Loughborough University

This item was submitted to Loughborough's Institutional Repository by the author and is made available under the following Creative Commons Licence conditions.

For the full text of this licence, please go to:
http://creativecommons.org/licenses/by-nc-nd/2.5/

Organisational structures for implementing travel plans: A review

OPTIMUM 2

20 May 2005

Final Report

Dr Marcus Enoch, Lian Zhang and David Morris
Loughborough University

Dr Marcus Enoch, Lian Zhang and
David Morris
Department of Civil and Building
Engineering,
Loughborough University
Leicestershire LE11 3TU
United Kingdom.
Tel: +44 (0)1509 223408.
Fax: +44 (0)1509 223981.
Email: m.p.enoch@lboro.ac.uk.

Loughborough
University

Table of Contents

Organisational structures for implementing travel plans: A review

Executive Summary

Barriers to travel plans

Travel plans are attractive to regional and local government because they are reasonably quick to introduce, relatively cheap and are usually politically acceptable. In short, they are an 'easy win', in marked contrast to most other transport improvement schemes. But, travel plans are dependent on other organisations being motivated to participate in helping to solve something that 'is not their problem'.

In particular, Rye (2002) identified a number of key barriers to wider travel plan implementation. These are:

- Companies' self interest and internal organisational barriers;

- Lack of regulatory requirements for travel plans;

- Personal taxation and commuting issues;

- The poor quality of alternatives (particularly public transport);

- Lack of examples due to novelty of the concept.

One possible way to overcoming some of these barriers, is to form some kind of 'Local Travel Plan Group' (LTPG).

The benefits of Local Travel Plan Groups

There are a number of benefits of forming some type of LTPG. These are that such a grouping is collectively able to achieve more than single agencies or employers when dealing with common concerns (thanks to pooled resources delivering higher investment, dedicated staff, and greater political influence) and yet allows companies/organisations to focus more on their core competencies. Secondly, LTPGs have the ability to move Transport Demand Measures (TDM) from a site-specific application to more flexible and effective area-wide application - the nature of transportation and environmental issues is that each employer or agency has the potential to impact upon others – and allow each member to become part of the solution. Finally, LTPGs can improve the level of communication between the sectors and allow the level of flexibility necessary to ensure that transport objectives are met in ways that maximise the benefits for businesses, residents and commuters.

Such an approach is supported in the seminal Department for Transport's *Smarter Choices* report (Cairns et al, 2004) and by the Government's Energy Efficiency Best Practice Programme (2001).

Clearly then, the LTPG may be worth considering as a new way of delivering travel plans.

Types of Local Travel Plan Group

The study reports on six types of LTPG currently in use around the world. Of these, five could be appropriate in a Southwark and London context. These are:

- Individual Organisations – single member, no relationships, full participation, formed for non-transport reasons. Examples are found at Pfizer in Sandwich, Kent, Vodafone in Newbury, Berkshire and Derriford Hospital in Plymouth.

- Development Zones – multi-member, hierarchical formal relationships, limited participation, formed for non-transport reasons. Examples include Stockley Park and Heathrow Airport, both in west London.

- Area Based Groups – multi-member, informal relationships, full participation, formed for transport reasons. The best known UK examples are found in Nottingham and Bristol.

- Business Improvement Districts – multi-member, non-hierarchical formal relationships, full participation, formed for non-transport reasons. BIDs have started to operate in the UK only since the beginning of 2005 but several now exist in the London area.

- Transportation Management Associations/Organisations - multi-member, non-hierarchical formal relationships, full/limited member participation, formed for transport reasons. The first UK examples are now being introduced in Aberdeen and at the Park Royal site in west London.

Establishing Local Travel Plan Groups

The report then presents two 'interface' models that can be used by the 'strategic' level[1].

The first of these is the 'centralised' model. This assumes a strong travel plan organisation in the strategic body which essentially provides services direct to a large number of typically relatively small and weak LTPG organisations. This approach relies on maximising the number of members that individually do not need to do very much. It is used very effectively in Birmingham.

The second 'federalised' model operates whereby a far smaller number of large scale LTPGs operate in a fairly independent way in a two-way partnership with the 'strategic' body. Here, the effort is far more focused on specific areas and quite large shifts in behaviour can be achieved, albeit in a far more limited area. Examples of this approach can be found in Toronto, Ontario; Boulder, Colorado; and San Diego, California among other places.

---

[1] In London, the strategic level could be interpreted at either the Transport for London, sub-regional, or the Borough level.

Overall, both interface models work well in terms of enhancing the effectiveness of travel plans at the overall network level. The choice as to which is the most appropriate will depend on the particular context envisaged.

Finally, the report provides a framework suggesting how strategic authorities might develop a LTPG strategy within their local area. This draws on marketing and organisational theory to effectively provide a very generalised checklist based on four 'implementation steps' – analyse, plan, implement, control – to try and present a guide through the influences and decisions necessary for introducing such a policy in practice.

1 Introduction

1.1 OPTIMUM 2

OPTIMUM2 is a European Regional Development Fund Interreg IIIB programme which aims to provide an effective approach for using Mobility Management to tackle the accessibility and mobility problems caused by congestion in urban areas. Specifically, it draws on the results of OPTIMUM, a previous Interreg project, to define five key factors, or "pillars", which sum up the most important issues needed within a Mobility Management approach, namely that:

1. The approach must be user-oriented;

2. Mobility Management measures must be introduced as early as possible with any new development (ideally at the planning stage of any new development);

3. Effective communication and information is vital if a Mobility Management measure is to succeed;

4. Effective marketing and promotion activities are also essential ingredients;

5. The final element concerns the enforcement of Mobility Management.

The central OPTIMUM2 proposition is that if the five pillars are addressed properly, then the Mobility Management approach will provide a massive contribution to preventing mobility, accessibility and environmental problems.

The London Borough of Southwark is one of eight partners involved in the project. Here the key objective is to encourage the take up of effective mobility management measures among local traffic generators (e.g. businesses, hospitals etc) through the planning system and thus reduce energy consumption. This is to be accomplished by:

1. Establishing Local Travel Plan Groups (LTPGs) within a local community framework - e.g. the current Community Council framework recently set up by Southwark Council and/or the network of local business groups – to more effectively deliver mobility management.

2. Developing the planning financial obligation tool (Section 106 of the 1990 Town and County Act) in relation to travel planning to link more closely with LTPGs to increase the transparency of the process to local people and ensure the spend is on appropriate mechanisms.

3. Developing and testing a range of innovative mobility management tools that can be delivered through the LTPG mechanism e.g. providing pool bicycles for businesses, conducting street audits of local areas, and running travel awareness raising events for businesses.

4. Developing and analysing possible methods of incorporating the LTPG regime into the local political, transport and planning framework through a brief review of existing planning practice in EU member and other relevant states.

5. Determining the barriers to implementing LTPGs and methods of overcoming these.

The purpose of this report is to inform the design, implementation and operation of the LTPGs in the Southwark context, through a review of such organisations already in place.

1.2 Aim and objectives

Accordingly, the aim of this research is to investigate how such LTPGs have been introduced in practice to aid the successful adoption of two LTPGs in the London Borough of Southwark. Specifically, this report will:

- Review the implementation, operation and performance of various types of LTPG extant worldwide;

- Examine the organisational frameworks employed by local and/or regional public authorities when designing, implementing, operating and/or supporting these LTPGs;

- Recommend the most suitable LTPG types and interface model for the London Borough of Southwark.

1.3 Research method

This research is based on a review of the literature supported by expert and practitioner interviews.

1.4 Structure of the report

The report is structured as follows:

Chapter 2 looks at the development of travel plans and the need for Local Travel Plan Groups.

Chapter 3 inserts LTPG types into an organisational framework.

Chapter 4 introduces the range of LTPG 'types'.

Chapters 5-10 examine the LTPG types in detail.

Chapter 11 summarises their characteristics.

Chapter 12 introduces to the functions of the 'strategic' organisation and outlines the characteristics of two types of 'interface' model.

Chapters 13 and 14 look at examples of the 'federalised' and 'centralised' model respectively.

Chapter 15 analyses the interaction between the LTPG types and the interface models.

Chapter 16 suggests how the research lessons might generally be applied

Chapter 17 applies the research lessons in the Southwark case.

2 Travel plans and the need for Local Travel Plan Groups

2.1 The role of travel plans

UK Government guidance *A Travel Plan Resource Pack for Employers* (EEBPP, 2001a) defines a travel plan as being:

'a general term for a package of measures tailored to meet the needs of individual sites and aimed at promoting greener, cleaner travel choices and reducing reliance on the car. It involves the development of a set of mechanisms, initiatives and targets that together can enable an organisation to reduce the impact of travel and transport on the environment, whilst also bringing a number of other benefits to the organisation as an employer and to staff.'

In Europe, travel plans have been known by many other different names including: 'site-based mobility management', 'green transport plans', 'green travel plans', 'green commuting', 'company mobility plans', and 'employer transport plans', while in the USA they are covered by the term TDM (Transportation Demand Management) (Ieromonachou, 2004).

The idea behind travel plans actually started in the USA – particularly on the West Coast - as a quick and easy response to the fuel crises during the 1970s, but was fairly slow to permeate across the Atlantic. Indeed, in the UK the first travel plans only first began to appear during the early 1990s, with the first official policy record being made in the 1998 Transport White Paper – *A new deal for transport: Better for everyone* (DETR, 1998).

In brief, the attractions of travel plans to Governments and local authorities are that they are reasonably quick to introduce, relatively cheap and importantly are usually politically acceptable. In short, they are an 'easy win'. This is in marked contrast to most other transport improvement schemes which often require high levels of investment over a long period of time and can carry a high political risk – especially in the short term as conditions frequently deteriorate while improvements are being carried out.

Crucially though, travel plans are dependent on other organisations (i.e. traffic generators such as employers, retail parks, hospitals etc) being motivated to participate in helping to solve something that 'is not their problem'. Thus, organisations will generally only consider travel plans if they:

- Need to solve transport problems – access for employees, shortage of parking, traffic congestion, air pollution (for airports in particular) on site or off-site.

- Need to solve space problems – organisation is expanding and requires more building space, but needs to build on parking spaces.

- Need planning permission – related to the point above. Organisation is starting up, or moving or expanding and needs planning permission.

- Want to save money – parking provision is expensive. Reducing levels of parking can cut company costs. Could be especially powerful where councils introduce workplace parking levies.

- Want to enhance their image – locally with neighbours or at a board level – we are an environmentally conscious organisation and so deserve to be invested in by your ethical account holders. Bodyshop is one such example.

- Are told to do so – In the UK, the National Health Service now requires its sites to develop plans, as do Government departments. And of course schools are now being pushed to adopt travel plans for a number of reasons: reducing congestion, air pollution and road traffic accidents, and for health reasons too.

As a result, studies have shown at the site level that UK plans combining both incentives to using alternatives to the car, together with disincentives to drive, can achieve a 15-30 per cent reduction in drive alone commuting (DTLR, 2001), while Knapp and Ing (1996) reported a 20 per cent average reduction at sites in the Netherlands and the USA. Meanwhile Schreffler (1998) noted that some exceptional case studies in the USA reported trip reduction rates of 50 per cent and more. But, at the network level the figures are almost negligible. For instance, Rye (2002) estimates that travel plans have removed just over 150,000 car trips per day from British roads each working day, or 1.14 billion km per year, i.e. around three quarters of one per cent of the total vehicle km travelled to work by car overall[2]. In the same paper, the author identifies a number of key barriers to wider travel plan implementation. These are:

- Companies' self interest and internal organisational barriers;

- Lack of regulatory requirements for travel plans;

- Personal taxation and commuting issues;

- The poor quality of alternatives (particularly public transport);

- Lack of examples due to novelty of the concept.

One possible way to overcoming some of these barriers, is to form some kind of 'Local Travel Plan Group' (LTPG).

---

[2] There is an argument that any traffic that Travel Plans remove from the network will simply replaced by previously suppressed traffic unless some form of congestion charging is in place to prevent this occurring. Nevertheless, Travel Plans can be a key part of any wider transport strategy to reduce car use and improve travel choices, particularly as they target trips during peak times when the negative impacts of car use (i.e. congestion, noise, emissions etc.) are at their worst.

2.2 The benefits of Local Travel Plan Groups

There are a number of benefits of forming some type of LTPG. For instance, such a grouping is collectively able to achieve more than single agencies or employers when dealing with common concerns (thanks to pooled resources delivering higher investment, dedicated staff, and greater political influence) and yet allows the member companies/organisations to focus more on their core competencies. Secondly, LTPGs have the ability to move Transport Demand Measures (TDM) from a site-specific application to more flexible and effective area-wide application - the nature of transportation and environmental issues is that each employer or agency has the potential to impact upon others – and allow each member to become part of the solution (City of Boulder, 2003; Anderson and Ungemah, 2002). Finally, LTPGs can improve the level of communication between the sectors and allow the level of flexibility necessary to ensure that transport objectives are met in ways that maximise the benefits for businesses, residents and commuters.

Such an approach is supported in the seminal Department for Transport's *Smarter Choices* report (Cairns et al, 2004), which noted that one of the key issues necessary for 'scaling up' the use and impact of travel plans was for an area wide approach to be adopted. Specifically it stated that "travel planning might become more commonplace in smaller organisations if it was part of a neighbourhood or area wide approach."

EEBPP (2001b) found that travel plan networks were 'especially effective in furthering travel plans' and suggested they have four main roles, namely:

- To exchange information, ideas and good practice;

- To provide moral and practical support for those involved in travel plan development;

- To make viable the provision of services relating to travel plans on a collective basis; and

- To combine efforts to generate an effective bargaining force.

It continues that "the benefits of networks are that concerted action by a number of organisations makes things more likely to happen. Travel plans are more likely to be prepared and implemented by organisations with the impetus of a network behind them… largely from the greater influence of a larger organisation and economies of scale". Finally, the EEBPP report notes the benefits to local authorities of establishing a network. These, it notes, are:

- The advantage of a single contact point for a variety of organisations;

- Novel ideas that might not have been considered can emerge from a network, and be applied to other networks with which the authority might be involved;

- Contact with a network allows an authority to gauge attitudes towards its own initiatives and can offer early warning of problems;

- News of successes, and the fact that collective effort is seen to be being applied to transport and access problems, can benefit the local economy by attracting new businesses to an area and retaining existing businesses.

Clearly then, the LTPG may be worth considering as a new way of delivering travel plans.

3 The tactical, strategic and supra-strategic levels of travel planning

Traditionally, transport and planning functions have been held at a variety of administrative levels, whereby European and National Government decisions influence the overall direction of policy, and the actual application of those policies is carried out at the regional and/or local government level. However, in recent years there has been a shift in emphasis towards 'partnerships' being formed with community groups and the private sector (Newman and Thornley, 1996). In this sense then, the adoption of the LTPG concept forms part of the trend, whereby another 'delivery' level of transport tools effectively comes into being. Therefore, for simplicity, three new labels have been devised for these levels of transport function: the tactical, the strategic and the supra-strategic.

- At the lowest level, the **tactical** level is that which actually implements the travel plan measures on the ground – i.e. the 'new' LTPG.

- Second is the **strategic** level, which effectively comprises the regional and local planning and transport authorities. These bodies are responsible for applying wider strategic policy objectives and strategic implementation frameworks to the specific regional/local context and distributing the allocated resources.

- Finally, the **supra-strategic** level consists of European and national government. However, it also consists of a number of other agencies e.g. corporate bodies (i.e. multi-national corporations such as Vodafone) and public sector agencies (e.g. NHS) which can also set wider strategic policy objectives and frameworks (e.g. legislative, tax, regulatory, subsidy) within which travel plans must operate. Consequently, this level falls largely beyond the boundaries of this review.

These relationships are illustrated in Figure 1.

Level	Typical actors	Roles
Supra-strategic	* Regional government * National government * Corporate bodies and public sector agencies	
		- Sets wider strategic policy objectives - Sets wider strategic implementation frameworks e.g. legislative, regulatory, tax and subsidy - Directs resources
Strategic	* Regional and local planning and transport authorities	
		- Applies wider strategic policy objectives to specific regional/local context - Applies wider strategic implementation frameworks to specific regional/local context - Distributes allocated resources
Tactical	* TMD * TMA/TMO * BIDs * ABGs * Development Zones * Individual Organisations	
		- Implements travel plan measures

Figure 1: Tactical, strategic and the supra-strategic actors and roles

The next chapters will look at the tactical level in more detail.

4 The tactical level - Local Travel Plan Groups

In devising a typology for analysing the Local Travel Plan Groups, various theories of how 'group formation' occurs were looked at, of which the most relevant was that put forward in Cohen et al (1995)[3]. This outlined eleven issues and accompanying questions faced by newly created 'work groups' (see Table 1).

---

[3] It should be noted that these issues were originally applied to individuals forming work groups within an organisation, whereas with the LTPGs, the 'individuals' are actually member organisations. However, it is clear that many of the same principles apply.

Issue	Questions
Atmosphere and relationships	What kinds of relationship should there be among members? How close and friendly, formal or informal?
Member participation	How much participation should be required of members? Some more than others? All equally? Are some members more needed than others?
Goal understanding and acceptance	How much do members need to understand group goals? How much do they need to accept and to be committed to the goals? Everyone equally? Some more than others?
Listening and information sharing	How is information to be shared? Who needs to know what? Who should listen most to whom?
Handling disagreements and conflict	How should disagreements and conflict be handled? To what extent should they be resolved? Brushed aside? Handled by dictate?
Decision-making	How should decisions be made? Consensus? Voting? One-person rule? Secret ballot?
Evaluation of member performance	How is evaluation to be managed? Everyone appraises everyone else? A few take the responsibility? Is it to be avoided?
Expressing feelings	How should feelings be expressed? Only about the task? Openly and directly?
Division of labour	How are task assignments to be made? Voluntarily? By discussion? By leaders?
Leadership	Who should lead? How should leadership functions be exercised? Shared? Elected? Appointed from outside?
Attention to process	How should the group monitor and improve its own process? Ongoing feedback from members? Formal procedures? Avoiding direct discussion?

Table 1: Issues facing any work group (Cohen et al, 1995).

From this framework, the LTPG types analysed were initially classified through a combination of the 'atmosphere and relationships' and 'member participation' categories. They were then further sub-divided according to whether they were primarily formed to deal with transport issues or not.

These are as follows:

- Individual Organisations – single member, no relationships, full participation, formed for non-transport reasons.

- Development Zones – multi-member, hierarchical formal relationships, limited participation, formed for non-transport reasons.

- Area Based Groups – multi-member, informal relationships, full participation, formed for transport reasons.

- Business Improvement Districts – multi-member, non-hierarchical formal relationships, full participation, formed for non-transport reasons.

- Transportation Management Associations/Organisations - multi-member, non-hierarchical formal relationships, full/limited member participation, formed for transport reasons.

- Transportation Management Districts - multi-member, hierarchical formal relationships, limited member participation, formed for transport reasons.

The remaining issues identified in Table 1 are discussed within the various LTPG type case studies in the following chapters. In addition, general information on the wider issues of the motivations, design elements, and barriers to implementation behind

each LTPG type is provided, as are a series of vignettes that are designed to illustrate how they work in practice.

5 Individual Organisations

The term 'Individual Organisations' (IOs) in this context simply refers to local authorities, hospitals, government departments, educational establishments, private sector companies and other bodies that have established their own travel plans.

