

Government Office for the South West

London to South West and South Wales

Multi-Modal Study

Reducing the Growth in Travel Demand

Final Report

May 2002



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Government Office for the South West

London to South West and South Wales Multi-Modal Study

Reducing the Growth in Travel Demand Final Report

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
13	0	Reducing the Growth in Travel Demand (Draft Report)	Jan'02	DB/PF
13	1	Reducing the Growth in Travel Demand (Final Draft)	Mar'02	DB/PF
13	2	Reducing the Growth in Travel Demand (Final Report)	May'02	DB/PF

The Preferred Strategy will go to the Regional Assemblies for the South West and South East of England, and the Welsh Assembly Government, to consider their recommendations and as an input to the revision of the Regional Transport Strategies in Regional Planning Guidance for the South West and the South East.

These bodies will consider whether they wish to support the strategy. They will then, in turn, make recommendations to Ministers. Only then will any decisions be taken on the addition of schemes to investment programmes.

The study has been taken forward in an open and consultative manner and the possible options discussed publicly. Many of the proposals are at an early stage in the planning process and if the recommendations were accepted, further work would be required to prepare and consult on detailed designs and route alignments. This will allow specific impacts to be identified.

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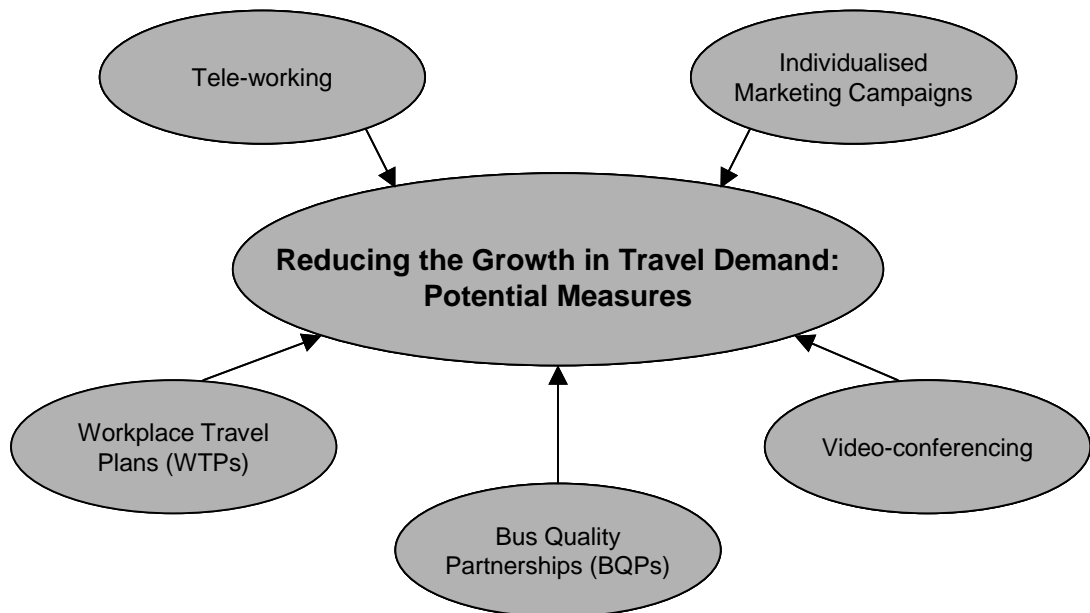
Annex A - Sources

Executive Summary

E.1 Reducing the growth in travel demand by changing behaviour through non-traditional transport interventions is an element of the SWARMMS transport strategy. If their full potential is realised, the operational efficiency of the transport system would be significantly enhanced. However, there are real uncertainties about the scale of their effects in practice and the willingness of policymakers to press for their implementation. This Plan assesses the scope for such reductions and recommends the actions needed to achieve these. The focus of travel reduction is car use and, in some instances, this will result in an increased use of other transport modes.

E.2 Whilst there is a large range of potential measures, only a few offer any real prospect of materially reducing growth in travel on the strategic network. These are shown below:

Figure E1: Reducing the Growth in Travel Demand: Potential Measures



E.3 There is a need to reduce local travel demand through measures such as encouraging walking and cycling and school travel plans but these will have little effect on the strategic network. Bus Quality Partnerships can also reduce car use in busy urban corridors.

E.4 As in most of Great Britain, personal travel in the SWARMMS corridors is dominated by car, with two thirds of all journeys and seven out of eight kilometres travelled as car drivers or passengers. Business and commuting travel – on which the measures listed above are mainly focused – comprise 20% of journeys, 30% of kilometres undertaken and a quarter of car travel. Road transport also dominates freight traffic with four fifths of goods being transported by lorry or van

Tele-working

E.5 Tele-working is estimated to have the potential to reduce car use for commuting by 8% and total car use by 2% over the period up to 2016. This reflects the expected rate of take up and the fact that many tasks and types of workers are not suited to this mode of working. Many factors bear on the propensity to tele-work both at the employer and home ends. For this increase to be realised, a number of changes will need to take place, some of which are expected to occur in any event. The Government is supporting increased tele-working through a variety of initiatives although these are not well coordinated and lag behind those being taken by the Federal Government in the US.

E.6 This report recommends that the Government initiatives are better coordinated and extended, in conjunction with the Regional Development Agencies, to promote and provide further guidance on tele-working. Furthermore the situation in respect of tax liabilities should be clarified and a new concession introduced for employer funding of home offices for an initial period of five years. Tele-working should be treated as an integral part of Workplace Travel Plans and regarded as such by local authorities.

E.7 The public sector efforts in this area should be strengthened with reviews of its potential and programmes for implementation. This would be aided by a clear steer from central Government as to the rates at which they expect tele-working to be introduced by type of organisation and work activity. The public sector should also work to extend the tele-cottage/tele-centre initiatives in their areas as a means of entry to the tele-working experience and as a facility for those people for whom a home office is not cost effective.

Video-conferencing

- E.8 Despite the basic technology having been available for many years, video-conferencing is still in its infancy in the UK and used mainly by large firms with a number of disparate sites. It can take several forms and the technological capabilities required for these vary from a simple video-phone at one extreme to multi camera/large screen/broadband communications at the other. The effectiveness and appeal of video-conferencing will grow as broadband communication becomes more widely used. At the moment broadband connectivity in the UK is well below its potential; and the levels to be found in most developed countries.
- E.9 High speed digital communication is however now widely available and priced to make real-time video connections a practical proposition for almost all companies while the prices of terminal equipment have also been falling. There are a number of companies offering video-conferencing services and a handful of video-conferencing centres have been established in the wider SWARMMS area. It is estimated that up to 7%-8% of business travel could be replaced by video-conferencing by 2016 in the SWARMMS area, reducing overall traffic levels by just over 1%. To achieve this however will require positive action by Government at central and regional levels.
- E.10 The initiatives recommended to increase the use of video-conferencing include programmes by public agencies to expand its use for their own purposes, as well as promotional campaigns in conjunction with relevant industrial partners. Regional partnership schemes to develop video-conferencing are being developed in Wales and Scotland and the regional authorities in the SWARMMS area should follow suit. Video-conferencing should also be addressed by local authorities in formulating their Local Transport Plans and be treated as a legitimate part of Workplace Travel Plans packages.
- E.11 More generally, central Government should assist in the development of video-conferencing by using the technology itself where appropriate and providing guidance and support for other public agencies. Specific initiatives (e.g. school networks) should be mounted to familiarize wider sections of the community with its potential and the telecommunications regulatory regime should be reviewed to ensure that broadband communications in the UK is enabled to catch up with the best of other European countries in this field.

Workplace Travel Plans

- E.12 Workplace Travel Plans (WTPs) are designed to reduce car use for commuting and, often to a lesser extent, business travel. They can comprise a range of initiatives from modest measures to make cycling and walking more attractive, through improvements to local public transport access, to measures to reduce car use directly such as on-site parking charges. Government also provides guidance and some financial support to assist the development of WTPs.
- E.13 However, interest in WTPs has been limited and mainly confined to large organisations that need planning consent to expand or change land uses on one or more of their sites. Only about 7% of private businesses have WTPs although they are more common in the public sector. Most local authorities in the SWARMMS area include the introduction of WTPs in their Local Transport Plans but, as yet, there is only limited evidence of these having any significant general effect on employee travel behaviour. What evidence there is usually relates to large well-organised firms that have ambitious plans supported at board level. Substantial changes in travel behaviour have been measured at a few large sites, for example Pfizer have observed a 3% per year reduction in the number of vehicles on site at its main campus in Tonbridge (Kent) over the last three years. However overall, it seems that WTPs have not yet had a major impact on commuting and/or business travel behaviour.
- E.14 For substantial changes to behaviour to be achieved the take up of WTPs must be much more widespread and clearer targets established and implemented as part of this process. For this to happen there must be incentives that apply in circumstances other than when a firm is seeking planning permission to expand. This would be a significant further step in developing WTPs but has a precedent in the US. It is recommended that local authorities define modal split targets for congested travel zones and introduce workplace parking levies on 'excess' workplace parking where these targets are not being met.
- E.15 Other recommendations in respect of WTPs include clarification of Government advice and the setting of targets, and an expansion and extension of the DTLR bursary and site-specific advice initiatives. Also of importance is clear regional guidance on traffic and parking policies to prevent local authorities using excessive parking concessions as a means of attracting development to their areas.

Public Transport Marketing

- E.16 Effective marketing can stimulate the use of public transport but is most often used with the aim of using up spare capacity rather than principally attracting people from driving cars. This form of general marketing is quite well developed by coach and train operators in the SWARMMS area. Bus operators have company marketing programmes but the provision of joint ticketing, timetabling and information has been inhibited by fair trading legislation. The Transport Act 2000 goes some way to removing these inhibitions, but some obstacles are seen to remain.
- E.17 Individualised marketing campaigns have shown themselves to be effective in switching a significant number of trips from cars to public transport, when carefully targeted and where there is a good quality public transport alternative. These have not yet been much used in the UK but, where public transport is to be improved, for example by bus quality partnerships, offer the prospect of material reductions in car traffic along busy urban corridors. A number of promising initiatives are identified in the Plan and these should include the promotion of walking and cycling in appropriate circumstances.
- E.18 It is recommended that the provisions of the Transport Act 2000 be reviewed to remove any remaining barriers to the provision of integrated fare ticketing and timetabling on local bus services and between buses, coaches and trains. More important a SWARMMS-wide programme of individualised marketing campaigns should be developed using the list of sites indicated in paragraph 8.5.8 as its starting point.

Other Measures

- E.19 Bus Quality Partnerships that deliver substantial improvements in bus services along busy urban corridors are to be encouraged as this can attract people from their cars and create the conditions for successful individualised marketing campaigns. Specific proposals for these are contained in the Plans for the Bristol and Swindon areas and in those parts of the corridor Plans dealing with the other larger urban areas.
- E.20 School travel plans and encouraging walking and cycling are not likely to have any significant affect on longer distance journeys using the strategic network but should still be incorporated in Local Transport Plans to ease local congestion and help encourage more responsible travel behaviour generally.

E.21

Together these measures have the potential to reduce car commuting and business travel by 10% or so overall - about 3% of all car traffic - and even more in busy urban corridors. The impacts of the individual measures are summarised in the following table:

Table E1: Summary Effects Table for Reducing Travel Demand

Type Of Measure	Type of Travel Affected	Volume of Car Use (Driver)	Journey Length (Car Mode)	Peakiness	Potential Affect %/Kms
Tele-Working	Commuting	1,700kms per person per year	16kms	Very high	8%/135kms per person per year
Video- Conferencing	Business	1,400kms per person per year	32kms	Low	7½%/80kms per person per year
Workplace Travel Plans	Commuting + business	3,100kms per person per year	23kms	High	2%/60kms per person per year
Individualised Marketing	Commuting + others (urban)	Depends on applications	5 – 10kms	High	c 1% of commuter traffic
Bus Quality Partnerships	Commuting + others (urban)	Depends on applications	5 – 10kms	High	c ½% in urban areas
Combined Effect	Commuting + business + urban	3,100+kms per person per year	-	High	3% of car traffic 5% of peak car traffic 5%+ of peak urban car traffic

1 Introduction

1.1

Context

1.1.1

Halcrow was appointed by the Government Office for the South West (GOSW) in March 2000 to undertake the London to South West and South Wales Multi-Modal Study ('SWARMMS' – South West Area Multi-Modal Study). The overall aim of the study is to make recommendations for a long-term strategy to address passenger and freight transport needs within the key transport corridors between London and the South West of England and South Wales (M3, M4, M5, A303, A30, A38 and the parallel rail routes). Figure 1.1 shows a map of the SWARMMS study area.

Figure 1.1: Map of the SWARMMS Study Area



1.1.2

This will include, as and where appropriate, plans of specific interventions to address existing and predicted strategic transport problems in the study area, looking in particular at opportunities for reducing congestion by better management and modal shift, as well as options for taking forward focused improvements.

- 1.1.3* The Strategy developed in SWARMMS comprises a range of policies and schemes that, together, are designed to effectively address the transport problems of the SWARMMS area. A central feature of these problems is the growing imbalance between the demands made on substantial sections of the area's transport infrastructure and services and their capacity to carry these safely and efficiently. If the growth in travel demand can be moderated then the requirement for additional infrastructure and services will be lessened and the generality of transport operations will be more efficient. This Plan sets out a number of proposals that can shape and help to limit the growth in transport demand.
- 1.1.4* There are nine other Plans that form part of the strategy for the SWARMMS area. Four of them are multi-modal transport corridor plans, and two other Plans specifically address the principal urban areas of Bristol and Swindon. There are obvious geographic linkages across these Plans.
- 1.1.5* There are three other study-wide theme plans and these are rural access to the major transport routes, tourism, and intermodal freight. The Plans for tourism and reducing the growth travel demand are very significant and inter-related, and where there are links and common influences, these have been noted.
- 1.1.6* This Plan deals with those 'softer' factors that are outwith the scope of conventional transport models such as the effects of electronic communications on transportation. Although the Plan is titled 'Reducing the Growth in Travel Demand' in practice it concentrates on those components of transport demand that put the greatest pressure on the infrastructure and services which are the concern of SWARMMS. In some instances it deals with measures that lead to an absolute reduction in travel demand; in others it deals with measures that stimulate one form of travel demand at the expense of another that is more difficult or disruptive to accommodate. The focus of this Plan is on reducing car-based travel demand although the implications for other modes will also be briefly discussed.

2 Scope and Methodology

- 2.1.1 The Plan sets out the broad scale and purpose of travel demand in the SWARMMS area and identifies those factors that could potentially reduce its growth. It then estimates the extent to which these are already at work, considers the further scope for their operation within a timescale of the next fifteen years and what actions are needed to enable or promote this potential to be realised. The Plan recognises that the progress of some measures is unlikely to be influenced to any significant extent by Government policy. Others may be susceptible to public policy initiatives, but outside the transport and planning domain. Finally there are those measures that can be influenced by transport and planning policy.
- 2.1.2 Where measures do offer potential for reducing demand growth these are identified, along with the policy actions that are required to achieve this and the relevant agencies identified. During the course of the Plan preparation, discussions have been held with representatives of a number of those agencies that could influence and/or implement the introduction of the relevant measures in order to ensure that its proposals recognise the practical problems and opportunities involved. However the limited time available and lack of timely response to our approaches by some organisations has meant that not all those who should be involved in the implementation of the Plan have had their views taken into account.
- 2.1.3 A review has been carried out of the relevant content of the Local Transport Plans (LTPs) and annual reports of progress thereon. This has shown that headway is being made in the more familiar areas such as Bus Quality Partnerships but, as yet, there is less evidence of progress in the less traditional areas such as Workplace Travel Plans. Some potential measures (e. g. video-conferencing) are not generally seen as forming a part of LTPs.
- 2.1.4 The Plan has taken the findings of the Halcrow report *Multi-Modal Studies: Soft Factors Likely to Affect Travel Demand*, which identified those factors most likely to affect travel behaviour. In addition to this the results of consultations in the SWARMMS strategy formulation stage have been taken into to consideration. The most promising measures have been considered in greater depth, the extent to which these are already being applied in the SWARMMS area investigated and the actions required to realise their potential in moderating the growth in travel

demand in the area explored. This has resulted in a number of recommendations for each of the types of measures, which are brought together in section 11.

2.1.5

Many of the measures are relatively recent additions to the transport planning toolkit and consequently their feasibility and effectiveness are relatively untested. This means that the risks associated with the proposals in this Plan are greater than those associated with tried and tested transport policies and measures.

2.1.6

Changing travel behaviour requires a number of conditions to be met. Firstly there must be an alternative (or alternatives) to the pre-existing habit that offers a comparable level of utility. Secondly the subject must have knowledge or be provided with knowledge of this alternative. Thirdly there must be some form of motivation to try the alternative. Finally, of course, behaviour will only change if the alternative shows itself to be acceptable. Meeting all these pre-conditions will usually require several parties to work together; employers, trade unions, transport operators and public authorities may all be required to bring about the circumstance in which individuals will change their travel behaviour. In formulating the Plan we have tried to identify the players and the roles they will have to carry out to enable it to be effective.

3 Travel Generation in the SWARMMS Corridors

3.1

Introduction

3.1.1

The corridors being examined in SWARMMS have a population of about three million people and can be expected to contain about 1¼ million jobs. They contain no major conurbation but has a number of larger urban areas notably Bristol, Swindon and Exeter with Reading to the east. Much of the area's population live in smaller and medium sized towns with a fair proportion living in rural areas.

