

# The Contribution of Land Use Planning to Reducing Traffic Growth: the English Experience

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*The relationship between land use and travel behaviour has attracted research interest in England over the last fifteen years, principally in connection with possible links between urban form and sustainability. Since the mid 1990s this work has been overtaken somewhat by Government policy initiatives. This is something of a mixed blessing. Official attention has shifted to the implementation of what is now an established line of policy. In academic circles, by contrast, there is increasing interest in mobility more generally as a phenomenon of contemporary society. In this context the pattern of land use remains an important influence, if only because of the physical legacy presented by the established pattern of development. However, the evolution in travel behaviour is, as ever, conditioned by broader social and economic trends (Gillespie et al 1998).*

*This paper provides an overview of English experience in this field in three main sections: research, policy and implementation. To place these in context they are preceded by a section titled 'background' which highlights for an international audience some of the distinctive features of the English scene, in terms of geography, cultural attitudes to development and travel, and institutional arrangements for land use and transport planning. These require very careful consideration before any attempt is made to draw inferences for policy-making in other countries.*

## 1. Background

England is a predominantly lowland, densely developed country. This is particularly true of its south-eastern quarter which has a disproportionate share of population and economic activity. It is also the quarter which for several decades has experienced the most rapid rates of growth. Because the seat of national government - London - is at the centre of this region,

there is also good reason to believe that Government policies are disproportionately influenced by its prevailing conditions and by media response to them.

Another important feature of England is the attractiveness of its countryside and the value attached to its protection by large sections of the population (not merely rural residents). This concern is not simply about protection of the landscape; it is also linked with an 'anti-urban' sentiment which sees rural communities embodying traditional values lost in towns and threatened by contemporary styles of urbanised life generally. Many more people express the desire to live in rural areas than actually do so.

The physical expansion of towns and the threat that sprawling new developments posed to the countryside was one of the main reasons why a comprehensive system of land use planning and development control was introduced in 1947. Under this system it is a legal requirement to secure permission from a local planning authority for proposed changes of land use or for physical development. Because development rights were nationalised at the same time, planning authorities are able to refuse permission or to impose restrictive conditions without having to pay compensation.

Each development application is considered on its merits (ie there is no set of regulations which determines automatic approval or rejection, except for very minor changes). Local planning authorities have to decide applications on the basis of development plans which they have prepared and subjected to public examination. They also have to regard policy 'guidance' issued both nationally and regionally by Central Government.

Throughout the half century during which comprehensive land use planning has operated in England a dominant policy theme has been 'urban containment'. The amount of previously undeveloped land 'released' for development during any one planning period is controlled relative to targets, which in the case of residential development embody assumptions about housing densities. Sites allocated in development plans have mostly been urban extensions at the periphery of established, larger settlements. However, in the case of London and a number of other (often historic) cities 'green belts' have been designated with the result that peripheral growth has been halted almost completely. Development requirements have been accommodated instead by the planned expansion of towns further away from the parent city. In the initial decades after 1947, particularly around London, a proportion of this expansion took place in specially created 'new towns'.

During the era of 'urban containment' England has undergone the transformation to a mass car-owning society. In 1951 14% of households had one or more cars; today the figure is 74% (DETR 2002b - figures for Great Britain). The resultant mobility has extended the zone of influence of larger urban areas to a degree unimaginable 50 years ago. Traditional suburbanisation has been succeeded by 'counter-urbanisation' - the unplanned migration of households to smaller towns and villages within an ever-widening urban region. Employment dispersal and longer-distance car commuting have both been facilitated by the construction, from the 1960s onwards, of what is effectively a wholly new network of high-standard inter-urban roads. Although much of the traffic on these roads is 'local' (ie associated with the day-to-day functioning of particular towns) the network itself has been developed nationally by Central Government. With only a handful of exceptions (mainly estuarial crossings) these roads are freely available at the point of use.

At a more local level the planning of new areas of development has been dominated by provision for the private car. Particularly important has been the normal requirement, as a condition of planning permission, for the inclusion of a minimum amount of private parking

space within developments sufficient to accommodate prospective demands. Until very recently cycling was totally neglected and provision for pedestrians and public transport (if any) typically included as an afterthought. Only within town centres more comprehensive planning has been commonplace, often incorporating partial pedestrianisation of former through traffic routes. During the 1980s, as part of the Thatcher Government's moves towards deregulation generally, planning policies on out-of-centre commercial development were relaxed. As a result most towns now have examples of major retail, leisure and business developments on former industrial land in inner urban areas and/or in new complexes on the edge of towns, usually near access points to the inter-urban road network.

