Department of the Environment, Transport & the Regions

Methods for Determining Parking in New Developments

DRAFT FINAL REPORT

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List of abbreviations

DOT	Department of Transport (former)
DOE	Department of the Environment (former)
DETR	Department of the Environment, Transport and the Regions
DIY	Do-It-Yourself (type of retail store)
DP	Development Plan(s)
DPTA	Development Plan Transport Assessment
EMJCPS	East Midlands Joint Car Parking Study
GIS	Geographical Information System
GOEM	Government Office for the East Midlands
GOSE	Government Office for the South East
GPDO	General Permitted Development Order
HGV	Heavy Goods Vehicle
LPAC	London Planning Advisory Committee
LTP	Local Transport Plan
NTS	National Travel Survey
PNR	Private Non-Residential (parking)
PPG	Planning Policy Guidance note
RPG	Regional Planning Guidance
SERPLAN	South East Regional Planning Conference
TAs	Transport Assessments
TPP	Transport Policies and Programme
UCO	Use Classes Order
UDP	Unitary Development Plan

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1 *Executive Summary*

1.1.1 *The rationale for the study*

1.1.2 This study addresses the issue of parking provision in new developments. It was commissioned by the Department of Environment, Transport and the Regions and carried out by Llewelyn-Davies with Steer Davies Gleave and the Metropolitan Transport Research Unit.

1.1.3 The initial premise of the study, which remains valid, is that a national policy framework for parking in new development has been set in Planning Policy Guidance (especially PPG 13, but also 1 and 6[1]), but that implementation of this policy has so far and in most areas not occurred. The study therefore concentrates on mechanisms to secure the implementation of a policy which has been in place since 1994. It is not concerned with revising the basic policy, but is concerned with its clarification, refinement and elaboration.

1.1.4 The study is primarily concerned with measures that are needed at the national level, and the implications of these for regional and local authorities, and for others involved in the development process. The main issues which the study tries to address are to do with private-non-residential (PNR) parking in new developments. Other parking issues such as residential parking have also been included in the study, but they are overshadowed by the importance of PNR.

1.1.5 Five significant reasons for the lack of progress on the implementation of PPG13 parking policy have been identified.

1 The main reason is that local authorities fear the loss of development opportunities in their areas if unilaterally they require parking provision at sub-demand levels. This is related to a set of fairly entrenched views within the development sector that parking provision to meet unrestrained demand is a pre-condition for the long term viability of property investments.

2 The timescale for the preparation of development plans means that in some authorities revisions to meet policy guidance have not yet been adopted.

[1] PPG3 Housing was revised after the main research was completed, but before this final report was prepared. It also calls for reduced parking in new housing. This may raise similar issues of compliance by developers and local authorities to those discussed in this report.

3 Local authorities are not always willing to follow the policy guidance, especially where this is seen as being in conflict with their economic development objectives. Planning officers attempting to implement more reduced parking cannot ensure the support of their elected members. In addition, there is a perceived difficulty in justifying developer contributions currently available in some areas through "commuted payments".

4 Local authorities are often unwilling to reduce off-street parking provision if that could lead to cars being parked on the street, thus reducing traffic flow or causing other nuisances.

5 There are perceived ambiguities in the guidance itself, and consequently frequent calls for more detailed guidance.

1.1.6 The key conclusions of this study, as reported in this summary, focus on the means whereby national guidance can enable regional and local authorities to overcome these difficulties, and to implement PPG13 parking policy in an effective way.[2]

1.2 *The consistency imperative*

1.2.1 The fundamental action necessary to ensure consistency between authorities is a nationally determined upper limit to the amount of parking that will be allowed in new non-residential development. The study includes discussion of the criteria that should be met by such a mechanism. Essentially it should provide a firm and consistent framework applying to all authorities, backed with mechanisms to ensure compliance. Local flexibility would be within sufficiently narrow limits to not undermine the core purpose. We see no way of avoiding this if the desired changes in travel choice and development practice are to be achieved.

1.2.2 There are many other aspects of parking policy, but this single point is, in our view, irreducible and inescapable. The nature of the limits themselves, their complexity or simplicity, the actual parking levels set, the manner of their application, the mechanisms for monitoring

[2] It is assumed that any 1999 revisions to PPG13 will include parking policies at least as robust as in the 1994 version.

and enforcing them, all may be open to further debate and refinement. But the need to close off the means whereby adopted policy policies can be undermined or avoided is paramount.

1.2.3 Other conclusions of this study, dealing with the ways in which parking provision in new development can be determined, are only valuable within the context of a clear and consistent national framework. Exhortation of regional and local authorities to act unilaterally when they are specifying or negotiating levels of parking provision would leave the identified weaknesses in the implementation system largely intact.

1.2.4 *A change of parking objectives*

1.2.5 Fifty years ago, as part of the original Town and Country Planning Act, the practice was established of applying standards for a minimum amount of parking to be provided within new developments. The idea was that the cars attracted to developments should be parked off the street so that the free flow of traffic would not be impeded. In meeting that objective the policy has been very successful.

1.2.6 The objectives of parking policy have now been widened to embrace broader issues of demand management, sustainable development, land conservation and social inclusion. As a consequence the "predict and provide off-street" approach whereby developers are ***required*** to provide for all generated parking demand, regardless of how much that might be, is now seen to be completely at odds with current transport and planning policy. To the extent that the old approach continues to be practised, as it is in many parts of the country, this is contrary to PPG13 and amounts to a serious failure in policy implementation.

1.2.7 The case for a more robust approach to parking provision does not rest solely on the contribution to reducing dependence on the car. It must be seen within the wider context of promoting sustainable patterns of development, and fostering a renaissance in urban culture and lifestyles. In the long run, lower levels of parking provision will reduce car dependency, will contribute to traffic reduction, and will open up exciting opportunities for compact, efficient, attractive and socially inclusive patterns of urban development.

1.2.8 The change in the objectives has important implications. When parking standards were primarily to facilitate accessibility by car without impinging on surrounding areas, they could be determined mostly as a free-standing planning requirement. Current objectives mean that parking provision must be determined in relation to wider planning and transport considerations. These include:

- accessibility by all modes;
- mechanisms for influencing the choice of mode;
- the suitability of particular locations and developments and their access requirements; and
- the amount and characteristics of alternative parking within the walking catchment of the site.

1.2.9 The description of such desirable consequences has little resonance with the forms of development typically on offer over recent decades.

1.3 *Local authority response to PPG13 parking policy*

1.3.1 Plans have been revised and adopted post PPG13, even in 1999, that continue with minimum parking standards. Government will therefore want to address the means whereby compliance of local plans with national guidance is monitored and ensured.

1.3.2 Since the publication of PPG13, there have been a number of attempts by local authorities to amend parking standards, and the methods by which they are arrived at. These attempts have tended to include the need for the definition of accessibility levels and their potential for reducing parking demand. The importance of the scale as well as the land use category of developments is increasingly recognised. The study concludes that all of these aspects have important implications for the determination of parking provision.

1.3.3 Our research has highlighted other important factors that are less well represented in revisions to parking policy so far. First, local authorities introducing more restrictive parking standards have tended to focus on town and city centres, or on employment related development. By contrast, we have taken into account the fact that the strongest growth in road traffic has occurred and continues to

occur outside town centres and for non-work purposes. In addition, reducing parking only in central locations will simply encourage the dispersal of development activity to non-central locations, precisely the opposite of what planning policy is attempting to achieve through the sequential test and other mechanisms.

1.3.4 Second, where maximum standards have been adopted, too often these simply involve changing existing standards from minima to maxima. As we have demonstrated in this research, this does not meet PPG13 policy requirements, and is unlikely to produce any change in travel behaviour.

1.3.5 Third, there has been little apparent attempt to shape development pressures so that they fit better with the aspirations of planning policy. Attempts to introduce more restrictive parking standards have so far paid little attention to the dynamics of the development process. Our premise here is that reducing parking provision will cause friction and inefficiency if the type and location of development being proposed remains unchanged. A more pro-active approach to influencing the type of schemes being brought forward by the development industry could help to smooth the adjustment to the new policy framework. This will only be possible if the parking policy supports and encourages the right form of development in the right place.

1.4 *Negotiated levels of parking provision*

1.4.1 The implementation of PPG13 parking policy brings forward the need for a number of fundamental changes in the way parking is dealt with in the planning system. To achieve the required results, parking in future will need to be part and parcel of a more integrated approach to accessibility, land use and transport planning.

1.4.2 The approach is likely to place less emphasis on the concept of parking "standards" in new developments, and to require negotiated "levels of provision" ***up to and no higher than*** maxima that are set at the national level. In preparing their development and transport plans local authorities will interpret national and regional location policies. When considering development proposals, they will require developers to show how their proposals are consistent with this framework, especially in terms of attraction of trips by car, and the

scale and type of development product. The report includes a suggested sequence of steps that local authorities could undertake to meet this requirement.

1.4.3 Current policy calls for the definition of "maximum parking standards". There is a danger, however, that these maxima will become the norm, and be treated as "target" levels to be requested with little attempt being made to achieve better results in terms of increased access by non-car modes. It therefore suggested that the term "standard" be dropped in favour of "level". Local authorities would request low levels of parking provision but negotiate upwards from this to no higher than the specified maximum.

1.4.4 Accessibility, either present or planned, would be the key to such negotiations. Ways of assessing accessibility and other planning factors have been reviewed, and the conclusion drawn that local authorities can fairly readily assess the spatial boundaries of different levels of activity without recourse to elaborate or costly studies. The study has also established that accessibility can be mapped based on more objective measures using "off the peg" GIS systems that are becoming common amongst authorities. This means that accessibility can be incorporated as a planning factor within reasonable resource requirements, either in drawing up accessibility zones for inclusion in development plans or supplementary planning guidance, or for assessing larger individual development proposals.

1.5 *A new national parking limit*

1.5.1 The main requirement is for an upper limit of parking to be set at the national level for new non-residential development. To establish the departure from past practice, and to avoid the problem of development "migration", it is judged that a level somewhere between 25% and 35% below current local authority standards of provision would be appropriate as a starting point.

1.5.2 Many of the people and organisations contacted during the study regard such a reduction in parking as being a radical change. However, in terms of the study brief, the principal concern would be that the suggested level would be insufficient to make a noticeable impact on traffic generation at new developments. This concern arises from the fact that (as revealed in the research) present

parking standards actually result in substantial over-supply. Other factors as explained in the report, also suggest that lower maxima would be required to make a significant impact on car travel choices.

1.5.3 The study also reviews and makes recommendations for residential and other forms of parking, and considers consequential changes to ensure the success of the policy.

1.6 *Summary of main conclusions*

1 Parking provision in new developments should be an output of an integrated process of land use, transport and accessibility planning.

2 Maximum levels of non-operational parking provision set at the national level will ensure consistency between areas at the regional and local level.

3 Locally determined maximum levels of parking provision for individual types of development can be set at the local (and regional) level within the prescribed national maximum level.

4 Substantially reduced levels of parking associated with new developments will be needed to have any significant impact on travel choice other than the car.

5 Reductions in parking can be related to accessibility by non-car means. This can be measured using objective techniques based on GIS.

6 The potential for access by non-car modes does not necessarily equate with actual mode choice. Fiscal and other measures will be needed in addition to infrastructure measures to achieve the desired travel outcomes.

7 To discourage migration of development to areas offering less choice of access mode, variations in parking maxima between areas and authorities will have to be confined to a relatively narrow range.

8 Negotiating practice in development control would need to be radically changed, whereby local authorities negotiate

non-operational parking with the developer **upwards** from the operational requirement.

9 Developers could be required to show how users will access their schemes (an access profile, part of a Transport Assessment in major schemes) and to demonstrate how basic accessibility and location criteria are to be met. This requirement could be waived for smaller developments, say less than 500 square metres of gross floor area.

10 Accessibility of particular sites, or whole areas can be assessed using GIS-based accessibility measures. These can assess the relative accessibility by car and non-car modes, and be weighted according to population.

11 A step by step approach for local authorities to follow in determining the parking provision to be allowed in new developments is provided.

12 Planning guidance could emphasise the benefits of shared and public parking in meeting the parking demand resulting from non-residential developments, especially in town and city centres.

13 Planning guidance could emphasise the benefits of a case by case assessment of residential developments to achieve parking provision that is sensitive to location and housing type.

14 Developer contributions could be related to securing adequate accessibility in line with local development and transport plans, rather than simply in lieu of parking provision. These could be based on one or more of the following: the development accessibility profile, accessibility of the site or area, specific schemes designed to facilitate this accessibility, and standard rates for wider packages of schemes specified in Local Transport Plans, including public transport Quality Partnerships and Contracts.

15 The potential for major upgrading of public transport and other non-car transport to bring into use sites that are currently less accessible should be the subject of further consideration. This includes planned extensions to current

large scale car-based developments such as regional out-of-town shopping centres.

16 In view of the pressure for consistency of approach, close monitoring by the DETR and Regional Offices will be required to ensure local authority compliance with policy.

17 Incentives for local authority compliance should be provided through the allocation of transport grants and credit approvals. Conversely non-compliance should lead to withholding of such financial assistance.

18 Consideration could be given to the establishment of short-term "mentor" facilities (perhaps regionally based) to kick-start expertise in delivering the new approach. Such a service should be made available to both public and private sectors.

19 In view of the importance of scale in determining mode split, consideration could be given to measures to encourage developers to alter their portfolios in favour of small scale developments to serve local catchments. These could include planning or fiscal measures.

20 Migration of some types of development to other countries with less restrictive parking policies is a possibility (for example footloose global commercial and industrial activities). The relevance of parking compared to other factors in such trends would need to be established through more specific research.

21 Some consultation responses suggested that there should be a transition period or phased implementation of lower parking provision. Both would be likely to tempt and prolong the destructive competitive behaviour which national maxima would seek to avoid.

22 There is evidence of considerable support for such national maxima in both the public and private sectors. Most players indicate a willingness to adhere to the new rules, but only if the playing field is level.

23 The term "parking standards" should be replaced by "levels of parking provision".

24 The study has uncovered no distinct or robust method for objectively assessing operation parking requirements. There is therefore no case for an "operational minimum standard" of such provision, as stated in PPG13.

25 Separation of operational and non-operational parking would simplify negotiations between local authorities and developers on overall levels of provision.

2 *Introduction*

2.1 *Overview of the study*

2.1.1 Llewelyn-Davies together with the Metropolitan Transport Research Unit and Steer Davies Gleave were commissioned by the DETR in February 1998 to review parking policies and practice, particularly standards applied to new development, and to produce a basic method for assessing accessibility and related parking provision. The study was to address the parking issues associated with the implementation of national planning policy guidance, particularly PPG6 and PPG13.

2.1.2 The study brief set the scene in the following way:

"Parking policy is a crucial element in developing an integrated approach to land use and transport planning. Its main application is for tackling car use in certain (mainly urban) areas. The principal existing controls over the use of parking are planning standards, regulation and pricing of public parking, and the enforcement of parking and waiting restrictions. Parking controls should be seen as part of a package of measures designed primarily for influencing travel choices…"

Within this, the use of parking standards, as applied to new developments including change of use, is the main focus of the study. As explained in the report, the research revealed that the new policy objectives had major implications for the way in which parking is determined within the planning system. What was initially seen as a task of providing a method for updating parking standards quickly turned into an exploration of the mechanisms needed at all levels of government to make the policy work. There could hardly be a clearer demonstration of the complexity of an integrated approach to transport and land use planning compared to the "checklist" approach encouraged by conventional parking standards. Perhaps it is this very complexity that up to now has hindered integration.

2.1.3 All of this derives from a fundamental feature of the new parking policy that needs explanation at this point.

1 The policy is for parking in new developments to be subject to certain ***maximum levels***, and for these levels to be ***lower*** than would be needed to accommodate the "full" demand for travel to the site by car. (This latter point begs important questions about what constitutes full demand, and these are discussed later in the report.)

2 This requires ***intervention*** that is justified by reference to the wider policy objectives now in place.

3 Effective intervention requires an understanding of the ***dynamics of the system***. If all other things remained equal, lower parking provision could create more problems than it solves, so the interaction with "other things" must be fully taken into account.

4 The question of how much lower parking provision should be, and how this should vary in different circumstance is not a matter that can be established in the scientific sense. It is a matter of ***policy choice***.[3]

2.1.4 The research thus takes an "urban management" perspective, and the method employed reflects this. At its simplest the basic proposition is that lower parking provision in new development will contribute to the desired aim of reduced travel and less dependence on cars. This research takes that as the starting point, and examines the various stepping stones of the argument and maps out its various ramifications.

2.1.5 The switch from minimum to maximum levels of parking provision certainly introduces policy choice as the basis for decisions rather than reliance on quantified potential demand. The implication of this, moreover, is that parking decisions can no longer be taken as a stand-alone planning matter. The research demonstrates the complexities of the system of which parking is only a part, and the need for much more thoughtful approaches than the simple application of standards. A conclusion of the study is that parking standards belong to a set of objectives that have been superseded, and additional mechanisms are now required. In fact the term "standards" is seen as unhelpful in developing the new approach.

2.1.6 The study was undertaken at a time when national policy was being refined and updated, in particular through the 1998 transport White Paper[4], its "daughter" documents, and revision of planning policy guidance notes, and PPG13 in particular. As a result of this, the study

[3] The potential demand for car access to a development may, give or take some fairly large assumptions, be measurable. It is on this basis that the "minimum standards" as conventionally used are presumed to have been arrived at by local authorities. By contrast, it is not possible to measure or forecast how much of the potential parking demand ***should*** be provided for on-site, because this is a matter of choice.

[4] DETR, "A New Deal for Transport: Better for Everyone", The Stationery Office, 1998.

process was amended in two main respects. First, advice was provided on specific topics related to the emerging policy agenda. Second, case studies with local authorities were amended to provide factual material and a generic input to the study, rather than being used to test a particular method for determining parking provision.

2.1.7 This report includes the main findings of the research project, and reports on both consultation and technical exercises. It is intended that the research findings will inform decisions about the approach to parking at national and regional level as well as at local government level.

2.2 *Study method*

2.2.1 The study method had to reflect the provisions of the study brief, as amended. The research is normative in the sense that it investigates what is involved in bringing about a certain desired outcome (as set out in various policy statements[5]). It is also exploratory research in the sense that consideration is given to the consequential effects of implementing the policy in the ways discussed.

2.2.2 Given the nature of the subject, as discussed above, the study aims to provide advice on the development of an appropriate national and regional framework, together with guidance for local authorities in the form of a sequence of steps to be followed in negotiating levels of parking provision. The study method has thus involved a number of tasks designed to inform various elements in the overall argument. These tasks are briefly outlined below, and summarised in Table 2.1.

2.2.3 *Policy review*

2.2.4 The first task was to define the agenda which the research needed to address. This included a review of the literature to establish a view as to how mainstream practice and its variations had arisen, and what particular impacts had led to the revision of parking policy in PPG13 and other recent planning guidance.

[5] The principal document in PPG13, "Transport" (1994), the revised PPG6, "Town Centres and Retail Development" (1995), and "PPG13: A Guide to Better Practice" (undated but 1995).

2.2.5 The basis for the study is the policy context set by PPG13 in 1994 in relation to parking. The next step therefore was to investigate the impact of this policy, and to examine where difficulties of interpretation or implementation had arisen. The need to unravel various aspects of PPG13 policy in order to explain inertia in its implementation quickly became clear, and so a separate section has been devoted to definitions and explanations. This is not just a matter of semantics, but is central to understanding and developing parking policy.

2.2.6 *Patterns of parking demand*

2.2.7 This task involved some theoretical underpinning of the concept of demand, and a quantitative analysis of parking demand. Original analysis of a sample of recent developments was undertaken, and use was also made of the East Midlands joint parking study.[6]

2.2.8 An attempt was made to investigate the relationship between parking provision and mode split, either by type of area or by type of development, or by parking provision. Some data was collated, but there was found to be a lack of suitable data on mode split.

2.2.9 *Possible approaches to implementation*

2.2.10 The study included a review of four approaches devised within the study process, together with other approaches from practice and other studies. Particular attention was paid to those authorities that had already revised, or were in the process of revising, their parking standards in response to PPG13.

2.2.11 *Accessibility Studies*

2.2.12 Theoretical and practical studies of accessibility measurement were undertaken. These have been used to demonstrate the practicality of GIS approaches in the context of planning policy and appraisal, as part of the process of determining appropriate levels of parking provision in new developments.

2.2.13 *Case studies*

[6] University of Westminster, Transport Studies Group, "East Midlands Joint Car Parking Study", for the East Midlands local authorities and the DETR, August 1997.

2.2.14 Three areas were selected where in-depth discussions were held with the relevant local authorities. These authorities represented a reasonable range of types of authority, and types of area. The case study areas were Leeds (a metropolitan unitary authority covering a major city with economic regeneration potential), Nottingham and the East Midlands (both county and unitary authorities and sub-regional grouping), and Essex (including county, district and unitary authorities, and covering both rural and urban areas with and without major pressure for development). The case studies provided major insights into the difficulties facing local authorities in switching to maximum standards of provision, and also provided empirical evidence on the perceived impacts of such a change.

Table 2.1 Summary of research tasks to explore implementation of PPG13 parking policy

ISSUES DEFINITION & LITERATURE REVIEWS	DEVELOPMENT AND REVIEW OF METHODS	IMPACTS & FEASIBILITY
Policy review and interpretation	Review local authority changes and best practice	Three local authority case studies
Historic background	Devise and review alternative methods	Key player interviews
Economic viability and parking	Accessibility studies and mapping	Mode split data analysis
Developer contributions	Devise variation formulae	Parking accumulation data analysis
Parking & mode choice	Devise steps in planning process	Assess responses to GOSE parking study
1st round of local authority workshops	1st internal "strategic choice" exercise	2nd round of local authority workshops
		2nd internal "strategic choice" exercise

2.2.15 *Impacts of the new policy framework*

2.2.16 Qualitative exercises were undertaken in the form of external consultation and internal review to establish the likely impacts of a change from minimum to maximum levels of parking, and the measures likely to be needed to avoid negative impacts. Both planning and transport impacts were considered.

2.2.17 The study follows work on parking standards for the Government Office for the South East undertaken by Llewelyn-Davies and JMP consultants, the publication of which as a discussion paper in October 1998 has enabled public and private sector responses to be taken into account in this report.

2.2.18 *Collation of findings*

2.2.19 The study findings emerge from a synthesis of all the various work stages described above. This was assisted by internal "strategic choice" sessions which enabled issues, objectives, stakeholders and policy mechanisms to be reviewed in a systematic way. It was not part of the study remit to recommend any specific method to be employed in setting parking levels, but conclusions were drawn about the sort of action needed at different levels of government if parking is to play its full role in meeting basic planning and transport objectives.

2.3 *Policy background and context*

2.3.1 *Policy statements and study brief*

2.3.2 Planning policy guidance notes[7] "advise that local authorities should have a comprehensive strategy that covers all aspects of parking and attaches proper weight to the objectives of environmental improvement and the economic and social needs for access to workplaces and facilities. The findings of the study PPG13 Implementation 1994-1996 reflect the practical difficulties facing local authorities, and their concern about the problems of

[7] Planning Policy Guidance (PPG) note 13 on Transport, 1994; PPG6 on Town Centres and Retail Development, 1995; and "PPG13: a Guide to Better Practice", 1995.

developing car parking standards for different types of development and location" (study brief).

2.3.3 The central policy statements in PPG13 (1994) that have driven the current research are reproduced here:

"Car parking policies should support the overall locational policies in the development plan.

(paragraph 4.4, part)

"Strategic policies on parking should be included in Regional Planning Guidance and structure plans to avoid the destructive potential for competitive provision of parking by neighbouring authorities. Standards in local plans should be set as a range of maximum and operational minimum amounts of parking for broad classes of development and location.

(paragraph 4.5, part)

"A certain level of off-street parking provision may be necessary for a development to proceed without causing traffic problems, but in order to realise the potential of locational policies and to avoid disadvantaging urban areas through added congestion or because of their poorer level of car access, local planning authorities should:

- *Adopt reduced requirements for parking for locations which have good access to other means of travel than the private car;*
- *Be flexible in the requirements for off-street residential parking space and reduce or waive them where necessary in order to provide quality and affordable high density development in areas of good access to other means of travel;*
- *Ensure parking requirements in general are kept to the operational minimum;*
- *Not require developers to provide more spaces than they themselves wish unless there are significant road safety or traffic management implications; and*
- *Ensure that parking provision at peripheral office, retail and similar developments is not set at high levels which would*

have the effect of significantly disadvantaging more central areas."

(paragraph 4.6 in full)

2.3.4 *Planning policy and types of parking*

2.3.5 It will be understood from these statements that the issue of prime concern is how local authorities can implement levels of parking provision that are markedly lower than pre-PPG13 practice.

2.3.6 The study deals primarily with parking as a tool of management of travel demand. This meant that the study needed particularly to deal with the question of parking provision in non-residential developments.[8] Moreover, since the study is intended to inform land use policy, the focus was on private off-street parking, even though the interaction with public parking is part of the equation.

2.3.7 Aspects of parking with less impact on travel demand and mode choice received less attention. These include parking for the vehicles of people with special needs, cycle and motor cycle parking, and parking for commercial vehicles. This is not to deny that there are important issues in connection with all of these, but they simply have less importance in relation to the central policy theme of PPG13.

[8] The issue of residential parking is also dealt with, but current policy does not include restraining the use of cars by limiting parking for residents' cars at the home.

3 *The New Parking Agenda*

This section discusses the reasons why a new approach to parking in new developments is needed, and sets out the main items on the agenda of change.

3.1 *The need for a fresh approach to parking*

3.1.1 The objectives of parking policy have changed radically over the past half-century. From a position of relatively uniform acceptance of the need to accommodate all parking demand off the street, parking policy is now seen as one of the key elements in strategies to manage the demand for car use. This will mean a shift from "***requiring*** at least as much as necessary to meet potential demand" to "***allowing*** no more than is consistent with policy to reduce demand". In other words a shift from minimum to maximum provision.

3.1.2 PPG13 requires all new development to be planned to reduce the need to travel, especially by car, and parking will be crucial in achieving this objective. Parking availability is a key determinant of both individual and corporate decisions about car use, and even about car ownership.

3.1.3 It is now widely recognised, however, that there are difficulties in implementing this restraint-based parking policy. This is borne out by a lack of progress by local authorities in revising their parking policies in line with the guidance, as shown in Section 5.

