

OPTIMUM-1 SUMMARY

OPTIMUM-1 provides tools to utilise mobility management at an earlier stage in the spatial planning process. OPTIMUM-1 is a project under the auspices of the European Union's Interreg IIc Programme

Nine regions joined forces to develop ways to utilise mobility management at an earlier stage in the spatial planning process. Four pilot projects evolved from the objective, producing guidelines on the following aspects:

- Roles and instruments of regional authorities;
- Accessibility modelling;
- Public private partnership for sustainable transport initiatives;
- Mobility management measures for areas with different characteristics

A CD-rom of the main results, conclusions, recommendations and toolkit can be ordered, free of charge, by contacting the address below.

Provincie Gelderland
Johan Leferink
t.: +31 26 – 359 84 05
f.: +31 26 – 359 83 83
e-mail: j.leferink@prv.gelderland.nl

INTRODUCTION

Goals and objectives

- Obtain a joint common model for the best way to incorporate the promotion of sustainable means of transport in the spatial planning process. This is concerned primarily with defining the opportunities and options that the regional authorities have in this regard. How can regional authorities contribute to effective integration of mobility management and spatial planning focused on: process roles & instruments.
- A variety of different models and specialist software exist to assist in accessibility planning. A detailed investigation into accessibility and mobility measurement, and modelling is crucial. Two methodologies and produced results are investigated for each area involved in this project.
- From the results of the study, analyze the positive and negative aspects of both methods, and document this information.
- Produce guidelines for accessibility/mobility management in the spatial planning process to achieve sustainable patterns of development.
- Obtain practical and usable methods to enable public and private organisations to cooperate in the promotion of sustainable transport options in specific development projects.
- Provide insight in the suitability of various mobility management techniques for areas with different characteristics. The requirement for this research stems from the lack of formal guidance available on this subject in the North West Metropolitan Area.

Organisation of the OPTIMUM project

9 Participants from 4 countries: United Kingdom, Belgium, Luxemburg and the Netherlands took part in the project.

- North West RA
- East Midlands RLGA
- Provincie Gelderland
- Provincie N. Brabant

- Thames Valley EF
- Essex County Council
- London Wandle V.
- Région Wallonne
- Luxembourg

The Province of Gelderland operated as Lead Applicant.

Methodology

To meet the goals and objectives the project went through 3 stages:

- An inventory was made of the current situations of the integration of Mobility Management and spatial planning around the participating countries (findings in separate report).
- 4 pilot groups were formed to do an in-depth investigation and development on issues like: Policy strategies, accessibility modelling, Public private partnerships and Mobility Management Measures.
- The dissemination of the data and findings into an end report and cd-rom.

KEY FINDINGS & RECOMMENDATIONS

The key findings and recommendations are listed here. More in-depth information and background can be found in the CD-rom.

THE FINDINGS

Roles and instruments of Regional Authorities

- It is difficult to identify successful roles for Regional Authorities at first sight. It depends very much on the project.
- When the regional authority participates in regional planning processes, it should be careful in mixing public and commercial interests:
 - a. Public bodies can not afford uncertainty in financing (e.g.. in PPP's);
 - b. The public role of the regional authority may be at stake.

| Financial instruments | Instruments with regard to testing of plans | Process instruments | Concrete policy measures |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Co-financing • Subsidy /grants • Allowances (structural) • Fining (when local authority violates regional plan) • Ground use tax | <ul style="list-style-type: none"> • Regional spatial structure plan • Regional traffic and transport policy plan • A mutual developments strategy which is subscribed by all regional parties (municipalities, interest groups and regional authority) • Environmental and water legislation | <ul style="list-style-type: none"> • Process managerial skills • Independent authority between local municipalities • Covenants • Letter of understanding • Public enquiry • Relations with higher authorities • Planning concepts like the compact city and abc location policy | <ul style="list-style-type: none"> • Regional parking policy plan • Traffic demand management centres • Providing specific (extra) infrastructure for sustainable modes of transport (bus, light rail, bikes) • Concession authority for public transport |

- Clusters of instruments need to be used together in the planning process since they are complementary.
- Financial means are necessary as a start: to facilitate the planning process and to give a prospect of real investment and practical realisation;

- Process instruments are necessary to facilitate development of a mutual regional structure plan. This plan can serve as a guideline developing practical policy measures.

