NHS National Services Scotland

Scottish Health Technical Memorandum 07-03

Transport management and car parking

Health Facilities Scotland
Facilities Management

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Contents

Executive summary

The aim of this guidance is to identify best practice in developing Travel Plans and providing adequate transport and car-parking for NHSScotland Boards.

This document gives guidance on how NHSScotland can develop effective Travel Plans for sites.

A Travel Plan is a document produced by an organisation which details measures to effectively and efficiently manage transport activity.

Travel Plans are site specific and aim to reduce reliance on the car by improving travel choices to and from sites for employees and visitors.

Travel Plans promote healthier and more environmentally friendly methods of travel such as cycling or walking, using public transport and trip sharing.

This document considers the background to the current concerns surrounding transport, by studying the strategic and policy issues leading to the present situation in transport and car-parking and by looking at the national context within the healthcare economy.

It also considers the effect that these circumstances have had upon NHSScotland and addresses how a good and successful Travel Plan can help to tackle transport and parking issues.

The guidance also:

- assesses the Department for Transport's Travel Plan Evaluation Tool against NHS Travel Plans. The tool can be downloaded from www.imsaho.com/miscellaneous/travel_plan_evaluation_tool.asp;
- provides a matrix to estimate a base level of car–parking provision (made available on a CD-ROM that accompanies the publication);
- identifies links to other assessment tools, for example BREEAM Healthcare, the NHS Environmental Assessment Method developed by the Building Research Establishment (which has not yet been adopted by NHSScotland);
- makes suggestions on how to collect and monitor travel plan initiatives;
- identifies key ingredients of successful partnership working;
- identifies what can encourage and motivate Boards, their employees and the public to change their current travel behaviour;
- considers external funding opportunities;
- considers environmentally-friendly transport options.

Some case studies of best practice in the NHS are also provided to identify their steps to success.

These best practice examples all share a number of factors which demonstrate key activities that will produce a robust Travel Plan. These form a beneficial guide for others to follow, and should be adopted by other operating divisions as guiding principles.

The key elements of a successful travel plan include:

- financial incentives or disincentives;
- car-parking constraints and management;
- a range of alternative modes of transport;
- strong management support and backing;
- progressive, incremental implementation over time;
- clear Specific, Measurable, Achievable, Relevant and Timed (SMART) objectives;
- close partnership with Local Authority and public transport operators;
- dedicated employee/s responsible for development, implementation and monitoring of Travel Plans;
- designation of a Travel Plan manager or champion.

The last factor is considered to be very significant, as this designation can provide a focal point for the adoption of successful transport management practices and can be very useful when preparing a Travel Plan.

1. Introduction

1.1 This guidance has been produced to outline the measures NHSScotland Boards can adopt when developing Travel Plans and managing transport and car-parking demands. It draws on good practice to assist NHSScotland Boards in a practical way.

1.2 The past 20 years have seen a massive increase in the levels of environmental awareness in all aspects of resource management, with transport being particularly prevalent.

1.3 The Scottish Executive Environment Group document 'Meeting the needs, priorities, actions and targets for sustainable development in Scotland'; (www.scotland.gov.uk/Publications/2002/04/14640/4041) published in 2002 (modified 2006) states that road-vehicle traffic in Scotland is forecast to rise by 27% over the next twenty years. Employers have a vital role to play in bringing about traffic reduction.

1.4 As a public sector organisation, NHSScotland is obligated to demonstrate its commitment to transport management. The Scottish Executive Health Department's Environment Policy, 2006 says that for sites in NHSScotland "*support for sustainable transport initiatives is a mandatory policy requirement.*" Travel Plans can deal with the concerns arising from transport by trying to ensure that:

- patients, visitors and employees can safely access more sustainable travel choices to get to sites and they are encouraged to use them,
- the effects of our actions with respect to transport do not have an adverse effect upon the environment and, consequently, the health of the population that we serve.

1.5 To address these issues effectively, this guidance recommends each Board adopts robust, practical Travel Plans.

1.6 Effective Travel Plans can address transport problems from a new direction by managing demand for road and parking space more effectively. The measures within Travel Plans will assist in relieving the burden of traffic on local communities while also reducing carbon emissions which lead to climate change and which are also detrimental to health. For example see www.timeforchange.org/what-is-a-carbon-footprint-definition,

1.7 The rest of this guidance is structured as follows:

- **Section 2** explains the strategic and policy background to transport and transport issues;
- **Section 3** assesses what a Travel Plan is and can do;

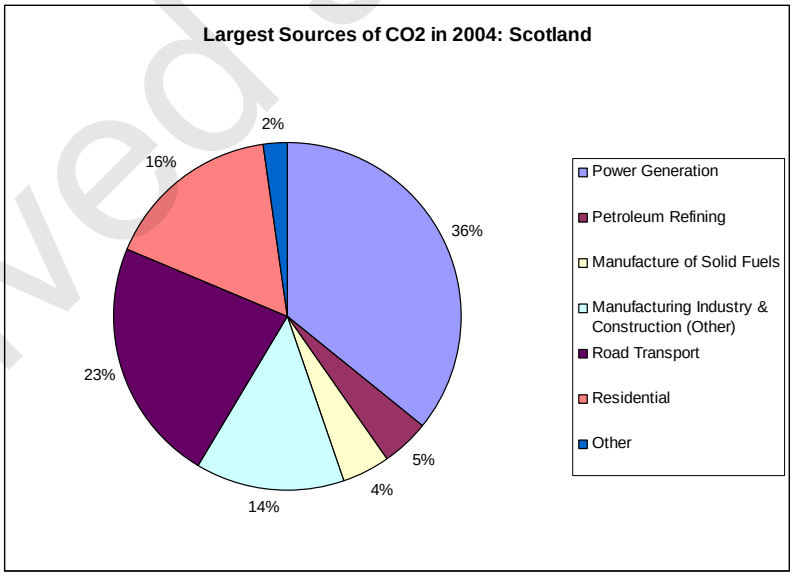
- **Section 4** makes suggestions on how to collect and monitor Health Board division-based data;
- **Section 5** assesses the Department for Transport's Travel Plan Evaluation Tool as a tool to assess NHS Travel Plans;
- **Section 6 (**and **Appendix A)** provides best practice case studies and identifies their steps to success;
- **Section 7** defines the range of critical factors for a successful Travel Plan;
- **Section 8** looks at ways of estimating levels of car-parking provision;
- **Section 9** identifies successful partnership working;
- **Section 10** provides links to other relevant sources of information.

2. Background

2.1 The past 20 years have seen a huge increase in the awareness of, and the requirement for, environmental management of resources at local, national and international level. This has been most manifest in the field of transport because of the effects on the population and human health related to pollution and congestion.

2.2 The 1992 earth summit in Rio de Janeiro introduced the concept of Agenda 21, which sought to ensure that local bodies adopted a sustainability agenda for their communities. In recent years there has been more focus placed on reducing greenhouse gas emissions, which is largely as a result of the Kyoto protocol in 1997 and the subsequent Treaty on Climate Change. Arising from this, member states agreed to take action. The UK's commitment, agreed in 1998, is to reduce greenhouse gas emissions by 12.5% below 1990 levels by 2010.

2.3 However, the UK government set itself a more challenging domestic target of 20% reduction in carbon from 1990 levels by 2010 and to reduce them by some 60% by around 2050. The Scottish Government has acknowledged its responsibility for a share of these targets, and as the following chart indicates, exhaust emissions from transport (23%) play a key role in Scotland's endeavours to meet these challenges.



Sourced in September 2007 from

http://www.airquality.co.uk/archive/reports/cat07/0611081428-419_Reghg_report_2004_Main_Text_Issue_2.pdf

2.4 It is recognised that one of the major factors contributing to climate change is the burning of fossil fuels; with the consequent emission of carbon dioxide and that this is significantly increased by the steadily rising levels of road traffic. This has led to a larger focus on traffic, transport flows and transport management.

2.5 The following paragraphs looks at the strategic and policy background to transport and transport issues within the NHSScotland.

Transport Policy in Scotland

2.6 The 2004 Transport White Paper 'Scotland's Transport Future' sets out the vision and objectives for transport in Scotland.

2.7 This white paper sets out the commitment to create the Government Agency, Transport Scotland, to deliver major road and rail schemes and to deliver the national concessionary fare scheme. The paper identified the establishment of seven Regional Transport Partnerships (RTPs) as a new mechanism to focus on the strategic approach to transport across the regions.

2.8 One of duties of the RTPs is to prepare and maintain regional transport strategies. Local Authorities will still produce local transport strategies, local plans and local transport strategies to co-ordinate land use and transport planning at a local level. The Scottish Executive has set a target for Local Authorities and NHSScotland to ensure effective Travel Plans for all major hospitals and health centres are completed and in operation by April 2008 (Scotland's National Transport Strategy, 2006) and the RTPs have Travel Plan Co-ordinators in place to assist with this task.

2.9 Despite a predicted decrease in Scotland's population, the number of households is expected to rise. This increase in single-person households (due to more people living on their own) is likely to result in more people owning cars.

2.10 At the same time an ageing population is also likely to present challenges for meeting the particular needs of this particular population. For instance, 74% of single pensioner households do not have access to a car. Improvements to Public Transport services for healthcare facilities and employers through Travel Planning can in turn help improve access to those sites for local communities.

2.11 Effective Travel Plans can reverse the growing trend of more people driving alone. The last 10 years have seen a steady increase in road traffic volumes. Although there has been very little change to the time spent travelling, people are travelling further every day. In 1985/86 Scots drove on average about 5 miles a day per head, in 2000 they drove about 10 miles (www.op.cit). This places a considerable strain on transport networks. This strain has lead to increased traffic volumes, journey times and congestion.

2.12 Many people also choose to drive very short distances - 32% of people who commute less than 1 km to work travel by car or van. In addition fewer people are walking short distances. Unless action is taken, traffic is projected to increase by 27% over twenty years (www.op.cit).

2.13 Traffic growth has major economic, environmental and social costs, including longer journey times for people and products, reduced air quality, road accidents, impacts on health and contribution to climate change. Traffic

congestion has huge costs for business and communities. This is discussed further in 'the business case for Travel Plans' (paragraph 2.29).

Scottish Planning Policy

2.14 The planning system, at both a national and local level, aims to resolve competing demands for resources and land, achieving a balanced and sustainable outcome. Regional Transport Strategies and Local Transport Plans are important layers to consider in terms of access to employment and access to health

2.15 The National Planning Framework for Scotland sets out a framework to guide the spatial development of Scotland to 2025: improving connectivity and promoting sustainable patterns of transport and land use. It recognises that planning and transport are inextricably linked. SPP17 discussed below deals directly with planning for Transport.

Scottish Planning Policy: SPP17 - Planning for transport

2.16 Published in 2005, this document recognises the planning system as a mechanism to, among other things:

- reduce the need to travel;
- facilitate movement by public transport including provision of interchange facilities between modes;
- enable people to access local facilities by walking and cycling;
- provision of high quality public transport access, in order to encourage modal shift away from car use to more sustainable forms of transport, and to fully support access to key destinations for those without access to a car;
- effective management of motorised travel, within a context of sustainable transport objectives.

2.17 SPP17 recognises the contribution that linking developments with opportunities for walking, cycling and public transport use can make in not only reducing the reliance on cars; but also by improving health in Scotland by enabling people to leave the car at home for short journeys and to walk or cycle instead.

2.18 The guidance advises:

- *"that the location of new development takes account of national, structure and local plan requirements, and controlling the location of significant travel generating uses";*
- *"maximum parking standards are applied for specified uses";*
- *"Transport Assessments are used to ensure that the proposed development incorporates maximum feasible sustainable transport access. (This could form the basis for planning conditions or agreements or for refusing consent)".*

- *"the use of Travel Plans and planning agreements to promote sustainable transport solutions."*

Improving Health in Scotland: The Challenge

2.19 Published in 2003, this document set out the vision for health improvement in Scotland. 'Improving Health in Scotland' reinforced a commitment to a shift in emphasis towards prevention and health improvement. In addition, it shared the responsibility for delivering health improvement with other agencies for this cross cutting policy agenda.

2.20 The costs of physical inactivity are significant (Joined Up Policy and Practice in Health and Transport. Scottish Executive, 2006 www.scotland.gov.uk/Publications/2006/11/08114131)

Whilst statistics are being gathered for Scotland, the estimated costs of physical inactivity in England are £8.2 billion annually. This figure does not include the contribution of inactivity to obesity which in itself has been estimated that £2.5 billion annually. These figures include both the costs to the NHS and costs related to the economy, such as absence from work (CMO 2006).

2.21 The National Transport Strategy (NTS) recognises the huge health challenge from chronic diseases such as obesity. Obesity prevalence is soaring in Scotland and it is now estimated that around 60% of the adult population and 33% of children are either over-weight or obese (The Scottish Health Survey, 2006).