3.2

Personal Travel by Mode

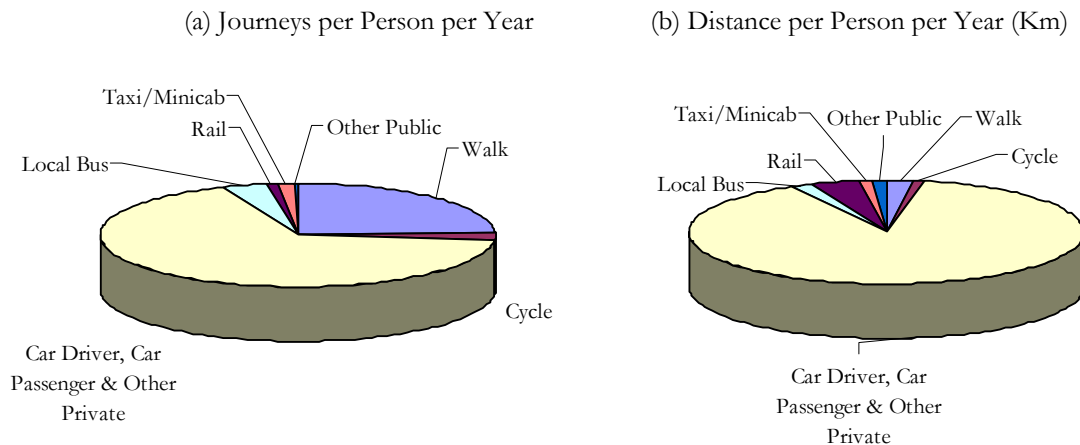
3.2.2

There are no travel statistics published for the SWARMMS corridors so the following data is based on that published for the Government Office Regions (GORs) of the South East and the South West. For some modes the survey results cannot be broken down reliably by GOR so approximations have been made (shown in italics) based on national averages adjusted by data, where it exists, for similar regions. National average figures are shown in brackets.

Table 3.1: Personal Travel by Mode by SWARMMS Corridor Residents (and National Average Figures), (1998/2000)

Mode	Journeys per Person per Year	Distance per Person per Year (Km)
Walk	254	290
Cycle	19	75
Car driver	440	6,700
Car passenger	245	4,000
Other private	14	370
Local bus	35	250
Rail	<i>11</i>	<i>500</i>
Taxi/minicab	<i>12</i>	<i>120</i>
Other public	<i>4</i>	<i>150</i>
All modes	1,034	12,455

Figure 3.1: Personal Travel by Mode by SWARMMS Corridor Residents (1998/2000)



3.2.3

Private transport comes out as by far the most common form of travel by residents of the corridors – 94% of journeys and 91% of kilometres travelled. Of this, car is the main mode - two thirds of all private journeys and almost seven out of every eight kilometres travelled. Bus is the most frequently used form of public transport although residents travel further by rail because of the much greater length of journeys. On average residents of the SWARMMS corridors make about one bus or train journey a week and take one taxi or minicab ride a month. The use of coaches (the main component of other public transport) is even less frequent and is mainly associated with holiday travel and excursions.

3.2.4

This high use of cars is associated with high car and driving licence ownership. Car ownership rates are 16% higher than the national average (in 1998/2000 67% of households of households had cars and, on average there was one household per car) and fewer than a quarter of households do not own a car. Possession of driving licenses by men is 5% higher than the national average (71% of all adults had full car driving licences in 1998/2000) but for women the figure is 13% higher, suggesting that car use by women in the area is relatively high. Bus use is low at 250kms per person per year compared with the national average of 395kms per person per year and this is reflected in a lower provision of service of about 35 bus kms per person per year compared with 45 bus kms per person per year nationally, although the gap is not as large as that of ridership. Bus accessibility in the western part of the area is significantly lower than the national average (15% fewer household within 13mins of a bus stop with an hourly service). It appears that rail use is also lower than in the rest of the country especially in the western part of the

corridors as here expenditure on rail fares is less than a third of that of England as a whole and lower than in any other GOR.

3.3
3.3.5

Personal Travel by Purpose

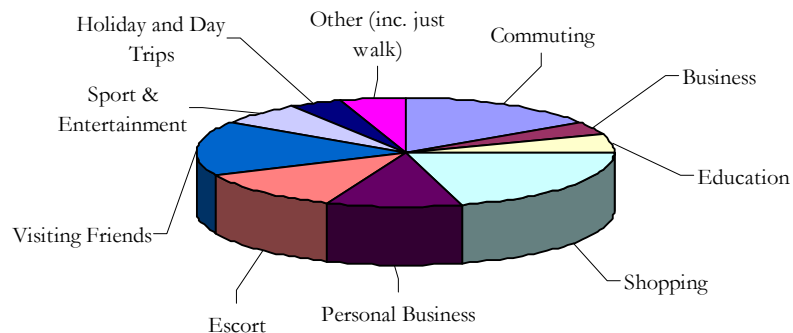
Travel by journey purpose is illustrated in Table 3.2. Again this is partly based on estimates. The kms per person figures are derived from national averages factored to reflect trip-making rates in the area and adjusted to give a similar total to that in Table 3.1. Again this means that the numbers should not be taken literally but are adequate to give a picture of the proportions of travel volumes that are associated with individual journey purposes.

Table 3.2: Personal Travel by Purpose by SWARMMS Corridor Residents (1998/2000)

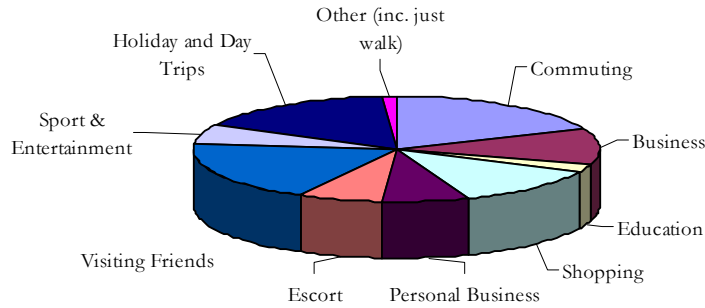
Purpose	Journeys Per Person Per Year	Distance Per Person Per Year (Km)
Commuting	161	2,300
Business	42	1,400
Education	57	300
Shopping	212	1,500
Personal Business	107	850
Escort	125	850
Visiting Friends	170	2,300
Sport & Entertainment	66	800
Holiday & Day Trips	42	2,000
Other (inc. just walk)	52	150
All Purposes	1,034	12,450

Figure 3.2: Personal Travel by Purpose by SWARMMS Corridor Residents (1998/2000)

(a) Journeys per Person per Year



(b) Distance per Person per Year (Km)



3.3.6

Soft measures to moderate travel demand seem most likely to affect commuting, education and business travel. The use of the different forms of travel for these purposes in the SWARMMS corridors is estimated in table 3.3. Again these figures are based on a mixture of regional and national data.

Table 3.3: Estimates of Modal Split by Journey (and Distance) in the SWARMMS Corridor (1998/2000)

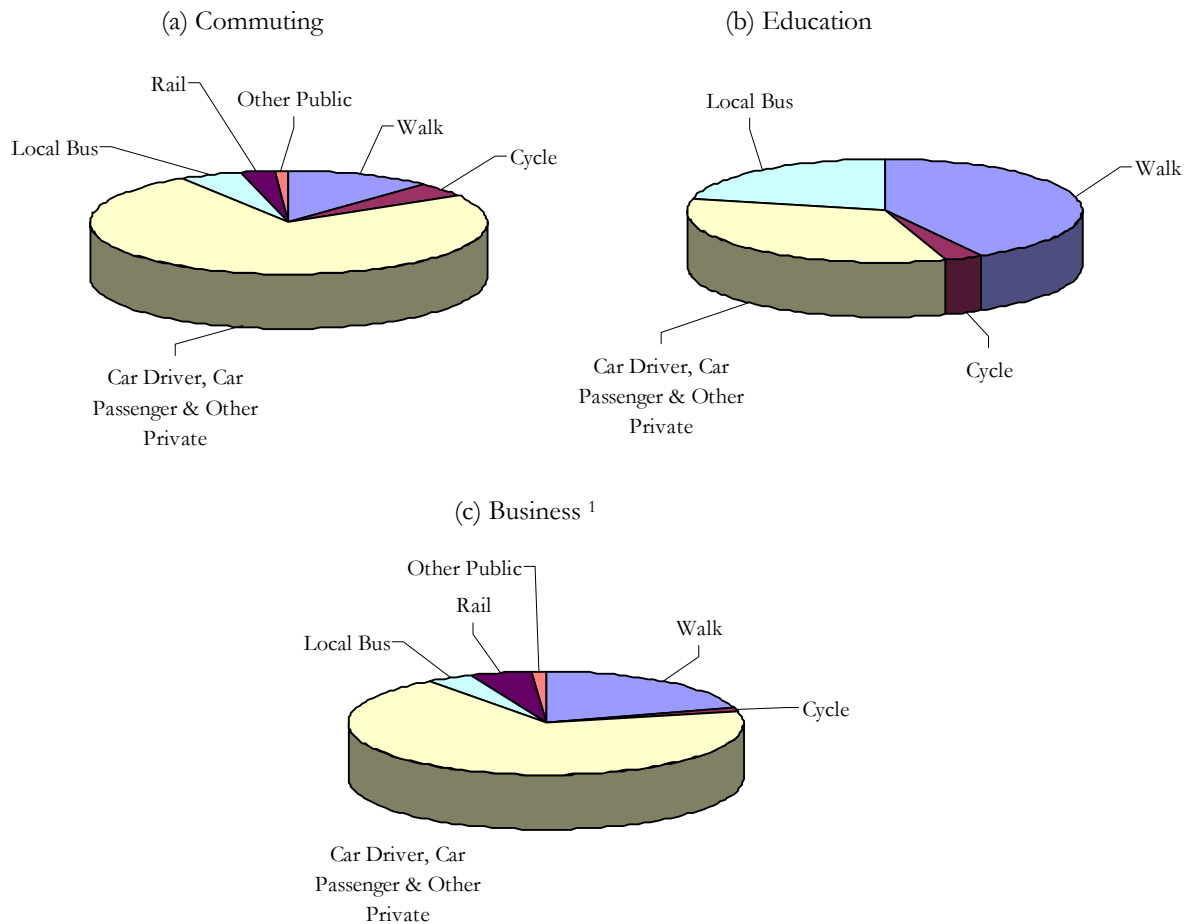
Mode	Commuting (%)	Education (%)	Business ¹ (%)
Walk	12 (1)	42 (8)	20 (1)
Cycle	4 (1)	3 (2)	1 (1)
Car driver	63 (74)	- (-)	50 (74)
Car passenger	10 (9)	32 (48)	18 (9)
Other private	2 (1)	2 (10)	1 (1)
Local bus	5 (3)	21 (26)	4 (2)
Rail	3 (10)	- (4)	5 (10)
Other public	1 (1)	- (2)	1 (2)
All modes	100% (100%)	100% (100%)	100% (100%)

¹This does not include Personal Business

3.3.7

'Car driver' is the dominant mode for commuting and business. Clearly driving to school by pupils is rare; the traffic generation here is from the escort journey and there is one car driver trip for every three education trips nationally. Of the 6,700 kilometres of car travel for each SWARMMS corridor resident each year, about 1,750 are commuting, 1,450 on business and 120 escorting children to school as their main purpose. The commuting and school escort travel is concentrated in morning and evening peaks.

Figure 3.3: Estimates of Modal Split by Journey in the SWARMMS corridors for Commuting, Business and School Travel 1998/2000.



¹This does not include Personal Business

3.4
3.4.8

Goods Travel

The *Soft Factors* report did not identify any significant opportunities for reducing the growth in road freight nationally. As in the rest of the country road transport is the main carrier of freight in the SWARMMS corridors with around eighty percent of goods movement within the area going by van and lorry. The density of road freight traffic generation in the SWARMMS corridors is not that different from the national average of 55 tonnes per capita per year (lifted and dropped) being 46 tonnes per capita per year in the South East and 57 tonnes per capita per year in the South West, which reflects the different mixes of economic activity through the area. The majority of freight movements are internal to the constituent regions

(68% in the SE and 77% in the SW) so the scope for the use of coastal shipping and, to a lesser extent, rail as an alternative to road is quite limited.

3.4.9

For a fuller description of goods travel in the SWARMMS area see Appendix A of the Inter-modal Freight Facilities Plan.

4 Identification of Potential Measures

4.1

4.1.1

Measures

The *Soft Factors* study and results of consultations with stakeholders have identified a long list of factors that might have an effect on travel growth. These are:

- Bus Quality Partnerships
- Car clubs
- Company cars – higher taxation upon the private usage of company cars
- Cycling – increasing the take-up of cycling
- DTLR School Plan Bursary Scheme – extending this scheme in the future
- E-Commerce
- Hearts and minds – campaigns to change these
- Local services – seeking to improve these
- Multi-car ownership – penalising this
- Internet shopping
- Land use policies
- Local authorities – more freedom to authorities to spend revenue on promoting and supporting sustainable transport
- Local sourcing
- Marketing initiatives – individualised and general
- Oil scarcity in the future
- Public transport information – improving the quality and provision of such information
- Residential mobility
- School Travel Plans
- Tenure arrangements – allowing workers to be located nearer to their jobs with employer's assistance
- Two wheeled vehicles – greater use of this mode
- Tele-working
- Walking – increasing the take-up of walking
- Working hours – employees allowed more flexibility over their working day
- Workplace Travel Plans
- Video-conferencing

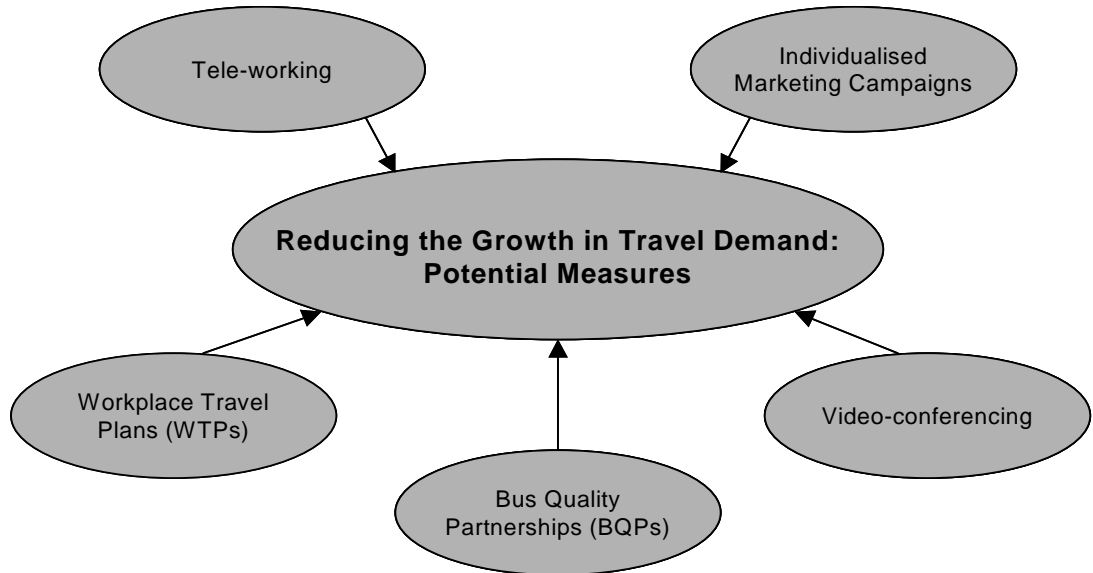
4.1.2

Most of these appear to have some potential but it would be imprudent to rely on many of them to make significant differences to the future transport demand for the services and facilities being considered in SWARMMS. Some are very general concepts (e.g. better local services), for others there is no real evidence of there being any significant effect (e.g. Internet shopping). For some, the evidence is that the effects on car travel are insignificant (e.g. general public transport marketing) and for others, whilst there are potential reductions, these are very local and will not be of any consequence for the facilities and services that are being considered in SWARMMS. Where suggestions are in direct contradiction to Government policy (e.g. penalising multi-car ownership) these have been excluded from the range of measures included in the Plan. Some individual measures are not dealt with directly (e.g. flexible working hours) but as part of other packages (Workplace Travel Plans in this instance).

4.1.3

As a result of the work done in the recent study for the DTLR, five measures have been identified as having potential to moderate strategic travel demand to some extent and there is some evidence to estimate by how much. These are shown below:

Figure 4.1: Reducing the Growth in Travel Demand: Potential Measures



4.1.4

This does not mean that the other ideas in the long list above should be forgotten. Indeed in the longer term some of them may well hold significant promise. However to base a Plan on a large range of uncertain and untried ideas such as these would be too risky and is not to be recommended. The relevant authorities should consider, in their on-going planning process, whether changes in these factors might, or could be engineered to, moderate transport demand growth and adjust their plans and policies accordingly. At this stage however there is no evidence to suggest that developments in these factors would have a material effect on the relevance of the SWARMMS strategy.

5 Tele-working

5.1 ***Introduction***

5.1.1 The rapid development of Information and Communication Technologies (ICT) in recent years has enabled and stimulated the take-up of more flexible working practices including tele-working. Definitions of tele-working vary widely, however the Government guide, 'Working Anywhere: Exploring Tele-work for Individuals and Organisations,' uses the term to denote "any form of working which meets the twin criteria of being undertaken at a distance from the conventional workplace, and being made possible by the use of ICT."¹

5.1.2 Tele-working is not a new concept; in the 1970's oil crises, the concept of moving the work instead of the person made good sense. However, for the idea of tele-working to gain widespread recognition, a number of factors had first to be put in place. These included a good reason to implement tele-working, cheap and reliable data communications and organisations that were willing to change the way in which they worked, monitored and managed their employees.

5.1.3 Throughout the 1980s and 1990s, the growth of tele-working was such that the Office of National Statistics now monitors levels of tele-working in the UK. In the spring of 2000, the Labour Force Survey calculated that some 5.8% of all employees and self-employed regularly tele-worked in the course of their main job, using either a home, office or alternative location as a base. In the SWARMMS area, 1.6% of the workforce tele-work with their home as a base; as Figure 5.1 shows, only inner London and the Rest of the South East has a higher participation rate in this activity. Such is the interest now surrounding tele-working, that at the Tele-work 2000 Conference, the then Minister for Small Business and E-commerce commented "... it seems to me we should be able, pretty rapidly, to get at least one third of our workforce here in the UK tele-working for at least part of the time..."