5.1 General Description

Generally, organisations that develop independent travel plans need to be sufficiently large for the process to be worthwhile. Travel plans have been implemented at a range of different locations, ranging from city centres, through edge-of-town to rural locations.

In the past, travel plans were typically aimed at employees, but more recently there have been moves to develop plans for visitors, customers and suppliers.

IO's introduce travel plans for many reasons, including solving transport and/or space problems, saving money, enhancing their image, because they are legally (or organisationally) required to do so or to get planning permission.

Typically the primary actor (i.e. the body that initiates the travel plan process) is either the organisation (the IO) – where a travel plan is adopted voluntarily – or the local authority (where planning permission is being sought for example).

5.2 Design elements of local travel plan group

The design of the organisational structure for delivering a travel plan within an IO is very simple – usually a travel plan coordinator(s) is/are appointed and tasked with establishing, operating and monitoring the travel plan. They may or may not be allocated sufficient resources to accomplish this successfully. After all, delivering a successful travel plan is not the primary objective of the IO.

Funding is predominantly provided by the organisations themselves, although local authorities and other agencies do sometimes offer grants.

Travel plans for IO's only tend to be legally binding when imposed by a local authority under a planning agreement or obligation.

The role of the local authority can vary significantly. In some cases, local authorities provide encouragement and access to a whole range of practical resources – e.g. in Birmingham and York (see later). In others, local authorities may not provide any support at all.

The main barriers preventing take up of travel plans by IOs are those listed earlier, i.e. companies' self interest and internal organisational barriers; lack of regulatory requirements for travel plans; personal taxation and commuting issues; the poor

quality of alternatives in the UK (particularly public transport); and the lack of examples due to novelty of the concept.

5.3 Transferability to other areas

IO travel plans are the most common form of LTPG throughout the world. The challenge now is to support the development of these – particularly the for larger and more autonomous activity centres - and to encourage the establishment of more. This should be done both through the planning approval process, a tool already effectively used by the borough in delivering the travel plan agenda through restrictive parking standards, and through other 'support' measures (which could include the creation of links with other newly formed LTPGs).

5.4 Case Studies

Derriford Hospital Plymouth[4]

Derriford Hospital is located in the outer suburbs of Plymouth, some five miles from the City centre. Its travel plan was initiated following Plymouth City Council's refusal in 1995 for a major increase in car parking. The travel plan was formally part of a planning agreement, (commonly called a 'Section 106' agreement after the section in Town and Country Planning Act that gives councils powers to require the owners of a site to take actions or pay the council for impacts that extend beyond the site boundaries). For Derriford Hospital , the travel plan has involved car parking charges providing the money to subsidise bus travel to the hospital. A good partnership with the bus operators and Plymouth City Council has resulted in an increase in buses entering the site and a major rise in staff bus use. Facilities for cyclists and car sharers have also been provided.

There is clear management support for the travel plan. The Director of Facilities is supported by senior management including the Chief Executive. The travel plan is included in the Annual Plan and associated reports of the trust.

The change in the typical daily travel of staff before and after the travel plan was implemented showed a cut from 78 per cent travelling in as a car driver in 1995 to 54 per cent in 2001. In particular, bus use had more than doubled from its 1995 share of eight per cent.

Apart from the initial cost, which was GBP£127,000 (€186,000)[5] for setting up aspects of the travel plan in 1997-98, the travel plan costs Derriford Hospital approximately GBP£150,000 (€220,000) annually which equals to GBP£36 (€53) per member of staff (calculated as GBP£150,000 (€220,000)/4193 full time equivalent).

---

[4] Based on Potter and Enoch (2003).

[5] Based on the exchange rate of GBP£ and EUR€ dated 26 April 2005. Visit www.xe.com.

Here, the sheer size of the site – 4,500 employees plus visitors – mean that the hospital is actually larger than many LTPGs made up of multiple organisations, and thus it already has the benefits afforded by scale.

Pfizer[6]

US-based pharmaceutical company Pfizer has its main UK manufacturing and research facility in Sandwich, Kent and a European corporate headquarters in Walton Oaks, Surrey. Pfizer staff were frustrated by the traffic congestion especially at its Kent plant area. Many drive-to-work staff had difficulty finding parking spaces and often had to walk a long distance from their parking space to the office. In addressing this unacceptable situation, Pfizer introduced a 'Green Transport Plan' at its working sites both for staff and visitors.

A 'parking cash out' incentive scheme was adopted so that although all employees are entitled to park, Pfizer will give GBP£2 (€3) per staff per day and GBP£5 (€7) per staff per day for those who do not drive to work at its Sandwich site and Walton Oaks site respectively. Some 23 bus services now stop at the site during peak times. In addition, Pfizer shuttle buses, which are used by about five per cent of the workforce, connect the site with local rail stations. While an intranet of travel information and car sharing, walking and cycling facility improvement are also included in the Pfizer travel plan.

According to Pfizer's first travel survey in 1998, the number of cars coming onto its Sandwich site for every 100 staff was 75. By 2001 this number had reduced to 68, and now the number has stabilised at about 67. As a result, the company successfully cut nearly 400 parking spaces. Converting to a financial result, Pfizer saves GBP£0.8 million (€1.2 million) in capital costs (excluding land). What is more, Pfizer estimates car park running costs reduction at an additional GBP£500 (€700) per parking space per year.

Vodafone[7]

The Vodafone headquarters is currently spread between several offices in Berkshire. There are more than 5,400 staff working either in Newbury or in a nearby town Theale. Its largest site of some 3,000 staff is situated on the north edge of Newbury immediately adjacent to the A339. Nearly 22 per cent of staff live within two miles of their workplace and 16 per cent live between two and four miles from work.

Vodafone's travel plan was introduced in 1998 as a condition of its new office planning application. Funded by company itself, a co-ordinator has been assigned to manage the travel plan. The Vodafone travel plan relies on a combination of parking cash out rewards and good quality, frequent and reliable works buses. Apart from these, car sharing, shuttle buses between Newbury and Theale stations, cycle facilities

---

[6] Based on Howland (2003); Pfizer (2005); Whitelegg (2001); Transport 2000 (2005)

[7] Based on DfT (2002); DfT (2004b); Vodafone (2005); Transport 2000 (2005).

improvement and good financial incentives for walking, cycling and so forth have also been introduced. In a comparison between travel patterns in 1998 and 2001, a reduction of nearly ten per cent in the number of car trips was achieved.

Vodafone estimates that the initial travel plan setting up costs were GBP£2,379,000 (€3,491,000) including a GBP£715,000 (€1,049,000) donation to the West Berkshire authority in order to improve infrastructure network such as a bridge linking cyclists to the town centre. The annual running cost is GBP£2,326,000 (€3,414,000) including GBP£1,200,000 (€1,761,000) for parking cash out scheme; GBP£1,060,000 (€1,556,000) for ten free work shuttle buses; GBP£50,000 (€73,000) for staff time; GBP£11,000 (€16,000) for cycle measure and GBP£5,000 (€7,300) for car share scheme. The average annual running cost per employee is GBP£430 (€630).

6 Development Zones

Development Zones (DZs) refer to local areas developed for specific uses e.g. business parks, retail parks, industrial estates, leisure parks and even airports. The overall area is usually owned (or at least managed) by a single private or public sector body that 'hosts' a number of 'tenant' organisations that are located there.

6.1 General Description

DZs are generally located at edge-of-town and out-of-town sites with good road access. While sometimes developed by local authorities, the majority of sites are privately-owned.

The number of people and organisations can vary fairly dramatically from less than 50 people to regional shopping centres like Bluewater in Kent or Heathrow Airport that accommodate millions of journeys a year. The mix of organisation types is often fairly homogeneous (e.g. retail parks, business parks), although they can vary substantially in certain cases (e.g. airports host airport operating companies, airlines and retail outlets amongst others). The types of users is obviously dependent on the main functions of the DZ.

In Britain, the majority of these sites (on the edge-of-towns and in rural areas) were developed during the 1980s and early 1990s due to the increase in car use and the relaxation of planning regulations. However, the pace of these sites being developed has fallen since the tightening of national planning guidance in the mid 1990s. The genre followed similar well established trends in the United States.

Motivations for DZs being involved in developing travel plans are largely similar to those facing the larger IOs – i.e. solving transport and/or space problems, saving money, enhancing their image, because they are legally (or organisationally) required to do so or to get planning permission. The primary actor can be one of three types of organisation. Where the plan is being adopted voluntarily, it can firstly be the owner/manager of the site or secondly one (or several) of the tenant organisations. Thirdly, the local authority can be the main driver (where planning permission is being sought for example).

6.2 Design elements of local travel plan group

There are a number of different ways that DZs can set up travel plans, and some of the more developed alternatives will be covered by other categorisations (in particular, the Transportation Management Association/Organisation). Under the basic DZ approach though, one organisation (generally the site owner/manager but sometimes a tenant) will provide a/some travel plan coordinator(s).

As with the IO approach, funding is predominantly provided by the organisations themselves – either directly through a voluntary system of contributions or some form of levy, or indirectly through site rental fees. In addition, local authorities and other agencies do sometimes offer grants.

Finally, issues to do with whether travel plans are legally binding, the role of the local authority and the main barriers preventing the take up of travel plans by DZs are largely the same as for IOs.

6.3 Transferability to other areas

Travel plans for Development Zones are, after IOs, probably the most widespread form of LTPG. Consequently, the only real barriers to these being established are those to do with the individual circumstances faced by the DZs and in particular the motivation of the landowners and/or management agencies. Specifically, over the last thirty years or so, the majority of DZ sites in the UK at least have been located in areas that maximise access by car – such as edge-of-town and out-of-town sites - and thus limit opportunities of staff and visitors to use alternative modes. Ironically, this poor access by non-car modes is now one of the key levers for persuading landowners and management agencies of DZ's that the adoption of a travel plan may be a 'sensible' (i.e. a commercially attractive) proposition.

6.4 Case Studies

Regent's Place[8]

Regent's Place is located in Central London in the Borough of Camden, to the north side of Euston Road, and occupies a 4.2 hectare site with 8,500 employees. Well-served by six tube lines, ten bus routes and a designated cycle network, Regent's Place is one of the easiest destinations in Central London to access by public transport (see Figure 2). It is also on the boundary of the road-pricing zone[9]. Besides support from its 40 or so member companies, the Regent's Place travel plan programme also gets support from the London Borough of Camden, the Greater London Authority, Transport for London, local retailers and community groups.

---

[8] Based on British Land (2001); British Land (2004); Regent's Place (2005)

[9] London Congestion Charging Scheme. GBP£5 (€7) is charged currently and the Mayor of London announced on 1 April 2005 that he has decided to confirm the charge increase from GBP£5 to GBP£8 (€8 to €12).

The site as a whole is managed by its owner and developer, the British Land Company PLC, which co-ordinates a travel plan serving the area.

According to a staff travel survey conducted in December 2000, 90 per cent of employees use public transport as their main mode of transport to work; six per cent travelling by car compared with an average 15.7 per cent in central London Area; and four per cent cycling or walking to estate. Whereas 95 per cent of trips to business parks on the M4 corridor to the west of London are made by car. Regent's Place launched its travel plan in April 2001.

British Land has appointed a Travel Co-ordinator to lead the Regent's Place Travel Plan project, though the travel plan is in fact delivered through a Regent's Place Transport Forum. This has the following functions:

- To monitor and manage the travel plan and its initiatives;

- To develop new travel initiatives in partnership with all parties;

- To discuss travel related issues as they affect occupiers, employees and visitors at Regent's Place;

- To undertake an annual travel survey;

- To disseminate best practice amongst all occupiers;

- To publicise achievements.

The Forum meets twice a year and is chaired by the Regent's Place Travel Co-ordinator. The Forum is supported by the London Borough of Camden through its membership of the council's 'Green Travel Network'. The travel behaviour of staff and companies at Regent's Place will be monitored through the web site and by e-mail.
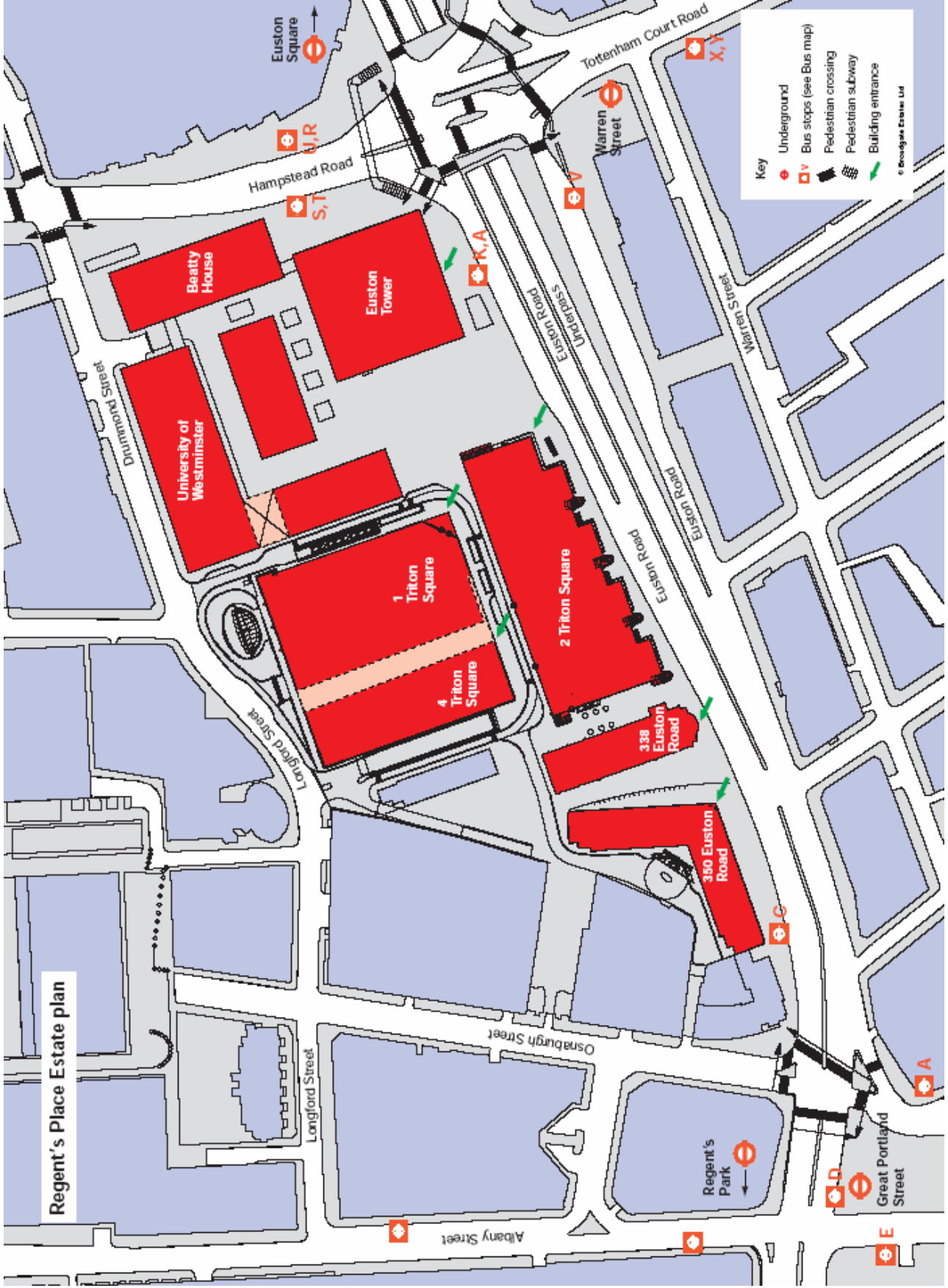
Figure 2: Regent's Place Estate Plan (Regent's Place, 2005)

BAA Heathrow Airport, London[10]

BAA London Heathrow Airport is an airport-based organisation and handles over 63 million passengers and 1.3 million tonnes of cargo a year. Its 356 organisations employ 70,000 staff (50 per cent of the workforce are from the five local boroughs).

Currently, the airport operator BAA runs a travel plan for the whole site which the tenant organisations can benefit from. Under the latest travel plan, *Changing Direction*, this relationship is to become more formalised with the creation of the BAA Heathrow Area Travel Plan Network. This will be open to any Heathrow employer and will have the following aims:

- share information on transport and travel issues at Heathrow;

- identify areas of need; and

- develop and implement solutions.

The whole travel plan is funded by the Heathrow Area Transport Fund which contributes approximately GBP£2 million (€3 million) each year to transport-related projects from a levy on passenger and employee car parking. Projects range from major infrastructure improvements such as the M4 spur bus lane, to employee travel schemes such as Airport Carshare and the provision and marketing of bus services and other initiatives. The Fund also pays for the team responsible for managing Changing Direction. In addition to the Fund, BAA Heathrow contributes GBP£500,000 (€734,000) per annum to improving transport facilities.

Park Royal, London[11]

Park Royal is an industrial area which bridges three local authorities (Brent, Ealing and Hammersmith and Fulham) located in West London. It is a major contributor to the London economy with over 1,900 firms supporting 40,000 jobs. Transport problems relating to congestion and parking are exacerbated by the travel patterns of people who commute to the site. Only two per cent of employees cycle to work and only three per cent walk to work. People who commute by public transport account for approximately 30 per cent of commuter trips whilst 60 per cent travel to work by private motorised vehicles, mostly single occupancy trips.

As with Heathrow and Stockley Park, the management of the Park Royal site currently implements the travel plan in a top down manner. But unlike those examples, the Park Royal site is actually owned by a number of different land owners. Thus, the management organisation – the Park Royal Partnership (PRP) – has slightly less control over the site as a whole. In brief, PRP is a not-for-profit limited company, set up as a local regeneration organisation. It is financed by public sector grants and

---

[10] Based on BAA (2003); BAA Heathrow Airport (2004); DfT (2004a)

[11] Based on Halcrow Group (2005) and PRP (2004).

private sector contributions. The site has had a travel plan for the past five years or so, but this has not been very effective. As a result, the PRP is now about to launch a TMA (see later). Interestingly, it is also around 18 months away from establishing a BID (see later). But, as yet the TMA and BID projects are very much separate projects (although that may change in the future).

Stockley Park, London[12].

Stockley Park is located next to the M4 and M25 motorways and immediately to the north of London's Heathrow Airport and extends to 400 acres with 1.85 million square feet of office space. On-site organisations include Apple Computer, Marks and Spencer, BT, GlaxoSmithKline, Centrica, Matsushita, Hasbro and Canon which together accommodate 7,700 full time equivalent staff.

Overall, the site is operated as a single entity, and the travel plan is included within this management remit. The Park has had a travel plan since 1998, and set up a Commuter Centre in 2003 to implement various initiatives e.g. car sharing, cycling and walking, public transport and awareness raising.

The number of car trips per 100 employees in October 1997 was 88 which fell to 84 in October 1999. To evaluate its travel plan effectiveness, Stockley Park regularly conducts travel surveys. A comprehensive web-based travel plan survey in 2002 confirmed that since 1999, there has been a one per cent increase in underground use, a 1.2 per cent increase in rail commuting and a 3.4 per cent increase in bus use. Apart from travel surveys, Stockley Park also produces a monthly report to track transport plan progress against targets.

7 Area Based Groups

Area Based Groups (ABGs) are informal networks of organisations that operate (or are interested in operating) travel plans located within a loosely defined neighbourhood.