2.22 The NTS and NHS Health Scotland acknowledge the significant impact that active modes of transport like walking and cycling can play in preventing and mediating many forms of chronic disease. 'Let's make Scotland more active: A Strategy for physical activity' accepted that both policy and culture change are necessary in order for "*people in Scotland [to] enjoy the benefits of having a physically active life."* www.scotland.gov.uk/Publications/2003/02/16324/17924

2.23 Advice for transport and health practitioners on this topic can be found in 'Promoting Active Lifestyles. Good Ideas for Transport and Health Practitioners' (Healthier Scotland, Scottish Executive, 2006).

Best practice guidance

2.24 Best practice guidance and associated studies have now been produced by Government departments and other organisations. Two publications - 'Using the planning process to secure Travel Plans' (Office of the Deputy Prime Minister/Department for Transport, 2002 – under review at time of publication) and 'Making Travel Plans work' (Department for Transport, 2002) - draw on case studies from a variety of public and private organisations, including a number of NHS organisations. These guides will be considered in Section 6.

2.25 Other best-practice guidance include, for example, 'The healthy transport toolkit' by Transport 2000 (1998) and Transport Energy's (2004) 'Travel Plan resource pack for employers' (Energy Saving Trust).

In addition, the Department for Transport has produced guidance and research evidence about the 'Smarter Choices' agenda. Smarter Choices are techniques, including travel planning, used to influence people's travel behaviour towards more sustainable options www.dft.gov.uk/pgr/sustainable/smarterchoices

Many local authorities have also produced guidance on transport issues and Travel Plans.

2.26 Case studies from the NHS are given in Appendix A and are discussed in Section 6.

NHS guidance and policy

2.27 The policies which have been produced by the NHS are a result of a number of factors which go to make up the national context surrounding environmental issues within the NHS. These are as follows (in no order of priority):

- climate change programme;
- sustainability;
- National Service Frameworks for public health improvements;
- NHS consumerism agenda;
- accessibility;
- patient environment;
- social aspects of accessibility;
- corporate social responsibility;
- the Department of Health's 'Standards for better healthcare'.

2.28 In addition to these, the NHS has also had to respond to other issues such as parking congestion, street parking, missed appointments, frustration, anger and stress as a consequence of transport difficulties.

2.29 'Sustainable development: environmental strategy for the National Health Service' (NHS Estates) deals with all environmental matters and sets out the aim of improving the health and well-being of people by managing the resources available in the most sustainable manner. The strategy points to the benefits for NHS sites in producing a Travel Plan.

2.30 More specifically, the Scottish Health Department's 2006 Environmental Management Policy contains the following mandatory policy:

'An NHSScotland Body's environmental management strategy must include measures aimed at promoting more sustainable travel choices through the implementation of Green Travel Plans, in association with Local Authorities'.

The business drivers for travel planning

2.31 Research at the University of Leeds suggests that the total cost of congestion to the UK economy was £19.2 billion in 1998[1].

2.32 The above figures might be quite difficult to quantify and attribute to the operations or costs of one organisation. It may be easier to note that a ground-level car parking space can cost between £400 and £800 per year for construction and maintenance[2]. Therefore it is appropriate to manage this limited valuable resource effectively.

2.33 The health benefits that can be achieved through Travel Planning and promoting active travel can save organisations money in the following ways:

- *"research shows that active employees take 27% fewer days off sick leave than inactive employees".;*
- *"studies show that following the introduction of on-site travel planning programmes, employee turnover was reduced by between 8% and 13%.";*
- *"research shows that a physically active lifestyle is related to improved performance at work including a lower frequency of burnout and sick leave."*
- *"studies show that following the introduction of physical activity initiatives, the number of workplace injuries was reduced by 25%."*[3]

2.34 The organisational benefits that can be achieved through Travel Planning activity include:

- **Supporting better accessibility through development of transport options** – by encouraging the use of alternative modes of transport, such as trip sharing, cycling, walking and public transport. These reduce the number of single occupancy vehicles entering an area and can significantly alleviate parking and traffic congestion issues. In turn, this can help to enhance the general amenity of the site;
- **Justifying the cost of improvements to transport infrastructure** – The Travel Plan puts forward a more persuasive case to justify the cost of new or improved transport initiatives to both transport providers and public-sector funders;
- **Improving the employment catchment** - Many NHS sites are in areas with known employment difficulties, often caused by a lack of accessibility. Achieving a Travel Plan's core objectives should help to alleviate this whilst

[1] Source: Literature Based Review of Methodologies and Analytical Approaches. www.scotland.gov.uk/Publications/2006/11/01103351

[2] Source: 'The Benefits of Green Transport Plans (1999), DETR

[3] Sourced: http://www.sustrans.org.uk/webfiles/AT/Scotland/Scotland%20Publications/Active%20Commuting%20for%20Your%20Business%20Flyer.pdf

promoting and communicating the improvements to the stakeholders and agencies in the area.

Ensuring compliance with Planning Agreements - A Travel Plan will help to deliver against objectives and targets associated with Planning Agreements required by the Local Authority.

2.35 Benefits to the employees, visitors and suppliers include:

- **Decreased cost and improved choice** – Despite popular belief many travel alternatives to the car cost less than individual car use. In fact, sites can often arrange for subsidies of particular travel options. This generates improved choice and adds up to an attractive package of benefits that employers can offer current and prospective future employees;
- **Better workplaces** - The journey to work can be a large part of a working day. Making an employer easier to reach can help to improve staff motivation, morale, and health and ultimately, staff effectiveness. Using active modes of transport like walking and cycling can also have a positive impact on employee health and effectiveness;
- **Improved employee catchment** - Improved site access can help to support ongoing staff recruitment and retention activities;
- **Improving site accessibility and amenity** - Reducing on-site car traffic can lead to improvements to both the accessibility and amenity of that site, thereby making it a more attractive area for staff, visitors, customers and suppliers;
- **Improved road safety** - A Travel Plan can help to increase road safety on and near the site, thereby mitigating the risks associated with road accidents, improving the site's amenity for walkers and cyclists and helping to minimise issues caused by road traffic accidents;
- **Corporate social responsibility** - Many organisations are looking for new ways to demonstrate their commitment to corporate social responsibility. Active support for the goals of a Travel Plan can be used to help demonstrate this commitment (e.g. through achievement of transport-related carbon reduction targets).
- **Environmental accreditation** - Active participation in and support for sustainable transport activities can help organisations to achieve and maintain environmental accreditation.

2.36 The role of Environmental Assessment is important to enable the Boards to understand, identify and seek to reduce and limit negative effects of travel and transport on the environment.

2.37 One such Environmental Assessment Tool is the NHS Environmental Assessment Method (BREEAM Healthcare); developed by the Building Research Establishment. This covers a whole range of activities on existing sites and the development of new facilities (either new-build or refurbishment) and is intended to enable the NHS to understand, identify and seek to reduce and limit negative effects on the environment.

(Note: At the time of writing this tool is yet to be adopted by NHSScotland.

2.38 The tool includes a section on transport and covers the following:

- provision of public transport;
- proximity to key amenities;
- cyclist facilities;
- travel survey;
- travel plan;
- maximum car parking capacity.

2.39 BREEAM Healthcare can be accessed by eligible users via the following website: www.breeam.org/

3. What is a Travel Plan?

3.1 The Energy Saving Trust defines a Travel Plan as: *"A Travel Plan is a package of measures designed to promote greener, cleaner travel choices within organisations and encourage the use of travel alternatives such as car sharing, public transport, walking and cycling."*[4]

3.2 A Travel Plan is designed to influence transport to an individual site or within an organisation. Such plans aim to lessen the environmental impact of transport arrangements, reduce transport journeys to NHS sites for employee business requirements, manage transport to ease congestion, reduce emissions from exhausts, and relieve car-parking by reducing reliance on single-use car-parking.

Benefits

3.3 Travel Plans can produce real benefits for:

- the individual, through improved health, reduced stress and cost savings;
- the patient and other visitors to the site, by improving access to sites, relieving concern, allowing the ability to keep appointments etc; improved car park management for those who need to drive increasing the likelihood of spaces for those that need them;
- the workplace, through a healthier, more motivated workforce, reduced congestion and improved access to sites for employees, potential recruits, visitors and contractors;
- the community, by organisations demonstrating their commitment to environmental priorities and setting an example to others; by reducing congestion, freeing the flow of movement through local routes, reducing incidence of road traffic accidents whilst also addressing issues of nuisance and noise; and parking on street.
- the environment, through improved local air quality, with less noise, dirt and fumes, which can contribute to other national and global improvements;
- health promotion, by encouraging people to build 30 minutes of physical activity into their day on most days by walking and cycling.

An average of 27% of people in Scotland do not have access to a private car. Travel Plans are not anti-car but instead can assist in making sites more accessible so that people without cars can get around[5].

[4] Source: www.est.org.uk
[5] National Transport Strategy 2006

The NHS and Travel Plans

3.4 An effective Travel Plan will address the following:

- employee transport to and from work;
- employee transport during work time;
- patient and visitor travel and access to sites;
- public transport availability;
- use and type of fleet vehicles;
- deliveries and contractors;
- peripatetic/community visits;
- travel and subsistence rates and rewarding small-engine cars or cycle mileage;
- the needs of disabled people with a physical, mental and/or visual impairment, and the needs of patients, employees, visitors and may even address the needs of visitors accompanied by young children.

3.5 Scottish Executive guidelines (2007) on the contents and structure of a Travel Plan suggest that the following elements are included:

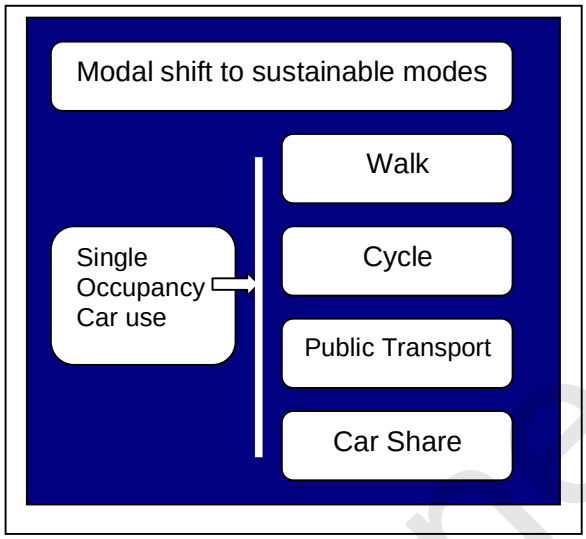
- a background to the organisation and the context into which the travel plan should fit;
- objectives, identifying what the travel plan should achieve;
- scope, identifying the travel elements of the business activities to be addressed;
- actions and measures to achieve the objectives;
- a strategy for marketing the plan;
- targets, set to monitor progress towards achieving the objectives;
- effective monitoring of the plan;
- dissemination, sharing success and best practice with others.
- links to other sources of help and support (for example Transport Direct and Traveline Scotland journey planners).

3.6 Applications for developments that are likely to have a significant impact on the local transport network are likely to request a Travel Plan. For example, NHS Fife worked along side Fife Council to produce a Travel Plan Strategy for their sites; this is one of the case studies discussed under Section 6.

Aims and objectives

3.7 The overall aim of a Travel Plan is to reduce single occupancy car travel by introducing a range of measures giving employees, visitors and patients more

choice so that more people will choose other ways to travel other than driving alone.



A Travel Plan also aims to reduce the need to travel and may include facilities to encourage telecommuting using remote communications technology such as teleconferencing, videoconferencing and home-based working. Other activities like car-sharing and 'trip chaining'[6] can also be introduced and supported through a travel plan.

Steps to producing a Travel Plan

3.8 Transport Energy's (2004) 'Travel Plan resources pack for employers'[7] is an excellent free resource which has lots of advice and case studies on developing Travel Plans.

There are a number of defined steps involved in the production of a Travel Plan, which are all underpinned by a need for continued awareness raising and marketing. The steps are as below:

- **Secure senior management support:** the Travel Plan process should be driven by management to give it authority; provide an example; provide budgets and employee time; and ensure that changes can take place.
- **Set up Travel Plan Action Group:** a Travel Plan co-ordinator should be appointed and an action group set up. The role of the Action Group is to take on the implementation of Travel Plan measures. The Action Group needs to have the support of Senior Management and it is helpful if it is made up of a mixture of people, both decision-makers and those interested in the different issues who will assist with implementing measures. For

[6] 'Trip Chaining' refers to the practice of combining trips into one 'chained' trip rather than doing several separate trips, which tends to be a much less efficient approach to travel.
[7] See www.transportenergy.org.uk

example: cyclists, walkers, bus users. It is beneficial if the Group is made up of positive, willing 'can do' people as these sorts of people will be able to take forward the implementation of the Group's work programme and support the Travel Plan Co-ordinator. Positive people are also more likely to be able to 'sell' the idea of sustainable travel. It will also benefit your organisation greatly if the members of your Action Group and your Travel Plan co-ordinator travel sustainably and are seen to be doing so.

