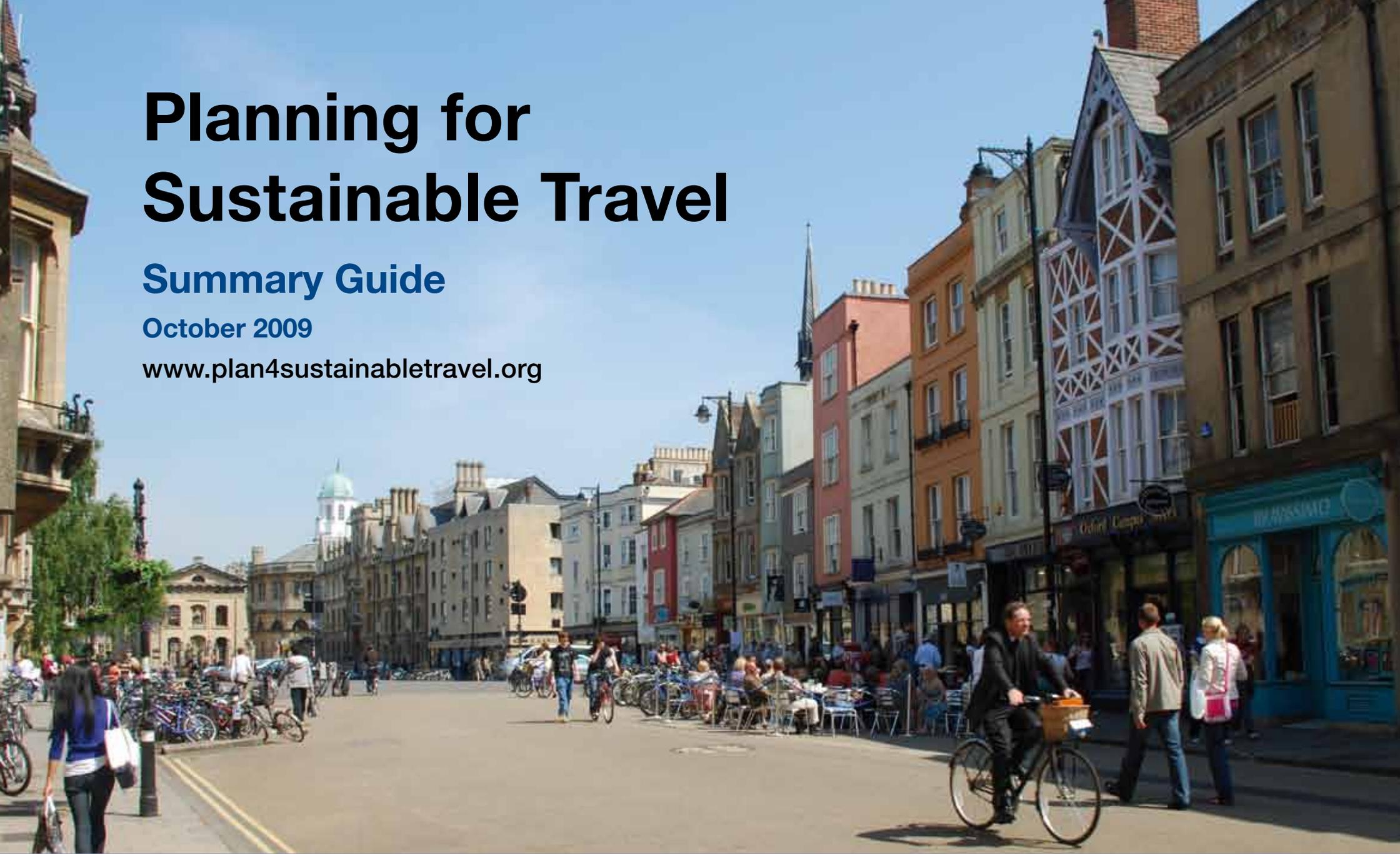


# Planning for Sustainable Travel

## Summary Guide

October 2009

[www.plan4sustainabletravel.org](http://www.plan4sustainabletravel.org)



**Commission for Integrated Transport**

Halcrow Group • Oxford Brookes University • University of Oxford



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## Summary Guide

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Further copies of this summary guide are available from the Commission for Integrated Transport (CfIT) or the Halcrow Group. A catalogue record for this guide is available from the British Library.

The aim of this guidance is to provide an up-to-date evidence-based compendium of research for local practitioners and elected members. It comprises best-practice advice aimed at helping to deliver more sustainable decision-making. This guidance is **not** statutory.

CfIT's full role and remit is summarised in the annex, 'Client and Authors', on page 49.

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## Foreword



Corinne Swain  
Chair, Working Group



Peter Hendy  
Chair, CfIT

Land use planning is one of several policy levers that the Commission for Integrated Transport (CfIT) has recently advised should be used more intensively to meet carbon reduction targets (CfIT, 2009). To assist this process we are pleased to recommend the practice advice contained in this Guide and its accompanying website.

Many aspects of this advice will be familiar, but the real challenge is in delivery at the interface between town planning and transport planning – responsibilities which are often divided between different tiers of local authorities. Hence, in commissioning this work, CfIT has tried to pull together a wide range of material from different disciplines, and to identify practical ways of encouraging collaborative working and sharing good practice.

It is widely acknowledged that the detailed form and layout of new development and redevelopment

influences the scale and mode of travel. But we hope that the results of this study will encourage a greater emphasis on the strategic scale of the planning process – promoting development in the right location to reduce the need to travel and the need to use private cars for that travel.

We would like to thank our consultants for their extensive research, the external members of our working group in guiding this study, and all those that contributed to workshops and case study interviews.

Given recent and forthcoming institutional changes, we hope that this Guide will be timely in influencing newly formed authorities and sub-regional partnerships as they produce and implement their planning and transport strategies.



# 1. Introduction

## The Challenge

Urban structure and mobility are inextricably linked. Planning for a more effective location and form of development is at the heart of the challenge to achieve sustainable travel.

Reconciling the benefits of car travel with wider sustainability objectives continues to be difficult to achieve in policy terms and in practice. In recent years the scale of traffic growth has arguably been reduced as a result of policy initiatives, especially in urban centres. However, congestion and transport carbon dioxide (CO<sub>2</sub>) emissions continue to rise in many areas. Walking, cycling and bus use are usually static at best and often still in long-term decline. Car dependency is often 'built in' under current and envisaged development patterns.

The UK Government has recently adopted an 80% CO<sub>2</sub> emission reduction target by 2050 on 1990 levels (Climate Change Act 2008). Achieving this ‘trend break’ is likely to be extremely challenging. Many areas of the UK have high per capita transport CO<sub>2</sub> emissions, particularly outside the main urban areas (Figure 1).

The Department for Transport (2009a) in *Low Carbon Transport: A Greener Future* outlines the UK strategy for reducing greenhouse gas emissions from transport.

## Planning for Sustainable Travel

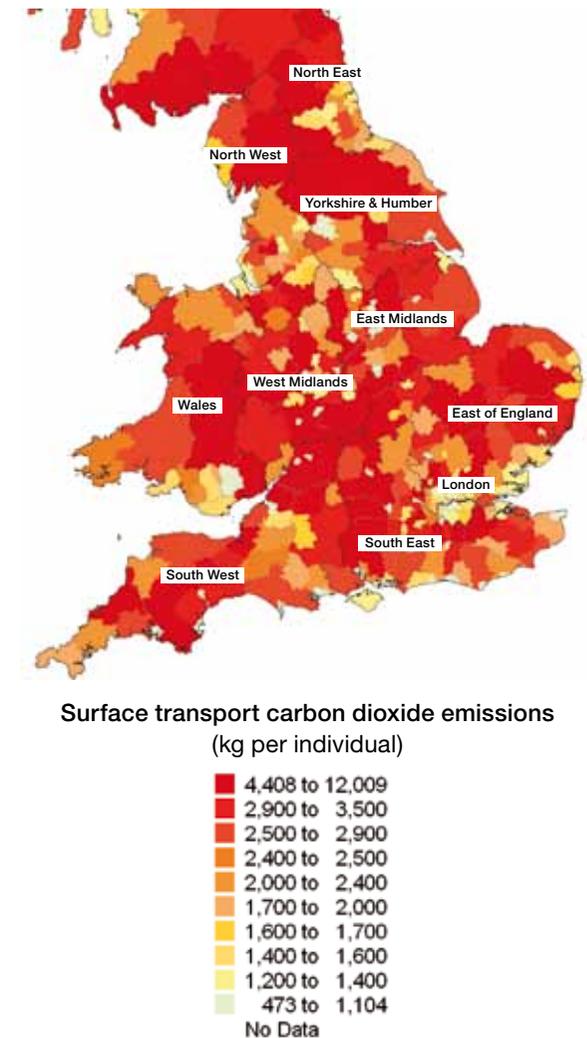
This Summary Guide considers the relationship between urban structure and travel. It seeks to illustrate the important role that spatial planning can play, particularly at the **strategic scale**, in enabling greater sustainability in travel patterns. The location of activities – homes, workplaces, leisure, health, education and other facilities – act as the physical ‘structuring framework’ for travel.

Although socio-economic, attitudinal and contextual characteristics all play important roles in the demand for travel, it is increasingly clear from the empirical evidence (Ewing and Cervero, 2001; Bohte *et al.*, 2009; Naess, 2009; and others) that there are significant associations between the built environment and travel (Figure 2).

The challenges of climate change and achieving wider sustainability objectives mean we should seek to use all available policy levers, including land use and transport planning, as effectively as possible to enable people to lead more sustainable lifestyles.

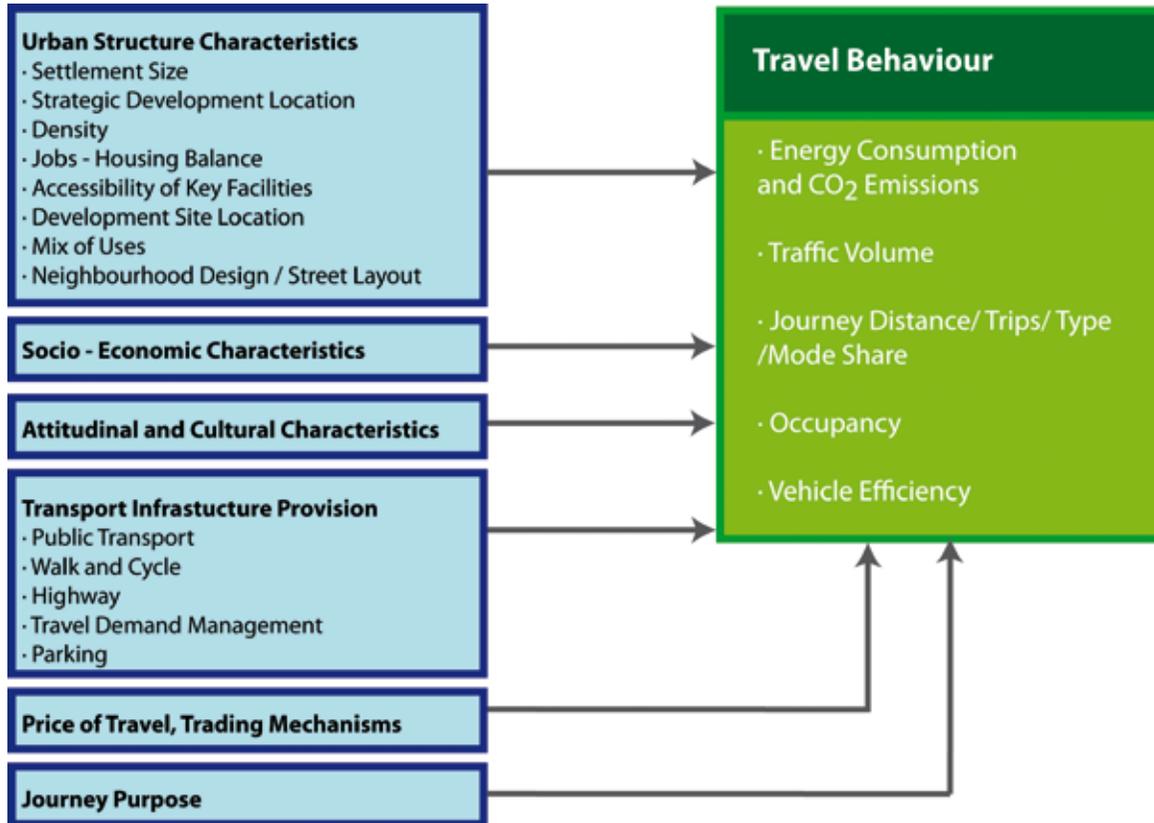
“  
There are significant associations between the built environment and travel.  
”