3.1.4 While there may be growing acceptance of the need for an objectives-led approach to parking policies, there is no general agreement as to which particular objectives are to be served, or what priorities should be given to competing objectives.

3.1.5 One example of this uncertainty is between the objective of reducing peak hour congestion, and the objective of reducing vehicle miles travelled. Converting parking space from long stay to short stay is common practice, and indeed is promoted in PPG6, but this runs counter to the objective of reducing vehicle miles travelled since parking spaces are used more intensively. Similarly, the objective of reducing congestion tends in most areas to lead to a policy of restraint in town centres, but the knock-on effects of such restraint may be to increase vehicle miles overall as car users seek destinations elsewhere.

3.1.6 The conflict is not only between traffic issues. Many local authorities perceive a conflict between reduced levels of parking provision and attempts to secure economic development in their areas. In many areas economic development is given top priority and traffic and parking reduction strategies are sidelined.

3.1.7 In view of these conflicts, clarity of objectives at all levels of government is imperative in specifying parking policies and in determining their effectiveness. A particularly crucial issue is the extent to which local authorities should have freedom to determine their own priorities, or to what extent such freedom should be contained within a robust regional and national policy framework. The study has shown this to be the most important issue in finding an appropriate method for implementing parking restraint.

3.2 *The need for an integrated approach to parking*

3.2.1 The policy is now established that parking provision in new developments should not be based on what has become known as the "predict and provide" approach. Instead, the quantity of parking provided is to be less than the amount of car demand that could potentially be attracted to the scheme. Let us put it another way. The policy of ***requiring*** developers to provide a minimum amount of parking to cater for all demand, is now replaced by a policy of ***allowing*** developers to provide no more than a certain maximum. This maximum, moreover, is to be below the level formerly regarded as the minimum.

3.2.2 This major change of approach means that parking provision can no longer be treated as a stand-alone planning or highways matter when planning applications are being determined. Off-street provision below the demand level that could arise from the scheme brings other factors immediately come into play, and must be resolved as part of the planning determination process. These factors include, at the very least:

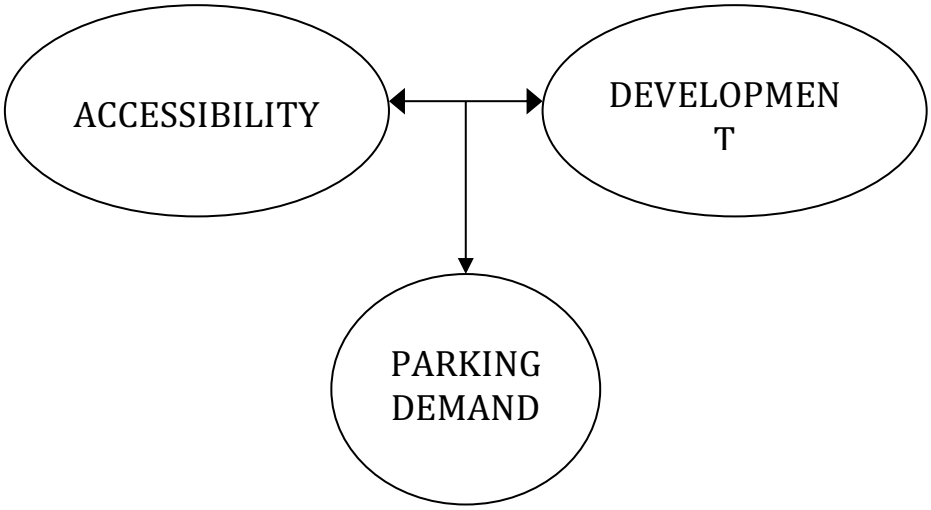
- The possibility of drivers seeking alternative parking on streets surrounding the development site;
- The need for parking control measures to avoid negative impacts from such diversion;

- The availability or otherwise of on-street or off-street parking facilities within the vicinity that could take the diverted demand;
- The suitability of alternative means of access to the scheme;
- The possibility of, or need for, measures to ensure that non-car modes are chosen;
- An approach to developer contributions to access improvements that includes provisions for modes other than the car.

3.2.3 It is immediately clear, therefore, that consideration and calculation of these factors must precede determination of the parking to be provided within a particular development scheme; in other words an integrated approach is necessary.

3.2.4 Without integrating accessibility with parking decisions, reducing parking provision would be likely to cause negative impacts, and the potential of parking restraint to influence travel demand would be lost. Since parking is such a crucial determinant of travel choice, the contribution of new developments to meeting sustainability objectives would continue to be undermined. We should not lose sight of the fact that accessibility considerations are themselves influenced by the nature of the development scheme being proposed. The amount of parking to be provided is thus an output of a fairly complex set of interactions.

Figure 3.1 Parking as a Output of an Integrated Approach



3.3 *Parking and accessibility*

3.3.1 Three factors determine the suitability of a location for a particular development:

- Accessibility;
- Site availability; and
- Site characteristics (including price).

3.3.2 It is important to recognise, however, that location characteristics influence what is considered to be a suitable development product (as discussed below).

3.3.3 Accessibility has often been underplayed in the planning system, and frequently interpreted as being important only in relation to highway matters. In most areas, accessibility has not been seen as a matter susceptible to planning intervention. The latest planning guidance notes have in this respect added a new dimension to development planning, and to the extent that there has been a failure to implement PPG13 parking policy, this can be described as a failure to take on board the accessibility planning agenda.

3.3.4 The means of access to a development will be strongly influenced by the availability of parking. For those with a car available for their exclusive use for the duration of the trip[9], the car will often if not usually be the mode of first choice. Except for very short journeys, other modes will only be considered when parking is either not available, or is too inconvenient, or too costly. The availability of parking is a powerful determinant not only of the choice of car mode, but of the choice of destination (see Table 3.1).

Table 3.1 Destination Choice and Car Availability

Destination Choice for Car Users	**Destination Choice for Non-Car Users**
• Where can I go avoiding congestion? • Where can I park? • Where can I park for	• Where can I walk to? • Where can I cycle to? • Where can I get to by

[9] This is not the same as car ownership. The use of cars is often shared between family members, or even others.

free?	bus/train/tram?
Typical outcome • Out of town activity • Free-standing suburban activity	Typical outcome • Town/City centre • District Centre

3.3.5 If accessibility to land use activities is to be available by a choice of modes, then this separation between car and non-car access has be overcome. If non-car access is to be realistic, then the car access has to be less than 100% of potential demand. The potential mode split will depend on a range of factors such as development size, location, relation to transport networks, and car ownership of the catchment population. The actual mode split will be determined yet more factors such as public transport quality and fares, safety and security for those on foot or cycle, and availability and price of parking.

3.3.6 Accessibility considerations can be summarised as follows:

- Accessibility by all modes, not just by car;
- Mechanisms for influencing the choice of mode;
- Locational suitability of particular developments and their access requirements; and
- Supply, characteristics and control of other parking within the walking catchment of the site.

3.3.7 Levels of parking provision in particular developments can thus be seen as a by-product of planning and accessibility strategies, rather than as a stand-alone planning tool in the determination of planning applications.

3.4 *Development product*

3.4.1 (section 3.3 shows how integrated approach is needed with land use and accessibility (with location) being the main interaction. Section 3.3 deals with accessibility, so this section must complete the picture with land use and development product.)

3.4.2 The accessibility considerations discussed above are to do with how people (and goods) reach a particular development site. Of equal importance is the nature of the accessibility requirements of the users of the development that occupies that site. This will vary depending on a range of attributes of the development itself, notably its use, its scale, its socio-economic status or position in the "market", and its position relative to competing or complementary activities. The totality of such attributes results in what is termed in this report the "development product".

3.4.3 The development products coming forward for planning approval are (whether consciously or unconsciously) designed taking account of many factors and judgements about present and future demand. Failure to take account of important factors can result in failure of the scheme. One such important factor which the developers and promoters of schemes must take into account is the planning regime, including parking policies or standards.

3.4.4 It can therefore be seen that purely reactive planning decisions will miss the potential to attract better quality schemes. The question, for example, is not " what is the best location for a large superstore, or a 15 screen multi-plex cinema?" but "what is the best way of supplying food and leisure to this population?" Planning policy can have a major influence on development product. As seen in the consultation responses in this study, developers are interested mainly in successful development, and are often less concerned to prove the merits of any particular format. This underlines the point that successful parking and accessibility policy will take account of these dynamics of the development system, and not simply react to schemes coming forward as if these had intrinsic and unalterable qualities.

3.5 *Objectives and criteria for parking method*

3.5.1 The principal objectives of parking policy as set out in planning policy guidance have already been discussed. There are, however, related objectives to which parking policy and control is expected to contribute. These are dealt with briefly here.

3.5.2 *Mode shift, traffic reduction and air pollution*

3.5.3 National objectives as expressed in the UK Sustainable Development Strategy[10] and a range of other documents have broadened in recent years. Traffic congestion is now simply one of range of adverse impacts of motorisation which policies are expected to address. PPG13 is significant for introducing the social objective of reducing dependence on the car. The Traffic Reduction Act is also notable in that it implicitly addresses traffic levels as a proxy for a range of adverse impacts. The National Air Quality Strategy includes both local and global dimensions[11].

3.5.4 This diverse palette of objectives has varying spatial and temporal and scientific dimensions. The suitability of policies thus depends crucially on the objectives chosen. In particular it depends on whether emphasis is given to local impacts or global impacts. Some of the more important aspects for parking reform are discussed below.

3.5.5 *Social inclusion and accessibility*

3.5.6 Car dependency is problematic because it restricts the ability of people to choose non-car modes and it also in the long run reduces the quality of non-car modes. The shrinking of mobility choice in this way affects people differently depending on their degree of independent access to private motorised transport. Those without cars, whether by virtue of insufficient income, physical or mental impairments, age, or legal restriction, are disproportionately affected by excessive reliance of others on the car. This arises not only from the deteriorated quality of non-car modes of travel, but also from the shift of employment, shopping, health, leisure and other activities and facilities to locations which can reasonably be reached only by car. It is this mono-mode form and location of development that PPG13 policy is intended to restrict.

3.5.7 This means that in order to be consistent with planning guidance, there must be a clear spatial dimension to parking policy and its relation to location policy if it is to serve social inclusion objectives.

3.5.8 The impact of car use (as promoted and facilitated by parking provision in new developments) on other modes is multi-faceted.

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[10] "Sustainable Development: the UK Strategy", CM 2426, HMSO, 1994.

[11] The United Kingdon National Air Quality Strategy, March 1997, but under review January 1999.
HMSO ISBN 0-10-135872-5

Apart from the adverse impact on the economy and hence the quality of public transport, the volume of car use affects levels of both traffic safety and personal security of streets, especially for those travelling on foot and public transport.

3.5.9 *Environmental objectives*

3.5.10 As well as social inclusion, traffic and transport objectives now give emphasis to air quality, noise and health. There are now national targets for the reduction of CO^2, and initiatives are in progress to reduce harmful vehicle exhaust pollutants in urban areas.

3.5.11 Targets for traffic reduction may soon be devised. Targets are also emerging for the promotion of non-car modes, with the first for cycling already in place, and others for walking shortly to be decided.

3.5.12 *Efficacy of Parking Policy Mechanisms*

3.5.13 In addition, the approach to determining parking provision can be appraised using criteria related to whether or not the approach will be effective in meeting the objectives set out above. The importance of the approach being effective in terms of the dynamics of the planning and development system has already been emphasised.

3.5.14 The criteria devised for the appraisal of alternative approaches are set out in Table 3.2 (objectives served in bold).

Table 3.2 Criteria and Objectives for Parking Method Appraisal

BASIC CRITERIA	RELATED OBJECTIVES (IN BOLD) & DETAIL
Equitable	Contributes to **social inclusion** objectives (e.g. by encouraging choice of means of access)
Simple	To explain To implement, taking local authority resources into account
Enforceable	Local authority enforcement of planning permissions Local authority policy and practice compliance with regional and national parking policy and guidance
Effective	Is not undermined by problems of displaced parking Promotes, or does not undermine, mode shift from car Objective of **reducing the need to travel** Can be effective immediately
Economic	Does not inhibit economic development Can generate funding for access improvements Involves reasonable local authority or other resources to implement, operate, monitor and enforce Cost effective (i.e. contribution to objectives commensurate with resources and effort expended)
Comprehensive	Includes all access, journey types Includes all development
Consistent with planning objectives	Reinforces location policy (i.e. promotes development in desired locations; discourages development in inappropriate locations) Avoids migration of development to other areas Supports **sustainable development** objectives

4 *Definitions: The devil is in the semantics!*

4.1.1 We began with the pre-conception that a common and widely understood terminology was used in the context of planning and parking issues. Terms such as "demand-based", "maximum standards", "targets", "new development" and "flexibility" were all to be found in planning and transport documentation, and in regular use in negotiations with developers and at public inquiries. It was somewhat alarming to discover not only that these and other terms were used in different contexts to mean different things, but that such variance actually reflected a fundamental lack of clarity in the interpretation of policy, or even lack of awareness of policy principles. It would be disingenuous to suggest that some local authorities manipulate the resulting confusion to avoid the more unpalatable consequences of policy guidance, but ambiguities in the terminology could easily provide such an opportunity.

4.1.2 We have therefore found it necessary to define and explain the terminology, and to draw attention to the more important myths and misunderstandings that have been uncovered along the way. There is no easy way of checking the meanings of terms as originally intended, and the definitions offered here in some cases go well beyond purely semantic issues, and amount to an elaboration, or even a suggested modification of policy.

"New Development"

4.1.3 This carries the definition as set out in Section 55 of the Town and Country Planning Act, 1990 and includes change of use. The word "development" on its own may, depending on context, refer to existing buildings or uses, as in general parlance.

"Maximum parking standards"

4.1.4 This is interpreted as meaning a ceiling or upper limit on the level or rate of provision that can be made. It also means that provision lower than this ceiling is desirable, and the lower the provision, the more desirable in policy terms. Within the context of maximum standards, therefore, negotiation with developers will involve attempting to secure parking provision as far below the maximum as possible, subject to any "operational" parking (see below) that is required. This interpretation is not, however, always followed. For example, some local authorities have specified a "maximum" standard which is also a minimum standard, which clearly is neither a logical use of the term maximum, nor consistent with PPG13 policy.

4.1.5 Consequently, we recommend that the term "standard" be avoided as far as possible. The term "maximum standard" should be replaced by the term "maximum level" of provision to avoid the dangers of maximum levels being regarded as normal or target levels of provision.

"Demand" and "Demand-based"

4.1.6 This refers to parking demand that would or could arise in the absence of any deterrents such as parking charges and controls, or restrictions on supply. In reality there are always deterrents of some kind, so the interpretation relates more to deterrents relative to the "norm" rather than to demand in the strict sense of economic theory[12]. Definition of the "norm" itself raises complex issues, for example:

- Does the norm relate to all demand (24 hour, 7 days a week, 365 days a year) or to peak demand?
- Does the norm relate to an average or median of the different land uses, or to recent development schemes (as represented by the TRICS database, for example)?
- Does it relate to the average or median nationally, or regionally, or only to comparable cases within the locality in question?
- Must the norm be defined for every type and every size of land use in every type of location (which would be needed to reflect actual variations in mode split, car ownership etc.) or is 100% mode share by car to be assumed?
- Does the norm include a general assumption about car occupancy rates, or should these be seen as a variable?

4.1.7 Although all of these factors are relevant in determining "normal" levels of demand, very little reference to them is found in local authority parking standards documentation.

4.1.8 Demand therefore is taken in this report to be the level that would or could be achieved given assumptions that are favourable to car use, i.e. with few deterrents. Two other terms can mean the same

[12] "*The demand for transport is not necessarily the amount that people actually have or the amount they would like to have. It is the amount that they would choose to have under certain assumed conditions. Many alternative assumptions can be made about those conditions. 'Demand' is therefore a variable…*" from Thomson, J M, "Modern Transport Economics", Penguin 1974,p19.

thing: "potential demand" and "unfettered demand". These meanings are consistent with traditional "minimum standards" practice of providing enough parking on site to ensure that there will never be any overspill into surrounding areas or streets.

4.1.9 This leaves a gap between the peak parking demand that potentially would be reached, and the "actual" peak parking demand that will be observed, or perhaps predicted. For a variety of reasons the latter will normally be lower than potential demand. The relationship between these levels, and levels that relate to parking restraint or demand management are shown in Figure 4.1 at the end of this section.

4.1.10 There is also a connotation of a "demand" level which might act as a reference point against which to compare restraint-based parking (see below). But it is important to note that existing so called demand-based standards appear to have resulted in over-provision of parking at many new developments even at peak parking times. Actual or out-turn demand levels are thus often lower than the demand provided for. These can be assessed on the basis of car park accumulation data for existing developments (see Section 6).

"Restraint-based"

4.1.11 This refers to a standard or level of parking provision that assumes or matches a mode split with a smaller car share than that implied by a "demand" level. It is important to note that parking within a development for less than 100% of peak time users does not in itself constitute a restraint-based level; account must be taken of alternative sources of parking, car occupancy rates, and potential for spreading of peak demand.

4.1.12 Provision for, say, 50% of peak time use is likely to result in full car demand being satisfied for, say, 90% of the time. For certain uses, users may be able to shift the time of their visit to avoid times when demand exceeds supply. We have already seen significant changes in the retail and leisure sectors, for example, where longer opening hours have enabled more intensive use of given levels of parking. Thus "restraint-based" standards related to the concept of "normal" or "demand" levels may not result in any reduction of car use or car mileage, only a spreading of the time periods during which this traffic occurs. In this case the term "restraint" would apply to the

provision of parking, not to the restraint of car use, (see levels "A" and "B" on Figure 4.1).

4.1.13 Nevertheless, reduced parking provision will allow the use of smaller sites, and therefore more central locations with better access by non-car modes. Reduced parking will also allow more intensive development of a given site, and hence will more easily match an access mode split with lower car-driver share.

"Reference standards"

4.1.14 The term "reference standard" may be relevant in determining parking provision compared to existing or "demand" level provision. In this report reference standards for certain uses have been arrived at by reviewing other studies and typical practice, for example using the TRICS database. Local authorities also sometimes use reference standards arrived at by examination of comparable developments in similar locations, or the practice of other authorities. Reference standards would be at level "C" or level "D" on Figure 4.1.

4.1.15 An alternative approach (e.g. Leicester for employment uses) is to examine existing local examples. The reference standards may be used in determining the degree of traffic reduction compared to unrestrained demand, and in determining commuted payments in the context of maximum parking levels (as in Leicester).[13]

"Operational parking"

4.1.16 This is a problematic term in the parking policy lexicon. Different interpretations are to be found, with potentially radically different outcomes. Our understanding of the original use of the term is that "operational parking" is for commercial vehicles bringing goods to and from, but possibly also including cars of personnel whose main work is in the vehicle. Bays or other space for loading and unloading is included. A fairly standard wording appearing in local authority documents is as follows:

"Operational parking space is the space required for cars and other vehicles regularly and necessarily involved in the operation of the business of a particular building. It includes useable space for delivering and collecting goods at premises but not for storing or

[13] Donelly, Andrew, "Parking Standards Based on Reference Standards, Employment Densities and Modal Split Targets", GOEM parking standards seminar, 19th June 1998.

servicing vehicles except where this is necessary as part of the business carried on at the premises."

This interpretation is adopted in this study and is in line with the meaning intended in PPG13 (see below).

4.1.17 Some developers and even some local authorities, however, regard "customer" and "visitor" parking as being in the "operational" category. This implies that parking for such users is essential to the access requirements of the activity. Conversely, non-operational parking is regarded as employee parking, with the pejorative connotation that this is undesirable or at least less essential, perhaps by virtue of it involving long-stay parking in valuable locations. Some authorities appear to regard car commuting to work as the only category of car use that produces any adverse impacts. These interpretations are rejected, since they are inconsistent with the spirit of restraint-based parking provision promoted in PPG13. Thus ***we exclude from our definition of operational parking that which relates to customers and visitors as well as employees, though employees whose main work is in the vehicle, rather than at the site, may be included***.

4.1.18 Workplace parking charges[14] will encourage a distinction between employee and customer/visitor parking. If this were to encourage the view that customer and visitor parking is in the "operational" category, PPG13 policy could be undermined.

4.1.19 Derived from these considerations, a further definition is that ***operational parking serves vehicle trips for which no alternative can be used or provided***. Thus parking for people whose mobility is impaired might be included. Devon County Council defined operational parking as "that required to accommodate those that "HAVE TO" drive to the development for servicing, delivery and collection purposes, which is normally a short term parking demand" (their emphasis). Kent County Council presents a similar definition by stating that ***non***-operational parking is for vehicles "which do not have to park at particular premises in order for the site to function".[15]

[14] See DETR (1998) "Breaking the Logjam", The Government's consultation paper on fighting traffic congestion and pollution through road user and workplace parking charges.

[15] Kent County Council (1998) "Vehicle Parking Standards: consultation draft" page 17.

4.1.20 These definitions of operational parking still leave certain matters to be resolved. The loading of goods often can be adequately arranged without on-site loading bays. People with mobility difficulties can also manage a certain distance from their cars, and this distance may be no greater from a nearby public parking space than from an on-site parking space. This is addressed by Devon County, where operational provision "can be waived due to its provision elsewhere e.g. where loading and unloading is permitted on the public highway."

4.1.21 The real issue concerns the meaning of operational parking in PPG13. Paragraph 4.6 includes the statement that local authorities should ***"ensure parking requirements in general are kept to the operational minimum"***. Assuming the above definition, local authorities would need to specify the space required for loading, and for parking of (mostly commercial) vehicles integral to the operation of the business. If developers wished to include parking space for other categories of user, including visitors, customers and employees, they would need to negotiate upwards from the operational level, subject to the specified maximum. However, where the total parking allowance is for operational purposes only (as specified by some local authorities for their town centres), then use of the term "operational minimum" becomes suspect. It would be simpler to assess operational and non-operational parking separately, and subject both categories to maximum levels.

4.1.22 Other statements in the same paragraph of PPG13 cast doubt on whether the intended interpretation was to keep parking to operational levels only. For example the following statements appear to suggest that parking provision well above the operational minimum will be expected:

[local authorities should:]

"adopt *reduced* requirements for parking for locations which have good access to other means of travel than the private car;"

"ensure that parking provision at peripheral office, retail and similar developments is not set at high levels which would have the effect of *significantly* disadvantaging more central areas".

(our emphasis)

The implications are that:

- reduced parking requirements will ***not*** be requested in locations where the car is the only means of access (which in itself would produce conflicts with PPG13 and PPG6 location policy); and
- peripheral location of non-residential activity is acceptable provided that the negative impact on central areas is not ***significant***.

4.1.23 Because of their crucial importance, it would be helpful if such ambiguities were removed from policy guidance.

"Visitor and customer parking"

4.1.24 This refers to non-operational parking by people other than employees. It includes employees of other businesses, however, and also employees from other branches of the same business. Visitor parking normally excludes customer parking in the sense of retail or wholesale customers. But it is acknowledged that some organisations and business providing services also refer to their visitors and clients as "customers". Thus a grey area exists between the visitor and customer categories.

4.1.25 On the whole it may be simpler for "visitors" to be the generic term applied to all non-employees at the site, with "customers" a sub-set of that group related specifically to visitors to retail activity. Thus people are "visitors" to hospitals, solicitors, colleges and tourist sites, but are "customers" when using retail or wholesale outlets.

"Development product"

4.1.26 The importance of development product has already been highlighted in Section 3.4. Developments may be described not only by the use to which they are put (and as classified in the Use Classes Order), but also according to a variety of other characteristics. These might include, for example, the scale of the activity, the area served, characteristics of the population to be served (car ownership, income, social group etc.), dependence on mixture with other activities. The term "development product" is used in this report when referring to the generality of such aspects. It is of particular importance in the context of conclusions about the need for changes in development product in order for parking restraint and location policy to be effective.

"Commuted payments"

4.1.27 Commuted payments refers to the practice of collecting money from developers in lieu of parking provision that is not or cannot be provided on site. The payments are negotiated through Section 106 agreements and the amounts are usually calculated by multiplying the shortfall in the number of spaces provided on site (compared to the applicable standard adopted by the local authority) by the cost of alternative parking provision (usually land and construction costs). The payments are thus tied to parking as opposed to provisions for access by other modes, and to ***required*** standards of provision.[16] However, PPG13 encourages local authorities to consider payments for alternative provision, including provision for travel by alternative modes. Some authorities have managed to retain the commuted payment system despite the imposition of maximum standards in their areas, though the logic of extracting payment in lieu of something that is not required leaves such a policy open to challenge. Money raised in lieu of parking and spent on other items of transport provision may be difficult to call a "commuted" sum, and could be regarded as closer to a development tax. We return to this important issue later in the report.

"Flexibility"

4.1.28 It is important that for parking, as for any other aspect of policy, national and regional policy should be capable of being interpreted and adjusted to meet particular local circumstances. The desire for local "flexibility" in this sense, however, has become confused with a quite different agenda, namely wanting freedom to set aside policies in order to maintain or gain competitive advantage over other authorities in attracting development. We have therefore tried to avoid use of the term "flexibility", especially in the pejorative sense of this being a virtue of policy or its implementation. "Sensitivity" to particular circumstances may be a more appropriate term.

[16] Further detail on the definition and interpretation of commuted payments can be found in Nathaniel Lichfield & Partners for Marks and Spencer plc (1990) "Commuted Car Parking Policy and Practice"

Figure 4.1 Levels of Parking Provision and Patterns of Parking Demand

5 *Reviewing Current Parking Practice*

5.1 *The response to PPG13*

5.1.1 A report on the implementation of PPG 13 nationally found that after two years many local authorities had not revised their approach to parking provision in the light of PPG13[17]. Four years after the publication of PPG13, a review[18] of parking policies adopted by local authorities in the South East and elsewhere, came to the following conclusion:

> *"It might have been reasonable to assume that the publication of PPG13 in 1994 set in train a swift and powerful response from local authorities to revise their policies and practice to curb car-based development, and to promote alternative forms of development product, supported by improved access by non-car modes. Our review is likely to disappoint those who believed this to be the case.*
>
> *"...with relatively few exceptions, the policy requirements of PPG13 have yet to find expression in development planning practice. There is evidence that the message has not been fully appreciated amongst professionals and decision-takers at the local authority level. Although less clear, it is likely that some decision takers are choosing to ignore the message where it is perceived to conflict with other local priorities. In addition, there is a time lag between publication of Guidance, and adoption of amended policies in development plans. While many authorities in the South East are revising parking standards, the changes made are unlikely to have any significant impact on the level of traffic generated by new development, except perhaps in some town centres. They are also unlikely to cause developers to seek alternative development "products" which can be successful with less reliance on car access.*
>
> *"In terms of parking policy, policy rhetoric is slowly adjusting to the new agenda, but this has not yet been matched by positive changes to development practice. We conclude that while there is a general recognition of the direction in which the wind is blowing, most authorities have yet to set sail."*

[17] Ove Arup and University of Reading for DETR (1997) "PPG13 Implementation 1994-96".

