an important communal planning instrument, which exists in many countries and can also include (though until today more theoretically than practice of many countries) a special regulation in regards to MM.

The building permission process

Description of the mechanism for integration. The process to obtain building permission is another mechanism with which MM can be integrated. It can be rather complicated process and of course it can differ not only from country to country, but also from municipality to municipality. For that reason the main steps of the process are described with the case of the city of Zurich in Switzerland.

Promising policies supporting the integration of Mobility Management

Summary and description of policies. Here promising policies and examples are presented on how this integration can be brought about. Described policies are presented below.

MM advice during the planning or building permission process - before the documents for request of permission of a DSDP or a new building are delivered to the public authority for examination, there will be contact between the authorities and the applicant. During this period of contact, verbal or written information on MM from the local authorities to the applicant would be a simple strategy to raise the developer's awareness.

Securing MM through negotiation - the inclusion of MM as a topic of negotiation would increase the chance that developers would adopt this strategy in organising the traffic generated by the new development. For example, the local authority could show willingness to compromise with regard to the desired amount of car parking spaces if the developer is willing to charge parking fees and to build a large number of bike parking facilities.

Securing MM through inclusion in the parking regulation - the integration of a new article in local parking regulations defining that at new developments of a certain size the developer has to provide a Mobility Plan (including binding targets, measures and controlling/and monitoring mechanisms) would enhance directly the implementation of MM.

Securing MM through inclusion in planning conditions and obligations - a requirement to adhere to certain planning conditions and obligations is a normal process with which an applicant for building permission is confronted in many MSs. MM could also be integrated into such conditions. To ensure that all municipalities require MM, its inclusion in planning conditions developed at a supra-local level is recommended wherever possible.

Promotion of car-free housing - to give municipalities the possibility to promote car-free housing, the relevant laws and norms (parking regulations, planning and building laws) should include special regulations for car-free or car-reduced residential areas. There, the number of parking spaces provided can be much less than the one normally required, as long as certain conditions are fulfilled. Local plans are important pre-requisites for allowing such a reduction within the building permission, as they define potential location and design of such areas (e.g. near PT stops, with good cycling network).

Access Contingent Models for regulating car traffic at multifunctional developments – this is a promising strategy to reduce car-traffic on big sites like shopping centres or sports stadiums, which normally generate large numbers of car trips. The idea is to limit the maximum number of car-trips permitted to and from the development by defining a contingent that may not be exceeded during a certain time period. The sanctions to be applied in the situation that this number of trips is exceeded must be fixed in a contract between the developer and the local authority. The contract forms part of the building permission.

Encouraging the adoption of MM through environmental legislation - in certain countries the Environmental Law requires that at development of a certain size or with a certain requested number of car parking spaces the applicant has to provide an EIA study with the request for building permission or with the request for an approval of a DSDP; this can be used to secure MM measures to mitigate the impact.

Maximum parking standards - parking standards are usually defined in planning authorities' parking regulations and normally define the *minimum* rate of car parking spaces per type of use within a development. They are the reference for a developer in calculating the amount of car parking spaces that must be provided at the new development. To invert the minimum into maximum rates can significantly reduce the amount of car-trips, especially at developments which are planned in dense urban areas with good alternatives to the car and no alternative parking spaces.

Parking pay-off – this is a procedure which is applied if a developer cannot build the required parking spaces at the development itself or in the general area. In this case he has to pay an amount of money to the local authority. This money is normally used to build parking spaces, but in some European states, it is also used for PT or bicycle infrastructure. Another promising option would be to use the money for "soft" MM measures for the new development.

Monitoring and enforcement of Mobility Management secured through the building permission process

How to monitor outputs and outcomes? This section presents ways to monitor and measure the outputs or outcomes of MM secured through the building permission process.

4 How to transfer and apply integration in different planning systems?

How to transfer? In this chapter some recommendations are made on how users of this guidance might proceed to apply it in their own country. These recommendations are based on observations of how MM has become integrated with the planning system in Switzerland and the UK; and of how the idea was received when it was discussed in planning simulation workshops in countries where it is very new, such as in Spain, Slovenia, Poland and Lithuania.

Transferability

Recommendations on transferability are based on two key tests in MAX WP D, a cross-national analysis of planning systems and the planning simulation workshops, in which the idea of integrating MM with the building permission process at specific sites in five partner countries was explored.

Recommended steps towards integration of MM and LUP

Here are presented recommended steps to be taken by various levels of government towards integration of MM and LUP.

