

Better Streets, Better Places Delivering Sustainable Residential Environments

On 5th May 2006 the responsibilities of the Office of the Deputy Prime Minister (ODPM) transferred to the Department for Communities and Local Government.

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Summary

This research project was commissioned to:

- establish whether there are substantive problems over the adoption of new highways meeting the requirements of Planning Policy Guidance Note 3: Housing (PPG3);
- identify the underlying causes of any such problems; and
- recommend how they should be addressed.

Note: The above publication was issued by our former department, the Office of the Deputy Prime Minister (ODPM). ODPM became Communities and Local Government **on 5 May 2006** - all references in the text to ODPM now refer to Communities and Local Government.

The findings and recommendations in this report are those of the consultant authors and do not necessarily represent the views or proposed policies of Communities and Local Government.

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1. Executive Summary

This is a report of consultants to the Office of the Deputy Prime Minister and the Department for Transport. It does not necessarily represent the views of the departments. They will be considering the recommendations of the consultants and considering appropriate action in due course.

1.1 This research project was commissioned to:

- establish whether there are substantive problems over the adoption of new highways meeting the requirements of Planning Policy Guidance Note 3, *Housing* (PPG3);
- identify the underlying causes of any such problems; and
- recommend how they should be addressed.

1.2 The research team of WSP, David Lock Associates and TRL have addressed these questions through various research methods, including a literature review, stakeholder discussions, regional workshops, questionnaires and case studies. The conclusions and recommendations in this report are those of the research team.

1.3 Our research has confirmed that there are problems; and that they are serious and widespread in nature. We found that much of the existing policy, legal and technical framework in force is not geared to the delivery of better quality streets. Without change, the 'system' will not, in general, deliver in support of the sustainable residential environments sought by PPG3, when seeking to balance the (often) competing requirements of the various stakeholders. But it is important to note that these problems are not proving insurmountable on every development and in every local authority - there are examples of good practice and forward thinking that can be built upon.

Barriers

1.4 The research investigated the complex web of underlying causes contributing to the overall problem, and revealed a number of key 'barriers'.

1.5 We found that the different motivations of the stakeholder groups are an important factor that must be understood. Developers are commercial organisations that must maximise returns, whilst minimising delay and exposure to risk. They therefore tend to work to published local highway standards to achieve these goals. Local highway authorities are generally motivated by the desire to reduce future risks, both in terms of public safety and by minimising maintenance costs. They have little motivation to accept more innovative designs that are perceived to conflict with these aims. Local planning authorities have a stronger motivation to create better places, but do not believe that they possess the powers or knowledge to overcome any reluctance on the part of the highway authority.

1.6 We found that the different cultures of the people involved in the process is also a factor.

Engineers tend to base their judgements on compliance with standards, focusing on measurable outcomes. Planners and urban designers tend to take a more holistic approach to street design and often favour solutions that assume drivers will take more care when faced with uncertainty.

1.7 On the technical front, we found that some local highway authorities are having difficulties reconciling apparent tensions in government guidance. Whilst PPG3 is promoting narrower and more pedestrian-friendly streets, other documentation, principally *Design Bulletin 32* (DB32)¹, is still recommending geometric provision based largely around the needs of traffic. Most local highway standards still draw upon DB32 for measurable criteria.

1.8 Although there has been much new guidance since DB32 was last updated in 1992 - *Places, streets and Movement*², *By Design*³, etc - many practitioners, in both the public and private sectors, told us that these documents are inadequate, in that they do not provide sufficient clarity on which to base new approaches to street design. There are also problems in the interpretation of the parking policies of PPG3, and concerns about the practical effects of its policies for minimising off-street parking.

1.9 Under "process" issues, we found that the separation between planning and highways policy and legislation can present a serious difficulty. In some places planning and highway authorities work well together towards the achievement of common goals, but we found other cases (including in unitary authorities) where they expressed different views over the designs of new streets. We conclude that this does little to encourage developers to embrace new thinking.

1.10 The existing primary legislation for new highways (the Highways Act 1980) enables the highway authority to refuse to adopt on quite broad grounds, without reference to planning permission and without an effective appeal process. This places the local highway authority in a very strong position to set firm requirements for new streets, which may not be easily challenged by planning authorities or developers.

1.11 A lack of resources was also said to be a problem, both in terms of the ability of planning and highway authorities to prepare site-specific design guidance or to respond to planning applications; and for the maintenance of new highways. This appears to be a particular problem when developers propose materials or designs that the highway authority considers will be very costly to maintain. In this situation the highway authority will often seek a commuted sum from the developer to meet what are considered to be additional costs, but developers are naturally reluctant to make such payments. There are also concerns over their legality. Developers may instead retain the streets in private ownership; or choose not to propose any 'special' materials or designs that add to a sense of place.

1.12 Other barriers that we have identified include the potential tension between designing for the needs of disabled people and what may be seen as less 'legible' street designs; utilities issues, notably the lack of any 'place making' considerations in the national technical advice on planning and laying new services; and detailed issues relating to drainage. There were also some concerns about the perceived stringency of the design criteria for solid waste collection. Some consultees also raised with us concerns about aspects of the Highways Act 1980.

Interventions

1.13 Our proposed interventions have been designed to address these barriers and are summarised under the following headings:

- A. Technical Interventions
 - B. Incentives for Change
 - C. Better Integration of Planning and Highways Development Control
 - D. Financial Interventions
 - E. Community Involvement
 - F. Legislative Interventions
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A. Technical Interventions

Manual for Streets

1.14 We propose that a new document should be published by Government, dealing with the design and adoption of new residential streets. The name *Manual for Streets - A Reference for Design and Adoption* ("*Manual for Streets*") is suggested. We believe that the document should:

- be endorsed by and carry the weight of Government;
- take Government policy as its starting point;
- be comprehensive - covering all aspects of street design and not just geometry;
- be prepared jointly by (and therefore accepted by) the engineering and urban design/planning fraternities and other key stakeholders - including representatives of the utilities;
- become a common reference point for all those involved in street design, and not just engineers;
- be based on the presumption that local highway authorities will refer to technical guidance contained in *Manual for Streets* when setting any local standards. This will allow them to concentrate on the development of standards for local materials, or other vernacular requirements; and
- be subject to regular review and revision, keeping it up-to-date with the current policy and legal frameworks.

1.15 Manual for Streets would deal with all functions of 'streets', which extends beyond just providing for the movement of vehicles and people.

1.16 The document should establish measurable benchmarks for performance of new streets; and then provide guidance to users of the document (including local highway authorities) on their application. The likely implications of departing from recommended ranges of values should be described.

1.17 The document should be based on sound research, particularly in terms of the effects of layout, geometry and other factors on road safety. Much information is already available, but we believe that a particular area for study should be the suggested principle that drivers will modify their behaviour if geometries and layouts do not permit them to drive 'normally', without them feeling unsafe.

1.18 Other areas that would need to be covered would include:

- designing for utilities and drainage;
- catering for the needs of disabled people;
- structural requirements for lower category roads;
- the adoptability of new streets, both in technical terms and through the inclusion of a Model Agreement for highway adoption. This should include firm guidance on the extent of the highway that will generally be adoptable, without triggering any payment towards additional maintenance costs; and
- the types of materials that are generally adoptable, with a requirement for local highway authorities to define a set number of acceptable 'special' materials, to cater for local variation.

