

Mobility Management - A New Approach to Transport Planning

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1 - SYNOPSIS

This paper describes the results of a demonstration project in Nottingham where a mobility adviser has been appointed to encourage large employers in the area to adopt strategies aimed at reducing car commuting by their staff.

2 - ABSTRACT

In recent years there has been much concern about society's ever increasing reliance on the private car and the associated costs of the growth of road traffic in terms of congestion, pollution, safety and CO₂ emissions. This concern has contributed to the development of several new approaches to transport planning which are aimed at encouraging the use of alternative modes, such as public transport, walking and cycling and the multi-modal distribution of freight.

One of these new approaches is mobility management. Mobility management can broadly be described as strategies aimed at reducing the amount of road traffic by encouraging changes in behaviour on the part of organisations and individuals. An important feature of mobility management is that it involves key new players, such as site owners and employers working in partnership with local authorities to develop appropriate solutions to transport problems.

This paper reports on the results of a European Union (DG VII) research project, MOSAIC (Mobility Strategy Applications in the Community), which has studied mobility management applications in a number of European countries. It focuses particularly on the UK demonstrator in Nottingham where a mobility adviser has been appointed to encourage large employers in the area to adopt strategies aimed at reducing car commuting by their staff (Green Commuter Plans). The paper gives a brief description of the work of the mobility adviser and presents the results of surveys of employers' attitudes to staff travel issues and an assessment of how successful the work of the mobility adviser has been. This is followed by a brief review of how Green Commuter Plans and other mobility management initiatives have developed in the UK and an examination of the associated changes in central government policy. The paper finishes with a discussion of the role which mobility management can play in achieving CO₂ reductions.

3 - MOSAIC

The MOSAIC project (1997) ran from January 1996 to December 1998. There were MOSAIC demonstration projects in Germany, the Netherlands and the UK, the aim of which was to assess the application of the various mobility management concepts. For example, in Wuppertal in Germany a mobility centre opened in the centre of the city offering mobility management services – including information on public transport, cycling, car sharing etc. and ticket sales and reservations – to the general public.

The aim of the UK demonstration project in Nottingham was to assess the potential impacts of a central mobility adviser based in the City Council who assists and supports organisations in developing mobility management strategies. A number of the largest employers in the City were already in the process of developing schemes to discourage their employees from driving to work before MOSAIC started.

The work of the mobility adviser involves targeting large employers who had not previously had any contact with the City Council and assisting those who are interested in the development and implementation of Green Commuter Plans. The University of Westminster worked in conjunction with Nottingham City Council to design and monitor the work programme of the mobility adviser.

4 - WHAT IS MOBILITY MANAGEMENT?

Mobility management seeks to influence travel choice by informing, advising and educating potential travellers, including freight operators, with regard to their own mobility. It can broadly be described as strategies aimed at reducing the amount of road traffic by encouraging changes in behaviour on the part of organisations and individuals. Such initiatives can be taken at the site level, where large volumes of road traffic are generated or attracted (including work sites, retail parks, large leisure facilities, etc) or at an area level (e.g. city or sub-region), with an emphasis on targeting the general public and encouraging local site-based initiatives. An important feature of mobility management is that it involves key new players, such as site owners and employers working in partnership with local authorities to develop appropriate solutions to transport problems.

The desired behavioural changes include more efficient use of vehicles (through higher vehicle occupancies, less empty running), a switch to more sustainable transport modes and the substitution of telecommunications for travel, where appropriate. Mobility management services include better information provision, and advising large generators of traffic, for example employers, on how to take their own initiatives to reduce traffic levels and impacts; the latter might include changing car parking policies or making non-car modes more attractive (e.g. by providing secure cycle parking facilities).

Mobility management is just one tool within the wider land-use/transport planning system and many measures introduced in other parts of the system such as infrastructure improvements for cyclists or priority measures for public transport will also support the objectives of mobility management.

The work in Nottingham is concentrating mainly on encouraging large employers in the area to implement mobility plans at their work sites. In Nottingham mobility plans are known as Green Commuter Plans. However, elsewhere, they are known by a variety of names including Company Transport Plans and Green Transport Plans. Company or Green Transport Plans are usually wider than Commuter Plans which are mainly aimed at the journey to and from work whilst Transport Plans will normally cover all aspects of the organisation's transport operations including travel in the course of business and fleet efficiency.

Whatever they are called, such Plans should ideally consist of a package of both 'carrot' and 'stick' measures which have been developed in conjunction with employees. The types of measures which could be included in a Plan include improved public transport information, loans for season tickets and/or bicycles, and improved facilities for cyclists. An important element is the introduction of parking management policies.

Journey to work trips are being targeted as these trips make up a large proportion of peak period traffic and therefore make a significant contribution to pollution and congestion problems. A high proportion of these journeys is also relatively short (in Nottingham, only 20% are over 5 miles). There is also a view that journeys to work are easier to influence due to the direct benefits to specific employers (reduced congestion on and around the worksite, less space needed for parking, etc.) who have the power and resources to change staff travel patterns. This coincidence of private and public interests is a potentially powerful force for change, and presents something of a win-win situation.