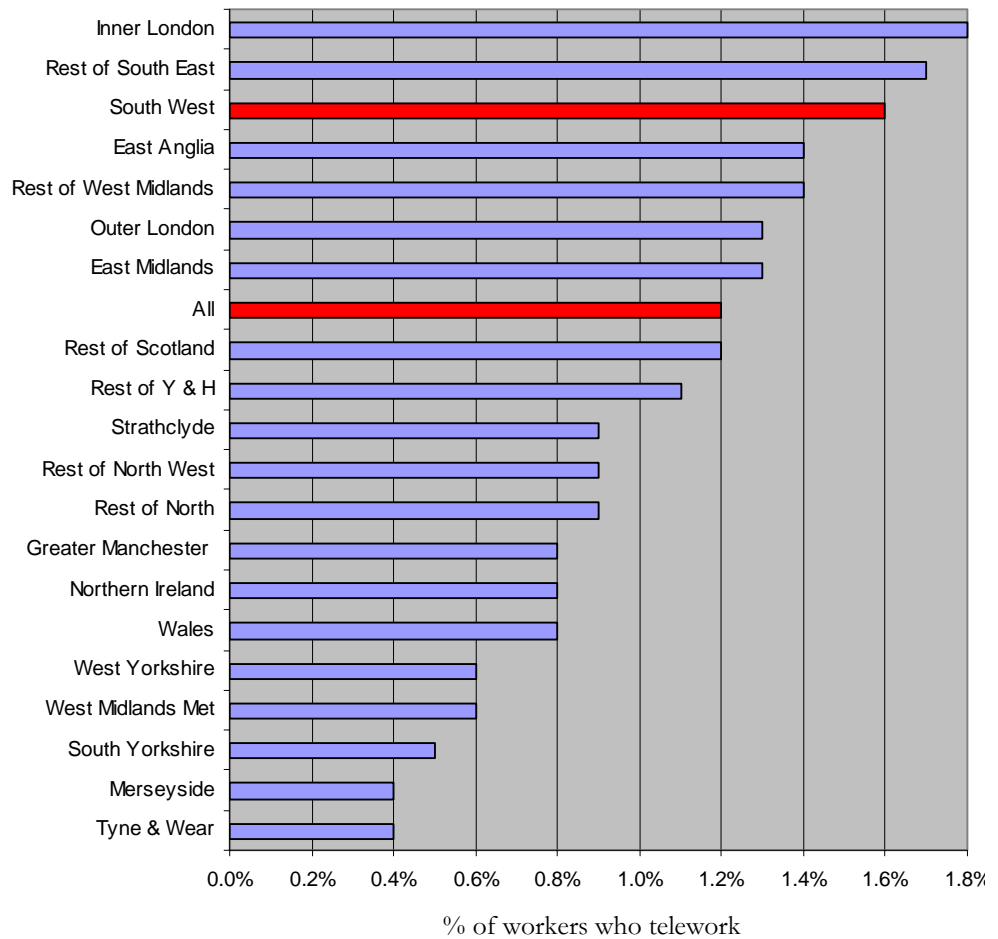
5.2 ***Potential Travel Reductions***

5.2.4 Tele-working is of particular relevance to this Plan, as this mode of working can free individuals from dependence upon one particular work location, for at least

¹ 'Working Anywhere: Exploring Tele-work For Individuals and Organisations.' 2nd Edition

part of their working time, thus obviating the need for a daily commute to the office. Likewise, face-to-face meetings with clients and colleagues can potentially be replaced by the digital exchange of information and documents (see Section 6 on video-conferencing). As is shown in paragraph 3.3.3, commuting and business journeys represent a significant proportion (48%) of car travel made in the SWARMMS area. Commuting travel is highly peaked while much business travel is over longer distances and as such, the potential travel impacts of tele-working in reducing these is of strategic importance.

Figure 5.1: Tele-working by Region



5.2.5

A number of studies were highlighted in *Soft Factors* that explored the relationship between tele-working and commuting travel. Some brief conclusions are shown in Table 5.1.

Table 5.1: Tele-working and Travel

Study	Key Findings
Review of Tele-work in Great Britain (1995)	<ul style="list-style-type: none"> • Tele-working reduced total UK kms by 1% in 1993. • Long term potential of 5-12% reduction in car use through tele-working.
Study of US & Scandinavian Tele-centres, (1995)	<ul style="list-style-type: none"> • Average of 150 commuter kms saved each time a worker used a centre.
Monitoring of Surrey County Council's Epsom Centre	<ul style="list-style-type: none"> • Length and duration of commute journeys reduced by average of 19% and 36% respectively.
Home Office Partnership Study, Cambridge (1997)	<ul style="list-style-type: none"> • If all employees in Cambridge adopted ICT supported flexible working, travel times and distances could be reduced by 4-8%.
Fouracre & Hill: 'Impact and Role of IS/IT on Influencing Demand'	<ul style="list-style-type: none"> • On any day, 0.1-1% of the working population may be tele-commuting, implying a mileage saving of 0.64-6.4bn kms per year, (out of an annual passenger mileage of 965bn kms per year).
NERA: 'Motors and Modems Revisited'	<ul style="list-style-type: none"> • Tele-working will facilitate a 10% reduction in car commuting by 2005 (15% by 2010), and a 3% reduction in other business travel (5% by 2010).
SDG: 'Information Technology'	<ul style="list-style-type: none"> • Tele-working will facilitate a reduction of 4.2bn vehicle kms per year on trunk roads and motorways. This represents 0.3% of all travel on these roads and 2% of peak period volumes.

5.2.6

Soft Factors concluded that past forecasts of the rate of development have usually been over optimistic and, as such, it would be unwise for the multi-modal studies to rely too much on congestion relief from this source. A reasonable estimate is that there will be another 10% of car commuting workers involved in some form of tele-working by 2016. Of these, 2% could be full time, 4% half time and the balance quarter time. As it is the longer journeys that are likely to be affected, disproportionately road traffic could be 6% lower than otherwise. This would result in there being about 100kms less per year per person or 6bn vehicle kilometres per year.

5.2.7

Applying the estimates in the *Soft Factors* study to the SWARMMS area, a reasonable estimate of the potential for additional tele-working is that an additional 12% of working could involve some form of tele-commuting by 2016. This allows for the higher propensity of workers in the SWARMMS area to engage this mode of working. On the basis of 2½% being full time, 4% half time and 5½% quarter time the numbers of commuting journeys would be reduced by about 6%. The traffic reduction however is likely to be greater as the longer journeys are more likely to be substituted by tele-working. Consequently, 8% of journey to work traffic in the SWARMMS area has the potential to be avoided by increased tele-working. This is equivalent to about 2% of all road traffic in the SWARMMS area. A recent study of the potential for tele-working in Dublin estimated that 1.3% of car trips (and 40% as many by other modes of transport) would be replaced by tele-working by 2016.

5.2.8

It is reasonable to expect reduction in public transport use from increased tele-working. The scale of effect is likely to be higher in that public transport journeys are often more arduous than commuting by car and therefore the benefit of substitution by tele-working correspondingly greater. On the other hand, public transport commuters are probably employed in a greater proportion of occupations where tele-working is not practicable. How this balances out is uncertain but it is probable that there will be a small but significant reduction in public transport use at peak periods resulting from increased tele-working. Loadings during the peak period should be reduced to a greater extent. Over a two hour peak period at each end of the working day car traffic could be reduced by 5% or so with an even higher reduction in the peak hour.

5.3

Factors Stimulating the Take-up Of Tele-working

5.3.9

There are already in place a number of external or latent factors, which together may serve to stimulate the take-up of tele-working to a certain extent. Research shows that women now comprise 44% of the office workforce, while 78% of women with school aged children work outside of the home. UK rates of divorce and of one-parent families are among the highest in Europe. The UK population is also ageing, implying the need for a greater number of home carers in the future. These statistics suggest those groups who would most welcome flexible working practices are growing within the UK at present.

5.3.10

The UK petrol crisis during the summer of 2000, the events of September 11th 2001, and a growing concern, spurred by the difficulties of the National Railways, that public transport is unreliable and inconvenient, are all likely to stimulate

interest in working from home, as should the fact that people are now living further away from their place of work (between the mid 1980's and the late 1990's journey to work lengths grew by over a third). Dissatisfaction at the amount of time spent commuting may also increase an individual's propensity to tele-work, though whether that propensity will be translated into actual tele-working is more doubtful. It is here that Government agencies and employer associations have a critical role to play in promoting more flexible working patterns.

5.3.11

Other developments may help to overcome an employers' resistance to tele-working. The Employment Appeal Tribunal in the Lockwood case, (see <http://www.tca.org.uk/news/news.php?NID=11>), though not establishing a legal right to working at home, did rule that a female accountant's request to use her home as a base for her work was conceptually similar to a request to work part-time at the employer's workplace. According to an expert on employment law, this case emphasised the need for employers to give careful consideration to any proposals for alternative working arrangements by a woman with childcare responsibilities. Hence tele-working clearly stimulates a number of legal issues and 'grey areas' in which employers would welcome guidance and information.

5.3.12

The cost of equipment needed for a tele-worker to function effectively is also no longer such an obstacle. In the last two years, the price of Internet access has fallen rapidly due to the competitive nature of the UK telecommunications market. In 2000, off-peak Internet access in the UK was the cheapest in the world, while the costs of peak-time access fell below the Organisation for Economic Co-operation and Development (OECD) average. A good standard home computer and set of peripherals can now be purchased for less than £1000 and leasing/hire-purchase schemes are available for those who are unable, or do not wish, to purchase outright. 45% of homes in the UK are now connected to the internet and broadband.

5.4

Government Initiatives

5.4.13

Together, these latent factors may help to promote interest in tele-working, though these alone should not be relied upon. It is Government policy to support parents in balancing work and family life. As a result, a number of measures are being put in place which, although it may not be their expressed intention, may also aid the uptake of flexible working. These initiatives include:

- **'Working Anywhere: Exploring Tele-work for Individuals and Organisations:'** a booklet published jointly by the Department for Trade

and Industry (DTI), the Department for Education and Skills, (DfES) and by the Department for Transport, Local Government and Regions (DfLR). This publication has now reached its second edition, and includes information for chief executives, operational managers, employees and the self-employed. It provides guidance covering issues such as employment law, health and safety, taxation, data protection, planning issues and staff training and sources for further information, including contacts and websites offering advice.

- **Work-Life Balance and Work-Life Life Balance Challenge Fund:** a fund providing £10.5m over three years (2000-2002) in consultancy support for private, public and voluntary sector employers who want to introduce and develop innovative working practices. Employers can seek work-life balance accreditation which in the future, it is thought, may become linked to the Investors In People (IIP) accreditation. Employers for Work-life Balance has been formed by an alliance of business leaders who believe that the introduction of work-life policies has benefited their organisation. It aims to share best practice and establish a one-stop shop for employers for information on work-life issues.
- **UK Online:** the UK Government's strategy for the information age. The strategy comprises four programmes: UK online for business, UK online centres, UK online public libraries and www.ukonline.gov.uk, the latter being part of the commitment to the electronic delivery of all Government services by 2005.
- **UK Online for Business:** a partnership of Government, industry, the voluntary sector, trade unions, and consumer groups to make the UK "one of the world's leading knowledge economies."² The programme offers "expert, impartial, jargon-free help and support to businesses that need and want it."³ Organisations can use an e-business plan to take stock of their current situation, and can follow this up with free advice from a local adviser.

² www.ukonlineforbusiness.gov.uk/defconts.cfm

³ www.ukonlineforbusiness.gov.uk/whatisukonline/eminister.htm

- **Work and Parents' Taskforce:** set up by the Government to look at how to meet parents' desire for more flexible working patterns in a way that is compatible with modern business efficiency.
- **National Childcare Strategy:** to give parents "genuine choices," whether they look after children full-time or combine work, education and training with parenting.
- **Tax law changes include:** since April 1998, tax laws allow employees who work from home to claim reimbursement for journeys to an office. However, working from home must be required by the company rather than option selected by the employee. Employees are also now able to borrow computers from their companies as a tax free benefit. In 2000, the Government was also considering whether changes in the regulation and tax environment needed to be made following the publication of a report by the Rowntree Foundation.
- **Working practices for Government staff:** in 2000, the DTI put in place new remote access systems, while "significant numbers" of DfEE staff were working remotely.

5.4.14

Clearly then, the UK Government is becoming increasingly active in promoting flexible working practices. Yet in comparison with the US, often seen as a role model in the take-up of technology, the UK is lagging behind. For example, in July 2001, the Broadband Deployment and Tele-work Incentive Act was introduced to the House of Representatives in Washington D.C. containing incentives intended to stimulate broadband deployment to rural and deprived urban areas. This Act recognised the need to bring high-speed Internet access to those living and working in areas currently without service and also provides enhanced tax incentives for small businesses and disabled individuals. It is expected to yield benefits from reduced transportation infrastructure costs, traffic congestion, air pollution from car emissions, and dependence on foreign oil through energy conservation. Likewise, the US Air Quality Act contains a credit for tele-work schemes.

5.4.15

The many Government initiatives promoting flexible working in the UK are certainly valuable. Nevertheless, it has been difficult to determine the degree of co-ordination existing between the different schemes, and indeed, the list above may well not be exhaustive. Three further points exacerbate this problem. Firstly,

is should be noted that different Governmental departments retain responsibility for each scheme. For example, the Work-Life Balance programme is managed by the DTI, while the IIP programme is the concern of the DfES. Each of the initiatives outlined above have the potential to impact upon travel demand, however the DTLR's involvement in these projects appears to be limited to contributing to 'Working Anywhere.' Secondly, in the case of the work-life balance campaign, progress here is constrained by the fact that, as with WTPs, participation is not mandatory. Though employees may support the implementation of more flexible working policies, their employers are under no obligation to take any action. Finally, though numerous websites exist to publicise Government initiatives, there appears to be no single access point where employers can identify and research programmes relevant to their own area of operations.

5.5

Promoting Tele-working

5.5.16

The promotion of tele-working raises a number of issues, some of which are contentious, often similar to those provoked by the Workplace Travel Plan (WTP) discussion, (see Section 7). As with WTPs, awareness of the potential benefits offered by flexible and tele-working is crucial, if there is no convincing and obvious business case, then the majority of employers will not change their working practices. Employers are unlikely to consider this issue for themselves, unless some pressing need, such as shortage of work or parking spaces or employee pressure, forces them to do so. Thus the majority of organisations will need to have the potential benefits of and also problems associated with tele-working explained to them by an outside party.

5.5.17

The steady development of tele-working over the last twenty years has produced a number of good practice guides, books and publications. These include the 'Teleworking Handbook,' recently reaching its third edition and produced by the extremely active Telework Association (TCA). The TCA is just one of a number of groups offering advice in this area, and whose contact details are included in 'Working Anywhere.' Other organisations include the National Association of Tele-working, the Scottish Tele-working Association, Tele-work Wales, Tele-work Ireland, The Home Business Alliance and OwnBase, the National Association for Home Based Working. 'Target,' an EU (Interreg IIc) funded project has also developed good practice guidance for local authorities interested in tele-working. 'Flexible Working – eWorking at Home: An Implementation Guide for Local Authorities in the UK,' is available from TravelWise, and includes a section entitled 'How to introduce eWorking at home into your organisation: 20 steps to success.'

5.5.18 There is clearly then no lack of information regarding tele-working; however more problematic it seems, is persuading employers to access and act upon that information. In its current form, the Work-Life Challenge Fund offers consultancy support to organisations intending to implement innovative working practices, though at present, the adoption of tele-working is only one of a range of measures suggested by the work-life 'package'

5.5.19 A key problem to be overcome when promoting tele-working is that, while the benefits of remote working may be far from obvious to an employer, the costs and problems involved are much more certain. At the outset, it should be recognised that not all companies, nor all types of work are suited to tele-working. In a job that requires frequent, face-to-face liaison with clients, customers or colleagues, working at home for five days per week may not be an option. Indeed, the pattern that has developed in the UK has seen tele-working employees work at home for perhaps one or two days per week, whilst travelling to the office for the remainder of the week.

5.5.20 Work carried out by the Home Office Partnership in Cambridge in 1997 suggested that the following quantities of work could comfortably be performed away from the office:

- 5-20% of support work
- 30-60% of service delivery work
- 30-60% of fieldwork
- 30-50% of management work

However this must be capable of being packaged into individual periods of several hours in duration to make tele-working a practical option. In the US, Handy & Mokhtarian have speculated that the saturation level of all types of tele-working is 40% of American employees, based on the calculation that 50% of the workforce are 'information' workers, while of those, only 80% are potential tele-workers.

5.5.21 The Government initiatives referred to above stop short of providing direct incentives to increase tele-working. It is considered that a positive Government initiative would attract attention to the benefits of tele-working and encourage employers to set up tele-working schemes. The Dutch Government has such a scheme whereby employers can make a tax-free contribution of about £1,100 towards the cost of setting up a home office, which must be used at least once a week. This could be used in the UK and run for an initial period of say five years.

If this were taken up in respect of 1% of employees a year the tax loss would amount to about £3½m/year for the SWARMMS corridors and result in about 10 million fewer peak period car kilometres a year. Given the other benefits from tele-working and the ongoing benefits in subsequent years this appears to be likely to be a cost effective initiative that should be pursued by Government.

5.6

5.6.22

Implementing Tele-working

There are a number of critical issues to be considered by an organisation before it can implement tele-working policies. These include how home working employees are to be trained and supervised, whether their employment rights and conditions need to be updated, and how the health and safety aspects of tele-working should be dealt with. Consideration must also be given to the tax implications of home working, as well as to data protection and security. Such a list may well frighten off some organisations. It is here that consultancy support could be at its most valuable in highlighting the business benefits tele-working can provide and in giving practical advice on how to resolve these issues. Those benefits might include some or all of the following:

- Improved motivation, satisfaction and retention of staff, thereby reducing recruitment costs
- Potentially lower stress levels for staff
- Reduced levels of staff absenteeism (currently costing employers £434 per person, per year)
- Higher productivity of staff and better service delivery
- Offering flexible working practices may make the company more attractive to prospective recruits
- If significant numbers of employees choose to work at home, the company may be able to reduce building and equipment overheads

5.6.23

Public sector organisations and councils may also be able to gain similar benefits through the introduction of tele-working. 'Flexible working – eWorking at home' suggests that the following could drive the introduction of e-working in an organisation:

- Reduction of accommodation costs
- Reducing travel costs
- Modernising local Government
- eGovernment
- Best Value

- Operational efficiency
- Responsive service delivery
- Social inclusion/Rural communities
- Society's changing cultures/expectations
- Work-Life Balance

5.6.24 Despite this apparently impressive list, discussions with local authorities have revealed a general lack of knowledge regarding tele-working. This is worrying as, for example regarding WTPs, central Government often looks to the local authorities to set an example to other organisations in their area.