Unsurprisingly under this regime car ownership and use has increased with economic growth and other modes have declined (except for rail on principal inter-urban routes and commuting into London). During the last quarter of the twentieth century journeys on foot and by cycle and bus fell by 25% whilst journeys by car (as driver and passenger) increased by 48% (DOT 2002b - figures for GB). In the same period the total distance travelled increased by 41% but the distance by car increased by 62%. Currently car driver and passenger account for 78% of all distance travelled; walk, cycle and bus together just 7%.

Except in London the bus is the main, and often the only form of public transport. The decline to its present low share of the total market is therefore particularly important. Privatisation and (outside London) deregulation in the 1980s improved operating efficiency and reduced public subsidy but did not stem the long term decline in bus use. In fact in provincial cities such as Manchester and Leeds where bus use was relatively high the falls in patronage since deregulation have been particularly marked. It is important to note that in the UK the public subsidy of bus fares is unlawful and that the bulk of urban services operate on a wholly commercial basis. It is also significant that there is a strong antipathy to bus use amongst the car-owning majority of the population.

In 1998 the newly elected Labour Government published a major transport policy document (DETR 1998b) which had integration as its overarching theme. The integration of land use and transport planning was an important dimension of this. This was followed in 2000 by the publication of a Ten Year Transport Plan (DETR 2000c) which was presented as translating these policies into action via a committed programme of increased public expenditure.

The impacts of the Plan were assessed using a National Transport Model (DETR 2000d) in which the attempt was made to include some allowance for the effects of land use policy (WS Atkins 1999). It was concluded from sensitivity tests that by 2010 reductions in traffic of up to 2% might be achievable by changing land use patterns and more was possible over a longer period. However, because of the uncertainty surrounding this and the impact of behavioural measures generally (so-called 'soft factors'), the Government subsequently commissioned a study to inform the programme of inter-urban multi-modal studies then under way (DfT 2002). In practice this only highlighted the paucity of original research to be drawn on. The existing situation is summarised in the next section.

## **2. Research**

The results of English research will be reported in this section under two heads : theoretical and empirical.

## 2.1 Theoretical research

Initial interest in this subject area centred on the merits of different idealised models of the pattern, size and density of settlements in terms of their energy efficiency - travel being one component of this. The case was advanced for multi-centred cities (Owens 1986) and for decentralised concentration (Rickaby 1987). For a time there was official interest in possible forms of new settlement (Breheny et al 1993). Subsequently Breheny provided a comprehensive review of protagonists' arguments for more or less concentrated urban forms and concluded in favour of what he acknowledged to be a rather unexciting compromise position (Breheny 1996).

In the UK the practical value of this type of research is constrained by the fact that new urban development now takes place almost exclusively in the form of adaptations to *existing* settlements. This is partly because the public sector has ceased to adopt the role of a major development agency (as in the post-war New Towns). It is also because of environmental opposition to wholly new settlements wherever they are proposed. The need for additional development is greatest in South-East England which is already the most densely populated region and where remaining tracts of countryside are jealously defended from development by their existing inhabitants. Thus the practical policy agenda is focussed more on the merits of different options for *incremental* additions to existing settlements within a region.

Research commissioned by the UK Government in the early 1990s (ECOTEC 1993) included simulation studies of the travel effects of a range of spatial options for the expansion of an existing town. More sophisticated exercises have been conducted since, including a dynamic land use element using data for Swindon (Brown 1998) and combined with transport policy options for Bristol (Simmonds and Coombe 2000). Other work has explored the travel effects of different dispositions of new development at the broader level of the administrative county (Titheridge et al 2000).

In these studies the exploration of quite 'extreme' options produces very modest results as far as differences in travel consequences are concerned. In the Bristol case a continuation of present land use and transport policies was estimated to result in an increase of 47% in travel distance over a 25-year period from 1990. Against this a 'compact city' scenario centralising population and employment, together with a range of traffic restraint measures including city centre road pricing, reduced this figure to just 42%. The effect of the compact city scenario is to reduce trip lengths slightly, but not to alter the overall proportion made by car. There was no indication in this exercise that the compact city land use pattern makes the restraint measures any more effective in transferring demand from car to other modes.

These results, which intuitively may seem rather surprising, can be attributed to three factors:

- i) the slow pace of land use change. Even sharply different policies applied to the increment of *new* development have limited significance impact when absorbed into the totality of development (ie existing plus new)
- ii) the significance of established trip ends in outer suburban and peri-urban areas. For such areas the concentration of new development within the central city area leads to a *lengthening* of average trip lengths
- iii) the 'compact city' is advocated on the basis of reducing the need to travel. However the evidence from existing behaviour is that travel is a function of desire, not need. People's propensity to utilise the nearest suitable destination for a particular journey purpose is in fact very weak (Simmonds and Coombe 2000)

In all the exercises quoted the more concentrated spatial option produced potentially the best results as far as minimising car use and its adverse effects are concerned. However, the advantage is marginal and is dependent on management measures being introduced to prevent excessive congestion in central areas. This requires the adoption of a combination of 'carrot and stick' measures on a scale far greater than has yet been attempted in most English towns. If, as seems likely, it proves impracticable or politically unacceptable to introduce measures which reduce urban congestion, then land use policies based on spatial concentration would in fact be counter-productive as far as sustainable transport is concerned. (The successful introduction of 'congestion-charging' in Central London in 2003 is an exception to the general rule - there is currently no prospect of similar schemes being introduced outside London over the next ten years except for possibly one or two cities).