However, commuters are not the only target group for mobility management and in other cases, mobility plans are being developed for journeys to school or leisure facilities. A good example of the latter are the plans for the Millennium Exhibition in London which aim to ensure that no more than 2% of visitors arrive at the site by car.

When introducing mobility management, other policy measures not directly related to the transport sector (e.g. land-use planning, environmental planning) should also be considered. In fact, some local authorities in the UK are using the development control process as a means of requiring the introduction of Commuter Plans. Government guidance on planning obligations (Department of the Environment, 1997) does not explicitly mention Commuter Plans, however, it does encourage authorities to use planning agreements to gain developer contributions towards improving accessibility to major development sites inadequately served by modes other than the car. It suggests, for example, funding improved public transport facilities or measures for pedestrians and cyclists.

A number of local authorities have begun the process of introducing Commuter Plans for their own staff as a first step towards promoting such plans in the wider community and encouraging other local organisations to introduce similar plans. By introducing their own plan first, local authorities are able to lead by example and to 'practice what they preach'. In some cases, for example BAA's Heathrow Area Travel Initiative, it is private organisations who are leading, perhaps because they see a commercial advantage in making their site more accessible by modes other than the car.

5 - THE NOTTINGHAM DEMONSTRATOR

5.1. Background

Nottingham is located about 120 miles (193 km) north of London and has a population of around 560,000 (1994 estimate), around half of whom live within the City boundaries. The City of Nottingham is the commercial capital for the East Midlands region with banks, insurance companies and Government Departments all having regional headquarters in the City. The Greater Nottingham area is reasonably well placed for both national road and rail connections. At present most public transport is provided by bus services and there is a well-developed bus network, based largely on radial routes converging on the City Centre with a high frequency on most routes during the day but only a limited service in the evenings and on Sundays. Three-fifths of Greater Nottingham residents travel to work by car and one-fifth by bus. Train use is negligible. In comparison, car drivers account for 58% of commuting journeys to urban areas throughout the UK (apart from London and the large conurbations), bus users for 8% and rail for 1% (Department of the Environment, Transport and the Regions, 1998d). Therefore, there seems to be higher than average levels of commuting by bus in Greater Nottingham.

The Greater Nottingham area was one of the earliest in the UK to implement mobility management strategies and, at the time MOSAIC started, was by far the most advanced. Both the City and the County Council were already developing Plans for their own staff and were keen to involve other large employers. The County Council was the first organisation in the UK to appoint an Employee Transport Co-ordinator to implement its own Plan. The appointment of the mobility adviser as part of the MOSAIC project allowed the City Council to pursue its policy of promoting Commuter Plans to other organisations.

In 1996 the City Council set up a Commuter Planners Club which allows organisations at various stages in the development of their Commuter Plan to meet and exchange ideas and experience. The Club has also provided an opportunity for neighbouring organisations to identify ways in which they can work together on Commuter Plan issues. It has proved to be a very successful and cost effective way of supporting organisations.

5.2. Initial Surveys

The Nottingham demonstrator for MOSAIC officially ran from January 1997 to January 1998, although in reality work has been continuous since the mobility adviser was appointed in 1996. Survey work was carried out at the start and finish of the official demonstration stage. The aim of the initial survey work was to assess employers' attitudes to transport problems and their willingness to encourage a modal shift and thereby establish the potential for introducing Green Commuter Plans. The results (Bradshaw, 1997) were used to assist in the design of the mobility adviser's work programme and to help determine the best approach to be used when contacting employers.

It would appear from comments made in the course of the initial survey work that employers do not particularly concern themselves with any problems their employees may encounter on the journey to work and the organisations involved had very little detailed information about employees' travel patterns. On the whole the problems of congestion identified were not viewed as being severe enough to necessitate large changes in behaviour and there was a general feeling that things would have to get much worse before most people would be prepared to sacrifice the convenience of the car. The consensus was that there would be no immediate action on the part of businesses and the greatest impact was likely to be obtained from policies at a local and regional level. This supports the view that the local authority should initiate action.

The prime motivation for organisations to get involved is likely to be business advantage - cost savings or greater efficiency and there was very little evidence that a motivating factor for corporate change was the well-being of staff.

An important finding from this initial research was that organisations did not feel that they could operate individually and in isolation to combat congestion and that a more co-ordinated effort was required. It was felt that organisations employing relatively small numbers of people could make only a minimal impact on local traffic conditions. Organisations are also concerned about the loss of business advantage if they act alone.

5.3. The work of the Mobility Adviser

The findings of the survey work supported the strategy of co-operation and encouragement adopted by Nottingham City Council and reinforced the view that the Council needs to work with organisations in assisting them to introduce mobility management. Based on the findings of the survey work and the existing experience in Nottingham a work programme

was drawn up covering all the tasks to be included in the MOSAIC project. A number of the largest employers in the Greater Nottingham area were already actively working on Green Commuter Plans before MOSAIC started. However, there were still quite a few large employers (defined as those with 200 or more employees) in the area who had not yet had any involvement.