5.6.25 To ameliorate this situation, it is suggested that the Government should consider implementing a programme of site-specific advice or consultancy support for organisations interested in tele-working, similar to that already in place in support of WTPs and STPs. This could be achieved in a number of ways, for example:

- By implementing a new scheme of consultancy advice designed to encourage the uptake of tele-working
- By updating and expanding the already existing scheme of WTP site-specific advice to give a greater emphasis to tele-working
- By expanding the already existing Work-Life Balance Challenge Fund initiative to allow greater emphasis to be placed upon tele-working

5.6.26 Because tele-working has the greatest potential impact to reduce peak loading on the national transport infrastructure it deserves a special initiative on its own account. However this should be closely linked to the WTP advice initiative. The Regional Assemblies and Regional Development Agency (RDA) should also have an important promotional role here.

5.6.27 Merely providing advice however, is unlikely to persuade significant numbers of organisations to implement tele-working; as with WTPs, a number of incentives need to be put in place. Local authorities have the power to influence a company's activities through the planning process, and in particular, through Section 106 agreements. If a local authority requires an expanding employer to produce a WTP, then it should ensure that, wherever possible, the employer considers tele-working as part of that WTP. Such an approach would require adequate training and guidance to be given to authority staff and WTP Co-coordinators; as a bare minimum, they should be made aware the TravelWise document, 'Flexible

Working – eWorking at Home.’ Again, the regional assemblies and RDAs should consider providing a coordinating and promotional role here.

5.6.28

Where local authorities introduce workplace parking levies and the adoption of a WTP is taken into account in determining charges then the incorporation of tele-working initiatives as part of these would be relevant to the charges to be paid.

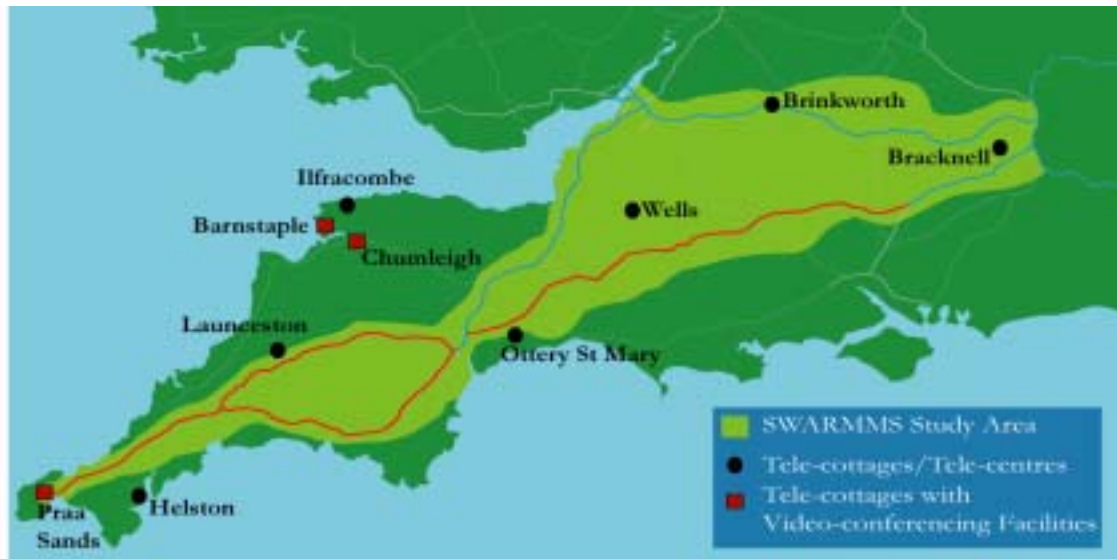
5.7

Remote Working

5.7.29

Tele-working need not only involve working at home. With access to the right technology, work can be carried out anywhere - in the car, at a motorway service station or at a tele-centre. Two private companies have recently begun to explore this concept. Travel Inn is building centres next to selected hotels to offer meeting rooms, hot desks and business lounges. A three-site pilot is planned, with a possible roll-out of a further 97 centres. Granada, in association with BT, is providing workspaces in motorway service areas at 11 UK locations, including Reading, Leigh Delamare near Swindon and Exeter in the SWARMMS area. The TCA also keeps a record of all the tele-cottages and tele-centres in the UK, updated bi-monthly in *Tele-worker* magazine. To be included on this list, a tele-centre must offer public access to IT equipment, provide training facilities, supply services to assist other businesses and also be a member of the TCA. An up-to-date list is held at www.tca.org.uk. Figure 5.2 shows the location of a number of tele-cottages in the SWARMMS area.

Figure 5.2: Tele-Cottages in the SWARMMS Area¹



¹ Source: www.tca.org.uk

5.7.30

These developments should certainly be encouraged. Although meeting at a motorway service station may not reduce the need to travel as much as working at home, there are still clear and useful travel reductions to be achieved here. The Government's UK online for business policies may well have a role to play in publicising these facilities. It is expected that the next generation (G3) of mobile phones will be introduced into the UK market this year. These will allow ready Internet access as well as the transmission of images and should be a further enabler of remote working.

5.8

Recommendations

5.8.31

Key recommendations are:

- Central Government should create a 'one stop shop' for information, guidance and initiatives relating to tele-working.
- The taxation situation in respect of the costs of tele-working should be clarified and aimed at increasing its appeal to both employers and employees.
- A new tax concession should be created, for an initial period of five years that allows employers to contribute up to £1,100 towards the creation of

home office facilities for employees who tele-work for one day a week or more.

- The Government should provide additional funding to support the introduction of tele-working, through a new initiative coordinated with its WTP advice initiative in conjunction with the Regional Development Agencies.
- Tele-working initiatives should be treated as key elements of Workplace Travel Plans.
- Local authorities, Government offices and other public agencies should review the potential for tele-working within their organisations and put in hand programmes for its adoption where this is practicable and cost effective after taking account of the savings in travel and other costs of commuting.
- Where appropriate local authorities should work with local communities to extend the tele-cottage/tele-centre initiatives in their areas as part of their Local Transport Plans.

6 Video-conferencing

6.1

Introduction

6.1.1

Video-conferencing was demonstrated in the UK as long ago as the late 1960s. However the quality of the service was poor and few would have regarded it as an acceptable alternative to conventional meetings. This problem of picture quality and flexibility has remained until recently, except in expensive fixed facilities. However with the spread of broadband communications this problem is steadily reducing and already low-grade video meetings are taking place between users of home terminals. The difficulties of getting between the South West and London in a day suggest that video-conferencing might become fairly popular for business purposes between the two ends of the SWARMMS corridor as the quality of services improve and costs fall.

6.1.2

The *Soft Factors* study suggested a level of substitution of perhaps 5% by 2016 but it is likely that this could be higher in the SWARMMS area. If a higher figure of 7% - 8% net reduction in business travel is taken for the SWARMMS area this would be equivalent to just over 1% of road traffic in the SWARMMS area but more, perhaps 2% of longer distance traffic, as business journeys are almost three times the length of the average. A similar reduction in business travel by rail would result in just over 1% reduction in rail usage and so would be of little significance in the face of the expected growth in rail use.

6.2

Video-conferencing In Practice

6.2.3

This means of interaction, by providing both visual and audible communication allows 'face-to-face' interaction without the requirement of physical proximity and therefore offers an alternative to travel as a means of people getting together. However the richness of the communication is limited by what can be captured by the recording devices, the effectiveness of replication of 'real' information through digital processes, the capacity of the communication link to transmit this information and the realism of the display/speaker system. Whilst sound and picture are usually the most important components of communication there are other components (feel, taste and smell), which, in some situations, can also be important.

6.2.4

These limitations mean that this medium is more likely to be an effective substitute for physical movement in some situations than others. The substitution of video-

conferencing for business travel is seen as one of the more promising applications and indeed is already being used for this purpose.

6.2.5

Business meetings can be of a variety of types. They can take the form of:

- One \Rightarrow one (e.g. a message)
- One \Leftrightarrow one (e.g. a conversation)
- One \Rightarrow several (e.g. a lecture)
- One \Leftrightarrow several (e.g. a seminar)
- Several \Rightarrow several (e.g. a television performance) and
- Several \Leftrightarrow several (e.g. a committee meeting)

6.2.6

In practice some of these forms (e.g. several \Rightarrow several) will be less common than others but the extent of interaction is an important consideration, especially where the capabilities of the system being employed are limited. The quality of the information to be transmitted is also an important consideration. Medical schools use video links to show the conduct of operations to a number of student audiences at several locations. The requirement for high quality coloured dynamic pictures is such that only the top end of the range of presently available technology is suitable for this purpose. At the other extreme reportage over a satellite phone video link from a remote war zone is acceptable as the key information is the spoken word and the visuals are often little more than 'relevant wallpaper.'

6.2.7

Apart from the limitations of technology, the prospect of every word and move being recorded can be an inhibition on the way in which people interact and again this can diminish the suitability of video-conferencing for some types of meeting. It is possible to go on and explore the limitations of this form of communication further but this is not the purpose of this report. The important lesson from this is that video-conferencing is not always an acceptable alternative to face-to-face communication – especially where the technology is limited.

6.2.8

The technology to support video-conferencing is now developing rapidly. To be effective it requires broadband capacity. Broadband communication is fast, permanently connected and interactive. A conventional modem will typically transmit 56 kilobits of data a second (kbs) and a standard ISDN connection 64kbs, although 128kbs is possible with ISDN2. Broadband starts at this speed and can range up to hundreds of gigabits per second with high capacity fibre optic links. For general use, broadband communication can be accommodated on existing

telephone (copper wire) and cable (coaxial) networks although fibre optics, satellite and radio can also be used.

6.2.9

The telephone network is the most ubiquitous of these, although cable networks pass more than half of UK homes only 14% are connected. By the use of Digital Subscriber Loop (DSL) technology transmission speeds can be increased substantially. A variant of this – Asymmetric DSL (ADSL), which provides high-speed downstream connections but slower returns, is already being offered in the UK. This operates between 500kbs and 2 megabits per second (mbs) and runs over wire networks to premises within 5½ kms of an appropriately equipped exchange. To receive this service requires a box to be fitted at the users premises. 70% of Internet users, 71% of libraries, 60% of exchange lines, 52% of schools and 55% of all households could be connected via ADSL but fewer than 1% are connected at present. The result of this is that the UK is only 21st in the world's broadband league table.

6.2.10

A higher speed version of DSL (VSDL), which requires a fibre optic connection to roadside cabinets, is being developed and this should be able to operate at up to 14mbs. To download a video clip typically takes 5 times its duration using a 56kbs modem, 2½ times its duration using ISDN-2, ½ its duration using 500mbs ADSL, ⅛ times its duration using 2mbs ADSL and 0.022 times its duration using 12mbs VDSL. Thus the use of DSL technology allows smooth real time video and good quality sound. The version of ADSL being offered to business provides 2mbs capacity so it should be technologically feasible for businesses, once connected by DSL technology, to engage in reasonable quality video-conferencing.

6.2.11

An important consideration is of course that of cost. ADSL connections cost of the order of £1 a day plus the initial connection cost, which is about £100 although BT are to introduce 'do it yourself' ADSL connection early in 2002. To these costs must be added those of the equipment and software needed for video-conferencing. For a simple PC based system these are likely to be of the order of £2,000 and can be up to £100,000 for a sophisticated studio installation. For this type of arrangement, dedicated fibre optic connections between studios may be needed and these can cost up to £10,000 per month for long distance high capacity links. However commercial video-conferencing systems are now being marketed on the basis of it costing less than £10 per day to own a top of the range video meeting system. There will also be some costs for training, maintenance and support – especially for the larger more sophisticated systems.

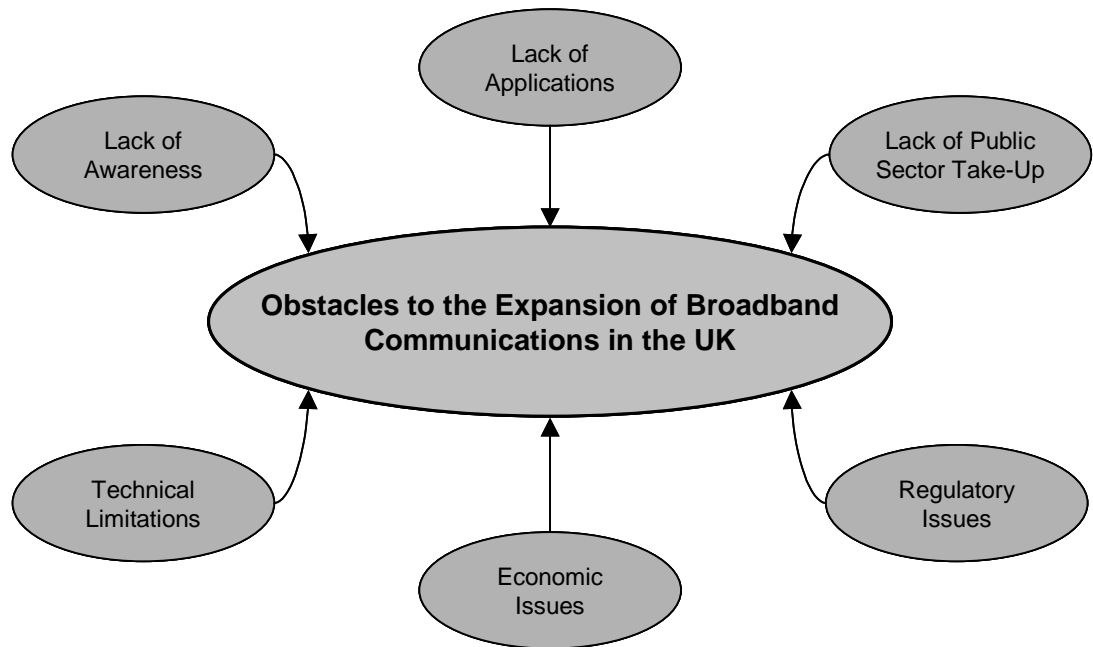
6.2.12

There is therefore a wide menu of possibilities for video-conferencing emerging that contain options for small businesses as well as the larger corporations, which form the bulk of the present users. It is also important to recognise that the broadband connection has many other uses than video-conferencing and, if these are of value to the business, the effective costs of the connection to the video-conferencing activity is correspondingly reduced.

6.2.13

It is Government policy that the UK should have the most extensive and competitive broadband market in the G7 countries by 2005. For this to be realised there must be a far greater penetration of this technology than at present. BT⁷ has suggested that the following obstacles stand in the way of expanding broadband communications in the UK:

Figure 6.1: Obstacles to the Expansion of Broadband Communications in the UK



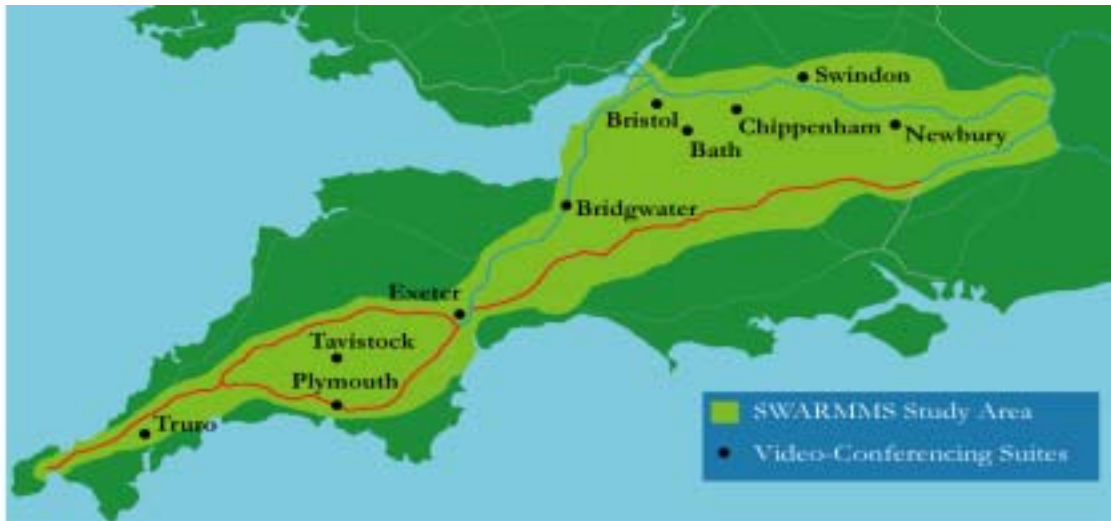
6.2.14

It is possible that the deployment of broadband communications technology and the growth in services offered across it would be sufficient to trigger the level of video-conferencing that would reduce travel demand by the 7% - 8% referred to above. However this is by no means certain and initiatives to stimulate video-conferencing should be developed.