Accessibility and Mobility Modelling

- In the UK, the results of the inventory suggest that there are no set standards defined for accessibility and mobility management. There have been some small scale studies by several different consultants who have developed some Geographical Information System (GIS) software packages for this type of study. These packages have rarely been extended to other study areas. Some packages require that the population of study areas are surveyed for their travel patterns and these data are used as the basis for a model of accessibility and mobility management.
- There is one product in the UK that is widely accepted for this type of analysis, this is the ACCMAP software. ACCMAP is a GIS based product that has been sold to numerous local authorities as a tool for the manipulation of public transport. data and production of accessibility maps. This product is now the UK market leader for accessibility measurement and is still being sold to both the public and private sectors in the UK. The product relies on a digitised database of public transport data and can quickly highlight areas of high and low accessibility.
- In other parts of Europe more complex mathematical approaches are used to measure accessibility and mobility management. One of these models comes from Strasbourg University. The methodology behind this model is described in some detail in appendix 1. The Strasbourg University approach differs from that adopted in the UK and is, therefore, of interest to this study.
- Neither the PTAL or the Strasbourg methodologies are sufficient on their own to form the basis for the development of a robust common conceptual model for use in accessibility and mobility management in the spatial planning process.
- It is critical to have comprehensive and up-to-date data on public transport services in digital format: any inadequacies will produce erroneous results.
- One of the main problem areas is the lack of available transport data across Europe in a digitised format for use in such studies. A potential European model will require data in a defined format, the precise form of which can be decided upon after the development of the methodology.
- Another model is under development by the University of Liege, details of which are given in Appendix 5. This "MIAM" model adopts a new "integrated approach" to look at all the factors affecting mobility and accessibility.

Public Private Partnerships

- The project has clearly demonstrated how the practice of securing private sector contributions to mobility management through the land-use planning process differs according to the context of each country. The land-use planning system is governed by individual member states' legislation, and this governs how – if at all – private sector contributions to the provision of public infrastructure and services related to the development are secured. It is clear that in the UK there is a long history of so doing, and that this is producing significant results. However, it is less relevant to Belgium and especially Luxembourg, where the provision of services and infrastructure remains an almost exclusively public sector concern.
- Whilst there is clear evidence from the case studies that the private sector is willing to fund sustainable transport measures, there is also a limit to the amount that it is willing to contribute. In the UK, this appeared to be in the hundreds of thousands of pounds rather than millions in the scale of development considered. It was clear that there was a relationship between the scale of development and the size of the contribution obtained.
- The types of measures that are likely to be secured from private sector contributions to the planning process vary from country to country and by type of development. In the Walloon

Region, the projects considered relate not to specific developments but more to environmental improvements of public spaces. In the Netherlands, it is more difficult to ascertain the precise nature and scale of private sector contributions to sustainable transport measures in new development, since these are (even more) negotiated than in the UK, and are contained within the wider cost of the development. Finally, in the UK, the factors that appear to influence the nature and scale of the developer contribution are:

- The land-use in the development.
 - The level of activity in the local economy.
 - The scale of the development.
 - The location of the development in relation to existing settlements and transport infrastructure.
 - The degree to which the development accords with local and regional planning policy.
- Ultimately, the objective of securing sustainable transport measures to serve new development is to influence the way in which people travel to that development and to reduce their reliance on the private car in comparison to other similar developments without sustainable transport links. Three case studies considered here have measurable results which demonstrate that the sustainable transport measures can have the desired effect: By nature of its location, the Hoog Catharijn development in Utrecht city centre achieves a car mode share of only 25% of trips. A proportion of the passengers who use the Harlow Express bus corridor previously made the same trip by car. Ridership on the bus services extended to increase the level of service to Derby City General Hospital has increased, although it is not clear whether this has resulted from modal shift from car to bus.
 - While the project has revealed that much can be done to secure sustainable transport links with private sector contributions associated with new development, it also indicates that there is room for improvement in the way that this is done in all the countries for which case studies were submitted.
 - In the UK, the case-by-case nature of S106 agreements related to new development means that it is difficult to predict the scale and nature of the contribution that it will be possible to secure from the private sector in each case. This lack of predictability is a problem for both private and public sectors, and leads to the expenditure of a great deal of time and effort on both sides in negotiating an agreement. Certain UK towns (e.g. Nottingham, High Wycombe) are now trying to secure private sector contributions in a more consistent way and thus to make them contribute in a strategic way towards the local integrated transport strategy. However, this is a new and untested approach.
 - In the Netherlands, the public sector has traditionally recouped some of the cost of infrastructure related to new development through the sale of land and building permits. However, this system does not always deliver sufficient resources to fund sustainable transport services that are related to the development, and there may be a case for adopting elements of the UK approach. In Belgium, similarly, there may be a case for securing more specific private sector contributions to sustainable transport infrastructure and services through the development process.

