5. Personalised travel planning

5.1 Introduction

There has been much interest recently in the use of direct techniques in which information is provided to individuals or households aimed at enabling them to choose a different pattern of travel behaviour which brings them benefits as well as reducing car use and/or increasing the use of more sustainable transport modes. These approaches have developed from commercial marketing techniques aimed at increasing public transport use, and public sector campaigns aimed at raising community understanding or awareness of environmental aspects of transport.

At present, the field is led by two commercial organisations, operating independently and in competition with each other: Socialdata, based in Germany, and Steer Davies Gleave, based in the UK. The most widely cited experience has been built up in projects carried out by both organisations in Australia, where there has been a quite vigorous debate about effectiveness and results. There are a growing number of applications in the UK, other European countries and the USA, which have not usually aroused the same debate. Recently a larger number of companies have started supplying services to carry these initiatives out, with a wider range of styles, and we assume that, as the market matures, this trend will develop further.

There are some differences between the styles and emphasis of the two companies, and a number of their survey techniques and strategic approaches are patented or use registered trade names: it is not our intention here to take a view as to the competition between them.

We briefly summarise the two approaches, though acknowledging that, in practice, both are rather flexible in adapting to specific locations and tasks, and there is not a strict dividing line.

Socialdata calls its approach 'IndiMark' (individualised marketing). Its first applications were aimed at increasing public transport use by providing very specific information, motivation, and system experience, relating to public transport services. These were mostly aimed at those infrequent users who indicated that they would be interested to receive it. The assumption was that they generally had low and inaccurate information about services, and would use them more when it became clear that the services were better than they had thought. Under the 'TravelSmart' brand in Australia and the UK, the approach was extended to encouraging a mode shift of specific journeys from car to public transport, walking or cycling. There is no explicit intention to reduce travel, although this may occur as a consequence. Instead, the main focus is on targeting the easiest car trips to shift, by the people most ready to do so. The main data required is to identify the likely switchers, monitoring being carried out in separate surveys, passenger counts and other measures as appropriate.

Steer Davies Gleave initially developed an approach which it called 'Travel Blending'. This subsequently evolved to a package of techniques described as 'Living Neighbourhoods' or, more recently, 'Living Change'. Stopher (2004) describes Living Neighbourhoods / Living Change as a 'community development' approach,

which starts with a conversation about travel with a representative of a household, as a result of which various tools are offered to help households solve the frustrations they face about travel. The tools include:

- Ideas Tool (ideas for changing current travel, activities or timing of activities)
- Travel Blending, which involves completion of a travel diary, following which tips and suggestions are given on how to reduce travel
- Personalised journey plans
- Brochures, dealing with how to save time or money, reduce environmental impacts, make travel less stressful, and become more independent (for older people and youg people)
- Local activity guides and Kids activity pages
- Reinforcement e.g. free public transport ticket
- Loan-a-bike.

Individualised marketing is mainly aimed at achieving mode shift from driving to walking, cycling, public transport or car-sharing, and generally reported overall trip rates remain about the same. In contrast, Living Change seeks to reduce the overall need for travel, through combining or 'blending' activities or destinations, as well as stimulating modal shift.

The success of both techniques must manifestly be influenced by the quality of alternative modes or opportunities on offer, but until now, most reported experience of personalised travel planning initiatives is about interventions which have not depended on making real improvements to alternative transport options.

The next section discusses the available literature about personalised travel planning, focusing primarily on international experience. Subsequent sections integrate this material with detailed analysis of UK information.

5.2 Literature evidence on the effectiveness of personalised travel planning

5.2.1 The evidence base

The largest proportion of source information comes from technical reports or public presentations written by the two consultants, sometimes with collaborators and/or their clients, who are mostly local government agencies. These reports have been brought together in two overview reviews (with considerably overlapping material) by Steer Davies Gleave (2001) for the DfT, and by Perkins (2003) for the Australian National Greenhouse Strategy, and in turn summarised by Sloman (2003). Unpublished information on some of the most recent projects was made available to us by Sustrans and Steer Davies Gleave. In addition, a seminar at University College London in June 2003 brought together many of those actively involved for a discussion mainly about the Australian results, from which an exchange of papers was arranged.

Because these papers report results from different stages of the work on each project, there have been some discrepancies in figures on (for example) sample sizes, success rates, calculated trip rates, etc. Resolution of these discrepancies requires a level of

detailed analysis of source data that cannot be done within this project, but mostly they are very small and well within the level of rounding which seems appropriate to the subject. Some larger discrepancies have arisen from alternative interpretations of monitoring data, and we comment on these where they appear significant.

Halcrow (2002) suggested that these initiatives could reduce car use nationally by up to two billion vehicle kilometres a year, based on influencing 50% of people living in 25% of residential areas, at a cost of over £100 million. Sloman (2003) suggested an impact over twice as great (5.2 billion vehicle kilometres) based on reaching 50% of people in cities over 250,000 population. The two estimates also used different assumptions about the effectiveness of personalised travel planning.

5.2.2 Evidence about impacts on car use

This section reviews evidence from the literature about the impacts of individualised marketing, and then examines evidence on the impacts of early travel blending projects and more recent Living Neighbourhood / Living Change programmes.

Individualised marketing
The largest applications of individualised marketing so far have been in Perth, Western Australia. The first large-scale application was in the suburb of South Perth in 2000, and involved contact with 15,300 households (35,000 people). Random sample surveys before and after the project showed a fall in car driver trips from 60% to 52% (a 14% fall in car driver trips). Vehicle kilometres fell by 17% (Brög 2002, John 2002a,b). Follow-up monitoring a year later found that the modal shift was sustained.

The second large-scale application in Perth was in the suburb of Cambridge in 2001/02, and involved contact with 9400 households, or 24,000 people (James 2003a,c). Here, car driver mode share fell from 60% to 56%, accompanied by a 7% fall in car driver trips. The TravelSmart programme has subsequently been delivered to the suburb of Marangaroo (10,000 people) and City of Subiaco (15,000 people), and is being delivered to parts of the Cities of Melville and Fremantle (40,000 people). In Marangaroo car driver trips fell by 4%. Results for the other areas were not available at the time of our inquiry.

James (2003b) noted that the result of the large scale application in Perth (a 14% reduction in car driver trips) was larger than that seen in a preceding pilot (-10%), and that a similar effect (greater change when the initiative was scaled up) occurred in Viernheim in Germany. It is also notable that, in Perth, the greatest shift in modal share has been to walking (+2%-points in the pilot and +4%-points in the large scale trial).

James (2003c) reported data on public transport patronage in areas which had been targeted by the TravelSmart programme. Figure 5.1 reproduces his graphs, using data based on automatic counts of public transport boardings.