7.1 General Description

Area Based Groups effectively exist where there are two or more organisations that have the need to meet together to deal with transport issues in their 'neighbourhood' (however defined). Consequently, the type of location, the type, size and mix of member organisations and the types of users can vary enormously.

The main motivation for setting up these groups is that the member organisations – already apparently convinced of the need for a travel plan – understand that it is more effective to combine resources with others to meet their objectives.

Area Based Groups are generally formed either by local authorities 'suggesting' that neighbouring organisations get in touch with each other, or by one leading

---

[12] Based on Stockley Park Consortium (2004); DfT (2002)

organisation in a particular area deciding to take a lead to help address some kind of transport issue(s).

7.2 Design elements of local travel plan group

Area Based Groups are set up specifically to address transport issues. They typically consist of a number of organisations that have (or are thinking about having) a travel plan that may meet together on a regular (or not so regular) basis. ABGs provide travel plan coordinators from member organisations with support, information, contacts, new ideas, and a stronger voice with which to negotiate with transport operators and the local authority for improved transport provision.

They are usually directly funded through a combination of voluntary contributions or some form of levy and local authority grants. ABGs are informal organisations and are not legally defined in any way.

Local authorities can play no role in ABGs, but more often they are usually involved in setting up and facilitating the groups to a greater or lesser extent (e.g. through providing anything from meeting rooms, through secretarial support, contacts, information, presentations, to funding).

There are no real barriers to organisations setting up ABGs, while the success or otherwise is almost entirely down to level of commitment to the group of the members themselves.

7.3 Transferability to other areas

As with DZ's, there are no financial or legal barriers preventing the establishment of ABGs in other areas.

7.4 Case Studies

Temple Quay Employer Group, Bristol[13]

Bristol City Council set up a Green Commuter Club in 1999, following a conference designed to promote travel plans among companies in the city. This now has more than 85 members and meets on a quarterly basis.

In 2001, a group of the members were about to move into a new development area known as Temple Quay and so decided, together with the City Council, to set up their own sub group. The Temple Quay Employer Group now has 15 members both in and next to the newly developed area. These include Orange, Norwich Union, Highways Agency, DEFRA and Bristol and West.

Members of the sub group are required to sign up to a statement of intent which commits the company to addressing common issues. Projects – e.g. a car sharing database - are financed by contributions from the Council and member companies on

---

[13] Based on Ginger (2005) and Cairns et al (2004).

a project by project basis. Initially, the TQEG was run by the council, but recently some of the organisational effort has been taken on by Norwich Union.

Bristol City Council has since tried to establish a second sub group in the Avonmouth area of the city, but this has struggled to attract much interest probably due to the area's relative inaccessibility by alternative modes to the car. Most recently, the council is examining the feasibility of establishing a third group in the South Bristol area.

Northside, Southside and Lenton Lane Employer Groups, Nottingham[14]

The Nottingham Commuters Planning Club was formed in 1995 in order to implement the travel plan concept in the city (see later). One element that has arisen from this has been the formation of sub groups. These are actually very informal and ad hoc affairs – meeting only as and when the member organisations request them. Each was set up in response to a specific event that led to a neighbourhood-wide solution. Currently, there are three in Nottingham, all of which first met in 2000-2001:

- the Northside Employer Group (north quarter of the city centre) of around 16 members;

- the Southside Employer Group (canal area of the city centre) with around 12 members; and

- the Lenton Lane Employer Group (serving the Lenton Lane area to the west of the city centre) of around eight organisations.

Funding is similarly ad hoc, with members contributing only to specific schemes and towards the (limited) cost of meetings.

8 Business Improvement Districts

Business Improvement Districts are a partnership management initiative between a local authority and the business community, which provides investment in the local trading environment within a defined area. The aims of a BID are developed and agreed by local businesses and activities are funded by mandatory contributions from all non-domestic rate-payers (or a specified class of them) within the BID area (HMSO, 2004; Quin, 2004).

BIDs can be used to fund a wide range of initiatives, including transport services, environmental improvements, such as better pedestrian access and signage, or community warden schemes or Community Support Officers, which improve perceptions of safety and provide greater confidence for business investors. BIDs can therefore offer benefits to commuters, residents and businesses.

---

[14] Based on Prince (2005).

8.1 General Description

BIDs are suitable for locations which might be experiencing difficulty in attracting business tenants, which might suffer from negative perceptions or which are already targeted for wider regeneration measures. It is preferable to have a significant number of local businesses within the BID area, in order to spread the cost of the agreed improvement programme.

Organisations of any size can form a BIDs partnership. The interests of smaller members are protected by a system of double majority voting (NBAS, 2005).

The BIDs model was pioneered in Canada in the early 1970s to fund improvements to the retail environment in downtown Toronto. The idea quickly spread to the USA. It is believed that there are now over a thousand BIDs in North America, primarily funded through a levy on the property owner. In England and Wales under primary legislation enacted in September 2003, a BID partnership will deliver added value services within a geographically defined area. These services are to be funded through a supplementary levy on the business rate, collected on behalf of the partnership by the local authority (Reilly, 2004).

There are a large number of motivational factors involved in the establishment of a BID. For landlords, a BID can increases rental values of property, generating increased income and attracting business tenants. BIDs can particularly help to generate trade at peripheral retail locations; For business tenants, BIDs can provide a more attractive environment for customers. BIDs provides a voice for local businesses and enables BID partners to decide priorities and control the process. BIDs spread the costs of marketing and crime prevention equitably amongst large and small members and eliminates the potential for 'free-riding' (i.e. where organisations benefit from improvements without contributing to the cost of providing them). For the local authority, BIDs secure sustained investment whilst not diverting other resources, while it also benefits from the support and participation of the business community and can promote greater understanding of the role of the local authority. From a community perspective, BIDs can provide the necessary investment to promote improved quality of life, by regenerating the public realm and tackling local problems such as safety and anti-social behaviour, which are of concern to both residents and businesses community.

8.2 Design elements of local travel plan group

Legislation regulating the establishment and operation of BIDs was contained within the Local Government Act (2003) and the Business Improvement Districts (England) Regulations, which came into effect September 2004.

Under the BIDs Regulations, a BID may be proposed by:

- A non-domestic ratepayer situated in the proposed BID area;

- A property developer or any other person, with a land interest in the area whether or not [he] is a non-domestic ratepayer in relation to that land;

- A body established to promote BIDs;

- The relevant billing authority (or authorities in the case of cross-boundary BIDs).

BID partners (those subject to the levy) define the geographical area of the BID, identify issues to be addressed and provide the funding to ensure that the projects are realised. The BIDs model therefore promotes ownership and commitment to the project by participating businesses, who determine the services, delivery and costs of the project.

The activities agreed by the BID partners are funded through an additional levy on their rates bill, therefore all beneficiaries contribute to the costs of the agreed measures. The BID proposals are required to specify the services to be provided, the BID levy, and how this is to be calculated. They also specify what start-up costs and administrative overheads (if any) are to be recovered within the BID levy. There is no statutory mechanism for involving property owners in BIDs; their contributions are voluntary and the value of contributions (and the level of influence they may gain) will therefore be determined through negotiation with the BID itself.

There are a wide range of funding opportunities available to BIDs. In order to identify potential funding sources, BIDs proposers may require assistance from local authorities, or may choose to employ a specialist consultant.

BIDs are often initiated by the local authority, though not always, and it is possible, within the terms of the Regulations to employ a specialist consultant to oversee the establishment and management of the BID. The local authority is responsible for collecting the BID levy, which is paid as an addition to local business rates. Once operational, the management and monitoring of the BID is largely the responsibility of the company formed to oversee the progress of the BID. The body responsible for collecting the ratings levy is responsible for producing an annual BID financial report, but may cover costs, as agreed with BID partners.

Local businesses within the BID levy area are responsible for agreeing the aims and objectives of the project.

Establishing a BID can be complex and time-consuming, due to the size and complexity of major organisations, or to a proliferation of smaller businesses, all of whom must be contacted individually and informed of the BID concept. The local authority may need to target key businesses in the area, in order to generate the necessary level of awareness and support for the BID concept.

8.3 Transferability to other areas

BIDs provide a flexible tool which allows businesses to identify local problems and ring-fence funds to address them, improving the trading environment and the public realm. This flexibility means that BIDs can be used in differing circumstances, to address a wide range of local issues and to provide opportunities for partnership between local authority, community and business interests.

BIDs are a relatively new concept in the UK, with the first pilot schemes having been really established only since the beginning of 2005. These are designed to provide experience of developing and running BIDs. To date, the focus has mainly been on

physical improvements to the urban realm and community safety. Accessibility and transport objectives are often included within BIDs but, to date, there is little experience of the delivery of transport initiatives within the UK pilot schemes. However, BIDs appear to be well suited to the delivery of public transport, walking and cycling improvements, as these have particularly strong links with perceptions of safety and improvements to the quality of the public realm (as in the USA – see later).

8.4 Case Studies

The Perimeter Community Improvement Districts (PCIDs), Atlanta, Georgia, USA[15]

The Perimeter business district in Atlanta, Georgia is the region's largest employment district. It has a large concentration of Fortune 500 companies, with 125 companies employing 100 or more staff. The district has 4,000 businesses and more than 115,000 employees. Employers include Hewlett Packard and United Parcel Service (UPS). PCIDS is the Perimeter Community Improvement District (CID). Although the terminology is slightly different, it operates in the same way as a BID; i.e. it is a self-taxing district that uses an additional levy on commercial properties to help accelerate transportation and infrastructure improvement projects. Contributions are determined by the rateable value of the property. The levy is collected by the local government Tax Commissioner and returned to the company established by members to run the CID. The CID's Board of Directors then invests the levy in infrastructure improvements for the area.

The PCID comprises two complementary organisations, the Perimeter Community Improvement District (PCID), and the Perimeter Transportation Coalition (PTC), which together are implementing a programme of transportation enhancements coupled with land-use strategies that aim to improve mobility and access to the Perimeter business district. The district is surrounded by residential districts, with a resident population of 81,000 (over 30,000 households) within a three mile radius of the centre of the employment zone. Projects such as improved pedestrian infrastructure are closely linked to wider community-focused plans to promote 'smart growth' and to develop 'liveable communities' with a balance of work, life and leisure amenities.

The Perimeter district has good links to the local and interstate road network, state airports and the MARTA rapid transit rail system. In order to promote alternative to travelling by car, the Perimeter Transport Coalition has developed a range of initiatives including a public transport pass, a vanpooling programme, a car sharing programme and walking and cycling initiatives.

In addition to promoting alternatives to car-use, PTC works closely with the PCID to identify and progress the necessary infrastructure improvements. These include commissioning transportation research and improvements to road, bicycle and pedestrian infrastructure.

---

[15] Based on PCID (2005).

Overall, with the joint efforts of PCID and PTC, 'the CIDs will be able to provide nearly USD$2.6 million (€2 million)[16] per year in transportation funding for improvements in the district' (PCID, 2005).

The Paddington BID, London[17]

The Paddington BID is one of five partnerships within the Central London Partnership's Circle Initiative. It has been funded largely by the Single Regeneration Budget through the London Development Agency. The driving force behind the Paddington BID has been the Paddington Regeneration Partnership, an organisation led by the private sector. The members of the Partnership are a mixture of private, public and voluntary sector organisations, including BAA/Heathrow Express, British Waterways, Hilton Hotels and the Paddington Health Campus. The Paddington Board also has members from Westminster City Council, local small businesses, local residents' associations, the Metropolitan Police and Transport for London.

The Paddington BID decided to focus on Praed Street and its feeder streets. Due to the presence of the Heathrow Express at Paddington, this area is often the first impression visitors receive on their arrival in London.

The aims of the Paddington Regeneration Partnership are:

- To ensure that the newly created public realm relates to its urban context within the city of Westminster both aesthetically and functionally.

- To provide streets and spaces with a recognisable Paddington Waterside character that are fully integrated and complementary to the existing local environment.

- To identify a coherent and consistent design strategy for the improvement of the public realm

- To establish a standard of design to achieve an enriched environment that:

  o Is high quality

  o Contributes to public safety in a positive way

  o Is appropriate to Paddington and to Westminster

  o Is robust, valued and well cared for

  o Is distinctive and sometimes exciting or surprising

  o Will present an image of Paddington as a new, confident and progressive part of London.

---

[16] Based on the exchange rate of USD$ and EUR€ dated 26 April 2005. Visit www.xe.com.

[17] Based on London BIDs (2005).

- To create access for all sections of the community, responding to the needs of people with disabilities

- To create new and improved linkages between developments, between Paddington and surrounding areas and between the developments and the public transport.

The Paddington BID was accepted by the local business community in a referendum on 1 March 2005 and is due to start work in April 2005 for four years.

Kingston BID[18]

Kingston is a thriving retail, leisure and education centre, which attracts at least 18 million visitors mainly for shopping and leisure activities per year. However, the number of visitors is dropping and the services provided within the area are not meeting expectations. Kingston Town Centre Management (KTCM), an informal partnership between the Royal Borough and the business community, therefore approached and consulted with local businesses to collect feedback on services needed in Kingston town centre. On 28 February 2003, KTCM launched the Kingston First BID project. The Kingston First BID proposal which obtained a positive result in November 2004 includes a broad range of activities for example, Christmas park-and-ride, safer car parks and so on.

BID projects are grouped into four main categories: environment; safety; transport and promotion. In Kingston, a shortage of effective public transport makes travel largely car reliant but this has led to problems of traffic congestion and a perceived lack of parking. As a solution, Kingston First has developed a package of initiatives including pedestrian and traffic signage improvements, installation of messaging system for parking, car parking promotion; park and ride promotion and last, but not least, alternative travel solutions (car share, public transport ticket discounts, staff park and ride scheme). The dedicated Transport and Access Group will manage and implement these initiatives with input from the Royal Borough of Kingston, Transport for London and the local Police.

The BID will operate for five years and the estimated expenditure on transport improvements will account for 20% of the total year one spend – i.e. roughly GBP£160,000 (€236,000). Kingston First also estimates the transport expenditure throughout the four BID project years to be GBP£95,000 (€139,000) for year two, three and four and GBP£145,000 (€213,000) for year five. Most of the BID revenue is to come from a one per cent BID levy and part of the income is from local authority and property owners. Kingston First's one per cent BID levy will generate GBP£4 million (€6 million) over five years. This effectively doubles annual spending on town centre services (Bond, 2005).

---

[18] Based on Kingston First (2004)

Business Improvement Districts are common throughout North America, but in the UK they are a relatively new phenomenon. As of 28 April 2005, 14 ballots had occurred, of which ten were positive – including the Better Bankside BID in Southwark (NBAS, 2005).

9 Transportation Management Associations/Organisations

Transportation Management Organisations (TMOs), also known as Transportation Management Associations (TMAs) are private, non-profit, member-controlled organisations. They operate on an area-wide basis within a defined area, such as a commercial district or industrial park and coordinate the provision of customised services, and activities to assist in providing transportation services and achieving transportation performance standards (VTPI, 2004).

9.1 General Description

Most TMOs are formed in centres of major business activity, with a significant employment base. Although some TMOs have been formed by single employers, these tend to occur in areas which are predicted to experience very rapid growth. The geographic extent varies with each TMO. A study of TMOs in the USA found that one third provided services at a regional scale, whilst one fifth serve Central Business Districts. The remainder serve single office buildings, local retail parks or business corridors (Anderson and Ungemah, 2002).

TMOs are generally most successful in areas currently experiencing significant growth in employment and associated traffic. They are not well-suited to areas experiencing decline, or where projected regeneration (and associated traffic problems) may be many years in the future.

Transportation Management Organisations began to emerge around the world in the early 1980s, as public-private bodies, designed to address traffic congestion and air-quality problems. By 2002, there were over 150 TMOs, operating mainly in the USA, Canada and the Netherlands.

The variation in market area for TMOs can be significant, and can be anything from a square mile to as much as 500 square miles. Ferguson et al (1992) suggested a typical TMO's market area to include about 15 developers, 550 landowners, 1,500 employers, and over 50,000 employees.

Overall, TMO's may be characterised as predominantly private institutions, usually located in rapidly growing suburban areas with relatively small budgets and staffs to deal with the ambitious scope of local problems that they report facing (Ferguson et al., 1992).

9.2 Design elements of local travel plan group

A TMO is a private, non-profit making and member controlled organisation that provides transportation services in a particular area such as an industrial estate.

TMOs provide an institutional framework for the implementation of Transport Demand Management (TDM) initiatives and services. They are usually more cost effective than travel plans set up and managed by individual businesses and are far reaching in their impact, not only on commuter travel patterns but also on transport services and infrastructure and, in some cases, the local neighbourhood. TMOs also allow small businesses to offer employees the benefits of TDM initiatives comparable to those offered by large companies (PRP, 2004).

The members of TMOs tend to be business organisations or property owners. According to the TMA Survey conducted by University of South Florida (Hendricks, 2003), the membership of 59 TMOs out of 93 consisted of 50-100 per cent business organisations. Other than this, the membership of five TMOs was 100 per cent made up from commercial property owners. Ferguson et al's research, conducted among 110 TMOs in the early 1990s identified that private employers and developers are most frequently key agents in the formation of TMOs. Most TMOs have a board which consists of an average 14 members, including twelve voting and two nonvoting members (Ferguson et al, 1992).

In addition, Hendricks (2003) found that the median range of annual expenditures of a TMO is between USD$150,000 and USD$200,000 (between €116,000 and €154,000). In terms of the expenditures breakdown, the survey found that TMO budgets vary greatly and that no average figure could be sensibly arrived at. VTPI (2004) meanwhile, indicated that '*costs are primarily direct TMA program expenses, which typically average USD$5-10 (€4-8) annually per covered employee, although this can vary significantly depending on what services it provides*'.

As to incomes, TMOs find their financial support in a number of different ways – see Table 2.

Income Resources	Percentage[19]
Employers	72%
Transportation planning agencies	52%
Other organisations[20]	43%
Metropolitan planning organisations	41%
Developers	31%
Community/residential organisations	16%
Environmental government agencies	10%

Table 2: Income Sources (Hendricks, 2003)

TMOs generally exist as independent, non-profit organisations, funded by key stakeholder groups in the area. Case studies from North America show that these stakeholder groups include government agencies, major employers, developers, neighbourhood groups etc.

---

[19] Percentage is from either single source or multiple sources.

[20] Other organisations includes cities and town planning boards, chambers of commerce. Transit agencies, universities and educational institutions, hospitals, airport, transportation consultants, employment service, air quality group, property owners, a state legislature, the U.S. Congress in one instance, the governor, and an economic development corporation (Hendricks, 2003).

Ferguson et al (1992) points out that the development of TMOs was frequently hampered because of difficulties in recruiting private-sector representatives to serve on boards; in encouraging companies to become fully-fledged corporate members; and even in persuading organisations to contribute cash or in-kind services to the TMO.

In the early 1990s, the average start up budget of a TMO was about USD$100,000 (€77,000), although this was estimated to have doubled by the mid 1990s. Besides public sector funding, an important source of the increased income was membership fees which increased rapidly. Most TMOs now charge membership fees based on per employee for employers, per square foot for developers, and per acre for landowners. The average cost of TMO membership varies from USD$1 (€0.77) per employee to $15 (€12) or more per employee per year, depending on the size of employers within a certain TMO area. Interestingly, although larger employers pay more than smaller businesses overall, the cost of TMO membership is far less on a per-employee basis than for smaller companies (see Table 3).