Large employers were considered to have the greatest potential for developing Green Commuter Plans for a number of reasons: the possibilities for the types of measures which MOSAIC aims to encourage, such as car sharing, are greater; they could potentially have a greater impact on overall traffic levels; the number of organisations involved is small enough to be manageable; larger organisations are more likely to remain at the same site for a number of years and therefore have greater stability; and their management structure is more suited to the introduction of Green Commuter Plans. However, an analysis of the 1993 Census of Employment data showed that organisations of this size account for only around 40% of the total number of employees in the Greater Nottingham area and that almost as many people are employed in organisations with fewer than 50 employees. So although initial work is concentrating on targeting large employers, later work will also examine ways of encouraging smaller employers to develop Commuter Plans.

At the start of the project, a database of large employers was created based on a number of sources and the mobility adviser has made contact with around 70 of these organisations during the course of the project. Initial contact with organisations was by letter, then, where organisations are willing a meeting is arranged during which the adviser could determine the possibilities for establishing a commuter plan and offer advice as to how to get started. The meetings were held at the organisation's own site and proved to be very effective. They gave the adviser the opportunity to get to know each site, to show organisations how a Commuter Plan might solve some of their existing parking or access problems and the benefits there are for them as an organisation.

After the initial meeting the mobility adviser maintains contact with organisations to ensure that initial interest is sustained and to offer help and support where it is needed. However, the intention is that the organisation should develop the Plan itself and the adviser does not simply present the organisation with a completed Plan. This is so that each organisation can design a Plan which best suits their own needs and as they will have spent time developing it they are more likely to have a sense of ownership for the Plan and to take responsibility for its implementation.

The mobility adviser was initially appointed in 1996 on a temporary basis through the MOSAIC project but the strategy has proved to be so successful that the post has since been made permanent and is now funded by the City Council itself.

6 - ASSESSMENT OF THE DEMONSTRATOR

6.1. Introduction

Although the work of the mobility adviser is continuing the official MOSAIC demonstrator finished at the end of 1998 and research was undertaken to assess its achievements. The assessment focused on examining the effectiveness of a mobility adviser working within the City Council in encouraging the implementation of mobility plans and there was no attempt to assess the impact of individual Plans. Telephone interviews were carried out with representatives from a total of 77 organisations in Nottingham in March 1998, shortly after the demonstration phase officially finished. The organisations contacted for the survey work were drawn from the database of organisations with over 200 employees in the Greater Nottingham area which had been set up for use in the MOSAIC project. They included both Active organisations (i.e. those which were involved in commuter plans before MOSAIC started or which had become involved as a result of MOSAIC) and Inactive ones (i.e. those which had been contacted by the mobility adviser but had not got involved and those which had not been contacted). These interviews allowed an independent assessment of various aspects of the Work Programme. This section includes some of the findings from the assessment of the demonstrator.

6.2. Attitudes to transport and the environment

Forty-four per cent of interviewees thought that traffic congestion was a considerable problem in Nottingham and a further 40% thought that it was somewhat of a problem. However, only 21% thought that it was a considerable problem in the immediate area around their site with a further 25% considering it to be somewhat of a problem and over half considering it not really a problem at all. Figure 1 illustrates the responses to these questions.

Active organisations were slightly more likely than others - 86% compared to 74% - to think that the problems of traffic congestion and air pollution from traffic are likely to get worse in future perhaps because they are more aware of the issues.