## 2.2 Empirical research

The empirical work carried out in England has been of three main kinds:

- i) analyses of nationally sampled data linking travel behaviour to settlement characteristics
- ii) comparisons of more local data from several specific settlements, using a variety of secondary sources
- iii) individual case studies which included their own primary data collection

### *i) Nationally sampled data*

The review of evidence commissioned by the UK Government in the early 1990s which forms the basis of the current policy regime included an analysis of the 1985/86 National Travel Survey data then available (ECOTEC 1993). (Similar analyses using more recent data are in Banister 1997 and Potter 1997). This identified that both total travel and the share by car increase with decreasing settlement size and density. (The only exception to this is the case of London - the largest British city by far - in which total travel also begins to increase.) Perhaps because this finding appeared to support the emerging policy line of the UK Government (discussed in the following section), it was accepted too readily and uncritically. A more detached observer would have noted that, although there were marked differences in travel behaviour between the most urbanised and the most rural settlement categories, there was a large band of settlement sizes in between where the differences are comparatively slight. This is particularly significant since it is effectively within this middle band that practical planning decisions have to be made.

The socio-economic differences between the settlement types also deserve to be highlighted (Headicar 2000). It is a feature of English society that there is greater prosperity in the newer, expanding urban areas and in dormitory rural areas. This is reflected in a higher percentage of adult males in employment and in much higher rates of household car ownership - two factors which are especially important in influencing the amount of car travel. A proportion of the difference in travel behaviour between settlement size categories will be attributable to such socio-economic differences rather than to settlement size in itself. Research conducted within two English counties in fact suggests that socio-economic rather than land use characteristics account statistically for more of the variation in travel patterns (Stead et al 2000).

The National Travel Survey data suggest that the differences in travel consumption between populations in the various settlement size categories are increasing over time (Potter 1997).

There are several possible explanations for this which may be operating in combination. One explanation is increasing socio-economic polarisation. Another is the fact that new development is located disproportionately in smaller towns and that such development is associated with increased car use even when all other variables are controlled for (Higgitt and Headicar 2000). Most important in terms of its planning implications is the possibility that the spread of opportunities which people expect to choose from is becoming wider and that therefore travel behaviour in smaller towns in particular is becoming less self-contained. (Empirical work conducted by the author in Oxfordshire reported below certainly supports this view).

However, any identifiable differences in travel behaviour between the settlement size categories is of minor significance compared with the increase in car use which is a feature of *all* categories. In other words, although we may search for relationships between travel behaviour and settlement size the over-riding message is that people's behaviour is becoming increasingly detached from whatever opportunities and constraints their 'home-town' happens to offer. This is reflected in the increasing average length of trips, with trips in the 5-25 mile range growing particularly fast (Potter 1996).

The extent to which the growth in car travel in recent decades is the result of changes in behaviour, irrespective of location, has been demonstrated by an analysis which links national travel data to changes in the geographical distribution of the population (Breheny 1995). Between 1961 and 1991 the scale of redistribution was such that new towns and smaller towns and villages in the less urbanised areas of the country had a population 3.8m larger than if they had simply maintained their 1961 share of the national total. If this counter-urbanisation is notionally reversed and the 3.8m people reallocated to the cities in their 1961 proportion, this produces a national saving of just 1.3% in travel distance and of 2.0% in estimated energy consumption. On the face of it, this is hardly compelling evidence that the Government should seek to reverse the well-established trend of people choosing to live in smaller settlements in less urbanised areas.

#### *ii) Local data from secondary sources*

National data can only be analysed in terms of a limited number of variables and its aggregate nature inevitably masks the effect of other geographical factors which may contribute to local differences. To explore these factors research has been conducted using more detailed data assembled from secondary sources, for example in individual towns where local transport surveys had been conducted.

ECOTEC report the results of a set of neighbourhood surveys which attempted to identify relationships between the characteristics of local centres and the travel behaviour associated with them (ECOTEC 1993). At first sight there appear to be clear connections. Centres which are physically nearer are used more frequently and, taking the centres as a whole, there is the expected relationship between trip length and mode. However, it is also the case that *people* who visit local centres do so much more frequently than they use non-local centres. Equally when comparisons are made between the use of individual centres there are very wide differences in modal shares which cannot be explained by the travel distances involved. The variety of social, geographical and other local factors involved in fact makes it impossible to derive overall conclusions.