1.19 We consider that the drafting of the document should begin by addressing residential streets, up to and including what are currently referred to as 'local distributors'⁴, but that there should be an intention to deal with other types of streets in due course, including those serving commercial and mixed development - and ultimately closing the gap between current local design guides and the *Design Manual for Roads and Bridges*⁵ (DMRB).

1.20 In view of the wide-ranging content, we are of the opinion that the Office of the Deputy Prime Minister (ODPM) would be best placed to take the lead on preparing the document, working very closely with the Department for Transport (DfT), the Commission for Architecture and the Built Environment (CABE), local government, the various Institutions with an interest in the public realm, the House Builders Federation (HBF) and representatives of the utility companies. A standing committee drawn from these various external bodies could form a peer review group to monitor the quality of the emerging document.

1.21 We recognise, however, some local authorities - which are the main drivers for change -

will choose to continue with 'business as usual'. A further and longer-term possibility would be to place the new guidance document on a statutory basis, akin to Approved Documents drawn up under the Building Regulations 2000. We recognise that this would be an extreme option, which would only be necessary if other interventions are found to have failed. This intervention would involve Government setting technical standards in areas that have traditionally been the domain of local authorities, and the implications or precedents of this approach would need to be thought through carefully.

Parking Policy and Guidance

1.22 We have found that the Government's policy on car parking standards, as set out in PPG3, is not fully understood and there are inconsistencies in its application. Concerns by decision-makers over the adverse effects of providing what is seen as inadequate off-street parking may well be adversely affecting their general application of PPG3.

1.23 We therefore recommend that supplementary advice is issued by Government on this matter as soon as possible, to clarify policy and assist in its application.

B. Incentives for Change

Local Transport Plan Policies

1.24 The Local Transport Plan (LTP) is the main statement of policy for local highway authorities (notwithstanding the removal of the need to produce an LTP from local authorities identified as 'excellent' under the Comprehensive Performance Assessment). We see an opportunity to make more explicit references in the next round of LTP guidance (which will take full effect from April 2006) to the part that local highway authorities should play in encouraging and adopting better quality streets; and on integrating their development control functions with those of the local planning authority.

1.25 We therefore recommend that an additional criterion be added to the assessment framework for the next round of LTPs, entitled 'Policies for a Better Public Realm', or similar.

1.26 This new criterion would assess local authority LTP policies on whether they will encourage local highways and other transport infrastructure (both new and existing) to be better quality and more attractive public spaces. A subheading under this criterion should require local highway authorities to set out their policies for incorporating *Manual for Streets* into their development control and highway adoption policies.

1.27 The existing LTP assessment criterion on 'Planning' is quite general and refers only to planning policy, not process. We recommend that it be redrafted to include a requirement for the local highway authority to set out their general policies for working in partnership with the local planning authority.

Best Value

1.28 Best Value is the Government's overarching instrument for influencing the policies and procedures of local government and offers another possible way forward. We recommend that Best Value should be used to encourage highway and planning authorities to work more

closely together. This could be achieved by the preparation of a 'concordat' between national bodies such as the Planning Officers Society, the County Surveyors Society, the Technical Advisors Group and the Urban Design Alliance, which would set down what is considered to represent good joint working practice. We envisage that this concordat would include an endorsement of the Manual for Streets as the primary source of technical benchmarks for new streets.

1.29 We also consider that there would be benefits from two new Best Value Performance Indicators (BVPI), as follows:

- One BVPI - to apply to both highway and planning authorities - which would measure whether authorities had signed up to the various recommendations of the concordat; and
- A further BVPI which would directly measure the quality of new streets that were adopted. This would require the preparation of a series of measures that would be used to define what would be a 'good' residential street, linked to the policy objectives of PPG3. The aim would be to give an incentive to the local highway and planning authorities to insist upon a permanent step change in the quality of design. This would in turn influence developers to submit such schemes, in order to secure approval and adoption more quickly.

Awareness Raising, Good Practice Dissemination and Awards

1.30 We recommend that an early action should be to publicise examples of good practice and encourage debate on the key issues, through a series of regional conferences.

1.31 We envisage that these 'Good Streets' events would be organised by ODPM with support from DfT, CABI, HBF and local government bodies, and be focused on the design and delivery of streets that meet the challenge of PPG3. The events should set out the findings of this research and invite debate on the proposed interventions, as well as providing a showcase for good practice, in terms of both technical solutions and joint working between authorities.

1.32 We believe that the collation and dissemination of good practice information should not be a one-off, but should be maintained over time. A regular review of case studies should be published, providing a practical demonstration to stakeholders of the ways in which better quality streets can be delivered. This ongoing process should be integrated with the review and revision of Manual for Streets. We also suggest that a new annual award be created for 'Good Streets', which would be presented to all of the stakeholders involved in the winning project.

1.33 Regional seminars and training events would raise skills and knowledge on good street design amongst all stakeholders. These could be organised by CABI, working alongside an engineering institution such as the Institution of Civil Engineers (ICE), Institution of Highways and Transportation (IHT) or Institute of Highway Incorporated Engineers (IHIE).

C. Better Integration of Planning and Highways Development Control

1.34 We see an immediate opportunity to use the Government's planning reforms to help to achieve better quality residential streets. This can be done largely through secondary

legislation and orders that will be made, in due course, by the Secretary of State.

1.35 The overall aim would be to place appropriate duties on local highway authorities and local planning authorities to ensure common purpose and encourage integration in the planning and adoption of new streets.

1.36 Our recommended changes/actions are:

- Local Development Frameworks - An obligation should be placed on local planning authorities and local highway authorities to work together to jointly prepare and approve core policies for the design and approval of new streets, including any site- or area-specific policies. The published documents would then be deemed to be the approved policies of both authorities;
- Statement of Development Principles - Local planning authorities should encourage applicants to provide relevant highways information as part of their request for a Statement of Development Principles. This will enable the local planning authority to have regard to highway issues when responding to the request;
- Prescribed Application Forms - It is important that the information requirements of the local highway authority are met by applicants at planning application stage. We recommend that the Secretary of State's development order should ensure that applicants are required to include all necessary highways information with their proposals;
- Duty to Respond to Consultation - We propose that, through a development order, the Secretary of State should place an obligation on local highway authorities to state their adoption requirements for a particular site at pre-application stage; and
- One Stop Shop/Single Consent Regime - The Planning Green Paper looks to the possibility of standardising procedures where consent is required under different regimes, and a research project into this matter has been commissioned. We recommend that this initiative should explicitly consider whether and how planning consent should be integrated with approvals required from the local highway authority, including adoption and other matters - such as changes to highway/traffic regulations (speed limits, no waiting etc) - that are required to enable developments.

D. Financial Interventions

Payments for Future Maintenance

1.37 We consider that it is important that Government takes steps to regularise the system for authorities seeking payments for future maintenance by developers, so that it is seen to be equitable and transparent.

1.38 As noted above, we propose that *Manual for Streets* should include clear guidance as to what should normally be regarded as adoptable, without any payment for exceptional future maintenance. Payments for future maintenance should then only be charged for items falling outside these categories, with clear rules to determine their calculation; and with obligations for

the adopting authority to maintain the infrastructure to an agreed standard- a 'quality contract'.

1.39 We envisage that these changes would be implemented by means of a Government Circular, which would be published jointly by ODPM and DfT. When drafting such a policy, Government would need to confirm whether there is a legal basis for the charging of commuted sums to fund the future maintenance of newly-adopted streets, under Section 38 of the Highways Act 1980.