Annex I: Integration of land use with transport planning

Annex I presents 11 examples of policies existing in practice that support the integration between transport and land use planning. Each example is described in detail in form of a sheet.

Annex II: Integration of Mobility Management at new developments

Annex II presents 27 examples of practical policies that support the integration of MM in the planning and building permission process of new developments. Each example is described in detail in form of a sheet.

5.2 Tools / Instruments (Part D)

Tools and instruments were developed as active support for the awareness raising of different target groups for the integration of MM in the planning and building permit process.

- **D1: What is site-based Mobility Management?**

  The power-point presentation is targeted at politicians (and developers) and serves to explain the content of MM, its application at the site level and its benefits.

- **D2: How can Mobility Management be included in the planning and building permission process of a new development?**

  The power-point presentation is aimed at transport/ land use planners of cities and regions, people working in the environmental section, as well as for departments which are directly involved in the planning and building permit processes. Beside content of MM at the site-level, examples, etc. it shows at what stage of the planning and building permit process and how the developer can be encouraged or coerced into considering MM measures.

- **D3: User guide for a training course.**

  This training course manual is dedicated for public administrations at local and regional level and is meant to spread knowledge of the results of WP D and raise awareness about the reasons for, benefits and ways of integrating MM into LUP. It also helps disseminate the WP D outputs at the local and regional level and can be used to raise awareness about integration of MM into LUP among politicians and practitioners at higher governmental levels (e.g. national, European).

- **D4: User guide for planning simulation workshops: solutions for integrating Mobility Management into local planning.**

  The purpose of this document is to give guidance on how to organise and hold a planning simulation workshop and to use it as an opportunity to raise awareness about MM and/or discuss possibilities of integrating MM into local LUP and building permission processes. The user guide includes a short description of the most important steps in the procedure, a prototype programme, the participants that should be invited, their role during the workshop, and the kind of results that can be expected.

- **D5: Compendium of site based Mobility Management measures.**

  The compendium of site based MM measures is dedicated to developers, employers, consultants and public authorities. It gives a quick overview of the possibilities that site-occupiers have to (re-) organise their traffic they generate in a more sustainable way.

- **D6: Examples of contracts between public administration and developer.**

  This document provides existing examples of contracts between public administrations and developers in the framework of applications for building permission and the process of developing a DSDP. The two examples presented serve as a base for public administrations that wish to develop their own contracts in order to enhance the consideration of MM measures by developers applying for building permission for a new development.

5.3 Recommendations / Summaries (Part E)

Recommendations / Summaries were developed as support for the awareness raising at the different target groups in the form of a short list with the most important key points to be considered.

- **E1: Integrating Land Use and Sustainable Transport Planning: Promising Policies**

  A short list of promising policies for integrating land use and sustainable transport planning was produced addressed to administrations of land use, transport and environmental planning on the national, regional and local planning levels.

- **E2: Integrating Mobility Management with the Building Permission Process: Promising Policies and Examples**

  A short list of promising policies and examples for integrating MM with the building permission process was produced addressed at administrations involved in the planning and building permit process of a new development.

- **E3: Site-based Mobility Management: A Brief Overview**

  This recommendation gives a quick overview about site-based MM and offers a very brief description of benefits and, cost of MM measures as well as the process for their implementation. It is targeted mainly on developers.

- **E4: Integrating Mobility Management and Land Use Planning at the Local Level: A benefit for the site-actors and the local authority**

  This recommendation is addressed at local politicians. It gives a brief overview of site-based MM; it is aimed at local authorities that want to tell their politicians about this new mobility strategy.

6 Dissemination

Dissemination during the run-time of the project

In the table below main dissemination activities of the WP D are presented. For more detail see WP 5 final report.