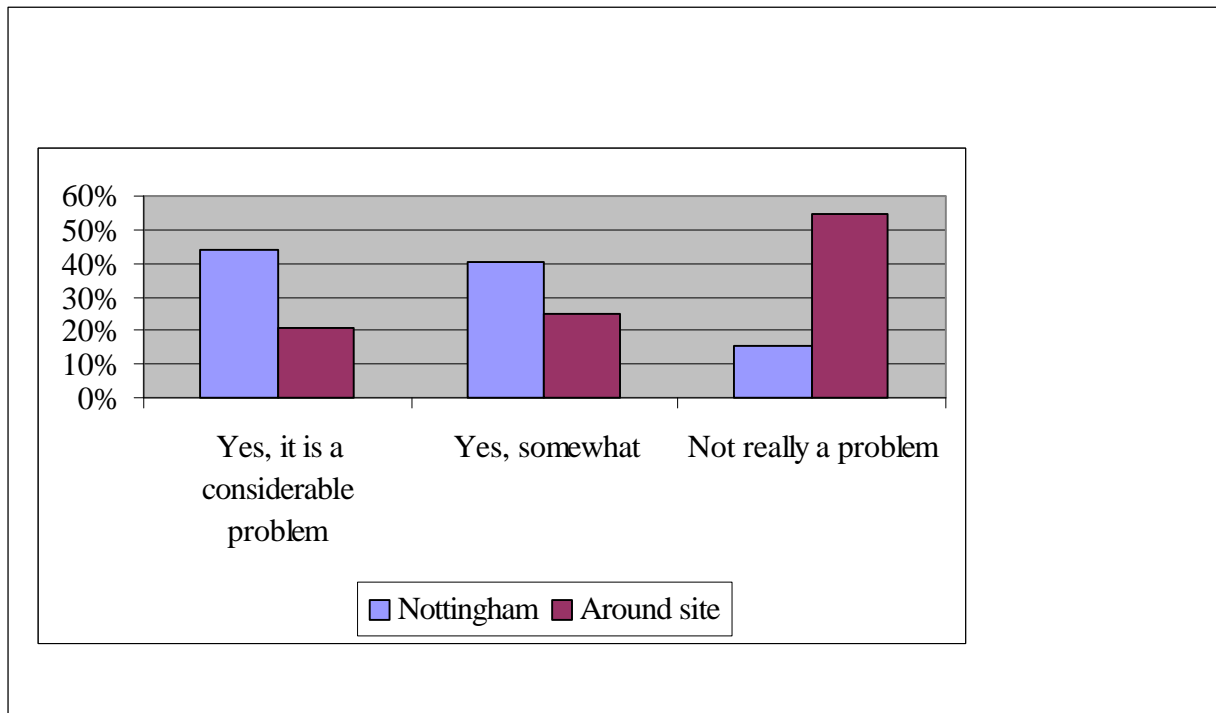


Figure 1: Is traffic congestion considered a problem?

6.3. Responsibility for ensuring that traffic levels are reduced

Interviewees were asked as an employer in the area, who they felt should take some responsibility for ensuring that traffic levels are reduced and their responses are shown in Table 1.

Table 1: Responsibility for ensuring that traffic levels are reduced

| Responsibility | No. of organisations (%) |
|---|--------------------------|
| Employers alone | 11 (14%) |
| Employers in partnership with local government | 42 (55%) |
| Local government alone | 8 (10%) |
| Local government in partnership with central government | 39 (51%) |
| Central government | 9 (12%) |
| Individuals | 23 (30%) |
| Other | 4 (5%) |
| Total | 77 (100%) |

Note: 1. This was a multiple response question so the percentages sum to more than 100.

Over half the interviewees felt that employers in partnership with local government should take some responsibility for reducing traffic levels which supports the approach being adopted by Nottingham City Council of working in co-

operation with local employers. The success of this approach is also indicated by the fact that 65% of the Active organisations (i.e. those that are already working with the City Council) gave this response compared with only half of the others.

6.4. Preferred and Effective Solutions

Interviewees were asked what type of actions they would prefer to reduce traffic congestion and pollution and which they thought would be most effective. Their responses are shown in Figure 2. Table 2 provides a comparison with the answers given to the same questions in 1997.

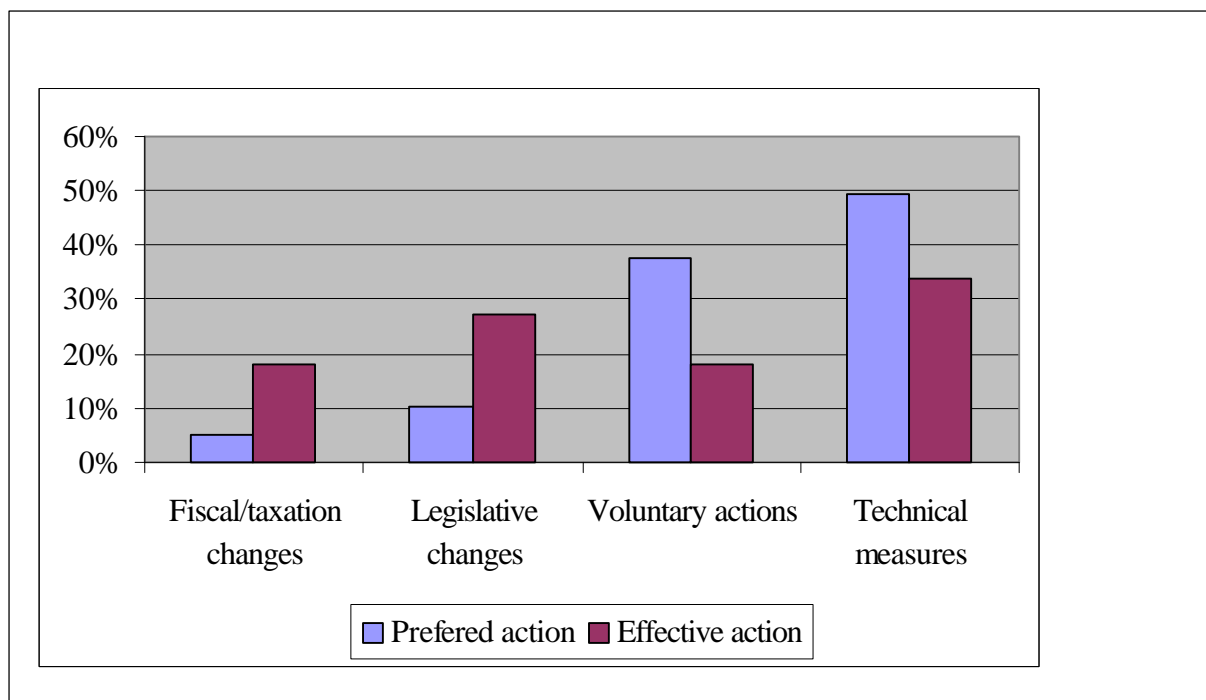


Figure 2: A comparison of the solutions organisations would prefer and those they consider most effective