- **Identify roles and responsibilities:** The role of the Travel Plan Action Group is to steer the direction of the Travel Plan and give the Travel Plan Co-ordinator guidance. The Group will also set the work programme for the months ahead. Much of this work programme will be derived from the output of the Employee Travel Survey, a review of related policies and guidelines, the site audit and the post-code mapping exercise (see below). Through the survey employees will have identified what measures would be most likely to encourage them to change their travel patterns to more sustainable modes. The Group should decide which measures they will focus on first and set a work programme.

  The implementation of the work programme will also rely on availability of funding so the Group may be tasked with attracting funding before some measures can be put in place.

  An effective Chair is needed for the Travel Plan Action Group. Everyone on the Group should accept and understand their role. It is important to set out a Group reporting mechanism from the outset, preferably to management.

  Keeping people informed and consultation with employee representatives is important in generating transparency and goodwill among employees. An affordable way to do this is to use your existing employee communication mechanisms, like email or an employee newsletter.

  This Group is also responsible for monitoring and review of your Travel Plan, as discussed below.

- **Undertake a site and facilities assessment:** this is recommended in order to ascertain the existing level of provision of issues such as public transport, cycling and pedestrian facilities and car-parking. This is considered in more detail in the following section.
- **Undertake an Employee/Patient/Visitor travel survey:** this is necessary in order to understand the existing travel patterns of employees/patients/visitors, including how they travel, where from, and what factors influence their means of transport. Details of an appropriate employee survey are included in Appendix C.

Note: Consider the benefits of using a software-based GIS (Geographic information system) to plot staff postcodes generated through your survey and inform and tailor transport to the needs of the individual.

- **Undertake transport audits:** this is an analysis of patient/visitor transport options and traffic counts. This will include the impact of street parking,

disturbance and other community issues. This can be achieved through contact with local community groups and liaison committees.

- **Identify objectives and indicators for improvement:** meaningful but realistic objectives should be considered for the reduction of single-occupancy vehicle trips to sites, and these are included within Travel Plans so that they can achieve a real reduction to traffic, in and around sites. Your Authority should be able to help you set targets.
- **Identify measures:** there are a range of measures which are likely to be incorporated in any successful Travel Plan, ranging from financial incentives to choosing an alternative to the private vehicle, to disincentives. These are explored in more detail in Sections 6 and 7.

  Once measures have been identified through the survey and audit, a programme of implementation should be set with a clear indication of timescales and roles and remits. It would be advantageous to deliver some of these 'quick wins' early in the programme to show that the Travel Plan has started being implemented. Some measures can be implemented more quickly than others.

  The measures that are implemented as part of Travel Plans are often referred to as 'soft measures'. These soft measures can be a very cost effective alternative to other 'hard' engineering measures. An evaluation of soft measures already implemented across the UK found that on average, every £1 spent on well-designed soft measures could bring about £10 of benefit in reduced congestion alone and more in the most congested areas[8].

- **Audit, monitor and review:** to assess the effectiveness of Travel Plans, there is an ongoing need to monitor effectiveness through continued surveys and traffic counts. If SMART objectives are used in a Travel Plan then their achievement will be measurable. This should form a key part of any monitoring efforts.

[8] Source: http://www.dft.gov.uk/pgr/sustainable/smarterchoices/ctwwt/chapter13projectionsandcosts. Also see: *Communicating Environmentally Sustainable Transport - The Role of Soft Measures*, OECD 2004

4. Data collection and monitoring

4.1 For a Travel Plan to be successful, it should try to achieve a modal shift from single occupancy car use. The measures that are adopted will determine the modal shift and the level of shift will determine how successful the plan is.

4.2 It is therefore necessary to predetermine the levels of shift that it is hoped will be achieved, ie: set targets, to set a baseline against which future activity will be measured and to describe the monitoring activities (and frequency of monitoring) that will take place to capture the data which will be used in calculating the modal shift. Using SMART objectives in the Travel Plan will help to guide data collection and monitoring activities.

4.3 The first stage of data collection is the process of gathering baseline information. This will include details of employee numbers, patient and visitor numbers, number of car-parking spaces, and other physical information which should generally be available, with other supporting information such as site plans indicating points of access and egress to and from sites.

4.4 Recommended best practice is as follows:

- **Public transport provision** – up-to-date, reliable information about public transport can make a significant difference to the way people travel. It should be established what services run near to sites, where the stops/station are, and what actions could be taken to make public transport more attractive. Information about the number of public transport boardings (especially bus) can often be obtained from Passenger Transport (PT) companies, and this is a useful set of data to inform evaluation of PT promotion schemes, etc;
- **Pedestrian access** – identify whether footpaths around the site are safe, secure, well lit, maintained and free from obstructions. Pedestrian and cyclist counts can be initiated and recorded at regular intervals. This data can be used to track trends over time;
- **Cycle infrastructure and facilities (cycle/equipment loans)** – review and assess whether there are secure and convenient facilities around the site. This should include details of lockers, showers and changing facilities, as well as safe access routes for cyclists which are well lit and well maintained;
- **Vehicular access** – an assessment of whether there are any congestion /access problems on/around the site should be carried out, complete with appropriately signposted routes. This should also identify any health and safety issues or conflicts between users eg: Ambulances and buses;
- **Car-parking availability and policy** – identify how many spaces are available, who uses the spaces, when and how, and particularly whether there are key times during the day when it is difficult to find a space. An assessment of the costs of alternative parking provision should also be

undertaken. The solutions adopted at each site must fit the particular needs and circumstances of the site.[9]

4.5 Further information-gathering may need to be commissioned, which will predominantly involve traffic counting to establish the number of vehicles accessing the site at various times of the day and, where time permits, over a number of months, to allow for seasonal fluctuations.

4.6 There needs to be a clear focus on managing the demand for parking places at peak periods, such as shift changes, and to question whether it is possible to review the appointment procedure so as to avoid inviting all consultant episodes simultaneously whilst being sensitive to aspects of provision which could be provided off-site at a pharmacy or GPs, for example blood tests and other routine procedures.

Employee involvement

4.7 When developing and monitoring the impact of a Travel Plan, it is necessary to have the support of senior management and employee representatives. To understand existing travel characteristics, a questionnaire can be produced that should be no more than two sides of A4. This can be distributed to employees to gather information about where people live, how they travel to work, why they use different modes of transport etc. An example form is given in Appendix B. A similar survey of patient and visitor habits should also be undertaken, with an example in Appendix D.

Audit, monitor and review

4.8 It is clear from the Travel Plan Evaluation Tool considered in Section 5 that a successful plan should have a robust monitoring system in place to ascertain whether the plan is achieving its aims. Monitoring should take place on a regular basis, normally annually, and should be by means of further questionnaires as well as traffic surveys counting vehicle movements and cars parking onsite.

4.9 Further indications of modal shift that can be used for audit and monitoring purposes include the uptake of discount transport schemes, the number of parking permits provided[9], the usage of cycle facilities required taking into account seasonal variations, and the number of employees lift sharing on a regular basis.

4.10 The involvement of Human Resources is important to inform staff. For example, personnel/HR can ensure that the culture of automatic car-parking rights is broken at the interview stage, prior to appointing employees. Also the induction process is important to the Travel Plan for new employees. Providing new employees with information on travel choices can help to influence travel habits at an early stage of employment. A change of workplace can often be a catalyst to change travel habits.

[9] CEL 1 (2008) Revised Guidance on Hospital Car Park Charging

4.11 Interviews and induction can provide excellent opportunities to set out policies and procedures and to demonstrate that the Travel Plan fits in with the environmental ethos of the organisation. This can help to re-assure prospective employees that your Board is forward thinking and progressive and could attract people to choose to work for your organisation over another.

4.12 Consider formal short-, medium- and long term aims and whether there are opportunities for benchmarking.

5. Travel Plan evaluation tool

5.1 The Department for Transport has produced a software package which enables organisations to assess their Travel Plans and check whether they are going to meet their modal-shift aspirations. The tool has now been adopted by a number of local authorities. The tool is available for download[10]. An introduction to and guidance about the software is available on the Department for Transport website[11].

5.2 The software has been designed to evaluate the Travel Plan process, which in turn can help to predict the outcomes of that process. It is comprehensive and covers a wide range of issues, from the format of and motivation for a Travel Plan through to monitoring aspects and benefits of partnership working.

5.3 Within each of the above sections there is a series of questions requiring an answer by way of tick boxes, which then calculate an overall score. The tool is user-friendly, and although it requires an element of subjective opinion, this has been reduced as much as possible by the format.

5.4 As well as a final percentage score, the tool calculates a percentage for expected single occupancy vehicle reduction, that is, modal shift between 0 and 30%. Whilst the software automatically calculates an overall score for the Travel Plan, it also gives individual scores for each section so that areas of weakness can be identified and addressed.

5.5 The evaluation tool requires a reasonably detailed knowledge of the Travel Plan that is being assessed to be able to fully answer each of the sections, although it is possible to move between sections, which can be useful when assessing plans produced at sites within the Board.

5.6 The software guidance recommends that plans are updated over time and that they are also re-evaluated to show whether the amendments have improved the overall likelihood of success.

5.7 Whist the tool includes reference to the English planning system, this is not dissimilar in format and objectives to the Scottish system. Consequently, the utility of the tool is not affected.

5.8 In overview, the Travel Plan evaluation tool is commended to Boards as a means to assess their Travel Plans and engage with local authorities as a basis for meaningful dialogue in developing a realistic, viable and acceptable Travel Plan.

[10] Go to: http://www.imsaho.com/miscellaneous/travel_plan_evaluation_tool.asp
[11] Go to: http://www.dft.gov.uk/pgr/sustainable/travelplans/work/evaluationtool/

6. Benefiting by example (case studies)

Introduction

6.1 There are more Travel Plans in England, as many organisations in England have been travel planning for longer than their Scottish counterparts.

6.2 There are a number of Boards in Scotland that have developed Travel Plans. Although these are at the forefront in terms of Travel Plan development it is too early to say to what extent these examples have reduced single occupancy car use. Case studies of these best practice examples have been included at the end of this guidance.

6.3 However, a number of NHS Trusts in England are also included as they in some way exemplify best practice in transport management and have achieved some success by encouraging employees to commute to work in a more sustainable manner (ie: in modal shift). The experience of these English Trusts is included because the methods employed are generally transferable and Scottish Boards can use them too.

6.4 The case studies included have introduced Travel Plans as a reaction to growing parking and congestion problems, or as a result of planning restrictions related to new development.

English Primary Care Trusts

6.5 In England, Primary Care Trusts (PCTs), will generally operate from a large number of smaller sites, with many having sites in both towns and rural locations. PCTs have often been formed as the result of the amalgamation of a number of smaller community health trusts. Because of this, a relatively small number of PCTs have Travel Plans in place. However, with the advent of Local Investment Finance Trusts (LIFT) and the increase in the size of facilities (coupled with a growing policy backing), local planning authorities are increasingly encouraging Travel Plans to be submitted alongside applications for new developments.

Appendix A provides examples of how two PCT groups have delivered a Travel Plan in partnership. These are:

- South West PCT;
- Greater Nottingham PCT.

English Acute Trusts

6.6 By comparison, an acute operating division will operate from a small number of main sites (up to five), often within or adjacent to conurbations where there are particular pressures relating to access and congestion and where space and

permission for car-parking may be difficult to achieve. Sites will attract large numbers of patients, visitors and employees, often on a 24-hour basis.

6.7 The best practice English Acute Trusts that have been identified in this guidance are those included within the Department for Transport's (2002) 'Making Travel Plans work'. Following a scoping exercise, this identified 20 organisations whose Travel Plans had demonstrated a reduction in car use.

6.8 The case studies chosen were:

- Addenbrooke's NHS Trust, Cambridge;
- Nottingham City Hospitals NHS Trust;
- Oxford Radcliffe Hospitals NHS Trust;
- Plymouth Hospitals NHS Trust.

6.9 The Scottish examples included are from Acute Sites.

- Ninewells Hospital – NHS Tayside
- St Margaret's Hospital – NHS Fife.

6.10 From a review of the Acute best-practice case studies above, there are key themes which emerge (a) as driver for the production of a plan and (b) as the measures which are particularly effective in transport management and in easing congestion on-site by reduced reliance on single-occupancy car use and hence the requirement for additional car-parking.

6.11 A Travel Plan initiative usually stems from the policy drivers outlined in Section 2. However, the catalyst for the production or review of plans in the case of the best-practice Boards arose from the need to secure planning consent.

6.12 There was a demand for more parking spaces on all of the Trust sites but through the application of coherent Travel Plans, this demand could be effectively eased.