- 6.2.15* At the bottom end of the range of video-conferencing facilities are video-phones. These are presently rather basic and are most suitable for enhancing one to one communications. Whilst this can add significant value to some communication events their use would not seem likely to have much effect on business travel over any substantial distances and would appear better suited to personal and leisure use and communication with colleagues in the local working environment. Fixed (wired) video-phones will be supplemented by mobile phone with video capability when the next generation of mobile phone technology (G3) becomes available later this year.
- 6.2.16* Sophisticated video-conferencing is presently the prerogative of larger companies, public agencies and higher education establishments. An analysis of the 33 key clients of one of the major video-conferencing companies shows almost all of them to have more than a thousand employees and with heavy representation of communications, logistics/transportation and technology companies but with companies drawn from a wide range of public and private enterprises.
- 6.2.17* These organisations have the resources and technological capacity to procure and manage these systems on their own account, but this is often not possible for smaller companies. There are initiatives springing up that are designed to foster the utilisation of these services by smaller organisations. For example the Rural Areas Video-phone Access Network (RAVAN) project aims to demonstrate the uses and benefits of video-conferencing to small businesses at a series of demonstration sites around the UK. In the wider SWARMMS area there are RAVAN video-conferencing centres at Praa Sands (between Penzance and Helston), Chumleigh, (between Barnstaple and Exeter) and Barnstaple.
- 6.2.18* Parts of the further education sector are taking a strong interest in video-conferencing, and there are a number of active demonstrator and evaluation projects. Along with business organisations they appear to make up the bulk of the video-conferencing centres in the UK. There are reputed to be about 2,800 video-conferencing sites worldwide. As Figure 6.2 shows, one or more of these centres are to be found in the SWARMMS area at Bath, Bridgwater, Bristol, Chippenham, Exeter, Newbury, Plymouth, Swindon, Tavistock and Truro.
- 6.2.19* It would not be a major task to expand this embryonic network to cover all the main business locations in the SWARMMS area. This could be done by public sector agencies (local authorities, Government departments, universities and colleges of higher education, research councils, health trusts etc.) establishing a

range of centres and making these available for access to the business community in general. This would help defray installation and running costs and stimulate interest in the wider use of this technology.

Figure 6.2: Location of Video-Conferencing Suites in the SWARMMS Area



6.3

6.3.20

Recommendations

Recommendations for Expanding the Use of Video-Conferencing in the SWARMMS Area include:

- Given the technological opportunity, video-conferencing is under utilized and this, to a significant extent, is a result of poor levels of awareness. The Regional Assemblies should take the lead in promoting awareness of this facility in conjunction with the telecommunications industry and equipment and service suppliers. This could be linked with promotional campaigns by suppliers such as the discount for installing ADSL recently run by BT.
- Local, educational and health authorities should review the potential for the use of video-conferencing to improve their efficiency and reduce travel costs. To help with this, these agencies should be provided with advice and model applications along the lines of those provided in Sweden and Ireland. As part of this they should consider making their facilities available to local businesses to help spread awareness and help defray some of their fixed costs.

- Regional partnership schemes should be established in the SWARMMS area along the lines of those planned in Wales and Scotland. As well as mounting awareness campaigns as outlined above these should develop co-operative initiatives, perhaps with the use of pump priming, to establish broadband communications and video-conferencing service centres in areas where they would not be viable on an individual user basis.
- Local authorities should consider the potential for substituting electronic communications for physical movement in their LTPs and the provision of video-conferencing facilities should be recognised by local authorities as a potentially significant element of Workplace Travel Plans when considering applications for planning consents.

6.4

6.4.21

More General Recommendations

The success of technologies like video-conferencing in the SWARMMS area is clearly dependent on parallel developments in other parts of the country (and to a lesser extent beyond). Central Government has an important role in nurturing this area of technology, especially in light of its aim of getting to the top of the G7 broadband league by 2005. This will require:

- Careful development of the regulatory regimes to foster effective competition (including local loop unbundling).
- Management of its own departments and agencies to employ video-conferencing as a standard communication mode – recognizing that this will entail significant investment.
- Supporting local Government and other agencies in adopting this technology.
- Initiating specific programmes (e.g. school networks) to establish the use of broadband and video-conferencing in a similar way to the schools computers initiative.

6.4.22

Industry also has a vital role to play in developing the technology to increase its cost effectiveness and to co-operate with the public sector in promoting broadband communication and video-conferencing. In addition to this it should actively pursue the development of products and services that can be delivered using broadband technology. Entertainment is an obvious candidate but software and a range of interactive services are also strong contenders.

7 Workplace Travel Plans

7.1

Introduction

7.1.1

Private commuting and business travel represent a significant proportion of the longer distance journeys in the UK each year and, as such, are of considerable interest to this Plan. In the SWARMMS corridors in 1998/2000, commuting journeys accounted for 2,300kms per person per year with an average trip length of 14¹/₄kms. In addition, commuting trips form a substantial percentage of rush hour travel, and thus any reductions that can be secured in this type of trend could yield particular benefits for traffic in peak periods. Non-personal business travel amounts to about 1,400kms per person per year although this is not peaked. However it has an average journey length of 33kms and so a greater proportion is likely to be made on the strategic transport system.

7.1.2

The effects of Workplace Travel Plans are difficult to predict but, from the limited experience available, a reduction in work related car travel of 10% is not an unrealistic aim. If the number of enterprises implementing WTIPs increased from the current 8% (see Table 7.1) then car driver travel would be reduced by 60kms per person per year or 2% of work related car travel and 0.9% of all car driver travel. Because cars are so much more important than other modes for the journey to work, a reduction of this order would have important implications for public transport. If a quarter of this 60km per person per year switched to buses, peak period bus use would rise by a third. This should not present any general capacity problems and should help improve service frequency.

7.1.3

Since the publication in 1998 of the Government's Integrated Transport White Paper, 'A New Deal for Transport, Better for Everyone,' travel plans have formed a key arm of policy towards this type of trip making. Previously known as Green Transport Plans, or GTPs, travel plans encompass a wide variety of measures designed to lessen employee reliance upon the single-occupancy car. Figure 7.1 overleaf demonstrates the range of measures that can be included in a travel plan.

7.1.4

The take up of travel plans in the SWARMMS area is not confined to private employers as, in the past three years, Government departments, hospitals, colleges and universities have implemented schemes. Since 1998, Government offices and Executive Agencies have been required to produce plans for all headquarters and key buildings, with local authorities being asked, but not compelled, to lead by

example. For this reason, this Plan will hereafter refer to travel plans as Workplace Travel Plans, or WTPs.

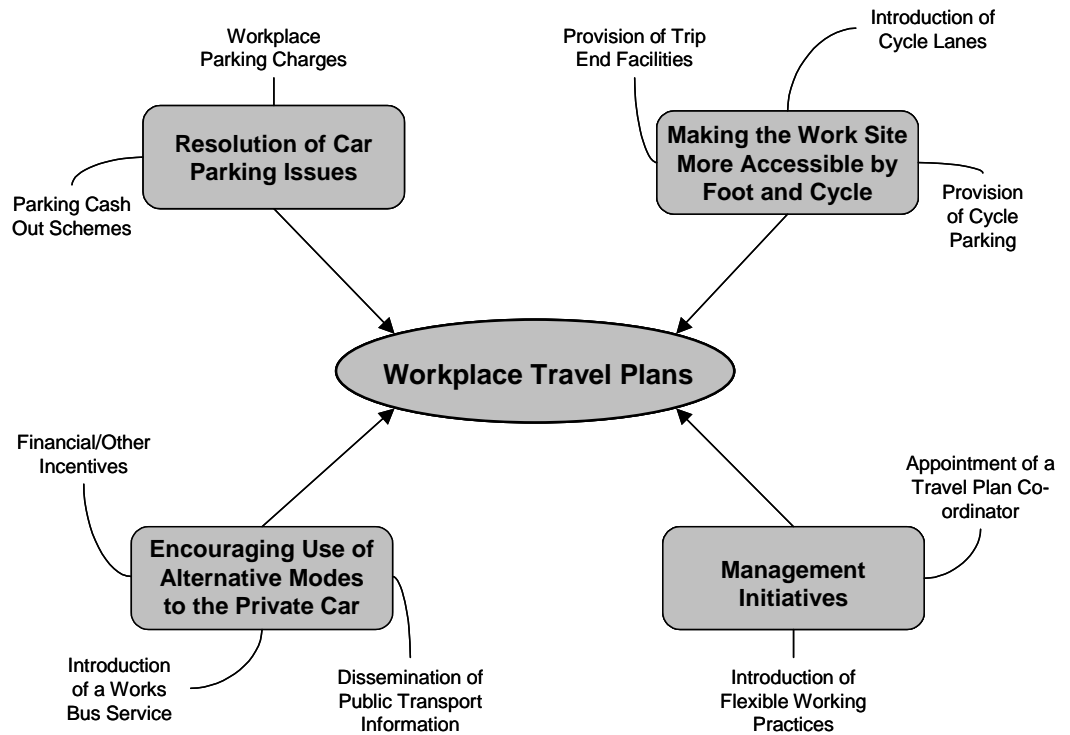


Figure 7.1: Workplace Travel Plans

7.2
7.2.5

The Promotion of Workplace Travel Plans in the UK

In the last three years, the Government has implemented a number of schemes, designed to encourage the take-up of WTPs. Most recently, from May 2001, £0.5m per year has been set aside to fund a programme of site specific advice to assist schools, businesses and local authorities interested in developing a plan. Organisations accepted onto this programme are able to receive up to five days of an advisor’s time, free of charge. Bursaries have also been awarded to local authorities to enable 111 travel plan co-ordinators to be appointed across the country. At present, this programme is forecast to run for three years, with £9m allocated by the Government to fund this.

7.2.6

Numerous travel plan guides and publications are becoming available designed to counsel and encourage employers embarking upon the WTP process. The ‘Travel Plan Resource Pack for Employers,’ published in January 2000 offers a “one-stop practical resource on all aspects of developing, implementing and monitoring a travel plan.”⁴ ‘Developing an effective travel plan: advice for Government departments,’ draws upon the experience of Government offices who have already undergone the travel plan process. Guidance on travel plans has also been produced for public transport operators, service providers to cyclists and walkers, suppliers of information and communications technology and for human resource staff and trade unions. ‘Preparing your organisation for transport in the future,’ seeks to highlight how organisations can benefit from implementing a WTP. The existence of this document is crucial, given that hostile or apathetic managerial and boardroom opinion has been identified as a key obstacle to the take-up and successful implementation of a WTP.⁵ The DTLR’s own website www.local-transport.dtlr.gov.uk/travelplans/index.htm is also a useful resource for organisations taking their first steps in developing a WTP.

7.2.7

The March 1999 Budget introduced a number of changes to the tax treatment of Travel Plan benefits. Taking effect from 6 April 1999, these measures mean that no tax would be liable on the following benefits:

- Works buses of 12 or more seats used mainly to bring employees to and from work. (This was originally set at 17 seats, but was lowered in an amendment to the Finance Act)
- General subsidies to public bus services used substantially for commuting, provided that the employees pay the same fare as other members of the public
- Cycling safety equipment
- Workplace parking for bicycles and motorcycles
- Alternative transport for car sharers to get home in exceptional circumstances, such as working late, domestic emergencies etc

7.2.8

In addition to these tax concessions, there were two other measures of benefit to Travel Plans:

⁴ DTLR: “Travel Plans,” at www.local-transport.dtlr.gov.uk/travelplans/index.htm

⁵ See *Soft Factors*, particularly section 4.2

- The tax free mileage rate for employees using their own bicycle was raised to 12p per mile, and if their employer provides no payment, employees can claim tax relief of 12p per mile.
- Employees who use their own bicycle for business travel can claim capital allowances on a proportion of the cost of a bicycle.

7.2.9

Interest in WTPs has been growing slowly, encouraged by organisations such as Transport 2000 and the Confederation of British Industry (CBI). Furthermore, the National Association of Commuter Transport helps organisations working on WTPs to share ideas and gain relevant advice and assistance. TravelWise is an organisation for local travel plan co-ordinators and enables them to exchange best practice as well as providing branding for local campaign activities. TravelWise have also produced, 'Promoting Workplace Travel Plans: Practical Case Study Guidance for Workplace Travel Plan Officers.' This work is based upon experience and lessons learnt from working with over fifty employers during the first two years of the EU funded Target programme, and offers pertinent case studies and guidance, particularly relevant to local authority officers promoting WTPs.

7.2.10

The Department of Transport Local Government and the Regions has recently appointed consultants to examine the training needs of travel plan coordinators, advisors and evaluators and the training on offer through a range of education and training channels. This is to be completed in the spring and it is anticipated that this will result in recommendations to improve training for those involved in WTPs.

7.3

The Take-Up Of Workplace Travel Plans in the SWARMMS Area

7.3.11

Despite a raft of existing advice, guidance and best practice, the take-up of travel plans throughout the UK is still patchy. Surveys have yielded the following findings. The figures show the percentage of organisations surveyed which currently have a travel plan.

Table 7.1 Take-up of WTPs in the UK

Type Of Organisation	Percentage and Number of Organisations with a Travel Plan	
Businesses	7%	(41)
Hospitals	61%	(27)
Higher Education Establishments	-	(15)**
Local authorities	24%	(69)
Schools*	2%	(507)

Source: DETR, 'Take Up and Effectiveness of Travel Plans and Travel Awareness Campaigns,' Feb 2001

*Source: University of Westminster, 'School Travel Initiatives – 1999 Research into levels of activity'

**Number of higher education institutions that have a travel plan, or who are in the process of developing one. 27 of the 40 institutions questioned responded.

7.3.12

Table 7.2 provides a snapshot of local authority promotion of WTPs in the SWARMMS corridors. This information is drawn from the 2001 Annual Progress Reports for a number of Local Transport Plans and from discussions with local authorities. As can be seen, progress varies markedly through the SWARMMS area. This may merely reflect the different characteristics of the Counties contained within that area.

7.3.13

Research has shown that interest in and take-up of WTPs may be less in predominantly rural areas. This is largely due to the fact that the type of organisation most likely to implement a plan, namely large employers operating on a site containing many buildings and perhaps seeking to expand, are much more likely to be situated in an urban and suburban rather than rural locations. These are the organisations often have significant impacts on local traffic volumes and travel patterns. In an ideal world, every employer would be encouraged to implement a WTP. However, in the shorter term where time and resources are constrained, it is the larger organisations that should be, and indeed to some extent are already being, targeted to some extent for action by local authorities.

Table 7.2: Local Authority Promotion of WTPs in the SWARMMS area

Local Authority	Progress in Promoting WTPs																																																																																
Gloucestershire County Council	<ul style="list-style-type: none"> • Length of journey to work is denoted as a target in the Local Transport Plan (LTP). Target T1: by 2011, the average length of journey to work within the County to be reduced by 5% compared with 2001. Base 2001 census data will be available in approximately 2 years' time. • Modal share for journey to work is denoted as a target in the LTP. Target HT2: by 2011, to achieve the following modal shares for journeys to work by the residents of Gloucestershire: <table border="0" style="margin-left: 40px;"> <thead> <tr> <th colspan="2" style="text-align: left;">2011</th> <th colspan="2" style="text-align: left;">1998/2000 average:</th> </tr> <tr> <th></th> <th></th> <th style="text-align: center;">%</th> <th style="text-align: center;">No. of trips</th> </tr> </thead> <tbody> <tr> <td>Car driver</td> <td>60% max</td> <td style="text-align: center;">68</td> <td style="text-align: center;">9455</td> </tr> <tr> <td>Car passenger</td> <td>8-12%) Minimum</td> <td style="text-align: center;">9</td> <td style="text-align: center;">1233</td> </tr> <tr> <td>Walking</td> <td>9-11%) 40% total</td> <td style="text-align: center;">10</td> <td style="text-align: center;">1355</td> </tr> <tr> <td>Cycling</td> <td>6-8%) non-car</td> <td style="text-align: center;">5</td> <td style="text-align: center;">732</td> </tr> <tr> <td>PT</td> <td>6-8%) driver</td> <td style="text-align: center;">4</td> <td style="text-align: center;">582</td> </tr> <tr> <td>Motorcycle</td> <td>1-3%) modes</td> <td style="text-align: center;">2</td> <td style="text-align: center;">210</td> </tr> <tr> <td>Working at home</td> <td>4-8%)</td> <td style="text-align: center;">3</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Other/not stated</td> <td>1-3%)</td> <td style="text-align: center;">0.1</td> <td style="text-align: center;">12</td> </tr> </tbody> </table> • Modal share for journeys to work in the Central Severn Vale (CSV) denoted as a target in the LTP. Target HT3: by 2011, to achieve the following modal share for journeys to workplaces in the CSV: <table border="0" style="margin-left: 40px;"> <thead> <tr> <th colspan="2" style="text-align: left;">2011</th> <th colspan="2" style="text-align: left;">1998/2000 average:</th> </tr> <tr> <th></th> <th></th> <th style="text-align: center;">%</th> <th style="text-align: center;">No. of trips</th> </tr> </thead> <tbody> <tr> <td>Car driver</td> <td>55% max</td> <td style="text-align: center;">64</td> <td style="text-align: center;">3297</td> </tr> <tr> <td>Car passenger</td> <td>9-13%) Minimum</td> <td style="text-align: center;">8</td> <td style="text-align: center;">390</td> </tr> <tr> <td>Walking</td> <td>10-12%) 45% total</td> <td style="text-align: center;">11</td> <td style="text-align: center;">570</td> </tr> <tr> <td>Cycling</td> <td>8-10%) non-car</td> <td style="text-align: center;">7</td> <td style="text-align: center;">340</td> </tr> <tr> <td>PT</td> <td>8-10%) driver</td> <td style="text-align: center;">6</td> <td style="text-align: center;">312</td> </tr> <tr> <td>Motorcycle</td> <td>1-3%) modes</td> <td style="text-align: center;">2</td> <td style="text-align: center;">102</td> </tr> <tr> <td>Working at home</td> <td>4-8%)</td> <td style="text-align: center;">3</td> <td style="text-align: center;">156</td> </tr> <tr> <td>Other/not stated</td> <td>1-3%)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">16</td> </tr> </tbody> </table> • Authority also aims to “promote more efficient use of transport and commuting for business activity through the adoption of WTPs by employers.” Once again, this is to be targeted through modal shares for journeys to work observed in Gloucestershire and the CSV. 	2011		1998/2000 average:				%	No. of trips	Car driver	60% max	68	9455	Car passenger	8-12%) Minimum	9	1233	Walking	9-11%) 40% total	10	1355	Cycling	6-8%) non-car	5	732	PT	6-8%) driver	4	582	Motorcycle	1-3%) modes	2	210	Working at home	4-8%)	3	-	Other/not stated	1-3%)	0.1	12	2011		1998/2000 average:				%	No. of trips	Car driver	55% max	64	3297	Car passenger	9-13%) Minimum	8	390	Walking	10-12%) 45% total	11	570	Cycling	8-10%) non-car	7	340	PT	8-10%) driver	6	312	Motorcycle	1-3%) modes	2	102	Working at home	4-8%)	3	156	Other/not stated	1-3%)	0	16
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Somerset County Council	<ul style="list-style-type: none"> • Number of WTPs denoted as a local performance indicator in the LTP. • Output Target 7 of LTP: 150 organisations to be approached during the LTP period with a view to setting up a WTP. 10 organisations approached in 2000/01. • Output Target 9: To increase the number of organisations with WTPs from 3 to 30 during the LTP period. 8 WTPs currently agreed. 																																																																																