Firm Size (Employees)	Minimum	Maximum	Average	Standard Deviation	Average Per Employee
10	$5	$2,500	$303	$486	$30.32
50	$25	$2,500	$450	$481	$9.01
100	$50	$2,500	$599	$513	$5.99
500	$250	$5,000	$1,194	$1,417	$3.83
1,000	$350	$10,000	$2,819	$2,533	$2.82
10,000	$350	$100,000	$12,513	$26,768	$1.30

Note: Exchange rate: USD$1 ≈ €0.77[21]
Table 3: TMO Membership Dues Per Firm by Firm Size (Ferguson et al, 1992)

The average TMO has 2.7 employees split among executive director, other professional and managerial staff, clerical, secretarial, and other support staff, 1.7 of whom work full time. Most TMOs use measured changes in travel behaviour to monitor and evaluate their performance.

Appropriate Evaluation Criteria*	% TMA Supporting
Changes in employee mode of travel	89
Changes in the number of vehicle trips made	81
Changes in the supply of transportation services	58
Changes in the number of person trips made	45
Changes in the supply of transportation facilities	40
Changes in employee time of travel	34
Changes in the location of activities	23
Other changes	8

Table 4: TMO Evaluation Criteria (Ferguson et al, 1992)

Table 4 illustrates that 'changes in employee mode of travel' and 'changes in the number of vehicle trips made' are the two most common criteria to evaluate TMO performance. Perhaps surprisingly though, more than half of the TMOs studied had

---

[21] Based on the exchange rate of USD$ and EUR€ dated 26 April 2005. Visit www.xe.com.

never conducted any type of evaluation. Among those TMO who have done evaluations, a majority of them chose a third party, commonly from a governmental authority, to carry out this job.

9.3 Transferability to other areas

As very recent experience in Aberdeen, at the Park Royal site in west London, and in the London Borough of Islington (Levantis, 2005) demonstrates, there are no real legal barriers to establishing a TMO in the UK.

9.4 Case Studies

Dyce TMO(TMA) Aberdeen[22]

The Dyce TMO in Aberdeen is thought to be the first of its kind in Europe. So far in the UK, there are several business parks that have established travel plans (see Development Zones section earlier). However, in Dyce, a diverse group of businesses come together specifically to address travel issues within a more formalised relationship.

Dyce is an area of 20,000-30,000 commuters with mix of employer types between the docks and the airport. The public transport access is poor. With support from Aberdeen and Grampian Chamber of Commerce, and consultant Vipre, a not-for-profit organisation was established, called 'Dyce Transportation Management Association (TMA)'. However, for legal reasons the TMA is now registered as a Transport Management Organisation - the Inland Revenue has strict criteria about incorporated bodies using the word [Association] in their name.

All businesses in the Dyce/Kirkhill/Stoneywood area were invited to join, irrespective of their number of employees. The initial TMO group includes several companies involved in oil exploration, such as BP and Halliburton. Between them, these members employ over 3,000 onshore staff.

The idea of setting up a TMO came up shortly after mobility management consultant Vipre approached BP (and later the council) in March 2004. In July 2004, NESTRANS (the North East Scotland Regional Transport Partnership)[23] appointed a Travel Awareness Project Leader, whose role was to promote travel awareness, encourage more businesses and other organisations in the region to adopt company travel plans and to reduce dependency on private cars. Public money (GBP£70,000 (€103,000) from NESTRANS and the Council) was used as seed funding. Of this, a one off total of GBP£20,000 (€29,000) was invested in producing relevant materials, conducting surveys etc, while the remainder was to be spent on the TMO management at around GBP£4,000 (€5,870) a month.

---

[22] Based on Aberdeen City Council (2004), Murphy (2005), NESTRANS (2004) and Caswell (2005)

[23] NESTRANS is a voluntary regional transport partnership for the North East of Scotland, based in Aberdeen . It comprises four organisations; from the public sector, Aberdeen City Council and Aberdeenshire Council and two from the private sector, Scottish Enterprise Grampian and Aberdeen & Grampian Chamber of Commerce.

This is the first time that public sector funding has been used to establish and help manage such a project in the UK. It was used for the background research, set up costs and the cost of employing a project manager for the first six months. Initially, Vipre's costs will be met mainly by NESTRANS. Association members will also make a contribution to the management cost through an agreed funding formula (GBP£10 (€15) per employee per year). This is because payment of a membership fee means that the organisations are more likely to take the plan seriously and expect results. From financial year 2005-6, 50 per cent of the operational costs were to come from TMO members.

Overall, any travel incentives devised by Vipre and agreed by the Organisation will be funded by the TMO itself, although the TMO will have the opportunity to apply to the NESTRANS Sustainable Transport Grants scheme.

To promote Dyce TMO to the business organisations, an Open Day was held in August 2004 in the Dyce, Kirkhill and Stoneywood areas respectively. Representatives of NESTRANS and Vipre, their appointed management contractor, were available for discussion throughout the day. Research began in August when Vipre conducted an online survey within the area and successfully got back 2,500 responses from local businesses in the following month. Aberdeen City Council then identified a set of travel plan measures including car sharing, van pooling, public transport operator network changes and so forth. A travel plan was finally set up around late-November 2004.

The Dyce TMO Board consists of a chairman, a vice chair, a secretary and a treasurer. As a large member, BP has a place on the board and it also provides an office for the TMO co-ordinator. Vipre, as a facilitator, provides the resident TMO Travel Manager who attends the meeting but who has no place on the board. Although Aberdeen City Council subcontracted Vipre to run the TMO, council staff including a transport planner and staff from NESTRANS invest heavily in their efforts to help the Vipre Travel Manager to operate the Dyce TMO.

One way of encouraging participation is that the local authority is beginning to require companies to develop a travel plan and an environmental policy. Members of the TMO are effectively exempt from this requirement, as the TMO has its own travel plan and environmental policy.

As for the performance of the TMO, Aberdeen City Council has said it will be measuring a number of indicators including number of people car sharing and the number of people driving on an annual basis.

Black Creek Region TMA (BCRTMA)[24]

The Black Creek Region is in the northwest part of the Greater Toronto Area (GTA), where a convenient public transport network is not available. About 86 per cent of the commuters choose to drive to work in this area. As a result, congestion occurs during

---

[24] Based on BEST (2002); City of Toronto (2003)

peak periods every day. Moreover, improving infrastructure in the area was not possible due to a lack of funding.

The Black Creek Region TMA (BCRTMA) covers 20 square miles and there are about 100,000 employees, 5,000 businesses and one university accommodating 52,000 students. Approximately 62,000 auto trips are generated during the peak period, from 6am to 9am, within this area.

After the 'TMA forum' launch event held in January 2000, some stakeholders in the northwest of Toronto showed their willingness to set up a TMA. The first TMA meeting was organised with the stakeholders in April 2000. A Steering Committee was formed in July 2000, with representatives from both public and private sectors, including, the City of Toronto, City of Vaughan, Region of York, Province of Ontario, Toronto Region Conservation Authority, Toronto Environmental Alliance, North York Chamber of Commerce, Vaughan Chamber of Commerce, Bombardier Aerospace, Knoll North America and York University.

To strengthen the public-private partnership, the Steering Committee decided to form a Not-For-Profit organisation (NFP) which was assisted by the North York Chamber of Commerce. The BCRTMA also tried to secure funding from Transport Canada, the Toronto Atmospheric Fund, Region of York, City of Vaughan and the City of Toronto. As well as public funding, BCRTMA attracted support from the private sector through the TMA membership fees. Thus BCRTMA successfully obtained over CAD$200,000 (€124,000)[25] cash and in-kind contributions in total for 2001. With funding secured, BCRTMA developed a two-year business plan to guide the introduction of the TMA in October 2000 and hired a full-time TMA executive director in March 2001.

The budgeted operating cost for BCRTMA in 2001 was about CAD$150,000 (€93,000). Although the TMA membership fees will grow and gradually cover the operating costs, government funding will still be required for the next few years. Generally, the expenses of the TMA Pilot Project included (Stockholm Partnerships, 2005):

- City of Toronto staff time: CAD$200,000 (€124,000) (in-kind);

- Roundtable Breakfast: CAD$5,000 (€3,100);

- Research and Conference: CAD$11,000 (€6,800);

- TMA Forum: CAD$19,000 (€12,000);

- Consultant: CAD$10,000 (€6,200);

- BCRTMA Business Plan: CAD$7,000 (€4,300);

- Other expenses: CAD$1,500 (€930);

---

[25] Based on the exchange rated of CAD$ and EUR€ dated 26 April 2005. Visit www.xe.com.

- Steering Committee: CAD$20,000 (€12,400) (in-kind).

As the largest member of the BCRTMA, York University achieved a reduction of more than 720,000 vehicle trips, or 4,000 daily peak period vehicle trips in 2002; thus reducing the Single Occupied Vehicles (SOV) trips to campus from a modal split of 70 per cent to 55 per cent, which was 5 per cent ahead of its goal (BCRTMA, 2003).

The success of BCRTMA encouraged the GTA to develop a broader TDM-focused programme in the area with co-operation between regional authorities, local governments and interested private sectors – which is known as the Smart Commute Initiative (SCI) (see later).

Lloyd District TMA, Portland, Oregon[26]

The Lloyd District TMA is located in Portland, Oregon and promotes transit, carpooling/vanpooling, bicycling, telecommuting, and compressed work weeks, and is an advocate for transportation improvements. According to the 2004 Annual Report, some 53 businesses and 8,000 employees are members, mainly in the tourism, convention and entertainment industries.

The TMA was created in 1994 to 'support the efficient, safe, and fluid movement of employers, visitors, and residents to, from and within the Lloyd District, consistent with the districts' economic and environmental health' and was a joint initiative involving the City of Portland, the regional transit authority, Tri-Met and business employers.

While initially publicly funded, it is now completely financed through other sources including fees from parking meters and commissions from selling public transport passes. However, it does also seek funding from a local Business Improvement District, the City of Portland and the Metropolitan Regional Government.

The TMA's initial structure and programmes were based on two central needs identified by District businesses:

1) advocacy for a balanced, multi-modal transportation system; and

2) communication of transportation issues and options to district employers, employees, residents, and visitors.

In 1997, 76 per cent of all employee commuter trips to the Lloyd District were made in an automobile. At that time, 60 per cent of those trips were drive alone trips and 16 per cent were made by carpool. The latest (2003) survey results indicate drive alone auto trips dropped to 42 per cent of all commuter trips, with ten per cent arriving in carpools. This represents a 32 per cent decrease in total auto trips since 1997.

The LDTMA's success encouraged it to install parking meters. Metering helps to generate over USD$250,000 (€193,000) annually to the City of Portland and $75,000

---

[26] Based on Lloyd District TMA (2005); VTPI (2004)

(€5,780) back to the TMA. The TMA in turn provides services back to the business district. Moreover, the need to create additional parking at a cost of USD$100 million (€77 million) over the next 15 years has been averted. Businesses also receive financial benefits by having more available parking for customers and clients, because employees are not taking parking spaces (VTPI, 2004).

Amsterdam Schiphol Airport TMA[27]

The Schiphol TMA is a partnership between the national government, airport operator, airport-based companies and public transport operators. TMA Schiphol was founded in 1990 and its goal is to ensure a high level of accessibility and assist Schiphol-based employers and employees in finding optimal solutions for commuter travel from and to Schiphol, by reducing individual car use and providing alternative travel solutions. Four groups of stakeholders participate in the TMA representing various interests: Public authority (congestion reduction), Schiphol airport authority (airport operation), Schiphol-based companies (improving the local area) and public transport operators (transport volume). TMA Schiphol's main activities include:

- Consultancy for companies at new airport locations to improve accessibility;

- Consultant with stakeholders;

- Information provision and communication, aimed primarily at employees directly and participating companies;

- Encouraging and facilitating carpooling;

- Coordinating wholesale contracts with transport providers;

- Specific measures such as promoting scooter use and vanpooling;

- Complaint handling.

The TMA employs three staff for the administration and its annual turnover is approximately €175,000. Companies interested in joining the TMA need to register as a member by paying a membership fee of €2.50 per employee. The minimum total contribution for every company is €50.00 (excluding VAT).

Between 1997 and 2001 the number of TMA member companies increased from 45 to 67. In 2001 these companies employed 42,300 employees, or 80 per cent of the total workforce of Schiphol-based companies. Total car use, including car sharing, reduced from 72 per cent in 1996 to 69.6 per cent in 2000/2001 and total public transport use increased from 19.4 per cent to 21.1 per cent during the same period. Schiphol airport regards this a success, as car use in society as a whole has risen during this period.

Despite the successes, TMA Schiphol faces a significant threat to its future development, namely that the willingness of members to contribute financially to the

---

[27] Based on Tapestry (2003), Reeven P.V. et al. (2003); and Sam F. (2001)

TMA has weakened, especially from the side of government and Schiphol Airport Authority.

10 Transportation Management Districts

Transportation Management Districts (TMDs) utilise Transportation Demand Management (TDM) strategies to encourage the use of alternatives to single-occupancy vehicle commuting within a legally designated geographical area. The crucial difference between a TMD and the other forms of LTPG already identified is that organisations with more than a set minimum number of employees within the District are legally required by local ordinances to participate – usually by being obliged to produce, implement and monitor some form of travel plan.

10.1 General Description

So far, TMDs seem to have only been developed in one location – Montgomery County in Maryland, USA, which has four. These are based around local business districts within a predominantly suburban settlement that has grown rapidly in recent years and serves as a dormitory settlement to Washington DC. However, there are no reasons to suggest that this form of LTPG should only be limited to such situations – they may also be suitable for use in more urbanised developments.

TMDs are only worthwhile introducing if they are of a sufficient size to justify establishing the series of regulations required. In Montgomery County, around 120,000 commuters and 1,120 employers are arranged in four TMDs, that range in size from 5,000 to 65,000 employees (50 to 520 employers). TMDs seem to be primarily directed at employers and commuters.

10.2 Design elements of local travel plan group

The local authority is the primary actor in setting up the TMD, which then becomes an independent quasi local transport authority (and the primary actor) in its own right. The private sector along with local civic associations are important contributors. Funding is initially provided by the local authority as part of the transport budget. The TMD legally requires employers of more than a set minimum of employees to produce, implement and monitor a travel plan.

10.3 Transferability to other areas

Overall, the establishment of a TMD for existing business organisations anywhere in Europe would require primary legislation at a national level, that would allow a local authority to devise regulations that would compel organisations in particular areas to set up, implement and monitor a travel plan. Clearly, this is very unlikely to happen in the near future. However, for new developments, there may be scope for a local planning authority to require the developer of a site to establish (or at least participate in) a TMD within a planning agreement.

10.4 Case Studies

Friendship Heights TMD, Montgomery County, Maryland, USA[28]

Montgomery County, Maryland is a dormitory settlement to the north of Washington, DC. It has a population of 810,000, but despite its size, the jurisdiction's character remains distinctly suburban. A sizable portion of the county is still classified as rural.

As of March 2005, four Transportation Management Districts – Silver Spring (150 companies, 13,000 employees), Downtown Bethesda (400 companies, 37,000 employees), North Bethesda (520 companies, 65,000 employees) and Friendship Heights (50 companies, 5,000 employees) - operate in the county, while another two are under consideration at Shady Grove and Rockville.

The purpose of the TMDs, was to promote the County's land use and economic development objectives of increasing development densities around transit stations and making station areas attractive and convenient places in which to live, work, shop and do business. The first TMD was formed in 1987 in downtown Silver Spring, and was based on an existing Transportation Management Association area. Overall, the TMD requires that companies with more than 25 employees should submit a Traffic Mitigation Plan and conduct annual travel surveys. The majority of funding is from the County.

Looking in more detail at the Friendship Heights TMD, the idea for this came from the success of Silver Spring TMD (SSTMD). Based on a recent survey, the SSTMD has already achieved its goal – 46 per cent non-auto mode share during the peak hour. Thus, the County Council decided to transfer the Silver Spring model into the Friendship Heights area, where a well-developed transport infrastructure is available.

Economic success brings site development but it also brings road congestion and commuting delays. As the area expands, the office, shopping and business complex attracts more commuters into the area. Therefore, the TMD was created in October 1999 to tackle these problems. In fact, the TMD is a means to enable the County Council to work with local residential groups, neighbouring communities and downtown business communities on transport issues. The primary task of the TMD is to reduce the percentage of single-occupant-driving, especially during the peak hour in the Central Business District (CBD) area. One of the key goals is to reach the target of a 39 per cent non-auto driver mode share during morning and afternoon commute times as established by the Sector Plan and the County's Annual Growth Plan (AGP) (MCC, 2004, 2005a).

For each TMD, commuting goals which show the target per cent of commuters not driving alone have been identified. Montgomery County Council sets up commuting goals every year, which are measured through an annual 'Commuter Survey' of the local employers. During the first three years, TMD staff sent surveys to all employers regardless of their size. In the following years, employers with 25 or more employees were targeted and from the beginning of the 2003 financial year, the survey was a

---

[28] Based on Pogue (1997) and Chin (2005).

mandatory for these organisations. To maximise the survey return rate, TMD staff adopt several incentives, for instance, prize draws.

The total operating budget of the Commuter Services section of the Transit Services Department in Montgomery County in the 2006 financial year is to be USD$4.3m (€3.3m). Around 16 staff (made up of full and part-time) will be involved in providing this facility (MCC, 2005b).

Unlike the other three TMDs, FHTMD has no designated parking lot district. Therefore, the Department of Public Works and Transportation (DPWT) has authorised a Transportation Management Fee according to the County Code. Other sources of funding to support TMD operations come from County revenues, including fees on new and existing development, allocation of state or federal grant funds, and appropriations from the County's general revenues (MCC, 1999).

A TMD Advisory Committee consisting of a mixed range of voting and non-voting members was appointed for each TMD by the Council. Serving on the committee for three years, voting members are from large and small local businesses and community groups. Non-voting members represent public agencies.

The County Council administers the FHTMD through its Commuter Services Section (CSS) of the DPWT Transit Services Division. A CSS administrator, planning specialist, marketing specialist and office service co-ordinator provide manpower and operation support.

The Friendship Heights TMD Advisory Committee is very active in lobbying businesses within FHTMD area. By FY2002, the number of companies had increased to nearly 150, while the proportion of people driving alone fell by three per cent to 60 per cent during the peak hour (7-8am) (MCC, 2004).

One other crucial point is that the FHTMD is well designed for the urban commuter, with the Metro station no more than 15 minutes walk from anywhere within the TMD, and there is a pedestrian friendly streetscape (MCC, 2004).

Finally, MCC (2002) sets out five steps made during implementation:

Step One: Contact TMD staff for assistance in customising an effective Traffic Mitigation Plan (TMP) for the company and its employees, and submit to DPWT.

Step Two: DPWT will review the submitted TMP. Upon successful review, DPWT issues confirmation that the TMP is approved.

Step Three: Work with TMD staff and business employees to actively implement and promote the traffic management strategies that are included in the employer's TMP.

Step Four: Participate in the Annual Commuter Survey.

Step Five: Submit an Annual Report of activities related to the employer's TMP.

11 Summary of LTPG types

In summary, Table 5 outlines the various features exhibited by the differing Local Travel Plan Group structures.