6.13 The following measures are all found within best practice Trust Travel Plans, and can be considered as potentially essential elements of any successful Travel Plan:

- strong management support;
- designation of a Travel Plan manager or 'champion';
- communication and negotiation with employee representatives;
- proactive car-park management, including:
  - charging;
  - introduction of permits;
  - improved parking controls, for example supervision barrier access etc;

  - disincentives to use car-parks;
  - reduction in number of employee parking spaces;
- improvement of cycling facilities;
- improvement of pedestrian facilities;
- improved public transport provision and information;
- encouraging lift sharing;
- park-and-ride schemes;
- improved inter-site transport;
- financial incentives through bus subsidies, interest-free loans for cycles, season tickets etc.

6.14 The above measures are those which are likely to give the best results and the most robust Travel Plan and as such may form the basis of any requirements of planning consent by Local Authorities. Different sites and situations will mean that it is likely that a combination of measures will be adopted, although there will almost certainly be a core of measures adopted relating to car-parking, public transport and improvement of cycling and pedestrian facilities.

6.15 The case studies are provided in Appendix A.

7. Steps to success

7.1 Section 3 refers to a number of recognised steps to success in developing Travel Plans. Whilst all of the best practice Trusts identified subsequently have produced their Travel Plans in slightly different ways, Appendix A identifies common themes which have resulted in the successful reduction in the number of car journeys, particularly single occupancy journeys.

7.2 Whilst many of the organisations in the study saw their Travel Plans as a way of meeting their environmental responsibilities, they also viewed them as an operational necessity that brought a range of benefits for the organisation. Travel Planning helped to cut congestion, relieve parking pressure, make sites more accessible, and improve employee travel choices. It enhanced image, reduced commuter stress, and aided employee retention. Travel Plans also saved money: whilst the annual cost of maintaining a parking space can be £400 to £800, the cost of running a Travel Plan was typically £47 a year for each full-time employee.

7.3 There are a number of critical factors which are present in all or most of the Travel Plans produced by the best-practice Trusts, and these mirror the Travel Plan Evaluation Tool in terms of being critical factors for successful Travel Plans. Whilst there are a range of measures that can be adopted by Travel Planners, there are two key factors which appear to produce the best results:

- availability of parking;
- financial incentives or disincentives related to transport.

Availability of parking

7.4 Parking restraint is the hallmark of all successful travel plans. All of the schemes considered introduced parking restrictions via a charging scheme, whether by permit or daily charge or a combination of the two. When introducing permit schemes there needs to be transparency of application. A clear and comprehensive policy taking account of the service needs of the hospital should be developed.

7.5 A key advantage of schemes that introduce parking charges is that any income generated may be used to cover any significant costs (e.g. capital charges, administration costs, security costs).[12] It is important that this use of generated funds is publicised so that employees and the public can begin to appreciate why charging systems have been introduced.

7.6 Another important issue for an operating division to consider when introducing or amending car-parking charges is its charging policy with regard to relatives of long-term patients. Many operating divisions have recognised this problem and adopted a policy of refunding parking charges or providing temporary permits.

[12] CEL 1 (2008) Revised Guidance on Hospital Car Park Charging

As the guidance on parking charges from the Scottish Government states[13], any policy would need to take account of low income patients.

7.7 It is critical that a wider geographical area than the hospital site be considered when devising car-park management strategies so that parking is not displaced into surrounding areas, which can lead to neighbouring residents being disadvantaged and aggrieved.

7.8 Local authorities are generally recognising this problem, and will often require the introduction of off-site parking measures, normally residents' parking zones, to prevent this happening. This measure can only be adopted in conjunction with the Local Authority, as they are the body responsible for introducing the necessary orders.

Financial incentives and disincentives

7.9 Financial incentives and disincentives are also very important in the case studies considered in Section 6. These can take the form of:

- incentives allocated to those who arrive without a car or who lift share;
- compensation for giving up a parking space or permit;
- reductions on public transport fares through negotiated discounts or provision of free bus passes;
- interest-free loans for cycles;
- attractive car-parking charges or reserved priority bays for lift sharers;
- other opportunities including home-working, video/telephone conferences;
- hidden incentives through planning agreement payments subsidising public transport.

7.10 The balance between disincentive and incentive should be considered in conjunction with the reliability and regularity of alternative public transport provision, so that the 'opportunity cost' of travelling to the site by means other than a car is attractive to individuals. As an example, the balance between bus-pass costs and car-park charges can be critical in influencing change. This exercise needs to be carried out in an open, fair and transparent fashion to engage the confidence and endorsement of employees.

7.11 Whilst the main reductions in car use appear to arise from the introduction of car-park management and restriction, often with significant results in modal shift within the first year, these should be introduced when alternatives are available so that employees, patients and visitors have genuine travel choices.

7.12 Whilst car-park management results in the greatest reductions of trips taken by car, other measures can also result in modal shift, although the effectiveness appears to vary from Board to Board and site to site.

[13] See: CEL 1 (2008) Revised Guidance on Hospital Car Park Charging

Alternative modes of transport – the modal shift

Information and communication

7.13 The improvement of public transport and provision of information about availability can be a significant benefit in producing a modal shift towards public transport services by people who would previously have driven to the site.

7.14 Liaison between operating divisions and public transport providers is recommended to ensure that appropriate services are provided. Some Boards in Scotland have expressed concern about the Health and Safety issues associated with bus infiltration into a site.

7.15 However, the operating divisions in the study who have implemented bus routes through their sites rather than relying on bus stops at the edge of sites recognised this as an important reason why people use the bus.

7.16 These measures will encourage more people to use public transport, particularly where services penetrate the site and are designed so that there are bus stops adjacent to main employee and visitor/patient entrances.

7.17 Promotion of public transport information should be ongoing and continuous. www.travelinescotland.com is a travel helpline for public transport enquiries.

7.18 When developing Travel Plans, Boards should involve their employees to ascertain what they want, what problems they encounter with existing transport networks, and what can be done to improve access to sites.

7.19 This can be done through surveys, workshops or provision of information. Involving employees can help to ensure that new proposals to improve transport access into and around a site will provide what is needed and thus be fully utilised.

7.20 Other important issues for a Board to address when introducing or amending car-parking charges[14] is its charging policy with regard to:

- reviewing the need for car-parking charging and being transparent;
- patients that travel from rural areas and have no access to any other means of transport except private vehicle;
- what the revenue generated through the charging scheme will be used for;
- the availability of free passes or concessionary provisions for:
  - patients with a long-term illness;
  - relatives/prime visitors of patients with a long-term illness;
  - patients with a serious condition requiring regular treatment;
  - disabled parking etc;

[14] CEL 1 (2008) Revised Guidance on Hospital Car Park Charging

- the availability of financial assistance under the hospital travel cost;
- the NHS low income scheme;
- how the Board will better target the information about assistance with car-parking charges to those who need it.

7.21 Many Boards have recognised these important issues and adopted a policy of refunding parking charges or providing temporary permits. To alleviate unnecessary concerns at a difficult time in a patient's care plan, this information should be made freely and widely available. This can be achieved by the Board adopting a policy of transparency and including this information – in a clear, easily understood form – with all literature on appointment letters, visitors' arrangements, information sites, and on websites and other information/ communication routes.

Patients' appointments

7.22 Good practice also suggests that details of public transport, for example bus times and information about car-parking, should be included with appointment letters that are sent out to patients.

7.23 For an NHS operating division, it will be a key to success to liaise with local transport providers to introduce low floor 'kneeling' or 'low floor' buses, on-site bus shelters and, for larger sites, shuttle-bus systems. (Such as Dundee City Council and Ninewells have in the Case Study – Appendix A).

7.24 When developing Travel Plans, Boards should ensure that accessibility issues are considered to ensure that measures intended to reduce the use of private cars do not have a secondary effect of inhibiting access to sites by patients and visitors.

Employee movement

7.25 Employees often have to move about a site and between sites where Boards operate from more than one location. Where it is practical, Boards should consider a cycle route (with or without Board-provided cycles) or the use of battery-operated tugs (similar to milk floats).

Contractor visits

7.26 It is important to manage contractors who may be working on-site, either on a daily basis or as part of a large development scheme. Boards should consider imposing conditions on contracts for large development schemes, preventing contractors bringing private vehicles onto site, but rather having to rely on bussing employees in from other locations.

Culture and trends

7.27 Not surprisingly, cycling is more of a popular alternative where there is a culture of cycle riding and where the environment encourages it. Addenbrooke's Hospital, Cambridge, has shown significant increases in cycling after the

introduction of Travel Plans. There can also be significant seasonal variations, with more people using cycles in the summer than in winter, and this can often reduce car usage in the summer months.

Generally, cycle storage and changing facilities would be expected as part of a package of Travel Plan measures; although careful analysis of likely demand and use should be undertaken before significant investments are made.

Change management

7.28 Making the change from private car to lift sharing/public transport/cycling/walking etc. should be made as smooth, easy and comfortable as possible for employees to ensure that there is a minimum of dissatisfaction. When introducing a scheme, Boards should consider the time of year. For instance, in winter months are there comfortable, warm, dry waiting areas for buses or trains? Do cyclists have free access to showers/changing facilities, and are there adequate secure lockers for change of clothes, with towels/laundry facilities for those who wish to shower? Boards should ensure employees are not penalised for adopting alternative modes of transport.

7.29 As a first step, to encourage a part-time approach as a basis for encouraging full-time commitment, employees should be encouraged to car-share or use public transport on a few days a week. This may lead to better rates of success in the longer term, rather than the 'big bang' approach of sudden cessation.

Coping with dissent

7.30 A method of dealing with complaints or dissent is necessary to overcome problems that may arise during implementation of Travel Plans. Challenging the prevailing culture of car reliance can be difficult, and however carefully changes are introduced, there will be some opposition. One message to come through from the travel coordinators in the case studies was, "*Don't let them wreck it!"* There will always be some people who see travel initiatives in a negative light, and it is possible for a few dissenters to have an impact.

Those with experience in this area recommend a sense of humour, a thick skin and a pragmatic attitude. While not everyone will be able to change the way they travel, there are some who can and will.

7.31 It is important to make employees aware of parking as a resource with a cost attached.

7.32 Perceptions are important – do not make those who use the alternatives such as public transport etc feel like second-class travellers, compared with those who enjoy the perceived privilege of car access to the site. Ensure that the transport they use and the facilities they need are of good quality and well maintained; this could tip the balance between success and a negative response.

Senior level commitment

7.33 Another critical factor in the success of a Travel Plan is ensuring that there is high-level management support from the Chief Executive and Directors, as well as Board backing, to ensure that the Travel Plan is put in place with an opportunity to succeed. All of the best-practice Boards demonstrate management backing, with senior employees leading by example.

Consultation/negotiation

7.34 There should be full dialogue with employees and a full consultation about the process. Time should be included within any Travel Plan programme to allow for employee consultation and workshops to explain the need for and the benefits arising from, Travel Plans. Wherever possible, employees and trade union representatives should be included on working parties set up to consider possible Travel Plan introduction.

7.35 Often, problems with car-parking on NHS sites can manifest themselves in on-street parking in surrounding areas, with employees and patients competing for space with residents, which can often lead to conflict with local residents. Full consultation with the local population throughout the development of a Travel Plan can help to demonstrate that 'something is being done' about a problem. It will also allow residents to comment on some operational matters – for example, that 24-hour car parks be sited in such a way that noise and light pollution to surrounding properties is kept to a minimum.

7.36 Finally, all of the best-practice examples in this guidance have a dedicated Travel Plan 'champion', normally in a post specifically set up to devise and implement the plan. This is a further sign of management support and where car-parking charges are introduced, they can go towards defraying the costs of employment.

8. Determining levels of car parking provision

8.1 Many Boards suffer from crowded car parks, with seemingly inadequate provision of spaces for all employees, patients and visitors who want to access the hospital. With the impetus being on better management controls and less car-parking space, it is important to understand what levels of parking are appropriate for NHS facilities, and to reach some consensus on how these levels can be determined across a range of different sites and locations, for example rural and urban. Though in many cases this will only apply to parking for new or extended facilities.

8.2 In setting out a basis for car-parking provision, it is necessary to differentiate between the various types of development and to consider how these are treated by Local Authority planning guidelines for health developments. Reference is made throughout this Section to best practice English Trusts because they have achieved a modal shift through their Travel Plans, which has had a positive impact on the car park.

8.3 The following methodology has therefore been taken as a starting point for the different types of development; it has then considered how various Local Authority plans treat the car-parking provision for developments; and has then considered the application of guidelines against specific locations and looked at the problems or successes arising. Consideration of external factors such as presence of a Travel Plan, transport links etc will all affect the outcome of whether accessibility to car-parking is considered to be sufficient.

8.4 NHS healthcare organisations are characteristically divided into the following:

- Acute;
- Primary Care;
- Mental Health;
- Ambulance.