[18] Llewelyn-Davies with JMP for DETR and GOSE (1998) "Parking Standards in the South East" forthcoming publication.

5.1.2 A review was also undertaken in 1998 of parking standards and policies in the South West region.[19] This confirmed that most local authorities had yet to adopt maximum parking standards. While most plans contained policy statements referring to PPG13 objectives, a restraint element of parking standards applied only in the larger towns, and then only in relation to town centres. It was found that local authorities frequently request developers to provide facilities for non-car modes, even if nothing is done to reduce car use.

5.1.3 As part of the present study a review was undertaken of authorities that ***had*** addressed parking standards since the publication of PPG13 in 1994. These are reported in 5.2 below.

5.1.4 *Parking Policy in Regional Planning Guidance*

5.1.5 At the regional level, planning guidance has not generally included parking, although since 1994 the need for it has been made clear (PPG13 paragraph 4.4). By 1999, of the 14 regional planning guidance documents, only 4 included any post-PPG13 reference to parking, and the need for a regional dimension to standards. Although revisions were under way, none of the adopted versions suggested how such a regional dimension was to be achieved, and only RPG3 gave recommended standards (for adoption by the London boroughs).

5.1.6 RPG3 states that the London boroughs should "develop strategies for parking… in co-operation with neighbouring authorities" (paragraph 6.49). While consultation with neighbouring boroughs in the UDP preparation process is commonplace, there is little evidence of cooperation in development practice. Indeed, cooperation between Boroughs (and between them and neighbouring South East authorities outside the Greater London boundary) may even be resisted in order to use parking as an independent bargaining counter to attract development in competition with other authorities.

5.1.7 Evidence from the present project reveals that while many local authorities are revising their parking standards, many are either

[19] Ove Arup & Partners were commissioned by the South West Regional Planning Conference to consider accessibility standards and transport considerations in development control (1998).

experiencing difficulties or are reluctant for one reason or another to adopt the necessary changes.

5.1.8 In relation to the interpretation of national policy offered in this report, it is apparent that even where standards have been revised "in the light of" PPG13, they do not fully reflect this policy. In particular, they do not appear to address issues of over-provision, or to be consistent with land use location policy such as the PPG6 sequential test. Indeed, some local authorities do not appear to recognise the need for any change in development practice, and are still welcoming car-based employment leisure and other development.

5.1.9 Reduced levels of parking provision are by and large required only in town centres where a combination of land prices, high accessibility by non-car modes, and development pressures causes developers to prefer lower levels of provision. In some cases, for example retail, developers have been required by local authorities to provide more parking than they themselves wish, in direct contradiction of PPG13 policy[20].

5.1.10 Outside town centres, minimum of standards provision continue to prevail for all categories of development, although there are signs that the PPG6 sequential test has reduced the rate of planning applications for car-based retail schemes. It is apparent that such change is not being driven, or even supported by, PPG13 parking policy.

5.2 *Revisions by local authorities post-PPG13*

5.2.1 This section summarises revisions to parking standards made by 33 local authorities after the publication of PPG13 in 1994. Draft as well as adopted revisions were included.[21] These local authorities were identified through Government regional offices, and through contacts made in the course of the present research or other projects. London authorities were excluded.

5.2.2 Of the 33 authorities reviewed 5 turned out not to have decided on maximum levels. The other 28 authorities with maxima were made

[20] PPG13 (1994) Paragraph 4.6
[21] Information collected in December 1998, with some up-dating in June 1999.

up of 7 County, 14 District and 7 Unitary authorities. These are shown in Table 5.1.

Table 5.1 Revised Parking Levels – Selected Local Authorities
(see separate file)

5.2.3 The local authority parking policy revisions including maximum parking levels were checked against 6 criteria as follows (see also columns in the table):

1 Whether the maxima were seen as the upper end of a negotiating range (as opposed to being a required level);

2 Whether the maxima were significantly less than the previous minima (this was estimated in some cases against the "reference standards" used in this report)

3 Whether the maxima applied to the whole local authority area;

4 Whether maxima were included for all PNR land use categories;

5 Whether a basis for reduced parking provision (below the maximum level) had been devised;

6 Whether the maxima were varied according to development size to reduce the relative attraction of large car-based developments.

5.2.4 None of the authorities had made revisions that meet all of these criteria. However, three authorities meet all criteria except that relating to scale of development (number 6 above). Four authorities meet four out of six criteria. This leaves 21 authorities that meet only half of the criteria or less.

5.2.5 The criteria most frequently met are those involving the least change from past practice, namely applying the parking policy to the whole local authority area, and to all appropriate land use categories.

5.2.6 Criteria 1 is a good measure of the extent to which the aims of PPG13 have been carried through. There is apparent reluctance amongst authorities to state ***explicitly*** that the maxima represent the upper end of a range of provision that could be allowed (criterion 1), with only 6 out of the 28 authorities doing so. Lancashire has made the operation of a genuine maximum explicit as follows:

"Developers… will need to demonstrate special circumstances as to why a particular proposed level of provision (within the maximum limits specified) may be justified."

By contrast, other authorities seem to be using the term "maximum" without intending to pursue levels of parking below the maximum. This seems wholly inappropriate to meeting the requirements of PPG13, and would in practice have little if any impact on the problems of excessive supply and encouragement of car use which PPG13 seeks to address. By way of example, the following are taken from the published statements of such authorities.

"Districtwide, a commitment to apply the standards as the normal, rather than the minimum requirement." (Wycombe District Council)

"It is…important that any development should provide adequate facilities to cater for the anticipated parking demand…" and "developers…will be expected to provide the maximum figure…" (Northumberland County Council)

5.2.7 Criteria 2 also is a good indicator of intentions in relation to PPG13. At least 19 of the authorities had adopted or proposed maxima that were similar to the previous minimum standards. This was established either in relation to their published previous standards, or to the reference standards used in this report which represent levels matching full or likely demand for car use to a development. Only six authorities had maxima which were clearly below such a demand level. This analysis was undertaken only for retail and business uses (use classes A1, A2 and B1).

5.2.8 Different aspects of the revisions undertaken by local authorities are discussed below.

5.2.9 *Minimum to maximum*

5.2.10 The fundamental change addressed in post-PPG13 revisions is the replacement of minimum standards with maximum standards of provision. This change produces a semantic difficulty since the term "maximum standards" carries the implication of an upper limit of quality. The requirement is for more appropriate access arrangements, in which a higher quality is associated with ***smaller*** amounts of parking provision. Provision at the maximum rate allowed would be synonymous with the lowest quality outcome acceptable. Non-pejorative terms such as "level", "rate" or "amount"

avoid such confusion and are therefore preferred to the term "standard". It is noted that Lancashire abandoned the term standards in their policy revisions.

5.2.11 Maximum levels are in some authorities varied according to different zones or areas. This is dealt with by applying different maxima to different zones, or alternatively zones are used as a basis for percentage reductions on the basic maxima. This aspect is dealt with separately below.

5.2.12 ***Location, accessibility and reduced provision***

5.2.13 PPG13 calls for reduced levels of parking "for locations which have good access to other means of travel than the private car". Recognising that on its own this would (contrary to intention) tip the advantage in favour of locations served mainly by private car, PPG13 also calls for local authorities to "ensure that parking at peripheral office, retail and similar developments is not set at levels which would have the effect of significantly disadvantaging more central areas."

5.2.14 Revisions can therefore be expected to address the issue of which locations should have reduced levels of provision (i.e. reduced below the general maximum levels).

5.2.15 Of the reviewed authorities with parking maxima, several devised a zone based variation in levels. The zones are generally identified according to their accessibility by non-car modes. Other variables used to determine the zones include congestion levels, availability of public car parking, location of conservation and shopping areas and existing patterns of usage.

5.2.16 Authorities with zoned variation of maximum parking levels include:

1 Devon County Council

2 Isle of Wight Council

3 Melton Borough Council (LEICESTERSHIRE)

4 City of Nottingham (case study authority)

5 Worcester City Council (HEREFORD & WORCESTER)

5.2.17 Surrey and Kent County Councils have also developed zone-based approaches. Kent have pursued an approach which includes varied maxima according to zones, but also a formula for tying in reduced parking provision with traffic reduction targets. Many other authorities allow or require lower parking levels only in their town or city centres, but this does not represent a significant departure from traditional practice and is not included here as a zone-based approach.

5.2.18 Occasionally authorities zone particular uses. For example Bristol City Council has different maxima for office development and some leisure development in inner and outer zones. Carrick District Council has different zones for retail development. Watford Borough Council applies zoned maxima only for retail development.

5.2.19 Other authorities do not necessarily have specific zones to which different parking rates apply, but nevertheless have criteria on which to determine lower rates of provision. These can be fairly elaborate requiring detailed assessments of site accessibility and/or development access requirements, such as devised by the former Avon authorities and Devon County Council, or more general as in Lancashire. (See further details in Section 7.)

5.2.20 The criteria cited by various authorities as relevant to negotiating lower levels of parking provision are well reflected in those adopted by Lancashire County Council as follows:

1 *The availability, type and proximity of public parking;*

2 *The availability of realistic prospects for alternative means of transport;*

3 *The potential for environmental harm and adverse effect on road safety arising from parking demand being met elsewhere;*

4 *The extent and nature of parking restrictions in force on highways in the vicinity;*

5 *The scale and type of development proposed;*

6 *The potential for the proposed development to benefit from multi-purpose trips; and*

5.2.21 *Rates of provision: by land use and scale*

5.2.22 The Use Classes Order and permitted development rights produces certain difficulties because traffic generation can change fairly dramatically with a change of end user, despite no material change of use having taken place. The main difficulty reported by local authorities concerns the B1 category, where a shift in the balance from light industrial to office use on site can significantly raise the demand for parking. Some local authorities have addressed this issue by requiring a planning agreement limiting either the type of B1 activity. Nottingham, for example, specifies for B1 developments that:

"Where car parking for light industrial development is provided at a rate of 1 space per 60 square metres but the development is also readily usable as offices the developer/occupier will be asked to enter into an agreement that its use be restricted to light industry only."[22]

5.2.23 The scale of development influences the size of the catchment from which it draws employees, customers and visitors. This may in turn be expected to influence the proportion of people who access the site by car, with the car share increasing with size of development in most locations. Some local authorities have standards that vary with size of development, but this variation apparently is not related to this point. The variation is found primarily in relation to retail and industrial uses. The rate for shops is usually increased with the size of development, whereas for industrial development the reverse is the case.

5.2.24 *Presentation of standards*

5.2.25 There is no one format applying to all authorities or all types of development.

- A1 retail is mostly in terms of gross floor area of buildings (GFA) per parking space, but sometimes rates of provision are separately specified for staff and customer parking;
- A3 uses are mostly specified in terms of net dining or bar standing area, with separate specification for staff provision.

[22] City of Nottingham local plan, 1997, page 232.

Provision rates tend to be lower for seating areas than for standing areas;

- B uses (office and industrial) are mostly related to GFA. However, visitor parking is sometimes distinguished from employee parking, and may be specified as a minimum rather than a rate.
- D uses (leisure and assembly) demonstrate the greatest variety in terms of how they are specified, with examples including number of seats, GFA, net public floor area, and number of employees.

5.2.26 *Ambiguities in Revised Standards*

5.2.27 Some of the local authorities that have undertaken revisions of their parking standards have clearly had difficulty in interpreting PPG13 policy. This is evident from statements appearing in the various policy revision documents, which are sometime confusing, ambiguous or contradictory. A particular source of confusion relates to whether developers are reagrded as trying to provide as much parking as possible, or whether they are trying to limit on site provision as much as possible.

5.2.28 An example from a county in the north east is given below where the difficulties are fairly obvious.

"…non operational parking will only be required where a lack of provision would otherwise lead to significant road safety or traffic management implications." But also:

"Given the flexibility in the amount of parking provided by the guidelines it is not appropriate to specify further reductions for (the) urban areas. However any local circumstances which may allow for lower provision…will be taken into account when considering specific development proposals."

It should be noted that the standards set out in the Council's guidelines generally provide for full car demand. The two statements are contradictory in that one is saying that no non-operational parking will be allowed, while the other is saying that provision below the (generous) standards will be considered.

6 *Outcomes of Current Parking Practice*

This section considers the patterns of demand for parking and peak parking accumulation that currently exist, and the relationship to mode split.

6.1 *Patterns of demand*

6.1.1 The pattern of parking demand varies widely between new (recent) developments and development overall. The proportion of all trips made by car is very much lower than the proportion accommodated at developments planned over the past 10-20 years in accordance with minimum parking standard requirements.

6.1.2 This is demonstrated by reference to mode split statistics from the National Travel Survey. The average car driver share of trips in Britain is now 38%[23] compared to 31% 10 years ago. The car driver share of all trips not surprisingly varies according to settlement size, as follows:

Greater London	28%
Major Urban Areas (over 250,000 pop.)	35%
Other urban areas (over 3,000 pop.)	38-41%
Rural areas	46%

6.1.3 Many if not most new or recent major developments outside town and city centres provide on site parking for a car driver access rate considerably higher than the 35-46% range for areas outside Greater London. In fact most parking standards have been devised to cater for on site parking for 70% of employee trips and even higher proportions of customer trips at large retail and leisure developments. Allowing for car passengers this enables a total car access share of 80-100%. This means that as development and redevelopment continues, and assuming that the car parks provided are well used, the car driver mode share will continue to increase. As is well established, a shift to car from other modes also results in an increase in average trip lengths. In this way current planning practice is directly fuelling the trend both of increasing car use and increasing road traffic.

[23] DETR (1998) "Focus on Personal Travel" including report of the National Travel Survey 1995/97, Government Statistical Service.

6.1.4 To neutralise the impact on mode share, new developments would need to attract no more than the average car driver share, whether or not the associated parking demand was catered for on site. Any higher amount of parking demand would need to be counterbalanced by reducing the car driver mode share at other sites by a commensurate amount.[24]

6.1.5 It is important to note that the amount of parking provided on site is not the only determinant of the proportion of trips to a development that are made by car, as discussed in Section 8. Specific information is available from a study of the East Midlands[25].

6.1.6 This covered establishments in Derby, Leicester and Nottingham in inner, built up and outer areas. Out of 79 cases with the relevant information, 7 had no on-site parking, 41 had on-site parking but less than the local authority standard, while 31 had provision at or above the standard level.

6.1.7 Out of 2031 journeys to work in the sample survey, the car driver[26] mode share overall was 59%, almost exactly the national average of 60%. Only 10% of the sample lived in non-car owning households, leaving 30% of employees who chose not to drive for various reasons (e.g. car in use by other household member, lack of parking space, close enough to walk). Table 6.1 shows where drivers parked according to area, and the variation in car driver mode share.

Table 6.1 Parking Type by Area, and Car Driver Mode Share to Work (East Midlands)

Area>	Central	Built up	Outer
Car driver mode share	***41%***	***68%***	***71%***
Parked on site	36%	89%	91%
Parked in other private space	25%	1%	5%
Parked in public space, on- or off-street	39%	10%	4%

Source: East Midlands Joint Car Parking Study

[24] This aspect was addressed by the "parking quota" scheme described in Section 7.
[25] University of Westminster, Transport Studies Group, "East Midlands Joint Car Parking Study", for the East Midlands local authorities and the DETR, August 1997.
[26] Includes van driver throughout this report.

6.1.8 The high proportion of car drivers using private parking outside the central areas is likely to reflect not only less pressure on land, but also a higher proportion of sites developed in line with minimum standards for PNR parking on site.

6.1.9 Some information was also gathered by the East Midlands Study on customer parking, and this also indicated higher levels of on-site provision outside the central areas.

6.1.10 In order to examine the pattern of demand at sites developed in line with minimum parking standards, a sample of TRICS[27] sites was analysed in terms of the rate of parking provision, and the pattern of parking accumulation. This found that rates of provision in most cases were high enough to accommodate very high proportions of access to the site by car driver.

Table 6.2Range of rates of parking provision at sample of TRICS sites

LAND USE		RANGE OF PROVISION	
	Number of cases	GFA (square metres) per parking space	Parking spaces per 1,000 GFA (square metres)
A1 General Retail	3	16-25	40-62
A1 Food Retail	43	9-24	41-111
A1 Non-Food Retail	29	15-55*	18-67
B1 Business	14	17-69	14-59
B2 General Industry	7	26-66	15-38
B8 Storage/Distribution	6	11-147	7-91
D2 Leisure	10	5-18**	56-200

Notes:

* 6-130 if four outlier sites are included

** 5-48 if one outlier site is included

[27] TRICS is a database of development sites managed by JMP consultants.

6.2 *Parking accumulation*

6.2.1 The TRICS sample analysis already referred to was used to investigate the degree of take-up of parking at different kinds of development at peak and other times. The key finding was that for most land use types, parking provision at sites in the sample exceeded the peak parking demand, in many cases by over 50%.[28] The rate of parking provision on site had no clear correlation with the peak parking demand. The summary results are shown in Table 6.3. Figure 6.1 shows the peak percentage occupancy at each of the sites in the sample, while Figure 6.2 shows the summary results by land use type.

6.2.2 The over-provision may be the result of factors other than over-estimation of peak demand parking requirements by the developer and the local planning authority. It may for example reflect abnormal conditions at the site at the time of the survey, or the business having declined or not reached reasonable expectations of success, or even a change of use or trading patterns not requiring planning permission but resulting in lower trip generation.

[28] This supported an earlier finding from a sample of sites in the south east and north west regions: *Special TRICS analysis of selected cases described in Llewelyn-Davies, JMP "Parking Standards in the South East: Final Report Annexes", May 1998, unpublished.*

Table 6.3 Summary of TRICS Sample and Parking Accumulation

From TRICS report

Figure 6.1 Peak Car Park Occupancy (%) at TRICS sample sites

From TRICS report

Figure 6.2 Peak Car Park Occupancy (%) at TRICS sample sites by land use

6.2.3 Even so, this analysis reveals that there is a great deal of over-provision at development sites even compared to peak demand times.

6.2.4 The TRICS analysis suggests that reductions in the rate of parking provision at new developments would in many instances need to be substantial, at least 20% - 50% below current norms of provision, before there would be any impact on on-site parking demand. (See also Table 7.2) In order to encourage mode shift away from the car, the level of reduction would need to be sufficient to overcome the impact of further factors, namely:

1 The possibility for drivers to shift the time and/or duration of their stay;

2 Any encouragement to do this on the part of site operators or owners (e.g. by introducing parking management or charges at peak times);

3 The possibility of car park management to fit more cars on the site (especially possible in private commercial premises);

4 The possibility to squeeze more cars onto the site, using verges and access roads for example;

5 The availability of alternative parking off site, whether on surrounding streets, or in public car parks, or in other private car parks (by negotiation).

6.2.5 It is clear from this that complementary measures in addition to the planning control of PNR provision will be needed if any serious impact is to be made on mode split.

6.2.6 Research carried out for Bristol City Council, however, concluded that reduced PNR in existing premises would have a more immediate impact on traffic reduction, with a 12.5% reduction of PNR supply and related measures expected to lead to a reduction in morning peak traffic of between 7% and 10%. The difference is likely to be explained by the mainly city-centre locations of the premises studied, and the fact that it was primarily employee parking, which tends to be more fully utilised than visitor or customer parking.

6.2.7 The ability of parking reductions to prompt mode shift will depend crucially on the "peakiness" of accumulation pattern. For example, in office car parks where most of the spaces are occupied for most of the working day, reductions in parking supply will potentially have an immediate impact on the mode share. At leisure developments, by contrast, spaces may be substantially occupied for no more than a few hours a day, and reductions may simply prompt a time shift in the pattern of demand, in this case not prompting any mode shift.

7 *Possible New Approaches*

7.1 *The range of approaches*

7.1.1 This section considers various approaches to determining PNR parking rates. These include approaches devised as part of the study, as well as approaches available from other sources. Some have been given brief titles for ease of reference:

- "National Maximum"
- "Access Plan"
- "Area Parking Quotas"
- "Zone Matrix" (GOSE)
- Other zone or matrix approaches
- Other approaches initiated by local authorities

Zone approaches, in various forms, have had the widest discussion to date. The National Maximum is emphasised as particularly important for policy guidance at the national level. The other approaches are being or could potentially be considered for use at the local level. The methods are not all mutually exclusive, and indeed have all been devised in order to meet the policy objectives of PPG13. The different approaches are dealt with in turn.

7.2 *"National Maximum" PNR Parking Rate*

7.2.1 The role of a national maximum rate of on-site PNR provision has already been discussed. In short the purpose would to provide a framework of support for local authorities by setting an upper limit to the level of parking that can be provided on-site in new developments. A national upper limit would be a pivotal in achieving the implementation of parking policy as set out in PPG13 in 1994, in particular a change from minimum to maximum levels of provision.

7.2.2 The form that this national maximum might take and the ways in which it could influence practice at the local level are discussed here.

7.2.3 Factors to be taken into account in determining the maximum level set include:

- To ensure that new developments do not exacerbate the trend towards a higher car driver share of trips, the maximum rate

overall must not provide for more cars on site than the current car-driver mode share (see Section 6). Currently this is 38% of ***all*** trips, and also 38% for trips that generate non-residential parking demand;

- To be worthwhile, the maximum should be sufficiently low to have some impact on at least two trends: first to limit migration of development between regions, and second to have an impact on mode share. As a first step the first of these purposes is the most important.
- The on-site provision does not equate with the actual out-turn mode share. For example the East Midlands study sample of employment travel found that on-site parking accounted for 73% of parking demand generated. This proportion will be a variable interacting with the rate of provision on site;
- While a national maximum level could apply to all uses, the maxima applied at the local level will need to take account of large differences in mode share between land uses, and in the relationship between parking provision and mode share. This is shown in Table 7.1. It should be noted that the calculation is indicative since factors are subject to policy choice, or inadequate data, or both. For example:
    - The trip purpose data do not match land use categories (e.g. work trips are also made to shops, leisure facilities etc);
    - Turnover rates are variable;
    - The proportion of demand met off-site is not known;
    - The on and off-site demand can be varied through parking controls as well as land use policy.

7.2.4 One solution would be to set the national maximum level of parking as ***a proportion of existing typical or "reference" levels*** provided by local authorities at present or in the recent past. If this were to be the case, then the baseline values shown in Table 7.2 could be used. The table includes possible new maxima based on different rates of reduction from the reference levels.

7.2.5 Alternatively, the national maxima could be expressed as a directive that at all new developments in future ***planning authorities ensure that provision is no higher than one third the level given by their existing standards***. Exemption from this could be given to the small

number of authorities that have already adopted such reduced levels.

7.2.6 It should be noted that, as explained elsewhere in this report, maximum levels would have to be very much lower than the reference levels to have any significant impact on mode switch away from the car. Given the other mechanisms needed to create successful developments with lower car share, the national maximum would be a crude tool for securing appropriate action by local authorities. The important objective of national guidance is not delivering actual mode switch, but encouraging the practice of negotiating parking and accessibility, and helping local authorities to pursue this without the fear of losing development opportunities to neighbouring or competing authorities. This is likely to be achieved with a more moderate national maximum.

Table 7.1 Possible National Maximum Parking Levels and Existing Reference Levels

LAND USE CATEGORY	**REFERENCE LEVELS OF CURRENT PNR PROVISION** *(1)* GFA m² per space	Equivalent in spaces per 1000 m² GFA *(2)*	Benchmark Lowest Maxima in non-central locations Spaces per 1000 m² GFA *(3)*	**Maxima at 66% of Reference Level** Spaces per 1000 m² GFA	**Maxima at 50% of Reference Level** Spaces per 1000 m² GFA
A1 FOOD	10	100	20 (under 1000 m²) 50 (over 1000 m²)	66	50
A1 NON-FOOD AND GENERAL	15	67	40	44	33
A2 FINANCIAL AND PROFESSIONAL SERVICES	25	40	23	26	20
B1 OFFICE	25	40	22	26	20
B1 NON-OFFICE	35	29	19	19	14
D2 Assembly and Leisure - By GFA - *By Seats* - *By Net Public Floor Area*	 5 *1 per 3 seats* *1 per 3 m²*	 200 - -	 67 1 space per 5 seats *1 space per 5 m²*	*(4)* 132 *1 space per 5 seats* *1 space per 5 m²*	*(4)* 100 *1 space per 6 seats* *1 space per 6 m²*
OTHER USES	National maxima considered inappropriate due to widely varying development characteristics				

1. Reference levels reflect the higher end of provision in current practice
2. Preferred means of expression in conjunction with maxima
3. From 33 authorities with revised parking levels (see section 5)
4. Authorities would select whichever is the lower resulting provision

Table 7.2 Maximum PNR Rates to Contain Car Driver Mode Share

	All trips	All trips generating PNR demand (2)	Commuter & Business	Personal Business	Shopping	Social/ Entertainment	Education Holiday, Other)
Car driver mode share (1)	38%	37%	60%	45%	38%	32%	10%
Contribution to actual PNR demand (Activity as % of all trips with PNR potential)		- (100%)	42% (26%)	14% (14%)	27% (29%)	12% (14%)	5% (19%)
Assumed daily turnover of spaces			1	4	5	2-3	1-2
Assumed % demand met off site		25%	25%	25%	25%	25%	25%
Max % PNR on-site provision to stabilise mode share (3)		**28%**	**43%**	**9%**	**5%**	**8-12%**	**4-8%**

(1) Source: National Travel Survey 1995/97

(2) 83% of total trips – excludes "Escort" and "Visit Friends at Home" categories

(3) Car driver mode share, less 25% assumed off-site, divided by turnover rate.