E. Community Involvement

1.40 Part of the Government's planning agenda is to promote more effective involvement by local communities in planning the future of local environments. We consider that there could be a more explicit role for the community in many new developments in the maintenance of 'their' public spaces.

1.41 Where appropriate, properly-constituted community bodies should be encouraged to take responsibility for green spaces and other facilities for local people, including some features within adopted highways. This would reduce the burden on local authorities and give a greater sense of community ownership and pride in local environments.

1.42 Such arrangements are not widely used at present, except on developments of apartments, and we therefore propose that Government, in partnership with the HBF and local government, should publish guidance on the mechanisms available for establishing community bodies. Care will need to be taken to ensure that these bodies are durable, so that the risk of the responsibility for maintenance falling back onto the local highway authority is minimised.

F. Legislative Interventions

1.43 We have considered the possible legislative interventions under two headings: firstly the limited changes that would be needed if the *Manual for Streets* were to be placed on a statutory basis; and then more general changes to the legal framework.

Statutory Basis for Manual for Streets

1.44 The current legal framework places the local highway authority in a strong position to set highway standards and to decide whether to adopt particular areas.

1.45 To overcome this, we envisage that statutory weight could be given to *Manual for Streets*, such that if a developer can demonstrate that the requirements of the Manual have been met, the highway authority would be obliged to adopt the street. The Building Regulations, together with their separate guidance documents, could be used as a model for this system.

1.46 This would require the Secretary of State to make Regulations defining the criteria to be achieved for the adoptable streets, but there is presently no mechanism for this in the Highways Act 1980. There would therefore need to be an amendment to this primary legislation to allow this to happen.

1.47 As noted above, this is seen as an extreme option that would involve central Government taking on powers and roles that have traditionally been reserved for local authorities; and one,

which would require careful negotiation.

Other Amendments to Highways Act

1.48 Many stakeholders took the view that an overhaul of the Highways Act is necessary to bring it up to date with present policies and practice. Particular concerns were expressed over the operation of the Private Street Works and Advance Payment Codes. We recommend that these specific areas be reviewed in due course.

Summary of Proposed Interventions

1.49 Table E1 below summarises the proposed interventions, including an indication of their relative importance and urgency. A fuller version of this table (Table 6.1) is contained in Section 6 of the main report.

Table E1: Summary of Proposed Interventions

Intervention	Importance	Timescale
A1 - Publish and disseminate <i>Manual for Streets</i> ; withdraw DB32 and <i>Places, Streets and Movement</i>	•••	••
A2 - Issue clarification of parking policy in PPG3.	•••	•••
B1 - Introduce Public Realm Criterion to Local Transport Plan assessment framework, with specific reference to take up of <i>Manual for Streets</i> ; Make Planning Criterion framework more specific, with references to new Planning legislation and need for development team approach.	•••	••
B2 - Revise Best Value Performance Indicators for Planning to include encouragement to better integration of development control functions; and to encourage local authorities to improve quality of new local streets.	••	••
B3 - Organise a series of 'awareness raising' conferences, setting out Government intentions, inviting debate and providing showcase for good practice, both technical and procedural.	••	•••
B4 - Establish Good Practice Guidance and Awards. Disseminate good practice through regular seminars, aimed at all stakeholders.	••	•••
C1 - Review proposed planning reforms to identify opportunities for better integration of planning and highways development control.	••	•••
D1 - Publish joint ODPM/DfT Circular on the justification for and calculation of any payments for the future maintenance of adopted highways.	••	••
E1 - Publish guidance on the establishment of properly-constituted local organisations capable of taking on	•	••

maintenance liability for the public realm.		
F1 - Amend Highways Act 1980 to permit making of Regulations; Pass Regulations to place <i>Manual for Streets</i> on a statutory basis.	••	••
F2 - Specific Revisions to Highways Act 1980.	-	-

Conclusions

1.50 Streets are vital components of residential areas and greatly affect the overall quality of the places in which we live. Experience suggests that many of the street patterns built today will endure for hundreds of years, and we owe it to present and future generations to create well-designed places that will serve their needs well.

1.51 The primary purpose of this research was to establish whether the present system of highway adoption is supporting the delivery of the quality residential environments sought by PPG3. Our research has demonstrated, unequivocally, that there are substantial problems, which are serious in nature. The full impact of PPG3 will not be realised without action to resolve them.

1.52 Our research found that the underlying causes of these problems are complex and need to be addressed through a range of integrated measures. We have identified a series of 'interventions' by Government, working in partnership with the key stakeholders. These include;

- new technical guidance, relevant to all;
- measures to increase the motivation of all those involved to deliver better quality places; and
- improvements in the processes through which new streets are promoted, approved and adopted.

1.53 We believe that an early start on these actions should be made, so that their benefits can be realised as soon as possible.

¹ Design Bulletin 32, Residential Roads and Footpaths - Layout Considerations, DOE, DoT (1992, 2nd edition).

² Places, Streets and Movement: A companion guide to Design Bulletin 32, DETR (1998).

³ By Design: Urban design in the planning system: towards better practice, DTLR/CABE (2002).

⁴ See Design Bulletin 32, paragraph 1.5

⁵ Produced by Highways Agency

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2. Introduction

2.1 WSP, in conjunction with David Lock Associates and TRL Ltd, was appointed by the Department of Transport, Local Government and the Regions (DTLR) to carry out the research project entitled: *'Delivering Sustainable Residential Environments: PPG3 and Highway Adoption Procedures'*.

2.2 This final report sets out the findings of the research project, describing the key problems that have been identified and setting out our recommendations for action. Appendices to this main report comprise an analysis of seven case studies; and our acknowledgements and thanks to the many individuals who have helped us with our research. Further appendices are published separately, describing the research process and outcomes in more detail.

2.3 Following this introduction the report begins by summarising the extent and broad nature of the problem, as revealed by the questionnaire surveys and discussions with stakeholders. This is followed by the two main sections of the report. The first of these summarises what the project team considers are the principal **Barriers** to the delivery of residential streets meeting the requirements of PPG3. The next section then describes the various proposed **Interventions** that have emerged from the team's work, and which are designed to overcome the barriers that have been identified. That section also discusses a number of possible interventions that have been considered, but that are not recommended, for the reasons given.

2.4 By 'Interventions' we mean an action, taken by Government and/or other bodies, which will influence or change the way in which new residential streets are achieved.

2.5 The interventions are summarised in the next section of the report, so that the links between them and the barriers are set out. An indicative timescale is given for the Interventions, to assist Government in identifying 'early wins' that will begin to make a difference quickly; and to help determine priorities for subsequent actions.

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3. The scale and nature of the problem

Introduction

3.1 PPG3 was published in March 2000 and sets out the Government's policy for new housing in England. It requires radical changes in the way that new housing is planned, designed and delivered. Development is now to be directed towards brownfield sites in urban areas, with higher densities and lower car parking standards, designs that create better quality, more liveable places and streets that give priority to people, not traffic.

3.2 PPG3 recognises that these new approaches will require local authorities to take a more flexible approach to the basic standards that bear on the design of housing layouts - including overlooking distances, amenity space requirements, densities, car parking and road widths - to achieve more sustainable residential environments.

3.3 This research project was established to respond to claims that the highway requirements of some local highway authorities do not fully reflect these policies in PPG3. Furthermore, there is anecdotal evidence that housebuilders experience difficulties in reaching agreement with local highway authorities to adopt estate roads in developments that have been designed to accord with PPG3. The key areas of tension are said to relate to road width and layout, and parking.