	Individual Organisations (IOs)	Development Zones (DZs)	Area Based Groups (ABGs)	Business Improvement Districts (BIDs)	Transportation Management Organisations (TMOs)	Transportation Management Districts (TMDs)
Definition	Organisations that operate their own travel plans	Local areas developed for specific uses	Informal networks in a loosely defined neighbourhood	LA-business partnership to invest within a defined area	Private, non-profit, member-controlled organisations for defined area	Companies in defined area legally required to develop travel plans
Group structure	Single organisation	Leading organisation and members	Organisations all equal	Coordinating organisation created	Coordinating organisation created	Led by LA coordinating organisation
Leader-member relationship	N/A	Landlord-tenant – formal	Common interest – informal	Financial (tax) – very formal	Financial (member fee) – fairly formal	Legal requirement – very formal
Power structure	In single organisation	Landlord in control	Power shared equally	Membership in control	Membership in control	LA in control
Transport only issue?	No	No	Yes	No	Yes	Yes
Primary actor	IO/LA	DZ/LA	LA/private companies	LA initially, then private BID company	LA/private companies	LA
Secondary actors	LA/IO	LA/DZ	Private companies/LA	Private company members	Private company members	Private companies
Role of local authority (voluntary travel plan)	Support	Support	Support	Initiator and facilitator	Support	N/A
Role of local authority (mandatory travel plan)	Regulator	Regulator	Support	N/A	Regulator	Regulator
Funding	IO/LA – ad hoc	Ad hoc grants, rent	Ad hoc grants, scheme basis	Business levy	Ad hoc	Local authority funded

Table 5: Attributes of the various Local Travel Plan Group structures

In Table 5, the classification criteria are clearly summarised. Specifically, the range of groupings is well illustrated from the IO where all the decisions are taken 'in house', through a slightly more complex arrangement on a site/neighbourhood (DZ, BID, TMO, TMD) basis where transport matters are delegated to a single management company to a far more loosely and informally structured set up of 'equals' (ABG). Clearly, the organisational effort is least for the ABG arrangement, but this must be offset against effectiveness – which is perhaps greater where the LTPGs are more formally structured. Also evident is the split between organisational structures where transport is the major reason for the group's existence and where it is but one of several – i.e. between the AGB/TMO/TMD and the IO/DZ/BID categories. Once again, it would seem that a trade off needs to be made between the effort of establishing a transport-centric group and the effectiveness of the group in meeting transport objectives.

Finally, of significance is the role of the local authority. In most cases, this can vary on a case by case basis and is the result of a strategic decision (see next section). In the main though, where travel plan schemes and networks are voluntarily established by the business community, the role of the local authority is supportive, whereas where travel plans are not a business priority the role is far more intensive and regulatory.

12 The strategic level and the strategic-tactical 'interface'

The typical actors at the strategic level would be regional and local planning and transport authorities (e.g. Passenger Transport Executives, Transport for London, London Boroughs, County Councils, District Councils and Unitary Authorities). The roles of such an actor would be that it:

- Applies wider strategic policy objectives to the specific regional/local context;

- Applies wider strategic implementation frameworks to the specific regional/local context; and

- Distributes allocated resources.

However, it is the link between the strategic and tactical levels, which could be termed the 'interface', that is of particular interest here. This research shows that such interfacing arrangements between the public and private sectors (strategic and tactical levels) began appearing in the late 1980s, and in general are based on some kind of agreement between a particular local authority and one or more private sector interest with the aim of promoting specific partnership projects within their area of operation. Some have also involved or co-opted representatives from the local community and the voluntary sectors. Overall management is provided by a board or committee made up of local authority councillors and participant company directors, with day to day activity undertaken by employed officials, some on a permanent basis, but most seconded from the agency's partners for varying periods of time (Gore, 1991).

However, as Verma (2005) says, partly because of shrinking funding levels and partly because of growth in the sector, both the not-for-profit and public organisations have been experiencing increased competition for scarce resources. To achieve the best results, a joint enabling agency needs to have a clear sense of mission, a well led, professional managed and fiscally sound organisation (Gelatt, 1992). Therefore, as with for-profit companies, not-for-profit partnerships tend to establish clear objectives from the point of their implementation. But unlike for-profit organisations, they often do not set up readily quantifiable targets and this can make monitoring their performance difficult (Oster, 1995).

Gore (1991) identifies two types of joint enabling agency (i) *enterprise partnerships,* which have an indirect relationship with development activity, seeking to bring together relevant actors who can combine their skills and resources in implementing a range of projects; and (ii) *development partnerships* which, on the other hand, are directly involved in development, as leaders, financiers, and managers.

Implications for interface implementation

As the lead partner in the LTPG interface, a local authority would need to firstly, develop a structure for the LTPG network in its area; secondly, to define the goals of this overall project and the objectives of the different partners; and finally, identify the roles of different partners involved (Samii, 2002).

In brief, this research used vignettes of areas where there are multiple LTPGs in existence, to examine how those LTPGs were related to the strategic level in each case. Given that the aim was to determine the role of the local authority in implementing/operating/supporting LTPGs, it was this dimension that was focused on. In the event, it was found that there is a range of structures that fall between two extreme interface 'models' or 'types'– namely:

- A federalised interface model; and

- A centralised interface model.

The various attributes of each organisation within the two interface models are described in Table 6.

	Federalised	Centralised
Strategic body	As a facilitator Weak Sets up a network of tactical organisations May provide financial incentives Provides advice and encouragement Facilitates contacts Facilitates meetings	As a leader Strong Establishes group for tactical organisations Provides financial assistance Provides advice and encouragement but may also use regulation as a stick Establishes contacts and negotiates deals Leads meetings
Tactical organisation	As a member Strong Joins network Raises its own revenue Implements measures if in it's own interest Makes its own contacts Contributes to meetings	As a 'customer' Weak Joins group Draws on club resources Buys services from strategic body if in it's own interest or to meet regulatory targets Makes use of existing contacts and negotiated deals Attends meetings
General comments	Process is bottom up Relatively small number of active/enthusiastic members Large per member impacts	Process is top down Relatively large but mainly passive/reactive membership Relatively small per member impacts
Examples of interface models	Commuters Planning Club Nottingham, Bristol Green Employers Group; City of Boulder TDM; City of San Diego; Toronto SCI; Montgomery County TMD;	TravelWise Birmingham, Rotterdam VCC

Table 6: Attributes of the federalised and centralised interface models.

13 The Federalised Interface Model in Practice

13.1 Nottingham[29]

Nottingham was one of the first UK cities to take up mobility management. This process began on a significant scale in 1995, using money obtained from the European Commission's MOST project. The policy was really driven by councillors and officers who wanted to demonstrate the city's commitment to sustainable development through its economic, land use planning and transport policies. Other policies aimed at improving social inclusion and cutting air pollution also formed incentives for adopting mobility management.

One core element of this is the Commuter Planners Club - a network of 50 of the City's largest employers that encompasses around 50,000 employees. Attendees tend to be estates or facilities managers who spend 50-100 per cent of their time dealing with transport issues. Meetings are held every three months, and hosted by different member organisations. The CPC is administered by the City Council, which organises

---

[29] Based on Batifois and Fleming (2002)

and takes minutes of the meetings, and sends out a regular newsletter. It is important to note that the City Council sees itself as a facilitator of the Club, 'not a doer'. Meetings usually last for half a day including lunch, although sometimes they last all day, and generally include presentations on various topics of relevance e.g. road user charging, electric vehicles, etc. Additional presentations are also made by the City Council, public transport operators, and on local examples of good practice from CPC members e.g. Queens Medical Centre, Boots, Capital One, City Hospital. The primary aim of the meetings is to enable the city council and public transport operators to inform business about the latest transport situation, while the second is to get views, opinion and feedback from the companies on these issues. Thirdly, companies can network and share experiences gleaned from seven years of practical implementation.

One relatively recent development has been the setting up of so-called 'daughter groups' – area-based groups to the CPC. There are currently three such groups – one on the South side of the city centre, one in the Lenton Lane area and one in the north of the city centre based around Trent University. There are also discussions about the possibility of establishing another for companies based around the city's ring road.

One major spin off from the travel plan process that should not be discounted, is the value of improved communication between the council and local businesses. This not only pushes the travel plan message but also allows the build up of trust that may well prove critical if more controversial policies such as workplace parking charges are to be successfully implemented in the future. In addition to such information initiatives, as with many other UK local authorities, the City of Nottingham also uses the regulatory stick of Section 106 planning agreements to force firms wishing to locate in the city to set up a travel plan.

Another method adopted by the City of Nottingham, in conjunction with the Nottinghamshire Chambers of Commerce and Industry and Business Link, is to provide subsidy. The TransACT scheme allocates money from the Department for Transport's congestion charging fund to help companies of between 20 and 50 employees to set up travel plan measures. Eligible companies can claim up to GBP£2,000 (€2,935) for expert advice from consultants and a further GBP£18,000 (€26,000) for a grant towards the capital costs of implementing a travel plan. One organisation to use this money is the Galleries of Justice tourist attraction, which now encourages bus use by giving a discounted entry ticket price to visitors presenting a bus ticket.

A further incentive for companies to adopt travel plans in the future is also currently being considered. The proposal is that companies which have adopted an accredited travel plan and spent a set minimum level on developing one would be given a discount on their workplace parking levy charges, should it be introduced.

Finally, the City has also offered its time and expertise to help four or five major companies to set up company-specific travel intranets. While these work successfully, they are also proving to be quite a large burden for the City to update and maintain.

Overall the travel plan process has been helped by the stable political regime in Nottingham, which has limited the threat of policies being overturned – as Congestion Metering was in Cambridge in the mid 1990s for example. The City Council – a Unitary Authority since 1998 - is also closely supported by the County Council.

Indeed, both authorities share a common Local Transport Plan, although both obviously have different strategies for their respective areas.

Of crucial importance is the fact that, while encouraging the take up of company travel plans can help improve travel patterns at the margins, it cannot 'solve' the transport problems without parallel improvements to infrastructure and without links to other policy measures, particularly parking and land use planning.

## 13.2 City of Boulder, Colorado[30]

Located in Colorado, the City of Boulder has a total population of just over 100,000 including resident students (City of Boulder, 2002). A well developed public shuttle bus network covers the whole region and approximately ten per cent of travel is made by cycling and 16 per cent by walking (City of Boulder, 2005). Currently, the number one challenge which the City of Boulder has to face is housing affordability. Due to the high living expenses in the downtown area, 50-60 per cent of the city's population lives in the outskirts of the city, while 10,000 people are employed by downtown businesses. This generates a large amount of commuting travel (Ward, 2005).

The Transportation Master Plan (TMP) is a long range guiding document for transport and mobility in City of Boulder. First produced in 1989, it was updated in 1996 and again in 2003. This aimed to maintain the city's position as an employment centre by attracting more business customers and keeping high quality employees. According to the City's TMP, '*Boulder is largely developed and will not grow outward due to its open space, so managing the existing system will be an increasing contributor to meeting the city's transportation goals*.' (City of Boulder, 2003). Consequently, Transportation Demand Management (TDM), one of the four focused areas in the TMP 2003, was adopted which engages the business community in addressing transport solutions. This TDM is based on its existing citywide programmes developed for specific geographical areas by Transportation Management Organisations (TMOs) and a Business Improvement District (BID).

So far, there has been one business district (Central Area General Improvement District - CAGID) which has decided to tax itself further so that it can become a BID. This is the only existing BID in the City of Boulder so far. Apart from this, there is an existing Transportation Management Organisation (TMO) which was formed five years ago at the University of Colorado. A new TMO has been formed in the east of the city which has 8,000 employees. In addition, the City Council is considering establishing several TMOs within the city area (see Figure 4).

---

[30] Based on City of Boulder (2002, 2003, 2005); Ward (2005); Boulder CarShare (2005)
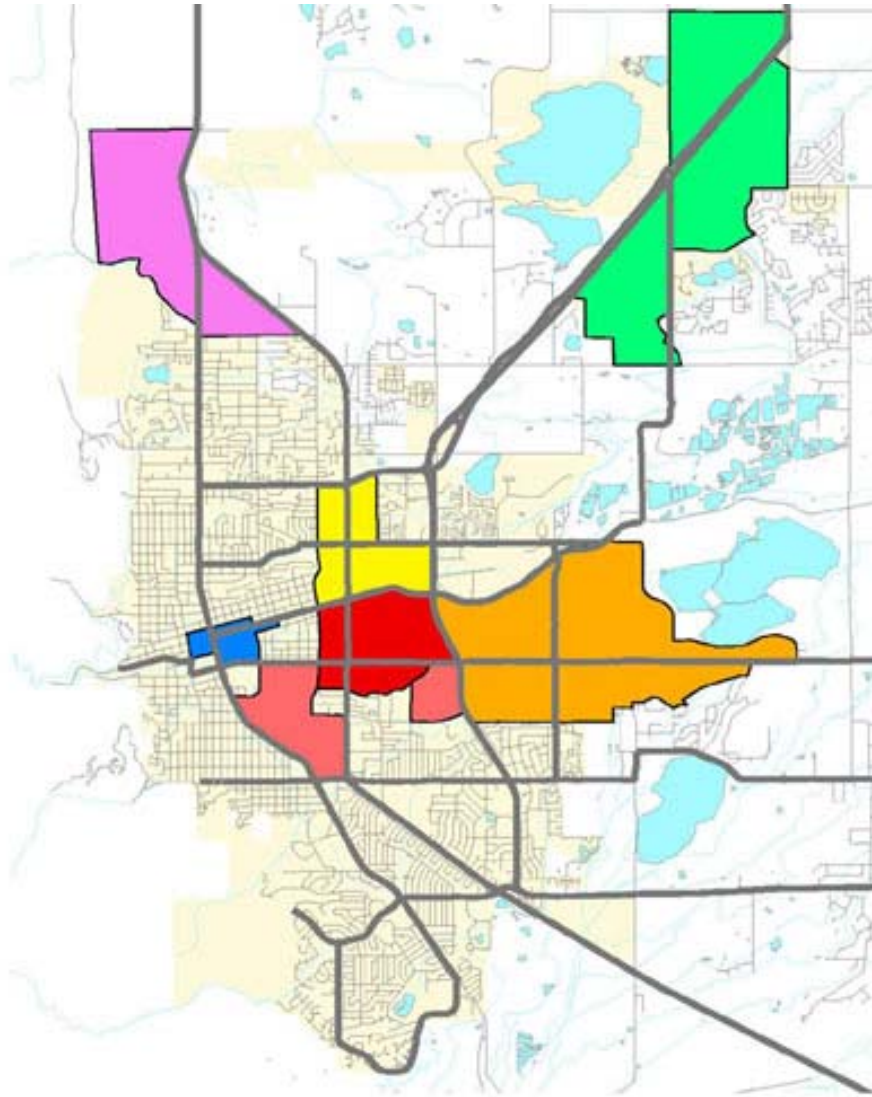
Figure 4: Potential TMO Areas, City of Boulder (City of Boulder, 2003)

In forming the BID, the key driver was to enhance the marketing, promotion, and competition strategy of the downtown to attract more customers and provide a more competitive business environment – as might be expected by an organisation established by and for businesses and property owners. Having played a major role on setting up the BID, the role of the City Council currently is to provide support (Ward, 2005).

By contrast, the aim of the TMOs is to maintain and improve the quality of life through measures designed to keep traffic levels down and to meet air quality and accessibility standards. With the Boulder TMOs, the City Council is the main player, while the businesses and property owners are supporting actors.

In terms of Council input to the BID and TMOs, City Council Transportation Division staff distribute the TDM Toolkit to business organisations, property owner/managers to help them develop a suitable TDM programme. In addition, it provides a wide range of incentives including subsidies, Eco Passes, Commuter Clubs and other

financial incentives to encourage the business community to be more proactive in supplying employee transport choices.

In the BID improvement programme, there is not much attention paid to transport issues although the BID does support the City Council with financial provision to improve transport within the BID area. A main source of funding for the TMOs is from the City's parking revenue, which is hypothecated for investment into the downtown transportation programme, while federal grants, international downtown association grants and so on have also been used. It is also hoped to attract finance from some of the member companies (this already occurs with one TMO) (Ward, 2005).

In monitoring and assessing the performance of the BID, the City Council conducts a survey every two years which includes an analysis of the trends in commuter travel. All of the groups involved in the BID regularly meet together, to look at progress in meeting the five-year goals (including transport).

13.3 Greater Toronto Area (GTA), Ontario[31]

The Greater Toronto Area (GTA) is located in the province of Ontario, Canada. Accommodating 5.1 million residents and employment of 2.4 million people, it consists of 30 local and regional municipalities. Every day there are 9.8 million person trips and 6.1 million car trips. BEST (2002) noted that the main barriers to the introduction of a sustainable transport system in the GTA are that:

- the population and employment are decentralised;

- there is limited funding of infrastructure;

- a lack of knowledge of TDM measures;

- worsening traffic congestion; and

- no established sustainable transport programme.

In addressing the growing traffic congestion and air quality problems, the City of Toronto decided to begin a TMA Pilot Project in 1999. A so-called 'TMA Roundtable Breakfast' was held to introduce TMA to all stakeholders in the area. Further, in the following year, a 'TMA Forum' was organised to provide more details of TMA for the interested organisations and they were encouraged to become involved in the creation of the first TMA, a process which led to the formation of the Black Creek Region TMA (see earlier).

The Smart Commute Initiative (SCI) is a public-private partnership in the Greater Toronto Area (GTA), designed to manage the demand for transportation through the use of innovative strategies to create more travel choices, offer incentives for shared forms of travel and reduce the dependency on single occupant vehicle travel (City of Toronto, 2003). The primary vehicle to accomplish the goal will be the establishment

---

[31] Based on BEST (2002); City of Toronto (2003)

of a network of TMAs across the entire GTA as the principal means of delivering the TDM programme (York Regional Government, 2001).

To do this, two organisational structures were developed in the GTA, namely the region-wide Smart Commute Association (SCA), and the local-based Transportation Management Associations (TMAs).
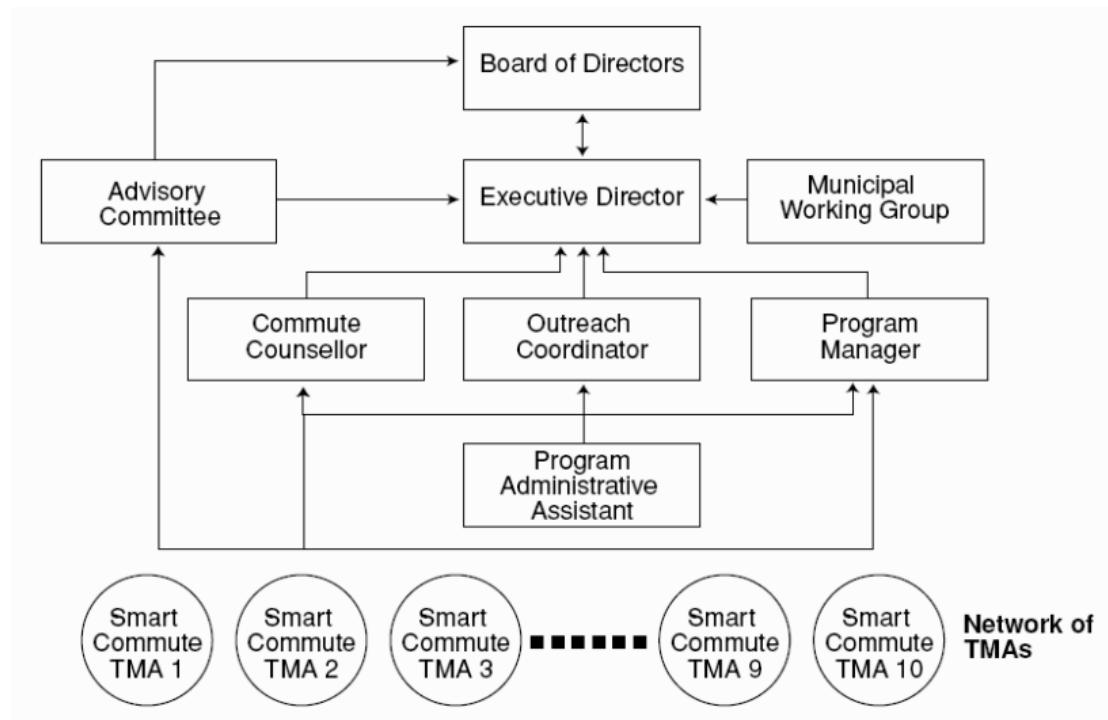

Figure 5: Smart Commute Initiative Governance Structure (City of Toronto, 2003)

The Smart Commute Association (SCA) is designed as the central co-ordinating body that oversees the development and implementation of TDM programmes and services at the regional level (City of Toronto, 2003). Through a legal process, the SCA is designated as a charitable entity which receives funding from the public sector, and when this is reduced, increasingly will play a key role in securing funding from other sources. SCA consists of a Board of Directors, an Advisory Committee, a Municipal Working Group and a network of TMAs. Also, the SCA will help to cover the TMA set-up costs (City of Toronto, 2003).