8.5 Of these sectors, the first two will generally have the most demand for vehicular access and, hence, car-parking, which will arise from five main areas:

- employees;
- patients;
- visitors;
- contractors;
- deliveries.

8.6 All NHS healthcare facilities will have details of the numbers of employees who are employed in order to provide the baseline demand for parking. As this will account for the 24-hours-a-day/365-days-a year operation of acute hospital

sites and the consequent shift patterns, there will be less demand at any one time than the total number of employees. There are other staff factors which can affect the demand for parking, such as security concerns for shift workers, the need for some employees to work between sites and the problems associated with recruitment and retention.

8.7 Patients can be split into different groups who have different needs, as follows:

- out-patients/therapies;
- in-patients;
- day cases;
- overnight stays;
- accident and emergency.

8.8 These patient groups can be found at all types of site, although clearly the last two will generally be treated at acute sites. Patient activity information should also be available to Boards for individual sites, again giving an indication of the level of car-parking requirement. The following information relates to an Acute Trust site. Normally, out-patient visits at primary care sites will be of shorter duration.

8.9 Day case and overnight stay patients do not generally require parking as they will be unlikely to drive, although there would be a need for short-stay visitor/escort spaces, particularly to collect discharged patients.

8.10 Generally, arrival patterns for patients at acute Boards can be summarised as follows:

- 70% of patients arrive as emergencies between 10.00 and 21.00;
- 30% of patients as elective cases arrive between 09.00 and 18.00;
- departure is generally between 10.00 and 17.00.

8.11 For primary-care sites (generally health centres), peak arrival and departure times are generally from 09.00 to 11.00 and 15.00 to 18.00. Emergency cases tend to run at fairly consistent levels throughout the week, with particular ‘high spots’ at weekends, with sports injuries and evening activities giving rise to increased numbers of patients.

8.12 From the number of employees and patients, it is possible to determine the number of visitors who are likely to visit a site (typically an acute site). For example, an average of 1–2 visitors might have an overnight stay. These visitors will arrive on site throughout the year, with no particular day busier than any other. Typically, the majority of visitors tend to arrive after 19:00, but this can differ from site to site.

8.13 From an analysis of activities (that is, employees, patient and visitor numbers) it is possible to begin to identify the latent demand for parking spaces at any particular healthcare site. This can be done by analysing the maximum number

of people who may need to park on a site at any one time. Whilst this approach may require significant work and investigation of transport patterns, it will give a detailed picture of the demand, which can then be adjusted depending upon a number of other factors, such as Local Authority (LA) local development plans.

8.14 SPP17 (Planning for Transport) does not go into parking provision at hospital sites and Local Authorities have interpreted the SPP17 in different ways and have taken different approaches to implementing maximum parking standards in their own areas. This is very problematic for Boards that share boundaries with more than one Local Authority where each has applied Maximum Parking Standards in a different way.

8.15 Each Local Authority is required to produce structure and local plans or development plans which contain all the planning policy and guidelines in relation to developments in the area. A review of these is useful, because it begins to show some trends in what will be accepted on development sites and begins to indicate where Local Authorities will allow concentrations of parking or seek to restrict the parking. Copies of development plans are available from Local Authorities, and an increasing number are now being made available online. In addition, many Local Authorities have produced Development Guidelines to let prospective developers know what to expect in terms of regulations. It is worth obtaining copies of these.

8.16 It is important to remember that health centres and GP surgeries will normally operate on a day time only basis, with the majority of employees present at certain times. Hospitals will be operating on a 24 hour basis, with the majority of staff working shift patterns, resulting in high numbers of staff at shift changeover times, which can lead to particular problems at these times.

Case studies

8.17 The best-practice examples considered in Appendix A have all experienced considerable parking problems, but – through the introduction of Travel Plans – have managed to reduce the demands for parking spaces to a manageable level.

8.18 By dividing the number of car park users by the number of parking spaces, a ratio of provision can be determined showing the number of employees at each case study area as a ratio of the number of car-parking spaces.

Trust	Staff spaces	Local plan allowance	Patient and visitor spaces	Local plan allowance
Addenbrooke's	1:3.75	On merit	1:10.5	On merit
Nottingham City	1:4.33	1:4	1:11.55	1:3
Oxford Radcliffe	1:4.28	1:4	1:15	1 per bed
Plymouth	1:4.25	1:4	1:7.5	1:3

Table 1: Ratio of number of employees at each trust to the number of car-parking spaces

8.19 The ratio of employees to employee car-parking spaces varies between 3.75 at Addenbrooke's and 4.33 at the Nottingham City Hospitals, with a mean being 4.15. Most local plans tend towards a ratio of 1 space for 4 employees and this begins to emerge as an appropriate level of provision. Whilst these sites have had to work hard to reach their current levels of parking, they are able to operate satisfactorily with the levels of parking allowed.

8.20 The ratio of employee to patient and visitor parking varies widely, between 7.5 at Plymouth and 15 at Oxford, with a mean of 11.15. Most local plans do not determine levels of patient and visitor parking, although where it is included, it tends to average around 10 spaces per employee.

Factors affecting demand

8.21 There are a range of factors which can affect the demand for parking on sites, ranging from the type of site and hence the type of healthcare delivered, through to the location of sites and their accessibility. The demand will best be met on a site-by-site basis, based upon the number of employees and patients at the site and the type of facility, for example residential or day centre.

8.22 The different types of site have been detailed above, with detailed consideration given to acute hospitals and their demands and also Primary Care healthcare premises, especially health centres. Of the other types of trust mentioned, ambulance trust sites will normally only have a requirement for employee parking, as the sites will not attract many visitors.

8.23 These requirements would normally be based upon a maximum of one space for each member of staff, along with one space per operational vehicle where these vehicles will be based upon the site.

8.24 Mental health sites have similarities with both the acute and the primary care sites, although numbers of out-patients and visitors will generally be lower.

8.25 The location of a healthcare facility will also affect the number of parking spaces that need to be provided. The best-practice examples (like the majority of acute sites) are based in or close to large urban areas. Therefore, they are likely to be better served by public transport or be accessible by means of transport other than the car, in contrast to sites in more rural areas.

Transportation

8.26 Clearly, accessibility to a site by means other than the car will affect the level of parking provision.

8.27 Where an operating division has a Travel Plan in place with the measures outlined in Section 3, and where the Travel Plan is adhered to and is successful, there can be a dramatic reduction in the amount of parking required. Whilst this is more apparent on acute sites, it is also a factor in assessing the amount of parking required for primary care sites. For instance, the Oxford Radcliffe Hospitals are considered as a best practice Trust and have a very successful Travel Plan in place. Many of their employees now travel to work by means of transport other than the car. For health centres, successful Travel Plans can reduce the amount of demand for parking by up to 50%, although it should be borne in mind that to be truly successful, the alternative modes of transport (principally good public transport links) should be available and user friendly.

Charging for car parking

8.28 Car parking is a valuable resource for any organisation; more especially where a site is under pressure from different user groups such as is the case (as pointed out in paragraph 8.5 above) in many NHS sites.

8.29 Charging is one way in which car parks can be managed. Although, this can encourage a modal shift away from single occupancy car use, it should only be considered as a package of measures, when employees have alternative methods of getting to work.

8.30 Car parks require to be maintained and reasonable charging can ensure that Boards have adequate funds for maintenance. The maximum daily charge (at the time of publication) for parking at an NHSScotland hospital should not exceed £3.00.[15] This income can also be used to put in place measures to widen employee travel choices and encourage them to use methods of transport other than driving to work alone.

8.31 In considering parking charges, Boards should refer to CEL 1 (2008) on Hospital Car Park Charging. Consideration should also be given to the Department of Health's *Income Generation. Car Parking Charges ~ Best Practice for Implementation* (December 2006).

8.32 The NHS Environmental Assessment Method developed by the Building Research Establishment (BREEAM Healthcare) (not adopted in Scotland at the time of publication) includes a section relating to transport, within which there is reference to the provision of one car-parking space for every four staff on site. This is a baseline indicator of what can be achieved with effective transport management measures in place.

[15] CEL 1 (2008) Revised Guidance on Hospital Car Park Charging

Local Authority targets and sanctions

8.33 The guidance on Transport Assessments is proving valuable in deciding on the number of parking spaces required depending on how the site will be used i.e. the volume and extent of access required, 24 hours or otherwise. A detailed Transport Assessment is a useful tool[16] in setting targets/outcomes and agreed measures and/or outcomes may be specified, with or without sanctions. If without sanctions, there may be little incentive for implementing an agreed Travel Plan and enforcement may be difficult.

What to expect of the Local Authority

8.34 Many local authorities take a partnership approach to the development and implementation of Travel Plans, providing support although, as with other planning matters, styles, guidance and availability of support will vary. However, the following may be available in an attempt to streamline the process:

- written policies, guidance and technical information, development guidelines;
- pre-application meetings, where written information may require further explanation;
- support in discussions with transport operators;
- assistance in the preparation of the Travel Plan, including support with travel surveys and mapping;
- assistance with subsequent survey and monitoring.

8.35 Responses to requests for assistance/collaboration will vary between authorities, and it is therefore important to engage with the authorities at an early stage to build a relationship of trust and common language and mutual understanding. In addition, Travel Plan Officers from Scotland's Regional Transport Partnerships may also be able to provide travel plan assistance to Health Boards.

8.36 Sanctions therefore ensure that failure to deliver agreed outcomes can be remedied and can take the form of:

- payment in lieu of remedial to implement previously-agreed measures;
- specified works to remedy the failure to achieve agreed outcomes;
- payment to the Local Authority to meet the cost of any action to meet the agreed outcomes;
- specified changes to the site configuration to meet those objectives previously agreed.

[16] e.g. see: http://www.scotland.gov.uk/Publications/2002/04/14551/3214 or www.dft.gov.uk/pgr/regional/transportassessments/guidanceonta

8.37 Sanctions provide an incentive to the applicant to comply with agreed outcomes, whilst encouraging an early dialogue to prevent unnecessary delay to projects and abortive time of the Local Authority and Board staff/agents.

9. Successful partnership working

9.1 The creation and delivery of a successful Travel Plan depends upon a number of factors and a range of individuals and organisations combining to meet the aims of the plan. Generally speaking, the most successful plans, whether in the NHS or in other organisations, are those where the lead organisation has combined with others to produce the plan.

9.2 Partnership working on a number of levels, both organisationally and individually, and internally and externally, is particularly recommended. All of the best-practice examples have demonstrated that a close working relationship with the local planning, RTPs and highway authorities can be extremely beneficial for each party to understand the wishes and requirements of the other. This should lead to a better understanding of the purposes of the Travel Plan and, hence, a more successful plan.

External partnerships

9.3 The Regional Transport Partnerships and some Local Authorities now have Travel Plan co-ordinators who are employed to help organisations develop Travel Plans and to provide links into public transport and other measures that may be included in the plan.

9.4 Working relationships should also be developed with public transport providers, so that they can appreciate the likely demand for current and new services and ways of improving current services. Operators may consider alternative routing of services if by doing so it meets latent passenger demand.

9.5 Boards should also consider how they can work with other local employers to develop shared solutions to transport problems. By including other groups of workers, a 'critical mass' for success can be more easily achieved. For instance, in Oxford the NHS Boards and the two universities in the city work together to develop transport solutions, and each benefit from increased use of public transport, leading to more certainty that services will be continued.

9.6 Consider networking groups as a means of more effective communications towards more innovative partnership solutions. A Travel Plan has more opportunity for success if undertaken as a community-wide approach, rather than attempting piece-meal measures in isolation.

Internal partnerships

9.7 In addition to external partnership working, internal partnerships should be developed so that different departments and employee sectors understand each other's needs. These partnerships are particularly important between management and employees when developing the initial plan.

10. Other sources of information

The following resources are in alphabetical order:

Association for Commuter Transport (ACT) (soon to merge with TravelWise – see below). This UK network helps organisations realise the potential of Travel Plans and works to bring health based Travel Planners together to develop good practice. www.act-uk.com

BREEAM Healthcare - Building Research Establishment Environmental Assessment Method: A self-assessment software tool to estimate the environmental impacts of the current existing NHS estate and new build/refurbishment schemes, has a section on transport. http://www.breeam.org/

Cutting your car use: A book and website with easy to read practical advice to help change personal travel habits and reduce traffic. (Bulk purchase available.) www.cuttingyourcaruse.co.uk

Cycling to Work: A useful book on how to get started with cycling to work, including information on buying the right bike and equipment, riding safely in traffic, finding the best route, integrating cycling with other forms of transport, basic bike mechanics and finding bike buddies. Available from: www.greenbooks.co.uk.

Developing & implementing travel plans: A good practice guide for the NHS in London: bringing together learning from Travel Plan development across 18 NHS sites in central London, building on the experiences of these and other NHS Trusts in developing good practice around the country. Available from: 0845 602 1425.