7.3 *"Access Plan"*

7.3.1 This would consist of a new requirement on developers to prepare an access plan for their development based on an assessment of how many trips would be made to and from the site and when they would be made. Transport Assessments could be based on these plans.

7.3.2 The Use Classes Order would be supplemented by an Access Class Order (say 4-5 categories) which would be used to define the type of access required. This would result in access profiles for developments similar to those prepared in the Netherlands as part of the ABC approach to location planning.

7.3.3 Thus at outline permission stage this would be granted not just for a use type but for an access type. Planning agreements under Section 106 would remain, but financial or other contributions towards access to the site would be excluded. Instead there would be a separate section (say, S106C) for contributions to site access. There would be no links or trading between S106 and the S106C access contributions.

7.3.4 Access contributions would be based on predicted trip patterns and modal splits, taking account of national, regional or local mode split or traffic reduction targets. It is expected that costs would vary depending on the balance of access between different modes, for example:

Walk *Extremely low, related to any new facilities needed*

Cycle *Very low, related to any new facilities needed*

Public Transport *Variable, depending on actual cost (both capital and revenue)*

Car *At a cost defined as that required to reduce traffic locally in order to accommodate the new traffic (this could be calculated as: LA traffic reduction target divided by the cost of the package needed to achieve it). The cost of any connecting roads and new junctions for the site would be added to this.*

7.4 *"Area parking quotas"*

7.4.1 This method recognises the link between total parking supply and total capacity of the road network, and aims to create or maintain a balance between the two.

7.4.2 Within a given area, the local authority would take a view on how much traffic growth it is willing or able to carry - if any - and on that basis, decide how much parking in total should be allowed in that area; i.e. a parking quota. Once set, the total number of spaces would be kept fixed, but a trading system would be set up to enable developers and businesses to buy and sell parking space permits or licences.[29]

New developments, including change of use, would be able to have as much parking as wished, as long as the permits can be obtained on the market. If the quota is set larger than the existing stock, then spaces can be acquired from the slack; otherwise they will have to be bought from existing licence holders willing to sell.

A broker would act as market maker, and bring together buyers and sellers. This role might be set up as a franchise operation, and be operated commercially, funded by commission on transactions.

This mechanism treats parking as a scarce resource, for which a price has to be paid. The cost of a parking space permit would be set by the market in response to demand.

7.5 *The "Zone Matrix"*

7.5.1 The approach provides a framework in which PNR (and residential) parking can be determined on the basis of different accessibility and development types. The basic approach was put forward in a Llewelyn-Davies report for GOSE and DETR[30]. The matrix includes four different zones related to accessibility (four columns in the matrix) and classification of different types of development (forming

[29] Parking quotas are not an entirely new concept. For example until recently the quantity of private parking in downtown Portland (Oregon) was subject to an upper limit.

[30] Llewelyn-Davies with JMP for Department of the Environment, Transport and the Regions, and Government Office for the South East, "Parking Standards in the South East", 1998.

the rows of the matrix). In the resulting cells of the matrix maximum levels of parking provision can be set out, as determined by policy.

7.5.2 The matrix shown in Figures 7.1 and 7.2 is similar to that included in the GOSE report, but some modifications have been made in response to comments and feedback from local authorities and other bodies. [31]

7.5.3 Guidance could be provided for local authorities in defining the boundaries between Zones, based on measures of relative car and non-car accessibility and other factors.

7.5.4 Objective techniques of accessibility measurement were devised as part of the present study. These include an accessibility ratio that indicates the ease (in terms of time) of reaching a particular location by car and by other modes. This ratio is weighted according to the population totals involved. However, as demonstrated in the local authority case studies, subjective assessments could provide a sufficient basis for determining general Zone boundaries. Accessibility measurement would resolve marginal issues, and could also strengthen the local authorities' hand in negotiations and disputes arising from boundary issues.

7.5.5 It is important to note that the Zone boundaries would not be fixed, but could be altered as a result of accessibility changes. For example an area served by a new public transport network could be reallocated to a Zone for which lower parking provision would be appropriate.

7.5.6 A further aspect that has been widely misunderstood is that the maximum levels of parking shown in the matrix relate to the ***on-site*** provision within the curtilage of the development. The most accessible zones are also the zones where public parking is most appropriate and where it already is most commonly provided. Indeed many authorities already have a policy of zero PNR provision in their town centres.

7.5.7 It would be possible for the parking maxima to be related to different types of development. This would offer continuity with

[31] In particular the intention of site accessibility being improved to allow development was not included in the GOSE version. The GOSE Matrix instead simply showed "blank cells". The version here also emphasises more clearly that parking provision is seen as an ***output*** of the land use planning and accessibility considerations, not a determinant of location policy.

existing parking standards practice. However, the intention would also be to relate development to access profiles such as described above in the "Access Plan" approach. This could be incorporated in the Transport Assessment produced by developers, at least for larger schemes. The Matrix itself provides a proxy for different access profiles by reference to the scale and function of the development, factors that in turn affect the catchment and mode split potential of the development.

7.5.8 The basic components of the Zone Matrix may be summarised as:

- sub-demand maximum levels of parking provision, varied according to broad categories of accessibility;
- these categories given a spatial dimension through the definition of zone types;
- maximum provision related to the development product including the scale of development, the type of user, and the pattern of access, as well as use class.

7.5.9 ***The importance of scale***

7.5.10 An important aspect is the ***scale*** of development, since this is a major factor in determining relative accessibility by different modes. As a rule, the larger the (non-residential) development scheme, the larger will be the catchment area of its users (employees, customers, visitors). As a rule also, the larger the catchment area, the smaller will be the proportion of people from that catchment that can reach the site by non-car modes. The exception to this is in locations of very high accessibility by non-car modes, such as city centres. Hence the importance of the matrix in bringing together scale, type, accessibility and location. The principle of scale in relation to the area served is an aspect that is likely to require further definition, preferably informed by further empirical studies.

7.5.11 Within the overall policy framework, there could be scope for local authorities to determine parking provision in small-scale developments, or a sliding scale could be used nationally that favours smaller scale developments relative to larger scale schemes. Formulae capable of matching any particular policy in this respect have been developed in this study and are included in a technical annex.

7.5.12 ***Location policy***

7.5.13 Excessive reliance on car access cannot be attributed solely to the application of minimum standards of parking provision over the years, although the curtailment of this practice is necessary to avoid compounding the difficulties. The other side of the coin relates to the car-based development products that have filled the land use planner's in-tray over recent decades, and the location policies that have allowed such products to dominate.

7.5.14 Just as the problems of adverse development trends have resulted from a combination of location and access policies, the means of reversing these trends also requires the dual approach. The big difference is that accessibility must now include much wider considerations than simply parking and capacity of the local road network. The Matrix approach allows this. However, it should be made clear that parking is intended to be an output of location policy, not a determinant of it.

Figure 7.1 Access and Parking Matrix (see separate file)

Figure 7.2 Zone Accessibility Criteria and Characteristics (see separate file)

7.5.15 *Scale and type of development*

7.5.16 Inclusion of the scale as well as the type of land use is considered to be a vital ingredient, since this is a primary determinant of catchment size and hence mode split.

7.5.17 The larger the catchment, the smaller will be the proportion of users who travel by non-car modes. The aim is therefore to encourage developments which draw on catchments served predominantly by walking cycling and public transport and discourages developments with wide catchments that rely heavily on the car for access. The exception is town and city centres and major public transport nodes, where the critical mass of non-residential activity makes large developments/catchments feasible without increasing the share of travel by car.

7.5.18 *Small scale local facilities*

Small developments that provide facilities for local areas, such as community halls, clinics, corner shops and mini-markets, are actually desirable in all neighbourhoods, and in rural areas, to reduce the need to travel. The sequential approach that gives town centres preference over other urban locations is therefore not relevant to such local facilities, and the Matrix therefore recognises the opportunity for them in any of the four Zones.

7.5.19 Factors which local authorities would need to take into account in determining parking for small scale developments could include:

- Possibilities for avoiding any PNR provision;
- Where PNR parking is appropriate, the amount can be kept small so as not to encourage non-local use of the facility;
- Any guidance on the maximum to be applied (such as the possibility of pro-rata maxima, or sliding scale maxima such as given by the formulae devised in this study).
- The threshold size for any variations in maxima.
- The availability of on-street and other public parking spaces in the vicinity, and also private parking that could be shared with the new development.

7.5.20 *Vehicle-based operations*

7.5.21 Different considerations apply to developments where "operational parking" has greater significance (whether in terms of trips generated or proportion of total trips or parking accumulation). This is recognised, for example in the "access profile" requirements in the Dutch "ABC" location policy. Activities attracting significant volumes of commercial traffic (such as large industrial or distribution) and relatively few person trips, are better sited away from the higher density centres, but more accessible from the motorway, railway and waterway networks. This is the reverse of the desired pattern of location for retail and other town centre users included in the PPG6 sequential test.

7.5.22 *Changes to the Accessibility Zones*

7.5.23 All new development would need to be consistent with the accessibility criteria established. There will of course be many cherished sites that currently fall outside the criteria. This does not mean that such sites cannot be developed, but that the levels of accessibility by modes other than the car will need improvement before development can go ahead. This is the approach already being adopted, for example, in the Kent Thameside area, and Stockley Park in West London. This is consistent with the approach of ensuring that developers and end users take full account of and responsibility for the accessibility consequences of their schemes.

7.5.24 Thus local authorities would no longer be negotiating with developers to cover just parking and road access, but the full range of accessibility implications as discussed elsewhere in this report (mode split, catchment area, Green Travel Plans, non-car S106 contributions and so on).

7.6 *"Reduction factor" methods*

7.6.1 A number of authorities have attempted to devise ways of specifying reduced levels of parking according to accessibility, and in some cases, other factors. In these approaches an attempt is made to specify the locations and circumstances in which parking provision is intended to be less than in other locations. This may take the form

of percentage reductions below a specified normal maximum according to location, for example provision in a town centre being 50% less than the maximum specified for elsewhere. This differs from the zone matrix system described above in that the parking provision is calculated as a percentage or other reduction of some other "normal" or "maximum" level, rather than the level being independently determined for each zone (as with the Zone Matrix approach). The principle of accessibility having a spatial dimension is, however, the same.

7.6.2 Alternatively, reductions are specified in relation to accessibility criteria for individual sites or development schemes, especially access by non-car modes. Sometimes reductions are sought only in town centre locations, or for only those uses that are less subject to competition from other areas (such as local facilities).

7.6.3 Prominent among authorities developing the reduction approach is the Joint Strategic and Transportation Unit of the four unitary authorities comprising the former Avon County Council. Their system involved reducing parking provision according to levels of congestion within 3km of the site, and the quality of access by non-car modes. The amount of reduction varies according to land use, for example with office reductions larger than retail reductions.

7.6.4 The thinking behind the approach takes into account many interacting factors, and tackles the intentions of PPG13 policy in a systematic fashion. The unsuitability of development where access by non-car modes is poor reflects the Zone Matrix approach developed for GOSE (see above). The Avon method also includes substantial reductions in parking maxima compared to the previous minimum standards.

7.6.5 However, the approach would not satisfy the criterion of simplicity. There would also be fairly demanding data requirements to assess congestion levels and non-car access levels. This could prove onerous for the authorities concerned. As such, the approach would be difficult to replicate as national or regional guidance.

7.6.6 The suggested reduction matrix and a sample matrix (for A1 food retail over 1000 square metres) are shown in Tables 7.3 and 7.4

Table 7.3 Avon Area Proposed Parking Reduction Matrix – "Parking provision Compared to Maximum Demand Requirement"

Public Transport, Walking, Cycling	% of access by alternative modes to car	Level of Congestion Within 3km		
		Mild (up to ½ min)	Considerable (½ to 3½ mins)	Severe (over 3½ mins)
Good	50+	**-40%**	**-50%**	**-(60-90%)***
Fair	10-49	**-35%**	**-40%**	**-50%**
Poor	5-9	**-30%**	**-30%**	**-35%**
Bad/None	0-4	**-25%**	**-25%**	**-30**

* or minimum serving needs only, depending on land use

Proposals in shaded areas would normally be refused unless it can be established that action by the developer will move the proposal to a non-shaded cell

Table 7.4 Example Reduction Matrix for A1 Food Retail Uses

(Figures are Square Metres of Gross Floor Area Per Parking Space)

Public Transport, Walking, Cycling	% of access by alternative modes to car	Level of Congestion Within 3km		
		Mild (up to ½ min)	Considerable (½ to 3½ mins)	Severe (over 3½ mins)
Good	50+	**23**	**25**	**140***
Fair	10-49	**20**	**22**	**25**
Poor	5-9	**18**	**19**	**20**
Bad/None	0-4	**16**	**18**	**19**

* or servicing only

Proposals in shaded areas would normally be refused unless it can be established that action by the developer will move the proposal to a non-shaded cell

(The previous standard for this use throughout was a minimum of one space per 10 square metres GFA.)

7.7 *LPAC/RPG3 Matrix*

7.7.1 Amongst the Regional Planning Guidance notes published to date, RPG3 for London provides the most comprehensive example of guidance on parking at the regional level, covering general policy, on-street parking, private off-street parking and park-and-ride. Maximum restraint-based standards are set out for employment generating development, as reproduced in Table 7.5 below.

Table 7.5 Parking standards for employment generating development

Area	*One off-street space per m^2 gross floor space*
Outer London	300-600
Inner London	600-1,000
Central London	1,000-1,500

Source: RPG3 (1996) Table 6.1

7.7.2 In addition, LPAC have produced maximum parking levels for A2 (financial and professional services) and B1 (business) uses based on a matrix that includes public transport accessibility and the desired level of "transport sustainability". Like the GOSE zone matrix approach, such development would be precluded where public transport accessibility was low. The range of provision would be from 1 space per 1500 square metres to 1 per 300 square metres. The lowest maximum level of provision (0.66 spaces per 1000 square metres) would be in areas with high public transport accessibility and with a policy objective of a high level of transport sustainability (to be defined by each of the London Boroughs). Difficulties have been experienced in Boroughs adopting these restraint-based standards, especially in outer London, and

transitional stages were proposed to smooth the path. Such transitional phases were rejected by Government.[32]

7.8 *South West Region Method*

7.8.1 Research undertaken by Ove Arup and Partners on behalf of the South West Regional Planning Council produced an approach similar in format to the LPAC approach just described.[33]

7.8.2 Effectiveness is crucial. When on-site parking is reduced, displaced parking should not undermine the restraint element, and this is handled in the Arup approach by including the ***type*** of provision in the negotiated level, as well as the overall ***demand*** for parking generated by the scheme. The approach also promotes a mode shift or at least the potential for it, compared to current norms or existing mode split. This is a core part of the method.

7.8.3 The method emphasises improving accessibility by non-car modes rather than encouraging changes in development product. Strictly speaking therefore the approach is not driven by the objective of reducing the ***need*** to travel, but by the objective of reducing the proportion of travel made by car.

7.8.4 The approach covers all types of development, but it would rely on land use policy to deter developments in inappropriate locations. The authors acknowledge the danger of diverting developer interest to locations with less restrictive parking. The emphasis is on making the transport aspects of a given development work, rather than on encouraging appropriate developments. For example, the method provides little if any incentive for smaller developments or more central locations.

7.8.5 *Matrix approach*

7.8.6 The study points to the use of a matrix approach parking standards, as pioneered by LPAC. However, it should be noted that this type of matrix differs substantially from that developed by Llewelyn-Davies for GOSE. The LPAC and Arup matrices cross the "level of

[32] Letter from Glenda Jackson, Minister for London, to London planning Advisory Committee, 1997

[33] Ove Arup & Partners, for South West Regional Planning Council (1998), "Accessibility Standards: Draft Final Report"

sustainability" which the authority wishes to achieve, with the accessibility of the site. (By contrast, the Llewelyn-Davies matrix crosses the type of development with the accessibility of the site.)

7.8.7 It has not yet been clearly demonstrated that local authorities will be able to specify "levels of sustainability" (i.e. levels of parking restraint) in the way demanded by the method. Indeed, many London authorities have all but ignored the similar LPAC matrix. The evidence from local authorities gathered in the present research shows that they want a strong framework and guidance in order to acquire negotiating strength with developers, rather than freedom to develop their own restraint levels.

7.8.8 *The Arup recommended approach in summary*

7.8.9 The approach has three key elements (5.16):

- A Potential Accessibility Index (PAI)
- A regional maximum parking standard for each land use
- A parking matrix, relating accessibility to levels of restraint, and defining the maximum parking allowed.

7.8.10 The approach may require some spatial definition of accessibility, but no method is put forward for achieving this.

7.8.11 *The regional maximum parking standard*

7.8.12 The method envisages a regional maximum parking standard for each land use, and thus provides an example of how regional offices can add detail to the framework provided at the national level. However, only the main land uses are covered in the study itself.

7.8.13 The regional maximum itself is seen as related to car-based development (report 7.3) and is therefore too high to have much impact, either on car use or on development product. It is stated only that the regional maximum "may itself include a ***small element*** of restraint" (our emphasis), and is described as "a backstop position incorporating some element of restraint". Reduced provision is therefore left to local authority discretion, and hence does not address the problems of development migration and local authority competition highlighted in the present research.

7.8.14 While the need for regional consistency is stated as a starting point (report 7.1), in our view this is relevant only if it promotes local action to reduce levels of parking.

7.8.15 *The Arup parking matrix*

7.8.16 The parking matrix is quite different in format from the GOSE matrix, yet aims to provide the same answer, namely the maximum amount of parking allowed in new development. The key differences of the Arup matrix are:

- Accessibility is related to desired restraint rather than to type of development;
- Parking maxima are not related to development size or catchment.

7.8.17 The method envisages a large range of possible intended restraint, and of parking allowed. This would in our view tempt developers away from restraint areas, contrary to policy intentions.

7.8.18 Also it is not explained how or why local authorities would be encouraged to adopt a restraint policy: they simply have to stay within the rather weak restraint set at regional level (see above).

7.8.19 The parking matrix provides very detailed variation of parking within two parameters, namely the regional maximum parking standard and the intended level of restraint, which is apparently left to local authorities to decide. Both these parameters would have to be decided as matters of policy and apparently are not linked directly to the more objective measurement of accessibility (the PAI). This complexity could be demanding on local authorities, or invite prevarication. The resulting difficulty of achieving consistency between local authorities within the region is acknowledged in the report.

7.8.20 The weakness is in the definition of the intended restraint level (i.e. the columns of the matrix).

- How would local authorities decide which level to pick?
- Would this be constrained by not having any certainty about what competing authorities would do?
- Would the level of restraint vary for different parts of the local authority area? If so, how would this be decided?

- Wouldn't such variation need to be mapped (i.e. zones)?
- And shouldn't such zones be based on the PAI, which the report argues is not suitable for zoning?

7.9 *Other zoned reduction approaches*

7.9.1 A number of County, district and unitary authorities have attempted to take account of variations in accessibility or other factors in the setting of parking standards by adopting a zonal approach. In each case the logic is that areas with broadly similar levels of accessibility by non-car modes can be grouped into zones. These zones then become the basis for differentiated parking standards, and in particular different degrees of parking restraint, usually expressed as reduction from "demand" standards. Usually the greatest reduction is in zones covering town centres, with lesser reductions with distance from the centres.

7.9.2 There are variations in the way in which the zones are defined, for example the use of a points scoring system involving a range of factors in Surrey, and the use of planned rather than just existing accessibility levels in Kent. Reductions in provision mostly are expressed in terms of percentage reductions from the pre-existing minimum standards, which now become the new maximum standards.

7.9.3 An interesting feature is that in all cases reviewed, there are 3 zones defined in urban areas, with non-urban areas forming a fourth zone. This matched the judgement in the Llewelyn-Davies study for GOSE about the degree of meaningful differentiation that can be expected. However, it has been suggested that a further "super accessible" category might be useful in London and the centre of larger cities where especially high densities and major fixed-track public transport investment is feasible.

7.9.4 The limitation of such zonal reduction approaches to date is considered to be threefold:

1 A broad range of parking variation between town centre and out of town locations may encourage outward migration of development, contrary to policy intention.

2 The reductions in parking proposed, especially outside town centres, are relatively modest in relation to general trip rates, and would have little if any impact on mode split or traffic levels, or the type of development products for which planning approval is sought.

3 If large differences in the parking maxima are adopted between zones, this will place great significance on where the precise boundary of the zone falls. Local authorities would want to avoid legal or other disputes over the appropriateness of their defined boundaries.

8 *Key points from the review and analysis*

8.1 *Context*

8.1.1 This section deals with issues emerging from the review and analysis in the previous sections. Other topics are dealt with in section 13. Links are recognised with certain policy initiatives in the Integrated Transport White Paper,[34] of which the following may be particularly relevant:

- Accessibility criteria in land use planning;
- A national framework for the determination of parking provision;
- Enhance Transport Assessments of development proposals covering all modes;
- Regional guidance, with a new appraisal framework and a regional transport strategy, and enhanced regional ownership;
- Integrated transport and land use, with Local Transport Plans informed by the local air quality strategy and road traffic reduction targets (Road Traffic Reduction Act) flowing from Development Plans and enhanced local government accountability;
- Regional guidance EIP process and DETR role in achieving inter-regional consistency and local authority compliance;
- Government funding for local transport dependent on consistency with policy;
- Developer contributions to accessibility improvements within framework of Local Transport Plans.

8.2 *Impediments to policy implementation*

8.2.1 *Conflicting priorities*

8.2.2 The most important factor explaining the lack of progress towards the implementation of PPG13 parking policy is the fear which local authorities have of losing development opportunities, and the perception they and others have that parking is a pre-requisite of economic success. This was confirmed in the local authority case

[34] DETR, "A New Deal for Transport: Better for Everyone", Cm 3950, The Stationery Office, 1998.

studies undertaken as part of the present study. The general point is summed up in a report on a survey of five councils[35] as follows:

"For commercial centres all Councils felt that to take any action to reduce car parking standards further would disadvantage their centre in relation to others."

8.2.3 *Other impediments*

8.2.4 Further problems in meeting PPG13 policy have been revealed through the research and consultation exercises undertaken. These include:

- The real or perceived lack of influence over the planning and provision of public transport as an alternative to the car;
- The scarcity of resources for improvements to non-car modes of travel;
- Concerns about overspill parking onto surrounding streets;;
- Departmental differences within local authorities; in particular the objectives of highway and traffic departments can differ from those of planning departments.

8.2.5 On this last point, planning policy requires the implementation of maximum rather than minimum levels of parking provision to be consistent with traffic reduction, mode shift and related objectives. Highway and traffic policy on the other hand may emphasise concerns about road safety and congestion resulting from parking displaced onto to the street if full demand is not met off-street. Perhaps as a consequence of this conflict, "maximum" parking standards, even when adopted, are still treated as "required" standards, and thus represent a compromise between conflicting objectives.

8.2.6 The dilemma is expressed in the parking standards of a unitary authority in north west England as follows:

"In town and district centres… certain developments may not be required to provide car parking…"
"The main objectives are to improve road safety and relieve traffic congestion. (The car parking standards attempt) to strike a balance between providing enough car parking to meet demand in order to

[35] SERPLAN, "Implementing Sustainable Development", 1998, paragraph 45.

avoid on-street parking and threatening the viability of businesses, on the one hand, and restricting supply in order to encourage the use of public transport and reduce congestion, on the other."

8.2.7 Such an approach is clearly difficult to operate, with the so called "balance" unlikely to achieve either of the stated objectives. The same council appears to reject PPG13 policy when it states that it *"does not intend to universally abolish non-operational minimum standards, as recommended by PPG13…"*

8.3 *Issues for developers, end users and local authorities*

8.3.1 *Parking and economic success*

8.3.2 There is a strong and widely held belief that provision of parking has a direct bearing on the economic viability of individual developments, and of town centres. Attempts to research this link, however, have been inconclusive or contradictory. A literature review revealed no conclusive empirical evidence of any causal relationship. Despite this, the belief is sufficiently strong and entrenched to have a major influence on local politicians, the professionals who advise them, and the development industry.

8.3.3 Policies for the provision of "appropriate" parking in town centres (PPG6) also may encourage the view that the quantity of parking provision has a direct bearing on the economic viability of centres and their ability to compete with other centres, or out-of-centre facilities.

8.3.4 Some local authorities are keen to increase town centre parking or to reduce the price of existing parking in order to improve their competitive position. The issue here is whether encouragement of more access by car will lead to worse traffic and environmental conditions, thus counteracting any gain in attraction due to accessibility. Independent studies tend to suggest that parking is one amongst several important factors governing the vitality and viability of centres, including the range and quality of facilities, the environmental quality of the centre, accessibility (by all modes), and the presence of competing centres and other facilities.

8.3.5 The issue of parking provision in new development is related to the wider issue of parking availability, but it is important to recognise that this relationship is indirect. The appropriateness of restricted parking in a town centre retail development, for example, will depend on other publicly available provision. The impact will also be gradual, since it will take many years before reduced parking at new developments significantly alters the floorspace-to-parking supply ratio in the town centre as a whole.

8.3.6 This issue was prominent in the local authority workshops and in the interviews with the private development sector.

8.4 *Parking as a low priority in planning decisions*

8.4.1 Current levels of provision in new developments are based generally on some notion of what is necessary to cater for full demand by car. Further provision is often made, either because the developer wishes to provide a margin to allow for future growth, or to cater for increased car access requirements following a change of end user. In addition, extra parking may be allowed (or required) by the local authority in view of uncertainty over what peak parking demand is likely to be, and the consequent desire to guard against the possibility of diversion onto the street.

8.4.2 As revealed in discussions with local authorities, parking is not always seen as an important issue in planning decision, and concerns are often more about getting developers to provide more parking, not less. This lack of interest in reducing parking provision is reflected also in the rather casual approach to planning enforcement of parking. Investigation of a number of specific planning decisions revealed that the quantity of parking provision is not always fully specified in decision records. It is often difficult to establish from records how much parking has been approved, or what this represents in terms of the parking to floorspace ratio. In these circumstances the enforcement of appropriate parking provision is clearly not seen as a priority.

8.4.3 The net result is levels of provision that are frequently excess even of peak parking accumulation, as demonstrated by the TRICS analysis in this study.