Figure 5.1 Public transport boardings before and after TravelSmart intervention in Perth, Australia
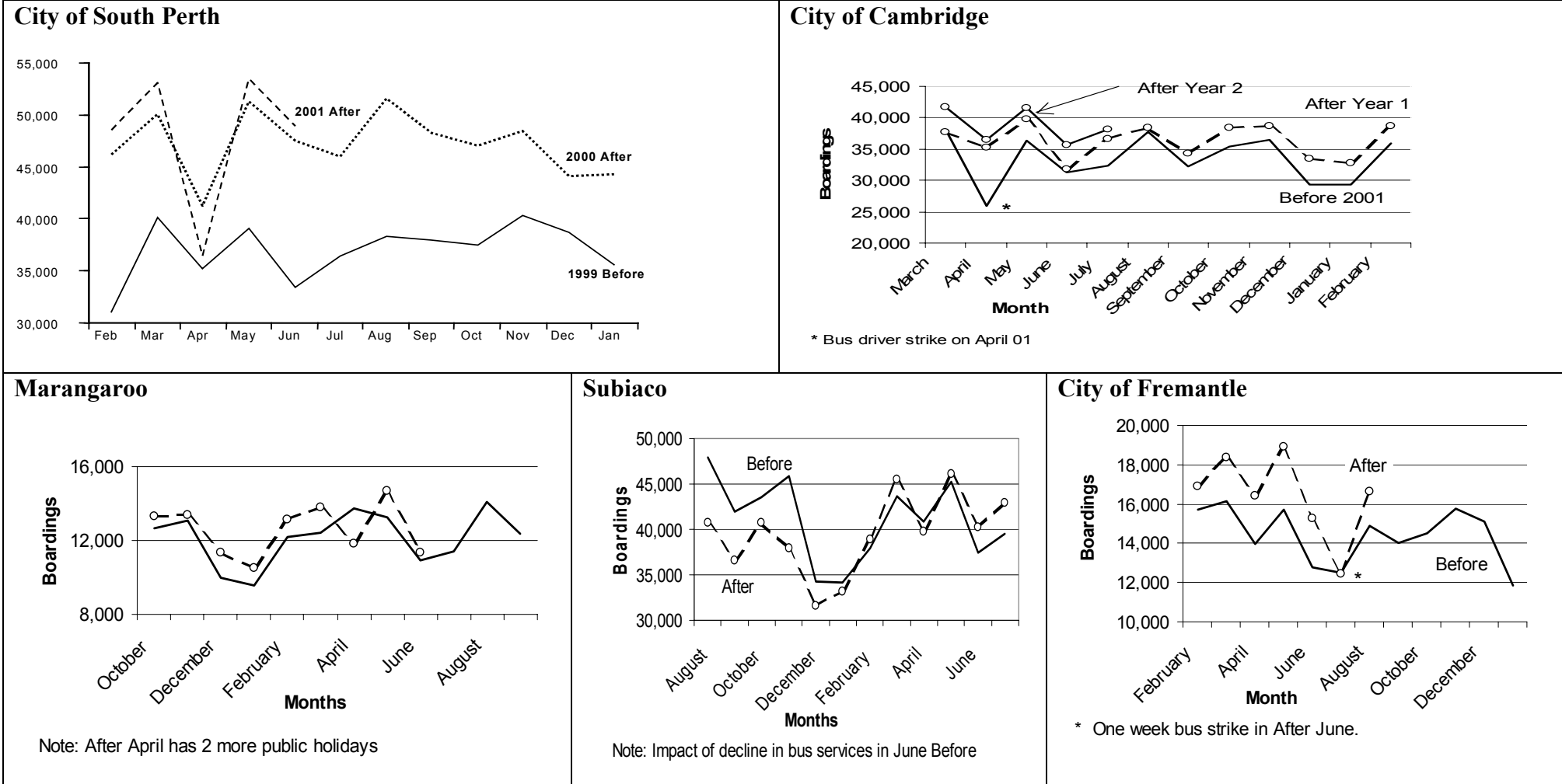
Source: reproduced from James 2003c

The average increases in public transport boardings were 17% in South Perth; 11% in Cambridge; 5% in Marangaroo; and 12% in Fremantle. In Subiaco, a reduction in bus services prior to the TravelSmart project led to a 15% fall in patronage. After TravelSmart, public transport boardings were 4% higher than before the bus service reductions, suggesting TravelSmart had delivered a 19% increase in patronage.

Results were reported by Roth et al (2003) relating to the behaviour of different groups within the Perth large scale trial. These show that people who were not interested in receiving further information about travel had stable car use (59% of all trips being made as a car driver); people who were already regular users of more sustainable modes, some of whom wanted information, reduced their car use by 12% (from 57% to 50%) whilst regular car users who wanted further information reduced their car trips by 25% (from 61% to 46%). Aggregated together, these results lead to the 14% reduction in car driver trips reported as the headline result of the initiative.

In the UK, pilot individualised marketing projects in Frome and Gloucester, each involving about 500 people, have delivered net reductions in car driver trips of 6% (Frome) and 9% (Gloucester) (Sustrans 2002). Results from individualised marketing in Bristol suggest a fall in car driver trips of 5% in one area and 10% in another. An individualised marketing pilot project in London has reduced car driver trips by 11%, with another potentially reducing them by 16%. UK results are discussed in more detail in section 5.7.

Meanwhile, individualised marketing projects from Germany have shown comparable results. Available results from other countries are summarised in Table 5.1.

Table 5.1: Effect of individualised marketing programmes on car use in other countries

Location	Size of programme	Car driver mode share before	Car driver mode share after	Fall in car driver trips*	Source
South Perth (suburb of Perth, Australia)	15,300 households / 35000 people	60	52	-14%	Brög (2002)
Nürnberg (Germany)^		44	38	-14%	UITP (undated)
Goteburg (Sweden)	large scale			-13%	James (2003b)
Viernheim (Germany)	large scale			-12%	James (2003b)
Brisbane (Australia)	Pilot			-10%	James (2003b)
South Perth (suburb of Perth, Australia)	Pilot			-10%	James (2003b)
Portland (USA)	Pilot			-8%	James (2003b)
Kassel (Germany)^	not known	48	44	-8%	UITP (undated)
Viernheim (Germany)	Pilot			-8%	James (2003b)
Cambridge (suburb of Perth, Australia)	9400 households / 24,000 people	60	56	-7%	James (2003a)
Marangaroo (suburb of Perth, Australia)	10,000 people			-4%	James (2003c)
Breisgau-Hochschwarzwald (Germany) ~	not known	44	43	-2%	Socialdata (2003)

Emmendingen (Germany) ~	not known	44	43	-2%	Socialdata (2003)

* Note that this figure is not calculated from the two previous columns, but is drawn separately from the available source data.
^Pilots in Nürnberg and Kassel used an early prototype of the IndiMark methodology, which has been developed considerably since.
~ Projects in Breisgau-Hochschwarzwald and Emmendingen had the objective of increasing public transport use, not reducing car travel

Travel blending
Travel blending provides personalised information to participants based on a completed 'before' travel diary, which then serves also as information to be compared with an 'after' diary. As discussed in section 5.1, travel blending was initially developed as a freestanding intervention, but more recently has been used as one element of Living Change / Living Neighbourhood projects. Results of early travel blending interventions reported in SDG (2001) point to reductions in car driver trips of over 10% for the people who complete both diaries. Typically about 40% of those recruited complete both the 'before' and 'after' diaries.

Early experience of travel blending included projects in Nottingham and Leeds. In Nottingham in 1997, car driver trips fell by 8% amongst those completing both diaries and 3% overall (SDG 2001), whilst in Leeds in 1998, car driver trips fell by 6% amongst those completing both diaries and 2% overall (Jopson 1998). Available summary statistics of experience from other countries are shown in table 5.2.

Table 5.2: Effect of travel blending programmes on car use in other countries

Location	Size of programme	Fall in car driver trips*	Source
Adelaide pilot (Australia)	not known	-15%	SDG (2001)
Adelaide, Christie's Beach (Australia)	1000 households	-15%	SDG (2001)
New Jersey (USA)	212 households	-14%	SDG (2001)
Adelaide, Dulwich (Australia)	1000 households	-10%	SDG (2001)
Brisbane, Holland Park (Australia)	600 households	-9%	SDG (2001)

* The impacts on participants completing both travel diaries.

Living Neighbourhood / Living Change programmes
Living Change programmes have been developed in Adelaide (in 2002), Melbourne (2003) and Canberra (2004), and in three towns in Scotland (Bishopbriggs, Inverurie and Paisley) during 2003.

External evaluations of all four programmes have been or are being carried out. At the time of writing, an evaluation was available for the Adelaide project and a draft final report was made available to us for the Scottish work. Results were not yet available for the projects in Melbourne and Canberra.

The Adelaide project took place in the suburb of Mitcham and targeted approximately 350 households (Transport Planning Agency S Australia 2004, SDG 2004). Evaluation using before and after surveys in Mitcham and in a control area was carried out by Booz Allen Hamilton on behalf of the South Australia government. Within the programme area (Mitcham), surveys were carried out both with households which had participated in the intervention, and with those which had not.