Banister and others used secondary data from a range of five English towns and cities to develop measures of the energy used in travel and to relate these to the physical, economic

and social characteristics of the areas concerned (Banister 1995; Banister et al 1997). Again the extent of local variation inhibited overall conclusions. Although the energy use patterns could be related to factors prevailing in individual towns, there was no clear set of factors which were equally relevant in all situations. However, the research did highlight the significance of the variation in energy consumption *within* towns and cities as well as between them. Both findings therefore pointed to the importance of local planning authorities analysing the circumstances of their particular areas and using this evidence in formulating policies on the location of development and facilities.

This kind of research suffers from technical difficulties in using data originally collected for different purposes, with consequent mismatches in the variables examined, the definition of categories and the level of spatial detail. A particular issue raised by Banister is the 'boundary' problem. Urban transport studies typically consider travel only within a single main built-up area, and by its residents in particular. As a result much of the travel which is functionally part of a town (but which is undertaken by people living outside it) is overlooked. Clearly the significance of travel within this wider catchment area will vary from one town and one study to another according to the manner in which the particular 'study area boundary' has been defined.

A further problem arises with secondary data drawn from different geographical regions. In England the housing market operates very differently in different parts of the country, often associated with the degree of development restraint being exercised through the planning system (Bramley et al 1995). Similar settlement patterns are thus likely to exhibit different travel behaviours in different regions - particularly in respect of commuting. South-East England has a very pressurised housing and development market and the practice of households engaging in long distance commuting in order to seek out lower housing prices is commonplace.

*iii) Local studies with their own data collection.*

In order to overcome the difficulties mentioned above in using secondary data a further type of research has involved studies within a particular sub-region based on their own travel surveys. This enables control to be exercised in the selection of survey locations and in the standardisation of the data collected. It also reduces the significance of regional differences in the housing market and of other socio-economic and cultural differences which are likely to affect travel behaviour. Two such studies will be reported here, one concerned with the provision of facilities within new residential developments, the other with the location of residential development at the sub-regional scale.

The work on facility provision was conducted amongst households on a number of new housing estates around Bristol (Farthing et al 1996). It showed that only increasing the local availability of facilities did not have a significant impact on the amount of walking to them. Amongst seven types of facility frequently used by residents, only two - a secondary school and a public house - showed evidence of a shift from car use towards walking. Local accessibility did help to reduce the length of car journeys to those facilities, though whether this reduced the overall amount of car travel by those households could not be determined. In general, personal and household characteristics - especially car ownership - appeared to be more significant than accessibility in affecting mode use.

The work on residential development location at the sub-regional scale has been led by the author at Oxford Brookes University and will be reported here at rather greater length. It uses

data from a set of household travel surveys undertaken at a number of locations within the county of Oxfordshire. Oxfordshire is a predominantly rural area situated about 60 miles north-west of London. It lies towards the outer edge of the South-East region within an arc of similar locations which are currently experiencing the fastest rates of population and employment growth within the UK.

Oxfordshire is a classic city region in that it is centred on a single freestanding city - Oxford - which has a population of about 120,000 and a concentration of the county's jobs and higher-order facilities. It is surrounded by a number of second-order towns of between 10,000 and 40,000 population situated 8 - 25 miles (12 - 40 km) from the city. These towns perform an employment and service function for their immediate areas and, to varying degrees, also have a dormitory residential function for Oxford City.

The travel surveys were conducted in recently built housing estates on the edge of Oxford City and in selected second order settlements (so-called 'country towns') where the bulk of new residential development is being concentrated as a matter of planning policy. It was designed to test the proposition that the amount of car use per head is affected by:

- a) location defined by settlement type (city periphery versus 'country towns')
- b) location defined by proximity to strategic transport routes (road or rail)

If these propositions were confirmed then this would imply that planning authorities could influence the future amount of car travel through the planned distribution of new development between the different types of location.

As far as possible both the selection of survey areas and the sampling of individual households was done in a way which minimised the socio-economic differences between them, ie so that attention could be focussed solely on the relationship between location and travel behaviour. The overall findings were that, amongst comparable social groups, households on estates at the city periphery generated about 30% less car mileage than those living in the country towns. This was due to a combination of factors - lower car ownership, shorter average commuting distances and a greater use of non-car modes.

This difference in car mileage is much greater than the national figures of travel and mode share by settlement size would imply. It highlights the importance of additional local factors referred to earlier. In Oxfordshire's case contributory factors are:

- i) the pressurised housing market in the Outer South-East generally and in the vicinity of Oxford in particular, leading to 'enforced' commuting from the smaller towns. Amongst residents living in the country towns of Bicester, Didcot and Witney located 12-15 miles from Oxford 75% had workplaces outside their home town, whereas only 34% living on the edge of Oxford did so.
- ii) the extent of progress made in implementing policies of car restraint and promoting alternative modes in Oxford City. As a result 1 in 3 people living on the edge of Oxford travel to work by means other than the car, twice as many as in the country towns.