8.5 *Excess parking provision and mode split*

8.5.1 The provision of parking in new development in excess of peak demand requirements means that levels will in future need to be reduced substantially if there is to be any impact on the share of access undertaken by car. It should be noted that:

- Reducing provision down to the "peak demand" level (as calculated from TRICS or other databases) will have no impact on car use, at least in the short term. It could, however, be valuable in limiting future growth;
- Even where provision is reduced below the "peak demand" level the impact on reducing car mode share will be limited by a number of further factors, namely when:
  - The balance of demand can be accommodated in public or other private spaces in the vicinity;
  - The peak parking accumulation occurs for only short periods of the week;
  - Parking layouts can be arranged to provide more spaces on the site, e.g. by separating spaces for small and large cars, or by "stacking";
  - The end user can re-arrange or spread demand to remove the "peaks of the peaks", for example by extending opening hours or arranging flexitime working hours;
  - Users have the opportunity for more ride sharing (i.e. reducing the car driver share in the mode split without reducing the total car user mode share).
- Reduced on-site provision will, however, allow the use of smaller and more central sites

8.5.2 It is therefore apparent that tying-in parking provision to the sustainable transport agenda will require substantial reductions in provision compared to established norms.

8.5.3 The first reaction of car drivers to limited parking space is to seek alternative parking space. The context within which reduced provision is made will therefore be crucial. The East Midlands Parking Study examined this issue from the point of view of whether

sub-demand parking on site would influence mode split for the journey to work. It was concluded that:

"Where parking on site was fully occupied the availability of off site parking was identified as a very important factor influencing the propensity of staff to drive to work... (and)

"Employees were much more likely to travel to work by public transport, or walk or cycle, where the on site parking was fully utilised and there was a lack of off site parking..." [36]

8.6 *Levels of parking and growth of car use*

8.6.1 To neutralise the effect on traffic growth, parking levels would need to set at a level no higher than would accommodate the national average figure for car driver mode share of 38%. Regional averages as shown in Table 8.1 could also be used, but higher rates of development in regions with higher car use would over time cause the national average to increase. This is particularly the case for the South East which has both the highest rate of development and the highest car driver trip share in the country.

Table 8.1 Regional Differences in Mode Split (all trips)

REGION	**Car/van driver mode share** **% of all trips**	***Car/van passenger mode share*** ***% of all trips***
North East	29	*19*
North West	38	*22*
Yorks & Humberside	38	*23*
East Midlands	41	*23*
West Midlands	41	*24*

[36] University of Westminster, Transport Studies Group, "East Midlands Joint Car Parking Study", for the East Midlands local authorities and the DETR, August 1997. Final Report page 118.

Eastern	40	*22*
Greater London	29	*18*
South East	43	*24*
South West	41	*24*
Wales	38	*24*
Scotland	36	*22*
All regions	**38**	***22***

Source: National Travel Survey 1995/97 special tabulations

8.6.2 In theory the different car driver mode shares for different journey purposes could be used as the basis for holding the car driver share constant. This would, however, be difficult to monitor and control, not only because of distortion arising from different rates of growth of different journey purposes, but more importantly because there is a poor match between journey purpose and land use classes. For example a retail establishment will attract business and journey to work trips as well as shopping trips.

8.7 *A new national and regional framework*

8.7.1 The work with local authorities has strongly emphasised the need for a national or regional framework. A maximum level (or set of levels) has been suggested as the basis of such a framework.

8.7.2 The appropriate level at which guidance on parking is determined, and at what level of detail, is a crucial issue. The devolution of decision making from central to regional and local bodies is a clear objective expressed in various government statements. In line with the principle of subsidiarity, we see no need to question the desirability of decisions being taken as close as possible to the people whose lives they affect. On the other hand, certain decisions need to be taken at national level, even if associated executive powers reside mainly at the regional or local level.

8.7.3 Where does the issue of parking provision fit on this scale? If the development industry was organised and financed locally, and if

local authorities were self-contained and not in competition with one another, the determination of parking provision would clearly be a matter best left to local planning or transport authorities. The reality however is very different.

8.7.4 All the available evidence points to a situation in which

- The development sector is resisting the implementation of the parking policies set out in national planning guidance;

  "By restricting access, policy would simply reduce the economic success of town centres, damaging their sometimes fragile retail base… To obtain food and to travel around safely, a car is a necessity and very high priority to most people" (A major property investor in response to questions about impact of restrictive parking policies.)

- Local authorities are (or perceive themselves to be) in competition with one another in attracting development, especially employment-generating development;

  "Trust me, our councillors will continue to try to poach development whenever they can." (Planning officer of District Council in area with high unemployment)

- This competition has a local, regional, national and even international dimension, depending on the type of development;

- Currently local authorities feel able to request limited parking provision only in those (generally limited) circumstances in town centres where developer interests and planning policy coincide.

8.7.5 The combination of these factors makes it difficult if not impossible for local authorities to act unilaterally to implement parking standards that provide for less than peak demand of car accessibility. Given that much of the development sector is relatively footloose (or in this context "carloose"!), local authorities are understandably reluctant to drive away developer interest by imposing restrictive parking. In fact the types of development most susceptible to location competition are likely to e those that generate significant person trips, namely large scale employment, retail and leisure developments.

8.7.6 A national framework is therefore required to provide support to and confidence amongst local authorities to avoid parking provision in new development undermining the objectives of demand management.

8.7.7 The national planning guidance framework can provide the basic maxima for parking provision. Within this, limits can be placed on the degree to which parking provision can be varied between different regions, and between different local authorities. Similarly, variation between town centres, inner urban, suburban and rural areas will need to be within narrow limits if development pressures contrary to policy are to be avoided.

8.7.8 Thus while a local or regional approach may seem attractive, the inescapable conclusion is that such an approach is simply unworkable. The dynamics of the development process in both the private and public sectors are such that undesirable development and accessibility outcomes will be inevitable unless there is are clear restraint-based requirements that are consistently applied. The more robust the target for more sustainable forms of access than the car, the greater the need for a national framework becomes. Only with such an instrument will the development industry be likely to accept and offer the necessary changes in practice.

8.7.9 A remaining question is whether an approach that is consistent natioinally will cause developers to shift their attentions to other countries with more relaxed approaches to parking. It seems unlikely that parking in itself would cause such a radical shift in developers' aspirations, notwithstanding the fact that many competing countries are also adopting a tough stance on location and access issues. Certainly this is true of most north European countries. The following quote is from our interviews with development sector representatives:

"For major companies who might move headquarters within Europe or globally, environmental quality, IT availability and international transport links are more important than parking."

8.7.10 It must be recognised, however, that such views are formed in a context where parking provision is very rarely reduced below what developers themselves wish. Parking could become a much more important consideration when reduced levels of provision become the norm.

8.8 *Parking provision within the planning system*

8.8.1 *Parking as both a transport and land use issue*

8.8.2 The change from demand based parking provision to provision at sub-demand levels means that consideration must be given to all the means by which people will reach the development. As a consequence, planning considerations must be integrated with transport considerations, including the negotiation of developer contributions towards the cost of meeting the appropriate improvements to the various means of travel. Development decisions will in future need to result from joint consideration between highway, transport and planning officials and, where separate, their respective departments and authorities. Recognition of the need for such integration is already apparent from working groups established to examine the parking issue, for example in the former Avon authorities, in the South West region, and in Essex including new Unitary authorities.

8.8.3 *The step approach to determining parking levels*

8.8.4 A sequence of steps that local authorities would need to follow is set out in the Annex, for both

- devising a parking policy framework within the Development Plan; and
- determining the parking levels in individual planning applications.

8.9 *Consequences of reducing parking provision*

8.9.1 Reduced parking provision in new developments will have knock-on effects beyond the immediate site in question, and may lead developers to seek loopholes in the system to avoid the changes in accessibility and in development product or location that the policy requires. A number of additional changes to the system that will either be required to avoid its negative impacts or to support its operation have been highlighted during the research process. These are set out below:

1 Control of on-street parking will be required in the vicinity of new development to avoid the negative impact of

displaced parking, and to avoid on-street space being used as a means of enlarging the car mode share beyond what was intended in the Travel Assessment for the scheme. The area of control will need to extend as far as necessary to prevent damaging informal "park and walk", and could include the full walking catchment of the site. The on-street control will usually be in the form of decriminalised arrangements for Controlled Parking Zones[37].

2 Practice will need to be tightened to limit the conversion of front gardens or other amenity space to hard standing for vehicles. Such conversion can be undesirable for a number of reasons but does not require planning permission unless forming part of a planning permission for other purposes (e.g. conversion of a house into two or more flats). On street parking controls can often have the effect of encouraging property owners to create private off-street parking space as a means of avoiding the controls and charges. Where planning permission is not needed, the practice can be controlled through the system of "road opening" permits under the Highways Act. Consideration should be given to a change in the UCO/GPDO making conversion of amenity space to parking a material change of use requiring planning permission.

3 Consideration should also be given to amendments to the UCO/GPDO to ensure that changes of use or activity which result in significantly altered trip attraction (volume, time of day, type of vehicle, etc) require planning permission. This particularly affects A1, A3, B1, B2, and D2 uses, and change could be limited to these categories.

4 Alternatively, guidance could be given on the use of planning conditions to achieve the same result. Local authorities can enter legal agreements with developers to restrict the future use of the site to uses that do not exceed the level of car trip attraction provided for in the planning application. Further permission would have to be sought for a change of use that resulted in significant change. This might, however, place a heavier burden on the enforcement system than changes to the UCO/GPDO.

[37] See Road Traffic Act 1991 Section ** and Local Authority Circular 1/95, HMSO.

5 The maximum number of parking spaces permitted should be specified in all planning consents. If the permission includes compliance with a local mode split target, this should also be specified. In view of the various ways in which parking capacity can be varied (e.g. different size bays, vehicle stacking), it may be necessary in addition to specify the maximum area to be devoted to vehicle access and parking.

6 Access will be easier to handle for smaller scale developments because of their (usually) more local function. Consideration could be given to methods of shifting the balance of advantage from large-scale (car-based) developments to smaller scale facilities serving local catchments, as is already happening in the food retail sector. Measures that have been suggested include ensuring provision of appropriate space or buildings within a development scheme, providing preferential business rates, and reduced requirements for the provision of Travel Assessments.

9 *Testing the Impact*

9.1 *Method for testing alternative approaches*

9.1.1 As explained earlier, this report was not required to recommend a particular approach, and no attempt is made here to make a comparative evaluation of the different possible approaches. Whichever approach is adopted, whether at national, regional or local level, the issues discussed in the previous section will need to be addressed.

9.1.2 This section reviews evidence and arguments in relation to criteria that were established as part of the study. The aim is to inform the decision-making process by highlighting possible and actual reactions and impacts of implementing policies for reduced parking provision.

1 ***Theoretical*** positions are considered, and

2 ***Research evidence*** from three exercises is reviewed, namely:

- Workshops with local authority representatives;
- Interviews with key actors in the property sector;
- Three local authority case studies.

9.1.3 For each of these exercises, in the interests of a free and unrestrained exchange of views, discussions were held on a non-attributable basis.

9.2 *Criteria for Assessment*

9.2.1 The approach must ensure that parking provision, along with other aspects of parking control, plays its full part in the management of travel demand, which in turn is required to meet a range of sustainability objectives including environmental, community and development dimensions. This means that parking will be planned to limit car use, not encourage it.

9.2.2 As discussed in Section 3, parking policies to meet these objectives will need to be equitable in their impact, simple to use, enforceable, effective given the dynamics of the planning and development system, and available at reasonable cost.

9.3 *Theoretical responses*

9.3.1 An ***equitable*** outcome is part and parcel of the evolution of policies to reduce parking and to widen the choice of modes available to people in accessing the employment and facilities they need. By developing in ways which preclude excessive dependence on the car for access social inclusion objectives will be served.

9.3.2 One theoretical position is that out of town and car based development does not damage or undermine development in central locations accessible by a choice of modes. This argument rests on the assumption that investment diverted away from out of town or car based schemes would not result in more sustainable forms of development. This in turn assumes that the total investment available for development can expand to satisfy both markets. The argument also rests on the assumption that building facilities that are accessible only to car users will not in the long run lead to more car use and car ownership. None of these propositions have any intrinsic appeal, especially in the light of development trends and the resulting traffic growth over recent decades.

9.3.3 The issue of equity between new and existing development is also potentially important. To the extent that parking is important to new development, restricted levels of provision could place new development at a disadvantage vis a vis existing development in terms of relative values. In addition, developers and their agents may feel that placing restrictions on parking supply in new developments to control traffic generation is unreasonable when developments allowed under previous parking policies have no restrictions whatever. However, the reduced levels of parking may not result in any tangible disadvantage provided access by non-car means is good, and the cost of providing it is reasonable. Indeed, it is already seen that developers of town centre schemes often are keen to reduce the parking content in order to reduce costs and secure more intensive use of land.

9.3.4 Other mechanisms could help to level the playing field between accessible and less accessible (central and non-central) sites. A tax on PNR parking space applied across the board is one such mechanism that has been discussed (see below).

9.3.5 A ***simple*** approach is needed largely because the integration of planning and transport decisions is a new imperative. Parking levels

in most parts of the country have not in the past been determined according to accessibility assessment, let alone according to policies for influencing accessibility outcomes, as now required by policy. There will therefore be a period of adjustment to new techniques, new policy issues, new methods of enforcement, and more pro-active negotiation between developers and local authorities on parking and accessibility issues. All these changes have been foreshadowed by Government policy guidance, but the simpler the new techniques and mechanisms, the greater the speed and ease with which they can be absorbed into practice.

9.3.6 It may be that the most effective system in theoretical terms may not be one that will be easy to implement at reasonable cost. For example, detailed data on mode split is sparse, and collecting it is expensive. A system that relies on such data may therefore only be possible to consider for the long term. The finer points of parking policy may therefore need to be compromised for the overriding necessity for a system that is workable in the short term across the entire country.

9.3.7 An ***enforceable*** system is necessary in view of the fact that there is known resistance to the new policy agenda. This resistance, moreover, is to be found amongst both local authorities and developers. Enforcement of development permissions, including conditions and obligations, will involve local authorities getting the policies right and then enforcing them, and this in turn will require the support of central and regional levels, including the planning inspectorate. The crucial link in this process is getting the local policies right. The difficulties so far make it clear that local policies will continue to be slack unless and until there is a national framework.

9.3.8 A new type of enforcement imperative will be needed to bring local policies into line with national and regional guidance. Again, this will only be possible if there is a clear national framework to be enforced.

9.3.9 An ***effective*** system gives rise to the same requirements as enforcement, namely a national and regional framework within which developers' schemes can be devised, and local authority decisions can be made. There are, of course, other requirements to meet the effectiveness criterion, such as dealing with all the major land uses, tying in parking with other transport policies, and finding

a way of determining developer contributions. These, however, are secondary to the main issue of a national framework, without which the will of local authorities to carry through appropriate parking policies cannot be assured. Once local authorities are confident in the new approach, their resources can be marshalled to deal with the knock-on impacts and consequences.

9.3.10 The approach will need to be available at a ***reasonable cost***. Decisions on parking in new developments will need to be based on information and considerations beyond what has traditionally been employed. This is likely to require additional resources. However, such resources are already being marshalled to deal with the wider requirements of Local Transport Plans and related issues such as accessibility assessment and mode split or traffic reduction targets. Parking is a part of this wider requirement. Even so, simple systems may be less demanding of local authority resources and may have merit from this viewpoint alone. A further issue is whether the cost of establishing appropriate levels of parking provision, and monitoring and enforcing the outcomes, can be paid for from developer contributions. This rests on how wide developers' responsibility is seen in terms of the environmental, social and other impacts of their schemes.

9.3.11 The approach to parking can be tailored to minimise the resource implications, for example by establishing zones where specific policies apply, or by exempting smaller development proposals from the need to produce accessibility data.

9.4 *Empirical evidence*

9.4.1 *Workshops with local authorities*

9.4.2 Two rounds of workshops with local authority representatives were held, two in the north of England (Leeds) and two in the south (London). To facilitate a free-flowing and in-depth discussion attendance was kept between 12 and 18 key people. Discussion papers were circulated in advance. Key points from the discussions are summarised here.

9.4.3 There was agreement among the local authorities that continued use of current parking standards practice would not meet future policy

needs and that a move towards modal split targets and accessibility assessments would be needed.

9.4.4 The way forward was discussed in terms of ***maximum parking levels*** for all non-residential development and an approach to residential parking that took greater account of the location and type of dwellings being provided. It was emphasised that the maximum levels would be ***below the current "minima"***, and that the actual maximum level could be ***varied depending on accessibility to the site***. It was also put forward that changes in parking levels would have to result in ***changes in the type and location of development***, to take account of greater access by non-car modes.

9.4.5 It was appreciated by all as the discussions progressed that devising and implementing restrictive parking standards is not a simple issue, but that it should be streamlined as far as possible.

9.4.6 The concept of a matrix, such as the GOSE matrix, to provide a framework for determining parking provision was easily understood. However, it became evident that some of the processes necessary to achieve the policy could become complex. For example: negotiations where there was an identifiable end user could be specifically targeted to that firm. Setting the parking standard for an unidentified occupier was more difficult. Where there is no specific user, access agreements would have to be applied to the site, but allow for variation in non-car modes. This would have to be legally binding.

9.4.7 On the basis of current experience, it was recognised that where bespoke development was being planned for, mechanisms need to be applied, (e.g. conditions) such that change of use normally permitted under the Use Classes Order but which generate more traffic, would not be allowed on transport grounds. At least two authorities had experience of applying such conditions to B1 planning applications.[38]

9.4.8 There was wide agreement that this position needed to be formalised either by revising or tightening up the Use Classes Order or attaching access requirements at both outline and full planning

[38] The City of Nottingham for example requests that developers of B1 enter an agreement to restrict future change from light industrial to office use, which would result in higher parking demand.

application stages. These requirements could allow for variation between car ride sharing, public transport, walking and cycling, but be firm on car and lorry use.

9.4.9 The prime concern was that the approach should not be so rigid as to always override other policy considerations. As a consequence it was felt that where factors such as job creation or re-use of derelict land were particularly important, holding the line against development on transport grounds would be over-ruled by elected members in many instances. It was recognised, however, that this in turn would weaken the ability to apply reduced parking provision.

9.4.10 For such reasons accessibility should be fed in to decisions about the suitability of development in particular locations at an early stage, probably in the preparation of Development Plans. It was felt by many, however, that there would always be sites in less accessible locations where development was desirable for other reasons. The way forward in such circumstances was thought to lie in making such sites more accessible by non-car modes rather than excluding development possibilities. This would lead to defining a set of actions needed to make development acceptable rather than immediate refusal.

9.4.11 A further major issue on which there was broad agreement was that negotiation was a key process in making the method work, particularly over the issue of developer contributions. This was felt to be necessary if parking levels were to be achieved in new developments. To facilitate this, clarification of the objectives and scope of developer contributions was felt to be important.

9.4.12 In order to achieve a modal change in travel patterns, the limits set on parking are seen as vital. In order to achieve this they need to:

- be severe enough to act as a disincentive to car travel and make other modes more attractive;
- be complied with by all authorities at least at regional level in order to avoid problems of competition, already felt by authorities that are pioneering restraint based parking policy; and
- avoid maximum standards being interpreted as parking target levels.

9.4.13 The latter was seen as a pervasive problem. Several alternatives were discussed:

- Setting minimum levels as a starting point for the negotiations, but this could recreate current problems of inconsistency and competition;
- Working out targets for reduction and using these as a negotiating tool. There was support for a range of such information/persuasion initiatives to be encouraged in the new approach. The main drawback was being clear about the level of reduction needed.
- Set regional standards on the basis of what town centres used. This was supported as theoretically sound, but there were major reservations on the practicality of such a blanket approach.

9.4.14 There was support for the use of a matrix, but it was felt that in addition access studies and a range of actions to discourage car use was needed. The matrix was seen more a means of guiding negotiating and setting limits within which this was done.

9.4.15 The financial implications of parking and access planning raised major concern. It was recognised that the logic of collecting commuted payments to fund public parking spaces or alternatives such as park and ride vanished with maximum parking levels. Some practice examples of access funding were given but the practitioners felt that they were operating within a legislative void. A new system of payments is required if the method is to generate funding for alternative modes of travel.

9.4.16 The principle of separating out access payments from other planning gain was unanimously supported. A comment was made that no-one traded off sewage requirements against community gain, and access is similarly essential to the functioning of any site. There was no clear preference for how to do this: guidance would need to be strong enough and would have to be very clear. The possibility of a specific new "Section 106" (Section 106X) was discussed. Some thought that a flexible approach was possible, with the calling in of applications used to encourage a consistent approach.

9.4.17 An associated problem with developer contributions was where development of a site needed significant expenditure to provide access by public transport but the site was developed in stages.

Thus an "unfair" amount would fall on the first developer or occupier. Local authorities meeting the gap on a temporary basis and recouping money from new development as the site was developed could avoid this. Some means of differentiating this from other transport expenditure would be needed, for example by setting up a specific site fund that could be wound up once the site was developed. Authorities trying to tempt development were less convinced that this could work.

9.4.18 There were concerns over a PNR tax on existing parking spaces being collected and retained nationally.

9.4.19 Mention has already been made of the fears of local authorities that the policy would not be comprehensively applied because of over-riding issues and pressure from elected members, especially over perceived conflict with economic development objectives. As such it is likely that some types of development will migrate to areas where the local authority is seen to have a softer touch with regard to parking. Job creating uses were thought to be particularly susceptible.

9.4.20 A strong theme in the discussions was that parking policy should address different scales of development. It was felt that thresholds needed to be established so that the large number of small applications (which however have a cumulative impact) are dealt with simply and effectively. This will require a clear set of rules or area definitions and may be related both to the size and nature of development and its transport requirements. For larger development there should be mechanisms set up which encouraged joint production of site access plans. To an extent this was done already through Local Plan requirements for Green Travel Plans. The ability to run these across from current users to future occupiers was seen as an issue but not necessarily a difficulty.

9.4.21 A further key issue raised was the disparity in parking provision between current and pipeline development and future new development. Only the latter would be subject to reduced parking levels. All participants supported some form of charge on parking space, in order to gain greater equality and ease the impact and implementation of the new policy. Many felt that greenfield sites should be charged at least as much as brownfield and town centre sites. Also it was felt that revenue should not become the main

motivation for the charge, though no firm answer was offered as to how this might be avoided.

9.5 *Interviews with key actors in the property sector*

9.5.1 Interviews were held with suppliers of finance, developers and occupiers to ascertain their reaction to a policy change that seeks to reduce private non-residential car parking provision. Specific details of the policy proposals were not open for discussion.

9.5.2 A diverse range of views were held within each group, and furthermore were found to be changeable in response to varying assumptions about the likelihood and strength of the policy "biting".

9.5.3 The over-riding requirement for each group was the need for their work to make commercial sense, but there appeared to be considerable openness about how this could be achieved. For example, many developers recognise that in some city centres use of a car is inappropriate and that boosting alternatives is necessary on commercial grounds. However, the motivation for this view is market-led rather than policy-led. The issue is how far the market can be influenced and hence brought closer to policy requirements. In particular, whether the market outside city centres can be influenced to the extent that developers would actually seek less parking, as opposed to resisting policy attempts to limit it.

9.5.4 Development which goes against market demand is risky, but developers were concerned if there appeared to be a balancing risk in the future of being car dependent. A few were already thinking this way which suggests that a 'hearts and minds' exercise linked with new policies following the Transport White Paper may set developers working in new directions. Larger investors, and retail businesses who undertake development on their own behalf, are already trying to predict and prepare for changes.

9.5.5 Evidence from interviews conducted by MVA[39] suggested that landlords/property agents were concerned about the knock-on effects of PNR controls. If parking is reduced, this will reduce the value of a property unless there is a level playing field. Offices with

[39] MVA with WS Atkins for DETR, "Options for Influencing PNR Usage – Report on Qualitative Research", December 1997.

parking are perceived to have a higher value than offices without parking, notwithstanding the fact that many of the highest value offices in Britain have little if any parking.

9.5.6 If parking controls (or taxes) were to be applied to all PNR, then relative values are more likely to be maintained, though there are a number of uncertainties in this conclusion. For example, the public transport benefits of a PNR tax are unlikely to be evenly distributed, and this could lead to a double disadvantage for out of centre sites.

9.5.7 A clear message from developers was that they wanted to see high quality examples of how the proposed reductions work. Until this occurs the associated risk of the policy change will, on the whole, result in fairly strenuous attempts to avoid its impact. They were aware of emerging initiatives to reduce car dependence, such as planning consents tied to Green Travel Plans.

9.5.8 Most of the developers expressed the view that they would be prepared to "play by the new rules", but only if these were fairly and consistently applied. They were not prepared to accept reductions of parking if this meant a greater risk than that faced by their competitors at other sites. This view was especially strong amongst developers of "footloose" activities such as business parks.

9.5.9 Residential development was also considered in discussions with the private sector. House builders, like developers of commercial property, exhibit a range of attitudes towards the goal of reducing car travel. The provision of parking for new housing is of concern to house builders as their operations are geared around the rate at which they sell new houses and as such any change that affects the demand for housing is of great concern. However, it is being recognised that in some urban contexts the market actually demands less parking provision, even zero provision in some cases. Developers complained, as reflected in other studies, that the actual number of spaces provided in residential developments is often higher than the developer proposed. The additional spaces are being required by planners and transport planners in the local authority who seem to adhere to rigid standards. Some developers had undertaken their own studies of factors behind actual residential parking demand in an effort to secure greater flexibility on the part of local authorities.

9.6 *Three local authority case studies*

9.6.1 These case studies were intended to explore the impacts of and reactions to the implementation of reduced levels of parking. Workshop style meetings were held with representatives of the constituent authorities to discuss, firstly general issues in relation to parking, and secondly more specific issues in relation to implementation. The original research proposal specified that the case studies would evaluate a preferred approach, but at the request of the DETR this was not completed. However, the method developed for GOSE, involving the definition of Zones and the specification of reduced maximum levels of parking within each zone, did provide a focus for much of the discussion, and is referred to in the case study reports.

10 *Case Study 1: East Midlands Authorities*

10.1 *Introduction*

10.1.1 This case study included local authorities in the East Midlands which in broad terms were pursuing a parallel path to the development work in the DETR study. It consisted of meetings where parking policy was discussed and examination of a number of development examples. This took place during the autumn and winter of 1998. The end product for the local authorities was to be Supplementary Planning Guidance on Parking Standards. In this context they had already gathered considerable data on parking, and were already considering key issues which were emerging from the DETR project. These included:

- Defining different areas where different parking/access/development scale standards would apply;
- Defining what standards should apply in each;
- Ensuring consistency between neighbouring authorities;
- Seeking a new rationale for securing developer contributions for transport;
- Setting workplace, other commercial and residential standards separately and specific to each.