The results were not conclusive: within the programme area, car driver trips fell by 7% between the before and after surveys, but when compared with the control area car driver trips showed no signficant change. However, comparisons between the programme and control areas showed a statistically significant increase in public transport travel, with bus trips increased by 48% and train trips increased by 84%. The Scottish project, branded 'Stepchange', involved approaches to households, workplaces and schools in the three pilot towns (Bishopbriggs, Paisley and Inverurie). A total of 3139 households were approached, of whom 1745 were engaged in conversation or an activity, and 984 took one or more of the offered tools (similar to those described in section 5.1). In addition, the project targeted people at eight workplaces and six schools in the pilot towns. SDG (2004) reports that in total, around 4000 households were involved in some way. The initiative took place alongside an intensive media relations campaign. Unfortunately, evaluation of before and after surveys by the Scottish Institute for Sustainable Technology has so far proved inconclusive. However, the project is to be extended, with the next stage involving a large-scale application in an area of Aberdeen (10,000 households), and two smaller projects involving around 2000 households (SDG 2004).

Overview of reported personalised travel planning results
Before summarising the overall evidence in the literature on the effects of personalised travel planning, a few words of caution are necessary. First, it should be noted that the quoted changes in car use for individualised marketing, travel blending and Living Change are not comparable. Evaluations of individualised marketing and Living Change quote results based on the entire responding population approached, whereas early travel blending results were quoted for participants who had completed both travel diaries. Second, there has been a vigorous debate about the effectiveness of different personalised travel planning techniques: for example Stopher (2003) has raised queries about the statistical validity of the results quoted for individualised marketing projects, and his comments have been rebutted by its proponents, notably Roth et al (2003). Finally, some but not all of those involved in personalised travel programmes (e.g. SDG 2004) have cautioned that survey respondent attrition rates and lack of willingness to complete surveys may pose significant challenges to the collection of reliable findings. These and other issues related to the reporting of results are discussed further in section 5.7.3

Bearing in mind these issues of data validity (which, incidentally, may also apply to a greater or lesser extent to the monitoring of other soft factors), results so far available suggest that personalised travel planning may lead to reductions in car driver trips of 7-15% amongst targeted populations in urban areas (according to trials in Germany, Australia, USA and the UK), with rather lower reductions in car driver trips (2 – 6%) reported from a smaller number of more rural trials. Even where challenges have been made claiming that these results overstate the efficacy of personalised travel planning, alternative figures suggested, while lower, are still within the same range as the figures quoted above, and evidence that personalised travel planning can reduce car use by a significant amount is accepted by those who challenge the technique as well as its supporters.

5.2.3 Change in impact over time

One further concern which has been expressed about personalised travel planning is that its effects may be short-lived, if people may quickly slide back into their old travel habits once the monitoring is over. There is some evidence to suggest that this may not usually be the case. In Perth, follow-up monitoring two years after the pilot individualised marketing project found the change in travel behaviour had been sustained. Follow-up monitoring was also carried out in Nürnberg, Germany, two years after the individualised marketing project, and in Kassel, Germany, four years after the project. In both places, the initial increase in public transport use was still evident two or four years later. Travel blending in Adelaide, Australia, showed continued change after the project was completed. A sample of participants interviewed six months after the initial programme had reduced their car use by a further 5% as a result of a combination of factors: people 'taking a while to get round to it'; developing other measures themselves; changing school or job; or moving house, (Ampt et al. 1998).

5.2.4 Journey purpose

It is interesting to see which journey purposes are most affected by personalised travel planning. In the Nürnberg and Kassel individualised marketing projects, the greatest increase in public transport use was for shopping and leisure trips, which accounted for more than 70% of the behaviour change.

5.2.5 Costs of personalised travel planning

SDG (2001) reported that the cost of travel blending at that time was about £44 per household, or £15 per person. This included the cost of becoming familiar with the neighbourhood, setting up a project team, recruitment, running costs (the intervention itself costing £17 per household), meetings and reporting. The figure included monitoring costs. SDG (2004) report that more recent work may have enabled them to find significant cost reductions for their work. The cost of individualised marketing is discussed in more detail in section 5.5.2 and 5.11.3.

5.3   Selection of personalised travel planning case studies

As highlighted above, there has been some experience of personalised travel planning in the UK. However, initial trials were small and sparse, including, for example, trials of travel blending on 100 households in Nottingham in 1997 (reported by SDG 2001) and 132 households in Leeds in 1998 (reported by Jopson 1998).

Following the success of the individualised marketing work in Australia, the charity Sustrans championed the concept in this country, stimulating the individualised marketing projects which have taken place in Gloucester and Frome. These were completed between 2001 and 2002.

Since then, there has been a substantial increase in work in this area. The Department for Transport has now funded 14 projects (in 14 different areas of the country). Some have used personalised travel planning, while others have focussed on personalised

journey plans for specific journeys (either nominated by the recipient, or to a particular destination such as a workplace or school). Others have offered information specifically to people undergoing a lifestyle change (such as those starting work).

In addition, Transport for London funded four pilot projects as part of a 'Travel Options' programme, which have collectively targeted 4000 households. Each of the London projects deliberately uses a different balance of consultants and approaches, in order to test the effectiveness of different methods[1].
Steer Davies Gleave has been working on the Stepchange project, grant aided by the Scottish Executive, which is intended to develop a Scottish approach to voluntary travel behaviour change, encompassing personalised travel planning but also some elements of workplace and school travel planning.

The completion of these projects will provide a huge fund of information and insights, to enable a better assessment of the effectiveness of personalised travel planning techniques. Meanwhile, initiatives which are primarily focused on alternative approaches (e.g. workplace travel planning or public transport information provision) are also starting to include elements of personalised travel planning as one of their tools for intervention, as discussed in Chapters 3 and 6 respectively.

At the time of selecting case studies for this research work (spring 2003), most of the personalised travel planning work in the UK was too recent to have generated any results. In particular, the Department for Transport pilots were only launched in December 2002, and the first results from the London and Scottish studies only became available towards the end of our study. As case studies had to be UK based and to either already have results, or to be likely to produce some within the timescale of our research, this situation posed severe constraints on our choice of case studies. The case studies do not therefore reflect the full range of personalised travel planning techniques as currently being applied in different locations and by different researchers and consultants.

Our selected case studies were as follows:

- *Gloucester*
This was one of the original Sustrans case study areas which subsequently decided to scale up its work.

- *Bristol*
This is part of the DfT pilot programme, but began personalised travel planning work before becoming part of this programme, meaning that initial results were available.

- *Nottingham*
This was the focus of a travel blending experiment in 1997. In addition, their involvement in individualised marketing during the period of our study was led by

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[1] Socialdata applied their IndiMark approach in Kingston; Steer Davies Gleave offered generic local travel and amenity information (a 'travel guide') and personalised journey plans in Enfield; Colin Buchanan used a version of individualised marketing in Southwark but focused particularly on car owning households; and Peter Brett Associates provided locally specific (but not individually tailored) information to a full sample of households in Lambeth.

Bruce James, who was primarily responsible for the individualised marketing work that was undertaken in Perth.

A further interview was also undertaken with James Ryle, at Sustrans, who has helped to lead much of the individualised marketing work taking place in the UK at the moment.

From the other case studies, there was some relevant information from:
- Cambridgeshire, where there is a joint initiative called 'Travel Choices' taking place between the County Council and Addenbrooke's NHS Trust, which aims to provide personalised journey planning advice to new employees.
- York, where the city council is involved in a project on 'intelligent travel' in partnership with Norwich Union, First Group and Halfords, investigating the most effective ways of providing people with individual information, and
- South Yorkshire, where the Information Development team of the Passenger Transport Executive provides personalised journey plans to individuals and to staff at client organisations. This work is discussed in more detail in Chapter 6.

As part of the shortlisting process, we also collected some limited information about:
- the 14 Department for Transport pilot projects, (DfT, 2002).
- the 4 Transport for London projects (including interim results, as reported in Allcorn et al 2003).
- pilot projects previously undertaken in Frome and Leeds (as reported by Sustrans 2002 and Jopson 1998, respectively).

5.4 Details of chosen personalised travel planning case studies

Gloucester: Gloucester was the focus of one of the original Sustrans pilot projects, which constituted an individualised marketing initiative involving about 500 people in the suburb of Quedgeley, a few miles south of the city centre. This was followed by a large-scale project which aimed to reach all 10,000 people (4631 households) in the same suburb. This was the first large-scale application of individualised marketing in the UK. The marketing phase of the large-scale project was completed in summer 2003. The budget was £168,600.