The findings also confirmed the significance of proximity to strategic transport routes. Bicester and Didcot are very similar in size and location relative to both London and Oxford, but markedly different in their location relative to strategic routes. Bicester is close to an interchange on the M40 London-Birmingham motorway whilst Didcot has a well served station on the high-speed rail line between London, Reading and Bristol. The research indicated that residents of new housing in Didcot used rail six times more than their Bicester



counterparts and generated only 58% of their car driver mileage - equivalent to 125 miles per adult per week.

To provide a basis for comparison further surveys of the same kind were conducted in these towns amongst residents of estates built 30 years or so previously (Higgitt and Headicar 2000). These showed that the recently built estates are more attractive to people with fewer local attachments and more mobile lifestyles. This is reflected in the findings on travel behaviour which showed that, after standardising for income, adults on the recent estates travel between 25% and 50% more than their 'established area' counterparts.

Further work has also been undertaken in Oxfordshire comparing the travel behaviour of residents in the recent and established estates mentioned above with those of smaller new developments in other towns and villages in the area (Headicar 2000). This work uses data on commuting from surveys carried out by two District Councils. These surveys were not designed in the same way and therefore direct comparisons cannot be made. Nevertheless the interesting pointer seems to emerge that residents from small towns and villages near to Oxford (and hence near to the concentration of employment in and around the city) generate less car mileage in commuting, at least compared to residents of larger and potentially more 'self-contained' settlements further afield.

The main conclusions from the Oxford Brookes' work can be summarised as follows:

- Local factors within a sub-region mean that the location of development can have a much greater influence on the amount of car travel than national figures on travel differences by settlement size would suggest.
- Travel forecasting exercises based on data collected from established residential areas, or from a sample of residences within a town as a whole, are likely to understate by a considerable margin the amount of car travel generated by new development.
- The total amount of travel generated is a function of settlement size, the availability of employment in the home settlement, and the degree of accessibility to alternative sources of employment. This suggests that less travel overall would be generated by adding too small settlements close to large concentrations of employment than to medium sized freestanding towns within areas with more limited employment opportunities.
- All other things being equal less car travel would be generated by locating new development within the largest towns within a region, particularly where the opportunity is taken to introduce a combination of sustainable transport measures to restrain car use
- Additional travel is generated by the imposition of planning restrictions on residential development in larger towns which have a 'surplus' of jobs over workers and which therefore necessarily draw on commuters from further afield.
- The proximity of developments to strategic transport routes increases their travel generation. Where the opportunity exists to locate development close to high-standard rail routes this reduces the amount of long distance car commuting that can otherwise be expected.

The propensity of locations close to motorway or near-motorway standard routes to generate disproportionately large amounts of car travel presents a particular difficulty for strategic planners. By itself it would suggest that major housing developments should be located elsewhere. However, since significant employment growth is unlikely to take place in areas which are *not* well-served by such routes, locating residential development elsewhere is only likely to add to 'enforced' long-distance commuting.

It is possible that this conundrum can only be overcome by the introduction of user charging on the routes concerned in order to facilitate accessible development, yet by at the same time lessening 'choice' long-distance commuting by car. In England the current programme of 'multi-modal studies' being conducted on intensively used motorway and trunk road corridors has raised the possibility that charging may be introduced on such routes, both as a demand management tool and as a source of funding for related transport improvements. A recent announcement by the Secretary of State for Transport that this should be investigated as a longer term option is the first significant official response to mounting professional opinion on the subject.

### 3. Policy

The UK Government signalled its concern to address issues of sustainability in a major policy document launched by the Prime Minister in 1990 (HMG 1990). This considered the potential contribution of different types of action to the overall aim of reducing greenhouse gases. The scope for land use planning to reduce emissions from transport through its influence on the amount and mode of travel was one such possibility. The work undertaken by ECOTEC referred to previously was commissioned to assemble relevant research evidence and to advise the Government on the sorts of land use policies it should be adopting.

Following receipt of the ECOTEC report the Government's planning policy guidance note on transport (PPG13) was completely rewritten (DOE and DOT 1994). Its content was reorientated to focus on 'reducing the need to travel' and to encourage the use of alternative modes to the car. Planning authorities were given advice on the principles to be adopted in the drafting of development plan policies so as to influence the location, density and design of development. They were also advised of the complementary transport measures which local highway authorities were expected to pursue to improve conditions for bus travel and for walking and cycling. A 'good practice' guide was published a year later to show examples of the sorts of action the Government envisaged (DOE 1995).