Table 2: Actions to reduce traffic congestion and pollution

| Action | 1997 Survey (83 interviews) | | 1998 Survey (77 interviews) | |
|-----------------|-----------------------------|----------------|-----------------------------|----------------|
| | Preferred | Most Effective | Preferred | Most Effective |
| Fiscal/Taxation | 25% | 40% | 5% | 18% |
| Legislative | 5% | 10% | 10% | 27% |
| Voluntary | 40% | 23% | 38% | 18% |
| Technical | 30% | 27% | 49% | 34% |

Around half would prefer technical measures (e.g. exhaust emissions control/catalytic converters). Almost two-fifths opted for voluntary actions which would include commuter plans as well as measures such as travel awareness campaigns, with only small proportions choosing legislative changes, e.g. reductions in allowable parking spaces for new developments (11%) and fiscal/taxation changes, for example taxes on fuel or parking (5%). Employers had been asked the same question in the initial surveys. At that time smaller proportions opted for technical measures (30%) and legislative changes (5%) but a higher proportion (25%) chose fiscal/taxation changes. The proportion opting for voluntary measures has remained about the same. Perhaps fewer organisations opted for fiscal/taxation changes in the

second survey due to the increasing media coverage given to issues such as taxation of private non-residential parking spaces in the time between the two surveys so interviewees may have been made more aware of the financial implications than they were previously.

In the 1998 survey when asked what sort of actions they thought would be the most effective in reducing congestion and pollution, the proportions opting for voluntary measures and technical measures dropped to 18% and 34% respectively whilst 18% thought that taxation changes would be most effective. The proportion opting for legislative changes rose to 27%. Although the overall trend is very similar to the earlier survey, smaller proportions of interviewees then thought that the most effective action would be technical measures, with only 27% choosing this compared to 40% who chose taxation changes. A slightly larger proportion (23%) then thought that voluntary actions would be most effective.

In the 1998 responses the main difference between those organisations working on commuter plans and the Inactive ones was that Active ones were more likely to prefer voluntary actions (hence, their willingness to work on commuter plans) and less likely to prefer technical measures. However, when it came to what was considered most effective there were no real differences between the different categories of organisations which is interesting as it suggests that those adopting commuter plans are no more likely than others to consider them effective.

In 1997 organisations preferred option was the introduction of voluntary measures to reduce pollution and congestion but there was a recognition that fiscal and taxation measures might be more effective. At the time of the second surveys there appeared to be a move towards technical measures as both the preferred and most effective action.

6.5. Knowledge of Green Commuter Plans

Only six of the 36 'not contacted' organisations had heard the term 'Green Commuter Plan' before and over half of the other organisations first heard the term through contact with the City Council. It would therefore appear that despite the increasing media coverage given to the issue, general levels of awareness or knowledge of the initiative are still relatively low and that most organisations are first introduced to the idea by the City Council.

6.6. Contact with the Mobility Adviser

Almost half the organisations surveyed who had been contacted by the mobility adviser and had not taken the idea any further at the time said that they would like someone to contact them to discuss developing a Green Commuter Plan. This indicates that success in persuading an organisation to get involved may partly be simply a matter of contacting them at the right time.

Reactions to the initial meeting with the mobility adviser were positive with 9 out of the 19 organisations interviewed who had a meeting describing it as very useful and 6 as quite useful. Most of the organisations found the meeting useful because it provided them with ideas and information about transport issues, however, several mentioned the fact that it had simply raised their awareness more generally.

The majority of organisations also felt that the amount of subsequent contact they had with the mobility adviser was about right. Only five said that they speak or meet less than once every 3 months but only three have contact at least once a fortnight. Four meet or speak at least once a month but the most common situation, experienced by almost half of these organisations was for contact at least once every 3 months. Three of the organisations who had contact with the Mobility Adviser less than once every three months thought this level of contact was too little. All the other organisations thought it was about right and none thought they had too much contact with the Mobility Adviser or the City Council.

'Pre-MOSAIC' organisations (i.e. those already involved when the project started) appear to have slightly more contact with the City Council than others. However, this is probably due to the fact that these are more likely to be larger organisations and to have a full-time staff travel co-ordinator working on the Commuter Plan. Further analysis (which should be treated with caution due to the small numbers involved) revealed that organisations employing more than 400 staff were approximately twice as likely to have contact at least once a month compared to those employing fewer than 400. Organisations with a designated staff travel co-ordinator were approximately four times as likely to have contact at least once a month compared to those without.