Mobility Management Measures

- A travel plan is a co-ordinated package of mobility management measures that are tailored to the needs of an individual company or business park and are aimed at reducing the impact of travel on the environment by promoting greener, more sustainable travel choices. There is no standard format or content for travel plans and they have a variety of names, such as green transport plans, company travel plans and school travel plans. Travel plans can offer considerable benefits to companies and organisations in terms of reduced costs and increased efficiency whilst helping to reduce local road congestion.

- The mobility management Plans that have been reviewed have all had some success in reducing the modal share of single occupancy vehicles. Key issues that came out of almost all case studies were:

Setting targets

Setting of targets is key to maintaining momentum. In the UK, targets for reduction of car travel are often an important part of planning applications. Similarly, in the UK airports above a certain size are required to prepare statutory Airport Surface Access Strategies setting out challenging short and long term targets for increasing the proportion of journeys made to the airport by public transport.

Awareness Raising and Marketing

Marketing of the components of travel plans is important in helping to realise the full potential of measures to change travel patterns. People need to understand why these kinds of measures are being used and what travel choices there are. Continual promotion of facilities is essential to attract and maintain usage of alternative transport modes. Incentives to encourage the use of sustainable transport modes are also important such as preferential parking spaces for car sharers or special prices on bus services. Logos and branding that are easily identifiable are also useful.

Information

Information that is easily available and up to date is needed to help keep people informed.

Mobility manager

A permanent member of staff should be appointed to coordinate the travel plan, develop new initiatives and monitor the success of different elements of the travel plan

Cars and Parking

Managing car access and parking can be an important part of influencing travel choice. The availability of parking is a major influence on mode of transport and for some journeys can be more significant than the provision of public transport in determining means of travel. It is a key element in promoting sustainable transport.

Target New Employees

Experience has shown that it is easier to encourage people to use sustainable means of transport to travel to work before travel patterns become established. Introducing realistic sustainable transport options can help to attract staff, particularly in C locations. In C locations, with good highway connections and limited public transport, access to the site may otherwise be restricted to car drivers. Offering realistic travel alternatives can increase the employee base.

- The improvement of bus services, improving cycling facilities and the introduction of ride sharing are all important elements of travel plans and are considered separately later in the report.
- The UK there is a wide geographical spread of areas where businesses have a travel plan. Mobility management programmes can be implemented almost anywhere, although they tend to be most effective where there are significant traffic congestion, parking or pollution problems.
- The impacts of travel plans are not only dependent on location but differ according to a number of variables including the mobility management strategies adopted, geography and employee demographics.
- Employee demographics are an important consideration in travel plans. The design of travel plans is in many cases more dependent on the character of the employees on site and the workforce dwelling pattern than it is on the location of the development. Travel

plans must be able to meet the employees' diverse and changeable needs. Many employees can use alternatives part of the time, if given suitable support and incentives. For example, many employees can car share, telecommute or utilise flexitime two or three days a week. Travel plans should therefore aim to be flexible and, as at Manchester Airport, marketing should highlight that small changes in individuals travel patterns can make a big difference overall.