Questionnaire Surveys

3.4 In order to identify the scale and nature of the problem, questionnaire surveys were issued to the three key stakeholder groups involved in the planning, design and adoption of new streets: developers, local planning authorities and local highway authorities. Full details of the survey process and the results of the questionnaire analyses are given in Appendix E.

3.5 The first survey, issued in August 2002, was quite detailed and provided a rich dataset on the practice, policies and views of the stakeholders, albeit from a limited sample. The second survey, issued in October, was simpler and sought to confirm the scale and nature of the problem, from a wider sample. This section of the report draws largely on that second survey.

Key Findings

3.6 The surveys established that well over 50% of developers, highway authorities and planning authorities have, in their respective roles, met with requests (or, if highway authorities, have requested) that a highway layout, designed in accordance with the principles of PPG3, be modified to meet highway authority standards. This is illustrated in Figure 3.1 below.

Figure 3.1

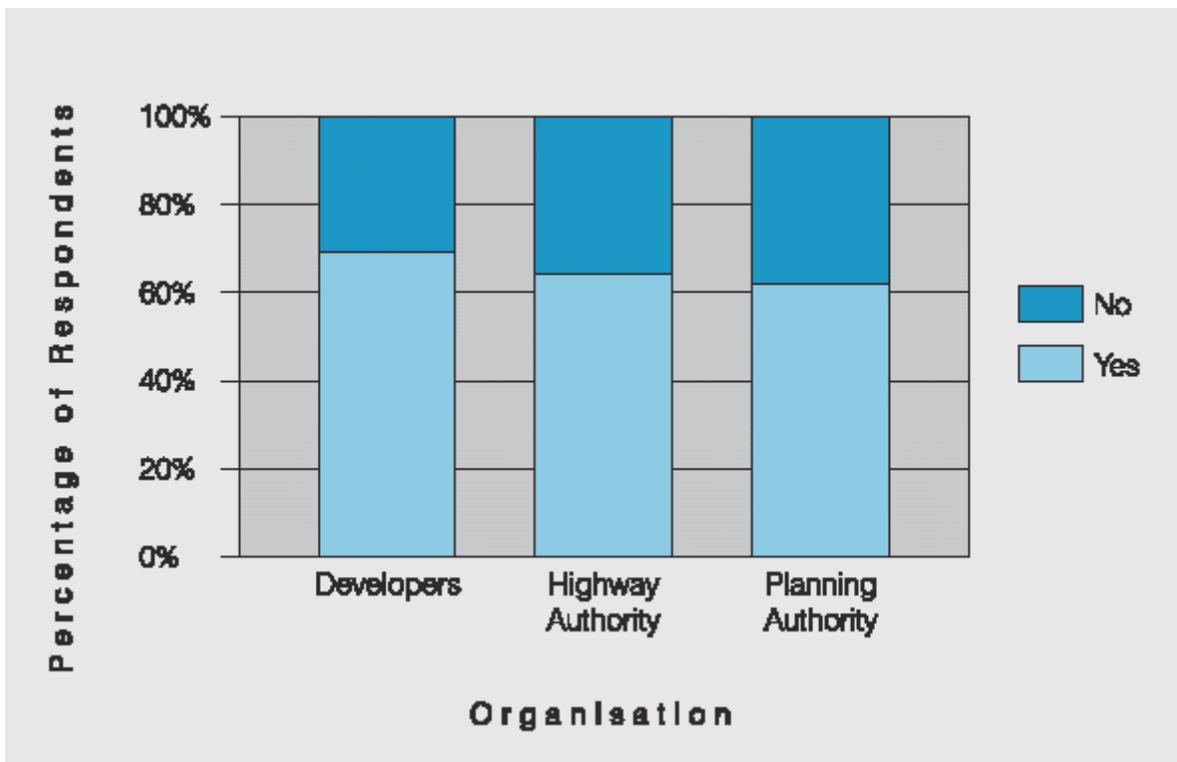


Figure 3.1: *Since the publication of PPG3 in 2000, have you encountered the situation where a developer has put forward for adoption a highway that supports the principles of PPG3 but which has had to be modified to meet highway authority standards? (Developer wording appropriately different).*

3.7 This confirms that the rejection of PPG3-compliant layouts, due to non-compliance with existing highway standards, is a matter of widespread experience amongst practitioners.

3.8 Planners and developers were largely of the opinion that such rejections do present a barrier to the willingness of developers to put forward PPG3-compliant schemes, as shown in Figures 3.2 and 3.3. This indicates strongly that the problems of complying with highway authority standards are influencing the overall delivery of PPG3; and therefore it is important that they be resolved.

Figure 3.2

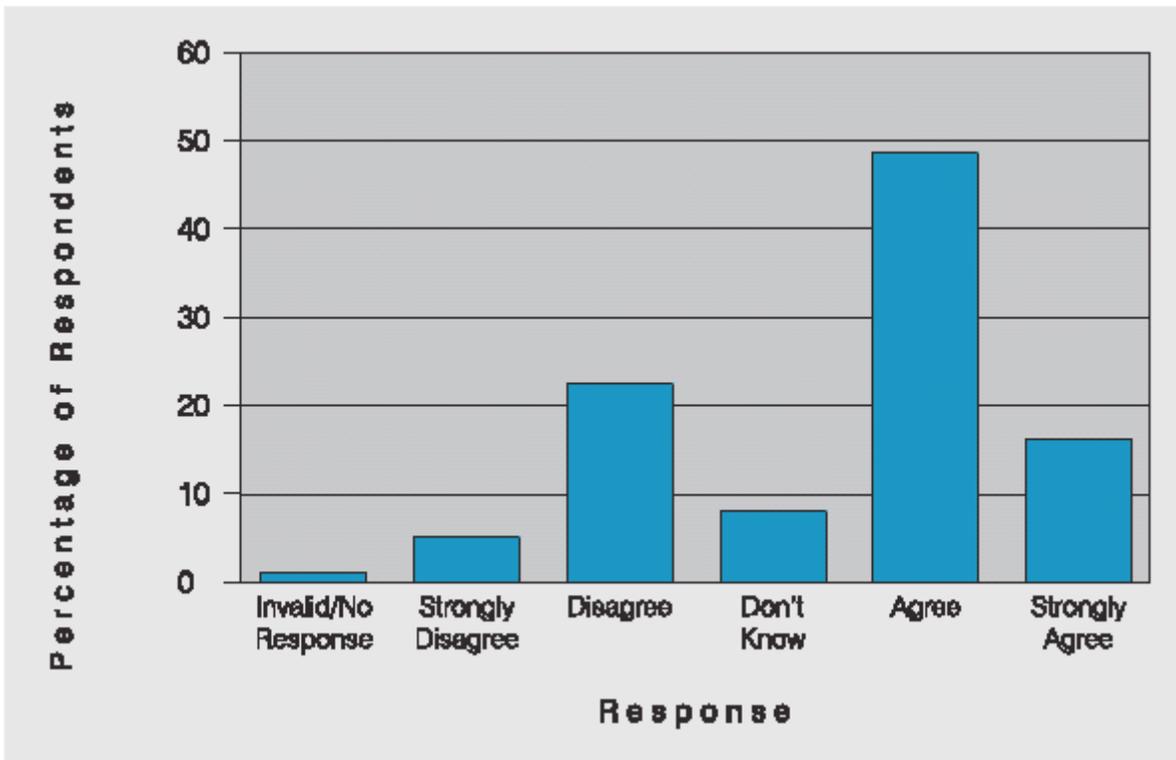


Figure 3.2: Planning authorities responses to the statement: "Resistance by highway authorities to adopting innovative highway layouts is a major barrier to the willingness of developers to put forward such schemes".