10.1.2 In addition the authorities identified the relationship between parking standards in rural areas and built up areas as needing further specific attention.

10.1.3 The MTRU approach was to participate in the meetings which were held to develop the supplementary guidance and to set up meetings to discuss individual development examples in the context of the DETR project approach and their parallel parking work.

10.2 *The East Midlands Approach*

10.2.1 *Defining Zones*

10.2.2 The approach that the East Midlands authorities were developing began by dividing their areas into three zone types: inner, outer and rural. The latter was not the main focus of their work although the issue was discussed. Larger city centres could also be separately identified within inner areas for special treatment.

10.2.3 A matrix was developed that was simpler than that shown to them from the GOSE South East Parking Standards report, but not incompatible with it.

10.2.4 *Setting Standards*

10.2.5 When deciding what standards to set in these zones, the authorities started by assessing the current average levels of car use and modal split. For example the average car driver share for employment in inner areas is 41%, for outer areas this rises to 71%. These were then used to set a practical target for new developments. This was set in the first instance at 30% inner and 60% outer. The standards were also adjusted to allow for the fact that not all people parked at the development site itself. This was available from some of the additional survey data in the East Midlands Joint Car Parking Study (EMJCPS). For other local authorities some data is available from the Census or routine transport and travel studies. The process is set out in the Supplementary Planning Guidance on Regional Parking. In summary it proceeds as follows:

- estimate number of employees using floor area and development type
- estimate number who would drive to work according to area type (inner/outer)
- estimate number of parking spaces to meet the new target for car modal split
- adjust for off site parking (11% outer, 64% inner).

10.2.6 It should be noted that the numbers produced by this process were comparable to the suggested figures in the GOSE matrix. Thus in inner areas (Zone type 1) the GOSE figure is a maximum of 5 per 1,000 square metres while the East Midlands method gives 4.7 to 7.7. In outer areas (Zone type 2) the GOSE figure is up to 20 per 1,000, the East Midlands method suggests 10.7 to 31.3.

10.3 *The Regional Dimension*

10.3.1 The process of developing supplementary guidance was assisted by the inclusion of a statement of principle in the draft East Midlands Spatial Development Strategy as follows:

Private Non-Residential Parking

For New Developments, maximum amounts of private non-residential parking will be specified throughout the Region. Standards will be comparable for settlements characterised by similar role, size and function.

10.3.2 For ***leisure and retail*** uses the authorities had not developed their system in the same detail but considered that the same approach should be used. Thus the parking level should be related to a target for changing modal split away from current levels of car use. In addition the relationship with public car parks meant an additional, more local adjustment would need to be made.

10.3.3 *Residential*

10.3.4 Residential parking was the least developed part of the approach and it was felt that demand management was better practised at the destination end of people's journeys. In addition, individual site design would vary widely. Urban capacity studies were also in hand which would influence housing policy. However the guiding principles for residential parking, all of which would lead to less land used for car ownership and use and thus to higher densities, were set out as follows:

- Lower parking provision and higher density where non-car modes are of a high standard;
- Lower parking levels where car ownership is predicted to be low (e.g. social housing);
- Flexibility on residential conversions (e.g. house from single- to multi-occupancy);
- More use of communal parking;
- Introduction of residents' controlled parking schemes;
- Less generous highway standards;
- Introduction of car free residential areas.

10.4 *Complementary Measures*

10.4.1 As a result of their own experience and the EMJCPS work the authorities recognised that a move to more restraint-based

standards would require protection for the areas in which development took place. These can be summarised as:

- Residential parking schemes in the local vicinity;
- On-street parking charges;
- Decriminalisation of parking enforcement;
- Taxation of existing PNR.

10.4.2 *Local Authority Usability*

10.4.3 The key reason for evolving this approach was to meet the requirements of regional guidance, in particular preventing "poaching" by local authorities offering more parking to attract development. It also needed a clear rationale which could be consistently applied. The perceived advantages of the approach can be summarised as follows:

- Common framework across the region;
- Uses existing databases;
- Car mode share target can be adjusted over time;
- Can reflect differences in employment density either generally or in individual circumstances;
- Adjustment is possible for lower than average car use;
- Mode share can be linked to other policies such as traffic reduction and green commuter plans;
- Adjustment factors could be used to inform developer contributions, although the cost would need to be higher in outer areas.

10.5 *Development Examples*

10.5.1 As well as discussing the general approach individual development examples were provided by the local authorities and the effectiveness of a new approach was considered.

10.5.2 The first comment to be made is that the technicalities of the approach could only support its effectiveness. The true test was how the system would be enforced and consistency ensured. This was evidenced by some examples where existing policies had been

followed to restrict parking in an application but the developer had appealed direct to elected Members and threatened not to develop. This had the result of an instruction to give permission. Enforceability was a factor which was key but which could not be addressed in the techniques set out in the Supplementary Planning Guidance.

10.5.3 The primary conclusion must be that this is an issue for PPG13 and the planning system itself and that it has to be addressed if parking controls are to be used. The views expressed were that this was another clear advantage of a parking space tax, although it would have to be implemented for all spaces and not just workplace parking. This was an issue of principle, well illustrated by the case study development examples, and one of practicality also. It arises because of the "leakage" between parking uses, particularly in mixed use development, and because encouraging short stay instead of long stay parking would in the long term encourage more traffic.

10.5.4 The individual developments discussed below illustrate key points from the East Midlands case study. It should be noted that some of the applications were not determined at the time of the research work.

Example 1:

Claimed edge of centre, 6000 square metres, B1/B2, current application

The developer wanted to build shed style retail units and asked for car parking spaces at the old standard. This would have resulted in 327 spaces. A restrained level from the Llewelyn-Davies matrix would have been between 30 and 120 depending on how the zone was defined.

The authority wanted to negotiate downwards but felt that there were more important planning issues. There was considerable discussion which concluded:

- More intense development was needed rather than an essentially out-of-centre style - this could be higher density, with mixed use and less parking;

- If this site really was to function as an edge of centre site, the focus should be on links by foot - at present this was through a supermarket car park!
- It might be better to relate the proximity to the centre to lower parking standards - this could help prevent exaggerated claims by developers.

Example 2:

Claimed edge of centre, 20,000 square metres, financial services call centre with 2,400 jobs; two phases; current application

The developer wanted 2,000 parking spaces and claimed special circumstances including the need to offer parking to recruit staff. Existing standards suggested 740 spaces but 1,000 were offered. The developer approached members directly, stressing the jobs and a possible third phase. The Chief Executive instructed officers to grant permission.

The discussion revealed no surprise among the participants at the way this had worked out. Employment was seen as such a huge benefit to the area that few authorities would let jobs go in order to maintain restrained parking. Once this approach had been allowed, subsequent potential developers could point to the "exception" and claim the same treatment. This reflected practice elsewhere and reflected a weakness in the planning system itself. At least one other authority mentioned that they had suitable sites that were more central!

Example 3

Claimed edge of centre supermarket, 6,600 square metres, Section 106 agreed

The car park was to be part public and part for the supermarket only. Current standards suggested 710 spaces, the developer asked for 465 and estimated mode split at 80% car. There was again considerable discussion of whether this was a transport or a planning issue. Was such a low density car-based design suitable for an edge of town centre (within 300 metres) site? How about a mixed use development? What would the impact be on the existing town centre?

The Section 106 agreement contained some traffic calming, a residents' parking scheme and footway improvements. However it resulted in public car parking spaces where there were none before as well as dedicated parking for the superstore. This highlighted the point that estimates of total public parking and existing development are also important when calculating individual site parking.

Example 4

Out of town (3/4mile), change of use from B8 to B1 with additional 200 square metres, existing 44 parking spaces, application refused

The developer wanted to increase parking from 44 to 62 while standards suggested an additional 6. The refusal resulted in discussions about a Green Commuter Plan but the developer claimed that shift working would make this difficult, and that the railway station was too far away. It was generally felt that this argued against the development in this location.

Example 5

Redevelopment of old factory, 5,200 square metres, B1 with pub/cafe, 600 - 800 m from town centre, boundary of defined inner and outer zones

The boundary meant that if defined as "inner", the development would be allowed 51 spaces but if "outer" the figure would be 171. The existing factory had 75 spaces. There was also some residential content and the developer wanted to market the site overall as town centre with parking. There was planned to be some shared use of retail and other commercial parking and this raised the issue of how use of one space could be for different purposes, thus undermining restraint on an individual application basis. Authorities gave examples of firms renting spaces from each other and using retail spaces for commuters, with or without the retailer's permission!

This led to a further discussion about the extent of public or shared parking and how it needed to be properly considered within a parking policy. There was also a discussion about how development products would change as parking standards became tighter, again assuming that consistency was ensured between authorities. A final

issue in this discussion was that as well as issues of renting out parking spaces there was the question of what was the true cost of a public car parking space? Prices would surely rise if demand grew as a result of restrained standards and this would complement a traffic reduction policy.

Overall it was felt that there would be a planning response from developers if they had to work within a tight transport framework. This would need to preclude various "work rounds" such as fudging the town centre boundary, or making claims for special cases on employment grounds.

10.6 *Conclusions*

10.6.1 Overall the development examples revealed the need for consistency and proper enforcement. One exception (even if apparently well justified) tended to let in a host of other more dubious cases. In addition, the threat of not getting employment generators, if though untested, was seen to be sufficient to bypass sustainable transport policy.

10.6.2 While the need for a transparent methodology was clear, it would not work unless people believed that it was going to be used. Flexibility would need to be within narrow limits. At the moment there were too many "exceptions" which clearly undermined the credibility of the whole process.

10.6.3 The method could be linked to existing average modal split at the regional level. The logic of this was that new development should have a lower level of parking in order to contribute to a change in modal split. This would in turn be linked to traffic reduction policies and could be tightened over time.

10.6.4 The East Midlands was fortunate in having recent mode split data related to inner and outer parts of the towns. Such data is not generally available to local authorities. Even in the East Midlands study the data was related mainly to employee parking. A comprehensive approach would in addition require data on travel for leisure, retail, social and other purposes. The NTS provides data at regional level for all travel, but cannot be used to establish differences between different areas of towns and cities.

10.6.5 The question of competition with other regions (rather than competition within the region) would become relevant but had not been explored by the case study authorities.

10.6.6 Many problems would be mitigated by a comprehensive parking space tax or charge applied, at least at a base level, across the region including rural areas. This would have to cover all types of parking. This was felt to make enforcement easier and the anomalies between new and existing development easier to bear.

10.6.7 No one was quite sure how to create the equivalent rule of thumb for commuted payments. An access assessment could be undertaken leading to developer contributions designed to achieve modal split targets. Even here the fair dispersal of responsibility between existing developers, the one who was currently applying, and those who might come in future was a continuing problem. Here the role of local authorities perhaps borrowing on the strength of future development or using parking space charges to recoup costs of public transport improvements from existing developers was a clear opportunity.

10.6.8 Rural areas were running behind urban areas in terms of the development of sustainable policies. At the moment greater car dependency would have to be accepted but this suggested that more work was required and that traffic-attracting development should be avoided in these locations.

10.6.9 There was a need to link transport criteria and planning criteria and recognise the relationship between them. The vision of sustainable cities and towns needed an appropriate style of development - there was still a presumption among developers that they should replicate out of town development products but closer to town centres. This could sometimes be worse in traffic terms, if not in social terms, than leaving them out of town.

11 *Case Study 2: Essex Authorities*

11.1 *Background*

11.1.1 Essex represents a south east England county where attempts were being made to revise parking standards in the light of PPG13. A working party had already been established, and this provided the basis for the case study work. It was particularly helpful that in addition to District Councils, two former Essex authorities - the new unitary authorities of Southend-on-Sea and Thurrock - agreed to participate.

11.1.2 The following specific tasks were undertaken:

- Discussion of the context of the approach;
- Theoretical application of the GOSE matrix approach;
- Identification of issues relating to the approach;
- Use of specific development examples to consider the impact;
- Evaluation of the GOSE approach.

11.2 *The context of reduced parking*

11.2.1 The purpose and context of reduced parking in new development was discussed. Overall there was broad support for the policy in PPG13, a willingness to revise standards in line with this policy (as evidenced by the establishment of the working group, and participation in this case study), but uncertainty over how it would be achieved. Restraint based parking provision was seen as a vital part of meeting traffic reduction obligations and air quality objectives or targets.

11.2.2 The implementation of the policy using the GOSE matrix should produce changes in the developments that are approved and, given a period of adjustment, changes in the types of developments and locations that are brought forward by developers in planning applications. The inter-regional and intra-regional dimensions would, however, need to be covered to ensure that changes occurred, rather than migration of development.

11.2.3 The lower parking levels will also prompt action by the local authority when development takes place, because of knock-on effects of displaced parking and demand for other modes.

11.3 *Application of the prototype approach*

11.3.1 The working group was introduced to the matrix approach as set out in the GOSE report, involving the need to define four Zones and to apply reduced parking provision maxima to developments according to their scale, function and location.

11.3.2 *Defining Zone boundaries*

11.3.3 Representatives of the District and Unitary authorities developed draft Zone maps for their areas for discussion. Overall the Zone definition exercise appeared to pose few difficulties either in terms of the basic concept, or in terms of detailed application. Given the fact that Zone definition criteria provided were largely subjective, knowledge of local circumstances and policy was seen as essential in determining the boundaries.

11.3.4 There was no call for objective assessments of accessibility in order to define Zone boundaries, though such assessments could have assisted where boundaries were uncertain. An important question was whether policy, for example for increasing accessibility by non-car modes, should play a part in determining Zone boundaries, or whether these should be drawn on the basis of existing characteristics. It was eventually agreed that Zone boundaries should reflect changes in land use and accessibility included in local plans. It was suggested that local authorities could draw up two Zone maps, one with present accessibility, and another with planned accessibility.

11.3.5 The difference between Zones 3 and 4 (outer urban and rural areas respectively) was seen to be only one of land use policy, and the approach to parking policy would be the same for both.

11.3.6 A further important question (also raised in the Leeds case) was whether Zone accessibility criteria should be absolute or relative. In particular, should each town have a Zone 1 and Zone 2, whatever its size and level of access by public transport and other non-car modes? In the event, the maps produced by each of the authorities included all four Zones. This was probably because of the use of subjective multivariate criteria, and use of more objective accessibility criteria might have resulted in Zone 1 areas being excluded from smaller settlements.

11.3.7 In some cases the Zone 1 boundaries did not adequately reflect accessibility by non-car modes, Lakeside regional shopping centre being a notable example. In this case, substantial measures to improve public transport and walking and cycling access would be required to bring it into line with other areas with a Zone 1 designation.

11.3.8 The determination of parking provision in new developments should take into account other parking supply in the vicinity. Indeed it was felt that this should also be taken into account in the definition of Zone boundaries. (This was considered as part of the GIS accessibility measurement research undertaken separately as part of this project.)

11.3.9 It was generally agreed that towns with a Zone 1 should be identified in the County Structure Plan (Essex already had defined a retail hierarchy which could inform this approach). Regional Guidance should also specify Zone 1 locations, since the nearest competitor town may be in a neighbouring county.

11.4 *Setting the parking maxima within the specified range for each Zone type.*

11.4.1 The local authorities did not find this straightforward, and were concerned about such major reductions on current norms. They would want to take account of:

- Physical (site) constraints on parking;
- Value of land for parking and other uses;
- Possibilities for dual use of parking (e.g. leisure/retail); and
- Degree of control of on-street parking.

11.4.2 The matrix as presented included types of development in terms of scale and functional catchment. The local authorities were concerned, however, to relate the parking levels to the Use Classes Order, as with present parking standards. The following points were made:

- One maximum figure for each cell in the matrix covering all Use Classes was seen as unworkable.

- Within each cell of the matrix, there would need to be further detail of parking maxima related to the Use Class Order as at present, but a counter view was that the small range of parking allowed would mean not very much difference between use classes.
- The need to be able to relate matrix figures to current standards was considered to be important, including reference to the UCO.

11.4.3 The purpose of limiting residential provision in Zones 3 and 4 was questioned.

11.4.4 The matrix indicated that parking for small-scale developments should be determined locally. Officers felt that this could not be undertaken without some rational basis for making such determinations. For example it was not clear whether provision per 1000 square metres (pro rata) should be at a higher or lower rate than larger developments.

11.4.5 Similarly the matrix levels exclude operational parking, but officers felt that guidance on the provision of operational parking would help. However, previous attempts by one of the authorities to establish standard rates of operational parking demand as distinct from non-operational demand had not proved possible.

11.5 *Key issues raised by the authorities*

11.5.1 The relationship of parking in new development to overall ***parking management policy*** was a major concern, especially for the county and unitary authorities. Avoiding problems of overspill parking caused by low provision in new developments was a major concern, especially for the officers responsible for highway matters, and the implications for more widespread on-street control were appreciated. In particular it was felt that reduced parking in new development could not be implemented if this were dependent on police enforcement of on-street parking controls. However, Essex was well on the way to introducing decriminalised parking procedures under local control, so dependence on police resources and priorities would not apply in the future.

11.5.2 A further issue was the ***relationship to Local Transport Plans***[40]. The lack of local authority control over public transport services was seen as a major problem in applying lower parking provision. How could one argue with developers that public transport would provide alternative means of access to the site if one could not guarantee the quality of that provision, or even its continued existence?

11.5.3 Developer contributions could be, and had been, used to provide improvements to public transport. But it was agreed that public transport measures were sometimes provided as a token, without altering the car-based aspect of the development (i.e. full car parking provision is also provided). Linking developer contributions to the provision of public transport was thought to be a key aspect of reduced parking provision.

11.5.4 ***Relationship with Development Plans*** was also seen to be an issue. If Zone boundaries and parking maxima were to be defended at inquiries, they would need to be included in the Development Plan. Supplementary Planning Guidance was another alternative, though it would need to be subject to full public consultation to have the required status.

11.5.5 If the matter were to be included in the Essex Structure Plan, this would probably need to be handled as an alteration, to be dealt with following the revised Regional Guidance due in 1999. It was felt that the Structure Plan could include the framework (Matrix) and identify Zone 1 locations. It was also felt important for these to be identified in Regional Guidance.

11.5.6 It was felt, however, that Zone boundaries could not be included in the Structure Plan, and should instead need to be in Unitary and Local Plans.

11.5.7 Discussion of ***monitoring and enforcement*** issues centred on concerns about the resources required. It was appreciated that requesting lower parking where developers would prefer a higher total, and especially where complementary measures were expected to be implemented by developers to make the scheme work (such as company travel plans or home delivery services), monitoring would be required at a level not normally undertaken.

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[40] And, at the time, to TPPs and package bids.

11.5.8 The second monitoring issue was concerned with the monitoring of overspill parking, to determine whether or to what extent a controlled parking zone would need to be implemented around the development with lower on site parking provision.

11.5.9 The implications for S106 agreements and Commuted Payments were of great concern. Securing money in lieu of parking was seen as a crucial aspect of current practice in town centres. With reduced parking this source of revenue would be even more important to pay for transport alternatives. Further points discussed were:

- The logic of commuted sums calculated on the basis of minimum parking requirements would no longer apply.
- The need to ring-fence cash raised was highlighted.
- The limited local authority ability to provide public transport was raised.
- If the money were to be used for non-parking purposes, it would be more difficult to link specifically to the development.

11.5.10 The need to ensure ***intra and inter-regional consistency*** was appreciated, and hence the involvement of Thurrock and Southend Unitary authorities in the working group. The neighbouring county of Suffolk had also expressed interest in the work. Consistency is important to avoid losing development to other (less restrictive) areas. It was stated firmly that the fear of such loss is sufficient to determine members' decisions, even if there is no evidence to substantiate it.

11.5.11 In some areas the need to ***attract employment-generating development*** was seen as paramount (e.g. Tendring District), and politicians would not accept parking restraint if this discouraged such investment. "Sometimes jobs are more important than accessibility."

11.5.12 Similarly, where there was little land for development in Zones 1 and 2 (e.g. Southend), applications on sites in Zone 3 would be difficult to resist even though they were not very accessible.

11.5.13 In towns where the centre is both strong and accessible (e.g. Chelmsford and Colchester) more restraint could be applied, and already had been in Chelmsford.

11.5.14 There was a need for a dynamic element to the matrix, so those sites in the "blank" cells could be brought forward for development by improving their accessibility. "Sometimes it's the only land we've got". Failure to do this would result in "exceptions" with car-only access, thus opening the door for developers to avoid restrictive parking standards.

11.5.15 There was major concern from the Essex towns about competition from Lakeside regional shopping centre with its ample free parking. However, it was accepted that the fear of competition might exceed the actuality.

11.5.16 ***Further issues***

11.5.17 An attempt was made to anticipate ***developer responses***. Developers would have to devise different kinds of schemes but at present many assume 100% parking as a pre-requisite of any scheme. Their willingness to adjust would depend on the strength and consistency of the parking policy. However, in some cases developers were already seeking lower levels of parking provision than 100% of demand, but the local authority is requesting the full amount of parking, usually to meet highways concerns.

11.5.18 Essex CC policy is to ***restrict commuter parking*** (all day) but not short-stay parking. Restricting long-stay only before (say) 10.00am could encourage longer stays by visitors. The County saw peak congestion as the main problem. This has implications for restraint of commuter as opposed to other categories of PNR. The matrix approach is intended to address all categories of car use, not just commuter use.

11.5.19 There is an interaction between single use and mixed use areas, and short and long stay parking. For example at Lakeside some people stay all day, whereas at a food store the maximum stay is 2 hours.

11.5.20 What should be the response to applications for the ***expansion of existing car-based schemes***? The approach to Lakeside could be to reduce reliance on car access by allowing expansion of floorspace while not expanding parking. (A contrasting approach for a regional centre in Leeds was discussed whereby the area would be designated as Zone 4 to prevent expansion, and accept the existing centre as a planning mistake).

11.6 *Evaluation: How well would the matrix approach perform?*

11.6.1 The district council planning officers summarised their response to the suggested reduced parking levels as follows:

"The districts generally support the concept, provided it is supported throughout the County and the Region. Otherwise this is seen as a way to encourage business to invest elsewhere, and also to make driving to other towns more attractive for shoppers.

"Some Essex districts see that it will be difficult to gain member support for some of the proposals. In some districts the proposals would be perceived as a threat to the economic well-being of the area. At some locations, particularly where the car culture is most firmly entrenched, the proposals may be seen as politically unacceptable."

11.6.2 The case study demonstrated that local authorities of all types are able to interpret and apply the Zone system. There were relatively few difficulties encountered in mapping the four zones according to the criteria provided.

11.6.3 The concept of determining parking provision in relation to location policy appeared to be readily understood.

11.6.4 Greater difficulty was encountered in developing varied parking maxima for different land use types. It was also not clear to officers how specific levels of parking should be determined or negotiated at individual sites. It was felt that clear criteria would be needed to set or negotiate levels below the stated maxima, perhaps included in development briefs.

11.6.5 The concept of blank cells in the matrix was initially questioned, but was more easily accepted once it was established that Zone boundaries could be changed to reflect changes in accessibility. During the case study work, there was clear evidence of officers becoming more comfortable with the approach.

11.6.6 Uncertainty remains about the need for and feasibility of GIS (computer) techniques to measure accessibility as the basis for Zone boundary definition. On the one hand local knowledge appeared to provide most of the answers. On the other hand, there were many locations where there were zoning uncertainties, and where more

objective measures could help. However, lack of familiarity with such techniques, and difficulties experienced in getting other computer systems running led to scepticism about any method which relied on them. Concerns were also expressed about the lack of resources for using such systems, even if they worked well.

11.7 *Test development sites*

11.7.1 A number of existing or recently approved developments were examined to consider what the result might have been had the GOSE matrix been used at the time. Altogether 19 cases were reviewed involving most main land uses and all Zone types. All but one were large developments (over 1,000 square metres GFA).

11.7.2 Large scale developments in Zone 3 locations would be inconsistent with the approach, representing as they do major car-based development. Substantial reductions of car parking without concomitant changes in the development format would not be a solution. Overspill parking into residential streets would be likely, and it was felt that a CPZ in such suburban areas would be difficult to justify. Although large schemes, they probably would not generate sufficient financial contributions to make any significant difference to accessibility by public transport.

11.7.3 The Zone 1 examples were in some cases wholly or at least partially consistent with the Matrix, reflecting the fact that restrictive standards for on-site parking provision are already applied in town centres.

11.7.4 The overall conclusion in most cases was that either the location or the type of development would need to change, especially outside Zone 1.

11.7.5 The individual examples and their compatibility with the Matrix are summarised in Table 11.1.

Table 11.1 Essex examples (see separate file)

12 *Case Study 3: Leeds City*

12.1 *Background*

12.1.1 Leeds City was chosen to be representative of a Metropolitan area. All planning decisions are the responsibility of a single unitary authority. The city has had a relatively prosperous period as it has emerged as an important centre for financial and legal services over the past decade. This has led to development pressures in the city centre and on the periphery of the centre, as well as for major out of town shopping, leisure and office development. Thus Leeds has transformed itself through development of the service sector and in this respect may not be typical of other northern cities. The case study does, however, expose the tensions between economic development and environmental objectives.

12.1.2 The workshop with a range of northern local authorities earlier in the study indicated that a reduction in parking provision for new development is perceived to have a much more significant impact on the local economy than it might in Leeds.

12.1.3 As an addition to the work carried out in conjunction with City Council officers, a transport model developed for the assessment of the Supertram network in the city (in a completely unrelated study) was used to develop accessibility indices for the urban area of Leeds. A number of possible alternative accessibility indices were created to assess the sensitivity of the indices to varying assumptions. With and without Supertram network scenarios were tested to give an indication of how accessibility indices might change following major public transport investment. The results of this work have been reported separately. It was intended that to compare the zones that were developed by officers using the GOSE matrix and their judgement, with those that were constructed using more rigorously defined measures of accessibility, but the early termination of the work meant that this was not done.

12.1.4 The work reported here included the application of the GOSE matrix approach in the Leeds context and the discussion of issues related to the implementation of reduced levels of parking in new developments.