Figure 1: Spatial variability in per capita CO<sub>2</sub> emissions from transport



(Defra, National Atmospheric Emissions Inventory, 2006; Office for National Statistics, 2006)

Figure 2: Urban structure as an enabler of sustainable travel



Inevitably there may be some tensions which decision makers will need to resolve. For example, in many contexts, there will be a need to reconcile

sustainable travel aspirations with economic development and wider social issues.

To use land use planning to maximum effect means undertaking policy making at the most appropriate governmental level. Integrated planning and transport, based on city-regions and functional economic geographies, is of particular significance.

Spatial planning is typically a long-term instrument; its effects manifest themselves over several decades. However, the cumulative effect of land use decisions over recent decades has had a profound effect on travel patterns, and has the potential to have an equally significant effect, positively or negatively, in the future.

## Target Audience

This Summary Guide and related work have been developed with a number of users in mind, but primarily those involved in the ‘crossover’ of town planning and transport planning – hence town planners, spatial planners, urban designers, masterplanners, transport planners, highway and traffic engineers, and elected members.

The application of the material will vary by scale and procedural opportunity. Individuals working on particular aspects of urban and transport planning, but with a common objective of achieving sustainable transport, can access advice which is directly relevant to their work. For example:

- **regional agencies and sub-regional partnerships** should consider the travel consequences of housing apportionment and strategic business locations;
- **highway and planning authorities** should seek to align their transport spending with strategic locations for growth, with new transport services provided ahead of site occupation wherever possible;
- when determining planning applications, **unitary and district authorities** should assess the cumulative impacts of numerous small applications in terms of likely strategic impact; and

- **elected members** should note that effective spatial planning decisions can help achieve local authority performance indicators (for example, NI186: CO<sub>2</sub> emissions in a local authority area).

Each of the professions working in this field has its own disciplinary perspective and is represented in many different agencies, in the public and private sectors, and at different spatial scales. Some of these professionals will be advising developers and investors, and others will be advising politicians, whose decisions in adopting development plans, transport strategies and determining planning applications need to take account of multiple, and often competing, objectives besides sustainable travel.

## Structure of this Guide

The Guide aims to publicise the evidence from research and practice which has become available since the last update of *Planning Policy Guidance Note 13: Transport* (PPG13; DETR,

2001), the Government's planning policy statement on transport, and to do so in a readily accessible format.

Good practice examples are presented that illustrate emerging practice in England based on in-depth case studies. The opportunities arising from recent and forthcoming changes in policy and governance are also explained.



Good practice in integrating spatial and transport planning at the local neighbourhood and streetscape level (Upton)

## Planning for Sustainable Travel

This Summary Guide and parallel web-based guide have been developed in order to:

- enhance the evidence base for a range of actors involved in urban planning and transport planning;
- develop case study examples of current working practice in integrated urban and transport planning, with a focus on areas with development growth aspirations (such as Growth Areas and Growth Points);
- disseminate good practice, with an emphasis on 'strategic' issues and good working practices; and
- hence, help practitioners more effectively use spatial planning tools to enable greater sustainability in travel.

The commentary draws on an extensive background research study called 'Settlement Patterns and the Demand for Travel' and a rich body of earlier research. The detailed advice and background research is found at [www.plan4sustainabletravel.org](http://www.plan4sustainabletravel.org)

The Guide comprises a number of further sections:

- **Section 2:** reviews recent contextual relationships and trends.
- **Section 3:** identifies key principles framing the advice being put forward.
- **Section 4:** provides a summary of the practice advice contained in the web-based guide (the 'key themes').
- **Section 5:** explains the structure of the web-based guide and offers help in its use.
- **Section 6:** presents final conclusions.

An aerial photograph showing a suburban residential development. The houses are arranged in a grid-like pattern with winding roads. A large green area, likely a golf course, is visible in the center. The surrounding landscape is a mix of green fields and trees.

## 2. The Context

### Development Trends

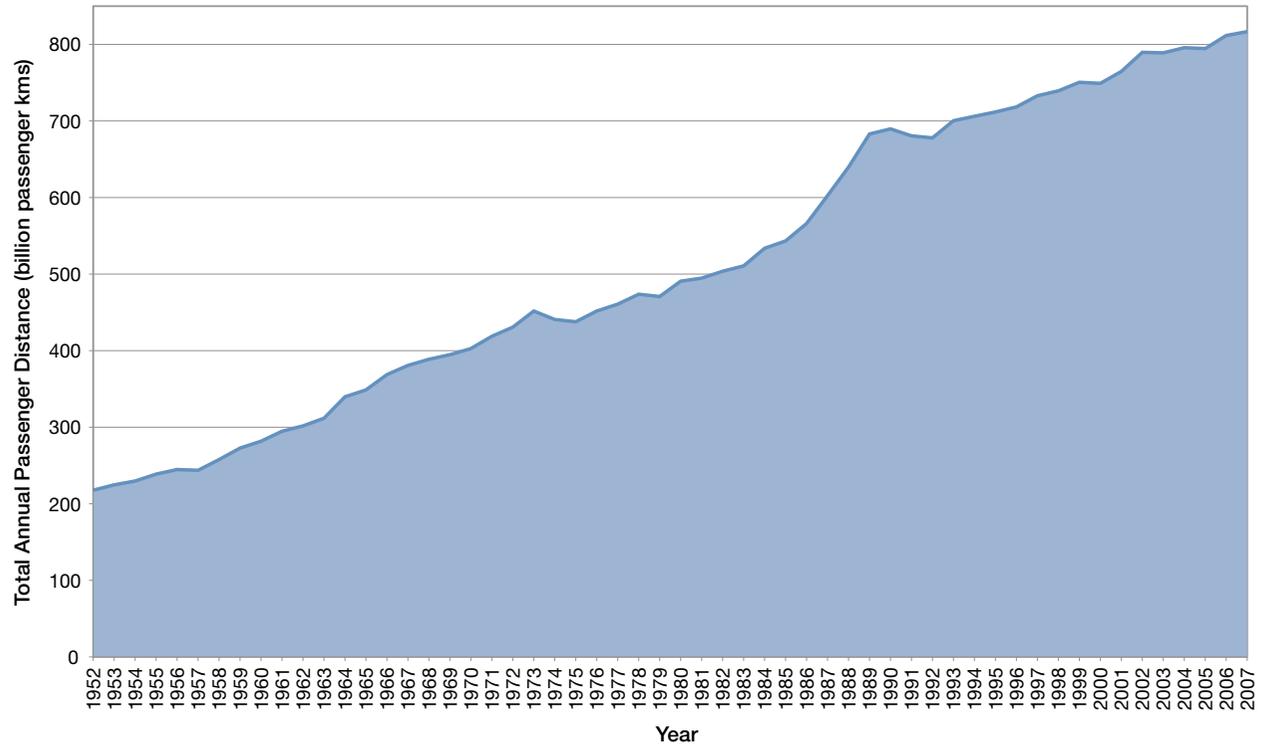
The latter half of the twentieth century has been characterised by the net movement of around four million people from London and other conurbations to districts containing smaller towns and predominantly rural areas – the process known as ‘counter-urbanisation’. This was accompanied by a redistribution of employment, linked with the shift from manufacturing to service employment, but not on so extensive a scale. It took the form of a more localised shift to the edge of cities or city regions (but outside the administrative boundaries of urban districts). A number of out-of-town retail developments, ‘edge of centre’ hospitals and other facilities were permitted in many urban areas, particularly in the 1980s and early 1990s.

The analysis of recent development trends has shown a pronounced concentration of new office employment in London and about half a dozen other regional centres (WSP and Arup, 2005). Recent retail development is also characterised by spatial concentration in town centres, although at a lower, sub-regional level. These market trends reinforce the importance of planning policy in reversing the trend of residential dispersal. There has been some recent success in residential location terms, in limited locations, with the recent emphasis on city centre living, partly a result of planning policy, but also demographic change.

## Unsustainable Mobility

The legacy effect of development location and form, coupled with increasing congestion and/or (limited) demand management in urban centres, has encouraged traffic growth over time (Figure 3), and most of this has occurred on inter-urban roads (Headicar, 2009).

Figure 3: Growth in passenger travel distance



(Department for Transport, Transport Statistics Great Britain, 2008)

Car ownership has increased due to rising incomes, individual aspirations and the falling real costs of car purchase – the purchase cost has halved during the last 10 years. In recent decades the dominant feature has been an increasing proportion of households with two or more cars. Coupled with a slow decline in average household size, this has meant an increase in the number of adults who are ‘main drivers’ (i.e. who have sole or priority use of a car).



Much of the recent growth in traffic has occurred on inter-urban roads



Light van traffic has particularly experienced an increase in volume in recent years

The personal availability of a car is a critical factor contributing to car use. Main drivers travel 55% more by car (as the driver or passenger) than those who have shared use and undertake 2.5 times more mileage as car drivers. Two features are important here:

- *Car dependence* – the way in which the habit of car use (whether this is ‘necessary’ or not) becomes embedded in the attitudes and behaviour of household members

such that they cease to contemplate other travel options (Goodwin, 1995).

- *Car reliance* – the way in which decisions among some ‘car available’ households, on matters such as home location, choice of workplaces and schools, are predicated on the presumption of car use, i.e. where the possibility of using other modes is rendered impracticable, whether this is consciously recognised or not (Stradling *et al.*, 2000).

A significant proportion of households may also be ‘reluctant car users’ who are forced to drive more often than they would ideally like. The complex rationale for travel, including but not limited to development change, highlights the critical importance of viewing conventional land use/transport planning as part of a wider strategy for fostering attitudinal and behavioural change consistent with sustainability objectives (Cairns *et al.*, 2004; Levinson and Krizek, 2008; Banister, 2008).