6.7. Assistance from City Council

The majority of the 23 Active organisations thought that the level of assistance they received from the City Council on Green Commuter Plan issues was what they needed. All 41 of the contacted organisations, whether Active or not, were asked whether there was anything else that the City Council could have done which would have encouraged them to introduce a Green Commuter Plan.

The most common request from the 23 Active organisations (11 responses) was for physical improvements in the vicinity of their site (e.g. improved cycle links). However, almost as many (10) said they would have liked help in analysing the results of the staff travel survey and 9 would have liked the City Council to design a Green Commuter Plan for them. Six would have liked the City Council to design a questionnaire for their staff travel survey and three would have liked the City Council to have actually organised implementation of the staff travel survey.

Only 4 out of the 18 ‘contacted but not active’ organisations listed developing a Plan as something they would have liked the City Council to help them with. It seems therefore that, on the whole, organisations are not being deterred from developing Plans by the level of commitment and input required from the organisation which supports the City Council’s approach of getting organisations to develop their own Plan and not simply to present them with a completed Plan. Many of the Active organisations obviously felt that they did not need any other assistance and commented that the City Council had already helped them in some of the ways listed.

The Commuter Planners’ Club organised by Nottingham City Council was viewed positively with just over half of the organisations surveyed who attended it saying that they found the meetings very useful, usually because they provided them with ideas or information from other organisations but less often because of the opportunity for networking and making contacts.

6.8. First Involvement in Green Commuter Plans

As Table 3 shows, over half the organisations gave concern for the environment as one of their main reasons for getting involved in Green Commuter Plans. Whilst organisations may be keen to reduce their environmental impacts, it seems likely that they are also motivated by less altruistic factors since over a third gave solving parking problems as one of their main reasons for getting involved.

Table 3: Main Reasons for getting involved in Green Commuter Plans

| Reason | No. |
|--|------------|
| Concern for the environment | 12 |
| To solve parking problems | 9 |
| To reduce congestion around the site | 6 |
| To set a good example | 5 |
| To improve the image of the organisation | 3 |
| To comply with a planning agreement | 3 |
| To improve the health of the workforce | 2 |
| Other | 5 |
| Total | 23 |

6.9. Progress on Green Commuter Plans

Thirteen of the organisations had carried out a staff travel survey. Only four of the organisations had formally published or produced its Green Commuter Plan but many of the others had already introduced one or more measures which would contribute to their Plan. The provision of information is the most common measure being adopted - 14 organisations have

implemented this. Almost a third (7) of the organisations said that they were actually reducing the number of parking spaces available as part of their plan and six said that they have introduced a car park permit scheme - thus demonstrating that they are using 'stick' as well as 'carrot' measures.

6.10. Overall Impression

The active organisations were asked whether they thought that other organisations in the City, not currently adopting Green Commuter Plans, might have been encouraged to participate if the initiative were being promoted by someone else other than the City Council. Most (19 out of the 23) said that it would not have made any difference but the remaining four thought that other organisations might have got involved if it was being promoted by the local Chamber of Commerce. However, when the organisations which had been contacted but are not active in commuter planning were asked whether their organisation's decision not to proceed would have been different if the initiative were being promoted by someone else, none selected the local Chamber of Commerce and only two selected Central Government.

The active organisations were asked what their overall impression was of the City Council's work on Green Commuter Plans. Most (13 out of the 23) felt that it was a valuable initiative even if it has not been very effective to date but eight were even more supportive describing it as an innovative and effective way of solving congestion problems.

7 - CONCLUSIONS FROM THE WORK IN NOTTINGHAM

The voluntary approach adopted in Nottingham has been very successful and there are now a total of 32 (out of a possible 108) organisations in the City actively working on Green Commuter Plans. Ten of these were involved before the MOSAIC project started but in the 18 months since the demonstrator started 22 organisations (or more than a fifth of the remaining 98 organisations) have been encouraged to get involved in commuter planning. As these organisations include many of the largest employers in the City, a third of the total workforce in Nottingham now work in organisations which are actively working on Green Commuter Plans.

The organisations' reasons for getting involved vary but Commuter Plans are often welcomed as a way of solving existing problems, particularly for medium-sized organisations who may have problems due to congestion, parking, or a desire to expand on their existing site. The research in Nottingham found that the organisations which benefited most from contact with the mobility adviser were those which had appointed a designated person to act as co-ordinator for their Commuter Plan. The mobility adviser's experience suggests that the most successful co-ordinators tend to be based within the Estates or Facilities management functions of an organisation. This is probably since, as discussed above, the impetus to introduce a Plan often comes from the need to solve problems of access to, or space on, the site so these functions have the most to benefit from the success of the Plan.