Bristol: The first individualised marketing project in Bristol was carried out as part of the EU VIVALDI programme in the relatively low-income edge of city Hartcliffe and Bishopsworth wards. It was carried out in two phases, each targeting about 2500 people. Phase 1 marketing was in September 2002 and phase 2 marketing was in September 2003. The project was aimed at increasing social inclusion (by increasing awareness of travel opportunities), and was also designed to coincide with the introduction of 'Showcase' bus improvements along a corridor passing through the wards. The city subsequently received funding from the Department for Transport for a separate project targeting about 5000 people in a contrasting high-income area, Bishopston. Marketing in this area took place in April-June 2003.

Nottingham: Nottingham was originally involved in a travel blending experiment in 1997. It is currently participating in one of the Department for Transport's 14

personalised travel planning projects. Preparatory work started early in 2003, targeting two contrasting socio-demographic areas of the city, linked by a newly improved bus route. In total, 1000 people are being contacted in these two areas. The project is due to be completed in late 2004. The budget is £68,000.

5.5 Staffing and budgets for personalised travel planning

5.5.1 Staff time required from local authorities for personalised travel planning

The personalised travel planning interventions in the three case study areas have all been managed by Sustrans and Socialdata, using their TravelSmart individualised marketing technique.

Staff time requirements within the local authorities have varied from very low levels in Gloucester to quite high time commitments over short time periods in Nottingham and Bristol. In Gloucester, the city and county councils together estimated that they had committed no more than £3000-worth of staff time to the pilot project and 100 hours of staff time to the large-scale project.

In Nottingham, the cost of local authority staff time for the project was put at about £3000 per month. One person spends about half her time on the programme, with another staff member and a consultant (Bruce James) each allocating about a third of their time to the project, equivalent to 1.2 fte staff in total.

In Bristol, four or five council officers were involved in the few weeks of the intense campaigning phases of the first individualised marketing project, equivalent to 2.5 full-time equivalent posts for that period, and this level of staff commitment continued in subsequent phases. There have been three campaign phases (of approximately 2 months each) which have taken place over about 18 months.

In all three areas, day-to-day project management has rested with Sustrans and Socialdata, and their staff costs have been covered in the consultancy fees paid to them by the local authorities.

Broadly, the impression is that where day-to-day management is contracted out, personalised travel planning interventions require relatively limited staff time from within the local authority, although this might change if the one-off pilot programmes were expanded to large-scale rolling programmes.

5.5.2 Project costs for personalised travel planning

Project costs have been met by grants from a variety of sources, but especially the Department for Transport pilot programme, and from the local authorities' own revenue budgets.

The costs of the projects may be divided into three parts:

- Monitoring of the impact of the intervention. All projects involve 'before' and 'after' monitoring of the target group and a control group. In Gloucester, an in-depth attitudinal survey of 100 people was also carried out.
- The marketing campaign, including telephone contact, postal follow-up and face-to-face contact.
- Preparation and provision of gifts and information materials (for example, bus stop timetables; local travel maps; bicycle bells), project management and dissemination of findings. As far as possible, the projects used existing, readily available, information materials, but some additional materials have been prepared.

Table 5.3 compares the budgets for the case study projects, and the cost per person targeted. Where possible, monitoring, marketing and other costs have been disaggregated.

More limited information about budgets was also available from some other schemes:

- In Frome, 500 people were targeted, with a total project budget of £72,000, implying an average cost per person of £144. This cost included evaluation surveys of the target group and a control population, the development of a new walking, cycling and public transport guide for Frome and the surrounding area and TravelSmart website resources.
- In the Cambridgeshire 'Travel Choices' project, 1500 new employees are being targeted. The original project budget (including funding for local authority staff time) was £100,550, implying an average cost per person of £67.
- Nottingham has estimated that a large-scale individualised marketing programme covering 161,800 people in five areas would cost about £2,310,000, or £14 per head.
- Transport for London has estimated that a large-scale Travel Options programme (which is based on individualised marketing) covering 120,000 – 150,000 people would cost £1.3 million, or £9 - £11 per head.

Table 5.3: Comparison of budgets for personalised travel planning projects

	Gloucester pilot project	Gloucester large-scale project	Bristol VIVALDI phase 1	Bristol VIVALDI phase 2	Bristol Bishopston	Nottingham
When marketing intervention took place	Oct 2001	July 2003	Sept 2002	Sept 2003	May 2003	Sept 2003
Number of people targeted~	500	10,000	2500	2500	5364	1000
Number of people in 'before' survey *	871	Not known	862	Not known	Not known	1350
Staff time / cost within local authority	Equivalent to £3000	100 hours	The equivalent of 2.5 fte staff during campaign phases of the programme			£3000 per month, or 1.2 fte
Monitoring costs	£18,000	£37,600				£41,000
Marketing costs	£12,000	£65,000				£27,000
Other costs +		£66,000				
Total cost #	**£30,000**	**£168,600**	**£100,000**		**£100,000**	**£68,000**
Monitoring cost per person surveyed	£21					£30
Marketing cost per person targeted	£24	£13				£27
Total cost per person targeted	**£60**	**£17**	**£20**		**£19**	**£68**

~ Number of people targeted is the total number of individuals approached (including those who wished to receive assistance or information and those who did not).

* Number of people in 'before' survey includes people in target group (who will later be offered the marketing intervention) and a control group. The number of people in the 'after' survey tends to be slightly smaller than the number in the 'before' survey due to people dropping out.

+ Other costs include production of new information materials; management; and dissemination of findings.

Total cost does not include local authority staff time in managing the project, except in Nottingham where some staff time costs were included.

Finally, we have some limited information about the costs of the other personalised travel planning projects supported by the Department for Transport. This is summarised in table 5.4. These projects are using a range of techniques and in some cases targeting specific journey purposes (for example journeys to workplaces, schools and colleges).

Table 5.4: Costs of other pilot projects funded by Department for Transport

Initiative	Size of target group	DfT contribution	Cost per person targeted *
West Sussex County Council	2400 students	£25,000	£21
Oldham Metropolitan Borough	2000 individuals	£50,000	£50
Hampshire County Council	8870 staff and students	£50,000	£11
York city council	2100 households (4800 people implied)	£49,900	£21
Northumberland County Council	2000 households along corridor (4600 people implied)	£42,000	£18
North Yorkshire County Council	>1000 students	£20,000	£40
Worcestershire County Council	2500 hospital staff	£30,000	£24
Bracknell Forest Borough Council	2000 staff	£50,000	£50
South Yorkshire PTE	3000 residents	£50,000	£33
Durham	300 business park employees	£20,000	£133

* A household occupancy of 2.3 residents has been used to convert households into individuals. It is assumed that each organisation has contributed matched funding equal to the DfT grant.

Taken together, the data on costs suggests that:
- The *monitoring* cost of an individualised marketing initiative is in the order of £20 to £30 per person surveyed.
- The cost of the *marketing* element of an individualised marketing intervention ranges from perhaps £10 to £30 per head. This is particularly influenced by the scale of the programme, and by whether new information materials are produced.
- The cost of undertaking a personalised travel planning initiative ranges from £10 per head to £140 per head, but is typically in the range of £10 to £70 per head. Costs tend to be higher where the development of new materials is involved.

In addition, larger scale initiatives tend to be cheaper than pilot programmes. For example, it is notable that the Gloucester pilot programme, which targeted 500 people, cost £60 per person, whilst the Gloucester large-scale project, which targeted 10,000 people, cost £17 per person. Large-scale marketing programmes are likely to be cheaper than pilot programmes for three reasons:
- In contrast to pilot studies, before and after monitoring is only ever carried out on a sample of the targeted population. Given that statistical reliability always

depends on the absolute (not relative) sample size, monitoring costs do not need to rise directly in proportion to the number of people targeted.

- Large-scale programmes offer general economies of scale in production of resources and materials.
- Project staff are likely to become more practiced in applying the technique, and more familiar with an area and its access and transport opportunities, in a large-scale application.