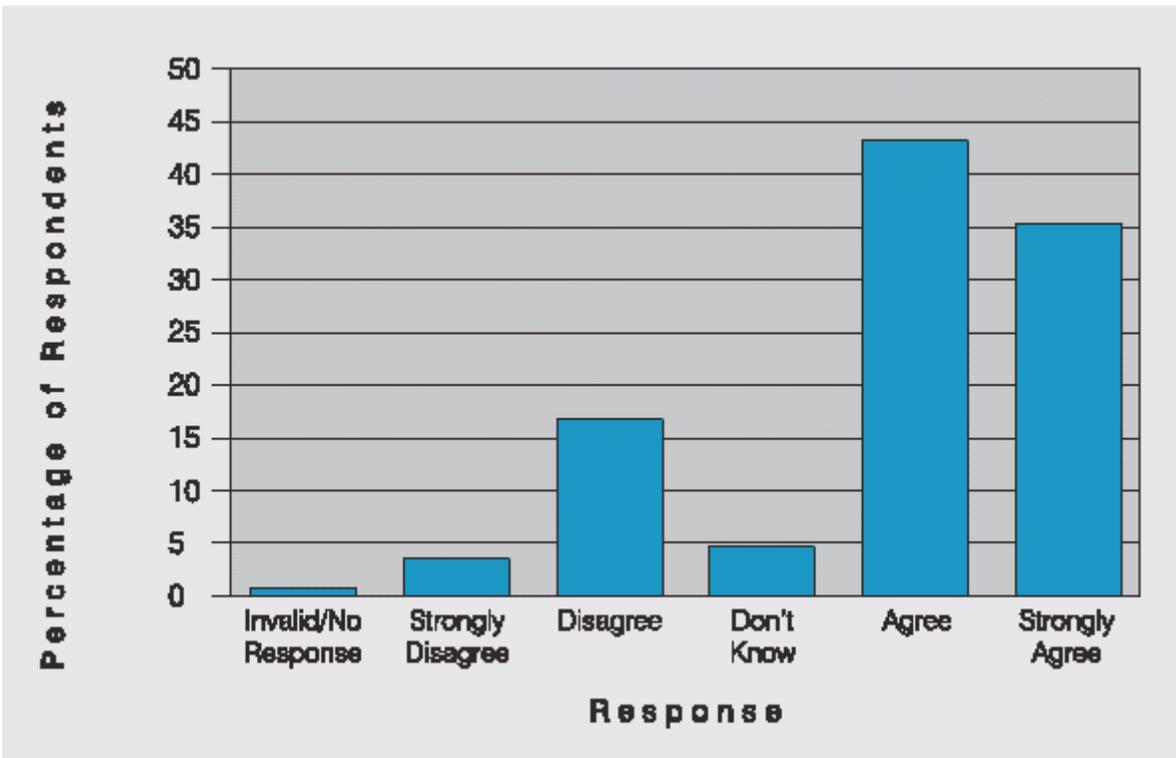


Figure 3.3: Developer responses to the statement - "Resistance by highway authorities to

adopting innovative highway layouts is a major barrier to the willingness of my company to put forward such schemes".

3.9 These findings are very significant - over 60% of planning authorities and (perhaps more importantly) over 75% of developers either agree or strongly agree that these problems will dissuade developers from submitting 'innovative' highway layouts, meeting the objectives of PPG3.

3.10 The survey also sought to establish what proportion of highways put forward for adoption are designed in compliance with PPG3's objectives. The majority of respondents, regardless of whether they were planners, developers or highway authority representatives, estimated that either none or only 25% are 'innovative' - which we defined as meeting PPG3's objectives.

Figure 3.4

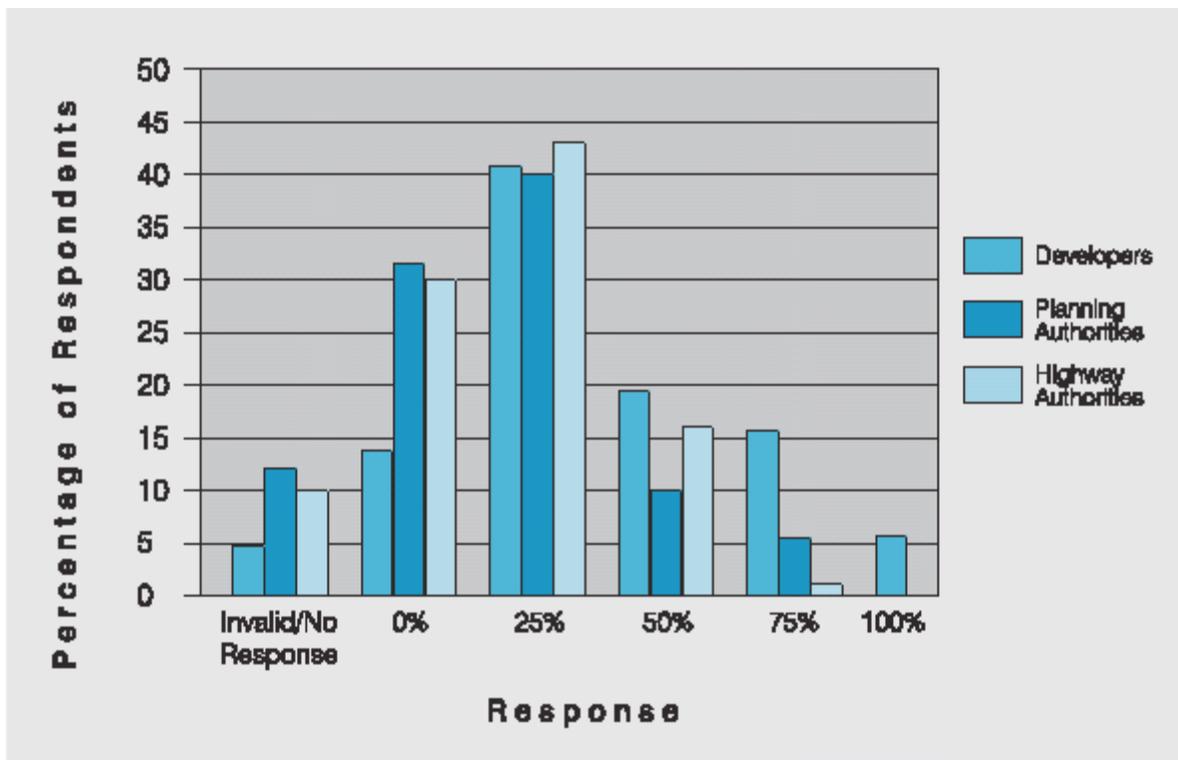


Figure 3.4: *In your experience since the publication of PPG3, what approximate proportion of new residential developments with highways that are put forward for adoption feature innovative layouts? (Developer wording appropriately different).*

3.11 The fact that PPG3-compliant layouts are not being put forward by developers may well be attributed to the resistance (or indeed the anticipation of resistance) by highway authorities to departing from their standards. It is possible that other barriers may be affecting the situation, however. These other factors may be a reluctance of developers to invest additional time and expense in site-specific designs, a lack of pressure exerted on developers by planning authorities and a lack of skills on the part of designers.