This change in policy was much more radical than research evidence alone could support. This can be explained by three main factors.

Firstly, as a response to sustainability concerns more generally, the concept of the 'compact city' enjoyed a certain fashionable popularity in government circles at the time (CEC 1992) even though the arguments underlying this were also open to challenge (Breheny 1992).

Secondly, whatever the transport merits of the new policy, its adoption was aided by the fact that it happened to complement initiatives being taken in other, more prominent areas of planning policy. In the case of housing, greater emphasis was being placed on the re-use of previously developed 'brownfield' land within existing built-up areas. In the case of retailing, policies which had allowed rapid growth in market-led 'out of town' developments were replaced by a much more restrictive regime which gave priority to development options in or on the edge of established town centres. Together these policies lessened the threat of 'greenfield' developments affecting the countryside - a long-standing source of public concern.

Thirdly, the justification for PPG13 was framed in terms of reducing the *need* to travel, not necessarily of reducing travel itself. This distinction was, and remains, of critical importance. It renders the policy politically acceptable (by not confronting the issue of car use directly) and it removes the need to base detailed policy prescriptions on any evidence of *observed*

lower amounts of car use. Its justification rests on the common-sense notion that if land uses are mixed and closer together, people are not 'forced' into making lengthier, car-based trips. Although the 1994 version of PPG13 represented an important turning point in English planning policy, its publication was greeted with some scepticism. Doubts were expressed as to whether the policy would be maintained long enough to convince developers that the more market-orientated, car-based opportunities available previously would be denied them. There was also uncertainty about the Government's attitude to *transport* policy and concern that unless this was altered equally radically the land use part of the land use/transport equation would be unconvincing and/or ineffective (Headicar 1995).

Politically the change in transport policy which would be the logical corollary to PPG13 is much more difficult since it impinges directly upon the interests of the mass of individual voters and their strongly-held preference for car use. Although public attitude surveys have demonstrated widespread concern about the congestion and pollution effects of traffic, there is very little support for policy measures which would impact directly on car use (Taylor and Brookes 1998). Respondents typically urge the improvement of public transport instead, although most motorists themselves never use it (Leibling 1998) and efforts to achieve modal shift, even in relatively favourable situations, have been shown to have minimal success (Stokes 1996).

In these circumstances it is not surprising that the UK Government declined to adopt the recommendations of an expert panel on environmental pollution for traffic reduction targets (RCEP 1994). A privately sponsored Parliamentary Bill requiring local authorities to specify such targets was only accepted by the Government subject to inclusion of a clause which allowed authorities *not* to set them if they considered it inappropriate to do so (HMG 1997). Subsequently the Government announced that it did not propose to set national targets for traffic reduction, preferring to work towards targets for congestion and pollution instead (DETR 2000a). There thus remains significant ambiguity in the field of land use/transport policy taken as a whole. All local planning authorities are urged to adopt policies whose *intent* is to reduce the growth in car travel, but Central Government refuses to signal that this is a national transport policy aim.

The present impasse is the more surprising since the election of the New Labour Government in 1997 heralded the possibility of a significant change in transport policy. The Deputy Prime Minister was given responsibility for a large government department combining the previously separate departments of Environment (which has responsibility for land use planning) and Transport. Within this new department a comprehensive review was carried out under the banner of 'Integrated Transport' which led to the publication of a 'New Deal' on transport policies (DETR 1998). At the same time the national roads programme was reduced with many former motorway widening schemes deferred pending investigation of the possibility of alternatives in a series of 'multi-modal studies' referred to earlier.

Since 1998, however, it has become apparent that in several important respects the new Government would not in fact be altering the transport policies of its Conservative predecessor. For example the arrangements for deregulated public transport - highly controversial when introduced - have not been altered substantially. In addition, fierce public lobbying on behalf of motorists has led to several decisions being made which are widely seen as 'back-tracking' on the aspirations of the New Deal. These include abandoning the policy of automatic annual increases in road fuel duty introduced by the Conservative Government in 1993 and reviving a substantial programme of investment in the national road

network as part of the Government's Ten Year Transport Plan (DETR 2000c). What was originally intended to be a National Walking Strategy, with targets for increased use, was also downgraded into a modest 'advice' document to local authorities.

The most important innovation which *has* been proceeded with is legislation to enable local authorities to introduce direct road user charging or workplace parking levies and to use the proceeds to fund local transport improvements. However, in the absence of a national or regional framework for introducing such measures only a handful of authorities have expressed interest in them, fearful of a political backlash from motorists and of damage to local economic competitiveness.