## Urban Structure and Travel

Analysis using the National Travel Survey (Department for Transport, combined data 2002–06) highlights that residential population density, settlement size and type, accessibility, and various socio-economic characteristics are all significantly related to travel distance and mode share. More detailed analysis, including

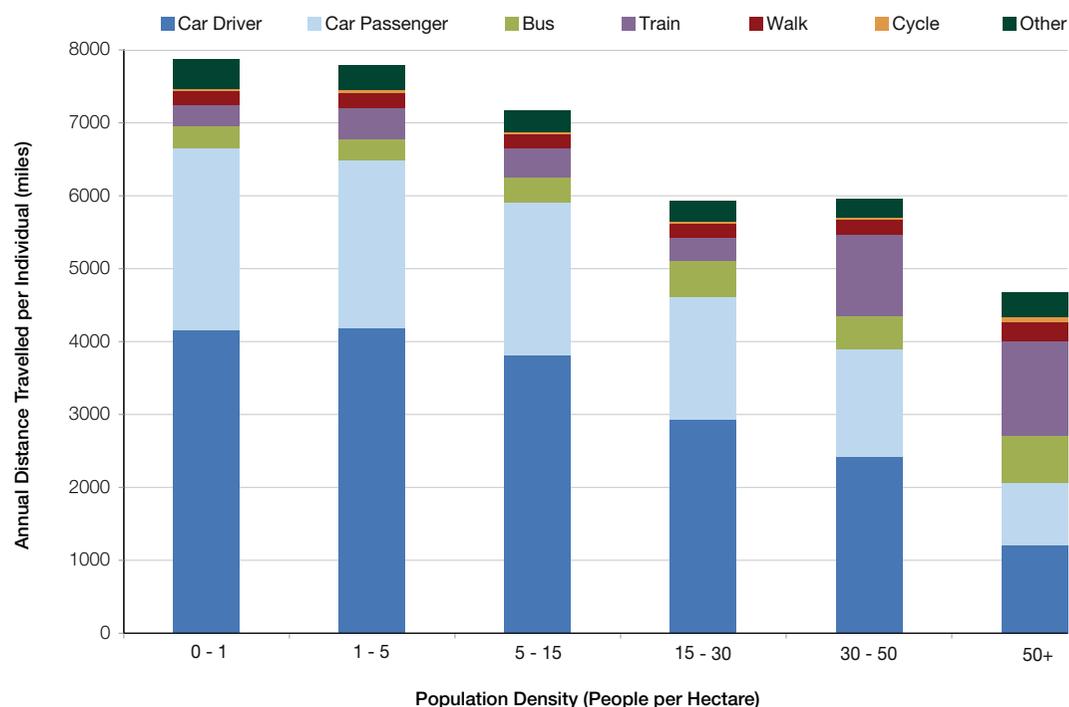
multi-variate analysis, is included in the background technical report to this study. A number of relationships are evident, as outlined below.

**Density:** there is broadly an inverse linear relationship between density and travel, where increased density is associated with reduced travel distance, particularly by car (Figure 4). Distance by public transport increases

with density, particularly over 30 persons per hectare (pph). Walking distance is similar over all densities except the highest – over 50 pph.

Car drivers in Great Britain average 3,660 miles per annum (51% mode share), relative to an average density of 2.5 pph. In London, a lower average distance by car is evident at 1,876 miles per annum (35% mode share, and a higher average density of 46 pph).

Figure 4: Density and travel



(Department for Transport, National Travel Survey, 2002-06)

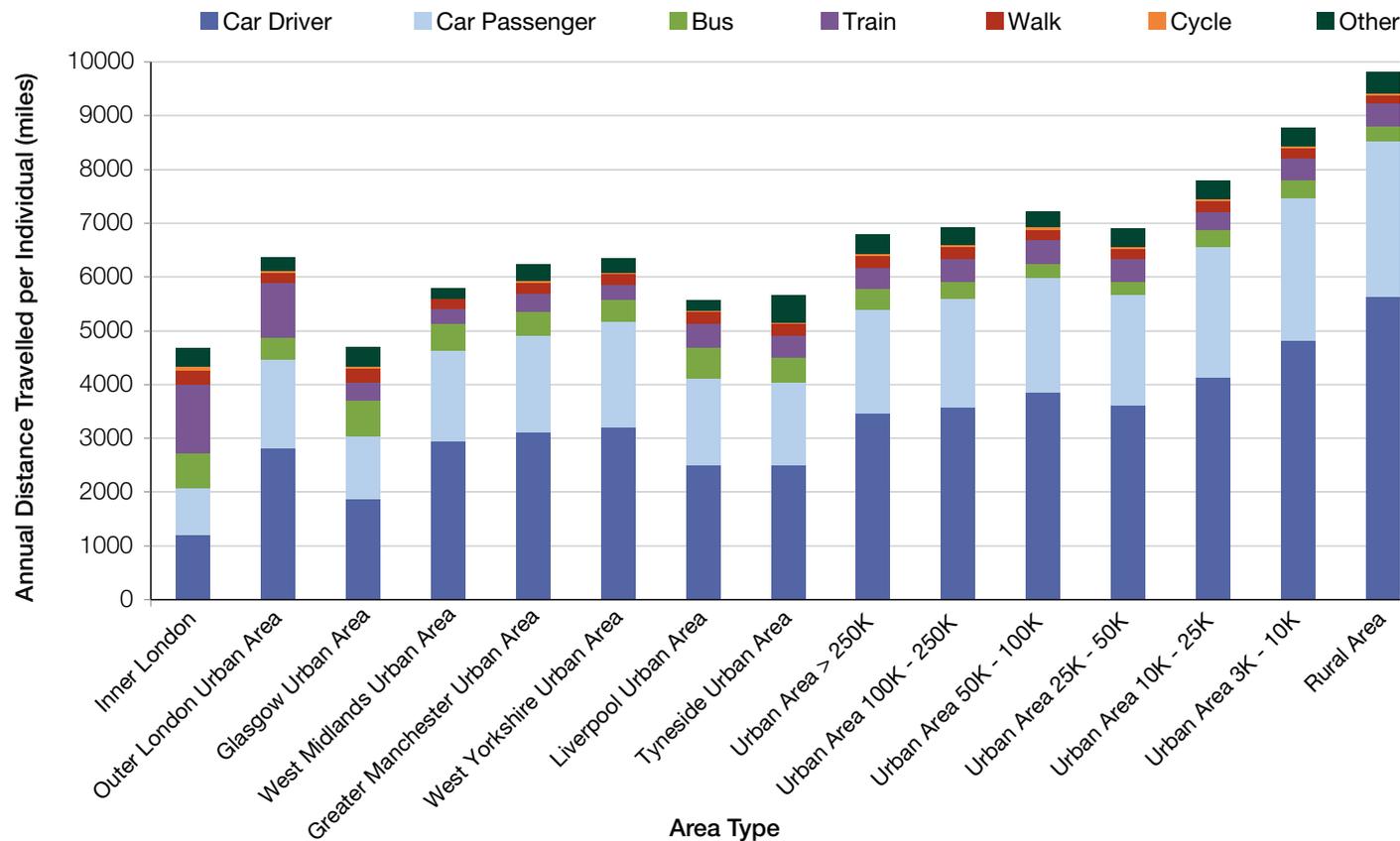
**Settlement size/area type:** there is (broadly) a weak inverse linear relationship with increased average distance travelled as settlement size decreases (Figure 5). The largest differential is between inner London (an average of 4,673 miles per annum) and rural areas (an average of 9,806 miles per annum). Outer London performs more like the other metropolitan areas in terms of average distance travelled. The highest distances travelled in non-rural areas are found in the smaller urban areas, particularly those with a population under 25,000.

The context in which practitioners operate is thus very important. Current and future attempts at influencing land use patterns and promoting more sustainable travel need to be seen against this background, often where ingrained, dominant and long-term

trends are involved. In empirical terms, the most significant associations are found when a range of urban planning, socio-economic and attitudinal variables are considered relative to travel behaviour.

The implications for practice are that packages of interventions (density, location, accessibility, neighbourhood design) need to be considered when planning for greater sustainability in travel.

Figure 5: Settlement size and travel



(Department for Transport, National Travel Survey, 2002-06)



### 3. Key Principles

#### Spatial Planning as an ‘Enabler’ to Sustainable Travel

The evidence concerning the interrelationships between urban structure and travel shows that urban structure plays an important structuring role in enabling – or inhibiting – particular types of travel. This is, of course, tempered by socio-economic and cultural factors.

Government guidance on this subject is provided mainly in *Planning Policy Guidance 13: Transport* (PPG13). This was revised radically in 1994 (and updated in 2001) in line with the Government’s wider initiatives in pursuing sustainable development.

### The objectives of PPG13

- To promote more sustainable transport choices for both people and moving freight.
- To promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling.
- To reduce the need to travel, especially by car.

*PPG13 Transport, para 4*  
(DETR, 2001)

The publication of PPG13 followed a study undertaken by ECOTEC (1993) which examined National Travel Survey (NTS) data and other evidence available at the time on land use/transport relationships. A 'Better Practice' guide was also published soon afterwards (DOE, 1995) which contained much useful practical advice.

However, it was constrained by the few examples available at the time which reflected the new policy approach. As a contemporary resource it is also limited by not being widely available, certainly in electronic format.

The planning approaches taken to achieve sustainable travel will need to vary greatly depending on the specific context, hence a differentiated approach to policy making will be required. This moves us beyond the generic advice found in PPG13.

“

The planning approaches taken to achieve sustainable travel will need to vary greatly depending on the specific context.

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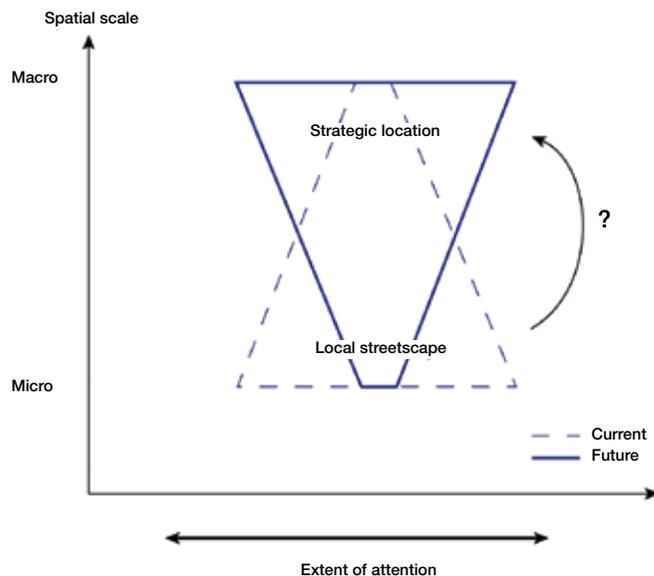
### A Greater Strategic Focus

At present the traditional concern of highway authorities with traffic conditions leads to development locations being favoured which have the 'least detrimental' effect on the surrounding road network, or where such effects can be remedied through improvements undertaken as part of the development. This typically results in preferred locations close to the strategic highway network and away from town centres. These places are also likely to be attractive to businesses and developers because of their wider accessibility by car. Circular 2/07 (Department for Transport, 2007a) sets out an approach adopted by the Highways Agency to encourage sustainable development while avoiding the potential for adverse effects on the Strategic Road Network.