Local Authority	Progress in Promoting WTPs
Hampshire County Council	<ul style="list-style-type: none"> • Number of WTPs implemented by businesses in Hampshire denoted as a performance indicator in the LTP. Aiming to encourage the development of WTPs among all “major businesses” in Hampshire. Base year of 1998 and 3 WTPs established. • Pilot travel plan launched for Winchester based HCC staff in June 2000. WTP Co-coordinator appointed in June 2001 through DTLR bursary funding. Strategy for assisting Hampshire’s businesses in developing their own travel plans “at an embryonic stage.” • Potential impacts of workplace parking and road user charging being investigated. • Work ongoing with business commuter forums
Devon County Council	<ul style="list-style-type: none"> • LTP aiming to “work with employers to provide alternatives to single occupancy car use,” to “improve accessibility, both for employers and employees, through public transport and other sustainable means of transport, thereby reducing dependence on car usage” and to “reduce congestion and increase the reliability of journey times.” • Number of employees covered by Employers’ Travel Plans denoted as headline performance indicator in LTP. Headline target: “to support employers (or groups of employers) to implement 20 Travel Plans by 2006.” • “Limited progress” made in 2000/01 with provision of advice and guidance to a small number of workplaces: North Devon College, Exeter Airport Business Park, Nuffield Hospital and Devon County Council’s own workplace. The relocation of the Meteorological Office to Exeter will include the development of a Travel Plan. • The County Council’s application for funding for a Government bursary to support a short-term post of workplace travel plan co-ordinator was unsuccessful in February 2001. • 25 Section 106 planning agreements negotiated with developers in 2001.
Wiltshire County Council	<ul style="list-style-type: none"> • All new applications for major developments now “expected to be accompanied by a travel plan.” 11 submitted to date. • Anticipated that 100 firms within Wiltshire will have a plan in place within 5 years. • WTP work ongoing with Churchfields Industrial Estate in Salisbury. • In-house Travel Plan under development with dedicated co-coordinator. • Tourist attractions being targeted both as places of employment and for visitors. • Individual companies engaged by officers from a variety of disciplines, including TravelWise, Planning, Road Safety and Engineering.
Cornwall County Council	<ul style="list-style-type: none"> • The number of WTPs in place has been denoted as a performance indicator in the LTP. To date, a baseline of 2 WTPs has been established. The County Council has liaised with the Royal Cornwall Hospital and the Area Health Trust, and is working with two other local large employers in developing individual travel plans. • A County Council Travel Plan has been established.

Local Authority	Progress in Promoting WTPs
Bath and North East Somerset (B&NES) Council	<ul style="list-style-type: none"> • Total number of motorised vehicles entering centres denoted as a local performance indicator in the LTP. Targets of 10% reduction in trips in central Bath, and 2% on A4 London Road, Bath, over the 5 year plan. Also there are targets to reduce increase in traffic to 1.5% per year in Keynsham and 1% per year in Norton Radstock. Information to be reported in next APR. • Number of major employers with travel plans denoted as a local performance indicator in the LTP. A target of 10 and a baseline figure of 4 established (2000). Some progress has been made, with plans in preparation. Update in 2002 APR. . • Promotion of WTPs in 2000/01 carried out in collaboration with <i>Envolve</i> and via the development control process. The Council has supported <i>Envolve</i> in setting up a B&NES Employers Forum, providing the focus for discussions with major employers and drawing from best practice elsewhere. • The Council has assessed the results of its own staff travel survey and is drawing up an action plan. Among other measures, a review of staff parking permits is underway, focusing on central Bath.
South Gloucestershire Council	<ul style="list-style-type: none"> • “Travel Plans” denoted as a Performance Indicator in the LTP. Target: to ensure that 75% of employers with 200 or more employees have implemented a WTP by 2005/06. 25% of major employers progressing green travel initiatives. Benchmark of employers with WTPs to be established in 2001/02. • Number of commuters car sharing denoted as a performance indicator in LTP. Target: to increase this by 10% by 2005/06. Benchmarking in progress for year 1 of LTP, through Travel Plan monitoring. HOV lane network being extended. Travel Plan co-ordinator appointed in July 2001. • Proportion of commuter trips made by bicycle denoted as a performance indicator in LTP. Target: to increase mode share to major employers to 10% by 2005/06. WTP monitoring has commenced. Baseline established at 4% for Year of LTP. • Number of peak period vehicle kms denoted as a Performance Indicator in LTP. Target: to limit traffic growth to 6% by 2005/06 from 2000/01. Benchmark traffic level established for April 2001. Traffic in South Gloucestershire has grown by 24% since 1991 and by 42% in the North Fringe. • Proportion of trips by car made to the North Fringe, and from Yate, Thornbury, North Fringe, Kingswood, Longwell Green, and Emersons Green to Bristol by car, and from Kingswood and Avon Ring Road to North Fringe by car all established as performance indicators in LTP. Target: to reduce car mode shares for these trips by between 5% and 27%. Monitoring framework of annual surveys and baselines established.
Buckinghamshire County Council	<ul style="list-style-type: none"> • Number of travel plans denoted as a local performance indicator in LTP. Target: 75 (15 in Aylesbury) WTPs implemented by 2005/06. 12 have been implemented, 3 of these in Aylesbury. • Business ‘satisfaction’ with the transport system denoted as a local performance indicator in LTP. Target: to increase to 68% between 2000/01 and 2005/06 the proportion of businesses ‘satisfied’ with the transport system. • Proportion of journeys to work by different types of transport denoted as a local performance indicator in LTP. Target: 3% reduction in proportion of journeys to work that people make as car drivers between 2000/01 and 2005/06 (working from home will be included as a ‘journey’ to work) – from 73% to 70%. Baseline established in 2000/01 at 73%.

Local Authority	Progress in Promoting WTPs
Buckinghamshire County Council	<ul style="list-style-type: none"> • Reported car use to work denoted as local performance indicator in LTP. Target: 20% reduction in County Hall staff travelling to work by car between 1998/99 and 2005/06. 15% reduction achieved between 1998/99 and 2000/01. • Cycle journeys to work denoted as a local performance indicator in LTP. Target: double the proportion of journeys to work by cycle between 2000/01 and 2010/11 from 2.5% to 5% countywide. Baseline of 2.5% in 2000/01. • Journeys to work on foot denoted as local performance indicator in LTP. Target: 6% increase in the proportion of journeys made on foot countywide from 9% in 1990/91 to 15% in 2010/11. Figure of 11% in 2000/01, slightly behind target rate of 12% by 2000/01.
Bristol City Council	<ul style="list-style-type: none"> • Local objective contained in LTP: “to ensure that development takes place in such a way that it will reduce the need to travel.” • Level of cycling to work denoted as a local target in the LTP. Target 15: to double the level of cycling to work by 2002 and double it again by 2012. Achieve a 10% modal share of journeys to work by bike by 2012. Base (northern area household interviews) = 5.5% mode share. Household interview surveys being progressed in other areas of city, base and target will be re-based to include more complete information. • Target 21: to increase by 300% the number of bike friendly employers in the city by 2002. Base year 1997 = 13. • Development of employers’ travel plans to encourage sustainable journeys to work denoted as a “headline achievement” in the Annual Progress Report. City of Bristol College, DAS Legal Services and Bristol University have won awards for their progress. • Grants to provide support to 8 schemes under Travel Plan development in Bristol. Additional support for smaller employers.
Swindon Borough Council	<ul style="list-style-type: none"> • Cumulative number of employers with a Green Travel Plan denoted as a performance indicator in LTP. 2000/01, 5 employers have a plan in place. • Cumulative number of Business Travel Forum meetings denoted as a performance indicator in LTP. 5 held in 2000/01. • Modal split of journeys to work for Council employees targeted by LTP. Target: to reduce the car use of staff and Members by 25% by 1 April 2005, in respect to both staff travel to and from work and business travel in the course of work.

7.4

7.4.14

Implementing Workplace Travel Plans

Discussions with interested parties in the SWARMMS area have revealed that for an employer to become interested in developing a WTP, one or more of the following are likely to apply:

- The organisation will be seeking to solve internal and already existing travel problems, perhaps associated with parking availability
- The organisation will be seeking to expand, and has been persuaded into adopting a WTP through a Section 106 planning agreement
- The organisation will be seeking to set a good example to others in the local community (this is particularly true for local authorities)
- The organisation will contain an individual or number of individuals interested in travel issues and willing to devote time to researching and designing a WTP

7.4.15

The first two of these points suggest reactive avenues through which the take-up of WTPs can be expected to develop in the future. As the economy of the SWARMMS area continues to grow companies are likely to expand and take on more employees. If an organisation's supply of parking spaces is restricted in some way, then at some point, expanding employers will have to review their parking arrangements. Action in this area could also be stimulated if local, regional and national Government adopts a stronger line on workplace parking charges, of which more is said later in this section.

7.4.16

As employers take on more staff, so they may also outgrow their current premises and seek either to move to new buildings or expand on their existing site. It is at this point that local authorities can make certain demands through Section 106 agreements. These can include requirements to develop, adopt, monitor and review WTPs. Such agreements can make organisations reassess their transport needs and facilities, particularly if a local authority restricts the number of parking spaces it allows a company to put in a new development. If this is properly managed, and parking on surrounding residential streets is strictly disallowed, then a restricted parking capacity will bring about a change in employee commuting patterns. This is more likely if stringent parking measures are accompanied by financial or other incentives designed to encourage employees out of their cars. Employers may well need to provide/facilitate alternative means of transport to and from the site, such as regular bus services, car sharing schemes and taxis/pool cars available in emergencies, for such a WTP to be effective.

7.4.17 A strong local authority stance in this area, particularly if car parking is restricted at new developments, should help to reduce commuting by single occupancy car. Nevertheless, there are a number of problems with this approach. There is a lack of consistency between authorities over planning conditions. Some authorities are keen to attract business to their area by imposing few and limited conditions on new developments. In less prosperous areas, planning conditions may be less stringently imposed than in a region already attractive to business. In this context, although a local authority might require a company to draw up a WTP, that plan may not be so rigorously promoted or monitored, thus yielding few reductions in car use. There is a need for consistency of approach and guidance at no lower than the regional level.

7.4.18 Another difficulty lies with the issue of enforcement of WTPs. Conditions requiring the implementation and monitoring of plans can be complicated to write and enforce, especially if sanctions are involved. Companies seeking to expand may resent having to enforce travel plans, with the potential for financial penalties, when competitors are under no obligation to do so. As a result, local authorities often impose simple planning conditions that are not particularly onerous. This problem will clearly limit the take-up and potential impact of WTPs on travel demand. Of nine local authorities identified by a study in 2000 as progressing towards introducing enforcement mechanisms, only five relevant case studies could be put forward. Of these, none have yet reached the stage where monitoring of the targets has taken place.

7.4.19 Clearly, difficulties are likely to arise if planning conditions are not kept simple. However, merely requiring an organisation to put a WTP in place may not be enough as it imposes no obligation upon the employer to promote or monitor the measures contained in that plan. Likewise, requiring a company to achieve specific modal share for employees' journeys to work may not be effective, as there is little a local authority can do if the targeted changes in travel mode are not met. In contrast, limiting the availability of car parking is a useful and simple 'stick' which authorities can use to promote the take-up of WTPs.

7.4.20 Although the availability of workplace parking can be an controversial subject, that local authorities must more actively tackle this issue if WTPs are to provide any notable reductions in personal commuting and business travel in the SWARMMS area. This is particularly the case for organisations that, as yet, have made no effort to manage their company travel. Table 7.1 showed that only 7% of UK businesses have travel plans in place, and this is unlikely to grow dramatically without further

policy intervention. If a company does not match one of the four criteria contained in paragraph 7.4.1, then only a strong business case will persuade that organisation to consider, let alone implement, a WTP. For this to happen, a company must be able to see some difference on its balance sheet, according to whether it does or does not implement a WTP.

7.4.21

There are several ways in which this can be achieved. Organisations can either be given incentives to implement a WTP, or be penalised if they do not do so. Measures here might include reductions in corporation tax or business rates, or a tougher stance on workplace parking charging. The DTLR report 'The Potential for Further Changes to the Personal Taxation Regime to Encourage Modal Shift,' published in October 2001 is a useful first step in this area, which should be built upon. Such initiatives would clearly require regional if not national policy guidance and would be unlikely to be politically popular. However, without this WTPs are unlikely to significantly reduce travel in the SWARMMS area.

7.4.22

Powers to introduce workplace parking charges are already available to local authorities, although as yet there is little evidence of any substantial appetite to use them. These charges are designed principally as a means to the end of employers reducing work related car traffic to and from their premises in congested traffic zones. If the traffic reduction aims are made clear and can be justified then it is reasonable to request employers to introduce WTPs to secure their achievement as part of a wider transport plan including traffic management, improved public transport and highway improvements. Workplace charging should be included in plans for congested traffic zones to be introduced where voluntary WTPs fail to achieve the desired target. Whilst this would be a new policy development here in the UK the principle of requiring employers to reduce car commuting or face financial penalties has been established as part of policies to meet air quality targets in California.

7.4.23

A more radical way of increasing the appeal of public transport and the acceptability of the restrictive elements of WTPs would be to allow tax concessions for public transport season tickets. This has been considered in the DTLR's assessment of taxation measures to affect modal choice and a basic rate tax free allowance of up to £600 a year against the cost of public transport commuting costs would switch some commuting to public transport and, in turn, result in improved services, which would have the virtuous effect of attracting even more ridership. The cost to the Exchequer of such a policy in the SWARMMS corridor would be about £18m annually if the use of public transport

increased by half and this would be equivalent to reducing car traffic by about 1%. Such a scheme would have to be introduced nationally and this would reduce income tax revenue by between £400m and £500m a year or about the equivalent of 1p/litre of road transport fuel duty.

7.4.24

Recent changes in the taxation regulations have largely eliminated the tax advantage of company car benefits for private use including commuting. However there is still a significant use of company cars for commuting. The proposed tax allowance for public transport fares expenditure would act as an incentive for employers to provide more attractive "public transport vouchers plus cash" options to company car schemes and the take up should be substantial because of the obvious tax advantage.

7.4.25

In the absence of any policy shift of the types described above, there are a number of initiatives that could still further the development of WTPs in the SWARMMS area. The provision of DTLR bursaries has generally been welcomed, though there is concern that these are, at present, only likely to be available for three years after which time much of the good work done by workplace travel co-coordinators may be lost. Local authorities would clearly welcome any expansion or continuation of this scheme. The Government's programme of site-specific advice provides another useful avenue through which organisations can be guided through the whole WTP process. Where possible, this scheme should continue to be publicised and possibly expanded.

7.4.26

Discussions have shown that employers find some Governmental advisory publications too vague and not sufficiently targeted. Some form of knowledge bank through which employers could find out how similar organisations to themselves had tackled the WTP process would certainly be welcomed. Though awareness of WTPs is growing, a process of continual publicity should help to firmly plant the issues in employers' minds and, more importantly, help to convince them of the commercial benefits of WTPs. In our competitive free enterprise economy, it should not be assumed that companies will take the time to find out these benefits for themselves. Businesses clearly question the worth of acting alone in this area, and fear a loss of business advantage to rivals if they choose to do so. Local authorities can help to overcome this problem by targeting groups of businesses for action, for example in business parks. Such an approach has the potential to deliver more significant travel reductions than would be secured by one company acting alone.

7.4.27

To conclude, our research has shown that without sufficient motivation, many employers will pay insufficient attention to the travel implications of their operations and will not implement a WTP. Occasionally, that motivation can be found internally to an organisation, for example if it is experiencing parking problems, wishing to relocate, expand or set a good example, or if the company contains a particularly motivated 'champion' of transport issues. If none of these conditions are to be found, then that employer is very unlikely to reduce its commuting and business travel by implementing a WTP. Without strong regional or national policy intervention to promote workplace parking charging or to 'incentivise' the take-up of WTPs via tax changes, this situation is likely to persist in the SWARMMS area.

7.5

7.5.28

Recommendations

Key recommendation include:

- Government advice on Workplace Travel Plans should be reviewed and made more specific. It should be extended to include procedures for the setting of targets to be achieved by WTPs and mechanisms for enforcing these.
- Public Transport commuting (see paragraphs 8.2.6 and 8.2.7 and Section 8.6) costs of up to £600 per year should be exempt from income tax at the basic level.
- The DTLR bursary and site-specific advice schemes should be expanded to ensure all worthwhile opportunities to promote WTPs are satisfied and its life extended for another two years.
- Once the study into the training needs of travel plan co-ordinators is complete, the DTLR should put in hand measures to ensure these are met.
- Regional transport policy should contain clear traffic and parking targets designed to avoid local authorities using damaging parking concessions as a means of attracting new development.
- The role of Workplace Travel Plans should be extended from being focused on moderating traffic generated by new and expanded development to being a part of area wide transport strategies for congested travel zones.
- Local authorities should set modal split targets for employers in congested travel zones and monitor progress towards achieving these. Where the implementation of WTPs to achieve these is too slow workplace charging levies should be introduced on 'excessive' workplace parking.