Given these factors, Sustrans estimates that the unit cost of large-scale individualised marketing interventions may fall below that seen in the Gloucester large-scale programme. They suggest that a project covering 30,000 people would cost £30 per household, or £13 per person (assuming an average household size of 2.3). This would cover the cost of marketing, one 'before' and two 'after' surveys, and promotional materials, but does not include the cost of preparing new information materials. This is remarkably similar to the SDG estimate given in section 5.2.5, that travel blending costs £44 per household or £15 per person, where the intervention itself costs £17 per household, (although SDG 2004 report that they may now be able to deliver their personalised travel planning interventions for less). These figures are also similar to those estimated for the large scale projections in Nottingham (£14 per head) and London (£9-11 per head). The Nottingham interviewee has subsequently suggested that it might be necessary to add on a further £10 per household (or £4 per person) to include the costs of local authority time and improvements to the marketing materials available.

Only some of the figures above include staff time within the local authority, as this seems to vary so much within the local authorities examined in our case studies. The largest project, in Gloucester, was estimated to require only 100 hours of local authority staff time (or about three weeks' work), whereas the Bristol project involved the equivalent of 2.5 full-time staff during the brief but intensive campaign phases lasting about two months each.

In general, for a local authority running a personalised travel planning programme *for the first time*, there may be complicating factors. These may include gaining acceptance of the programme within the local authority; securing funds and meeting the requirements of different funding bodies; and designing an experimental programme to compare results between different target groups. However, once experience of such programmes has increased, the staff time requirements are likely to fall, particularly if the programme is implemented by an outside agency.

5.6 Comparison of findings on scale of implementation

The scale of the case study initiatives and other personalised travel planning projects is summarised in tables 5.5 and 5.6.

Table 5.5: Scale of personalised travel planning interventions

	Size of target group	Size of 'before' monitoring survey (target + control)	Number of people receiving information materials
Gloucester pilot	515 people target; 496 people reached	871 people	187 people (38% of those reached)*
Gloucester large-scale	4631 households/ 10,000 people target; 4069 households reached		2018 households (50% of those reached)*
Bristol VIVALDI phase 1	1192 households/ 2500 people target; 867 households reached	862 people	232 households (27% of those reached)*
Bristol VIVALDI phase 2	2500 people target		
Bristol Bishopston	5364 people target		
Nottingham travel blending 1997	100 employees + their households	200 people	100 (all involved in travel diary process)
Nottingham	1000 people target	1350 people	
South Yorkshire personalised journey planners	n/a	n/a	1300 journey planners provided since 2001 (335 for individuals; 998 via 9 organisations)
Cambridgeshire 'Travel Choices'	1500 new employees		
Leeds travel blending 1998	132 households / 296 people		296 (all involved in travel diary process)
Frome pilot	553 people target; 503 reached		282 people (56% of those reached)*
Southwark TfL pilot	1000 households target; 1800 contacts attempted, of which 257 car-owning households reached		
Lambeth TfL pilot	1000 households target; 30,000 contacts attempted		
Kingston TfL pilot	1000 households target; 1100 attempted contacts;1008 reached	1300 households	793 households (79% of those reached)*
Enfield TfL pilot	1000 households target; 2619 attempted contacts; 977 contacts made	565 households	235 received initial travel guide
Stepchange pilot in Scotland	4000 households involved, including 3139 households directly approached		Of households approached, 1754 engaged in an activity (56%), of whom 984 requested an offered 'tool' (31%)

* In these cases, a further number of people, who were already using environmentally friendly modes
and did not require further information, were sent a small gift as a 'thank you'. The number receiving
gifts only ranged from 52 (in the Bristol VIVALDI phase 1 project) to 195 (in the Kingston TfL pilot).

Table 5.6: Scale and target audience for other personalised travel planning projects funded by the Department for Transport*

Initiative	Size of target group
West Sussex County Council	2400 school students from eight schools
Oldham Metropolitan Borough	2000 individuals from 4 organisations (a hospital, College, a primary care trust, and private company)
Hampshire County Council	8870 staff and students from 4 sites (a hospital, a college, the constabulary headquarters and the County Council)
York City Council	2100 households (4800 people implied) from three contrasting areas of the city
Northumberland County Council	2000 households along a high-quality public transport and cycling corridor (4600 people implied)
North Yorkshire County Council	>1000 students from 4 schools
Worcestershire County Council	2500 hospital staff
Bracknell Forest Borough Council	2000 staff from companies that are part of the local business travel forum
South Yorkshire PTE	3000 residents in an area well served by public transport
Durham	300 business park employees

*Figures are based on the targets set by each project prior to implementation. Several projects note that additional people will be involved other than the direct target group. In particular, this seems to be considered to be the case for the schools projects. In West Sussex, a further 600 family members were expected to be influenced, whilst in North Yorkshire, the initiative expected to potentially reach 2300 people. Some projects have subsequently reported difficulties reaching their targets: for example, the Oldham trial finished in April 2004 and had recruited 1300 people compared to the target of 2000.

The tables suggest that:
- Over 67,000 people had been directly involved in personalised travel planning in the UK, or were in the process of being targeted, by summer 2003.
- Personalised travel planning initiatives are usually relatively successful at establishing contact with enough households to approximately meet their targets, although some initiatives have reported problems.
- For individualised marketing initiatives, typically between a quarter and three-quarters of people contacted request information materials. It is notable that in Gloucester, there were a large proportion of ex-directory households and so the project team made far more door-to-door contacts, instead of the more usual process of establishing contact by telephone. This is felt to have led to a greater number of requests for information materials than usual.
- Most personalised travel planning initiatives are still relatively small, pilot experiments (involving 1-2000 people), although this is starting to change.

5.7   Comparison of findings on effects on car use

5.7.1 Headline effects on mode choice

As discussed in section 5.2.2, understanding and comparing the effects of personalised travel planning projects is complex, not least because the reporting styles depend on the technique used. This means that results of different projects are not

directly comparable. A further difficulty is that headline results which are, at first sight, simple, may be the partial product of quite sophisticated statistical adjustments. These issues are explored in more detail in section 5.7.3.

Tables 5.7 to 5.10 summarise the available headline results from UK initiatives involving a range of personalised travel planning techniques including individualised marketing, travel blending and personalised journey planners.

Table 5.7: Effect of individualised marketing projects in the UK

		Mode share without individualised marketing (%)	Mode share with individualised marketing (%)	Change in trips per person per year (%)~
Gloucester pilot	Car driver	44	40	-9
	Car passenger	23	22	-6
	Walk	27	30	+10
	Bicycle	2	3	+133
	Public transport	4	5	+41
	Motorbike	1	1	-33
Gloucester large-scale	Car driver	49	45	-9
	Car passenger	20	19	-5
	Walk	22	25	+12
	Bicycle	3	4	+35
	Public transport	5	6	+18
	Motorbike	1	1	0
Bristol VIVALDI phase 1	Car driver	46	43	-5
	Car passenger	23	22	-3
	Walk	19	21	+8
	Bicycle	0	0	0
	Public transport	11	13	+23
	Motorbike	1	1	0
Bristol Bishopston	Car driver	37	34	-10
	Car passenger	15	14	-7
	Walk	37	39	+6
	Bicycle	4	6	+51
	Public transport	6	7	+18
	Motorbike	1	0	-67
Frome	Car driver	44	41	-6
	Car passenger	21	19	-7
	Walk	30	33	+11
	Bicycle	0	1	+60
	Public transport	5	6	+10
	Motorbike	0	0	-50
Kingston TfL pilot interim results	Car driver	42	37	-11
	Car passenger	17	15	-9
	Walk	21	24	+14
	Bicycle	3	5	+75
	Public transport	16	18	+16
	Motorbike	1	1	-33

Southwark TfL pilot interim results*	Car driver	41	34	-16
	Car passenger	8	8	-3
	Walk	19	32	n/a
	Bicycle	5	4	n/a
	Public transport	22	19	n/a
	Other	4	5	n/a

~ Note that this column is not generated from the preceding two columns but is separately quoted in the source documentation.

* It is unclear whether changes in the behaviour of the control group have been taken into account in the same way as in other individualised marketing projects. Changes in trip rates have been calculated from interim source data in Allcorn et al (2003), which show that the number of trips made as a car driver fell from 149 to 125, and as a car passenger, from 30 to 29.