Even if developers are prepared to pay for works to ameliorate traffic effects, the outcome in travel terms is unsatisfactory. An obvious opportunity is created for longer distance

commuting, or wider travel by car utilising the Strategic Network, and the scope for travel by other modes as a competitive alternative to, or from, these more distant places is usually low or non-existent. Measures included in developers' travel plans to limit immediate traffic effects normally target short-distance trips undertaken by walking, cycling or public transport, and leave unaltered the bulk of the car mileage generated. If the location of the development is poor, the mitigation measures are usually ineffective.

Figure 6: A greater strategic focus



To address the problem posed by longer distance car trips, the amount of attention currently given to the transport consequences of major development proposals in strategic and local stages of the planning process needs to be revised (Figure 6).

Much more attention should be given, at an early stage, to analysing locational options in terms of their propensity to generate trips or, if significant longer distance travel is seen as unavoidable, on selecting places where the greatest potential exists to offer a competitive non-car alternative.

“ Much more attention should be given, at an early stage, to analysing locational options in terms of their propensity to generate trips. ”

This contrasts with the present focus on Transport Assessments of individual development proposals where the volume of travel is largely determined by earlier decisions on strategic location.

In a similar vein there is also the current emphasis on the internal streetscape design of individual development proposals. Although this is very important, in many cases the pattern of trip-making has already been determined by location, density and other strategic factors. The practicable extent of influence of streetscape design is limited to reducing the car modal share by a few percentage points at most.

## Reducing Per Capita Car Use

The overall rate of traffic growth has begun to decline during the last decade, largely because car use per capita has levelled off. However, given forecast increases in population (14% from 2003–2025) this trend of lessening car use needs to be extended if traffic volumes are not to rise considerably. As far as travel associated with new development is concerned, it should be possible to improve on established travel patterns.

The aim for practitioners should be to reduce per capita distance travelled by car in new developments compared with the average for the transport authority area and good practice benchmarks.

This recognises that changes in vehicle technology alone are not likely to bring about the scale of CO<sub>2</sub> emission reduction needed in the short to medium term to achieve strategic targets (Hickman and Banister, 2007a). Aiming to deliver reduced per capita car use would help

to achieve planning for less travel and provide an essential contribution to CO<sub>2</sub> emission reduction targets.

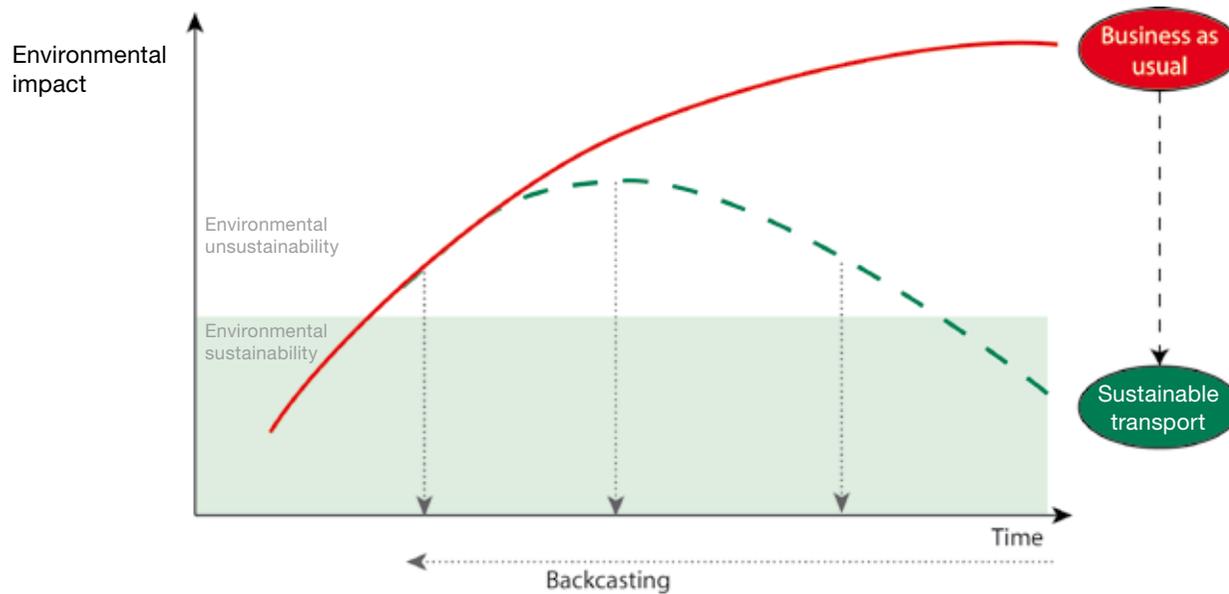
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The aim for practitioners should be to reduce per capita distance travelled by car in new developments compared with the average for the transport authority area and good practice benchmarks.  
”

## Longer-term Aspirations

Many of the developments and investments undertaken now will remain in existence for many years. The increment of change brought about by developments within a single planning period (normally 15 years or so, or less in local transport planning terms) is relatively short compared with the continuing influence of the established building stock and the associated patterns of activity and travel.

Over the longer term, policy can begin to alter the inherited pattern of travel behaviour, for example through promoting other forms of car access (car hire, car club, car pool and car share), as part of a wider and much more intensively applied repertoire of travel choices, and establish a changed trajectory for the future.

Figure 7: Backcasting from a future aspiration



there is much current uncertainty over the extent to which technical developments in motor vehicles (and their take-up by manufacturers and motorists) will deliver reduced CO<sub>2</sub> emissions; over the future availability and price of oil; and whether, in a changing economic climate, it will be possible to maintain the level of public investment which underpins the current projected traffic conditions. Future development policies and transport strategies will need to be flexible, adaptable and resilient over time.

We therefore recommend a much stronger forward-looking ‘futures’ aspect to policy making, continuing to build on the recent developments in scenario building. Backcasting methodologies may also be useful – where future agreed scenarios are ‘cast back’ to develop pathways, timelines and programmes for delivery (Hickman and Banister, 2007a) (Figure 7).

Practitioners can hence move beyond conventional ‘predict and provide’ approaches to develop a greater focus on demand management and the achievement of alternative strategic aspirations.

Such a scenario-based approach is also useful from the ‘precautionary principle’ standpoint. For example,



## 4. Summary of Practice Advice

A summary of the practice advice contained within the 'key themes' pages of the web guide is given below. This provides an overview of each theme, including a definition of potential objectives and a numbered checklist of practice pointers.

The more detailed web guide ([www.plan4sustainabletravel.org](http://www.plan4sustainabletravel.org)) also includes relevant extracts from national policy guidance, research evidence, and further reading and case study material. A background technical report, detailing the research literature and individual case studies, is also available via the website.

The themes below are ordered in an approximate spatial hierarchy, with those most relevant to strategic planning presented first, followed by the urban, neighbourhood and development-specific scales, and supporting traffic demand management (TDM) measures.

## Theme 1: Settlement Size

Settlement size refers to the total population or number of dwellings within a contiguous built-up area. Larger settlements provide an opportunity for greater self-containment and a mix of uses offering access to a range of shops, services and employment **within** the built-up area, thereby reducing the need for inter-urban travel. We should aim to maximise the proportion of new development that is allocated within or immediately adjacent to larger towns and cities.

Hence, in regional and sub-regional planning, decision-makers are advised to:

- 1.1 Consider the advantages of locating development in selected larger urban areas (metropolitan areas, cities and large towns, or above 25,000 population at a minimum) to (a) reduce the need to travel, and (b) support public transport provision, by:

- ▶ increasing the likelihood of residents finding jobs and utilising facilities, or of services drawing their employees and customers, from within the same urban area;
- ▶ tending to have a higher development density;
- ▶ creating higher volumes of travel demand on the main corridors; and
- ▶ (higher densities and better public transport) requiring and facilitating a managed approach to car parking which itself contributes to lower car ownership and use.

It may not always be practicable or desirable to maximise development in or adjacent to the largest urban areas within any region/sub-region because of the local incidence of housing need, support for smaller, rural communities and their services, restricted land availability and/or environmental or infrastructure constraints. However, the expansion of larger settlements is generally preferable to 'leapfrogging' development to smaller

towns or 'spreading' development across a number of settlements.

- 1.2 Where applicable, development should not be dispersed across and replicating the existing settlement pattern. Strategic traffic generation impacts should contribute to locational considerations. This may involve a review of Green Belt and similar urban containment policies (from the perspective of sustainable transport) where the expansion of settlements may have been prevented. Consider the option of the selective release of land at the edge of larger settlements and in public transport corridors, taking into account:

- ▶ the relative accessibility by public transport of alternative locations to jobs and major facilities;
- ▶ the likely difference in per capita car mileage; and
- ▶ the potential to 'swap' other locations for open space provision.



Development located in larger urban areas supports sustainable travel aspirations (Manchester)

## Theme 2: Strategic Development Location

Strategic development location refers to the selection of areas for major new residential and non-residential development (employment, leisure and retail), including the spatial distribution of housing and employment within Growth Areas and Growth Points and between urban centres

(Figure 8 illustrates the latter). It is an important input to the apportionment of development between districts at the Regional Spatial Strategy (RSS) level. There is a strong link with development site location, which takes place lower down the strategic scale, where integrating development into the existing urban fabric is considered.

To promote sustainable travel, the aim should be to locate development where travel generation is likely to be reduced. Hence, in locations where there is good public transport accessibility, particularly for short trips to existing or new centres. Development locations which may facilitate long distance journeys by car should be avoided, including at, or near to, junctions on strategic roads (motorways/dual carriageways). This means:

- travel by car is likely to be minimised, both in terms of trip length and mode share;
- opportunities exist, or can be developed, to promote the use of non-car modes; and

- good accessibility is available without requiring car use or relying on local public transport services that depend on subsidy over the long term.

In regional and sub-regional planning, practitioners are advised to:

- 2.1** Locate major employment, retail and leisure uses with a sub-regional catchment:
  - i. in the first instance, in existing city and town centres; or
  - ii. secondarily (where the physical opportunity is not available for option i), at other locations which can be accessed conveniently by public transport from the relevant catchment area.
- 2.2** Improve the sustainability credentials of urban, 'dispersed conurbation' and suburban locations (which may sometimes be within the formal 'built-up' area) through the application of local traffic demand management measures, including travel plans.

**2.3** Avoid workforce-intensive development in non-central locations, close to junctions with motorways and similar dual-carriageway routes unless they enjoy exceptional public transport accessibility (e.g. a rail ‘parkway’ station). This will discourage short- and medium-distance travel by car on strategic highways and is especially important in cases where new housing is likely to be attractive as a ‘dormitory community’ for people working in major urban areas accessible by the route.