- For a travel plan to succeed it is important to develop local strategies based around an optimal mix of measures. The successful mix of different options in a given location will depend upon a number of local characteristics and it is unlikely that any one approach will provide the best way forward. Typically the solution will encompass a package of initiatives covering most or all of the mobility management measures available. Assessing the impact of a particular scheme or measure in the local context can be particularly difficult. Experience from elsewhere can be useful, although, as can be seen through the examples incorporated into this report, there is relatively little data available on travel patterns both before and after the implementation of a travel plan.
- All of the case studies considered highlight that public engagement and acceptance is important if measures are to succeed and that marketing of initiatives is key to their success.
- Travel plans, when tailored to the characteristics of the location and the needs of the employees, can be successful in all locations.
- Examples of Policy Framework for different levels of government necessary to promote Mobility Management.

| | National | Regional | Sub-Region | Local |
|---------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Travel Plans | National policy promoting travel plans in all areas of work, leisure and education. | Policy to promote travel plans and coordinate links between major businesses. | Coordinate local schemes to add value. Ensure provision in development proposals. | Require Travel Plans for new development and encourage other businesses to produce plans. |
| Suburban/Urban Bus | Policy and legislation for development of efficient and comprehensive bus services. | Policy to ensure bus provision promoted as a key part of the regions transport strategy. | Development of bus network through a coherent strategy. | Promote buses and ensure provision at new development. |
| Public Transport in Rural Areas/ Rural Bus | Policy and resources to ensure provision that prevents social exclusion. | Policy and resources to ensure provision that prevents social exclusion. | Flexible approach to develop appropriate schemes to meet the needs of rural communities. | Flexible approach to develop appropriate schemes to meet the needs of rural communities. |
| Cycling | National Cycling Strategy. National network and international links. | Regional network linking with national routes. | Policy framework for direct provision and inclusion in new development. | Detailed strategy and network of routes. |
| Walking | Policy to encourage walking. | Regional policy in line with national guidance. | Policy framework to ensure consistent local delivery | Detailed measures and implementation. |
| Car Sharing | National policy to promote and taxation system to encourage sharing. | Coordinate schemes and disseminate good practice. | Encourage and coordinate schemes. | Encourage schemes and require introduction through planning process. |
| Rail | National strategy to develop and promote rail travel. | Policy to encourage development which makes the best use of rail provision. | Co-ordinate rail investment and development. | Co-ordinate rail investment and development. |
| Park and Ride | National policy defining parameters for suitable locations. | Reflect national policy. | Locate potential sites in line with National/Regional policy. | Detailed consideration of potential sites. |

RECOMMENDATIONS

Roles and instruments of Regional Authorities

- When projects exceed the local scale, then the regional authority should play a “managing” role. It should take the responsibility to balance local interests in a regional framework.
- Regional authorities can successfully play a role as regional planning director. An initiating and “open minded” process role is recommendable facilitating bottom up regional planning processes.
- Consider local plans in a regional context when local plans do have impact on aregional scale.
The regional authority should use this ability, facilitating a process developing regional structure plans. These plans should ideally be the result of a bottom up planning process with local interests groups (municipalities, environmental groups, inhabitants etc) involved and committed. Facilitating this process the regional authority can fulfil a role as regional planning director. This role can be extending by judging sub regional and local plans against the regional structure plan.
- The regional authority, as responsible for public interests, should be careful in participating in private companies.
Sometimes co-operation between regional authorities and the private sector can create a win-win situation. In the UK for instance, real estate developers get permission to develop residential or office areas under with the agreement that they will provide satisfactory accessibility as well (roads, facilities for public transport). These types of win-win situations may be alluring. However they also do have (public) risks and probable disadvantages:
 - *the private party is financial usually more vulnerable than a public body;*
 - *for private parties it is usually more costly to raise funds (interest etc.) than for government bodies. So at the end of the day, the tax payer will have more costs.*
- Make clear agreements on tasks and competencies when other regional authorities are present in the same region
In some countries there is a four layer government level, meaning that there is a regional authority and a sub regional body. Often the exact definition of the competencies and responsibilities are not entirely clear, resulting in inefficiencies and sometimes frustrations. It is recommendable to make solid agreements on the competencies and responsibilities. Furthermore procedures can be agreed on concerning mutual consultation.
- A robust conceptual model still needs to be established. One option towards this maybe to base this model on either the PTAL or Strasbourg methodology, and modify it to remove the difficulties associated with these methodologies. More interaction with universities, local authorities and other bodies with an interest in this area is required to achieve such a model. It is not possible to identify the time it would take to develop such a model at this stage. Any model will need to be able to stand up to examination at a planning enquiry, be easily explained and understood, and provide clear output.