Within the timescale of MOSAIC it has not been possible to assess the effects that Commuter Plans have at individual sites and on the transport system as a whole as few of the Nottingham Plans have been in existence for a sufficient length of time. Experience from the Netherlands suggests that such Plans can have an impact within a relatively short space of time. One study of employer programmes there reported an average reduction in the number of car kilometres to be between 4-7% (Van Maanen and Sleurink, 1996). Newson (1997) reports similar success in the USA – in areas encouraging or mandating employer TDM programmes, reductions in the order of 3-10% are common. The best programmes are even more successful. One study (Schreffler, 1996) of the 'success stories' in the Netherlands and the USA found average reductions of about 20%.

So as more and more organisations implement plans there is the potential to make a real contribution to reducing traffic growth. In the longer term, the role of Commuter Plans in Nottingham is seen as being to reduce the number of cars on the roads at peak times so that sufficient road space is released to allow for extensions to the bus and cycle networks and the need to build more roads is avoided.

8 - NATIONAL DEVELOPMENTS

Although it is not possible to attribute any changes directly to the work of the MOSAIC demonstrator in Nottingham, it is worthy of note that during the lifetime of the project there has been increasing interest in mobility management, and particularly Green Commuter Plans, at a national level in the UK. There is an increasing emphasis in government policy on reducing car dependency and references have been made to Green Commuter Plans and the work in Nottingham in Ministerial speeches. There has also been an increasing amount of media interest in the issue.

The change of Government in the UK in May 1997 and the subsequent national review of transport policy provided an important opportunity to present the experience of Green Commuter Plans in Nottingham to policy makers nationally. When the Integrated Transport Policy itself was published in July 1998 (Department of the Environment, Transport and the Regions, 1998a) it emphasised the Government's commitment to work with local authorities to help them encourage the voluntary take-up of Green Transport Plans (GTPs) through partnership with business and the wider community. The Government itself is taking the lead by introducing Green Transport Plans in all Government departments and their agencies and has set a target 'that all headquarters buildings and main buildings occupied by Executive Agencies and Government Offices for the Regions should have green transport plans by March 1999 and all other key buildings by March 2000'.

Even before the White Paper was published a number of local authorities had begun targeting large employers in their areas and encouraging them to adopt packages of measures aimed at influencing employees' mode choice for the journey to work. Research carried out for the Department of the Environment, Transport and the Regions (DETR) in early 1998 (Bradshaw et al, 1998) found that local authorities appear to be slightly more involved in encouraging other organisations to develop GTPs than in developing them within their own organisation. At that time about 6% of authorities had encouraged GTPs in other organisations in their area compared to 3% who had introduced one for their own staff. However, 40% were in the early stages of developing a Plan so it is evident that activity is increasing. The earliest initiatives identified began in 1995 but almost two-thirds had begun since the start of 1997. It is evident from this just how recently most GTP initiatives have been started.

The Integrated Transport White Paper introduced changes to the way in which local authorities will receive Central Government money for local transport infrastructure spending. Until now money has been allocated on an annual basis but under the new system local authorities submit Local Transport Plans which set out their proposals for 'delivering integrated transport' over a five year period. The draft guidance on Local Transport Plans, published in November 1998, reinforced the importance the government attaches to GTPs. It states quite clearly that local authorities will be expected to develop Plans for their own major sites and to set out how they will encourage major employers in their area to adopt GTPs.

Unfortunately local authorities are not able to apply for revenue funding in their Local Transport Plan which means they would not be able to use this process to finance the employment of a dedicated member of staff, like the Nottingham mobility adviser, which is probably the best way of encouraging the adoption of GTPs. However, the White Paper also proposed providing local authorities with new powers to raise revenue for transport initiatives by charging for road use and workplace parking. These proposals require legislation to bring them into practice so it is not certain how soon they will be available nor is it known to what extent local authorities will choose to adopt them. What is certain, however, is that such charges could provide a valuable source of funding for mobility advisers and related initiatives, whilst also supporting the aims of mobility management by seeking to reduce the demand for car use.

In addition to the direct references to Green Transport Plans in the integrated transport policy documents, there have also been a number of other recent developments in central government policy which are of relevance. Legislation has recently been introduced which requires authorities in urban areas to produce Air Quality Strategies – these will almost certainly have to include measures for reducing car use so car commuting may well be targeted. The Road Traffic Reduction Act requires local authorities to set targets for reducing car use and once again work journeys will almost certainly be included.

9 - CO₂ REDUCTION

9.1. Government Commitments and Proposals

The UK has agreed to reduce overall emissions of the six principal man-made greenhouse gases by 12.5%, as its contribution to the European Community's joint commitment of an 8% reduction under the Kyoto Protocol agreed in Japan in 1997. CO₂ forms over 75% of these gases overall and 95% in the transport sector. Assuming traffic growth forecasts, greenhouse gas emissions in the transport sector are set to rise by 5% compared to 1990 levels by 2000, and by 7.5% by 2010. In addition, before it came to power, the current Government set a target in its manifesto of reducing carbon dioxide emissions by 20% below 1990 levels by 2010. Currently the transport sector accounts for 23% of total carbon dioxide emissions, of which 85% comes from road traffic (Local Transport Today, 1998).