3.12 It would therefore be overly simplistic to take the responses to this question as evidence

that highway authority attitudes represent the only barrier to the introduction of highway layouts that support PPG3. Nevertheless it would appear reasonable to conclude, in the context of the responses shown in Figures 3.2 and 3.3 above, that the perceived attitude of highway authorities is affecting, to a significant degree, the willingness of developers to put forward innovative highway layouts.

3.13 In summary, our research has confirmed that:

- many PPG3-compliant schemes are being modified to meet highway authority standards;
- relatively few innovative layouts are actually being proposed; and
- the resistance of highway authorities to accept 'innovative' highway layouts is a significant factor in dissuading developers from proposing them.

3.14 We therefore conclude that whilst the problem is not universal, it is commonplace, and sufficiently so for Government and the housebuilding industry to have serious concerns.

3.15 We now need to define more closely the underlying causes of these problems - what we have called the barriers to the approval and adoption of PPG3- compliant streets.

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4. Barriers

Introduction

4.1 Our research work has established that there are many and various barriers that make it difficult - although not impossible by any means - for the various parties engaged on the process to deliver good quality street environments⁶. We have found that these barriers are not present in every case, or at least can be overcome if the will exists, but do represent the underlying causes of the problems set out in Section 3 above.

4.2 The issues are complex and interrelated, but we have grouped them together under a number of key headings, as follows:

- A. Motivational
- B. Cultural
- C. Technical
- D. Parking
- E. Procedural
- F. Legal
- G. Resources/Financial
- H. Other Issues

A. Motivational Barriers

4.3 This is perhaps the most significant barrier. We have found that, where the will exists to challenge normal established practice, it is possible, within the current legislative, policy and technical framework, to create better adopted streets. Moreover, this will can be found in any of the key parties involved in the process - developers, planning authorities or highway authorities.

4.4 At several of our case studies - notably New Hall in Harlow; Station Road West in Canterbury and Tyne Park in Gateshead - we found local highway authorities, developers and local planning authorities working together towards the shared vision of creating a good quality place, despite the technical and procedural difficulties that had to be overcome.

4.5 The main motivations of each of these key parties are set out below. It is important to recognise at the outset that each party has a different set of objectives when bringing forward new streets - unfortunately, there are frequently no common measures of success.

Developers

4.6 Although there are some developers (and we include landowners in this category) who take a positive attitude to PPG3 and the quality streets agenda, there are many who would prefer to continue to produce 'conventional' layouts and designs - by which we mean highway/layout designs that are mainly concerned with facilitating the traffic functions of streets, and which follow the guidance in DB32 (and any local standards derived from it) unimaginatively and rigidly.

4.7 Most developers, in order to maximise sales and avoid any long-term liability, would prefer their new streets to be adopted by the local highway authority. Having said this, there are some occasions, principally where the developer is keen to provide and maintain a higher quality environment, where privately maintained streets are proposed.

4.8 Developers are commercial organisations who, quite naturally, wish to maximise returns, whilst minimising delay and exposure to risk. Innovation takes longer than following 'the book', even where the highway authority is willing to move outside established practice, as the process of negotiation then becomes more complex and protracted. When faced with a highway authority's concerns it is commercially advantageous for a developer to 'bend with the wind'. We found, in the first questionnaire, that very few applications for adoption are actually rejected on design grounds, as the design is simply modified until adoption is secured. Whilst there is an appeal process for adoption (Section 37 of the Highways Act 1980), we were unable to find any example where a developer had used this mechanism to require a highway authority to adopt despite its reservations.

4.9 We found that most developers place strong emphasis on working to the prescribed designs given in local highway standards, to maximise the likelihood of achieving an early approval. The first questionnaire found that whilst national documents (DB32, *Places, Streets and Movement, By Design*) were sometimes referred to by developers for guidance, the local highway authority's standards were taken as such by the overwhelming majority of respondents.

4.10 Thus, even where developers would prefer to take a more innovative and PPG3-compliant approach, it would appear that this is often outweighed by the understandable need to obtain approval as quickly as possible and begin to build and sell their products; and thus they to continue to propose more conventional designs.

Local Highway Authorities

4.11 The motivation of the local highway authority ('highway authority') is a crucial factor in setting the design criteria for new streets. We found through the Case Studies (see Appendix A) and the stakeholder meetings in August and September 2002 (see Appendix D) that there are two key factors at the root of most highway authority officers' approach to assessing and approving developers' proposals:

- maximising road safety; and
- minimising maintenance costs.

4.12 As with developers, whilst some individuals place personal store on the achievement of good quality places, this aim is generally outweighed by the desire to reduce the perceived risks to the interests of their authority.

4.13 The concern to maximise road safety stems from two main factors - the legal and policy requirements on local highway authorities to take responsibility for the safe operation of their streets, including meeting casualty reduction targets; and the possibility of the public making claims against the authority for compensation, in the event that there is an accident. Many officers spoke about the possibility of them being held to account personally, either by councillors or in court, in the event of an accident where the design was found to be at fault.

4.14 In fact, although claims for maintenance defects (mostly tripping) are relatively commonplace and are increasing in number, the results of our questionnaire surveys showed that only one highway authority that responded had received a claim arising from a design defect made against it in the last five years. One County Council informed us that whilst they are receiving increased claims related to deterioration in carriageway surfacing, the number of claims relating to design defects is so insignificant that such claims are not recorded separately. The Institution of Civil Engineers (ICE) 2002 survey on Local Transport and the Public Realm found that less than 5% of highway liability claims are attributable to design faults. A recent legal textbook suggests that the reason why there are few such claims is the difficulty of proving that the design of the highway is at fault, and not some other cause⁷.

4.15 Notwithstanding the rarity of claims against design faults, those cases that are brought cast a long shadow. There has been extensive reporting of a recent case in Kent whereby a motorcyclist sustained injury at a roundabout and claimed successfully that the angle of approach, which did not meet advice in the *Design Manual for Roads and Bridges* (DMRB), was a contributory factor. The case is being appealed. Highway authority officers at a number of the case study discussions presented the case as evidence of the need for caution.

4.16 The desire to minimise maintenance liabilities stems largely from the view (and we have seen no evidence to refute this) that maintenance budgets are inadequate, so that there is a disincentive to approve any layouts or materials that might lead to increased pressure upon them. Some developers at the stakeholder meetings were of the view that local highway authorities are requiring new highways to have a very long design life - over 30 years, say - to minimise future liabilities.

4.17 In contrast, there is no targeted policy requirement on highway authorities to create good quality places, although there are references to achieving better designed streets in the Transport White Paper⁸. It is notable that PPG3, when calling for more flexible road standards, addresses itself only to local planning authorities. Neither of the main legal and policy drivers for highway authorities, the Highways Act 1980 nor the DfT's Guidance on Local Transport Plans, places such an obligation on the highway authority.

4.18 The effect of this is that highway authorities do not always pay attention to policy guidance on 'quality places' when considering highways that are planned to be adopted. We found on the first questionnaire that around 40% of highway authorities do not normally refer to *Better Places to Live - By Design*⁹, which is billed as a companion guide to PPG3, when

considering developer's proposals. In contrast, few highway authorities fail to consult DB32 or their local highway standards.