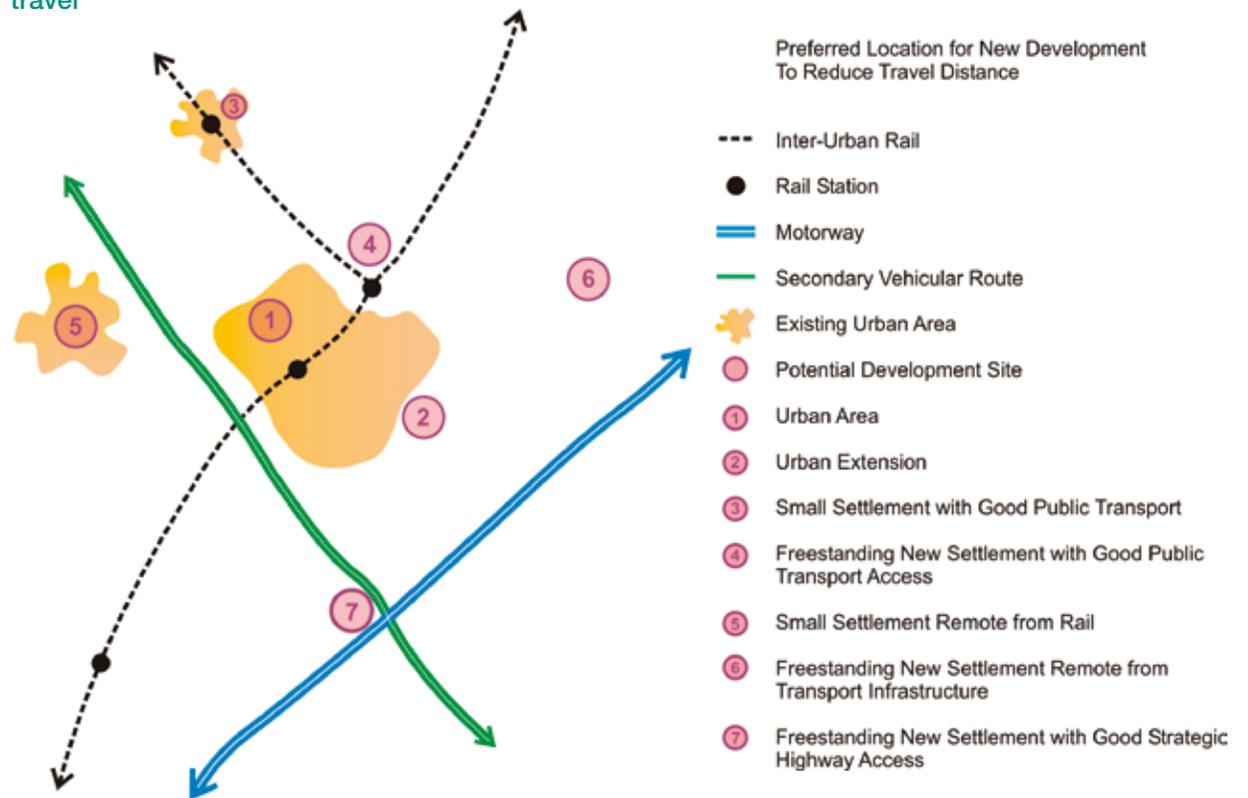
**2.4** Locations for additional housing should also have regard to:

- ▶ the proportion of trips likely to be made within the home settlement (i.e. the degree of ‘self-containment’); and
- ▶ the average distance of trips to places outside the home settlement and the likely proportion to be made by public transport.

**2.5** Where significant out-commuting is perceived as inevitable, new housing should be located in settlements that already enjoy good, or can receive improved,

public transport accessibility to the relevant external destination(s), for example by virtue of a rail service or express bus route.

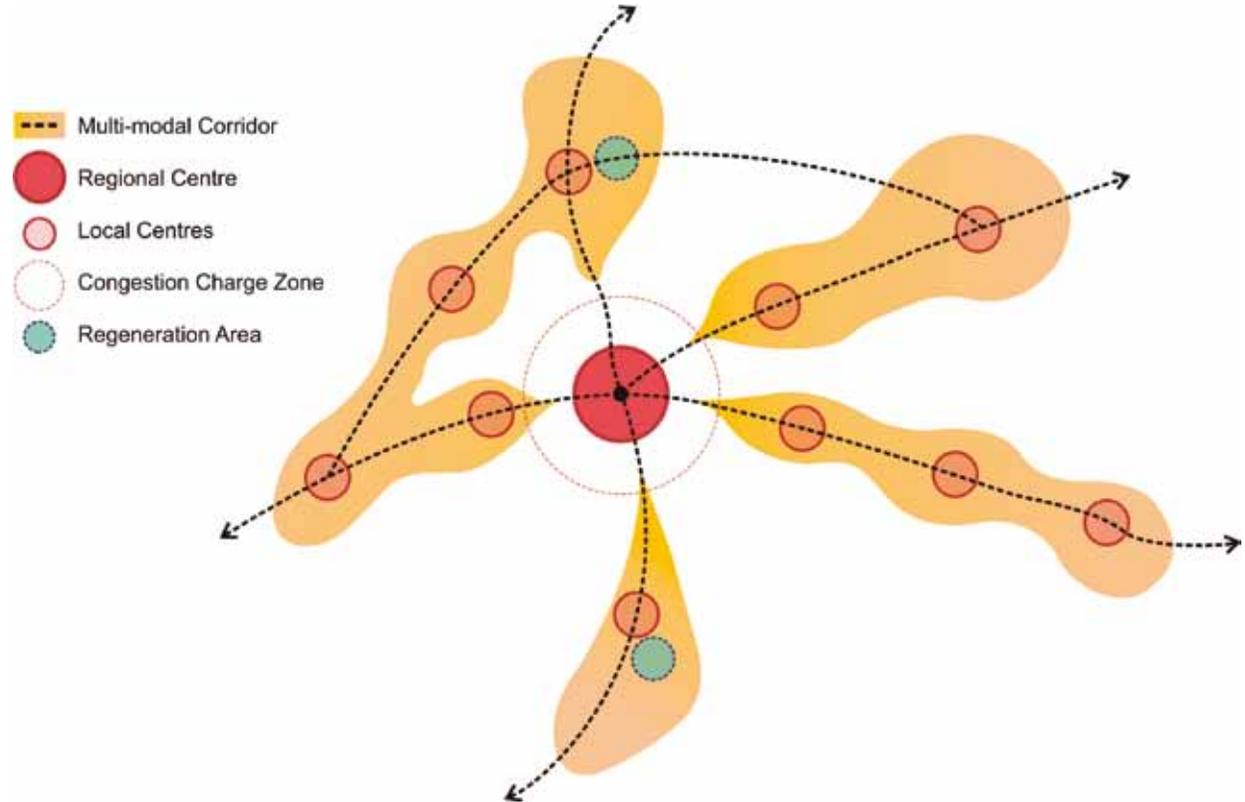
**Figure 8: Strategic development location and travel**



### Theme 3: Strategic Transport Network

The Strategic Transport Network refers to transport infrastructure that supports medium- and long-distance travel, generally between towns and cities or along major corridors in urban areas (Figure 9). It includes all modes whose configuration and design serves, and could potentially influence, spatial development patterns (e.g. rail, bus priority route and highway). The Strategic Network can be conceived as an integrated network of different modes and ownership – with combined conflicts and opportunities. For example, the solution to potential future congestion on the trunk road network may lie in the location of new development.

Figure 9: Strategic Transport Network and development



Built-up areas are not generally 'self-sufficient'. To increase the sustainability of long-distance travel between settlements, the aim should be to:

- increase the efficiency and reliability of the existing public transport network (rail and bus) and invest in public transport infrastructure improvements; and
- create development patterns that support public transport usage and discourage the use of the strategic highway network for short, medium and long distance travel (e.g. commuting). Hence, major development should be located near to public transport nodes where capacity exists or can be developed.

Hence, in regional and sub-regional planning, practitioners are advised to:

- 3.1** Develop sub-regional and city-regional governance structures (e.g. Multi-Area Agreements) that support an effective process for

achieving integration in transport and urban planning.

- 3.2** Develop key public transport links and networks between cities and towns and within larger conurbations (in collaboration with national government), and locate development adjacent to nodes to make use of capacity.
- 3.3** Improve the efficiency of the Strategic Transport Network by increasing integration between modes, for example at important urban and edge-of-town interchanges and park-and-ride sites.
- 3.4** Prioritise public transport infrastructure investments that support desired development patterns.
- 3.5** Make more efficient use of available road capacity through traffic demand management measures and road space reallocation to more sustainable modes.

## Theme 4: Density

Density refers to the intensity of use of land. In UK planning practice, density is generally measured in dwellings per hectare (dph), where the area includes developable residential land.<sup>1</sup>

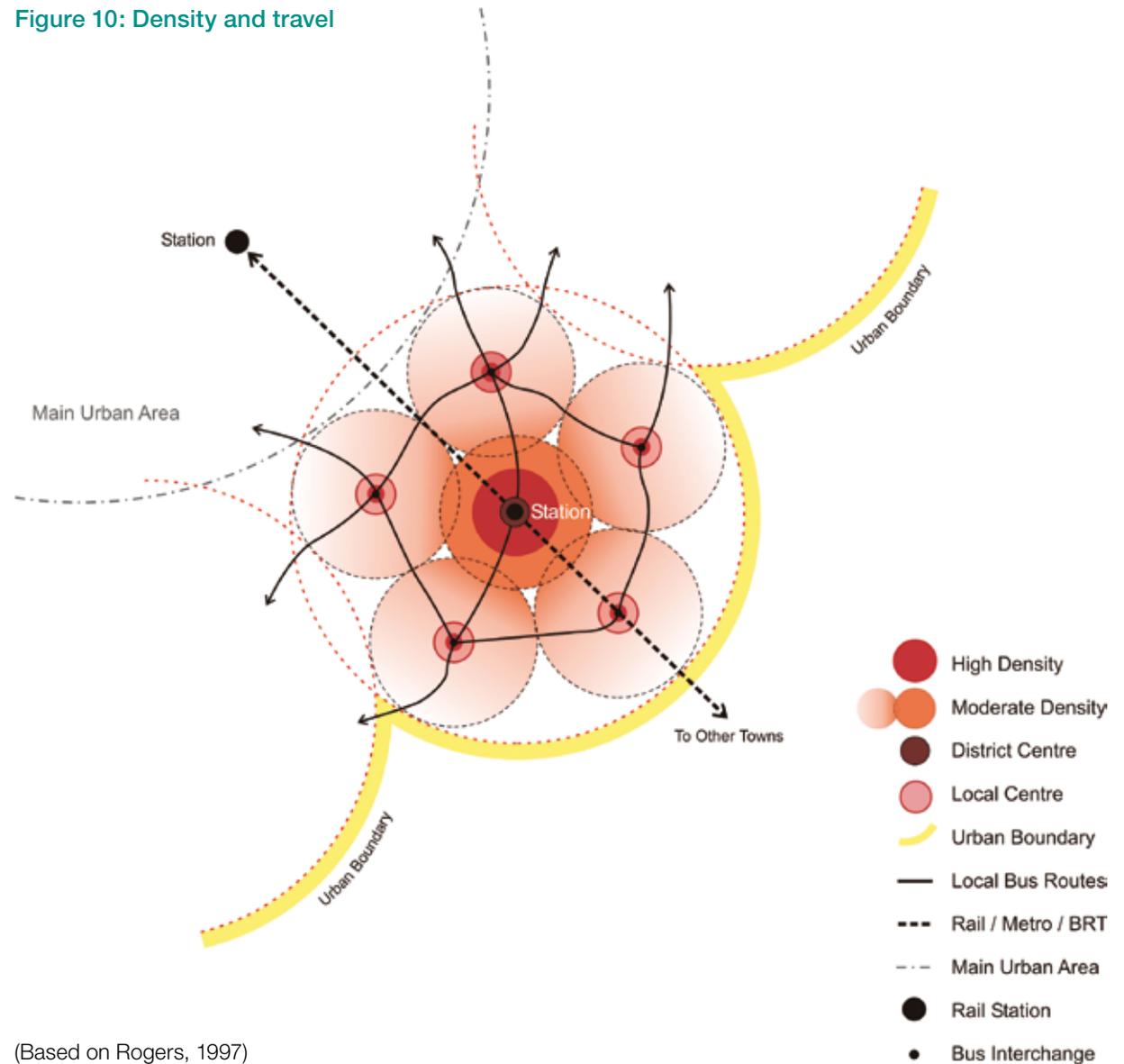
There has been much previous work on the density and sustainability topic. Newman and Kenworthy (1989, 1999) famously developed the relationship between higher density and lower energy consumption for major world cities. The ways of achieving higher residential densities in design quality terms has been examined by many authors, including Rogers (1997), and has been influential on the urban renaissance movement.