Table 5.8: Effect of travel blending projects

		Effect on all people approached*	Effect on participants completing both travel diaries
Nottingham 1997	Car driver trips	-3.3%	-7.6%
	Car driver miles	-6.2%	-4.2%
	Car hours	-4.8%	-11.8%
Leeds 1998	Car driver trips	-2.0%	-5.6%
	Car driver miles	-0.6%	-1.7%
	Car hours	-0.7%	-2.7%

* See explanation given in section 5.7.3 as to how this column is calculated

Table 5.9: Effect of personalised journey planners

South Yorkshire	750 personalised journey plans supplied in 2001 and updated in 2002	Type of trip affected: Bus trips Train trips Tram trips	Change in trips per person +18% +10% +12%
South Yorkshire	250 personalised journey plans supplied to Meadowhall shopping centre senior staff	Shift from car to bus	+19%
Enfield TfL pilot	See table 5.10: this project included use of personalised journey plans coupled with generic travel and amenity information		

Table 5.10: Additional data from Transport for London pilot projects

		Mode share 'before' (%)	Mode share 'after' (%)
Enfield pilot interim results*	Car (driver or passenger)	37	26
	Walk	38	43
	Bicycle	1	1
	Public transport	23	28
	Motorbike	1	0
	Taxi / minicab	1	1
	Other	0	2

Lambeth pilot interim results	Car driver	25	24
	Car passenger	7	7
	Walk	30	28
	Bicycle	2	3
	Public transport	28	33

* Interim source data from Allcorn et al (2003) shows a 19% reduction in car trips (driver and passenger combined), from 58 to 47.

The results from tables 5.7 to 5.10 suggest the following:

- All personalised travel planning initiatives have achieved reductions in car use.
- In the UK so far, individualised marketing initiatives have reduced car driver trips by between 5% and 16%.
- The results from travel blending initiatives perhaps look less promising, although this may be because of the small-scale and early nature of the initiatives for which we had data.
- Some forms of initiative appear to be less successful. In particular, the Lambeth pilot, where all households were given local information (which was not individually tailored) has only reduce car driver mode share by 1%-point overall, although it is notable that initial levels of car use were already low, and this still represents a 4% decline in car driving.
- Most of the initiatives have had a positive effect on walking.
- Some of the initiatives have had a positive effect on cycling.
- Most of the initiatives have increased public transport use. Notably, in Bristol, the control and target groups were selected from an area where improvements to local bus routes were taking place. Additional data suggests that, although both groups increased their bus use, individualised marketing has more than doubled the increase in bus use that would have resulted from the bus improvements alone.

On the basis of the data above, our initial conclusion from the literature seems relatively robust – namely that personalised travel planning typically reduces car driver trips amongst targeted populations by 7-15% in urban areas, and (based on rather less evidence and therefore a considerably less certain conclusion) by 2-6% in rural areas. The caveat is that initiatives do not always achieve this degree of success, as highlighted by the evidence from Leeds and Lambeth. Allcorn et al (2003) also highlight that their pilot work has shown that the specific context where personalised travel planning takes place will alter the nature of the initiative that will achieve maximum effect. For example, London residents were relatively uninterested in receiving test public transport tickets and home visits, compared with levels of interest experienced elsewhere.

While most of the data given above relates to car trips, there was some information about effects on car mileage from Gloucester and Frome. In the Gloucester pilot project, the distance travelled by car fell from 21 km to 19 km per person per day as a result of the individualised marketing, a fall of about 9%. In Frome, the distance travelled by car fell by about 6%. These figures are of the same order as the reduction in car *trips,* suggesting that both long and short car trips are equally susceptible to influence.

5.7.2 Effects on mode choice according to trip purpose and length

There was also information about the types of trips that were affected. In Gloucester, car use went down for all journey purposes except education. Commenting on Gloucester and Frome, Sustrans felt that there was proportionally more travel behaviour change at off-peak times, for shopping and leisure journeys. This is consistent with the German experience reported in section 5.2.4. However, other personalised travel planning projects have successfully targeted peak-hour travel. The personalised journey planners supplied in South Yorkshire are mainly for work journeys, and have clearly had a substantial effect on the travel behaviour of staff at Meadowhall shopping centre. At least five of the DfT pilot projects are focusing on commuters (with two - Cambridgeshire and Bracknell Forest - targeting people when they change job, as they are assumed to be most susceptible to behaviour change at this time). Two other DfT projects are focusing on the journey to school.

One further dimension of changing travel behaviour was reporting of greater use of local facilities. In particular, in Gloucester, a greater proportion of trips were made within the case study area after the intervention (an increase from 43% to 45%). This finding is consistent with the recorded increases in walking.

The following limited conclusions emerge in relation to these results only:
- Individualised marketing appears to have greater effects on off-peak journeys such as shopping and leisure trips. However, other personalised travel planning initiatives have effectively targeted the work journey, and existing pilot projects consider that it is valuable to focus on work and school journeys, as well as other types of trip.
- There may be some increase in the use of local facilities, and a reduction in the use of facilities which are further away.

5.7.3 Adjustments to the data

All the UK personalised travel planning projects for which results are available show reductions in car use, many of which are impressive. However, a note of caution is necessary about the difficulties of interpreting and comparing data.

First, as discussed in section 5.2.2, some travel blending results in the published literature relate only to participants who have completed both 'before' and 'after' travel diaries. There may be a substantial drop-out rate between the two diaries, and it is not possible to say whether, or how, behaviour has changed amongst those who do not complete the second diary. The data in table 5.8 shows the effect of the intervention on participants who have completed both diaries, and on 'average' participants, including those who did not complete the second diary. For the average data, it is assumed that participants who only complete one diary have not changed their behaviour. Non-respondents are assigned the travel behaviour of all those who complete the first diary (and their behaviour is also assumed to remain unchanged). This method could result in headline figures which are either an overestimate or an underestimate of the effects of the initiative on the travel behaviour of the whole group.

Second, the calculation of behaviour change for individualised marketing involves a series of quite complex statistical adjustments, which may make a substantial difference to the reported results. For the Gloucester pilot project, these were as follows:

- A transfer factor was applied to the 'before' data for the target group, reflecting changes in travel behaviour between the 'before' and 'after' surveys in the control group. This is based on the assumption that changes in the control group between the two surveys would also have taken place in the target group. In the Gloucester pilot project, this adjustment takes car driver mode share in the target group from 43% (before, unadjusted) to 44% (before, corrected by control group effects).
- The 'after' data for the target group and the control group was weighted in two ways: first by trip purpose, so that the distribution of trip purposes is the same as in the 'before' data; and second (for the target group only), the 'after' data is adjusted so that the proportion of respondents requesting information is the same as actually observed in the marketing campaign. In the Gloucester pilot project, this adjustment takes the target group car driver mode share from 41% (after, un-weighted) to 40% (after, weighted).

If these adjustments were not made, the reduction of car driver trips in the Gloucester pilot project would still be significant, at about 5%, but less than the reported figure of 9%.

To some extent, personalised travel planning monitoring is often a victim of its own attempt to be rigorous. Of all the soft factors, personalised travel planning is perhaps the one where monitoring methodologies are most developed, where more than one dimension of travel behaviour is commonly measured and where the use of control groups helps to address some of the difficulties with assessing impacts that are discussed in chapters 1 and 14. However, the complexity of the processes and adjustments involved; the fact that those advocating the initiatives are sometimes also responsible for monitoring them; and the fact that the data is largely the preserve of commercial companies, released in a variety of formats, with a range of detail, and only sometimes subject to independent auditing has led to a lack of confidence in conclusions amongst some professionals. Hence, one priority for work in this area is a greater degree of independent monitoring and analysis.

5.8 Other effects of personalised travel planning

The following additional benefits are quoted for personalised travel planning:

- Reduced car use, which leads to lower road capacity requirements, reduced emissions of local air pollutants and greenhouse gases, fewer road casualties, and lower private vehicle running costs for the individual.
- Increased walking and cycling, which has associated health and fitness benefits.
- Increased public transport use, which results in additional revenue for public transport operators.
- Increased viability of local shops and businesses, which was mentioned as a potential benefit in Gloucester.
- Improved interaction by different players in the community, which was mentioned in Gloucester and Nottingham.

- Positive attitudes towards the initiative, as people feel that they have been helped by the provision of information. For example it was noted that the Gloucester initiative had not attracted any negative media comment.