4.19 Understandably, highway authorities are set up to consider new streets as functional entities, which they believe should be designed to operate in as trouble-free a way as possible. The Literature Review (see Appendix C) found that existing sources of technical guidance - notably DB32 - address the functional nature of streets, emphasising the needs of vehicle movement when setting firm design requirements. Highway authorities point to the important fact that they are the organisations that take responsibility for the safe and proper functioning of streets in perpetuity, long after the developer and local planning authorities have walked away.

Local Planning Authorities

4.20 In contrast to many developers and highway authorities, local planning authorities ('planning authorities') do have a motivation to create good quality streets and spaces; at an organisational level through the policy objectives placed upon them by Government (including PPG3); and at the individual level through the common perception of what good town planning is meant to deliver.

4.21 However, the principal problem, which we found at several of the case studies, including Lincoln and Sunderland, is that many planning authorities believe they possess neither the skills nor the legal powers to challenge the technical views of the highway authority. They are therefore less motivated than they might otherwise be to intervene in the detailed negotiation process over highway designs and standards.

4.22 This sense that planning authorities have of their own inadequacy is a significant problem. Planning authorities are the key agencies for the delivery of PPG3. They have a critical role to play in promulgating it, by the demands they place on developers. Our research has shown that whilst highway authorities may be contributing to the problem through a reluctance to adopt innovative highway layouts, developers are simply not putting forward large numbers of schemes based around them, indicating that planning authorities are not demanding change from developers sufficiently robustly.

4.23 It was notable that one developer said that they were more encouraged to deliver PPG3-compliant schemes when they knew that the decision was likely to be called in by the Secretary of State, under the Greenfield Direction¹⁰ or for some other reason.

Other Stakeholders

4.24 Utility companies (including the water authorities) also influence the design of streets, both directly in their dealings with developers and through the technical standards and requirements of the highway authority.

4.25 In their attitudes to the design of streets, the utility companies have a primary motivation to reduce the costs of installing and maintaining their equipment, subject, inter alia, to the requirements of the New Roads and Street Works Act 1991. The utilities normally seek to lay cables and pipes in soft areas or footways, and within streets that are adopted, so that they have the legal right to open the street to carry out repairs and at least cost. Again

understandably, there is no evidence that utilities have any motivation - or indeed any powers - to achieve better quality streets.

4.26 It was striking that the National Joint Utilities Group (NJUG), which represents the utilities on streetworks matters, had no knowledge of PPG3 when we met with them in September 2002, over two years since the document was published. This is not to castigate NJUG, but serves to show that not enough has been done to include them in the setting of national policies - NJUG informed us that they were not consulted when the document was drafted.

4.27 Water authorities in particular have an important lever on highway authorities. If a water authority refuses to adopt sewers in a new street because they do not comply with its design standards, this has a knock-on effect to highway adoption, as highway authorities are normally reluctant to adopt streets that have unadopted sewers within them.

The Market

4.28 Some developers are concerned over the marketability of more innovative designs. They report that many potential purchasers are unwilling to accept non-detached, possibly smaller dwellings (although larger dwellings are not necessarily incompatible with PPG3), with less parking and the risk of greater conflict between neighbours. There is some evidence for this in the recent New Homes Marketing Board/Halifax survey of purchasers of new homes, which revealed significant concerns over car parking¹¹.

4.29 Set against this, there are some developers who believe that better quality environments will help to achieve better sales and higher prices; that there is an untapped market for more creative designs of buildings and public spaces; and who therefore wish to push planning and highway authorities to approve such designs. The New Hall case study is a good example of this, where the landowner believes that there is a 'design literate' market for this new approach.

4.30 There is also a regional dimension here. Many stakeholders in the North-East of England who attended our workshop in Gateshead were of the view that much of PPG3 was inappropriate in that region, as there is already a surfeit of high density inner-city housing. Moreover, a lack of lower density 'executive' housing, discouraging inward migrants with key skills, is believed to be inhibiting the regeneration of urban areas.

Elected Members

4.31 Some stakeholders reported that some elected members are not convinced that the policy guidance of PPG3, particularly in terms of the density and type of new housing, is appropriate in their particular area. We were told that the common interpretation of PPG3's car parking policies, namely that 1.5 off-street parking spaces is a firm upper limit (see paragraph 4.58 below), is also a problem, in that many decision makers believe it to be unrealistic.

4.32 We consider this is a matter of relevance to the general application of PPG3, rather than just the issues of parking provision and highway adoption, which clearly needs to be addressed by ODPM.

B Cultural Barriers

4.33 Under this heading we consider the important differences between the types and groups of people involved in the process of designing and approving new streets. We focus on two main groups - engineers and urban designers/planners. Although we recognise that we are making some sweeping generalisations here, we believe that the statements are generally representative.

4.34 We have found, both through personal experience and through the stakeholder meetings, that most engineers working for developers and local highway authorities tend to be most comfortable when judging compliance against pre-determined standards, rather than making personal judgements. Underpinning this 'checklist' approach are concerns over public liability, as discussed above. Hence most engineers tend to see designs in black and white terms, as passing or failing key criteria, rather than seeing the design as a holistic response to a particular site or local circumstances. Engineers also often fail to appreciate the negative impact that their requirements can have on local visual amenity.

4.35 Many engineers tend to take a 'conservative' view to safety issues. This manifests itself in a desire to design out perceived risks, often through the signing or demarcation of the highway space, so that each road user has a clear understanding of his or her rights and responsibilities; and through the provision of road geometry (such as visibility) designed for the worst case.

4.36 Safety Audits, which are required by some highway authorities as a further check on design (and which are carried out by an independent assessor) tend to exhibit similar tendencies and can reinforce this cautious approach. Safety Audits by their nature focus on the identification of potential safety problems that, once highlighted, can be difficult for decision makers to ignore.

4.37 It is important to note that the research available to us showed that DB32 had generally achieved safe layouts, with very few reported personal injury accidents. Engineers we spoke to were naturally concerned that any change to these tried and tested design solutions, driven by PPG3, might lead to an increase in accidents, particularly to vulnerable road users. Some engineers suggested that they were being asked to take a 'leap of faith', with innovative solutions being proposed that are not based on any proper safety research.

4.38 It was also reported to us that, despite the changes to the transport policy agenda in recent years, some engineers involved in highway development control still give more consideration to the needs of vehicles, when assessing layout and geometry, than other road users, again on the basis that to do otherwise would compromise safety. The Literature Review found that DB32 supports this approach, through its definition of a road hierarchy based on traffic needs.

4.39 In contrast, urban designers/planners are encouraged, through policy and training, to view the various elements of the street as a whole, and seek to make positive links between the buildings and the space between them.

4.40 In terms of road safety, many urban designers/planners (and some engineers) share the view of some road safety researchers that introducing a degree of uncertainty and perception of risk on low speed roads - for example by using reduced visibility, providing shared surfaces or omitting road markings and signing - will actually lead to increased safety, as drivers will

proceed more cautiously and slowly. Many streets in historic centres are said to operate quite successfully and safely despite being very deficient in terms of current standards. These views are in direct contrast to the more traditional view of road safety, as outlined above.

4.41 Whilst there is some available data on the effect of such road layouts on improving safety, it is not disseminated effectively to stakeholders. The Highways Agency has commissioned research on 'self-calming roads', seeking to identify road features that affect driving speeds, and which was referred to in the New Hall case study. However, stakeholders on the Haydon III case study were unable to find any information on which to assess the effect of tight bends and limited forward visibility on a local distributor-type road.