<sup>1</sup> Other metrics can be used. For example, gross density includes all land (i.e. including major roads, parks, service facilities, etc.) and is often measured in terms of dph or persons per square kilometre. Gross density is useful for comparing densities across larger areas and for estimating potential public transport demand. Habitable room densities allow different house types to be accommodated. Plot ratios and net site densities are also used. The more recent research is beginning to develop more effective measures of density and **quality**, for example the number of useful facilities per area, such as bookstores or coffee shops.

A number of principles can be derived, with a focus on raising the density of development, particularly around public transport nodes (Figure 10):

- Transport energy consumption and CO<sub>2</sub> emissions are generally lower at higher densities.
- Higher densities lead to greater scope for viable public transport services.
- Density can be an important factor in reducing car use in terms of both mode share and distance travelled.

Figure 10: Density and travel



(Based on Rogers, 1997)

There is continued discussion as to appropriate density levels. *Planning Policy Statement 3 (PPS3)* (DCLG, 2006) advises an indicative minimum of 30 dph. Much higher densities can be achieved in many areas, up to 50–100 dph depending on context, and even 100–200 dph or more around important public transport interchanges.

A set of density ranges can be developed for each local area, reflecting contextual issues. In regional, sub-regional and local planning, practitioners are advised to:

- 4.1 Build to the highest density possible consistent with the local density range, and given quality of life and public transport availability considerations (existing and future). Increased densities need to be consistent with liveability objectives and type of accommodation needs, but the areas around public transport nodes (the 10-minute walk or approximate 800 metre radius catchment) can particularly be the

focus for increased densities, again depending on context.

- 4.2 Consider the interrelationships between public transport accessibility, parking and density in the early stages of strategic planning processes (e.g. Regional Spatial Strategies, Local Development Frameworks), including across urban and suburban areas. Where new public transport capacity is installed, the aim should be to reconfigure development form to support patronage, particularly where suburban, low densities surround interchanges.
- 4.3 Ensure that local plans maximise the density of residential and commercial development while taking into consideration neighbourhood design and other constraints, as noted in PPS3 (para 46).

## Theme 5: Jobs–housing Balance

The jobs–housing balance refers to the approximate (equal) distribution of employment opportunities and workforce population across a geographic area. It is usually measured in terms of the proportion of jobs per household. For example, a jobs–housing balance of 1.25 means there are five jobs for every four households. Qualitative matching between skills, aspirations and job type is critically important, as well as numerical balance.

The aim of the jobs–housing balance is to provide local employment opportunities that may reduce overall commuting distance among residents (and also the reverse – to provide homes near to workplaces). Like most of the urban structure variables, it is a necessary, but **not sufficient** condition for reducing the need to travel. Arguably, it is more important at the strategic travel to work area level, or in peripheral and remote urban areas where opportunities for cross-area commuting are less.

Practitioners are therefore advised to consider the different scales over which the jobs–housing balance is best achieved. This can initially be conceived at a regional and travel to work area level:

- 5.1** Existing commuting patterns, planned residential and employment locations, and workforce characteristics can all be examined to ensure that there are no mismatches which may encourage car dependency and long journey distances. Effective jobs–housing balances are in the range 1.0–1.5. Increments of new growth should be of sufficient mix to provide balance at the strategic level.
- 5.2** Large employment generators should be at locations that are the most accessible by public transport, walking and cycling (which are the areas with large population catchments), and vice versa.
- 5.3** Support housing type and affordability that is consistent with local employment opportunities in order to discourage in/out commuting.



Good balance of employment and other uses, and located near excellent transport links (Hammersmith Broadway)

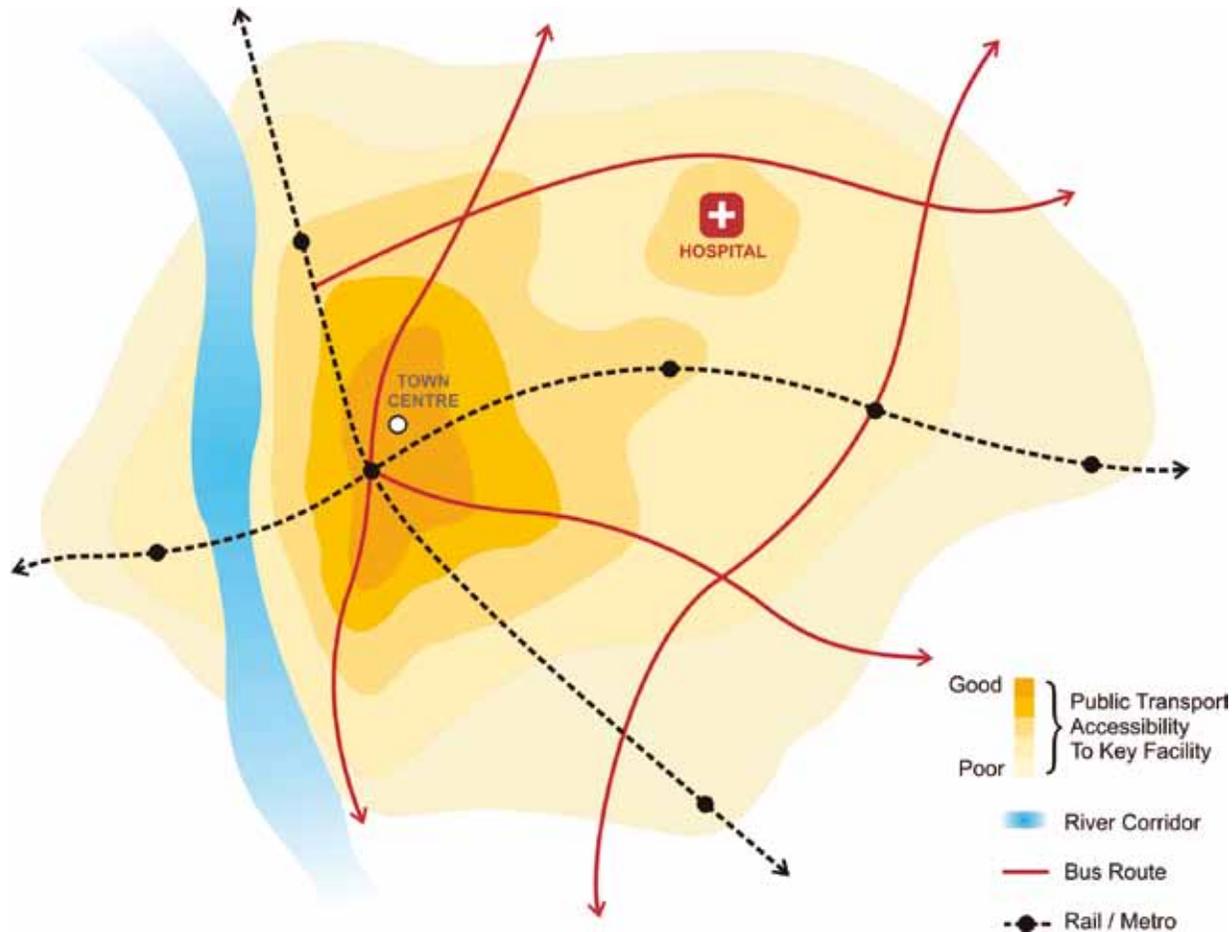
## Theme 6: Accessibility of Key Facilities

Accessibility refers to the ease of reaching destinations or activities.<sup>2</sup> Places that are highly accessible can be reached by many people quickly, whereas inaccessible places can only be reached by a few people in the same amount of time (Figure 11). The focus for practitioners can be on improving accessibility rather than mobility, and in moving people rather than vehicles. There are urban and rural dimensions to accessibility planning.

Accessibility is conventionally perceived in physical travel terms, but electronic social interaction is becoming increasingly important. As yet there is little evidence of an aggregate substitution effect (with electronic travel replacing physical travel) – interaction tends to increase. However, this may change over time as the ‘network society’ takes off (e.g. Castells, 1996; Hall and Pain, 2006; Choo *et al.*, 2005).

<sup>2</sup> Accessibility for persons with disabilities is also an important issue, and is covered in other guidance notes; a broader definition is taken here in terms of accessibility to destinations.

Figure 11: Accessibility and travel



Key facilities serve a wider catchment than the immediate neighbourhood in which they are situated. Examples include employment centres, shopping centres, hospitals, educational institutions, leisure centres and cultural attractions. The accessibility of key facilities is therefore of particular importance because they are major travel generators (for both employees and patrons) and wider access has strong additional social benefits. The lack of accessibility tends to be a larger challenge in rural areas and areas of multiple deprivation. The accessibility of local facilities, such as neighbourhood shops and other day-to-day facilities, is also important and should be maintained and enhanced where applicable.

In order to proactively encourage sustainable travel, the aim should be to locate and manage key facilities so that they will:

- be conveniently accessible by public transport by users and employees within their planned catchment area;

- support and facilitate the improvement of public transport services;
- reduce average travel time and distance;
- maximise the proportion of travel by non-car modes; and
- complement land-use and transport policies, traffic demand management strategies and investment programmes that are being pursued in the area more generally.

Practitioners are therefore advised as follows:

- 6.1** As far as is practicable, to locate key facilities within town, suburban and rural centres which relate to the catchment areas of the activities concerned, in order to:
- ▶ minimise trip distances and travel time to individual facilities;
  - ▶ create opportunities for trip purposes to be combined in a

journey to a single destination (i.e. a centre with a mix of uses);

- ▶ provide a high level of public transport service in terms of frequency and speed (as a consequence of the concentration of travel flows); and
- ▶ help develop a parking management programme (public and private) consistent with a concentration of travel demand in high-density areas.

**6.2** Planning policy guidance requires the identification of a hierarchy of centres. Selection and assessment criteria for centres at the same level of hierarchy should include:

- ▶ relative accessibility by public transport from the residential population they are intended to serve and from the area where their workforce will be drawn; and
- ▶ accessibility by car compared with other modes.

**6.3** If the full requirement for major employment and key facilities cannot be met within established centres, consider other locations on the public transport network which offer, or can be improved to offer, similar levels of accessibility from the relevant catchment area.

**6.4** Where key facilities (and/or major employment sites) must be developed outside established centres, include a mixed-use element to facilitate multi-purpose trips and traffic demand management measures and controlled parking on site to complement parking restrictions in the vicinity.