8 Public Transport Marketing

8.1

Introduction

8.1.1

Marketing initiatives and promotions can increase the use of public transport and, in certain circumstances reduce car use. The Soft Factors study concluded that individualised marketing initiatives are the most likely to switch travellers from cars with generalised marketing more likely to stimulate new travel by existing types of users. Nevertheless it is worth looking at what public transport marketing there is presently in the SWARMMS area to establish what opportunities there are for further worthwhile initiatives.

8.2

The Railways

8.2.2

The range of opportunities for marketing in the railway industry is quite constrained. Routeings and frequencies are limited by physical and operational constraints and service patterns by franchise agreements. The main marketing opportunities therefore lie with schemes based on fares and ticketing arrangements, which are often aimed at filling seats at off-peak times. These too however are also, in part, constrained by the present franchising arrangements.

8.2.3

The Strategic Rail Authority regulates some fares in the rail industry. To an extent the levels of these regulated fares influence the remainder because of the need to have sensible commercial relativities. The regulated fares are:

- Standard class weekly season tickets (where these existed in 1995);
- Saver tickets (where these existed in 1995);
- Shorter distance unrestricted standard class return tickets;
- Standard day singles and returns in the London area; and
- Season tickets from outside London for the portion of journey in the Travelcard area.

8.2.4

The tickets prices are capped individually outside London (but put together in a weighted 'basket' within the London area) so that prices can increase by no more than inflation minus 1%. In the London area the cap can be moved up or down by up to 2% per year depending on the franchise's recent performance record. These regulated fares generate about 40% of passenger railway revenue and the regulation has resulted in the average fare paid by standard class passengers rising at about the same rate as inflation in recent years.

8.2.5

The railways in the SWARMMS area are covered by the scheme of national railcards. These include:

- Young Person’s Railcard
- Senior Railcard
- Family Railcard
- Network Railcard
- Disabled Railcard

8.2.6

These provide a range of fare discounts across the national rail network and are largely inherited from the time when the railways was a nationalised industry. As such they are a combination of commercial initiatives and social concession, which generate ridership usually in off peak periods, but probably, for the most part, do little to switch travel from car to rail.

8.2.7

Despite this, there is evidence of substantial marketing activity by the railway companies operating services in the SWARMMS area. Table 8.1 sets out the types of marketing initiatives that have been identified as being undertaken by First Great Western, Virgin, Thames Trains and South West Trains. The variations in practice, to a substantial extent, reflect the differing mix of markets that the four operators serve. However it seems that there may be scope for wider use of ‘carnet’ type offers and multi-modal tickets.

Table 8.1: Rail Marketing and Promotions in the SWARMMS area (2001)

Type Of Initiative	Thames	South West	First GW	Virgin
Seasonal promotion			*	*
‘Carnet’ discounts			*	*
Group discounts	*	*	*	*
Multi-modal tickets	*		*	
Special events promotions			*	
Executive Club privileges (including taxi and car hire)			*	
Frequent users privileges	*			
Companion discounts				*
Off peak upgrades		*	*	*
Upgrades for special needs passengers		*		
Special child discounts	*			

Type Of Initiative	Thames	South West	First GW	Virgin
Early bird discounts				*
Concessions for charities				*
Student concessions		*		
Participation in 3 rd party loyalty schemes			*	*
Bonus tickets/offers			*	*
Joint travel entry/discounts	*	*	*	
National Railcards	*	*	*	*

8.2.8

Discounts on the pre-purchase of a number of individual tickets offer frequent but irregular users some of the benefits of conventional season tickets, which are significantly cheaper than the equivalent individual tickets. As more and more workers adopt more flexible working patterns (e.g. by tele-working for part of their working week) the cost of public transport is effectively increased as the utility of conventional season tickets diminishes. This is one further factor favouring the use of private over public transport and all train operators in the area should develop and offer more attractive ticketing products that provide for the less regular but frequent user. Over the next decade it is likely that smartcards will become the dominant ticketing medium and these can allow a range of payment and tariff options tailored to suit the needs of different types of travellers and journeys and indeed enable rail travel related items such as parking, inward/onward bus or taxi rides and refreshments to be purchased, possibly at a discount.

8.2.9

Multi-modal tickets, most commonly in the form of 'bus add-ons,' are available in some parts of the region but, all too often, rail passengers have to book separately for the bus leg of their journey. This can be inconvenient and reinforces the impression of public transport being a fragmented system, in contrast to the 'seamless' end-to-end service provided by cars. In the past joint ticketing arrangements have been inhibited by concerns of the Office of Fair Trading that they could be anti-competitive, but the Transport Act 2000 (sec 135) has gone some way to removing this problem albeit through a notice procedure seen as onerous by many operators. Operators should now examine the opportunities for joint bus rail tickets, especially in the main urban areas, with a view to making them generally available within the next two years.

8.3

Buses

8.3.10

Local bus services in the UK (other than Greater London and Northern Ireland) are not regulated in respect of fares and services. Fares can be varied instantaneously, the only requirements for notice being in respect of travel concession schemes. Operators are free to introduce new services, and vary or withdraw services, subject to registering any changes six weeks in advance with the local Traffic Commissioner, from whom they must also have an Operator's Licence. Where a local authority believes that the pattern of commercial services is inadequate it can supplement this with 'socially necessary' services. These have to be procured through a process of competitive tendering and usually comprise only a small proportion of the total service offer in an area. In the English Shires, which is the most typical for the SWARMMS area of the available statistics, 82% of the service mileage is commercial and the minority of services that are tendered are typically evening and Sunday services.

8.3.11

This lack of regulation means that bus operators are able to change their services and frequencies to offer new and modified 'service products' more or less as they wish. In practice service innovation has been quite limited. In the late 1980s, following deregulation, there were frequent service changes as part of operators' strategies to secure market share in their chosen areas. These tended to confuse the travelling public rather than enhance the service offer. In the conurbations where this phenomenon was strongest, patronage fell by a third in the seven years following deregulation. More recently service patterns have become more stable and in the English Shire Counties bus ridership has changed little over the last five years.

8.3.12

Commercial services have been concentrated on the more densely trafficked routes and busier times of the week and innovations outside this pattern are relatively limited. Local authorities, and occasionally employers, have funded additional services but generally only where a demonstrated need is evident rather than attempting to exploit new markets and divert traffic from private transport. Most park and ride services (one of the more successful developments in bus operations in recent years) are invariably local authority sponsored.

8.3.13

Bus service volumes have increased by 5% in the South West area over the last five years but fallen by 5% in the South East area. However ridership trends have gone in the opposite direction, increasing by 8% in the South East but falling by 6% in the South West.

- 8.3.14* The Transport Act 2000 provides opportunities for local authorities and operators to work together to implement bus quality partnerships and, where necessary, bus quality contracts, which can form the basis for new marketing initiatives. Bus quality contracts introduce an element of re-regulation in that operators in defined corridors can be offered a degree of protection from competing enterprises. There is however a rigorous programme of consultations and justifications to go through before the DTLR will sanction a contract. These are most likely to be applicable in the larger urban areas along the main travel corridors into the town centres and other major destination areas.
- 8.3.15* As there are no subsidies for commercial bus services, fares are determined by market forces and have been rising in real terms. Between 1990/91 and 2000/01 bus fares in the English Shires rose by 24% more than inflation. This increase cannot be accounted for by rising costs as real unit costs in the industry fell by 11% in the English Shires (including depreciation). The reasons for fares increasing in real terms include expanding services (+11%), falling ridership (-11%) and increased profit margins. There has been some debate as to whether the profit margins in the bus industry are excessive; however these were very low in the late 1980s and early 1990s and this was reflected in the very low levels of investment during that period. Whether they have recovered too much is a matter of opinion but it is certainly necessary to have higher operating profits than in the early phases of deregulation if the industry is to sustain adequate investment levels and provide much needed improvements in service quality.
- 8.3.16* Even if profit margins were to be trimmed back this would have only a small effect on fare levels. It can be argued that service expansion during a time of falling ridership was excessive but this seems to be an enduring feature of the deregulated environment and unlikely to change in the foreseeable future.
- 8.3.17* A national scheme of minimum concessionary fares for OAPs (half the normal fare) is being introduced but the increased relief to passengers has been small (£54m) in comparison with the total fares revenue (about 2%). Whilst the amount of concessionary fare support increased slightly between 1990/01 and 2000/01 (4%) it remains at a lower level than through the 1990s. The national minimum scheme is regarded as a safety net. Local authorities are permitted to operate parallel non-compliant schemes and, prior to the Transport Act 2000, most local authorities were offering half fare travel or better.

8.3.18 In the present regime therefore there is little opportunity for substantial reductions in bus fare levels.

8.3.19 Fare structures vary between different operators but are commonly graduated as this is thought to generally maximise income. Ticketing is commonly a combination of cash payment on the vehicles for individual journeys along with a range of operator passes, which include discounts for frequent and off-peak travel. Attempts to introduce joint ticketing have suffered in the past from concerns about anti-competitive behaviour but recent changes in legislation are designed to clarify the legality of joint ticketing where this is in the public interest. Where the same group owns bus and train services, joint bus and train tickets are often provided. However typically these are sold at bus and railways stations and this is not convenient for many travellers when setting out from home. However, despite the easement provided under the Transport Act 2000 the OFT still shows some reluctance to approve joint operator ticketing arrangements. There are similar concerns about the provision exempting the production of joint timetables by operators. The Government should review the workings of the Transport Act 2000 to further promote service and fares integration

8.3.20 The bus companies in the SWARMMS area provide bus maps and timetables, some but not all of which are of a high quality. Bus service promotional material is also produced and distributed via operators' and authorities' outlets and, from time to time, door to door leaflet drops.

8.3.21 Over the last decade the use of magnetic stripe tickets which can be checked by machine has become common on buses and trains. More recently a number of operators are introducing Smartcards (e.g. the TfL PRESTIGE Project) and this technology permits different types of tariffs (e.g. flat fares, period passes and graduated fares) to be used on their own or in combinations. This growth in the use of electronic media for public transport ticketing appears to offer opportunities for more creative fares and ticketing strategies for local buses, either on their own or in conjunction with other products and services, especially the railways.

8.4

Coaches

8.4.22

Coach services in the UK operate as commercial ventures and comprise a variety of types of service. Those that form part of the regular public transport network are scheduled services available to the general public. The coach market has a higher than average representation of students, tourists and pensioners many of whom are infrequent users, which makes the scope for joint and pass type tickets

that much more limited. National Express dominates the national network although there are a number of other regional operators that provide some competitive services, and operations on routes not served by National Express. As such National Express set the pattern for fares, which have to be overall at commercial levels. Within this overall constraint the coach industry has been quite creative in using reduced fares as a promotional device.

8.4.23

National Express offer:

- Travel Packages
- Tourist Trail Passes
- Linked Attraction/Event Offers
- Discount Cards:
 - Family cards
 - Lone parent cards
 - Student cards
 - Season tickets
 - Multi-ride tickets

8.4.24

Whilst there is always room for new developments it seems that the coach industry already uses fare strategies quite effectively and there is probably not much scope for attracting greater ridership (especially from car users rather than rail passengers) by further initiatives.

8.4.25

Because coaching has been a commercial operation for many years, and has often seen itself in competition with the railways for longer distance traffic, the relationship between the two modes has tended to be one of rivalry rather than cooperation and, now railway operations are operated privately, this will continue on the major interurban travel corridors where rail services are provided. However there are a number of connections that could be better served by combined coach/rail services. These are described in the relevant corridor Plans.

8.4.26

In recent years the coaching industry has introduced a network of inter-urban bus services using major roads and offering higher levels of comfort, and regular and frequent headways, often at the expense of services to rural communities. This more frequent network may well prove attractive to long distance commuting and business travel, and thereby increase the potential for diversion from car to coach, but at the expense of possibly increasing social exclusion.

8.5

8.5.27

A New Approach to Public Transport Marketing

The *Soft Factors* report identified individual marketing as a potentially effective means of switching some car use to public transport (and also walking and cycling): -

“This uses well-focused individual marketing, which aims to help people to identify those journeys for which public transport offers a reasonable way of carrying out and providing some incentive/motivation to try public transport. In a project involving more than 40 public transport companies from all over Europe over twelve thousand people participated in marketing experiments that resulted in public transport’s market share of their journeys growing from 17% to 21%. These groups were not necessarily average, nor were all the additional public transport use at the expense of car driving. However it is clear that well targeted marketing programmes have the potential to take some people from their cars for journeys where public transport can provide an acceptable alternative.

This approach is now being more widely followed but requires a good quality public transport system and appropriate institutional framework to make it work. There have been some examples of even greater switching to public transport (e.g. South Perth in Australia) and, closer to home, in Oslo. Here in a suburban industrial area a carefully planned and executed mobility management campaign increased the public transport market share from 42% to 49% in two years. In a similar experiment in Helsinki the share of journeys by car from a selected sample of 1,400 people was reduced from 45% to 40%.

This form of marketing can be effective but is not inexpensive. The Helsinki experiment cost £16 per head and, although the effects of these campaigns can last for up to two years they may need to be repeated to maintain their effectiveness.”⁶

8.5.28

There are two initiatives in this vein already underway being promoted by Sustrans. These use the title of ‘TravelSmart,’ which was coined for a successful application of this approach in Perth in Western Australia, and one of these is in the SWARMMS area at Frome. The other is to the north of the area in Gloucester. These campaigns involve providing new improved travel information tailor-made to suit individual needs, ‘taster’ tickets for local bus services and discount vouchers for cycling products. There is also to be a rewards scheme for regular users.

⁶ See *Soft Factors*, especially Section 5

8.5.29 These schemes will provide valuable experience on which to build future initiatives and, if successful, could promote a significant change in travel behaviour. It is very important that the public transport service should be suitable for the journeys that are being targeted and should be reliable. These conditions are not met universally throughout the SWARMMS area. Potentially the most productive sites are to be found in the larger urban areas including Plymouth, Exeter, Taunton, Bristol, Bath, Salisbury, Swindon, Newbury and Basingstoke.

8.5.30 For each urban area those suburbs with the highest level of commuting to the centre should be identified and the quality of the present public transport services assessed. Where the public transport (usually bus) services are reasonably frequent and reliable, or are planned to be made so with in the next two or three years, an individualised marketing initiative should be explored. This will normally be led by the local authority but must have the active co-operation of the public transport operators. Where there are major employers in the area they should be invited to assist with the workplace end of any campaign and the local Chamber of Commerce should also be invited to help.

8.5.31 It is recommended that the scope for a programme of individualised marketing initiatives is analysed in Plymouth, Exeter, Taunton, Bristol, Bath, Salisbury, Swindon, Newbury and Basingstoke. As Figure 8.1 shows, opportunities for such initiatives have provisionally been identified in and around Plymouth, Exeter, Bristol, Bath and Swindon.

Figure 8.1: Potential Sites for Individualised Marketing Initiatives



Plymouth

- 8.5.32 **Plymstock and Plympton** - both small towns on the eastern side of Plymouth that have been taken into Plymouth and have grown significantly as a result. These areas are a mixture of older centre and extensive residential estates. Plymouth City Bus run reasonable services to the city centre and there are proposals for some additional bus priority measures from this direction.
- 8.5.33 **Woolwell, Robrough, Widewell and Glenholt areas** - all to the north of the City. These areas have seen major residential development and are situated on a corridor that may receive more bus priority in the future. This is just north of the Derriford hospital site which is already a focus of a significant bus operation.
- 8.5.34 **St Budeaux** - an older area with much terrace housing, thought to exhibit lower levels of car ownership. This area has the benefit of access to the railway, but service levels are thought to be limited.

Exeter

- 8.5.35 **Exwick** - A late 70s/early 80s housing development with high single car ownership where public transport services should be good and there are prospects for improvement.
- 8.5.36 **Pinhoe** - North West of Junction 29 on the M5. A reasonably prosperous area with Sowton industrial area to the east and the Meteorological Office relocating in the area. Significant improvements to orbital bus services to serve the new development are proposed. Because of the new Met. Office development this may be a situation where a workplace rather than a place of residence initiative would be more appropriate.
- 8.5.37 **Topsham** - A prosperous district to the Southeast with car ownership moderated by physical constraints. It already has good bus and a reasonable rail service into Exeter so could be suitable for an early initiative.
- 8.5.38 **Alphington** - an older village that has been now engulfed by expanding Exeter. Alphington is a mixture of older village properties and modern estates, and is thought to exhibit high levels of car ownership. Transfer to buses along the radial into Exeter would be welcomed, however there is as yet little bus priority in place in this area.

Bristol

8.5.39 **Mangotsfield/Fishponds** – a mixed but predominantly residential district located in the north-east area of the city. Its primary connection to the City Centre is via the A432 Fishponds Road, and thereafter either the M32 or Stapleton Road. There are extensive inbound bus priority measures in place on Fishponds Road which are capable of some extension, whilst opportunities for providing complementary measures in the outbound direction exist. There is a good existing bus service linking this residential part of the city with the City Centre, with inbound reliability significantly improved since the implementation of the priority measures previously discussed.

8.5.40 **Bradley Stoke** – An extensive area of relatively new housing located in the north of the city, with primary links to the City Centre via the M32 or A38. There are a number of existing bus services providing access into and out of the City Centre, but all are regularly affected by delays in the peak periods, due largely to the absence of any bus priority measures in place on the two linking arterial corridors. However, Bristol City Council are presently promoting the implementation of a series of bus priority measures on the A38 Gloucester Road/Cheltenham Road, whilst opportunities may exist for introducing some priority measures at the southern end of the M32 corridor.

Bath

8.5.41 **Norton-Radstock** – Norton-Radstock consists of the settlements of Radstock and Midsomer Norton and has a population of about 20,000. Norton-Radstock has a role as a service, employment and shopping centre for the surrounding rural hinterland, including villages although, many residents' travel to Bath and Bristol for employment. There has been limited past investment in bus infrastructure, and the pattern of development and the high-way network have, historically, made the provision of commercial bus services difficult. Some parts of the town are relatively well served by bus whilst others have limited services, supported to a great extent by funding from the Council. The Council will be discussing opportunities with the operators, including the potential for securing passenger growth from new housing development. At Radstock, plans for an enhanced interchange are under discussion and these will take account of the further opportunities that may arise with the proposed re-opening of the Radstock/Frome railway line.