Energy Saving Trust offers free consultancy support to help organisations develop Travel Plans and running fleet vehicles more sustainably, http://www.energysavingtrust.org.uk/fleet/

Living Streets champions the use of streets and public spaces for people on foot. They work on practical projects to create safe, vibrant and healthy streets for all. They have a consultancy service which could assist by undertaking accessibility audits and assessments on NHS sites. www.livingstreets.org.uk

Making the case: improving health through transport: This NICE publication sets out the implications of transport, the policy drivers behind more sustainable travel plus advice and case studies on taking action. www.publichealth.nice.org.uk

Making Travel Plans Work. Lessons from UK case studies: A guide for employers for managing and reducing traffic around the site. http://www.dft.gov.uk/pgr/sustainable/travelplans/work/publications/

Making Smarter Choices Work: A guide to help local authorities provide more sustainable travel initiatives such as: school, workplace and individualised Travel Planning, improving public transport information and marketing services, setting up web sites for lift share schemes and supporting car clubs, and encouraging teleworking and teleconferencing.

NHS Cycling Network: Spokes is an informal network for NHS staff who cycle to work or use a bicycle for work purposes. Aims to support and promote cycling, and encourage NHS employers to provide suitable facilities and financial compensation for staff who use bicycles. www.networks.nhs.uk/spokes

Paths to Health delivers walking for health under four main themes, Community, Healthcare, National co-ordination and workplace walking. They can advise you on how to set up your own walking project and provide training, grants and resources to help you to promote walking in your own area. Contact the Paths to Health responsible for your area for more information. www.pathstohealth.org.uk

Promoting Active Lifestyles. Good Ideas for Transport and Health Practitioners. This Scottish Executive publication (2006) is aimed at health and transport practitioners, such as NHS Health Promotion Teams. It links health improvement, health promotion and transport initiatives, with a particular focus on how to incorporate physical activity into 'regular' travel, such as to and from work, and carrying out day-to-day activities.

Setting up a Cycle to Work scheme visit The Department of Transport's Website for Cycle to Work Scheme Implementation Guidance http://www.dft.gov.uk/pgr/sustainable/cycling/cycletoworkschemeimplementat5732

Sustrans Active Travel: Sustrans publishes a range of information on practical active travel. Its website has a range of information sheets and news on Travel Plans in the NHS, active travel as physical activity promotion, Safe Routes to Healthcare and Healthy Workplaces. www.activetravel.org.uk

The Department for Transport's website on sustainable travel includes a Travel Plan section with advice for employers on reducing car use for travel to work and business. Also available, The Travel Plan Resources Pack for employers, a comprehensive toolkit. www.dft.gov.uk/stellent/groups/dft_susttravel/documents/

The Healthy Transport Toolkit: A practical guide for hospitals and other health facilities on reducing car trips made by employees, patients and visitors (under 'Bookshop', 'Travel Plans'). www.transport2000.org.uk

The Royal Society for the Prevention of Accidents provides information, advice, resources and training on safety in all aspects of life, including the workplace. Of particular interest are the 'Occupational Safety' and 'Driver and Fleet Safety' sections. www.rospa.co.uk/aboutrospa/

TRANS*form* Scotland is a national sustainable transport alliance which campaigns for a more sensible transport system and aims to reduce the

environmental and social impact of transport by encouraging less use of cars and more use of public transport, walking and cycling. www.transformscotland.org.uk/

The Transport and Health Study Group is an independent scientific society set up to study the links between transport and health and to promote a healthy transport system. www.nhs.uk/transportandhealth/

Transport Direct: Transport Direct (www.transportdirect.info) is the only website that offers free information for door-to-door travel for both public transport and car journeys around Britain. The website aims to provide comprehensive, easy-to-use travel information to help users plan their journeys effectively and efficiently. Transport Direct allows you to:

- compare journeys for public transport options with a car route;
- obtain a car route that takes into account predicted traffic levels at different times of the day so that you can make informed decisions about when to travel;
- get an estimate of the cost of a car journey;
- buy train and coach tickets from our affiliated retail sites without having to re-enter your details;
- use PDAs and mobile phones using the latest browser technology (WAP2.0) over a GPRS or a 3G connection to find out departure and arrival times for railway stations throughout Britain and for some bus or coach stops;
- obtain real-time information for both road and rail; and
- find out the estimated CO_2 emissions for your journey and then compare those emissions with those for alternative modes of Transport.

TravelineScotland: enables users to plan any public transport journey within Scotland and from Scotland to main points in the UK. Refer to www.travelinescotland.com in communications to patients and on your website etc as a strategy to continuously promote public transport enquiries.

TravelWise (soon to merge with ACT above): This organisation provides a one-stop shop for travel awareness needs with advice for schools and businesses, and a directory of travel awareness professionals www.travelwise.org.uk

Walk in to Work out: A government initiative to support people who would like to get more exercise by walking or cycling to work instead of driving. An information pack can be obtained free of charge by calling: 0870 1226 236.

Appendix A – Case studies

Ninewells Hospital, NHS Tayside

Ninewells Hospital is 2 miles west of Dundee City Centre. The hospital is a multi-site with Perth Royal Infirmary (PRI). Ninewells has a wide catchment area of employees, patients and visitors. The hospital has a history of problems with overspill parking off the site onto the residential streets due to demand for parking spaces outstripping supply and people, patients, employees and visitors trying to avoid parking charges. Subsequently the residential streets around the site have been painted with double yellow lines to prevent parking on street parking.

Ninewells bus terminus underwent a re-development increasing the number of services, which access the site. This has made the site much more accessible for employees, visitors and patients.

Although there were a range of partners and there was a substantial funding package put together to undertake the work, operators are businesses and need to ensure that any changes are viable. This can often require an organisation to prove that these adjustments would be worthwhile and increase bus patronage. 10% of bus journeys in Dundee either start or end in Ninewells Hospital. Ninewells have had lots of support from Dundee City Council and public transport operator, Travel Dundee.

Note: Any organisation can speak to their Local Authority and bus operator(s) to see if enhancements can be made to increase the frequency of a service or make adjustments to a route.

Other improvements at Ninewells Interchange are the introduction of low floor buses (100% low floor buses with Travel Dundee) in 2004, a Journey Planning Kiosk in reception and real time displays at all stops and a departure board in reception. Another improvement was opening a new link road to shorten the journey and time taken by bus to access Ninewells from the East of the City. The introduction of a new bus service (Service 13/14) has also meant that people don't have to change buses in the city centre. Bus patronage in Dundee increased by 6% in 2006, based on improvements made in the City since 2003.

Support for cycling

Ninewells Hospital has 20 secure individual lockers (with plans for another 20 soon), 70 spaces in shared lockers and Sheffield stands with room for around 50 bikes. The hospital is hoping to introduce pool bikes and a bike to work scheme (by June 2007). There is an active bicycle user group.

Support for walking and security

The hospital has negotiated better lighting and paths to link off road cycling and walking routes through Balgay Park to encourage walking and cycling to the site. Security controls have been introduced throughout the site and employees can also be escorted of site if they are walking home.

Business Travel choices

The hospital has a business mileage rate of 20p per mile for those who cycle on business. Ninewells has introduced 3 pool cars for travel on business which are also promoted for lift sharing. These measures cut down the site-to-site traffic between Ninewells and PRI.

Promotion

Ninewells has developed a promotional slogan 'a healthier way to work' they have used poster campaigns, road shows, an employee magazine and an intranet site to raise awareness about travel choices.

Ninewells is looking forward to undertaking another Travel to Work Survey and is updating their Travel Plan Document. The hospital has implemented many measures to encourage employees, patients and visitors to choose another way to travel other than driving alone.

Just over 50% of people in Dundee have access to a car[17] so it is pertinent that the hospital has worked in conjunction with Dundee City Council to produce promotional information related to www.dundeetravelinfo.com. This not only benefits employees, visitors and patients but also the local community.

Car Parking restructure

To accommodate those who don't come to the site by public transport, a designated car drop off area and taxi area was formed.

Ninewells has undertaken a restructure of the car parks to enable patients and visitors to get closer to the front door on a short stay basis. A free mini bus circulates the car park and drops people off at their cars. The Vinci Park employees can also escort people to their car or to the edge of the site if they are working late.

Lift sharing

Ninewells has developed a lift sharing database with company Liftshare to enable employees to lift share into work. The Liftshare scheme is very popular. Dundee has a 40% match rate.

[17] Source: 2001 Census

Anecdotally the Board has already seen the benefit of the Travel Plan initiatives put in place to date and recognises that these sustainable alternatives are making a positive contribution in relieving the pressure on the car park.

A new build development currently underway (at the time of writing) could see between 100 and 200 additional employees (including researchers) on site within the next two years. The Board aims to make the current parking facilities satisfy that demand with no additional spaces.

NHS Fife - Queen Margaret Hospital

Although NHS Fife is relatively new to Travel Planning the representation they have on their travel plan group and the process they have used has been successful in involving stakeholders and keeping people informed.

In order to comply with local and national guidance NHS Fife identified a need to develop an overarching policy on Travel Planning. Working closely with Fife Council and with independent consultant support provided by the Energy Savings Trust, NHS Fife developed a Strategic Travel Planning Framework. This Framework was approved by the Board in August 2006 set out a commitment to Travel Planning at NHS sites across Fife.

Of the sites within NHS Fife's estate, the Queen Margaret Hospital was identified as the facility with the most pressing need for a Travel Plan and so work began to develop a Travel Plan for that site in the first instance. The Hospital came under a lot of pressure in the early months of 2006 from concerned users including Stagecoach Fife about badly parked vehicles that hampered safe access to the Hospital.

NHS Fife responded through a number of measures, including proposing an extension to car park 5 to provide an additional 103 bays. A view expressed by Fife Council, whilst giving approval to the proposal, was that the extra 103 spaces would not resolve the overarching problem of too many cars trying to access parking on the site. As part of the planning process Fife Council required NHS Fife to write a robust travel plan and develop a car park management plan. Independent consultants were engaged to formulate a car park management plan on NHS Fife's behalf.

As part of a separate NHS Fife project, a travel survey was conducted of the Queen Margaret, Victoria and Forth Park Hospitals. The analysis of the data collected formed the baseline for current usage and commuter habits. Of note the survey confirmed that single car occupancy journeys made up the vast bulk of travel to and from the Queen Margaret Hospital and only 28% of people accessed the Hospital using more sustainable means.

In order to inform the thinking around travel planning for the site and to raise awareness of the requirements, a Travel Planning Workshop was held at Queen Margaret Hospital in July 2006. The workshop was attended by NHS Fife Chief Executives, and other senior managers, together with Local Councillors, MSPs, Staff Side representation and Council colleagues. At this

workshop key questions were raised about the expectation of the Travel Planning process and it was decided that the most coherent way forward was to set up a Travel Planning Group involving multi agency stakeholders attending monthly meetings and discussing specific topics at each meeting. The aim of the Group would be to develop a travel plan for wider consultation.

The Workshop identified key stakeholders and invited them to attend. Stakeholders represented staff, estates, HR, patients, visitors, Fife Council and local community councillors. The first meeting was held in September 2006; a travel plan consultant presented to the Group an extensive overview of the Travel Planning process. The role and remit of the group was discussed and agreement reached that, the membership of the group be expanded to reflect the issues raised by the Group.

The following Agenda was agreed:

October 2006	Communications and Consultation
November 2006	Vehicular Access and Parking
December 2006	Public Transport
January 2007	Cycling and Walking
February 2007	Business Travel
March 2007	Monitoring and Review

Of the items raised at the meetings safer access to the Hospital for all was seen as the most pressing. The Group highlighted concerns with the current car parking arrangements, the road layout, ambulance parking, deliveries to pharmacy, bus penetration to the Hospital and pedestrian behaviour in the immediate vicinity of the roundabout at the phase 2 entrance.

Fife Council assisted the Group's work on the development of proposals for a more appropriate and safer site layout. The Group spent some significant time, not only looking physically at the site but also discussing in detail the range of proposals. The preferred proposal was then further worked up in conjunction with Estates, Pharmacies and the Scottish Ambulance Service.

The preferred proposal sets out a significant change to road access. It was agreed that the current movement of traffic, particularly at the roundabout in front of the main entrance, posed considerable safety concerns. The current arrangement of Patient Transport vehicles sited at the entrance, unloading patients at times directly on to a busy road, was deemed unsustainable. This, together with the abandonment of visitor cars in and around the same area leads to a potentially dangerous situation. In order to address these and other problems, a partial one-way system is proposed. In addition, re-siting the Patient Transport drop off area to the current Disabled Parking area is suggested. The Disabled Parking area would then move into accessible spaces

within car park 2 (specific pedestrian crossings, pedestrian barriers would be used to channel pedestrians safely onto the pavements and across the road).