Whilst transport policy has proved to be problematic during the period of the New Labour government, land use policy has continued to advance. PPG13 has been revised, essentially retaining the 1994 approach but with important additions (DETR 2001). The new guidance is introduced as follows:

i Land use planning has a key role to play in delivering the Government's integrated transport strategy. By shaping the pattern of development and influencing the location, scale, density and mix of uses, planning can help reduce the need to travel, reduce the length of journeys and make it safer and easier for people to access jobs, shopping, leisure facilities and services by public transport, walking and cycling. Consistent application of these planning policies will help to reduce some of the need for car journeys (by reducing the physical separation of key land uses) and enable people to make sustainable transport choices.

The additions to the revised PPG13 include emphasising the use of the planning system to achieve reduced levels of parking in new developments and to secure sustainable transport measures as part of planning agreements negotiated with developers. Comprehensive 'transport assessments' (not merely traffic impact assessments) are expected to be undertaken for all larger developments. Local authorities are encouraged to use these assessments as the basis of Travel Plans (measures to promote less car use amongst people travelling to individual offices, schools, hospitals etc) included as a condition of planning permission.

Arrangements for local transport planning, and for the link between local transport and land use planning have also been improved. Local highway authorities are now required to prepare and consult on a comprehensive five-year transport plan which is used as the basis of their capital funding approval from Central Government (DETR 2000b).

There have been related changes to procedures for preparing regional planning guidance (RPG). This is now drafted by new regional assemblies representing the local authorities and other main stakeholders in a region. The policy document incorporates a regional transport strategy and is subject to a public examination (DETR 1999a). In future the Government intends that RPG should set the framework for both development plans and Local Transport Plans prepared by local authorities in a region. It is expected to include strategic policies on maximum parking standards, the introduction of road user and workplace parking charges and on accessibility profiles for the location of major development. (These are all issues on which fears of inter-authority competition are otherwise likely to present barriers to implementation). However, in the absence of directly elected regional governments it remains very doubtful that there will be sufficient consensus amongst members of the present assemblies to frame RPG policies in a way which 'bites' on the discretion exercised by individual local authorities.

#### **4. Implementation**

It is a feature of the development planning process that there is inevitably a lengthy period between revision of national policy and the possibility of changed outcomes 'on the ground'. At any one time there are always developments in progress which have received permission under a previous policy regime and still more which have obtained permission but where construction has yet to start (Oxford Brookes University and WS Atkins 1996). The process of preparing local development plans embodying new policy guidance itself takes several years to complete.

In monitoring the implementation of policy there are two key stages to be examined. The first is the manner in which local planning authorities incorporate new strands of policy into their development plans when these are reviewed. The second is the extent to which authorities subsequently apply these policies successfully in determining individual planning applications.

Following publication of the 1994 version of PPG13 the Government commissioned research on its implementation (DETR 1997). Amongst the development industry it was found that the retail sector had responded quickly due to its small land banks and the need to retain competitive edge in an innovatory market. Residential developers and investors responded more slowly because of larger land banks and low demand following the economic recession of the early 1990s. The activities of the main commercial sector were conditioned by the large amount of existing unoccupied development. It was wary of departing from previous trends to consider the use of brownfield sites, mixed-use developments or restrictions on parking provision which might inhibit successful marketing.

Local authorities also varied in their response. PPG13 was seen as being less relevant by authorities covering mainly rural areas because of the perceived absence of alternatives to car use. All authorities were concerned about the potential discouragement of investment in their areas which adherence to PPG13 policies would imply where these countered market preferences. Nevertheless, there was evidence that the content of development plans was increasingly being influenced by PPG13 objectives and that land use decisions were being linked more explicitly to considerations of accessibility.

The study also identified the difficulties which were perceived to be delaying progress in some of the most important aspects of policy. These were

- the lack of regulation of public transport to ensure service provision, and the difficulty of securing funding for improvements
- the fear of losing business competitiveness if a more stringent approach were taken to parking provision, coupled with the existence of substantial parking within existing non-residential developments which blunted the effectiveness of any such policy
- uncertainty about how to implement policies aimed at promoting development at public transport nodes and corridors

There were also problems in related policy areas considered to be important:

- difficulties in identifying and assembling appropriate sites for retail and other development in existing town centres
- the greater costs associated with housing development on brown-field sites
- the reluctance of institutional investors to support mixed use developments which are considered to involve higher risk and lower returns

These points were confirmed in a subsequent study which focussed on the translation of PPG13 policies into practice via an examination of a small number of selected development applications (DETR 1999b)

Despite the mixed responses and difficulties identified in the research there was not reported to be any pressure for PPG13 itself to be substantially revised. (Hence the core of the PPG was essentially unchanged in the 2001 version). However, this observation requires some explanation in the context of the workings of the English planning system. As a general comment it may be noted that authorities tend to reflect public opinion by advocating *in their plans* policies which are supported in principle, but to compromise in their implementation when making *decisions on individual developments*. In part this reflects the fact that planning is aimed at a wide variety of objectives and that a decision on any individual application has to balance 'reducing the need to travel' with many other competing considerations.