Until, the White Paper was published in July 1998, the main tool for reducing emissions from road transport was the fuel duty strategy. This was introduced by the previous administration which had committed itself to raising fuel taxation by at least 5% a year above inflation on average. The current government raised this to 6%. The Government believes that this strategy will encourage the development and purchase of more fuel efficient vehicles. Manufacturers have made improvements in the fuel efficiency of new cars in recent years. However this has been largely outweighed by a tendency towards the purchase of vehicles with larger engines and additional features, such as air conditioning and side impact bars, which increase the weight of the vehicle and, therefore, its fuel consumption.

The Government recently published a consultation paper setting out the policy options for reducing greenhouse gas emissions in a range of areas, of which transport is just one. This states that 'action to encourage greater fuel efficiency, through existing tax signals and promotion of cleaner vehicles, will have a central role to play, but a package of smaller-scale measures will be needed to change attitudes and manage demand for transport at a local level. The impact of these initiatives individually is likely to be small, but the cumulative effect could be significant'.

9.2. Mobility Management's Contribution

It is suggested (Department of the Environment, Transport and the Regions, 1998b) that the key measures in the Integrated Transport White Paper have the potential to reduce road traffic carbon dioxide emissions to a level 22-27% below the current published UK forecast for 2010. The main role of such measures will be in reducing congestion which is estimated to increase carbon dioxide emissions by as much as 10% on urban roads.

The level of reductions from local transport measures depends on the timing of legislation to introduce certain aspects, such as road user and parking charges and the extent to which local authorities take up their new powers to introduce such charging. The Climate Change consultation document estimates that all the transport measures set out in the White Paper including GTPs but also traffic management and calming, road user and parking charges, bus quality partnerships and freight quality partnerships could contribute a 0.8 MtC (million tonnes of carbon) reduction by 2010. This is based on full take-up of all measures in urban areas at least the size of Southampton (greater than 25 km²). If take-up was restricted to London and about a third of these other urban areas savings would be about 0.3 MtC. By comparison, a strict enforcement of the 70mph speed limit on motorways would save between 0.4-2.8 MtC.

However mobility management measures, such as GTPs, may also have a wider role to play in contributing to reducing emissions from transport. GTPs raise awareness about environmental and transport issues and encourage people to think more carefully about the modes of transport they use to travel to and from work and during the course of the working day. In time they should lead to more wide ranging changes in individual attitudes to transport and eventually to changes in behaviour. The Government considers that increasing public awareness of the impact that their decisions have on greenhouse gas emissions is a critical element of its climate change strategy.

As well as collectively contributing towards achieving UK targets for reducing emissions, GTPs can help individual organisations meet their environmental commitments. Research was recently carried out to assess ways in which the Energy Efficiency Best Practice Programme (EEBPP), which promotes best practice to business, could be used to promote GTPs (Armitage, 1998). This research suggested there was a need for guidance to show those working on GTPs how to measure, monitor, and report the environmental impacts of the initiatives they introduced. This would be particularly relevant for ISO14001 which many organisations are now working towards. This requires the setting of performance indicators, of which energy use and emissions would be two of the most important. The report of this research gives examples of how companies could determine the fuel saved by encouraging a modal shift due to the re-routing of a bus service to serve the site or by introducing more fuel efficient pool cars.

10 - FUTURE DEVELOPMENTS

The work of the MOSAIC demonstrator in Nottingham has shown that a mobility adviser employed by a local authority can successfully encourage other large employers in the area to introduce strategies to reduce car use by their employees. There is also evidence from elsewhere, as discussed in Section 7, which shows that such strategies can have quite significant impacts on the number of vehicle kilometres travelled.

Although they are often introduced to solve very local problems of congestion or parking shortage, GTPs actually have an important role to play in supporting national and European policy initiatives in several areas including, not only traffic reduction, but also air quality improvements and energy efficiency. Further proposed changes in legislation in the UK

will give local authorities new powers to raise revenue for funding transport initiatives and, therefore, provide them with greater opportunities to introduce mobility management initiatives and to employ dedicated members of staff to promote GTPs to other organisations. The consultation document on road user and workplace parking charges (Department of the Environment, Transport and the Regions, 1998c) invites comments on whether employers with GTPs should be exempt from any levy on workplace parking spaces. Even if they are not exempt, employers with GTPs ought to be in a better position than those without since they should be able to reduce their need for parking provision.

Almost half the employers surveyed in Nottingham would prefer technical solutions to reduce traffic congestion and pollution. The Government, too, places quite an emphasis on technical solutions to reduce emissions and improve fuel efficiency in its proposed transport measures to reduce greenhouse gas emissions. However, it recognises that a whole range of other measures will also be needed, particularly those aimed at changing attitudes and managing demand for transport at a local level. This provides a clear indication of the importance of mobility management type initiatives in any package of measures to solve transport and environmental problems. It, therefore, seems likely that there will be continuing support, both at a local and national level, for GTPs and that there will be increasing interest in expanding this approach to journeys to other sites such as cinemas and shopping centres.

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