Table 2 – WP D dissemination activities during the run-time of the project

Date	Type	Type of audience	Countries addressed	Partner/ involved
nov. 07	Presentation at Environmental Protection in Urban Planning Conference in Krakow with the paper: "Role of mobility management demands on environmental protection in land use planning"	Researchers	Poland	Uni Krakow
apr. 08	Presentation at the Transport Research Arena Europe 2008 in Ljubljana with focus on MAX WP D approach to integrate Mobility Management into the Spatial Planning (http://www.tra2008.si/)	Researchers, Consultants, Policy makers	EU wide	Uni Maribor
may 08	Presentation at 7th International Conference "Environmental Engineering" in Vilnius (22-23 May) on WP D WS1 findings. (http://www.vgtu.lt/confe/Enviro2008/)	Researchers	CH, A, LI, EE, UK, NL, BE, D,	VGTU NU Napier
jun.08	Presentation at ECOMM 2008 in London, 4-6 June 2008. NU/Maribor presented in workshop on WP D findings, FGM-AMOR generally on MAX in Plenary, ILS in workshop on integration of MM in site development (WP D) and synergo presented a case of Sihlcity, Zurich (www.epomm.org/ecomm2008/ecomm_presentations_london.html)	Researchers, Consultants, Policy makers	Over 20 EU countries	FGM-AMOR NU Napier ILS Uni Maribor synergo
oct. 08	Presentation and paper on WP D findings at the TRANSPORTATION AND LAND USE INTERACTION 2008 conference, at the Polytechnic University of Bucharest (Bucharest)	Researchers, Consultants, Transport experts, Policy makers	SE Europe	Uni Maribor, NU, Uni Krakow
oct. 08	Papers and presentations in the Urban and Transportation Conference “Logical structure of urban form” in Krakow, Poland (16-17 October 2008)	Researchers, Consultants, Transport experts, Policy makers	Poland	Uni Krakow

dec. 08	Presentation of Sihlcity case study at Kaleidoscope regional conference on means to reduce CO2 emissions, Bilbao, Spain	practitioners	mainly Spanish	synergo
jan.09	Participation in Civitas II Final Conference - the leaflets about MAX activities were printed and presented.	Researchers, Consultants, Transport experts, Policy makers	EU countries	Uni Krakow
feb.09	Presentation at the Third Conference of the International Academic Group On Planning, Law And Property Rights (PLPR), 11-13 February 2009, Aalborg, Denmark: "Cross-national comparisons of integrating MM and land use planning in the EU and Switzerland: negotiation or enforcing public-private cooperation in the development process?	researchers	worldwide	NU Napier ILS Uni Maribor Synergo
may 09	Presentation at ECOMM 2009, 13-15 May 2009, San Sebastian, Spain: "Cross-national comparisons of integrating mobility management and land use planning in the EU: results of planning simulation workshops for actual developments"	researchers, practitioner, politicians	Mainly European	ILS NU Napier Uni Maribor Synergo
may 09	Presentation at ECOMM 2009, 13-15 May 2009, San Sebastian, Spain: Presentation of "Mobility management and urban planning in EU new member states"	researchers, practitioner, politicians	Mainly European	VGTU Uni Krakow Uni Maribor
may 09	Presentation at ECOMM 2009, 13-15 May 2009, San Sebastian, Spain: Training Workshop: How to better integrate Mobility Management with urban planning.	researchers, practitioner, politicians	Mainly European	ILS NU Napier Uni Maribor Synergo
jun 09	Presentation and paper in Paris at the ICSUTE 2009 - International Conference on Sustainable Urban Transport and Environment"(24-26 June, 2009): "The role of the innovative planning instruments in the integration of sustainable transport and land use planning	Researchers, Consultants, Transport experts, Policy makers	International	Uni Krakow
oct 10	Abstract accepted for European Transport Conference, 5 - 7 October 2009, Leeuwenhorst Conference Centre, The Netherlands: Cross-national comparisons of integrating mobility management and land use planning in the EU: results of planning simulation workshops for actual developments	researchers, practitioner,	Mainly European	NU Napier ILS Uni Maribor Synergo
jan 10	Paper submitted for Transportation Research Board, Washington D.C, USA, January 2010: Integration of mobility management and land use planning in selected European countries: Results from cross-national comparisons and local planning simulation workshops	researchers, practitioner,	worldwide, mainly NA	Uni Maribor ILS NU Napier

jul 10	Planned abstracts to be submitted for: 12th World Conference on Transport Research, 11-15 July 2010, Lisbon, Portugal			NU

Future dissemination

A crucial step to enhance the integration of MM in land use planning is to raise awareness among important target groups. Those are primarily persons working in planning departments of regions and cities. The produced WP D outputs give different possibilities to inform this target groups. The WP D team sees different ways to disseminate the WP D outputs:

- Dissemination through electronic channels

  The WP D outputs should be available at the EPOMM Website. The cases described in the annex of the guidelines should be put as cases in the ELTIS Website. Therefore the work is ongoing.