On road drop off zones would be established to the west of the phase one entrance and in between A&E and the bus stop on access road 3, to allow for very short term parking to collect or drop off a car passenger.

In terms of access to car parking spaces, the Group recognised quickly that the headline here is simply too many cars and too few spaces. In other words, if the same numbers of cars continue to try to access the site, without significant change, there will not be a space for everyone. The Group considered that the prime concern for the NHS was to provide a reasonable number of designated spaces for patients and visitors who are using the hospital. Car par 2 is already dedicated for patients and visitors but in reality is also used by staff. In order to provide adequate spaces for patients and visitors at peak times, it is proposed that car park 2 and 3 be linked together and be dedicated for this group.

By ensuring dedicated space for patients and visitors, it was clear to the Group that potentially the number of spaces available for staff would be reduced. In order to counter balance this situation, the Group proposed that car park 4 become wholly dedicated to staff parking, with car park 5 being available to all and other spaces available also remaining open to all.

In order for the NHS to assist staff to consider alternatives and more sustainable forms of travel, there needs to be a raft of measures to promote the alternatives. The detail of the (draft) Travel Plan for the Queen Margaret Hospital shows where the situation currently stands, what could be done to influence change for the better and how the plan might be monitored over the coming years. Throughout the development of the Travel Plan a Travel Plan Newsletter was used to keep employees informed and involved in the process.

Addenbrooke's NHS Trust

Addenbrooke's is a major acute trust providing accident and emergency services and regional and national specialties from a 65-acre site approximately two miles from the centre of Cambridge. Because of the location on the edge of the city, there has been a dependence upon car transport by patients, visitors and employees.

The introduction of the Travel Plan has enabled the Trust to carry out new developments without the requirement for significant new amounts of car parking, retaining car parking levels at close to those at the start of the process. The Trust is responsible for traffic management on the site, although they are not its only occupier, with around 5000 employees out of a total headcount on the site of around 9000 (the difference is made up of research employees, contractors and catering staff).

This meant that there was a need to involve other organisations in the Travel Plan process. The site has residential accommodation for around 600 staff, with 2400 staff parking spaces and 850 for patients and visitors.

After securing planning consent for a new research building in the centre of the site in 1994, the Trust developed a Travel Plan including the following:

- the level and position of parking for new development;
- the establishment of a maximum number of spaces on-site;
- the investigation and implementation of schemes for non-car staff transport.

The following steps were taken to achieve a successful Travel Plan:

- improved cycle facilities;
- a car-share matching service with guaranteed ride home;
- improved public transport provision and information;
- car-parking charges;
- improved security on-site;
- park and ride.

The main emphasis of the plan has been on car-park management, with the introduction of 'smart' ID cards.

These allow access to appropriate car-parks, allied to the introduction of more sophisticated car-park access technology, which has been one of the major costs in implementing the plan. Annual running costs are estimated at £41/employee.

It is considered by the Trust that this improved car-park management has resulted in a focus on all alternatives to single-occupancy car use, leading to a significant shift in modal split (people using different modes).

Of the people accessing the site, 21% now use cycles (the highest level in the DfT study), although because of the predominantly level nature of the environment, and the culture of cycling in the city, this is an attractive option, though total numbers of employees cycling can differ on a seasonal basis.

The Trust indicates that one of the major factors in success is communication with employees, and working to change employee attitudes from the feeling that they have a right to park at work. Regular employee seminars are held, where key issues can be explained and the operating constraints explored. One of the key objectives of the Trust is now to work with local transport operators to increase the modal share for buses.

This will be by means of improved information for patients, visitors and employees, and the introduction of discounted bus season tickets.

Nottingham City Hospital NHS Trust

Nottingham City is a major acute teaching hospital with regional specialties, operating from a 98-acre site on the edge of Nottingham and approximately six

miles from the city centre. The Trust employs around 3500 whole time equivalent (wte) posts and has 1200 employee spaces and 450 for patients and visitors.

In 1996, the Trust provided free car-parking and had an unknown number of vehicles entering the site. There was little security on site and, consequently, high levels of car crime. Because of the lack of public transport and other alternatives, the only way to access the site was by car, which resulted in gridlock at peak times and parking chaos throughout the day.

The Trust has the following objectives in developing its Travel Plan:

- development of a strategy for the future;
- the ability to tailor proposals to meet service requirements;
- the provision of sustainable alternatives of transportation to and from the hospital;
- ensuring that patients and visitors receive a quality service.

There has always been management support for the Travel Plan, with the objectives incorporated in the corporate strategy for the Trust. The initial discussions with employees resulted in an undertaking that any money resulting from the introduction of car-parking charges would be ring-fenced for transport improvements. The annual running cost of the scheme is £41/employee excluding revenue from parking. The benefits of the Travel Plan are that there is now a range of sustainable transport which is available to access the site, together with informed choice about these options arising from the provision of information.

The Trust was particularly concerned that they could provide ‘carrots before sticks’ by the provision of infrastructure. The Trust feels that one of the most successful aspects of the Travel Plan has been the increase in bus use and the maintained levels of cycle use. The introduction of bus routes with regular (15-minute) services through the site has been particularly beneficial in increasing bus use.

Car-park management has also resulted in a reduction in people coming to the site by car (all students were banned from driving onto the site in 2001), with only 3.2% of employees being guaranteed a parking space.

The Trust has a very robust communications strategy in place to ensure that employees, patients and visitors are kept fully informed about the Travel Plan and its benefits. One of the main concerns was that money raised from the introduction of car-parking charges was used for transport management, and a process of continual internal communication is therefore considered important.

Oxford Radcliffe Hospitals (ORH) NHS Trust

The Trust operates from four sites, three in Oxford and a smaller district hospital in Banbury. The two main sites are the John Radcliffe and the Churchill

Hospitals, both of which are in the Headington area of Oxford, about a mile apart. The third hospital in Oxford is the Radcliffe Infirmary, near to the city centre, about three to four miles from the others.

All services at the Radcliffe Infirmary are to be transferred to the Headington sites within three years, which will result in significant increases in the number of employees, patients and visitors needing to access the sites.

Headington is a suburb of Oxford which is dominated by hospital development and academic institutions, principally Oxford Brookes University. As well as the two Oxford Radcliffe hospitals, there is the Nuffield Orthopaedic NHS Trust, two sites operated by the mental health trust, the HQ of the ambulance trust and a PCT and learning disabilities presence.

The Trust is one of the largest in the country, and is a teaching trust with nationally and internationally renowned research and services. About 9,000 employees are currently employed on the ORH Headington sites, of which some 6,750 wte are Trust staff. The remainder are mainly university employees and students.

The Trust currently has 2900 spaces (excluding spaces for staff who are resident on site), of which 2100 are staff spaces and 800 are patient and visitor spaces. At peak times there are some 3000 employees cars parked on site plus 900 visitors' cars. Planning permissions allow 3500 spaces, of which 2300 will be employee spaces and 1200 patients' and visitors'. The move of the Radcliffe Infirmary would require 200 to 300 employee spaces over and above the 2300 permitted spaces, hence the urgent need for a Travel Plan.

A transport survey conducted in 2001 revealed that around 30% of employees live within 2 km of the sites and over 50% within 5 km (measured on a straight-line basis).

It is estimated that the sites generate 10,000 return journeys in a day, of which around half are by employees. Anything up to 3100 cars will be parked on the sites at peak times, and car-borne transport is the most prevalent.

With the proposed move of services from the Radcliffe Infirmary to the Headington sites, there was an urgent need to introduce a Travel Plan for the Trusts which was done in conjunction with the other major employers in the area. The other participants are the two universities and other NHS organisations.

An important consideration for the Trust was the securing of planning consent for the Radcliffe Infirmary relocation. There is considerable management support for the Travel Plan and its aims and objectives, with the directors of both personnel and estates taking a keen interest. The Trust has also appointed a planning and transportation manager who is now recognised as one of the authorities on hospital Travel Plans across the country, and demonstrates the importance of a dedicated transport manager to initiate, plan, manage and implement the requirements, if this is to be successful.

One of the key elements of the plan is the issue of a needs-based car-parking permit with a sophisticated assessment of access to public transport, rather than just a straightforward measurement of home-to-work distances, with parking permits based upon the level of bus services that are available within specified distances of the employees' home. Permits are also provided on the basis of need (for example operational needs, clinical commitments, shift work, caring responsibilities and disability) and not status.

Substantial consultation took place with employees before the changes were introduced, and this is ongoing, with the production of a regular newsletter. When the car-parking regime was introduced, there was an increase in the number of employee parking in surrounding roads. Part of a section 106 contribution required as part of the Radcliffe Infirmary relocation has been used by the Local Authority to introduce residents' parking zones to overcome this problem.

The introduction of the permit system and the restrictions on parking were seen by the Trust as the most significant hurdle. With high levels of opposition from employees – but with support from senior management – the policy has been successfully implemented and is seen as the most important factor leading to a modal shift away from car use.

Assessment of the Oxford Radcliffe Hospitals Travel Plan against the DfT Transport Plan Evaluation Tool has shown a very good rating, with high scores in all categories. The assessment shows a potential modal shift of between 5 and 10%, which is in line with the proposals in the Travel Plan.

Plymouth Hospitals NHS Trust

Derriford Hospital is an acute accident and emergency hospital with regional and sub-regional specialties, which is based on a 20-hectare site on the outskirts of Plymouth, about five miles from the city centre. When the Trust first looked at adopting a Travel Plan in 1997– 98, it had 4193 wte posts, which had risen to 5761 by 2001. In the same time, the number of car- parking spaces had risen from 1091 to 1353, with 770 spaces for patients and visitors. There is little opportunity for free parking in the vicinity.

The catalyst for the Trust developing a Travel Plan was the desire to provide extra parking spaces on site, with the city council requiring the Trust to look at other ways of reducing demand for car-parking spaces. As with other Boards, the Travel Plan was only introduced after long negotiations with employees and their representatives. There has been considerable support from senior management, including the chief executive, and the Travel Plan is included within the annual report of the Trust and other reports. A transport coordinator was appointed in 1998, although there had been a member of staff working on transport issues prior to that date.

Travel Plan effectiveness

The Travel Plan specified the following outcomes for achievement by January 2003:

- reduce the number of single-occupancy car journeys by 15% over three years;
- ensure that patients and visitors do not have to search for a space for more than ten minutes at peak times;
- encourage the number of direct bus routes to the site;
- reduce employee parking spaces per employee by 10%.

The plan appears to have been particularly effective, with the number of cars arriving at the site reducing by 24% and the number of buses more than doubling. The Trust estimates that the annual running costs of the Travel Plan are £36/employee.

Car-park management has been particularly effective in reducing the number of cars accessing the site, with the introduction of a daily parking charge. Certain categories of employee (night and weekend staff, disabled employees, volunteers, lift sharers and tenants of residential accommodation) are allowed to park their cars free of charge, and there is also a cash incentive to surrender permits.

Success factors: key themes

From a review of the best-practice examples above, there are key themes which emerge both as drivers for the production of a plan and also as measures which are particularly effective in plans to reduce reliance on single occupancy car transport, and hence the requirement for additional car-parking (see Section 6).

Typical costs

To assist in identifying cost implications associated with implementing a Travel Plan, see the Department for Transport's (2002) 'Making Travel Plans work', which provides examples of indicative sums spent by different organisations on different measures.

Primary Care Trusts (PCTs)

Primary care trusts face specific difficulties in implementing Travel Plans: split sites with low employee numbers; rural locations; poor access by public transport; and practical problems in lift sharing. With financial problems and ongoing staff changes, this sector of the NHS is not as well developed in implementing Travel Plans.

Two examples are presented here of how two PCT groups have collaborated to deliver a Travel Plan in partnership. The first looks at the South West PCT 'learning set' and the second at a parallel project in Nottingham.

South West PCT Travel Plan learning set

The Government office for the South West and Sustrans have established a 'learning set' with a group of South West PCTs (Bristol South and West; Cheltenham & Tewkesbury; Exeter; South Wiltshire; and Teignbridge) to identify the specific problems they face and seek solutions.

The learning set used an approach common in benchmarking: members visited each participating PCT in turn, learning from the successes and innovations there and offering solutions to problems.

At each site, the set reviewed the situation, noted good practice and discussed problems. Below are a few notable examples.

Bristol South and West PCT shares a headquarters building with Bristol North PCT and other largely NHS tenants; with 400 employees, parking is available, free of charge, for 130 cars and 60 bikes. The set's suggestions included instituting car-parking charges to release the value of 130 city-centre spaces, and establishing a Travel Plan steering group to unite all interested teams and facilitate communication.

Cheltenham and Tewkesbury PCT's head office is on a trading estate with more than ample car parking. The usual Travel Plan drivers – parking shortages and the possibility of revenue from existing spaces – do not exist here.