A key element of the SCA is the Advisory Committee. This consists of representatives from each TMA, and its main duties are to provide support and training, to ensure the overall direction of SCI, and to cover the full range of member interests.

Co-operating with the local authorities, it is proposed to form a network of nine TMAs to customise SCA TDM programmes to better fit local needs. Based on several key factors, including employment and population density, traffic congestion, accessibility issues and stakeholder commitment, the SCA is to conduct feasibility studies to identify the most effective possible TMA locations.
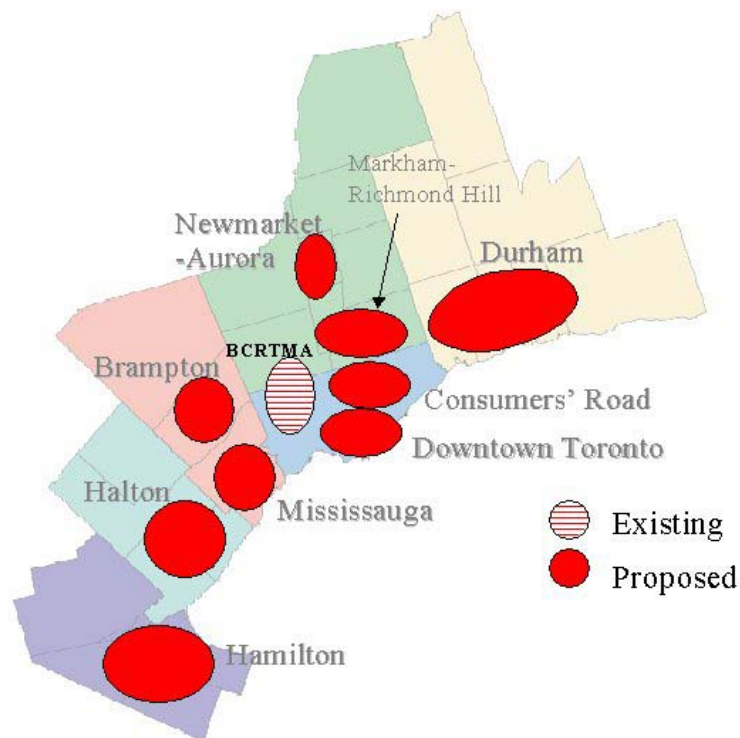
Figure 6: Map of Potential TMA locations (Regional Municipality of York, 2004)

Once again, in the GTA TMA network model, the motivation for creating LTPGs has come from regional and local government (City of Toronto, 2003).

In terms of background, the idea of introducing TMAs was taken from the USA. The core TMA formation members consist of staff from each region and area municipality, Boards of Trade (Chambers of Commerce) and a few major employers. Regional and local municipalities are the key players for informing and generating interest among stakeholders. They also provide core funding to create the TMAs (Chan, 2005).

In terms of setting up costs, Chan (2005) indicated that the ball park figure is about CAD$180,000 (€111,500), cash and in-kind, per TMA. A detailed business plan however, needs to be prepared before one can identify an accurate level of funding. In the GTA case, the costs were covered by funding from different levels of government, TMA membership fees and in-kind contributions.

For performance monitoring in the GTA, two surveys, a Cordon Count Program[32] and the Transportation Tomorrow Survey[33], are conducted every five years to monitor travel characteristics. Once a TMA is formed, a baseline survey will be carried out at

---

[32] The Cordon Count Programme is a vehicle and person survey that provides time series data of traffic flows across a given set of screen-lines; this is done to monitor changes to the travel patterns and characteristics. (Regional Municipality of York, 2005)

[33] The survey is conducted every five years to collect information on the travel choices and preferences of the residents in the area and to provide a database for long-range planning, the calibration of Travel Demand Forecasting model and consequent improvements to transportation facilities. (Region of Peel, 2005)

each member's worksite, and there will be periodic surveys to monitor progress (Chan, 2005). Indicators include:

- Per cent of people aware of travel options other than driving alone;

- Actual reduction in single-occupant vehicle (SOV) trips; and

- Reduction in vehicle km of travel.

In addition, for the monitoring of a TMA, York Regional Government (2001) suggests that the following elements be monitored:

- Number of employers contacted

- Per cent of employers within the TMA service area aware of the TMA

- Number of employees involved in a carpool or vanpool

- Number of companies who have joined the TMA

- Number of new transit riders

- Number of transit passes sold

- Number of people signed up for ridematching

- Number of new employees who walk and bicycle to work

Although Chan (2005) suggests it is too early to talk about lessons to be learnt at this point, he emphasises that it is critical to get "buy-in" and commitment from key stakeholders. Also it is important to tie-in the relationship of transportation and TDM with environment, health, economy and individual company's financial benefits from joining a TMA.

To organise a TMA, the GTA experience suggests that firstly, a committee or a not-for-profit organisation (NFP) consisting of representatives from the public authority and the private sector should be formed to provide policy direction and to guide the TMA's implementation. This committee or NFP can also play a role as a co-ordinator who liases with all partners among region-wide governments and private sector organisations. Besides the committee or NFP, a full-time co-ordinator should be assigned to administer its daily operations (City of Toronto, 2003).

Based on GTA's experience, a comprehensive plan needs to be developed to identify the number and locations of potential TMAs. It is suggested that local authorities conduct a survey of businesses within the potential TMA areas, to find out their expectations and the types of service which could be provided through the TMAs. The survey is also important in setting up a TMA business plan, as it indicates not only the benefits that both employer and employees can obtain, but also the financial viability and guidance for a specific TMA area. Normally, the GTA indicates that it will take approximately one year to set up a TMA (York Regional Government, 2001).

13.4 San Diego, California[34]

Administered by the City's Office of Small Business, the City of San Diego's BIDs programme is the largest in the state of California and one of the most active in the USA. Since 1970, with the creation of Downtown Improvement District, the City of San Diego has established 18 BIDs (see Figure 7), with another two being formed. Altogether, these BIDs area accommodate more than 11,000 small businesses and raise more than USD\$1 million (€0.77 million) per year.

Figure 7: City of San Diego Business Improvement Districts (City of San Diego, 2005)

In 1989, a BID council – the San Diego Business Improvement District Council - was formed by a coalition of BID groups, the main role of which 'is to disseminate information, resources, and expertise to its member districts and to improve the overall physical, social, and economic environments of San Diego's small business communities' (San Diego BID Council, 2004).

---

[34] Based on City of San Diego (2005); Brown (2005); San Diego BID Council (2004,2005)

The San Diego BID Council emphasised that, as a non-profit corporation, it is not generally setup to deal with issues regarding transportation. However, San Diego BIDs do from time to time get involved with transport issues that affect its particular districts. If these issues happen to greatly impact its districts, then the BID Council will take on these issues for some satisfactory resolution (Brown, 2005). Transport improvements are seen as being a city and/or state issue.

Brown (2005) notes that while the City can assist businesses with the process of forming a BID, in San Diego the BID Council currently fulfils that role. The only other interface between the City and the local businesses at this stage comes when City officers supervise the balloting process. Otherwise, the BID Council negotiates with businesses and helps set up a business association to run the BID. Once the new BID is operational, then the City sets up a contract with the newly formed non-profit BID.

Finally, there is no formal monitoring process for analysing the performance of the BIDs as the BID Council's high amount of contact with each BID on a number of projects and programmes throughout the year is thought to provide a good enough guide as to which BID's are functioning well and those that are not. Where a BID is not thought to be performing properly, the local City Council representative can have a non-profit board removed from running a BID should the BID Council request it (Brown, 2005).

Clearly then, the use of BIDs to deliver transport improvements is limited in the San Diego experience. However, this does not necessarily rule out the BID-heavy model as a useful tool for applying TDM measures.

13.5 Montgomery County, Maryland

Finally, for completeness, it is necessary to note the county-wide set up of Transportation Management Districts in Montgomery County, Maryland. Here, as noted previously, four TMDs are currently operating while two more are being considered. Interestingly, the method of using a rather more legalistic approach has been fairly effective in meeting the transport goals, but does seem to be rather less transferable to a UK context.

14 The Centralised Interface Model in practice

14.1 Birmingham[35]

A rather different way of involving companies in demand management activities has been developed in Birmingham. Here, instead of companies developing a travel plan individually, the City Council developed a plan and then invited companies to 'buy into' it.

---

[35] Based on Cooper (2002)

This model emerged from a process that started in the late 1980s when the City Council began to think of an integrated planning approach. This led to a number of road building scheme being proposed in the early 1990s, but a number of consultations revealed that the public was unhappy about this way forward. As a result, road building plans were dropped and a balanced approach adopted, where bus, rail and junction improvements, along side demand management methods were proposed instead.

Consequently, Birmingham Travelwise was set up in 1996. Initially, a small in-house group launched the Travelwise campaign which had four elements – promoting bus showcase, promoting cycling, school run (before safe routes to school) and travel plans. Unfortunately, this did not prove too successful, and so the City looked elsewhere for inspiration e.g. at Nottingham STEPS (Sensible Travel Equals Perfect Sense), at Lancashire County Council's Travelwise experience and at several European examples of how to do things better. This led to a document being drawn up and circulated first to the Travelwise group and then to the Chamber of Commerce, City 2000 (Birmingham Business Centre), and the Midland Environmental Business Club (MEBC) of 500 companies interested in green issues for comments. Finally, a modified proposal was sent out to 25 companies of various types, size and location, most of which were then visited. This proposed that Birmingham Travelwise would set up a travel plan which would offer a range of travel plan services and/or components to its members, thus recognising that transport is not a core concern of the typical employer. All bar one of the employers that were approached by the City Council agreed to join.

At about the same time, in early 1997, bus operator West Midlands Travel and Passenger Transport Executive Centro were approached and asked to join in. There followed a series of monthly meetings involving chief executives of all parties and more frequent (roughly fortnightly) meetings between the lower more tactical levels (ticketing and policy guys), which resulted in the idea of giving companies 'extras' for joining Travelwise – discounts, services etc (see later).

The next decision was whether to ask potential members to pay to join Travelwise or not. In the event, companies were asked to sign a pledge committing their company 'to work towards reducing the environmental and congestion impacts of our organisations' transport activities with particular reference to employee travel'. Once a company decides to join Travelwise it is visited by a team from the City, Centro and TWM, before being sent an information booklet with an application form to affiliate. The company is also required to appoint/nominate a travel plan co-ordinator. On affiliation, it is sent a folder containing a number of customised sections on topics to do with implementing travel plans e.g. how to conduct employee surveys, how to monitor the effects of the travel plan and guidance on what measures might suit their company's needs. This folder is updated on a regular basis, and the company is also visited once again to help conduct a staff information day. One other 'duty' for companies is that they must complete an annual survey form about staff travel behaviour – this is kept as short as possible to improve the response rate. While this was previously sent out in an electronic format, experience suggested that hard copies would actually prove easier to analyse and this has since proved to be true. Once the company data is received by the City Council, it is analysed and turned into a report complete with statistics and recommendations of what the survey reveals for that

company. Each report also contains lists of those people interested in more information on alternative modes to the car so that these can be acted on with minimal hassle. A core element of the scheme is that Travelwise companies receive regular travel information packs and specialist advice on how to persuade their employees to use alternative modes in getting to work. A further spin off was that WMT was re-branded TWM (Travel West Midlands) to match and reinforce the Travelwise brand.

Regulation in the form of planning permission is also used in the Birmingham area to persuade companies to adopt travel plans, and of the 154 members around half joined via the planning condition route. In general, planning condition plans tend to lead to more effective schemes than the voluntary members, but need to be monitored. In short, the company must join Travelwise within three months of the site being occupied but this is sometimes difficult to establish. No enforcement has yet been required, although one company did come close to not meeting its obligations. Once again this planning condition approach is slightly different from most other authorities who more commonly use the Section 106 agreement approach to force developers to reduce the transport impact generated by their schemes.

Financial incentives in the Birmingham case are almost exclusively provided in the form of discounts. Specifically, before the new arrangement, companies that bought an annual public transport pass from Centro or TWM received a 4 per cent discount, whereby if the pass was GBP£100 (€150) the company got it for GBP£96 (€140) and could keep the saved GBP£4 (€6). Afterwards, this was increased to 5 per cent, but with the proviso that the 'GBP£5 (€7)' must be sent back to TWM. Further, employees of member companies were given monthly instead of four weekly tickets for the same price. TWM also talked with other bus operators and came up with a joint ticket – the bus master - for company members and they sell a lot of these. Another promotion saw TWM selling an annual travel pass for half price to staff who either give up a parking space, give up claiming mileage allowance, a company or lease car or take up a job where one of these perks is offered but refused. Around 600-700 of these have been sold over four years including 100 at the council. Around 65 per cent renew their travel pass at the full rate (some of the rest may move on). Member companies are also entitled to a number of discounts from a range of about 20 supplier members (e.g. of cycle stands, bicycles, etc) through a discount card scheme. Typically, each company receives a few discount cards that are then made available for temporary use by a staff member wishing to buy a bike with a discount for example.

One other 'company benefits' lever in attracting companies to join, is used when residents complain of companies causing parking or other traffic problems in their local neighbourhood. The Travelwise team is then dispatched with a range of 'solutions' for the company to help improve its local image. Another motivation is that some companies have joined because their competitors have joined.

A key element of the scheme is that the Travelwise team is building bridges between the council and the business community. For example, transport problems are often brought to the attention of the Travelwise team, which then tries to get these solved as quickly as possible, thus further improving rapport. This process has been further enhanced by Travelwise setting up a number of smaller groups. One is the NHS Trust transport group, which boasts nine out of ten of the area's hospitals on board. This has shifted the emphasis from hospitals moaning about parking spaces to them

encouraging bus companies to alter services to better fit shift changes. There is also a further education sector working group and a number of area based business groups, including one in Five Ways and one based on Bridley Place. These have been quite successful at negotiating for improvements to local transport provision, as well as improving communications more generally between neighbouring businesses.

In total, around one fifth of Birmingham's employees (135,000) work in member organisations. And, five of the six other West Midlands councils (the exception being Wolverhampton) have adopted the same model. Interestingly the Travelwise concept is not advertised as such – growth is fast enough at present relying on word of mouth and on planning conditions. As of early 2003, there were 154 member companies, of whom 20 were support companies. In a survey of 25 'different' organisations in November 2001, 16 agreed to take part of whom nine had adequate data. The greatest reduction in car use was 17 per cent at the Highways Agency, while two other companies managed 13 per cent. Two companies in the city centre had no change and one increased car use by 25 per cent (moved from city centre to out of town location). Obviously, the success of a travel plan is heavily dependent on the presence of a 'keen' co-ordinator.

14.2 Rotterdam[36]

Since the 1st January 2000, both the provincial and municipal governments have gained more power than ever before. This allows them to implement policy more based on regional and local interests rather than controlled by centralised national authority. To coordinate mobility management at a regional level, a national network of implementing bodies, transport coordination centre (VCC's), has been established. Local authorities (provinces and municipalities) regularly require companies within the region to prepare transport plans which show the possible solutions to reduce single-occupied-vehicle car trips. Overseeing the effective transport plan implementation within companies, the main role of the VCC is to be an intermediary between authorities, industry and private sectors. Over the last ten years, TDM advice and incentives have been provided through VCCs. Although the decentralisation process has brought more customised transport plans within a local area through the VCC route, it has also often led to a cut in funding because some provinces have withdrawn or reduced their subsidies (Tapestry, 2003; NEA, 2005; Boot et al, 2003). Disappointingly, ten years ago there were 20 VCC's but this number has now fallen to eight (Denisse, 2005). One of the most active of these remaining organisations, operates in Rotterdam.

The Netherlands is widely regarded as being the leader in the implementation of travel plan or 'mobility management' techniques in Europe, and within the Netherlands, the Province of South Holland (which includes Rotterdam and The Hague) sees itself in the top three provinces (of 12). The South Holland VCC arose from the Stichting Bereikbaarheid Rijnmond (foundation) which was formed in February 1993 by several large companies worried about the deteriorating public transport situation and because there was no longer enough Government money to just go on improving infrastructure. Instead, it was decided to try and influence the demand side. The

---

[36] Based on Van der Hoef (2002) and Beljon and Van der Hoef (2003).

companies did not want to fund the project, so national Government through the Ministry of Transport did. Vervoer Coordinatie Centrums (VCCs) were thus directed from the national Government. This only changed in 2000 when the Rotterdam regional Government (Rotterdam plus 18 other municipalities) took over. In South Holland, there are four VCCs – with two funded through the Province and two funded through the regional transport authorities of The Hague and Rotterdam - each with around 3-4 staff, while in North Holland there is a single VCC with around ten staff.

If VCCs do their job properly, they can deliver around a 10 per cent cut in single occupancy car use. The target in Rotterdam was to inform all 1300 companies with more than 50 employees about mobility management. In South Holland, 60 per cent of companies have been approached and 14 per cent of the total have agreed to take part. Interestingly, the trend is now to talk to groups of companies as opposed to individual companies previously and develop an area travel plan which member companies then join. Typically these area-wide schemes may cover an urban area and consist of 20-50 companies and more than 1000 employees. Companies are therefore being more involved in making decisions that directly affect them. One other trend is that in the past companies used to be approached and left alone if they were not interested. This has changed and over the last two years or so, more pressure has been applied through the 'company responsibility' and 'company benefits' buttons to companies. This approach is proving rather more successful. The idea is therefore, that improving the neighbourhood is not only good for society but improves the value of the company too. VCCs effectively educate companies. For example, financial information about how much more expensive lease cars are than other alternatives.

VCCs also regularly organise transport projects. For example, every year the Rotterdam VCC organises a bike project aimed at employees. Usually it gets about 100 employers to take part. In 1999 it also managed to do a one off project to encourage car pooling by lending new cars to car pooling groups so employees could try out the idea. Around 70 per cent of testers continued car pooling once the cars were returned. The study involved a car leasing company, a car dealership and was in Partnership with The Hague's VCC. One current project is to increase the use of river fast ferries among commuters into Rotterdam – commuters can take their bikes on them. Further, the VCCs approach companies and providing information as to how they can deliver travel plans and make their businesses more efficient, and act as intermediaries between the companies and the Province so as to try and deliver improvements to local alternatives to the car. One other service offered by the VCCs is free site specific advice. Basically, a local VCC will spend two days at a company providing advice for free on how to set up a travel plan. Any time spent after that time must be paid for.