The issue of social inclusion was also raised in relation to personalised travel planning. In Bristol, the work has deliberately targeted a deprived area, partly as a way of trying to highlight travel opportunities to people, and hence, for example, expand their range of perceived available job opportunities. The initiative seems to have been successful. However, the Nottingham interviewee felt that individualised marketing was likely to be most successful in middle-class areas.

In addition to these effects, there were also a number of synergies identified between personalised travel planning and other transport policies.

5.9 Synergies between personalised travel planning and other policies

There were some synergistic effects which all interviewees agreed about:

- **Some alternative transport modes need to be good quality for personalised travel planning to work.**

The success of personalised travel planning partly depends on the quality of transport alternatives in the area, which will, in turn, partly be determined by 'hard measures'. In Bristol, the range of other initiatives taking place was seen as a good rationale for also undertaking personalised travel planning.

- **Improvements in transport alternatives are not necessary for personalised travel planning to work.**

Where (some) alternative modes are of reasonable quality, it is not necessary to *change* hard measures in order for personalised travel planning to have an effect. In Gloucester and Frome, there were no major changes during the period of individualised marketing, such that the reduction in car use can be attributed to the individualised marketing initiative alone.

- **Personalised travel planning can increase the impact of public transport improvements.**

Notably, the Bristol experience seems to suggest that combining personalised travel planning with public transport improvements produces a greater increase in public transport trips than if the public transport improvements are undertaken in isolation. First Bus has been involved in the scheme, providing information materials and trial tickets.

- **High quality information about alternative modes is important.**

Personalised travel planning requires the availability of high-quality information about alternative modes. Therefore it can act as a catalyst to generate this information, or alternatively is considerably cheaper where this information already exists.

- **Personalised travel planning can provide information about public attitudes.**
The process of personalised travel planning can generate useful information about public attitudes towards different modes, which can be used to inform and prioritise transport planning. This was mentioned as a particular benefit in Gloucester.

- **There is potential synergy with health promotion.**
In Gloucester, officers felt that there was the potential to work with health promotion bodies, to see how individualised marketing could help achieve the twin objectives of reducing car use and promoting healthier lifestyles. (However, in Nottingham, it was noted that if a participant is already fairly active, changes in travel may make little difference to overall fitness).

Two other issues were also raised:

- **Initiative duplication**
The travel blending experiment in Nottingham was considered to have been less effective than comparable work that took place in Adelaide (Australia) because the subjects had already been affected by travel plan work and encouraged to reduce their car use through that. In Gloucester, the individualised marketing campaign was considered to have had relatively little effect on education journeys, and officers speculated that this may have been because there had already been considerable work on improving safety around schools in the local area. However, officers in Gloucester clearly felt that in future, integrating personalised travel planning with work on workplace and school travel plans would help to achieve greater results all round.

- **Public and professional acceptance of sustainable transport measures**
There are conflicting views about how far personalised travel planning affects attitudes towards other transport measures. On one hand, Sustrans commented that 'it is intuitive common sense that by establishing the dialogue we do, people will be more likely to become receptive to other measures.' SDG also comment that their work can be an important part of raising the acceptability of sustainable transport policies within local authorities. However, in Gloucester, it was noted that the individualised marketing had not altered the unpopularity of traffic calming. In Nottingham, there could be clear synergies with the Big Wheel travel awareness campaign. However the personalised travel planning work has deliberately 'kept its distance' from this campaign, as it is partially associated with the workplace parking levy, and it was felt that this could affect whether people saw the advice and information that they were being offered as positive and helpful.

5.10 Relationship between spending and impact for personalised travel planning

Overall cost benefit analysis of personalised travel planning has taken place in Australia, including evaluation of both individualised marketing and travel blending (as reported by SDG 2001). In general, these analyses showed extremely favourable ratios (with maximum benefits:costs in the order of 30:1). However, there has been some debate about the methodology used, partly relating to the difficulties of monetarising certain social and economic costs.

In our analysis, we have estimated the cost-impact ratio of two pilot personalised travel planning schemes (Gloucester and Bristol). In addition, we looked at projected cost and impact figures for two proposed large-scale schemes (in Nottingham and London), as we were interested in likely cost-impact ratios once these programmes are scaled up. In all cases, we have only looked at the impacts in terms of car kilometres saved.

For the Gloucester and Bristol schemes, we had case study data on the impact of the intervention, in terms of either car kilometres or car trips saved. In Nottingham, the local authority has suggested a range of plausible impacts of the proposed programme, and we adopted the mid-range estimate. In London, no estimate of likely impact of the proposed large-scale programme has been made. We estimated that it might cut car driver mileage by 10%. (It should be noted that this is a conservative assumption, since it is the mid range of the experience of the London pilots, which showed considerable variation[2]. Moreover, the aim of conducting different trials was to identify what worked best, and apply this information to the larger scale trial. In addition, as highlighted in section 5.2.2, there is some evidence suggesting that larger scale trials tend to be more effective).

In each case, we assumed that the behaviour change achieved in the year following the marketing intervention would be partly maintained in future, decaying by 40% per year.

Expenditure data was drawn from the case studies, with all costs treated as revenue.

Table 5.11 summarises unit costs per person targeted, and per car kilometre saved.

The cost of each car kilometre saved is roughly 3 pence in the pilot projects for which results are available, but may fall to about a penny in large scale programmes. As discussed in section 5.5.2, this difference is partly a consequence of the lower costs of monitoring in large-scale programmes (since monitoring can be carried out on a smaller proportion of the whole population), and also due to economies of scale.

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[2] As described in section 5.7.2, interim results show a reduction in car driver trips of 11% for the Kingston pilot and a reduction of 16% for the Southwark pilot. In Enfield, combined car driver/passenger trips have fallen by 19%. In Lambeth, there has been a 4% reduction in car driver modal share.

Table 5.11: Calculation of cost-impact ratios for personalised travel planning

	Gloucester pilot	Bristol VIVALDI phase 1	London proposed large-scale scheme	Nottingham proposed large-scale scheme
Number of people targeted	500	2500	120,000 – 150,000	161,800
Impact	Car driver kilometres fell from 21km to 19 km per person per day	Car driver trips fell from 365 to 348 per person per year	Assume car driver mileage falls 10% (from London average of 3457 km per person per year)	Case study mid-range projection: 26255 fewer car trips per day by targeted population
Car kilometres saved per person in year after intervention*	730	238	346	829
Total car kilometres saved per person~	1825	595	868	2073
Cost	£30,000	£50,000	£1.3 million	£2.31 million
Cost per head	£60	£20	£10	£14
Cost per km saved (pence)	3.3	3.4	1.2	0.7

* where impact data is expressed in terms of car driver trips, we assume an average car driver trip length of 14 km, based on national travel data, to calculate car kilometres saved.
~ total car kilometres saved per person based on assumption that behaviour change decays by 40% each year following intervention.

5.11 Future impact of personalised travel planning

The future implementation of personalised travel planning depends on:
- The number of locations in which it is likely to be effective
- Whether there is sufficient organisational capacity to deliver large-scale personalised travel planning programmes
- Whether local authorities can find a way of meeting the cost of personalised travel planning programmes.

5.11.1 Locations where personalised travel planning may be effective

Sustrans suggests that personalised travel planning should be prioritised in those areas where it is most likely to be successful, rather than simply rolled out nationally. They believe that in some cases it will be applicable to whole towns, whereas, in other places, it would only be appropriate for certain neighbourhoods within towns, or along public transport corridors. Case study interviewees suggested that the factors likely to increase the effectiveness of personalised travel planning interventions are:
- A recognition in the community concerned that there are traffic problems.
- A fairly discrete and self-contained community, with reasonable local services and facilities (not just a dormitory or satellite suburb).
- A reasonable level of public transport (and ideally, some recent improvements in services).
- Some excess capacity on public transport.

- A reasonable quality of environment for walking and cycling, including lower speeds and a 'people friendly' street-scene.
- Support from the local authority and other key partners, including public transport operators.