Guidelines for using accessibility/mobility studies in the spatial Planning process

The following guidelines provide a code of practice for those persons embarking on a study which involves accessibility and mobility management as part of the spatial planning process:

- Some initial research is required to see if the study area needs to have a detailed accessibility study carried out. If the proposed site is obviously in an area of very good transport links to all points in the catchment area then a detailed study would not be worthwhile. For such areas, a less in depth study may be required, such as identifying numbers of people within a certain walk distance of the main public transport corridors, or analysing service frequencies at a public transport stop level.
- Information is required about the availability of digitised public transport data. These data would form the basis of accessibility calculations and would be required in a certain format for the accessibility software. In many cases, data are available but permission to use it

may not always be given. If data are not available, then ensure that there is sufficient time and resource available to capture data, or format available data, to use for the study.

- Ensure there is sufficient time and resource available to implement the software required for the calculation of accessibility maps for the area. This time needs to take account of any possible software installation and training requirements. 4. Ensure that there are sufficiently qualified staff available to provide the results and analysis of results within the specified time period.
- Choose the correct accessibility method for analysis based on the geography of the study area. The method chosen needs to be able to provide the required input for use in the spatial planning process.
- The parameters used for calculation need to be clearly defined for the study area before the study can begin e.g. maximum walk distance to different modes of transport, average walk speeds, factors used within calculations. Again, an understanding of the methodology is required along with some local knowledge of the study areas transport links and geographical make up.
- The base calculation (origin) grid needs to be suitable for the size and geography of the study area. It is not possible to provide firm advice on the most suitable grid spacing to use but it is best to work with the most detailed grid possible. The more detailed the grid the longer the calculation times: a grid size of no less than 50m between points is likely to be sufficient for any potential study.
- Persons interpolating the results need to have a suitable background knowledge of the methodologies used.
- If the results need to be updated later, ensure that this can be easily achieved.
- A common standard is recommended for the creation and management of transport data for use in accessibility studies. If such data are widely available in the required format, and are up to date and accurate, then carrying out such accessibility studies could be done much more efficiently and at much less cost.

Public Private Partnerships

- A comment should be made that the case studies used in the project –whilst broad in range and experience, and representative of best practice - are the “tip of the iceberg” and as such need to be supplemented with additional research –essentially a bench marking exercise, from which all authorities can learn in what is an emerging part of the transport planning field.
- A number of useful pointers for ways in which private sector contributions to sustainable access to new development can be secured, and ways in which the potential of these contributions can be maximised. These include:
 - It appears from the case studies that sustainable transport contributions for new development can be best secured in the context of a policy that supports this. It is unlikely that the significant contributions seen in most case studies would have been secured without a supportive policy context.
 - The case studies show the importance of securing sustainable transport links early in the life of a new development, before travel habits have become fixed. At this stage, therefore, there is more opportunity to influence employees', residents' and shoppers' choice of travel to/from the development.
 - That there is increasing acceptance by developers of the need and desirability of funding sustainable transport access to new development, including ongoing –though not open-ended –revenue support of new public transport links. This is an important consideration for the non-British partners in OPTIMUM, in spite of their regulated and publicly-funded public transport systems. In the case of the Netherlands and Belgium, it may be increasingly necessary in future to secure such funds in order to provide public transport services to new development areas.
 - Both “hard” measures –e.g. bus infrastructure –and “soft” measures –such as ticketing and marketing of bus services –should be included in the funded package in order to maximise the return on the investment.

- The case studies also show an increasing trend to incorporate targets for modal shift into agreements for developer contributions to sustainable transport. These may be linked to financial penalties, should the targets fail to be achieved.
- Finally and very importantly the case studies show that securing developer contributions to sustainable transport measures in new developments can be a protracted process, taking several years.

Mobility Management Measures

If mobility management schemes are successful, it should be possible to create a virtuous circle, where transport improvements lead to better conditions for sustainable transport. Switches from the private car to sustainable transport should in turn lead to further improvements in conditions for sustainable transport. The cycle is then repeated again and again.