12.1.5 *Handling of parking issues in the planning system*

12.1.6 Representatives of the planning and highway departments were actively involved. The planning department lead was from the 'policy' end of the spectrum and had been central to the work in

developing parking standards within the UDP. From the highways department, several development control officers were involved who had responsibility for representing the departmental view on individual applications. Thus both policy and implementation issues were well covered.

12.1.7 Whilst the final recommendation to the Planning Committee relating to individual developments is with the planning officers, the highways department makes representations that are transmitted to Committee alongside those of other bodies. This is important because it means that no attempt is made to develop a consensus view on parking provision – planning officers may recommend unqualified acceptance of an application, with reservations expressed by colleagues.

12.2 *Development and application of the matrix framework*

12.2.1 The process followed in the case study was as follows:

- apply the matrix framework to the whole of Leeds District in conjunction with Leeds City Council officers;
- carry out a broad reconciliation of current Leeds UDP 'guideline' parking standards with the standards in the proposed matrix framework;
- identify test developments which could be looked at in detail. About 10 ten test developments covering a wide range of land uses were identified;
- review the test developments and consider the full implications of applying the proposed matrix framework to specific development control decisions. (Only one of these was completed, because of the decision of the client in September 1998 to end work on the preferred approach.)

12.2.2 *Zoning Leeds District*

12.2.3 The criteria developed within the matrix method were applied to the whole of the Leeds Metropolitan District area, and resulted in the zoning pattern illustrated in Figure 12.1. The zoning was developed in conjunction with Leeds Planning Officers and was an iterative process which highlighted 'problem areas' where the

allocations between zones was potentially problematic, and focused discussion on these areas.

12.2.4 The general approach to the zoning exercise in Leeds was to regard Zones 1 and 2 as 'centres' while Zones 3 and 4 were regarded as 'outlying areas'. The 'centres' could then be identified quite easily using local knowledge of where the main service centres were located, and so by definition could their outlying or supporting areas.

12.2.5 It was not thought possible to define actual boundaries to the zones, except for the city centre, since quite detailed studies of individual areas would be required to determine exactly where the line should be drawn. Therefore, the boundaries only roughly identify where one zone borders the next.

12.2.6 The dominant criteria used in order to categorise areas of the city was the role of that location (defined in the matrix as the 'location type'), using the 'defining transport characteristics' as supplementary criteria. However, there were occasions where the defining transport characteristics were disregarded. A number of areas were classed as Zone 2, although they did not currently display the accessibility characteristics of that zone. This was because of the Council's intention that these areas should become more accessible in the future in order to meet other policy objectives such as regeneration of derelict industrial sites, and accessibility should increase as development is focused in these areas.

12.2.7 The final zoning pattern which emerged from this process is actually quite closely related to the different land allocations/categories used in Leeds UDP, although there was no conscious decision or wish to allocate zones according to the plan.

12.2.8 *Zone 1 Allocations*

12.2.9 It was decided that Zone 1 should be restricted to:

- areas where public transport routes were focused;
- areas of intensive activity; or
- facilities/sites which had a regional function.

12.2.10 Thus, the 'city centre core' (as defined in the Leeds UDP) was designated Zone 1 with regard to its role as the core for the area and as major transport node. In addition, major regional facilities such as Elland Road stadium and Leeds Bradford Airport were also classified as Zone 1.

12.2.11 *Zone 2 Allocations*

12.2.12 Zone 2 status was then applied to a number of areas. Firstly, it was applied to what is termed in Leeds UDP as the city centre 'fringe'. This is an area completely surrounding the city centre core, which extends beyond the city centre boundary and covers the current control zone for on-street parking. This area, although not directly accessible in terms of being a node of transport routes in itself, is nevertheless accessible by virtue of its proximity to the core (the fringe area is within walking distance of the core).

12.2.13 In addition, the major district centres in the area were also awarded Zone 2 status, reflecting their role as major service providers to their outlying built up areas. These district centres are identified in the UDP. The boundaries of these areas were not definitely drawn, but would probably separate the shopping/service function of the centre from its outer residential areas.

12.2.14 Finally, sites which have been identified as areas of growth/planned growth were also given Zone 2 status. Although not necessarily currently accessible by all modes, these are areas which will become the focus for major new development over the next 10 years and which, with suitable parking restrictions and other measures in place, will become more accessible. Accordingly, areas immediately south of the river and the city centre (e.g. Holbeck) were included in this designation.

12.2.15 *Zone 3 Allocations*

12.2.16 Zone 3 areas tend to surround Zone 2 and have been defined for these purposes as areas which are supportive of a district centre. Thus, outlying centres such as Otley and Wetherby have a Zone 2 classification in the core, which is surrounded by a Zone 3 ring. District centres within the built up area of Leeds are also be surrounded by Zone 3 hinterlands which coalesce into each other. Thus the whole of the remainder of the built-up area of Leeds was designated Zone 3.

12.2.17 *Zone 4 Allocations*

12.2.18 All other areas of Leeds, most of which were green belt, were designated Zone 4. With regard to settlements within green belt areas, these have also be classified as Zone 4 with the justification that green belt policy will control/prevent development in these areas.

12.2.19 *Other Zoning Issues*

12.2.20 Having only four mutually exclusive zones with no overlap or grading within each zone type has meant that quite often the occupants of any one zone are very different from each other. For example, in parking terms, the centre of a significant sub-centre such as Otley has been given the same status (Zone 2) as the district centre of Moortown, which is comparatively a much smaller centre. However, the difference between these two centres is not so great that they should be allocated different zone status, rather they are at opposite ends of the same one.

12.2.21 In addition, there was also some discussion regarding the comparability of zoning status across the three case study areas, in particular the concern that Leeds city centre may share the same zoning status as much smaller town centres in other districts. For an area such as Leeds, it was felt that more than four zones would be needed.

12.3 *Current UDP Guidelines and the Proposed Matrix Framework*

12.3.1 The Leeds UDP contains an appendix setting out 'guideline standards' for parking provision associated with new developments. Whilst these are treated as guidelines rather than standards they allow a useful comparison between the current and proposed standards. It was notable in discussions with Council Officers that developers often apply for ***fewer*** parking spaces than the guidelines indicate are appropriate. This can often lead to development control negotiations 'talking up' the car parking provision towards or to the guideline standard.

12.3.2 In order to 'test' the application of the GOSE parking maxima in Leeds these were compared with existing guidelines from the UDP.

However, there were some problems with a direct comparison. All Leeds City Council's existing guidelines include operational parking (an unspecified amount), while in the proposed methodology operational parking is separate. This approach in Leeds has been used in order to reduce the overall amount of parking required for a development. Past experience illustrated that when operational parking standards were calculated separately, developers 'talked up' the amount that was required. Since current standards include operational parking, then the amount given over becomes more of a business issue for developers who accordingly give over fewer spaces for operational requirements. (This appears to be inconsistent with the point reported in the previous paragraph.)

12.3.3 Nevertheless, Table 12.1 attempts to compare the Council's current parking standards for different types of development (as set out in Appendix 9A of the UDP) with those in the GOSE matrix. In order to do this, a judgement was made as to how the different development types listed in the Council's standards (e.g. major retail developments) corresponded with the different levels of function set down in the GOSE matrix (e.g. large/regional function).

Table 12.1 Leeds comparison (see separate file)

12.3.4 This was more difficult to do with respect to residential development since the current guidelines refer to different residential types (starter homes, retirement flats, family houses for rent) rather than density, which is the criterion that the GOSE matrix employs. Although some types of housing are obviously more dense than others, overall density relates to the number of dwellings in a given area, not necessarily the development type, so once again a judgement has been made to reconcile these differences and enable some comparison. Thus the guidelines used by Leeds are often expressed as a range to cover more than one appropriate housing type.

12.3.5 As the table illustrates, the 'gap' between current provision and GOSE maxima is large – with the GOSE level often being only a quarter to a half of current allowances or requirements. Although provision in Zone 1 in Leeds (i.e. the city centre core) is already restricted compared to other areas, provision is still often twice or three times the level given in the GOSE matrix. The difference in provision is particularly marked with large/regional land uses in Zone 2, which is around ten times the GOSE maximum.

12.3.6 A direct comparison was not possible for those instances where the GOSE matrix does not provide a recommended level, i.e. for small scale developments (to be 'determined locally') and blank cells in the matrix indicating inappropriate locations for development.

12.4 *Identification of test developments*

12.4.1 In order to apply the method, a list of developments were to be agreed that would cover a range of development types approved for development within the last three years. (The guideline standards had been approved for use since 1993.)

12.4.2 The intention was to cover between eight and ten developments covering the following development types:

- major supermarket or major non-food retail development
- major leisure development
- major commercial development
- small/medium scale retail

- small/medium scale commercial
- residential in zone 1 or 2

12.4.3 Some discussion took place as to what constituted 'major' in the context of Leeds, given that its role as a regional centre would tend to define 'major' developments as those larger than defined in the other case studies. Nonetheless, locally defined criteria were adopted in assessing the scale of development. One example had been identified and subjected to individual scrutiny before the study was terminated. The following section sets out the issues of parking provision that applied to that example.

12.5 *Application of the method to a medium scale retail development*

12.5.1 The development example was located in a suburban shopping centre serving the Meanwood area of the city, a mixed housing area mainly developed in the 1920s and 30s, about 2 miles north of Leeds city centre. The development has good highway access from Stonegate Road, a secondary radial route to the north of Leeds, on the edge of the district centre of Meanwood. There is a radial bus service operating about every 15 minutes past the entrance to the development and a half hourly orbital service, that links a number of district centres in north Leeds.

12.5.2 The shopping centre contains a mix of food/non-food and fast-food outlets. In total, the gross floor area of the development was declared by the developer as being 4187m^2. The area measured from plans by Highways Development Control (DC) officers and used by them in applying the guidelines was 4417m^2. The stated provision for the development was 280 spaces though only 275 could be traced on the layout plan.

12.5.3 By applying the UDP guidelines, officers considered that there should be 355 spaces provided as part of the development. Thus they considered there to be a shortfall of 80 (355 less 275) against the guidelines, about 20% below the guideline rate. In the case of this development, the highway officers were very concerned about the possibility of overspill parking from the development interfering with nearby on-street residential parking.

12.5.4 Officers sought to increase parking provision through negotiation but failed to achieve this. Reservations about approving the development on the grounds of inadequate parking provision were entered by the Director of Highways and Transportation, but these were overruled by the Planning Department and the development was approved with the support of planning officers.

12.5.5 Officers stated that there was no formal monitoring procedure to determine whether such 'under provision' leads to overspill parking. Also, they were not aware of any problems of this nature following development of the site.

12.5.6 The level of parking given by application of the GOSE matrix to this development indicated provision at no more than about 30% of the UDP guideline level. Part of the purpose of the case study was to seek local authority officers view's on what were the implications of such a reduction. Officers had great difficulty in making the jump between the current guidelines and those being proposed. They found it particularly difficult to speculate on the impact of wide-scale application of levels so different from those they were used to working with. In the case of this development they found it impossible to judge whether the development would have taken place, or forced to a new site, or been developed in a way which reduced the parking accumulation.

12.6 *Main Findings of the Case Study*

12.6.1 Whilst it was not possible to complete the case study in the way originally envisaged, there are some valuable pointers that can be taken from this work. The case study threw some interesting light on the way in which, at a practical level, officers come to decisions regarding the allocation of car parking spaces in new developments.

12.6.2 The parking standard 'guidelines' contained in the UDP are based on what has been used elsewhere. It was unclear, on probing, what the standards were based on, with local authorities looking to others for guidance. Some national lead would appear to be required, even if there continues to be some local discretion.

12.6.3 The City Council planning officers viewed the current UDP as being fully consistent with the GOSE framework. We would question this interpretation of the matrix. In addition, we would adopt a more

rigorous approach in applying the zoning (i.e. smaller areas qualifying for Zone 1 and Zone 2 status). It appeared that local planners would tend to opt, if possible, for continuing with existing policies rather than for radical change such as suggested to them in the case study work.

12.6.4 Part of the difficulty in applying the GOSE matrix method was that it does not give a single criterion by which to decide on zoning, thus much is left to local professional and political judgement. In many cases the determining characteristics are in conflict with each other. A single criterion, for example based on public transport accessibility, would make the definition of zones easier. If such objectivity was not applied, there would be a danger that local authorities would manipulate zone boundaries in order to avoid requesting developers to reduce parking.

12.6.5 The highways officers involved in the study saw the current UDP 'guidelines' as a means of ***increasing*** off-street parking provision rather than reducing it. Developers were considered always to be 'trying to get away with' including too few parking spaces. Even building sizes are recalculated as they are frequently understated on layout drawings. Highways staff see this as a deliberate attempt to escape what they perceive as their responsibility to provide adequate parking.

12.6.6 For highways officers the key issue is not compliance with PPG13 parking restraint policy, but the avoidance of overspill parking from new development and the potential local problems this will create in neighbouring residential areas, particularly if local elected Members get involved. As consultees on planning applications they often 'guard their backs' by recommending that applications be turned down because of lack of off-street provision associated with the development (though they do this often with the expectation of being overruled).

12.6.7 Highway staff found it extremely difficult to 'connect' with the GOSE matrix parking maxima. These were, in their view, so extreme (i.e. so low) as to make it difficult to speculate as to the response of developers, particularly if they were adopted as a national standard making it impossible for 'footloose' development to go elsewhere.

12.6.8 Whilst the City Council has clear policies on promoting alternatives to the private car, we sensed that these are not pursued with any

great enthusiasm by highways officers responsible for day-to-day decision making. This, linked with their over-riding concern relating to the avoidance of local parking problems, made it difficult to believe that the Council would, in practice, encourage innovative approaches to managing travel demand as an alternative to generous car parking provision.

13 *Process and Technical Issues*

13.1 *Introduction*

13.1.1 The next three sections of this report include discussion of various topics that have been prominent in the research, and that need to be taken into account in devising a parking method, whether at the national, regional or local level. This section deals with various process and technical issues. Section 14 deals with issues affecting the effectiveness of reduced parking. Section 15 deals with issues relating to different types of parking

13.2 *Expressing the levels of parking provision*

13.2.1 Parking provision in new non-residential development will generally be subject to maxima related to gross floor area (GFA). The convention that has developed from use of the old minimum standards is floor area per car space (e.g. 1 space per 50 square metres GFA). With the use of maxima, however, this means of expression is confusing since the number increases as the amount of car parking reduces. It is confusing when, for example, local authorities state that they are "willing to relax standards in town centres" when this means they are willing to "allow" developers to provide ***less*** parking. In relation to maximum levels relaxing standards would refer to allowing ***more*** parking.

13.2.2 It is suggested therefore that parking levels be expressed as car spaces per 1,000 m^2 of GFA (e.g. 20 car spaces per 1,000 square metres maximum).[41]

13.2.3 The use of maximum (as opposed to target) levels means that planning practice will involve negotiation to reduce the on-site parking as low as possible (e.g. on-site parking negotiated at 10 per 1,000 on the basis of planned non-car access improvements and proximity to public car parks). "Relaxation" of parking policy would occur when a level of parking higher than the maximum was thought to be appropriate. An example might be where development of an area was at an early stage, and parking overall would be reduced in relation to GFA as further sites were developed and alternative modes were improved. A further example might be where (as part of an overall parking management plan) new off-street parking was

[41] Metro, the regional planning organisation for Portland, Oregon (USA) also has maximum parking standards, and also uses the expression "spaces per 1,000".

desirable for public use, perhaps compensating for a reduction of on-street provision for pedestrian priority provision.

13.3 *Negotiating within parking maxima*

13.3.1 The danger in specifying maximum "standards" is that they have the tendency to be regarded as "standard", i.e. to signify target or requisite levels of provision. If developers come forward with proposals that include provision at the maximum level, local authorities may continue to find it difficult to negotiate lower levels of provision. This has become clear from discussions with local authority officers.

13.3.2 For this reason this report avoids the term "standards" and instead discusses "levels of provision". This is more in keeping with an approach which requires local authorities to negotiate the lowest amount of parking in new developments that is consistent with policy and other considerations.

13.3.3 An appropriate starting point for local authority negotiation will be the location and accessibility characteristics of the site, and the access profile of the proposed scheme as determined by a Transport Assessment. Once these characteristics are established, negotiation of the level and manner of parking to be included will start from the operational parking requirement (if any). It will be for developers to demonstrate in their proposals why additional parking is sought, on the basis of an access plan for the intended pattern of use.

13.3.4 Depending on the expected trip generation and share of this to be met by car driver mode, the developer can negotiate for additional parking up to the specified maximum or ceiling.

13.3.5 The car driver mode share should be discussed in relation to local mode split targets or traffic targets as and when these are available. It should be clear from the outset that the policy is to keep the non-operational parking as low as possible, and that the planning application should include an appraisal of access by non-car modes (and car ride-share) and the means by which travel by these modes is to be delivered.

13.3.6 The non-car access provision may include, for example:

- A commitment to provide pedestrian and cycle facilities serving the site;
- A commitment to provide additional public transport links or frequencies to cater for the extra demand;
- An assessment of how surplus public transport capacity serving the site can be used;
- A commitment to the introduction of a Green Travel Plan;
- A financial contribution to transport projects as part of the LTP;
- A commitment to monitor out-turn travel patterns at (say) yearly intervals, and related default commitments to remove parking, contribute more to non-car modes, contribute to a new CPZ, etc.

13.3.7 Additional factors to be taken account in the negotiation of access requirements will include:

- Impact on the road network;
- Impact on road safety;
- Current accessibility by non-car modes;
- Impact on the urban fabric;
- Availability of parking in the vicinity.

13.3.8 ***Mode split targets***

13.3.9 Local mode split targets are likely to form part of local authority strategies for meeting traffic reduction, air quality, road safety and specific mode targets. In this case they will form an important basis for local authority negotiations with developers on individual schemes concerning access and parking, using Transport Assessments where available.

13.3.10 Where mode split targets are used in the determination of parking provision, it will still be necessary to consider absolute numbers. For example, allowing higher density of development in conjunction with a smaller car share may not necessarily mean an absolute reduction in parking demand (compared to current practice or "reference standards").

13.4 *The local planning framework*

13.4.1 Parking policies carry most force when adopted as part of the Development Plan (DP). Supplementary Planning Guidance (SPG) alongside the DP is an alternative which may carry less weight but which can be implemented in advance of a full DP review. This can be enhanced with a separate public consultation process, but the time involved may mean that the DP review becomes a better option.

13.4.2 Consideration of the appropriate instrument for the determination of parking provision is further complicated by the variety of administrative systems that apply in different areas. In unitary authorities, the Unitary Plan or SPG attached to it is the obvious answer. In two-tier areas the answer is less clear. The Structure Plan is arguably the most suitable instrument, since the County authority is also the transport authority. On the other hand, this detaches responsibility for parking in new development from the local planning authority. The need for consistency between local planning authorities within a county is, however, an important justification for parking policy to be incorporated in the Structure Plan. Whichever instrument is used a strong national and regional framework will assist in the effectiveness of parking policy.

13.5 *The local transport framework*

13.5.1 The specification of parking provision as outlined in this report places considerable emphasis on the need for access criteria covering all modes. Provision of parking below the "unfettered demand" level necessarily involves planning to cater for diverted parking demand (e.g. the adoption of on-street parking controls) and for trips made by non-car modes (e.g. improvements to bus services or walk and cycle networks). The appropriate mechanism for dealing with these aspects is the Local Transport Plan (LTP) which itself is expected to be co-ordinated with the Development Plan (DP).

13.5.2 Differences in the level of parking to be provided between different parts of a local authority area will be based on accessibility. It may therefore be appropriate to give variations in accessibility some spatial definition, as in the authorities that have adopted a zone

approach. The boundaries of such zones could be included in the DP, and thus assist developers in identifying what will be the right kind of development for a particular location (or what is the right kind of location for a particular development). Areas where major improvements to accessibility are planned can be included, and the LTP will specify how the accessibility is to be improved, and in what timescale. This is likely to include Quality Partnerships and Quality Contracts for public transport provision, as well as infrastructure and other measures.

13.5.3 The specification of such measures in the DP and LTP will provide firm justification for the negotiation of developer contributions.

13.6 *Pushing the new agenda forward*

13.6.1 The research has highlighted the complexity of the issues related to parking policy and practice, and also the fact that to a large extent these issues have not to date been addressed as an integral part of planning practice. Planning officers often rely on the advice of officials responsible for highway matters, resulting in conflicting objectives and priorities. Planning policy on reducing car dependence often takes second place to objectives of "keeping the traffic moving". The case studies, and the local authority workshops brought home the fact that planning officers do not always have the experience or training to deal with the transport issues raised in PPG13.

13.6.2 Also highlighted is the difficulty faced by elected members in reconciling transport sustainability with economic development objectives. In particularly they often are unwilling to act independently to reduce parking when competing authorities are not doing so.

13.6.3 Similar difficulties are faced in the State of Oregon (USA) which has adopted policies to promote new development that is "less auto-orientated". According to a State planner, "there is a big gap in the intellectual infrastructure, with little expertise in the new approach to development". Certain initiatives are therefore being deployed to accelerate the change of approach, including:

- State agencies help local authorities to review and revise their plans[42]. This is called the "livable Oregon" programme involving a State funded team with members from State and Regional bodies. This is seen as crucial *"because of the inherent contentiousness of the issues. Local politicians don't like to be unpopular, so it is unrealistic to expect them to make sound decisions without 'remote oversight'. Localities need State support to provide 'political cover'"*;
- A so-called "quick response" programme whereby developers are able to receive free professional expertise to help them with less auto-dependent designs. When local authorities learn of a development proposal, they can draw on a pot of money to hire consulting firms on urban design and transport to work with the developer. Up to $100,000 is available for each project.
- A "small development" programme aimed at encouraging developers to build in transport-efficient ways (e.g. higher density, mixed use), and to encourage banks and lenders to finance such schemes. One task is to disseminate information on best practice schemes to aid understanding of what is involved, and to provide evidence that it can be both workable and popular.

13.6.4 Such "planning mentor" initiatives may be essential if the transition to new modes of practice such as demanded by the shift from minimum to reduced maximum parking provision is to be speeded up.

[42] In the USA such practice is believed to be found only in Florida and Oregon.

14 *Effectiveness Issues*

14.1 *Achieving consistency of approach*

14.1.1 The need for consistency arises because of the policy requirement for sub-demand parking levels and the shift to maximum levels, and the consequent need to "avoid the destructive potential for competitive provision."[43] This underlines the importance of national or regional guidance to set a clear framework.

14.1.2 Revisions made by county authorities are in most cases expected to be adopted by the relevant district councils, but consistency between the two levels of local government is not always ensured. In particular the implementation of reduced parking does not attract the same consensus of opinion as the minimum parking standards that it will replace. Some counties in any case allow a degree of flexibility or autonomy for the districts in their area. In addition parking may or may not be adopted within the framework of Structure and Local development plans, which also have different timescales for adoption. District authorities in some cases have made more progress on revised standards than their County authority.

14.1.3 The revisions undertaken so far are diverse, as reflected in Table 5.1. There is therefore a danger that delays in establishing and enforcing a national framework (such as national maximum parking levels) will lead to a variety of approaches between which consistency will be difficult to establish after the event. Moreover there could be a considerable waste of resources and effort as councils undertake separate and unrelated studies.

14.2 *Cross-border and inter regional variation*

14.2.1 In order to be effective in constraining destructive competition, the degree of variation in parking maxima (however these are applied) will need to be kept within narrow limits. This applies both intra- and inter-regionally. Figure 14.1 shows that local authorities adjoining each other across regional boundaries accounts for a large proportion of the area of Britain. Regional autonomy in this matter therefore would be likely to result in continued problems of development being "poached" between authorities.

[43] PPG13 (1994) Paragraph 4.5

Figure 14.1 Local authorities Bordering Regional Boundaries

14.3 *Legislation and fiscal measures*

14.3.1 Two measures are likely to be available following the introduction of legislation to empower local authorities to introduce road user charges and employee parking space charges.

14.3.2 Such measures will, if and when they are successfully introduced, be consistent with the reduction of parking spaces in new development. The application of charges for all employee parking within a local authority area will help to "level the playing field" between existing development (which may be seeking to reduce parking in order to reduce the charges) and new development (which will be seeking to minimise the liability for charges when the development is operational. The road user charges could reduced pressure on parking spaces overall, and hence resistance to reduced parking provision, if they are effective in reducing demand for car trips. The measures are also consistent in that they provide a source of revenue for improvement of alternative modes, which may be necessary for the success of reduced parking.

14.3.3 The impact of these measures is likely to be small, however, at least in the short term. The reasons for this, *inter alia*, are

- The powers only enable action by local authorities, they will not result in universal application of the charges. This means that some areas will have, and be perceived by developers as having, more restrictive policies. This will cause diversion of development pressure, as identified in this study as the main problem with local autonomy of action in relation to reduced parking.
- Local authorities wishing to introduce such charges are likely to be only those with excess development pressure, such as historic and larger cities. The bulk of the country will be unlikely to be affected. Moreover, even those authorities who do introduce charges may wish to do so only in their town and city centres, in which case the pressure for car based development out of centres may be undiminished.
- Charges for only employee parking requires that this can be distinguished from parking for operational, visitor and customer parking. This is likely to require an unprecedented level of data

and enforcement of private parking, involving interview surveys of users at regular intervals. The system would appear to rest for its effectiveness and fairness on a high level of management and administration by the local authority. Charging for all private parking, whatever the land use and whatever the location would be both more effective, and simpler to administer.

14.4 *Developer contributions*

14.4.1 Commuted payments and other developer contributions to transport related improvements were not envisaged as central to the work of this study, particularly since they are the subject of separate research effort. However, paying attention to the local authority consultations carried out during the project, the importance of this topic within the overall development process cannot be too strongly emphasised.

14.4.2 The ability to secure developer contributions for transport purposes is already seen as important by local authorities. However, such contributions currently play a limited role in securing access improvements, accounting for a small proportion of all contributions made, and applying as they do mainly in areas of development pressure.

14.4.3 The switch from minimum to maximum parking levels is often perceived as ending the established practice of commuted sums in lieu of parking provided on site. Indeed this is given as a reason why some authorities still have not followed 1994 guidance on parking maxima.