Quedgeley, the area selected for the individualised marketing programme in Gloucester, clearly met some of these criteria. It had good local facilities, including primary and secondary schools, a library and a supermarket, and a good bus service into Gloucester city centre. Nevertheless, local authority officers commented that car use in Quedgeley was relatively unconstrained, with low levels of traffic congestion, and hence that behaviour change might be expected to be more difficult to achieve than in congested inner-city areas. There was a feeling that 'if we can make a difference here, we can do it anywhere'. Officers suggested that it would be appropriate to develop a rolling individualised marketing programme covering the whole of the city of Gloucester over a period of between five and ten years. Frome – the location of the other Sustrans pilot project – was deliberately chosen to assess the feasibility of personalised travel planning in a relatively rural location, and again, showed that reductions could be achieved despite the constraints of the location.

The Bristol case study offers an insight into the effectiveness of personalised travel planning in areas of low car ownership. Bishopsworth and Hartcliffe, the areas selected for the VIVALDI individualised marketing programme, have high levels of social deprivation, relatively low economic participation, and lower than average car ownership. In contrast, Bishopston has high levels of car ownership and good alternatives to the car. In an interview carried out before any results were available, the Bristol interviewees said that they expected that modal shift in Bishopsworth and Hartcliffe might be small. However, preliminary results available shortly after the interview showed a 5% reduction in car driver trips. Whilst initial results from the Bishopston do suggest a bigger shift (a 10% reduction in car driver trips), 5% is still significant, and suggests that personalised travel planning can be effective and worthwhile in areas with low car ownership.

5.11.2 Organisational capacity

Two of the three case study cities had given some thought to the possibility of a large-scale rolling programme of personalised travel planning and London is also currently considering a large-scale programme.

In Gloucester, officers felt that it would, in principle, be feasible to develop a rolling annual programme, covering 10,000 or 20,000 people each year, so that the whole of the city (population 110,000) was covered in about five to ten years. They felt that staffing within the city and county councils would not be a constraint in handling a rolling programme of this size.

As part of considering options for the M1 multi modal study, Nottingham City Council had developed a proposal to apply individualised marketing to five areas within the M1 catchment. The selected areas had a combined population of 161,800 people, equivalent to 25% of the population of the Greater Nottingham LTP area. It was suggested that such a programme could be implemented over a five to ten year period.

Bristol City Council had not considered any further use of individualised marketing beyond the current programme. Interviewees felt that if the programme was to be repeated, to be manageable, it should be at about the same scale as at present, that is, about 5000 people per year. A further project at this scale is now (July 2004) under development.

In London, Transport for London is considering a programme covering 120,000 – 150,000 people per year for three years. If implemented, this would quickly surpass Perth, covering over 350,000 people.

At the time of our interviews, several local authority interviewees felt that the capacity of external consultants to carry out such programmes might be a constraint. Sustrans believed that it would be possible for consultants to 'gear up' to provide personalised travel planning services. In any one location, they commented that programmes would need to be phased, possibly working with no more than 20-30,000 people at one time.

Sustrans also identified ways in which the intervention could be streamlined for larger scale work. Ideas included using door-to-door contact in parallel with phone contact; delivering some information by email; and contracting out the tele-marketing phase to larger call-centres. It might also be possible to integrate large-scale personalised travel planning with the services offered by Traveline and Transport Direct. It should be noted that streamlining should not reduce what are considered to be some of the key success factors of the work – namely direct personal contacts with households, quick response times, a personalised service, a coherent brand identity and an emphasis on information provision.

More recently (July 2004), it has become clear that large-scale projects are developing fast. For example, a large-scale project in Hampshire called 'Infomotion' (involving Socialdata) is aiming to target 286,000 people in four phases between September 2003 and September 2004, including up to 100,000 people per phase. SDG are also extending their 'Stepchange' work in Scotland to cover 10,000 households in the Aberdeen area (in conjunction with two smaller projects involving around 2000 households).

5.11.3 Cost of personalised travel planning

The case study areas had considered several sources of funding for future programmes, including the workplace parking levy (in Nottingham) and developer contributions (in Gloucester).

However, interviewees felt that, whilst such mechanisms could be helpful, lack of funding was a major constraint on scaling up personalised travel planning programmes in their areas. There was a view that personalised travel planning cannot be entirely funded through revenue programmes and should be treated as a capital cost. Interviewees in Gloucester and Nottingham felt that personalised travel planning was more cost-effective than many capital projects, in terms of congestion-relief, and that it was perverse that government funding should be less readily available for projects which were better value for money than many currently-funded capital schemes.

The proposal for a large-scale rolling programme in Nottingham, reaching 161,800 people, was budgeted at £2.31 million (a cost per person of £14 excluding local authority staff time). In Gloucester, the interviewees suggested a rolling programme covering the whole city over five to ten years might cost around £2 million (based on a cost per head of £20). These appear to fall within the range for typical costs of larger scale personalised travel planning initiatives, as discussed in section 5.5.2 (although the Gloucester figure may be a slight over-estimate). It was notable that neither local authority felt that it was feasible to meet this level of expenditure from revenue budgets, under current rules. Both felt that if it was possible to fund personalised travel planning under their local authority's capital programme, the cost:benefit ratio of these programmes would make them an attractive option.

5.12 Key issues for scaling up personalised travel planning

The main constraint to scaling up that emerged from the case studies was the cost of personalised travel programmes, which is too high to be met from local authority revenue budgets. Other issues which emerged from the case studies are described below.

- **Revenue or capital?**

Local authority officers in the three case study areas were doubtful that personalised travel planning would be rolled out after the currently funded programme came to an end, unless it was 'mainstreamed' as part of the Local Transport Plan funding process. Essentially this meant funding via capital programmes.

Interviewees offered two reasons why it might be justifiable to include personalised travel planning in a capital programme:
1. Evidence from other personalised travel programmes carried out abroad suggests that behaviour change is sustained. That is, a one-off intervention delivers an ongoing benefit. Although personalised travel planning programmes might need to be periodically 'topped up', one interviewee commented that it would not be necessary to 'go back two or three years later and do the whole thing again'.
2. In the Bristol case study, personalised travel planning had clearly increased the effectiveness of a capital programme (to improve bus services).

- **Evidence of effectiveness**

Local authority officers in all three case studies reported that there had been (and to some extent still was) scepticism about the effectiveness of personalised travel planning (some aspects of which have been discussed in section 5.7.3). The Nottingham interviewee felt that 'politicians [still] need to recognise its value' and that personalised travel planning is most likely to happen in areas where there is a 'champion'. One Gloucester interviewee felt that it was difficult to 'sell' personalised travel planning to senior officers and councillors because it is so intangible. 'It's a bit like a black box. It's not like any other project where you can show the physical results to people. It's not tangible – it's happening in people's minds.' The Gloucester interviewee suggested that one solution would be to arrange the telemarketing so that politicians could visit and observe it in action. It also seems likely that larger-scale projects, which deliver recordable changes in public transport patronage, may help tackle this problem, and the consolidated information from the 18 pilot projects

funded by the Department for Transport and Transport for London should also be helpful.

- **Technical difficulties with information provision**

One case study area reported that they had technical difficulties developing information materials specific to individual bus stops. There may be a need to address this issue nationally, so that local authorities do not need to 'reinvent the wheel' to provide this kind of information.

5.13 Policy implications relating to personalised travel planning

- Greater consideration could be given to ways of funding personalised travel planning, and in particular to whether it may be funded as part of a Local Transport Plan capital programme.
- Local authorities could be encouraged to explore the potential for personalised travel planning to be funded through Section 106 agreements for new residential developments.
- Local authorities could explore the potential for partnerships with public transport operators (who stand to gain commercially from personalised travel planning) and health promotion bodies (who could use personalised travel planning to encourage more healthy lifestyles).
- Wide dissemination of the results from the current programme of pilot projects could be helpful, to assist local authorities in justifying undertaking such interventions locally.
- Further consideration could be given to the issue of monitoring personalised travel planning initiatives. Should all local authorities be encouraged to monitor all the initiatives they undertake (with the associated costs which that incurs), or could national demonstration of effectiveness negate the need for local monitoring? For example, monitoring of planned large-scale projects in Worcester, Darlington and Peterborough as part of the Department for Transport's Sustainable Travel Demonstration Towns project may help to provide more convincing evidence about the effects of such schemes. It is also important that such monitoring is seen to be independent and transparent.

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