- Dissemination through WP D partners

  A second dissemination channel will be the active dissemination of the outputs by the WP D partners in their countries. Therefore the partners from Sweden and Slovenia have announced that they will disseminate WP D Outputs. Partner from Slovenia has included elements of integration between MM and LUP into a successful bid for 7. EU FP project Civitas Elan. Municipality of Ljubljana is planning a new building for the city administration, which will house all departments and offices, regional administration and some supporting activities. Travel plan for this building in its planning phase will be prepared during 2009-2011 within a Civitas Elan project. Talks with the national level were also started to launch a WP D follow-up project on a national level.

- Dissemination through EPOMM Plus network

  A very good opportunity to disseminate WP D outputs is the EPOMM Plus network. The kind of dissemination should be discussed between the EPOMM Plus Management and the WP D core team. From the point of view of the WP D team following activities are possible:

  - In-depth presentation of the WP D outputs during the Meetings of the EPOMM Plus network
  - Presentation of WP D outputs, practical examples of policies and cases in EPOMM Plus countries, etc.
  - Training session(s) on WP D outputs, organised under the auspices of EPOMM Plus so as to maximise their impact and participation in them.

- Dissemination through CIVITAS network

  As some of the partners are members of CIVITAS network, CIVITAS training sessions and the CIVITAS Forum will be used for potential further dissemination of WP D outputs.

- Dissemination through continuing conference presentations and by promoting the outputs at the MS level through articles in the technical press and presentations at seminars.

- Dissemination through university courses.

7 Conclusion

WP D has successfully met its objectives as defined in the DoW and then modified in the comprehensive research plan. As explained earlier in this report and in the Executive Summary, it has:

- Researched the SoA to understand the nature and results of previous research in this topic area.
- Analysed the current level of integration of MM and LUP in 9 MSs, and Switzerland, with some (limited) reference to North American experience, where relevant.
- Carried out planning simulation workshops to explore how MM and LUP could be integrated in the context of actual sites in five countries. This element of the research also enabled the testing of the planning simulation workshop as a new planning technique in several of these countries.
- Reflected on the transferability of many of the policies from one country to another.
- Produced a number of outputs, for use by planning professionals and others.

Overall, WP D concludes that the integration of MM and LUP is at a low level at present in most MSs, but the analysis of the current situation and the planning simulation workshops both show that greater integration is possible. However, the transferability of each policy depends very much on the specific framework conditions (different planning instruments, different laws, different levels of integration) in each country and this affects the way in which the integration of MM and planning should be tackled in each MS.

There remains much further work on this topic that could usefully be done, however. Some of this is of a research nature, other parts more applied, but all would help in further building the case for greater integration of MM and planning.

- The practicality and impacts of maximum parking standards. Further work is needed to establish the situations in which maximum parking standards are most effective; and on their effects on travel behaviour, the location choices of businesses, and the local economy.
- Monitoring and enforcement of conditions related to MM. In those planning systems where it is possible to use legally enforceable conditions to require developers to integrate MM with a new development, further research and review of existing experience is needed to clarify how this can be made most effective. For example, if a developer makes their best effort to implement MM at a site but fails to meet mode share targets, what enforcement action – if any – should be taken against them, and how can it be judged to be reasonable?
- How to negotiate, and the negotiation arguments that work best in a given context. In future much of the success of integrating MM and LUP will be due to the skill with which local authorities negotiate for it in their dealings with developers.
- Campaigning the campaign. WP D puts forward arguments in favour of the integration of MM and LUP, but these arguments need to be taken on board by decision makers if the concept is to make its way from ad-hoc implementation to widespread adoption in policy and in practice. Further work is needed to understand which arguments are most convincing and in which contexts.
- Policy transfer. WP D concludes that most elements of the integration of MM and LUP are in essence transferable; however, this does not mean that they will automatically be transferred from one country or city to another. The mechanisms by which policies transfer, and the conditions in which they transfer most effectively, remain poorly understood.

- The economic costs and benefits of integrating MM and LUP. This is a completely under-researched area, but one that is very important. For example, are developments that incorporate MM found to be more profitable? Would the long-term pursuit of integration lead to a gradual shift in the location of development as developers seek locations that are accessibly by non-car modes?

- Further work should also consider how EU guidance on EIA, and potentially other EU Directives and policy, could make a stronger case for integrating transport and land use planning in order to mitigate the transport impacts of new developments?

Finally, given that the way in which many of the policies analysed and recommended in WP D would have to be implemented in different ways depending on the framework conditions in different MSs, then a very useful role for future EU activity in this area would be to run member-state-specific training workshops and other dissemination activities to discuss in detail the practicalities of integrating MM and LUP in each country.

8 References

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