**6.5** Where existing centres are redeveloped, seek to enhance accessibility for buses, other public transport, and walking and cycling. Attempt to mitigate the transport consequences when facilities are closed, for example hospitals.

## Theme 7: Development Site Location

Development site location refers to the selection of sites for new housing allocations or other new developments. This covers the type of decision that would generally be taken early in the Local Development Framework (LDF) process within the context of housing provision figures set by the Regional Spatial Strategy (RSS) or, in future, the single Regional Strategy (RS). This includes, for example, the apportionment of development between districts. Development site location is often a catalyst for transport interventions, helping to justify or making viable a new transport service. The selected development site should also be well integrated into the existing urban fabric, including local transport networks (existing and new).

The aim of good development site location in relation to sustainable travel should be to locate new housing where:

- the amount of travel by car (trip length and mode share) is likely to be low;
- good accessibility is available or can be created by sustainable modes to:
  - ▶ employment and other main facilities in the town or its immediate vicinity;
  - ▶ a rail station or other public transport interchange where good services are available to other (larger) centres within the sub-region; and
  - ▶ community facilities within the development or the surrounding neighbourhood;
- opportunities exist to:
  - ▶ promote the use of walking, cycling and public transport;
  - ▶ provide an attractive level of public transport service which does not depend on (additional) subsidy over the longer term;
  - ▶ utilise and support existing public transport services and community facilities in the locality;
  - ▶ incorporate services or facilities within the development which will improve accessibility by sustainable modes;
  - ▶ in certain locations, car-free or low car provision housing will be appropriate.

Practitioners working at the local level are advised to adopt a systematic process of identifying new sites for housing development (subject to the availability of sites and other considerations, e.g. flood risk, design and conservation aspirations) as follows:

- 7.1** Identify and/or assess sites for housing development on the basis of existing accessibility by car and public transport to employment and other key facilities (alongside, but potentially before, other policy objectives). This will help ensure that existing transport investment and services are utilised and requirements for new investment are minimised. Deficiencies in accessibility are unlikely to be remedied by transport measures that can be introduced as part of smaller scale development.
- 7.2** Include the location and quality of existing bus routes and local facilities, as well as the opportunities presented by the development to bring about

improvements in accessibility, as key criteria for final site selection. In particular:

- ▶ in larger towns incorporate necessary network links in the layout of a development to enable the utilisation and enhancement of existing urban bus services – larger extensions may justify a dedicated bus service along a radial corridor with priority measures; and
- ▶ in small towns focus development on radial corridors in order to utilise and support inter-urban bus services that run along them – again larger extensions may justify their own frequent bus service.

- 7.3** Create attractive walking, cycling and public transport links with local facilities in the neighbourhoods surrounding the new development.



The new development is very well integrated into the existing urban fabric, including permeable route networks (Liverpool)

## Theme 8: Mix of Uses

Mix of uses refers to the degree to which different land uses are contained within a geographic area, generally a building, street or neighbourhood. It is often measured in terms of the proximity of the local facilities to households. 'Mixed-use development' generally refers to a mix of uses within a development site. The location of key facilities such as hospitals and schools in relation to other uses should be assessed and planned for at the city-region or sub-regional scale (e.g. through the Local Development Framework or local masterplans).

The aim of mixing land uses is to provide opportunities for individuals to undertake multiple activities in one trip (as opposed to increasing accessibility), and to encourage non-motorised trips through a diverse urban environment (e.g. the high street).

Practitioners (within masterplans) are therefore advised to:

- 8.1** Consider locating essential community facilities (e.g. grocers, local schools, banks) within walking distance of all homes in a neighbourhood in order to reduce travel distances and to de-incentivise car ownership. This will require a certain density of housing in order to concentrate demand sufficiently for the shops and services to be economically viable.
- 8.2** Identify complementary uses such as a day-care and fitness centre or bookstores and cafes, and support building types that facilitate co-location so that individuals can reach more activities per trip.
- 8.3** Where public transport is available, promote retail uses that complement employment centres in order to increase public transport mode share.



Good mix of residential, employment and other uses leading to vitality (Gloucester Green, Oxford)

## Theme 9: Neighbourhood Design and Street Layout

Neighbourhood design and street layout are also important to travel. The relationships between buildings, streets and open spaces form the urban fabric that helps to give a neighbourhood its physical identity.

Neighbourhood design refers to the scale, form and function of buildings and open space (including streetscapes). Street layout refers to the pattern of local streets, for example as 'traditional' grid networks, culs-de-sac or hybrid forms (Figure 12). Both can have an impact on generated travel patterns. Sustainability objectives move transport planning beyond increasing throughput, to include consideration of transport routes as 'places' as well as 'links' (for a useful working typology, see *Link and Place*, Jones et al., 2008).

Figure 12: Street layout and travel<sup>3</sup>



<sup>3</sup> Note the image contrasts poor permeability to the north of the road and better permeability to the south. The original diagram has been amended to provide linear high-street style shopping to the south (originally mall style) and a more integral school location.

Practitioners (in masterplans) are advised to:

- 9.1** Encourage walking, cycling and public transport use (where applicable) through permeable, well-connected, ‘traditional’ grid street networks.
- 9.2** Avoid circuitous, ‘suburban’, cul-de-sac street networks with few access points and lengthy routes to nearby locations.
- 9.3** In new developments, provide safe and high-quality walking and cycling environments throughout. In existing developments, consider retrofitting footpaths and adding cycle lanes to improve the travel experience of walkers and cyclists. Sustainable modes can be given priority in terms of journey length and time (sometimes known as ‘filtered permeability’).
- 9.4** Ensure integration between new development and adjacent built-up areas in terms of street network, public transport services, footpaths/ cycle routes and design standards.

Many recent good practice design advice and resources are available, including the *Manual for Streets* (DfT, 2007b) and the *Urban Design Compendium 2* (Roger Evans Associates, 2007). The Commission for Architecture and the Built Environment (CABE, 2007) summarises a number of good practice streets and spaces in the UK. Area-specific urban design guidelines and codes can be developed as appropriate. These should include specific reference to street layout and design.

## Theme 10: Traffic Demand Management

Traffic demand management (TDM) measures (sometimes known as ‘mobility management’) cover a wide range of measures aimed at reducing the adverse impacts of car use. They are thus complementary measures to spatial planning. The commentary in this Guide is in the context of supporting mechanisms to spatial policy. Many of the organisational initiatives are known as smarter choice ‘soft’ behavioural measures (after Cairns *et al.*, 2004). For the purpose of this Guide, we structure discussion of TDM interventions as below.

Organisational and operational:

- ▶ Travel plans (workplace, school, residential, area-wide) and personalised travel planning.
- ▶ Car pooling, car sharing and car clubs.
- ▶ Company work hours, flexi-working and home working.

- ▶ Home retailing and delivery.
- ▶ Tele-activities and interaction.
- ▶ Marketing/media campaigns.
- ▶ Transport optimisation and peak congestion avoidance.
- ▶ Slower speeds and ecological driving styles.

#### Financial:

- ▶ Pricing regimes, including (where applicable) road-user cordon charging, area-licensing schemes and continuous charging.
- ▶ Vehicle ownership taxes.
- ▶ Public transport investment/subsidy.
- ▶ Parking charges.
- ▶ Bicycle investment/subsidy.

#### Infrastructure:

- ▶ Improved public transport facilities, including (where applicable) National Rail, Underground, light and ultra-light rapid transit, guided bus and bus, etc.

- ▶ Demand-responsive transport.
- ▶ Park and ride.
- ▶ Improved walking and cycling facilities.
- ▶ Road space reallocation and priority, traffic calming, access control and restrictions.
- ▶ Streetscape design.
- ▶ Parking (discussed below in theme 11).

**10.1** Practitioners are advised, as a complement to their spatial locational strategies, to develop a rigorous TDM strategy to help reduce per capita car use. At the regional, sub-regional and local levels, this means developing and implementing a strategy, including the strategically and locally important infrastructural, organisational and financial policy levers. This will include major walking, cycling and public transport investment, 'smarter choice' soft

behavioural measures, marketing campaigns, and potentially pricing and subsidy regimes.

The Travel Demonstration Towns pilot has included investment in many of these measures and illustrates the type of strategies that are effective in reducing car-based travel (DfT, 2009b). This type of package of interventions should be carried out in urban areas and new developments across the UK.



TDM in the urban area (Cambridge)

## Theme 11: Parking and Servicing

Parking refers to the amount of space planned for the storage of cars and other vehicles (on and off-street) in new developments and to the management of space in existing and new developments. It also includes the provision for two wheelers (powered) and bicycles. As people do not necessarily park at, or within, their destination site, it is necessary to consider parking provision and management in the context of local parking conditions and policies as well as regional standards (where they exist).

Parking policy is a central element in TDM, however, it is much under-utilised. It can be used beyond the traditional management of space (i.e. ensuring safe and efficient on-street conditions, catering for servicing and loading, and utilising the available public space to maximum benefit).

Parking provision can be used to encourage less car use in order to improve traffic and environmental

conditions in an area and to contribute to broader transport and sustainable development objectives. However, the restriction of parking provision needs to be considered in the context of a package of sustainable measures. Parking through the restriction of spaces and/or pricing typically complements a variety of measures designed to promote the use of non-car alternatives. It can even be linked to other objectives such as giving priority to low emission vehicles, including clean electric passenger and delivery vehicles, such as in Richmond and Westminster (London).

Both the amount of parking space and the form in which it is provided (i.e. within the curtilage of private developments, in allocated or unallocated off-street spaces, and in on-street bays) have implications for, and need to be consistent with, wider issues of neighbourhood design and street layout. Car-free and low-car housing developments have been developed in a number of locations such as Camden and Westminster (London).

Local authorities should generally apply separate parking considerations to the main categories of development: business, retail and leisure, and residential. All can be conceived in relation to density and public transport accessibility.

Business (excluding retail and leisure):

- 11.1** Explore the potential for reducing car commuting through the management of publicly available space and through the adoption of travel plans by employers, possibly with a gradual reduction of available space and a Workplace Parking Levy component. If pursued collectively on a neighbourhood basis, this facilitates economies of scale in the provision of non-car alternatives and investment on a partnership basis.
- 11.2** Develop coordinated parking strategies for Travel to Work Areas. Local planning and local transport authorities can work within a framework set by the Regional Strategy.

For example:

- ▶ within Local Development Frameworks, include maximum parking standards for new employment development, thresholds for the preparation of Transport Assessments, and the location of park-and-ride sites and any other major public car parks; and
- ▶ within Local Transport Plans, include policies and proposals for controlled parking zones, workplace travel plans (including, for example, car pool, car share, public transport marketing and facilities for cyclists), Workplace Parking Levies where applicable, and complementary transport improvements.

Retail, leisure and similar uses:

- 11.3** Align the provision and pricing of public spaces with the opportunities available for access by non-car modes (since the car and non-car

modes will be in more direct competition than is the case with commuting), having regard to the scale and nature of any competition between out-of-town developments with free parking and town centre policies.

- 11.4** Develop visitor travel plans with reference to customer catchment areas.

Residential areas:

- 11.5** Include maximum parking standards for new residential development.
- 11.6** In controlled parking areas, potential measures to encourage reduced levels of car ownership and smaller, more fuel-efficient vehicles include the pattern of charges set for residents' permits, a programme of personalised travel planning, the promotion of car club and car share schemes, walking and cycling, local public transport services and the preferential allocation of public parking places (i.e. the provision for low-emission vehicles).