The Trust noticed that many objectives of the Improving Working Lives (IWL) agenda can be delivered through Travel Planning. (The trust is piloting an IWL scheme allowing employees to spend up to 30 minutes a week of working time on physical activity, which could be lunchtime walks, sport, gym or active commuting).

Many Travel Plan measures also benefit employees who continue to drive. Showers and changing rooms benefit people who play sport at lunchtime or who just want to freshen up and change after work. Measures suggested at Cheltenham included converting a small car park close to the front door into a employee outdoor area.

Exeter PCT is based in a historic, city-centre NHS property which the Trust now owns, shared with tenants from other organisations both within and outside the NHS. 400 people work there, of whom 250 are NHS; there is parking for 230 cars.

As is common in the NHS, staff parking is heavily subsidised; a typical car commuter pays just £100–150 per annum, costing the trust over £800. However, since April 2003, new starters only get a parking permit if they qualify as essential car users; others pay a market rate (currently £6 a day). As the non-essential subsidised users gradually move on, the Trust will increasingly

receive the market rate for its parking spaces, either from employees or in the external market.

South Wiltshire PCT is spread across a number of sites – most no bigger than 30 employees – serving a largely rural catchment.

The Trust's largest site has 34 car spaces for 50 employees, but suffers from a particularly unappealing environment. Employees have requested environmental improvements, and this is a classic opportunity to take Travel Plan measures – by recapturing some of the space given over to parking and converting it to a picnic and rest area for employees – which also bring benefits in other areas.

Teignbridge PCT is concentrating its Travel Plan work on the headquarters building in Newton Abbott and a planned new hospital in the town.

The Trust commissioned a travel survey of headquarters employees. While the location (on an edge-of-town industrial estate) creates problems, there is the opportunity for collaboration with both councils to negotiate better bus services to the site.

The Trust is also considering how best to promote and improve conditions for walking and cycling both for commuter trips and during the course of work, and how this might link with its own health promotion function.

The report 'Moving forward with the South West PCT Travel Plan learning set' gives a detailed account of the development of the learning set.

Greater Nottingham PCT Travel Plan coordination group The four greater Nottingham PCTs set up their own PCT Travel Plan coordination group in 2003 to share their expertise and creativity.

Each PCT had its own Travel Plan, specific to its own circumstances, although linked in format and content to the three others. A travel survey of all 3300 employees in the four PCTs was completed.

Site champions for each site in this initial rollout programme came together at a training session organised by the Travel Plan coordination group. Lunchtime open sessions were planned at each site; these sessions aimed to inform employees and provide a forum where problems and opportunities could be discussed.

The results of the Travel Plan survey and employee discussions were presented – together with an outline of the Travel Plans – to the PCT Executives in 2004.

Recommendations for PCTs

In the report, 'Moving forward with the South West PCT Travel Plan learning set' the following recommendations for PCTs wishing to set up their own Travel Plan were made:

- all PCTs should recognise the need to tackle Travel Plan work as set out in the Coronary Heart Disease National Service Framework and NHS environmental strategy;
- to progress this work, PCTs should:
  - nominate a lead at Board level;
  - set up a Travel Plan steering group, or use existing structures such as IWL;
  - include in the group at least: facilities, estates, operations; public health, health promotion; finance; HR; information;
  - liaise with the local highways authority, Transport Scotland or the Local Authority depending on who 'owns' that part of the network, which can provide help and sometimes resources;
  - use changed circumstances as an opportunity for implementing travel plan measures;
  - include a prize if possible for return of the travel survey, to improve response rate;
  - make appropriate references for Travel Plans within job descriptions
  - and allocate sufficient time to undertake the work.

Appendix B: Employee travel survey

PLEASE CIRCLE APPROPRIATE NUMBER

1. Full home postcode.....

.....

2. Gender

Male 01
Female 02

3. Employee group (e.g. nursing, admin/ clerical)

.....

4. Usual place of work (which department/ward)

.....

5. How often do you work at more than one location?

Never 01
Less than once a week 02
One to four times a week 03
Once a day 04
More than once a day 05

6. Age

Under 25 01
25–34.....02
35–44 03
45–54 04
55 or over 05

7. Do you have a disability which affects your travel arrangements?

Yes 01
No 02
(If YES, please state type of disability e.g. visual, mobility)

.....

8. Do you normally work:

Normal working day e.g. 8 –4, 9–5, 10–6 01
Day shifts i.e. mornings/afternoon 02
Out of hours e.g. night shifts 03
Other (please specify) 04

.....

9. How do you mostly travel to work?

Bus 01
Bicycle 02
Car, on your own 03
Car, with other(s) 04
Foot 05
Motorbike 06
Train 07
Other (please specify) 08
.....

10. Which of the following do you occasionally use instead of your usual form of transport?

Bus 01
Bicycle 02
Car, on your own 03
Car, with other(s) 04
Foot 05
Motorbike 06
Train 07
Other (please specify) 08
No alternative used 09

11. How far do you travel to work?

Up to 1 mile 01
Over 1 mile, up to 2 miles 02
Over 2 miles, up to 5 miles 03
Over 5 miles, up to 10 miles 04
Over 10 miles, up to 20 miles 05
Over 20 miles 06

12. How long does it usually take you to get to work, using your normal mode of travel?

Up to 15 minutes 01
16–30 minutes 02
31–60 minutes 03
61–90 minutes 04
Longer than 90 minutes 05

13. Which of the following changes would persuade you to cycle to work? (If you already cycle to work, which would you most like to see?)

PLEASE CIRCLE NO MORE THAN 2

Safer, better lit work- site cycle paths 01
Improved cycle paths on journey to work.....02

Improved cycle parking at workplace 03
More/Improved workplace showers & changing facilities 04
More/Improved workplace lockers for cyclists 05
Arrangements to buy a bicycle at a discount 06
Other financial incentives 07
Promotion of associated health benefits 08
None 09
Other (please specify) 10
....

14. Which of the following changes would persuade you to use public transport for your journey to work? (If you already use public transport, which would you most like to see?)

PLEASE CIRCLE NO MORE THAN 2

More direct bus routes 01
More frequent bus service 02
More frequent train service 03
More reliable bus or train service 04
Better lighting at bus shelters & workplace paths 05
Cheaper travel 06
More convenient drop - off points 07
Better links to work from the station 08
Better public transport information 09
None 10
Other (please specify) 11
....

15. Which of the following changes would persuade you to walk to work? (If you already walk to work, which would you most like to see?)

PLEASE CIRCLE NO MORE THAN 2

Improved layout of workplace footpaths 01
Improved maintenance of workplace footpaths 02
Improved lighting on workplace footpaths 03
More security measures around site 04
More conveniently placed entrances to site 05
Road safety improvements in the local area 06
Better street lighting in the local area 07
Promotion of associated health benefits 08
Financial Incentives 09
None 10
Other (please specify) 11
....

Please complete sections 16 –19 if you use a car to get to work.

16. What are your main reasons for using a car to get to work?

PLEASE CIRCLE NO MORE THAN 2

Essential to use a car during the working day 01
Dropping/collecting children 02
Get a lift 03
Health reasons 04
Personal security 05
Lack of an alternative 06
Cost 07
Reliability 08
Other (please specify) 09
.....

17. Where do you usually park?

On hospital site in a employee parking space 01
On hospital site in a patient or visitor space 02
On hospital site in the main barrier controlled car park 03
On hospital site, but not in a designated parking space 04
Off site in a nearby street 05
Off site in a nearby car park 06
Other (please specify) 07
.....

18. Would you be prepared to car-share?

Yes 01
No 02
I already car-share 03

19. Which of the following would persuade you to car-share?
(If you already car-share, which would you most like to see?)

PLEASE CIRCLE NO MORE THAN 2

Help in finding car-share partners with similar work patterns 01
Free taxi home if let down by car driver 02
Reserved parking for car-sharers 03
Reduced car parking charges for car-sharers 04
None of these 05
Other (please specify) 06
.....

20. Are you aware that Park & Ride is available to get to work?

Yes 01
No 02

21. Do you use Park & Ride to get to work?

Yes 01

If Yes, which Park and Ride site? .....

No 02

If No, what prevents you from using it?

.....

22. Do you have any comments about your travel to work?

.....

.....

.....

Thank you for your co-operation.
Please be assured that all your answers remain confidential.

Appendix C : Patient/visitor travel survey

PLEASE CIRCLE APPROPRIATE NUMBER

1. Are you a patient or a visitor?

Patient 01
Visitor.....02

2. Which hospital department are you visiting, or being treated at today?

.....

3. At what time did you arrive at the hospital?

.....

4. Which day of the week did you arrive at the hospital?

Monday.....01
Tuesday.....02
Wednesday 03
Thursday 04
Friday.....05
Saturday 06
Sunday 07

5. Do you have a disability which affects your travel arrangements?

Yes 01
No 02
(If YES, please state type of disability e.g. visual, mobility)

.....

6. Please could you give your home postcode? .....

7. How did you travel to the hospital?

Ambulance 01
Bus 02
Train 03
Bicycle 04
Car, driving yourself 05
Car, as a passenger 06
Foot 07
Motorbike..... 08
Voluntary/Dial-a-ride.....09
Other (please specify) 10

.....

8. If you did not use public transport, what would have persuaded you to use the bus or the train for your trip?

(please rank your three most important reasons)

More direct routes

More frequent .....

More reliable .....

Faster service .....

Cheaper fares .....

Better security .....

Safer walking route from the station.....

More public transport information.....

Better access on and off the bus.....

Other (please specify) .....

.....

9. If you came by car, did you have difficulty in finding a place to park on the hospital site?

Yes 01

No 02

10. Do you have any comments about your journey to the hospital?

.....

.....

.....

.....

.....

THANK YOU FOR COMPLETING OUR SURVEY

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Glossary of terms

Access: A way or means of approach or entry to a building or site.

Accessibility: Accessibility, in this context, is the ability of a person or group to, or the ease with which they can, reach the jobs and key services that they need.

Carbon Emissions: When you drive a car, the engine burns fuel which creates a certain amount of CO_2, depending on its fuel consumption and the driving distance. (CO_2 is the chemical symbol for carbon dioxide). When you heat your house with oil, gas or coal, then you also generate CO_2. Even if you heat your house with electricity, the generation of the electrical power may also have emitted a certain amount of CO_2 www.timeforchange.org/what-is-a-carbon-footprint-definition.

Geographic Information System (GIS): A computer system for capturing, managing, integrating, manipulating, analysing and displaying data relating to positions on the Earth's surface.

Local Transport Plan: A statutory, five-year Local Authority strategy which aims to promote sustainable transport and provide a safe and integrated transport network via identified initiatives.

Maximum Parking Standards: Previously Transport Policy advocated the use of Minimum parking standards. Minimum standards are where the parking needs of a building were anticipated and more than enough parking spaces were provided. This 'predict and provide' policy led to continuous demand for car parking despite the continuous supply of spaces. This resulted in the road network being unable to cope. Since this realisation, the use of Maximum Parking Standards has been promoted; where the floor area of a building guides the Maximum number of parking spaces the building will be allowed. This guidance is set out in Scottish planning policy 'SPP17 Planning for Transport'.

Modal Shift: The shift in use from one mode of transport to another (for example from private car to public transport).

Postcode Mapping: Using a software-based GIS (Geographic information system) to plot staff home postcodes, which can be generated through a travel survey or obtained from central records (assumes that data protection standards are not breached). The resulting maps provide spatial information about how close staff live to their place of work, what transport infrastructure and services they may be able to use on their commute trips, and so on.

Real Time: Information given in 'Real Time' is provided at the bus or train station and continuously updates adjusted to let passengers know what time the bus or train will arrive. Often the information that is displayed at stops or stations is not real time.

Single Occupancy Vehicle Trips: This is when a vehicle is driven with only one person in it. It is more energy efficient for vehicles to be driven with as many people as possible inside because the fuel required to transport one person has the potential to transport a full vehicle. (Therefore is more fuel-efficient.)

Site Audit: This assessment process provides an overview of the transport infrastructure and services serving a site (e.g. public transport services; walking and cycle paths), as well as the on-site services and facilities available to people wishing to access the site (e.g. bicycle parking; priority parking for lift-sharers; car parking).

Sustainable Transport/Travel Choices: Ways and methods of travelling which have a lower impact on the environment than a single occupancy vehicle trip, or that reduce the problems of congestion.

Travel Plan (in some literature referred to as 'active' or 'green Travel Plan'): A document produced by a company or organisation which outlines measures to reduce reliance on the car as a means of getting to a particular site and instead promotes healthier and more environmentally-friendly methods such as public transport, cycling or walking.

Travel Survey: This is an important first step in developing a Travel Plan. It is an effective way to find out how employees and other stakeholders travel to work and why they choose to travel the way they do, and to assess those elements of a Travel Plan which are most likely to achieve results.