This balancing process operates even within the limited context of policies relating solely to PPG13. In the case of an individual development there are likely to be many aspects of these policies which are relevant, and fulfilling them all may not be feasible. For example in discussing a proposed planning application a developer may agree to follow an authority's preferences as to the location of the development, or to contribute to investment in facilities for non-car modes provided the authority allows the developer a higher level of parking provision than would otherwise be considered desirable.

Significantly, although progress is being made in implementing many aspects of PPG13, this does not appear to apply to those that impinge directly on *actual car use*. Research investigating the application of parking standards in South-East England (outside London) found no instances where provision below demand levels was actually being achieved (GOSE 1998). Similarly the actual adoption of Travel Plans to date is very low (Bradshaw and Camara 1999; DETR 2001b)

## 5. Conclusion

Three overall conclusions can be drawn from this review:

- i) There is little evidence in the current English context that changes in land use policy based on the kind of general principles advocated in national policy guidance have much influence by themselves on actual travel outcomes. This is also the conclusion of the recent review conducted for the Multi-Modal Studies programme : 'It would not appear to be prudent to rely on further possible changes in land use having a significant general affect on travel demand' (DfT 2002a, section 7.6).
- ii) However, there are indications from research at both local (urban) and sub-regional scales that locational attributes can be associated with substantially different travel outcomes in particular situations. This may reflect such features as the pattern of

population and employment migration, the workings of local housing markets and the accessibility offered by strategic transport routes. These are factors which planners working in an area may come to recognise and be able to exploit in the interest of lessening overall travel. Nevertheless it remains extremely difficult to demonstrate that observable differences in travel behaviour are actually a function of location and not simply a product of the types of *people* who choose to live there (ie who are inherently more or less car-dependent in their lifestyles).

iii) Planning policy and its implementation in England remains dominated by the mantra of reducing the *need* to travel. Outside London (where special development market and transport conditions apply) public action of any kind which reduces *actual* car travel remains a rarity.

The focus on reducing the need to travel can be viewed in two very different ways. On the positive side it can be argued that appropriate land use planning is a *precondition* for adopting the transport and mobility management policies which are much more effective in actually lessening car use (Paulley and Pedler 2000). People cannot be asked to travel less or to use non-car modes more whilst local, accessible opportunities are not available. Since both travelling habits and the fabric of towns can be changed only slowly, it could be said that England is still in the very early stages of a transformation that may take decades to fulfil.

The counter-argument is that planning policies aimed at reducing the need to travel give the impression that the problems of increasing car use are being addressed over the longer term whilst in practice the all-important measures of traffic restraint continue to be avoided. Earlier in this paper it was noted that people's travel behaviour is becoming increasingly detached from the local opportunities which *are* available. Travel by car has increased very much more than changes in land use patterns themselves would dictate. It follows that if the UK Government is genuinely seeking to lessen the increase in car use, then it are not so much towns which need to change but more the behaviour of the people living in them. This of course is not a very palatable political message!

There are already a mass of opportunities within present-day English towns for people not to travel (by car) as much as they do. The fundamental question therefore is why *do* they travel so much? What social or psychological processes are at work which seem to compound their desire for ever greater mobility? Are these subject to public influence and, if so, how? (Solomon 1998).

The UK Government's failure to confront these questions and to adopt policies which signal clearly the need to change travel behaviour seem likely to rebound on local planning practice. It is true that PPG13 policies *may* be implemented successfully (ie in the sense of reducing the need to travel) in situations where they contribute to a broader local planning agenda or where they happen to coincide with a developer's own interests. But planning decisions which rely primarily on reducing the need to travel for their justification are likely to languish. If the Government is not seen to be serious about reducing the growth in car travel, why should an individual planning authority take decisions which will almost certainly be seen as contrary to its own and the developer's immediate interests?

In this situation there is the prospect of a game being played by local planning authorities in which elements of PPG13 are drawn on in support of particular development decisions but the ultimate intent of the policy (actually to lessen car travel) is never reached. If the Government were really serious, it would not merely publish planning guidance but would

actually *require* or provide incentives to local authorities to work towards specific travel targets (and give them the mobility management powers to make this possible). Local authorities would then have to step back from simply playing the development game and concentrate on pursuing the land use and other opportunities available locally, which would actually contribute to lower car use.

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[\*Department of the Environment, Transport and the Regions, London. Its functions have since been divided into separate departments - for transport (DfT), environment (DEFRA) and planning and the regions (ODPM). Former DETR documents may continue to be viewed on the respective web-sites, eg [www.odpm.gov.uk](http://www.odpm.gov.uk)]

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