In terms of regulation, metropolitan areas have regional transport operators, while in other areas there are only two levels of Government – Provincial and municipal. Provincial Governments control spatial planning policy, which effectively declares how many parking spaces a development can have, but the final decision of whether to issue a building permit rests with the municipality. There was new legislation that would enable Provinces to better steer municipalities to make the 'right decisions' in a transport sense, but this was frozen on the election of the new Government late in 2002. VCCs are therefore trying to use regulations now at the planning stage, using an environmental law passed five or six years ago, but this is proving to be quite difficult.

This year the Region is trying to persuade a business park to implement mobility management in order to get an environmental permit. However, what is really needed is a company to challenge the regulation so that a judge can decide how this should be applied. One problem is that this is a process law not a numbers law – no real targets can be used.

Some local subsidies are offered to companies to pay for car pooling, van pooling or employer buses – the municipality refunds 20 per cent of the company's costs. There are no structural subsidies though, although NOVEM (a national transport body) does provide grants for experimental schemes e.g. electric bikes.

As of early 2003, the Netherlands has a very progressive tax incentive policy of supporting non car modes (see earlier). But, nationally political instability is having a direct effect on transport policy, and there is a strong possibility that monies used for tax incentives for public transport users will be redirected instead to pay for road improvements. As it is, there are positive personal commuting tax allowances for greener modes whereas tax advantages for cars have been scaled back over recent years.
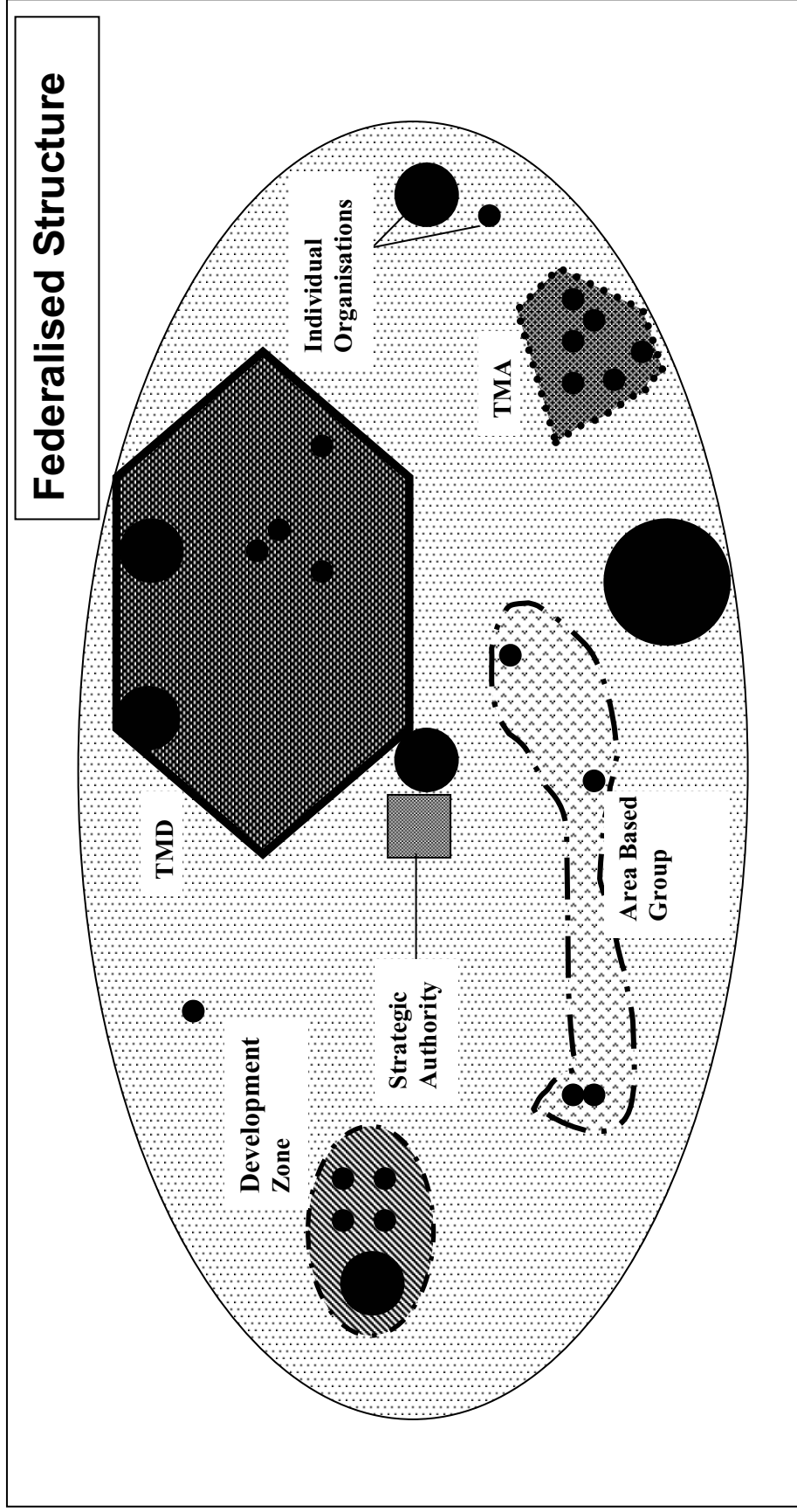
15 Interface types and tactical groups

Crucially, the structure of the tactical level is dependent on the type of interface and vice versa. Generally, it would seem that the federalised interface structure tends to favour situations where there are a fairly small numbers of large, powerful, influential and cohesive local groups/organisations, while a centralised structure would favour the opposite.
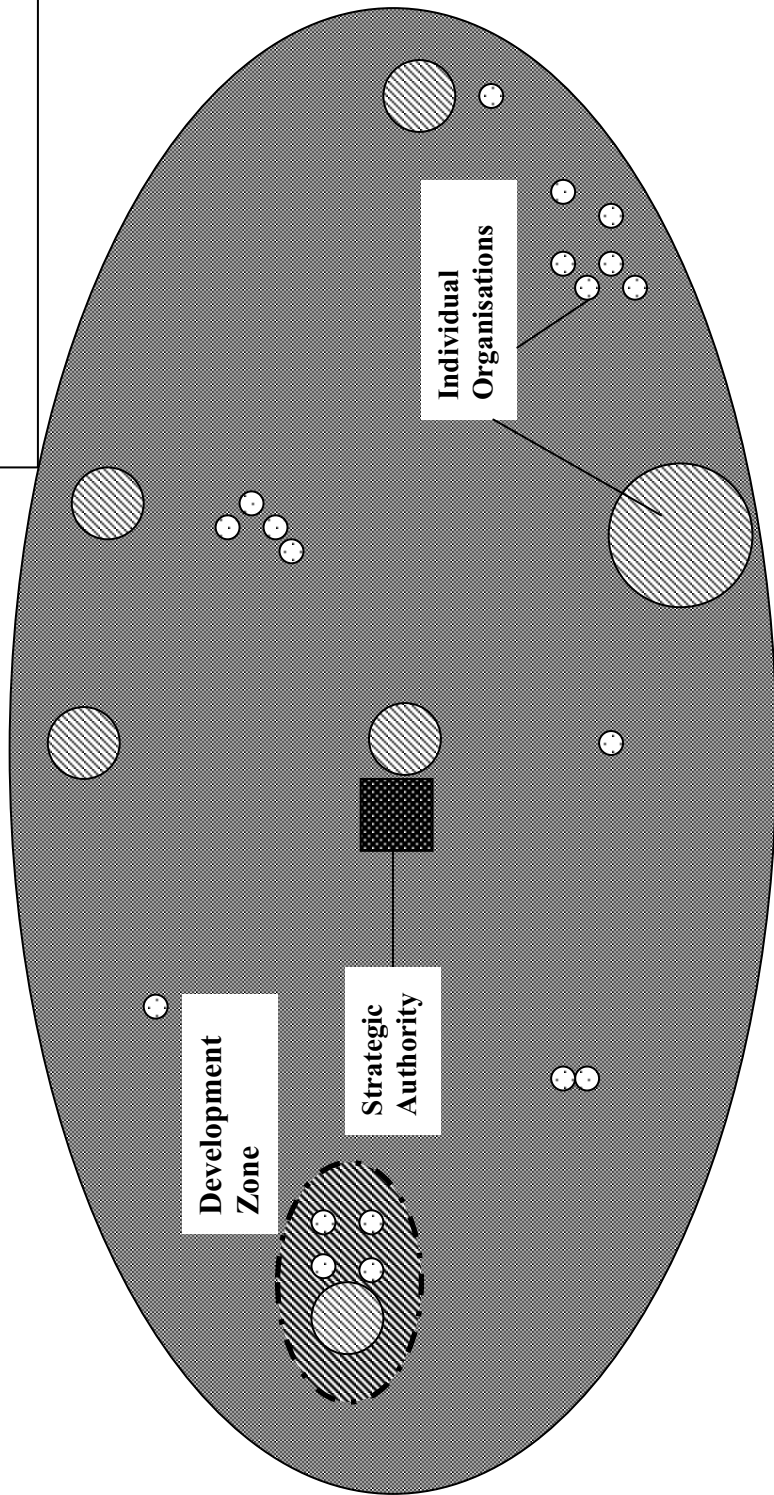
Figures 8 and 9 outline how the various types of LTPG might fit into such models.

Figure 8: Federalised and Centralised Models

Federalised Structure

Individual Organisations

TMA

TMD

Strategic Authority

Development Zone

Area Based Group

Centralised Structure

Individual
Organisations

Development
Zone

Strategic
Authority

65

Interface Model Examples	Types of LTPG	Federalised Centralised	Strategy Type
Nottingham CPC	IO, DZ, ABG		Flexible
City of Boulder	TMA/BID/IO		Flexible
Toronto SCA	TMA		Fixed
San Diego BID Council	BIDs		Fixed
Montgomery TMD	TMD		Fixed
Birmingham TravelWise	IO/DZ/ABG		Fixed
Rotterdam VCC	IO/DZ		Flexible

Figure 9: Example Strategic LTPG Interface Types and how they fit on the federalised-centralised continuum

There is also a second dimension which concerns the level of involvement of the planning or transport authority at the strategic level *vis a vis* the tactical organisations. This ranges from a highly interventionist to a more laissez faire approach.

One example of the former is York City Council, whereby the council effectively chooses to work intensively with a relatively small group of organisations. Meanwhile Levantis (2005) has built on this approach in developing a TMA in the London Borough of Islington, and DZ's and ABG's in Northampton, Southampton and Newcastle. It does this by identifying organisations that already have travel plans and using them to anchor 'clusters' of other organisations with less well developed plans.

By contrast, Birmingham City Council is far less 'hands on' and encourages companies to use its centrally administered travel plan services as and when required (Cairns et al, 2004).

16 Recommendations for strategic authorities

The creation of an area-wide LTPG strategy can arise in two ways:

1. It can arise from the 'bottom up' as a result of organisations encountering transport, parking, recruitment and retention or other issues; and

2. It can be introduced as a result of a policy decision by the strategic (or supra-strategic) authority.

In both cases however, a similar process can be adopted (although the existence of organisations already convinced of the need for action does make things far easier).

16.1 A framework for action

Parsons (1995) sees 'policy' as being like a stream being buffeted about and shaped as it passes through time by a range of factors. From this, it could be supposed that some of these PESTLE (Political, Economic, Social, Technological, Legal and Environmental) factors could either act in a way that supports the development of the policy, or against it as a barrier that needs to be overcome. Moreover, the scale and even the direction of these factors can change over time (Barrett and Fudge, 1993). On top of this, a distinction needs to be made between those factors over which the organisation might have some control (i.e. internal factors), and those over which it has no control (i.e. 'external' factors). Finally, to make sense of the process of introducing a new product, marketing theory identifies four principal stages, namely analysis, planning, implementation and control, which each ask a particular set of questions (Palmer, 2000). Adapting these slightly to apply to the LTPG case, these would be:

- Analyse – Where are we now? What are the strengths and weaknesses of the interface and its members? What opportunities and threats does it face in its environment?

- Plan – Where do we want to be? What is the mission of the interface and the LTPGs? What objectives should be set for the next year? What strategy will be adopted in order to achieve those objectives?

- Implement – How are we going to put into effect the strategy which leads us to our objectives?

- Control – Did we achieve our objectives? If not, why not? How can deficiencies be rectified?

Thus, combining the above theoretical frameworks can be illustrated as in Figure 10.
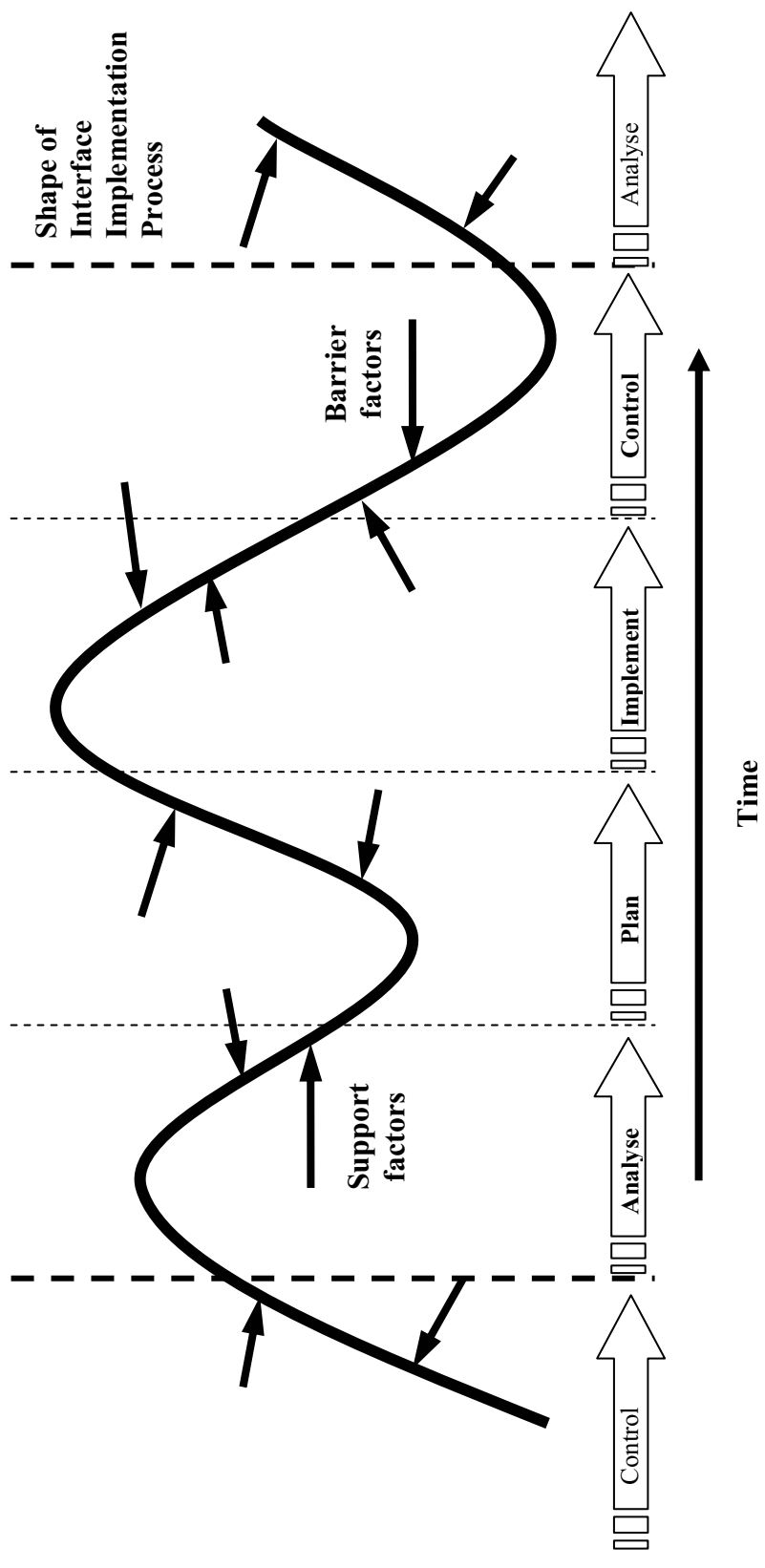
Figure 10: The policy analysis, planning, implementation and control process

16.2 Analysis

The first stage draws on a traditional analysis of transport and planning conditions within the strategic area, which in cases will already be carried out for Local Transport Plan or Local Transport Strategy purposes. Thus, factors such as daily travel patterns, modal share, availability of public transport, level of car parking, and level of congestion should be examined and specific transport 'hotspots' identified. Notice should also be taken of how future development and investment strategies and plans might influence these measures over the medium and longer term.

Once completed, this needs to be overlaid with a fairly detailed examination of the organisations (and groups of organisations). This should determine:

- The number of organisations;

- Their locations (edge of town, city centre etc);

- Their distribution (clusters, evenly spread, corridors);

- Their types (industrial, leisure, retail, commercial, health, education etc), and

- Their size (number of employees and visitors.

It should also determine those organisations that already have a travel plan in place, and ideally seek to determine other organisations that also have transport-related problems.

Finally, an assessment of the available resources (finance, personnel etc) within the strategic authority should be made to determine its potential interface operational capacity.

For the Southwark case, many of the major influencing factors have been outlined in the *Southwark Survey Report for the OPTIMUM2 Project* (Machin et al, 2005), which was specifically devised to influence this study. Broadly, this reports that the current position is that few organisations within the Borough have already developed travel plans. It then goes on to identify and assess a range of potential neighbourhoods and existing networks/organisations that may be suitable sites for establishing some form of LTPG. In particular, Machin et al (2005) suggested that the following points should be taken into consideration:

- It will be beneficial to set up the pilot LTPGs in areas where there is a high density of businesses and employees, to ensure that as many people as possible benefit from improvements;

- LTPGs are likely to receive more interest and support in areas where congestion or poor air quality are identified as important issues. The same is likely to be true for areas experiencing growth, where businesses and local communities may be concerned about the impacts of new developments on transport infrastructure;

- New developments could contribute to the funding of LTPGs through the use of planning agreements. Committing their involvement in LTPGs could also be used as one instrument for developers to secure acceptance of their planning proposals;

- It will be beneficial to set up LTPGs in areas where established business groups or networks exist to act as a platform for the LTPGs, provide support and/or encourage business involvement; and

- There is a need to show results from the LTPGs within a couple of years at most for the OPTIMUM2 project.

16.3 Planning

From the analysis phase, it should be possible to identify firstly the areas/organisations most suitable for establishing some form of LTPG, and secondly the most appropriate interface model. For instance, a business or a retail park operated by a single landlord or management agency (particularly where parking, congestion or poor access were issues) may best be served by a Development Zone travel plan. Or, where several relatively small businesses that are not grouped into obvious clusters exist then perhaps the more centralised approach where the strategic authority provides a travel plan for them to buy into would work best.

Thus for Southwark, before deciding upon the most suitable interface model, the first task for a strategic authority is to look at how suitable each of the tactical models might be. Table 8 draws on the summary of LTPG type characteristics provided earlier and applies the central London Borough's particular contextual factors.