- 11.7** In major new housing developments, similar measures should be pursued through residential travel plans negotiated as a condition of planning permission.

- 11.8** Use the expected impacts of such measures to amend the nationally generated forecasts of household car ownership in setting parking standards for new developments and lessen the requirement for parking space by providing shared spaces (some of these available for use by visitors).

- 11.9** In controlled parking areas, access to shared space or separate garages should be subject to a rental charge. This is a more equitable distribution of the associated development costs and encourages households to review their car ownership levels.

- 11.10** To discourage household cars 'spilling over' on to the street or other publicly available spaces (where garages are used for

purposes other than car storage), minimise the proportion of dwellings with their own private garages (with car ports or hard standing utilised instead).

An important issue is to coordinate strategies across local authority boundaries, and within and between settlements. There has been a recent trend to relax parking standards within some local authorities – this should be resisted, with parking provision utilised as a key tool in managing the demand for travel.

All types of development should provide adequate access and temporary parking for delivery vehicles, but especially new residential developments with reduced accommodation for household car ownership. All new developments, where applicable, should also include, or make accommodation for, future charging sites for electric or other alternatively fuelled vehicles.



Parking requirements subtly designed into the residential development (Vauban, Freiburg)



## 5. Introduction to the Web-based Guide

The web-based guide provides more detailed evidence to support and illustrate the advice that is presented in Chapter 4.

The website is organised into eight main areas:

- **Main Actors:** lists the key roles within the land use and transport planning field, and provides links to information relevant to each role as well as suggestions for collaborative working.
- **Spatial Scales:** explains the various scales – regional, sub-regional and local – at which integrated land use and transport planning can, and should, take place.

- **Key Themes:** this core area of the website includes pages for each of the 11 themes that are integral to good land use and transport planning practice.
- **Data Trends:** provides graphs and statistics that illustrate travel trends and the relationships between settlement patterns and the demand for travel in the UK.
- **Policy and Guidance:** summarises existing policy and guidance that is of direct relevance to the key themes, organised by planning process and strategic scale (e.g. Regional Spatial Strategy, Local Development Framework, etc.).
- **Case Studies:** includes eight pages of case studies to illustrate the key themes.

- **Useful Tools:** describes and provides links to tools that are currently available to support ‘joined-up thinking’ in land use and transport planning.
- **Further Reading:** compiles and provides links to key academic and good practice references mentioned in other parts of the website.

The key themes and case study areas contain a series of sub-areas that form the main content of the web-based guide.



[www.plan4sustainabletravel.org](http://www.plan4sustainabletravel.org)

## Key Themes

These are organised in approximate order of spatial planning decision-making processes, from the regional/strategic to local/site-specific scale. It is not necessary to read them in order, but there are strong links between the themes so it is recommended that they be seen as a package of measures rather than 'one-off' topics.

### The themes are:

- ▶ Settlement Size
- ▶ Strategic Development Location
- ▶ Strategic Transport Network
- ▶ Density
- ▶ Jobs–housing Balance
- ▶ Accessibility of Key Facilities
- ▶ Development Site Location

- ▶ Mix of Uses
- ▶ Neighbourhood Design and Street Layout
- ▶ Traffic Demand Management
- ▶ Parking and Servicing

### Each page of key themes is structured to include the following:

- Definition(s) – the scope of the theme and its general potential to influence travel; a diagram illustrating the theme.
- Key Questions – guiding questions about the insights to be gained from the evidence about the theme.
- Case Studies – short descriptions of case studies of relevance to the theme and links to the in-depth case study pages.
- Policy Context – excerpts from national and, where appropriate, regional-level policy guidance of particular relevance to the theme.
- Planning Checklist – key points to consider during the planning process.
- Evidence and Examples – academic evidence and data examples that (attempt to) answer the key questions.
- Further Reading – externally-linked reference list of academic evidence and other documents of particular importance.

## Case Studies

This area of the web-based guide includes a page on each in-depth UK case study as well as a summary page for other real-world examples mentioned in the pages of key themes. Each case study is divided into three sections:

- Background – context and map of the case study area.
- Planning for Sustainable Travel – the main text that explains what can be learned from the case study about a selection of key themes.
- Enabling Mechanisms – processes such as cross-disciplinary working or innovative funding structures that contributed to the successful elements of the case study. These enabling mechanisms are also summarised in the Main Actors area.

The in-depth case studies were selected to represent a broad range of UK planning experience, but with particular emphasis on Growth Areas and Growth Points where there are opportunities to create a real change in the urban structure and perhaps, as a result, how people travel.

It is important to note that the case studies are purposively UK based, and are not always illustrative of 'best practice' in a particular theme. Nonetheless, they seek to be instructive in terms of approach and of use for practice around the UK, and even internationally.

It is hoped that the wider website will become a key source for information and resources relevant to the interrelationships between land use and transport planning, and will be updated over time. Feedback and comments on the Guide and website can be sent to: [plan4sustainabletravel@halcrow.com](mailto:plan4sustainabletravel@halcrow.com)



## 6. Conclusions

Spatial planning has an important role to play in helping to achieve sustainable travel. The wider study, on which this Summary Guide is based, provides a thorough review of the current international literature on settlement patterns and travel, and some initial data analysis using the National Travel Survey dataset. It has also developed an understanding of current practice in England using a series of practitioner case study interviews.

It is hoped that the key themes and the case study material, in particular, will assist practitioners working in what is often a difficult area. 'Integrating land use and transport planning' is often put forward as a policy objective in planning and transport planning policy documents, but little follows in practice (beyond perhaps a limited thickening of densities around key public transport interchanges in the centre of urban areas). Too often new development is spread around an area, often reflecting

the historical urban pattern. The impact of new development on travel patterns is very often overlooked, certainly at the strategic level, and at best it is very much a lower order consideration.

The end objective in integrating spatial planning and transport more effectively is in achieving more sustainable travel patterns consistent with wider aspirations. Strategic CO<sub>2</sub> emission reduction targets can act as a catalyst to changed working approaches.

A greater focus on longer-term aspirations and achieving reduced per capita car use, alongside more emphasis on likely regional and/or sub-regional travel impacts, is required. There is a current lack of focus on these issues.

Giving more attention to development location and form – in relation to settlement size, density, jobs–housing balance, accessibility, mix of use, neighbourhood design and street layout, traffic demand management and parking – can help in moving

towards sustainable communities, while achieving wider policy objectives. This can help place new developments and settlements in the wider context of their labour market catchments and more effectively recognise the inter-urban, long distance commuting problem.

A key difficult issue remains in achieving the original design aspiration in development on the ground. There are a number of existing mechanisms available to help. Many are available at the local level, including conditions, legal agreements and approval of reserved matters. However, further thought is likely to be required here, in terms of developing improved mechanisms to achieve optimal outcomes.

“  
Development location and  
transport investment decisions  
made today will influence travel  
for many years to come.”

Development location and transport investment decisions made today will influence travel for many years to come. More effective integration of the planning and transport disciplines – in policy, process and implementation – can help us to avoid ‘building in’ car dependency and instead plan for sustainable travel.

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The views expressed in this guide are, of course, from the authors and CfIT and do not necessarily reflect those of any of the local authorities or practitioners interviewed.

All images are from the study authors, Halcrow Group, Corinne Swain, Department for Transport (Highways Agency), Middlesbrough Council (2007) and Andrew Burns (Matrix Partnership).

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# Client and Authors

## Commission for Integrated Transport (CfIT)

CfIT is an independent body advising the Government on integrated transport policy. CfIT takes a broad view of integrated transport policy and its interface with wider Government objectives for economic prosperity, environmental protection, health and social inclusion. Physical integration – the principle of ensuring transport modes operate in conjunction with one another – is just one vital element of the bigger transport picture. CfIT provides expert advice supported by independent research.

CfIT's remit is as follows.

Providing policy advice via evidence-based reports on:

- future policy options, so-called 'blue-sky thinking' on future strategic issues;
- policy issues spanning departmental boundaries (i.e. environment, social, etc.);
- best practice among local authorities/delivery agencies to encourage improved performance and to highlight barriers to best practice;

- comparisons with European/international policy initiatives and dissemination of best practice;
- the impact of new technology on future policy options; and
- specific issues as requested by the Department for Transport.

Refreshing the transport debate, based on published reports, and with a view to raising the overall level of 'the transport debate' and, where possible, to build consensus among stakeholders.

[www.cfit.gov.uk](http://www.cfit.gov.uk)

## Halcrow Group

Halcrow specialises in the provision of planning, design and management services for infrastructure development worldwide. With interests in transportation, water, maritime and property, the company is undertaking commissions in over 80 countries from a network of more than 90 offices. The group includes one of the leading international transport planning consultancies. Halcrow have operated as a market leader in the transport planning industry throughout the last 40 years.

A key strength is the group's ability to provide quality and innovative transport planning advice, over a range of skill areas, for public- and private-sector clients. Halcrow offer services ranging from policy formulation and strategic planning, including detailed planning and design, through to implementation, operation and performance modelling.

Halcrow's areas of work include:

- Research and strategy.
- Strategic public policy advice, spanning transport, land-use and the environment, including urban and inter-urban strategy and policy studies.
- Local transport policy advice, local transport plans, major scheme bids, accessibility planning and public consultation.
- Demand forecasting and appraisal, including variable demand modelling, highway and public transport modelling, and economic appraisal.
- Development planning, transport assessments and traffic management.
- Public transport.

- Smarter choices and travel planning.
- Traffic engineering and design, including micro-simulation and pedestrian planning.
- Intelligent transport solutions.

[www.halcrow.com](http://www.halcrow.com)

## Oxford Brookes University (Department of Planning)

The Department of Planning (within the School of the Built Environment) is one of the largest and most diverse planning schools of its kind in both the UK and Europe.

The Department is widely recognised as a leading educator in environment, design and development subjects, performing a leading role in research and consultancy, with clients and projects covering subjects from local concerns to multi-national organisations, government and industry.

The Department is a major centre for planning research, which offers an active and welcoming research environment for students, visiting scholars and researchers. It has an outstanding reputation for the quality of its teaching and research, and a research portfolio reflecting the character

of the Department, which offers a wide range of academic specialisms. It has been commended for its research by the Royal Town Planning Institute (RTPI) and is recognised by the UK Economic and Social Research Council (ESRC) for its MPhil and PhD research.

The Department, however, is about much more than just 'planning', and includes all variety of topics related to the development and management of land and landscape.

[www.brookes.ac.uk/schools/be](http://www.brookes.ac.uk/schools/be)

## University of Oxford (Transport Studies Unit)

The Transport Studies Unit (TSU) is a research centre based at the University of Oxford, School of Geography and the Environment (SoGE). The TSU mission is to promote excellence in transport research and teaching, with particular emphasis being placed on understanding the social, economic and environmental impacts of transport over time and space.

There are currently four main research foci:

- demand forecasting and regulatory studies;
- transport infrastructure, city futures and economic development;
- transport, accessibility and societal issues; and
- transport, energy and the environment.

The concept of sustainable transport provides a unifying theme to all the research.

[www.tsu.ox.ac.uk](http://www.tsu.ox.ac.uk)

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