14.4.4 The work with local authorities in this project established broad agreement that developer contributions should:

- Be linked to schemes forming part of a strategy of access improvement. This mechanism will depend on the establishment of Local Transport Plans integrated with the relevant Development Plans;
- The commuted payment method will not serve this purpose well, since it is too closely tied to out-dated policies of parking provision, and the calculation of sums is unrelated to the non-

parking elements of access improvement which in future will be far more important;

- Unlike the commuted payment system, which is applied almost exclusively in town centres, a new mechanism should be designed to encourage development in such accessible locations.
- Contributions can be based on individual projects directly related to the development, or on packages of measures included in Local Transport Plans. The latter can also be related to the development by reference to level of accessibility of the site in question, whether or not this is formally described in a hierarchy of Zones.
- It should be noted that contributions for non-car schemes should be integral with the access profile agreed for the development. The present practice of developer contributions for non-car modes *in addition* to full car parking provision should be deliberately ended with appropriate changes to guidance and local policy, so that developers become more fully aware of the new integrated approach.

14.4.5 Once the access profile of a development is establishment the amounts to be contributed by the developer can be determined in relation to the relative costs of provision of the different modes. This could involve either a site-specific factoring on the basis of the agreed access profile. An alternative approach, which would be compatible with the use of a hierarchy of Accessibility Zones, would be to specify a rate for the entire Zone in which the development falls. The latter would be calculated on the basis of investment proposals in the Local Transport Plan.

14.4.6 Both the type and the level of payments should reflect policy. At present developer contributions for transport purposes, especially commuted payments for parking, apply mainly in town centres. This sends the wrong message to developers, who may in effect be penalised when developing in the locations preferred by policy. Instead, the principle needs to be established that developers take responsibility for the access impacts of their schemes, and the financial (or other) contributions are then related to these impacts. If, therefore, it costs more to achieve appropriate accessibility at an out of town site than at a town centre site, then the payments should reflect this. In this way the contributions system will act to support rather than to undermine planning policy.

14.4.7 Consideration is already being given in some authorities to a system of commuted payments graded to collect more from out of centre developments than for town centre schemes.

14.4.8 A survey of commuted payments practice revealed ***no*** example where all the following conditions applied: [44]

- Payments were required from all land use types;
- Payments used for non-parking purposes;
- Weak pressure for development.

14.5 *Monitoring and enforcement*

14.5.1 *Monitoring compliance with policy*

14.5.2 The move to parking reductions at a level that will achieve the traffic limitation objectives of planning guidance will only occur if such action is supported nationally and regionally. There will powerful incentives to resist change amongst both developers and local authorities, especially if there are loopholes in the approach (in particular if consistency is not achieved across the country). These realities produce the need for close monitoring of parking policy in plans prepared by local authorities by the DETR and Regional Offices . Compliance with both the spirit and purpose of the national parking guidance in individual development decision will also need to be ensured through the system of planning application call-ins and appeals.

14.5.3 Delays in implementation of the new approach will result from the timescale of development plan review and adoption unless special measures were to be taken by the Government to ensure that the new approach is adopted and applied outwith that process. That this is the case is shown by the fact that few local authorities have yet adopted parking standards revised in the light of PPG13, despite that guidance having been in place for more than 5 years.

14.5.4 Consideration can be given to incentives for local authorities to comply with the approach contained in national guidance. For

[44] Analysis of Avon County Council (1995) "1995 Commuted Payments Survey" with 88 respondent authorities. See also Nathaniel Lichfield and Partners Ltd. for Marks & Spencer Plc (1990) "Commuted Car Parking Policy and Practice.

example, allocation of transport grants and credit approvals through the Local Transport Plan procedure, as well as regeneration or other grants, should all be conditional on parking guidance being followed by the authorities concerned. At present such grants and approvals are based on fairly strict criteria prepared annually by the DETR that include requirements for traffic demand management, and encouragement of non-car modes. These criteria are substantially undermined in most local authorities, however, by the requirement for full parking provision in new developments. Because this is dealt with as a planning matter rather than a transport matter, this inconsistency has not had a major bearing on local authorities' ability to attract grants and credit approvals from the Government.

14.5.5 *Enforcement of access conditions by local authorities*

14.5.6 This may best be achieved by a set of standard conditions related to the Transport Assessment submitted by developers, and to the mechanisms agreed as a result of the planning negotiations, such as green Commuter Plans and financial contributions towards transport schemes. These conditions should ensure that they apply to successors in title and to all users of the development.

14.5.7 Surveys of user travel behaviour will be needed for enforcement, and the planning conditions should be designed to ensure that such surveys are carried out either by the developer, or can be carried out by the local authority. Rights of access to the premises and its users for this purpose will need to be part of the condition. By far the most important element of the Transport Assessment from an enforcement point of view will be the number of car trips attracted, and this can fairly readily be monitored, using simple counting surveys rather than interviews.

14.5.8 The resources for enforcement are likely to be an issue for local authorities and consideration should be given to developer contributions reducing the burden on local authority budgets.

14.5.9 There are likely to be spin-off benefits from the enforcement effort, however. These may include demonstrating a contribution to local traffic reduction targets and making negotiated Green Travel Plans more effective. (Elimination of PNR would of course considerably ease the burden of enforcement and associated data collection.

14.6 *A phased or incremental approach?*

14.6.1 The implementation of reduced parking in new development represents a radical departure from current practice (though not from current national policy). It could be argued, and indeed it has been argued, that there should be a transition period to allow adjustment to more restrictive parking.

14.6.2 In London, resistance from London Boroughs, especially in outer London, to the parking restraint policy led the London Planning Advisory Committee to recommended a transition period[45] to allow Borough Councils time to adjust to the restrictive standards set out in RPG3[46]. It has become clear that Boroughs exploit such leeway as a way of legitimising inaction, and that they are not prepared to act in advance of other authorities that might be competing for development. The Minister for transport in London has made it clear that the RPG3 policy should be implemented without any transition period.[47] At the same time it was acknowledged that similar restraint-based parking policies were needed in authorities outside London.

14.6.3 There is another reason why a transition period is untenable. Planning permissions generally run for 5 years, and there is a large bank of extant permissions that include full or generous provision for on-site parking. The CPRE has estimated that in London alone, current permissions that include car parking for at least 250 cars could add to the total parking stock by more than 150,000 spaces within 5 years. This figure does not include the (probably more numerous) current permissions for developments with car parks smaller than 250 spaces.

14.6.4 There is therefore already a "built-in" transition period while permissions given under out-dated parking policies are worked through. This period could be further prolonged while the new approach is adopted by local planning authorities.

14.6.5 Finally, there is already a large stock of developments that have excessive parking, as well as older developments with little or no

[45] London Planning Advisory Committee, "Revised Advice on a Parking Strategy for London (1997 Parking Advice)", 1997, paragraphs 61-62.
[46] Government Office for London, "RPG3: Strategic Guidance for London Planning Authorities", 1996.
[47] Letter from Rt Hon Glenda Jackson, Minister for Transport, to LPAC ** date.

PNR parking provision. Switching to reduced levels of parking in new developments will alter the balance of the overall stock over time, and this can be expected to cause some users to seek different sites for their activities. Those not needing car parking will tend to move to properties with low parking costs, while those who place a high value on parking within the site will shift to properties where that is available. There is no obvious disadvantage of such redistribution.

15 *Private and Other Parking Provision*

15.1 *The possibility of zero PNR provision*

15.1.1 Current practice often includes the use of alternatives to PNR in town centres and other appropriate locations, and is justified by one or more of the following considerations:

- Additional parking demand arising from new development may be partly met by parking space in the vicinity, thus reducing on-site requirements;
- Public access to parking ensures more efficient use of space, and hence reduces the overall space requirement;
- PNR lies outside local authority control, and thus limits the effectiveness of parking management strategies; (In some town centres, PNR accounts for more than 60% of total supply.)
- Individual parking provision can lead to an unnecessary proliferation in road openings and footway crossovers; (In downtown Chicago, for example, new footway crossovers have been prohibited when pedestrian flows exceed a certain threshold.)

15.1.2 It may be argued that most of these considerations apply also outside town centres, and provide valid reasons for questioning the necessity for PNR provision in any circumstances.

15.1.3 The practice of providing off-street car parking for the exclusive use of the operators or owners of the site has at least two consequences which tend to work against the policy of reducing car dependence, increasing mode choice and maximising the use of scarce development land.

1 The proportion of the total parking stock that is subject to public policy control is continually reduced, especially if public parking stock is reduced to meet environmental or mode shift objectives. Already in some towns private parking accounts for more than 60% of the total. This undermines the ability of local authorities to use parking policy as a means of influencing travel choice. I

2 Dedicated private parking inhibits the shared use of spaces between different activities or land uses. This can lead to inefficient use of space, with large amounts of parking unused for long periods. This will inhibit more intensive use of development land, necessary if more use of non-car

modes is to be encouraged. It can also lead to avoidable traffic generation as people park and re-park as they go from one activity to another.

15.1.4 The inclusion of all parking as part of the overall transport infrastructure serving a site rather than as a separate, private facility, would make the links between parking and access to the site by modes other than the car much more transparent. This in turn would assist in arriving at appropriate developer contributions, and encourage developers to seek the most efficient access arrangements for their schemes, rather than focussing only on car access.

15.1.5 There will, of course, be instances where private dedicated space is necessary for special reasons, for example security, storage of commercial and other vehicles integral to the operation of a business. Loading space off-street will also often be the best arrangement, though not automatically so.

15.1.6 If this approach were to be taken, the starting point would be an assessment of accessibility requirements for the site, and also for the wider area. This would include all modes, and deficiencies or surpluses of parking would be assessed, providing a rational basis for deciding how much (public) parking should be secured as part of the developer contribution on access, alongside required improvements for access by public transport, cycling and walking. Where parking is provided as part of a development scheme, this would be publicly available, and managed according to local authority policy for length of stay, charge structure etc. The management process would be set up through the use of appropriate planning conditions. The developer should, however, be provided with the option of funding provision elsewhere, which could take the form of requiring the local authority to adopt part of the site for public parking.

15.2 *Operational parking*

15.2.1 The case for setting minimum levels of operational parking can be called into question. The research has uncovered no robust or agreed method of determining appropriate provision.

15.2.2 Two possible approaches are:

1 To treat operational parking as a separate issue, and negotiate amounts of space with developers individually up to a ***maximum*** level;

2 Include operational space within the overall parking maxima, and leave developers or operators to decide on the actual use of the space.

15.2.3 A potential problem with the first approach is that developers can exaggerate the operational requirement. In the context of reduced levels of provision for non-operational parking, developers may well seek to incorporate more operational parking in their schemes, and to broaden the definition of operational need, in order to lessen the impact of the policy. The policy for an "operational minimum" would in our view encourage such tactics, since it implies negotiation upward from a set minimum.

15.2.4 Whichever method is used, the basis for negotiation is that operational parking will be not exceed that required for the purpose, and that ways should be sought for reducing its quantity as adopted, for example, by Lancashire County Council. The issue then becomes a matter for enforcement, with monitoring undertaken to ensure that space provided for operational purposes is not being used for other purposes.

15.3 *Residential parking*

15.3.1 Parking in residential developments can be addressed in relation to both the extent and nature of provision. The extent (quantity) of provision is relevant to:

- Car ownership
- Housing density and urban capacity
- Housing type (tenure, occupancy)

The manner in which parking is provided is also relevant to these points, and in addition affects the quality of public and private realm and townscape.

15.3.2 *Car ownership*

15.3.3 Non-residential parking mainly affects trip destinations and so controls on its provision have an impact on patterns of car use. Implicit in the often-stated policy principle that it is car use rather than car ownership that should be restrained is the assumption that car ownership is independent of car use. There is, however, growing awareness that in practice levels of car use are very closely associated with levels of car ownership, and that in the long run the restraint of one will (or is likely to) result in restraint of the other. The nature of the causal relationship here is complex, however, and for the purposes of this study it has been assumed that residential parking policy and practice should not in itself be deployed as a means of restricting car ownership.

15.3.4 This does not preclude voluntary or advocated restraint on car ownership such as may result from the development of car-free or car-reduced housing in accessible locations, or through promotion of non-car alternatives. Quite apart from the policy principle, it is unlikely that reduced parking provision in housing developments will in isolation lead to any significant reduction in car ownership.

15.3.5 *Quantity of parking*

15.3.6 As with PNR parking, current practice whereby local authorities insist on minimum levels of provision results in considerable over-supply, i.e. surplus parking spaces at times of peak demand. This makes a negative contribution to the objectives of making the best use of urban land and creating quality urban environments, and is counter to the policies expressed in national guidance.[48]

15.3.7 The issue of over-supply is particularly prevalent in affordable housing schemes. Research for the Housing Corporation provides instances of where the rigid application of "per-dwelling" standards by local authorities has limited the provision of affordable housing. The need for a more sensitive approach which takes account of the lower car ownership levels in affordable housing has been consistently advocated in recent years[49], but

[48] For example in PPGs 1, 3 and 13, and Circular 13/96.
[49] Auchincloss (1996), Housing Corporation Good Practice Guide; PPG13 paragraph 4.6; PPG1, paragraph 11.

"as is evident from the responses from housing associations across the country, the practice of many local authorities has not yet caught up with current national policy".[50]

15.3.8 Over-provision is not confined to affordable housing schemes, but can also be found in "open market" housing. Although there is evidence that some housebuilders are reluctant to reduce levels of parking even in town centre locations[51], there is counter evidence that other housebuilders are frustrated by over-generous minimum standards insisted upon by local authorities. An example is provided by a survey of developments in South East England by Fairview Homes[52], which concludes that:

"At every site surveyed the maximum number of vehicles parked is always less than the number of spaces available… ;

The maximum number of vehicles parked is less than the number of dwellings except at sites least accessible to public transport..."

15.3.9 At one site in the Isle of Dogs, maximum parking demand was 50% of the number of dwellings, and only 40% of the total parking supply.

15.3.10 Similar problems have been exposed in relation to housing conversions whereby the potential to increase housing densities at locations with good public transport access is being thwarted by rigid application of minimum off-street parking standards.[53]

15.3.11 If this pattern of over-provision is typical elsewhere and for developments by other private housebuilders, there are important implications for urban capacity and related policy objectives. Thus it can be seen that encouraging local authorities to reduce parking requirements in residential developments, and to take a more sensitive approach to the circumstance of each scheme, much can be achieved without encroaching on the issue of whether car ownership should be or could be reduced.

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[50] Housing Corporation (1997) **, paragraph 4.7.
[51] Northampton case study reported in: UK Round Table on Sustainable Development "Getting Around Town" (1997) and "Housing and Urban Capacity" (1997).
[52] Fairview New Homes plc (1997) "A Study of Car Parking Use", Section 4.
[53] See for example Llewelyn-Davies *et al* for LPAC (1994) "The Quality of London's Residential Environment".

15.3.12 Over-provision is also an issue for developers of housing and for the quality of their products. Surplus (wasted) parking spaces also usually will involve surplus space for access, and can place heavy constraints on housing layout. Lower levels of provision will often enable the site to accommodate more dwelling units, and/or larger dwelling units and/or more usable amenity space. All of these gains will improve the economic return for the developer, or reduce the degree of subsidy required in regeneration projects.

15.3.13 Local authority minimum standards often exceed 2 car spaces per dwelling, even for two and three bedroom flats and houses. This should be compared with typical "saturation" levels of car ownership of around 1.6 per dwelling. Car ownership is (unsurprisingly) found to correlate with dwelling size, but even in areas of high car ownership, average rates in excess of two per dwelling (household) may apply only for houses with five bedrooms or more.[54]

15.3.14 As with PNR, the actual demand for residential parking space is related to the accessibility of the site. Some town centre development schemes are already tending towards a maximum of 0.5 spaces per dwelling, for example a level of 0.6 at the Romford Brewery site in outer London. This is probably ample provision for locations with high accessibility by non-car modes, proximity to a range of urban facilities, and (usually) publicly available alternative parking facilities.

15.3.15 *Type of provision*

15.3.16 The interaction between the density, cost and quality of housing, and the manner in which parking is provided is explored in a number of studies.[55] Also important, although less prominent in studies to date, is the link between all these factors and accessibility levels, and the interaction of these with the propensity to own cars. Car-free or car-reduced initiatives do, however, include accessibility as a factor determining the suitability of sites, for example in

[54] Noble J, Jenks M (1996) "Parking: Demand and provision in Private Sector Housing Developments", Oxford Brookes University.
[55] See for example Llewelyn-Davies studies for LPAC: "The Quality of London's Residential Environment" (1994); and "Sustainable Residential Quality" (1998).

Amsterdam, Edinburgh and Tübingen.[56] A car-free housing project in Bremen foundered partly because of its peripheral location.

15.3.17 The varying forms of parking provision also affect the capacity of new and existing housing areas to absorb increases in car ownership. Research has shown that apart from the denser and older urban areas, there is enough parking space to accommodate future car ownership growth, though sometimes at the cost of further loss of front gardens and other amenity space. In new developments an issue deserving consideration is the extent to which (if at all) shortfalls in parking in adjacent housing areas should be made good in new developments.[57] This can only be addressed in relation to the wider parking strategy, but such provision would be likely to carry a very heavy environmental cost.

15.3.18 ***On-street versus off-street***

15.3.19 Highway authorities traditionally have insisted on sufficient off-street spaces being provided to keep the highway free of parked vehicles. Although the right of veto by the highway authority was removed in 1988, in practice strong influence is still exerted over the planning authority.

15.3.20 If it is accepted that on-street parking is not a stop-gap until such time as all housing is redeveloped with off-street provision, a more sophisticated approach can evolve. On-street parking can become an important means of provision, including in new developments, which is both efficient and consistent with high standards of design. Whether or not on-street provision meets this aspiration will depend on a range of factors including, for example:

- The position of the street in the traffic or speed management hierarchy;
- The degree of integration desired between parking and other street activity;
- The carriageway width;
- The design and configuration of parking bays adjacent to the carriageway;

[56] Llewelyn-Davies for LPAC "Sustainable Residential Quality" (1998).
[57] Balcombe and York (1993).

- The design and layout of buildings and their relationship to the street;
- The degree and type of parking control.

15.3.21 Blanket restrictions on the inclusion of on-street parking in new housing are therefore inappropriate. Instead, local authorities and developers can review all the above factors in determining overall provision and its distribution between on and off-street spaces.

15.3.22 ***Communal or private allocated spaces***

15.3.23 It is acknowledged that parking spaces allocated to individual dwellings have the advantage of being easier to supervise and to use for ancilliary activities such as car cleaning and repairs. Garages attached to dwellings offer even more security and may be valued for this reason, especially in areas with perceived or actual high crime rates.

15.3.24 There are, however, considerable disadvantages of allocated provision including:

- Inflated housing costs;
- Lack of choice (as to whether or not to purchase parking space);
- With garages, the provision of at least two spaces per dwelling by virtue of required set backs from the footway;
- Interruptions to the footway;
- Over-provision due to inefficient use of spaces (restriction of public and shared use);
- Poor townscape.

15.3.25 For these reasons, communal parking is more compatible with sustainability and urban quality objectives. It is also the type of provision preferred by some local authorities, for example to maintain townscape character[58], and also by some housebuilders. Fairview New Homes, for example state that their "policy not to allocate individual off-street parking spaces to individual dwellings creates efficient car park utilisation and ensures that only the minimum car parking provision is necessary".[59]

[58] For example housing developments in Witney, West Oxfordshire District.
[59] *Op cit*

15.3.26 All of these considerations suggest that local planning authorities can make greater efforts to reduce the overall levels of parking provision in new housing developments, and to require parking layouts which make a positive contribution to transport, housing and urban quality objectives.

15.4 *Other parking categories*

15.4.1 *Cycle parking*

15.4.2 Many local authorities are now adopting standards of cycle provision in new developments. The cycle parking standards increasingly adopted by local authorities are based on a mixture of observed typical levels of cycle use to particular developments, and levels of cycle use to which local authorities aspire, sometimes prompted by target increases in cycle use.

15.4.3 The application of cycle parking standards needs to be considered alongside the conclusion in this research that accessibility should be the main consideration in determining levels of parking provision. This applies equally to pedal and motor cycle parking provision. In the new regime a further and more specific calculation will need to be undertaken. Levels of cycle use will be determined in relation to travel to the site by other modes, taking into account the fact that car use to the site will be restrained below the level of "unfettered demand". As a consequence, the cycle parking provision becomes an integral part of the negotiated access arrangements specific to the planning consent. For example, if a developer shows that parking demand will be now higher than x as a result of y demand by bicycle, the cycle parking provision (and other cycle facilities) must be related to that level of use.

15.4.4 In view of this consideration, cycle parking standards should continue to be expressed as minima. There are few negative impacts resulting from provision in excess of the minima compared to the provision of excess car parking.

15.4.5 In residential developments in the UK, cycle parking is very rarely given consideration distinct from general storage. Dwellings without garages are often very poorly provided with convenient and secure storage for bicycles, which could affect the propensity to own and use them. Where dwellings do have garages, they are frequently

found to be used for cycle storage (and for other domestic purposes) rather than for car storage.

15.4.6 *Parking for those whose mobility is impaired*

15.4.7 This category of user can be difficult to define. In public parking control schemes, parking exemptions and rights are sometimes given to people within the Orange Badge scheme. However, some authorities believe that this system is widely abused, and where parking is at a premium (as it will be in future new developments which comply with parking policy) the potential for abuse is heightened. A further problem is that many people whose mobility is impaired are not part of the Orange Badge scheme, for example people who are temporarily disabled.

15.4.8 A further consideration is whether any real benefit can be given to people whose mobility is impaired and who depend on getting their vehicle as close to their destination as possible. It may often be the case, for example, that wheelchair access is available at a front entrance, but not from a rear entrance serving the parking area. In this case access from nearby public parking facilities may be at least as convenient as dedicated parking within the scheme.

15.4.9 Our conclusion is that parking for users requiring special access can be regarded as "operational parking" within the definition used in this report, but that application of this principle should be on a case by case basis. The factors to be taken into account should include:

- The provision of other operational parking in the scheme (if not, special provision for those whose mobility is impaired may be harder to justify);
- The configuration of operational parking on the site and the access arrangements into the building;
- The relative proximity of other public or private provision of facilities close by;
- The presence of a "Shopmobility" scheme (existing or planned);
- Aspects of the development that may generate more than usual demand for special access arrangements (i.e. the access profile of the end users of the site).

15.4.10 *Park and Ride*

15.4.11 Consideration of the access profile of developments in town centres or at major out of centre sites gives rise to the possibility of park and ride access as one component of overall accessibility. Provided that schemes have a significant and permanent role, they can be regarded as part of the overall off-site parking supply and hence influence the determination of on-site parking levels. However, it should be recognised that although park and ride sites are remote from most town centre development sites, they still contribute to the overall town centre parking stock, and may still lead to generation of traffic. This issue will need to be addressed in Local Transport Plans and Parking management Plans.

15.4.12 The case for park and ride usually consists of one or more of the following characteristics:

- Enlarging the access capacity of the town centre without increasing the supply of town centre car parking;
- Maintaining access capacity of the town centre whilst reducing the stock or availability of town centre parking;
- Reducing traffic levels on the roads feeding the town centre by enabling a proportion of people to switch on to public transport for the last part of their journey;
- Making more intensive use of town centre car parking by converting long stay to short stay use, and thus compelling commuters to switch to park and ride;
- Maintaining commuter parking in the town centre by enabling short stay visitors to use the park and ride (this is less common but may significantly reduce town centre traffic levels during the day, and leads to better utilisation of the park and ride facility).

15.4.13 There may be other variants on the park and ride theme, such as seasonal traffic for Christmas shopping or tourism, and occasional major events such as the Millennium Experience at Greenwich. Road and rail interchange at so-called “parkway” stations is also a major feature in some areas. All of these require detailed study of the particular circumstances beyond the scope of this study.

15.4.14 In terms of new developments in town centres, the availability or planned provision of a park and ride scheme is one factor in determining the overall access profile of the development, and the range of transport facilities needed to meet the demand by different

modes. Similarly, developer contributions to park and ride may be considered along with other schemes necessary to achieve the required accessibility to the site.

16 *Annex*

Steps to be followed in devising Development Plan parking policy

Within the maximum specified in national guidance and/or in regional guidance specify local maxima for parking provision according to:

- Scale of development (if small scale developments to be handled differently, define threshold size)
- Use Class

The maxima defined will in all cases be at or below the maxima given in national and regional guidance. In preparing these maxima, consideration to be given to the following factors:

- Range of accessibility in different areas (by all modes), and possibility of mapping differences, including the use of GIS
- Current mode split (if known)
- Local traffic reduction and mode split targets linked with air quality management (if any)
- Urban form (conservation areas, street widths etc)
- Availability of public and other parking
- Potential for/need for on-street parking controls (legal/physical)
- Transport proposals in Local Transport Plan
- Funding contributions from developers
- Potential of different development types to migrate in order to avoid parking restraint (e.g. offices, large retail, leisure and other "competitive" uses yes; local facilities, institutional uses and other non-competitive uses less so).

Table 16.1 Steps in determining parking provision in new developments

STEP		NOTES
1	Assess accessibility of area/site, land use (according to UCO), scale and likely catchment size.	Developments over 500m2 require Transport Assessment
2	Assess access profile of proposed scheme including number, type of users and daily pattern of use.	Also part of Transport Assessment
3	Check developer's transport proposals	Benefits non-car more than car? Contributions to improving access?
4	Check calculation of car/non-car mode split	Transport Assessment Compare with mode split/traffic reduction targets
5	Check calculation of non-car split (% by public transport, walk, cycle)	What is the basis for the calculation?
6	Are public transport, walk, cycle facilities adequate?	Developer contributions required?
7	Check peak car demand (accumulation)	Negotiate measures to reduce, e.g. Green Travel Plan, varied opening hours, home deliveries. Car driver share as proportion of overall car share?
8	Type of parking to be used	Public or private on-site, other off-street, on-street?
9	Check likely displaced demand, and likely problems this may cause.	Need for on-street control or physical measures to contain problem?
10	Check traffic infrastructure required	Transport Assessment
11	Determine operational requirement	(See standard definition)
12	Negotiate a level of Private Non Residential parking provision consistent with local targets and policy	Negotiate upwards.
13	Check that parking is within	If not, repeat steps 2-7, with

	maximum allowed	negotiated solutions
14	If cannot be met, refuse permission and/or negotiate reduced scale or different location.	
15	Determine planning conditions and agreements related to access criterion	