	Individual Organisations (IOs)	Development Zones (DZs)	Area Based Groups (ABGs)	Business Improvement Districts (BIDs)	Transportation Management Organisations (TMOs)	Transportation Management Districts (TMDs)
Definition	Organisations that operate their own travel plans	Local areas usually developed for specific uses – e.g. retail parks	Informal networks within a loosely defined neighbourhood	Partnership between LA and businesses to provide investment within a defined area	Private, non-profit, member-controlled organisations operating across defined area	Companies legally required to develop travel plan goals across defined area
Description	Single organisation, formal	Leading organisation, relatively formal	Several equal organisations, informal	Leading organisation, formal	Leading organisation, formal	Leading organisation, formal
Barriers to use in Southwark	No	No suitable DZs at present	Insufficient travel plans for ABG to be formed	BID possibly not interested in dealing with transport	Dependent on business interest	Never done outside USA – possible legal barriers
Application in Southwark?	Yes	Possible in medium term	Possible in medium term	Yes	Possibly	Highly unlikely
Barriers to use in Southwark in O2 project	Not really a full LTPG	Timescale too long for O2 project	Not enough existing TPs - timescale too long for O2 project	BID possibly not interesting in dealing with transport	Dependent on business interest	Possible legal barriers mean timescale unrealistic
Application in O2 project?	Not suitable from theoretical standpoint	Unlikely	Unlikely but possible	Possible	Possible	Not possible

Table 8: Possible application of the various Local Travel Plan Group structures in Southwark and in the OPTIMUM2 project

From Table 8 it would seem that for the Southwark case the most potential for forming LTPGs comes from the BID and TMO structures, while it may also be possible (but unlikely) to develop the ABG and DZ models – although these are more likely to occur in the medium to long term. This being the case, it would seem that at the strategic level the federalised model would be more suitable – given that BIDs and TMOs would be relatively independent of the strategic level.

As seen from the case vignettes, if one assumes that the interface organisation would be set up within the London Borough of Southwark in the first instance – as opposed to at the sub-regional or Transport for London level – then within a federalised model this would likely not need to be particularly resource hungry. Indeed, for the pilot projects at least, it should be possible for the OPTIMUM2 Cluster team to act as the interface so long as a borough transport and/or planning officer is/are officially appointed as a contact. Such a contact is vital if the LTPG approach is ever to work effectively – i.e. if the concept is to be properly integrated within the Borough's transport, planning and environmental policy frameworks. In the longer term, the role would probably best be taken up by the Borough's travel plan and/or planning control teams.

Using these criteria and those listed in the previous section for the Southwark case, Machin et al (2005) discounts Walworth Road, Elephant and Castle, Peckham and Canada Water and suggests that the Bankside and London Bridge areas show the most potential for implementing LTPGs within the OPTIMUM2 project timescale. Accordingly, it would seem sensible to locate one of the LTPGs within the Bankside area and one within the London Bridge locality. Ideally, one would follow the BID route and one either the TMO or the ABG structure.

16.4 Implementation

Following the choice of interface model and LTPG type, the next step is to design and implement them. Kouwenhoven (1993) presents a framework or checklist designed to illustrate what is needed for the 'perfect implementation' of public private partnerships (PPP). This is suitable because LTPGs are most commonly a partnership between the public and private sector charged with delivering a mutually beneficial project. In brief, Kouwenhoven suggests that there are three types of 'condition' required, namely starting, interlinking and project.

The start conditions for a public private partnership are:

- Interdependence between the two sectors; and

- Convergence of objectives.

Given the presence of these, the two secondary or 'interlinking' conditions are:

- The existence of a network of communication channels between the public and private sectors concerned; and

- The existence of a broker to facilitate negotiations.

Once these are in place, then the following project conditions need to be in place:

- Mutual trust;

- Unambiguous objectives and strategy;

- Unambiguous division of costs, risks and returns;

- Unambiguous division of responsibilities and authorities;

- Phasing of the project;

- Conflict regulation laid down beforehand;

- Legality;

- Protection of third parties' interests and rights;

- Adequate support and control facilities;

- Business and market-orientated thinking and acting;

- 'Internal' co-ordination; and

- Adequate project organisation.

Perhaps unsurprisingly, there is a great deal of common ground between the Cohen et al (1995) organisation theory (used for the development of the individual LTPGs at the tactical level) and Kouwenhoven's PPP theory used at the interface level.

16.5 Control

The control phase is about monitoring the performance of the LTPG. Traditionally, monitoring of travel plans has tended to focus on their performance in meeting only transport and financial outcomes. But, while these indicators obviously remain important, it is also important to monitor how the LTPGs and the interfaces are performing as organisations. Consequently, process factors such as the participation rates and levels of organisations within the LTPGs, and of the awareness of LTPGs and their roles at both organisational and individual levels.

16.6 Summary

In summary, it should be noted that as with travel plans, every individual situation is different, and so care should be taken when transferring ideas from elsewhere to ensure that even subtle variations in context are accounted for. Therefore, while the general framework described above should be applicable in a wide range of situations, it should always be remembered that it is only a framework.

17 References

Aberdeen City Council (2004) Dyce Transportation Management Association (TMA), Briefing Note, Aberdeen City Council, Aberdeen, 5 August.

Anderson S M and Ungemah D H (2002) Partnering Businesses, Developers, and Residents for Better Mobility, Transportation Management Organisations Detailed Memorandum, Report to the Jobs and Population Task Force, City of Boulder, Boulder, Colorado, 30 October.

BAA (2003) Shaping the Vision, A Surface Access Strategy for Heathrow – the next five years Annual Progress Review, British Airport Authority, London, October.

BAA Heathrow Airport (2004) Changing Direction, Heathrow's Travel Plan 2004-07, British Airports Authority, London, May.

Barrett S and Fudge L (1981) (eds) *Policy and action*, Methuen, London.

Batifois H and Fleming C (2002) Interview with Transport Strategy Team, Nottingham City Council, Nottingham, 18 November.

BCRTMA (2003) Black Creek Regional Transportation Management Association Annual Report 2002, Black Creek Region TMA, Toronto, Ontario, June.

Beljon R and Van der Hoef H (2003) Interview with officials of the Province of South Holland, The Hague, 12 February.

BEST (2002) Transportation Management Associations, Moving Beyond Planning: *Implementing Transportation Solutions Conference*, Best Environmentally Sound Transportation, Vancouver, British Columbia, Canada, 6-8 March.

Bond R (2005) Back the Bids, *Surveyor*, 16-18, 31 March.

Boot R C, Kramer J H T, and Swart B (2003) Transport Demand Management New Style, from transport demand management to location accessibility, *European Conference on Mobility Management*, Karlstad, Sweden.

Boulder CarShare (2005) Boulder CarShare. Visit www.carshare.org. Last accessed 11 March 2005.

British Land Company plc. (2001) Regent's Place Travel Plan Launched by Ken Livingstone, Mayor of London and Councillor Heather Johnson, Mayor of Camden, Press Release, The British Land Company plc., London.

British Land Company plc. (2004) Regent's Place Travel Plan, British Land Company plc., London.

Brown D (2005) Personal communications, San Diego Business Improvement District Council, San Diego, California, 24 March and 28 April.

Cairns S, Sloman L, Newson C, Anable J, Kirkbride A and Goodwin P (2004) *Smarter Choices – Changing the way we travel*, Department for Transport, London. July.

Caswell T (2005) Interview, Associate Director, Vipre, London, 21 January.

Chan M (2005) Personal communication, Region of Peel, Brampton, Ontario. 22 March.

Chin L (2005) Telephone interview, Transit Marketing Specialist, Commuter Services, Montgomery County, Maryland, 1 March.

City of Boulder (2002) Demography Summary of Information 2002, City of Boulder, Boulder, Colorado.

City of Boulder (2003) Transportation Master Plan TMP 2003, City of Boulder, Boulder, Colorado, 16 September.

City of Boulder (2005) Go Boulder. Visit www.ci.boulder.co.us/goboulder. Last accessed 10 March 2005.

City of San Diego (2005) Business Improvement Districts, City of San Diego, Visit www.sandiego.gov/economic-development/business-assistance/small-business. Last accessed 23 March 2005.

City of Toronto (2003) A Collaborative Proposal of the Greater Toronto Area and Hamilton to the Urban Transportation Showcase Program, Smart Commute Initiative, Urban Development Services Department, City of Toronto, Toronto, Ontario,16 May.

Cohen A R, Fink S L, Gadon H and Willits R D (1995) *Effective behaviour in organisations*, 6th Edition, Irwin, Homewood, Illinois.

Cooper M (2002) Interview with Project Leader, Birmingham Travelwise, Birmingham City Council, Birmingham, 20 November.

Denisse P (2005) Personal communication, VM2, Vereniging Mobiliteitsmanagement, Rotterdam, 5 April.

Department of the Environment, Transport and the Regions (1998) *A new deal for transport: Better for everyone*, DETR, The Stationery Office, London, July.

Department for Transport, Local Government and the Regions (2001) Evaluation of Government Departments' Travel Plans, Report for the DTLR, London, April. Visit www.dft.gov.uk. Last accessed 31 May 2004.

Department for Transport (2002) Making Travel Plan Works Research Report, Department for Transport, The Stationery Office, London, July.

Department for Transport (2004a) Making Car Sharing and Car Clubs Work Case Study Summaries, prepared by Integrated Transport Planning, Milton Keynes, December. Visit www.dft.gov.uk Last accessed 26 April 2005.

Department for Transport (2004b) Vodafone, Department for Transport, London. Visit www.dft.gov.uk Last accessed 4 April 2005.

Energy Efficiency Best Practice Programme (2001a) *A Travel Plan Resource Pack for Employers,* Energy Efficiency Best Practice Programme, Crown Copyright, The Stationery Office, London, June.

Energy Efficiency Best Practice Programme (2001b) *A guide on how to set up and run Travel Plan Networks,* Good practice guide 314, Energy Efficiency Best Practice Programme, Crown Copyright, The Stationery Office, London, September.

Ferguson E, Catherine R., and Michael M. (1992) Transportation Management Associations: Organisation, Implementation, and Evaluation, *Transportation Research Record*, **1346**, 36-43.

Gelatt J P (1992) Managing Nonprofit Organisations in the 21st Century, Oryx Press, Phoenix, Arizona.

Ginger M (2005) Telephone interview, Bristol City Council, Bristol, 4 March.

Gore T (1991) Public/Private Partnership Schemes in UK Urban Regeneration, The Role of Joint Enabling Agencies, *Cities*. 209-216, August.

Halcrow Group (2005) Park Royal Partnership Transport Management Association Feasibility Study, Halcrow Group, Exeter, February.

Hendricks S J (2003) 2003 Transportation Management Association Survey Preliminary Results, Centre for Urban Transportation Research, University of South Florida, Tampa, Florida, 4 July.

Her Majesty's Stationery Office (2004) The Business Improvement Districts (England) Regulations 2004, Local Government, Statutory Instruments 2004, No. 2443, Crown Copyright, London, September.

Howland J (2003) Planning ahead, *Going Green*, Environmental Planning Association, London, Autumn, 30.

Ieromonachou P (2004) Managing regime change in urban mobility management, PhD thesis, Centre for Technology Strategy, The Open University, Milton Keynes (to be submitted).

Kingston First (2004) Kingston First Business Plan, Business Improvement District for Kingston Upon Thames, Kingston First, Kingston Upon Thames, Surrey, October.

Knapp R J J van der and Ing A G (1996) Effective TDM at worksites in the Netherlands and the US, Organisational Coaching in association with Eric N Shreffler.

Kouwenhoven V (1993) Public-private partnership: a model for the management of public-private co-operation, in (ed. Kooiman J) *Modern Governance: New Government-Society interactions*, Sage, London.

Levantis S (2005) Personal communication, Transport planner, JMP Consulting, London, 18 May.

Lloyd District TMA (2005) Lloyd District TMA, Portland, Oregon. Visit www.ldtma.com. Last accessed 9 March 2005.

London BIDs (2005) Paddington BID (formerly Paddington Circle), London BIDs, London. Visit www.londonbids.info. Last accessed 9 March 2005.

Machin J, Tyler S and Jones P (2005) *Southwark Survey Report for the OPTIMUM2 project*, University of Westminster, Southwark Cluster, OPTIMUM2, London, March.

Montgomery County Council (1999) Establishment of a Transportation Management District in the Friendship Heights Sector Plan Area, County Council for Montgomery County, Maryland, 26 October.

Montgomery County Council (2002) Requirements for Employer Participation in Transportation Management Districts Enacted by County Council (Understanding 32-02), Montgomery County Council, Maryland, 26 November.

Montgomery County Council (2004) Friendship Heights Transportation Management District Montgomery County Maryland Activities and Performance Fiscal Years 2000-2002, Montgomery County Commuter Services, Silver Spring, Maryland, August.

Montgomery County Council (2005a) Montgomery County Transportation Management Districts, Maryland, US. Visit http://www.montgomerycountymd.gov. Last accessed 14 March 2005.

Montgomery County Council (2005b) Transit Services, Public Works and Transportation, FY06 Operating Budget and Public Services Program, Montgomery County Council, Maryland.

Murphy W (2005) Personal communications, Aberdeen City Council, Aberdeen, 27 January and 22 March.

National BIDs Advisory Service (2005) Welcome to the BIDs Pilot Project, UKBIDs: National BIDS Advisory Service, Association of Town Centre Management, London. Visit www.ukbids.org. Last accessed 28 April 2005.

NEA (2005) Mobility Management, NEA Transport Research and Training, Rijswijk, the Netherlands. Visit www.nea.nl/english/defaultuk.html Last accessed 31 March 2005.

Newman P and Thornley A (1996) *Urban Planning in Europe*, Routledge, London.

North East Scotland Transport Partnership (2004) NESTRANS Appoints Travel Awareness Project Leader, NESTRANS, News Release, Aberdeen, 5 July. Visit www.nestrans.org.uk. Last accessed 9 March 2005.

Oster S M (1995) *Strategic Management for Nonprofit Organisations Theory and Cases*, Oxford University Press, New York.

Park Royal Partnership (2004) Commuter Centre Home Page, Park Royal Partnership, London. Visit www.parkroyaltravel.org.uk/transport. Last accessed 9 March 2005.

Palmer A (2000) *Principles of marketing*, Oxford University Press, Oxford.

Parsons W (1995) *Public policy*, Edward Elgar, London.

Perimeter Community Improvement Districts (2005) The Perimeter Community Improvement Districts (PCIDs), Atlanta Georgia, Winter. Visit www.perimetercid.org. Last accessed 9 March 2005.

Pfizer (2005) Environment Transport Policy, Pfizer. Visit www.pfizer.co.uk Last accessed 2 April 2005.

Pogue T D (1997) The Transportation Management District: A tool to engage private sector support in meeting Energy, Environmental, and Transportation goals, *Energy Policy*, **25**(14/15), 1227-1234.

Potter S and Enoch M P (2003) Travel Planning (in ed. Boyle G) Managing Energy Demand. *Course T206, Block 3 - Energy for a Sustainable Future*, Technology Level 2, The Open University, Milton Keynes.

Prince J (2005) Telephone interview, Nottingham City Council, Nottingham, 4 March.

Quin S (2004) Town Centre Management & BIDs. Paper presented at the 2004 *Planning Summer School*, Royal Town Planning Institute, University of Reading, September. Visit www.planningsummerschool.org/papers/year2004. Last accessed 9 March 2005.

Reeven P V, Vlieger J D and Karamychev V (2003) BOB Airport Accessibility Pilot Final Report, Erasmus University Rotterdam Transport Economics, Rotterdam, the Netherlands, 15 October.

Regent's Place (2005) Regent's Place Travel Information, Regent's Place, London. Visit www.vicinitee.com/site/regentsplace/1/. Last accessed 5 April 2005.

Region of Peel (2005) Transportation Tomorrow Survey, Region of Peel, Brampton, Ontario. Visit www.region.peel.on.ca/planning/transportation/tts.htm. Last accessed 23 March 2005.

Regional Municipality of York (2004) Greater Toronto Area and Hamilton Smart Commute Initiative Showcase Proposals Summary, The Regional Municipality of York, Newmarket, Ontario. Visit www.tc.gc.ca/programs/environment/UTSP Last accessed 22 March 2005.

Regional Municipality of York (2005) Cordon Count Program, The Regional Municipality of York, Newmarket, Ontario. Visit www.region.york.on.ca/Departments. Last accessed 23 March 2005.

Reilly J (2004) Business Improvement Districts, *Urban Design Quarterly*, Issue 91, Summer, 20-22.

Rye, T. (2002) Travel Plans: Do they work?, *Transport Policy*, **9**(4), October, 287-298.

Sam F (2001) Public-Private Cooperation Gives Benefits for Companies and Employees, VCC Schiphol, Airport Amsterdam Schiphol, *EPOMM Workshop, Milano*, 14 December.

Samii R (2002) An Innovative Public-Private Partnership: New Approach to Development, *World Development*, **30**(6), 991-1008.

San Diego Business Improvement District Council (2004) BID Council 2004 Summary of Achievements, San Diego Business Improvement District Council, San Diego, California.

San Diego Business Improvement District Council (2005) BID Council leaflet, San Diego Business Improvement District Council, San Diego, California, 2005.

Schreffler, E. N. S (1998) Travel Demand Management Evaluation: Current practice and emergent issues, TDM Innovation and Research Symposium – Setting a Strategic Agenda for the Future, *Transportation Research Circular,* **433**, 87-96.

Stockholm Partnerships (2005) Transportation Management Association Pilot Project, Canada, Stockholm Partnerships. Visit www.partnerships.stockholm.se. Last accessed 22 March 2005.

Stockley Park Consortium (2004) Stockley Park Transport Plan, Stockley Park, Uxbridge, London.

Tapestry (2003) The Netherlands, Deliverable 2: Annex B, Tapestry. Visit www.eu-tapestry.org/p_dwl/d2/D2_B7_Netherlands.pdf. Last accessed 31 March 2005.

Transport 2000 (2005) Workplace travel plans: Employers get to work on workplace travel plans, Good Practice, Transport 2000, London. Visit www.transport2000.org.uk. Last accessed 02 April 2005.

Van der Hoef H A (2002) Interview with Mobility Manager, Province of South Holland, 29 November.

Verma R (2005) Editorial – Operations Management in Not-For-Profit Public and Government Services Charting a New Research Frontier, *Journal of Operations Management*, **23**, 117-123.

Victoria Transport Policy Institute (2004) Transportation Management Associations and Coordinators, TDM Encyclopedia, Victoria, British Columbia, 4 June. Visit www.vtpi.org/tdm/tdm44.htm. Last accessed 23 February 2005.

Vodafone (2005) Newbury Headquarters. Visit www.vodafone.co.uk Last accessed 4 April 2005.

Ward J (2005) Telephone Interview and Personal Communication, Transportation Coordinator, City of Boulder, Colorado, 11 March.

Whitelegg J (2001) Introductory Report, Managing Commuters' Behaviour, A New Role for Companies, Round Table 121, Economic Research Centre, European Conference of Ministers of Transport, Gerer Les Deplacements Du Personnel, Paris.

York Regional Government (2001) Greater Toronto Area Travel Demand Management (TDM) Program, Urban Transportation Showcase Program Expression of Interest, York Regional Government, York, Ontario.

18 Acknowledgements