8.5.42 **Corsham** – located east of Bath, had a population of 10,500 at the time of the last census (1991). Corsham comprises of a secondary school, 3 primary schools, several small industrial estates, residential development (greatly expanded in the late 1980s/early 1990s). The town centre has reasonable amenities providing for the needs of the residents of both Corsham and the surrounding villages.

8.5.43 The town lies adjacent to the A4 providing connections to Bath and Bristol to the east and Chippenham to the west. Bus services to Bath and Chippenham have been improved in recent years and now provide a half hourly service from town centre, and an hourly service from two of the main residential areas.

8.5.44 Corsham station, situated on the main Bristol to London Paddington line, was closed down in the 1960s. However, funding has recently been secured from the Strategic Rail Authority, North Wilts District Council, Wiltshire County Council and First Great Western for the reopening of the station (planned for 2002/3). Corsham station will be served by First Great Western's Bristol to Oxford service. It is anticipated that the new station will handle around 300 journeys per day and help to relieve congestion on the A4. Journey times to Bath will be around 8 minutes as opposed to a minimum of 25 minutes by car.

Swindon

8.5.45 **Wroughton** - a small town approximately 3 miles south of Swindon centre which is separated from the main urban area by the M4. Its primary connection to Swindon is via the A4361 but alternative routes can be used via Junction 15 of the M4 and an unclassified road. The A4361 is the major link road for commuter traffic serving towns to the south and a bus park and ride site is being constructed at its junction with Pipers Way north and adjacent to the M4. The town is predominantly residential, with a small shopping and community centre. Swindon is the major employment, recreational and shopping centre for the local population.

8.5.46 **Haydon Wick** - a residential area to the north of Swindon approximately 3 miles from the centre. The majority of its housing was constructed in the 1960's and 1970's and has many links to the town centre. It is adjacent to and, to some extent, part of the Northern Expansion of the town. The expansion is for mixed residential, commercial and industrial development and is led by a consortium. The development includes the construction of the northern orbital route, the largest national WalMart store and approximately 10,000 new homes.

8.5.47 **West Swindon** - This area is located approximately 2 to 3 miles to the west of Swindon centre and comprises of in the region of 10,000 homes, major industrial areas, a leisure centre, a district centre and several village centres. It was developed in the 1970's and 1980's and is a mixture of social and private housing containing a young population with high car ownership. It is connected to Swindon centre via two main routes the Great Western Way (A3102) for the north and Wootton Bassett Road to the south.

General

8.5.48 Where the local authority is working with the bus operators to develop bus quality partnerships and/or contracts this will provide an important opportunity to initiate an individualised marketing initiative and the timing of these should be closely coordinated with the improvements to the bus services. A programme of this scale could be expected to reduce car commuting by 1% or more overall in the area and significantly more – perhaps 5% or more in the corridors most directly affected.

8.5.49 There may be some situations where cycling and walking could provide an acceptable alternative to some journeys presently made by car. This should be considered in devising these campaigns and material on walking and cycling options included where appropriate. This is most likely to apply to shorter journeys to local employment and retail centres and can be part of campaigns promoting public transport for longer journeys to the main centres and other employment areas along with cycling and walking for more local purposes. Such campaigns could be workplace focussed as well as residence focused.

8.5.50 The DTLR has recently (Jan 2002) published a Review of Effectiveness of Personalised Journey Planning Techniques which describes experience with the use of targeted initiatives to change travel modes and contains some useful recommendations. This can be accessed on: www.local-transport.dtlr.gov.uk/travelplans/pjourney.

8.6 **Recommendations**

8.6.51 Key recommendations include:

- The Government should review the workings of the provisions of the Transport Act 2000 in respect of joint ticketing and timetabling and make any changes needed to ensure that these are not being inhibited by unwarranted concerns about anti-competitive behaviour.

- Rail and bus operators should extend the availability of multi-modal/multi operator tickets to ensure that all sections of the passenger transport markets in their areas that could benefit from through ticketing and are provided with suitable ticketing products and more convenient purchasing arrangements.
- Where these do not already exist bus and rail operators should extend their ranges of tickets to include ‘carnet’ type products for frequent but irregular public transport users.
- A programme of individualised marketing campaigns should be established starting with selected suburbs in the larger urban areas. Suggested candidates for these are listed above in paragraph 8.5.8.

9 Bus Quality Partnerships

- 9.1.1* Bus Quality Partnerships, and more recently bus quality contracts (see para 8.3.5), are being increasingly used by local authorities and bus operators to provide a step change improvement in the quality of travel by bus. This concept can be developed in a range of ways and can have a significant effect in the busier urban corridors if pursued vigorously. The potential for these varies with the circumstances of individual corridors and as such their effects are being assessed in the Bristol and Swindon plans and those parts of the corridor plans dealing with the larger urban settlements of Exeter, Taunton, Bath and Newbury.
- 9.1.2* The *Soft Factors* report indicates that a network of Bus Quality Partnerships through an urban area could reduce car traffic by about ½% overall. However this would be concentrated in the busy radial corridors so giving a greater reduction of car traffic on these parts of the network and even greater congestion relief. The increase in bus ridership would be proportionately greater and depend on the degree of improvement to bus services that the partnership produces. In the better examples, increases in excess of 20% are realistic.
- 9.1.3* In the rural parts of the SWARMMS area the potential for bus quality partnerships is very limited because of low service frequencies and a trend amongst operators to adapt their routes to cope with rising costs. This often involves reduction in and withdrawal of lightly trafficked services off the main roads (see 'Rural Access to the Main Transport Corridors, Section 3)

10 Local Travel Demand

10.1

10.1.1

Introduction

The policies and initiatives described in Sections 5, 6, 7 and 8 of this report are those considered most likely to have effects on those types of journeys that have a significant part of their length on the strategic transport network. As such they should be explicitly included in the regional transport strategies. However there are other policies that can have important effects on local travel demand and these should be included in regional planning guidance for local authorities to incorporate in their Local Transport Plans. Two such measures, which were identified in the *Soft Factors* report, are School Travel Plans (STPs) and the promotion of walking and cycling. Apart from their contribution to moderating local car traffic, these initiatives help engender a culture of more responsible travel behaviour.

10.2

10.2.2

School Travel Plans

Cars are used for travel to and from places of education but, with the minimum driving age at 17, only to a very limited extent for school travel with pupils as drivers. In the SWARMMS corridors it is estimated that of the 300kms per person per year of education travel, about 50kms are as car drivers and most of this will be by students in Further Education. The other source of car travel is in escorting schoolchildren to and from school either as part of a longer journey chain, or more usually as a special journey in its own right. As a journey purpose in its own right, education escort generates about 170kms per person per year in the SWARMMS corridor area of which about 120kms per person per year is as car driver. The net effect of escorting school children as part of a longer trip chain is not known for the area but if scholars could get to school by other means this would be likely to shorten the length of the chain and even make the use of public transport more practicable. Also it would be easier for escorts to time the journey to avoid the acute congestion peak associated with the journeys to and from schools.

10.2.3

Only about half of schools have STPs despite this being regarded as important by central Government. Guidance on best practice generally is given in 'School travel strategies and plans: a best practice guide for local authorities' at www.local-transport.dtlr.gov.uk/schooltravel.bpgla.index.htm and advice specifically on using buses for this purpose in 'Increasing Bus Use for Journeys to School: Summary of investigation into best practice within existing legislation' at [www.local-](http://www.local-transport.dtlr.gov.uk/increasingbususeforjourneys.htm)

transport.dtlr.gov.uk/schooltravel/research/index.htm. Other guidance can be obtained from the School Travel Advisory Group – www.local-transport.dtlr.gov.uk/schooltravel/pdf/report.pdf and from Safe Routes to Schools – www.saferoutetoschools.org.uk.

10.3

Promoting Walking and Cycling

10.3.4

Whilst walking and cycling can aid physical well-being if undertaken sensibly they can also be a practical alternative to car use for some short journeys. In addition to reducing local traffic and polluting emissions, which can be significant because of the higher levels of noxious emission following ‘cold starts,’ pressure on parking can be eased so making space for longer journeys where car use is more rational.

10.3.5

Data on cycling is less extensive than for most other modes but it is clear that we travel by these means less than most other Europeans. On average Europeans cycle about 190kms per person per year compared to about 80kms in the UK and in some countries (Denmark and the Netherlands) the use of cycles approximately ten times greater than here in the UK. If our use of cycles could be brought up to the European average and a third of this additional cycle use were former car driving then car traffic would be about 0.75% less but local impacts would be rather more. This one-third diversion from car driving may seem to be low but there is some evidence that increased cycling is largely at the expense of walking (as well as bus use and as a car passenger).

10.3.6

Reliable comparative data on walking is even harder to acquire. From UITP research it appears that the differences between the UK and other European cities is much less marked than for cycling. Coupled with the short length of most walk journeys the effects of increased walking on car traffic are likely to be very small and therefore the benefits of increased walking would appear to be more of health and amenity than congestion or environmental relief. Promotion of walking and cycling can be included in individualised marketing campaigns alongside public transport as indicated in paragraph 8.5.10.

10.3.7

Guidance on walking and cycling initiatives can be found in the ‘National Cycling Strategy Report, 1999’ – www.nationalcyclingstrategy.org.uk/2ndYear.pdf, ‘Bikerail’ - www.roads.dtlr.gov.uk/roadnetwork/ditm/tal/cycle/05_99, ‘Cycling initiatives register’ – www.dtlr.gov.uk/roadnetwork/ditm/tal/cycle/10_99, ‘Cycling to work’ - www.dtlr.gov.uk/roadnetwork/ditm/tal/cycle/11_997, ‘Encouraging Walking: Advice to Local Authorities’ www.dtlr.gov.uk/walking/pdf/stepout.pdf, ‘Traffic Advisory Leaflet 02/00’,

'Framework for a Local Walking Strategy' – www.dft.gov.uk/roadnetwork/ditm/tal/walking/02_00/index.htm, The Institution of Highways and Transportation 'Guidelines for Providing for Journeys on Foot' – www.iht.org/publications/index.asp?page=38 and The Health and Education Authority's 'Active Transport: A Guide to the Development of Local Initiatives to Promote Walking and Cycling.'

11

Conclusions and Recommendations

- 11.1.1* Reducing the growth in travel demand is an important element of the SWARMMS transport strategy. The use of ‘softer’ measures to help achieve this is also an important component of Government policy but, as yet, experience with these is limited and evidence of real results even more scarce. This means that the forecast reductions in travel from this Plan are somewhat speculative and will need concerted action by a number of agencies and levels of Government to be realised.
- 11.1.2* Of all the possible measures, three are identified as being likely to have material effects on longer distance travel. Two of these are single general measures (tele-working and video-conferencing) and one composite but site specific (Workplace Travel Plans). Additionally individualised marketing plans and bus quality partnerships should have important, but more local, effects in the busier urban corridors.
- 11.1.3* Tele-working is estimated to have the potential to reduce car travel in the SWARMMS area by 135kms per person per year, video-conferencing is estimated to have the potential to lead to 80kms per person per year less car use and WTPs 60kms per person per year. However these are not additive and a total of about 200kms per person per year is more realistic for their combined effect. In addition Bus Quality Partnerships would provide significant additional peak period relief on the main urban corridors where congestion is a particular problem. This 200kms per person per year is equivalent to 3% of total car traffic but the effects on peak and longer distance traffic would be greater than this. The impacts of the individual measures are summarised in Table E1.
- 11.1.4* If this is not forthcoming and no effective moderation of the growth in travel demand is achieved then the overall strategy for the SWARMMS area will fall short of meeting its objectives. The Regional Assemblies have a vital role in promoting and securing these policies both in pressing Central Government to implement the actions for which it is responsible, and in providing leadership to public and private sector agencies in their regions to pursue the policies and introduce the local initiatives recommended below.

Table E1: Summary Effects Table for Reducing Travel Demand

Type of Measure	Type of Travel Affected	Volume of Car Use (Driver)	Journey Length (Car Mode)	Peakiness	Potential Affect %/Kms
Tele-Working	Commuting	1,700kms per person per year	16kms	Very high	8%/135kms per person per year
Video Conferencing	Business	1,400kms per person per year	32kms	Low	7½%/80kms per person per year
Workplace Travel Plans	Commuting + business	3,100kms per person per year	23kms	High	2%/60kms per person per year
Individualised Marketing	Commuting + others (urban)	Depends on applications	5 – 10kms	High	c 1% of commuter traffic
Bus Quality Partnerships	Commuting + others (urban)	Depends on applications	5 – 10kms	High	c ½% in urban areas
Combined Effect	Commuting + business + urban	3,100+kms per person per year	-	High	3% of car traffic 5% of peak car traffic 5%+ of peak urban car traffic

11.1.5 An early start can and should be made on most of the following recommendations. However, it will be possible to bring some into effect in the near future. These are shown in italics as the leading entries in each section of the following list.

11.1.6 Recommendations in respect of **tele-working** are:

- *The taxation situation in respect of the costs of tele-working should be clarified and aimed at increasing its appeal to both employers and employees.*
- *Tele-working initiatives should be treated as key elements of Workplace Travel Plans.*
- Central Government should create a 'one stop shop' for information, guidance and initiatives relating to tele-working.
- A new tax concession should be created, for an initial period of five years that allows employers to contribute up to £1,100 towards the creation of home office facilities for employees who tele-work for one day a week or more.
- The Government should provide additional funding to support the introduction of tele-working, through a new initiative coordinated with its WTP advice initiative in conjunction with the Regional Development Agencies.
- Local authorities, Government offices and other public agencies should review the potential for tele-working within their organisations and put in hand programmes for its adoption, where this is practicable and cost effective, after taking account of the savings in travel and other costs of commuting.
- Where appropriate local authorities should work with local communities to extend the tele-cottage/tele-centre initiatives in their areas as part of their Local Transport Plans.

11.1.7 Recommendations in respect of **video-conferencing** are:

- *Given the technological opportunity, video-conferencing is under utilized and this, to a significant extent, as a result of poor levels of awareness. The Regional Assemblies should take the lead in promoting awareness of this facility in conjunction with the telecommunications industry and equipment and service suppliers. This could be linked with promotional campaigns by suppliers such as the discount for installing ADSL recently run by BT.*

- Local, educational and health authorities should review the potential for the use of video-conferencing to improve their efficiency and reduce travel costs. To help with this, these agencies should be provided with advice and model applications along the lines of those provided in Sweden and Ireland. As part of this they should consider making their facilities available to local businesses to help spread awareness and help defray some of their fixed costs.
- Regional partnership schemes should be established in the SWARMMS area along the lines of those planned in Wales and Scotland. As well as mounting awareness campaigns as outlined above these should develop co-operative initiatives, perhaps with the use of pump priming, to establish broadband communications and video-conferencing services in areas where they would not be viable on an individual user basis.
- Local authorities should consider the potential for substituting electronic communications for physical movement in their LTPs and the provision of video-conferencing facilities should be recognised by local authorities as a potentially significant element of Workplace Travel Plans when considering applications for planning consents.

11.1.8

The success of technologies like video-conferencing in the SWARMMS area is clearly dependent on parallel developments in other parts of the country (and to a lesser extent beyond). Central Government has an important role in nurturing this area of technology, especially in light of its aim of getting to the top of the G7 broadband league by 2005. This will require:

- *Careful development of the regulatory regimes to foster effective competition (including local loop unbundling).*
- *Management of its own departments and agencies to employ video-conferencing as a standard communication mode – recognizing that this will entail significant investment.*
- *Industry also has a vital role to play in developing the technology to increase its cost effectiveness and to co-operate with the public sector in promoting broadband communication and video-conferencing. In addition to this it should actively pursue the development of products and services that can be delivered using broadband technology. Entertainment is an obvious candidate but software and a range of interactive services are also strong contenders.*
- Supporting local Government and other agencies in adopting this technology.

- Initiating specific programmes (e.g. school networks) to establish the use of broadband and video-conferencing in a similar way to the schools computers initiative.

11.1.9

Recommendations in respect of **Workplace Travel Plans** are:

- *Government advice on Workplace Travel Plans (WTPs) should be reviewed and made more specific. It should be extended to include procedures for the setting of targets to be achieved by WTPs and mechanisms for enforcing these.*
- *The DTLR bursary and site-specific advice schemes should be expanded to ensure all worthwhile opportunities to promote WTPs are satisfied and its life extended for another two years.*
- *The role of WTPs should be extended from being focused on moderating traffic generated by new and expanded development to being a part of area wide transport strategies for congested travel zones.*
- Public Transport commuting costs of up to £600 per year should be exempt from income tax at the basic level.
- Once the study into training needs of travel plan co-ordinators is complete, the DTLR should put in hand measures to ensure these are met.
- Regional transport policy should contain clear traffic and parking targets designed to avoid local authorities using damaging parking concessions as a means of attracting new development.
- Local authorities should set modal split targets for employers in congested travel zones and monitor progress towards achieving these. Where the implementation of WTPs to achieve these is too slow workplace charging levies should be introduced on 'excessive' workplace parking.

11.1.10

Recommendations in respect of **public transport marketing** are:

- *Rail and bus operators should extend the availability of multi-modal/multi operators tickets to ensure that all sections of the passenger transport markets in their areas that could benefit from through ticketing are provided with suitable ticketing products and more convenient purchasing arrangements.*
- *Where these do not already exist bus and rail operators should extend their ranges of tickets to include 'carnet' type products for frequent but irregular public transport users.*
- *A programme of individualised marketing campaigns should be established starting with selected suburbs in the larger urban areas. Suggested candidates for these are listed above in paragraph 8.5.8.*

- The Government reviews the workings of the provisions of the Transport Act 2000 in respect of joint ticketing and timetabling and makes any changes needed to ensure that these are not being unduly inhibited by unwarranted concerns about anti-competitive behaviour.

Annex A

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