4.42 We were also directed to the problem that many planners in local authorities have little direct experience of producing designs for themselves, so that there is a skills gap. This may stem from the policy regime in force for much of the 1980s, where planning authorities were encouraged to take a 'hands off' approach to the planning and design of new developments.

4.43 These cultural differences between the key groups are reinforced through their separate policy and legal frameworks, reference documents and training regimes, so that there is too often a lack of understanding of the other's point of view; and how the decisions of one group affects the interests of the other. In contrast, it was refreshing to learn how, on the Canterbury case study, the planning and highways officers positively challenged each other's 'normal' requirements and opinions, with the common aim of creating a good place.

C. Technical Barriers

4.44 Our literature review of the various documents influencing the design of new streets has shown that whilst recent guidance, such as *Places, Streets and Movement* and *By Design* have sought to place increased emphasis on the overall quality of new streets, DB32 remains the only nationally-endorsed source of acceptable geometric criteria¹². *Places, Streets and Movement*, published in 1998, says that DB32 requires careful interpretation, yet our first questionnaire found that most authorities did not refer to *Places, Streets and Movement* when preparing their local highway standards. In contrast, DB32 was widely used as a source document for local standards.

4.45 DB32 was published before the major changes in transport and housing policy in the mid-1990s, as set out in PPG13¹³ and PPG3. Furthermore, much research on road safety has been carried out in the last decade that is not reflected in current technical guidance - in particular the new thinking on using perception of risk as a positive tool, as discussed above. DB32, understandably, does not include new approaches to street design such as Home Zones.

4.46 Moreover, although DB32 places weight on the needs of pedestrians and other vulnerable users, it is a rather lengthy and discursive document, which presents measurable criteria - such as road widths, stopping sight distances and radii - generally in terms of traffic flow and dwelling numbers. As noted above, it is the culture of engineers to place strong emphasis on these aspects of guidance.

4.47 On the key issue of stopping sight distance, which has a major influence on sightline requirements, and therefore building set-backs, it is interesting to note that UK practice is more conservative than some other developed countries, as shown in Table 4.1 below. Whilst it is

the case that the UK has a better road safety record than many of these countries, it would be worthwhile undertaking research to identify whether these lower stopping distances could be introduced in the UK without affecting road safety.

Table 4.1: Stopping Sight Distance standards for 50kph -UK and other countries¹⁴

Country	Minimum Required Stopping Distance for 50kph (in metres)
UK	70m (DMRB) 60m (DB32)
Sweden	70m
France	50m
Austria	50m
Netherlands	40m
Australia	45m (Normal design) 40m (Restricted situations)

4.48 When measurable criteria such as stopping distance are given in DB32, they are often presented quite prescriptively and without a full analysis or explanation of the underlying principles, so that the reader has little basis on which to properly judge their application, or the likely effects of moving away from the recommended value.

4.49 Furthermore, unlike the DMRB, there are few acceptable **ranges** of values (with desirable and absolute values), so that the reader is often left with a single value, which the proposed design either meets or does not.

4.50 These narrow criteria cause particular difficulties on smaller or restricted sites, where it may be impossible to meet them due to land constraints. Yet these are the very sites that PPG3 is encouraging developers to target, in order to make best use of previously-developed land within urban areas.

4.51 In areas where DB32 is silent, for example in the choice of materials, structural requirements or geometric requirements for more substantial roads, the DMRB tends to be used as the primary source by highway authorities, despite the fact that it is clearly written for the design of the most important traffic routes - trunk roads and motorways. Our surveys found that this document was used by over 50% of highway authorities when preparing their own standards.

4.52 To give an example of the problems this can create, we were told by one local authority that structures (such as large bay windows) oversailing residential streets 'have' to be designed to withstand full impact loads from the largest goods vehicles, even though these vehicles would almost certainly not be present on such streets. This type of structure was part of the local vernacular and thus highway requirements were making it more difficult to achieve a sense of place.

4.53 In order to provide a complete guide to developers, and to accord with locally-held views of what is acceptable, most highway authorities feel obliged (and are so encouraged by DB32) to prepare their own local standards, which largely draw upon DB32 for geometric criteria, together with DMRB for materials. Despite the common source of many local standards, this can lead to significant inconsistencies between the detailed technical requirements of different

- even neighbouring - local authorities, causing frustration to many developers. Furthermore, the emphasis of DB32 on traffic considerations tends to be reflected in these local standards, which generally prescribe minimum road widths and standardised cross-sections, based on dwelling numbers.

4.54 Although a minority of highway authorities have already rewritten - or intend to - their standards following the publication of PPG3, the lack of any nationally-endorsed criteria, other than in DB32 and DMRB, means that these documents will continue to have a major influence on local standards, and thus the approach of developers to layout design.

4.55 The lack of any recent technical guidance on the design of residential roads appears to stem, at least in part, from the fact that the Secretary of State for Transport has no statutory responsibility for setting design and adoption requirements for non-trunk roads.

4.56 DfT does produce various series of technical guidance documents - Local Transport Notes, Traffic Advisory Leaflets and individual publications, such as the Traffic Signs Manual - but although there is an underlying rationale for each series of documents, stakeholders consider that they do not result in a comprehensive set of design guidance. This is in contrast to the Highways Agency, which has a clear and readily understandable form and structure for DMRB, the standards and technical guidance document for application to Trunk Roads.

4.57 It is also interesting to note the contrast with sewer adoption, whereby a nationally-endorsed document, *Sewers for Adoption*¹⁵, has been accepted (with only minor regional variations) by all of the English and Welsh water companies. The document is regularly updated and has been prepared with the close involvement of the housebuilding industry, through the HBF. The document contains standard design criteria and specifications and a model form of Legal Agreement, which is widely applied. This has led to increased efficiencies in the delivery of drainage infrastructure.

D. Parking Barriers

4.58 It may seem slightly incongruous to consider parking as a major barrier in itself, but it is seen by many stakeholders to be a very significant issue, which does have ramifications for the achievement of good quality streets.

4.59 Firstly, as reported to ODPM in other research, there are widespread concerns over the requirement of PPG3 that there should be no more than 1.5 off-street parking spaces per dwelling, on average across an area. Many stakeholders believe that this stems from a desire of Government to control car use through limiting car ownership, which is seen as inappropriate and flawed, particularly away from the overcrowded areas of the country such as the South East. There are also concerns that the policy is not clear in some important areas - for example whether garages count as parking spaces, on which matter Inspectors and the Secretary of State have not been consistent¹⁶.

4.60 Our discussions with ODPM have indicated that there may be a general misunderstanding over the intention of PPG3 in this area - in particular we have been advised that PPG3 does not set a national car parking standard of 1.5 off-street spaces per dwelling, irrespective of location. ODPM said that the policy simply advises local authorities that car parking standards that result, on average, in developments with more than this number of

spaces are unlikely to reflect Government's emphasis on achieving sustainable residential environments.

4.61 Government is mostly concerned to ensure, as stated in paragraph 60 of PPG3, that parking requirements are considered carefully on a site-by-site basis, and not in accordance with pre-determined minimum standards. Any over-provision of parking would have clearly an adverse effect on overall density, contrary to PPG3's core objective of making the best use of land.

4.62 On a practical level, and of particular relevance to this study, stakeholders feel that providing inadequate off-street parking will lead to significant operational problems, as residents will then seek to park on-street and in inappropriate places. The impact on road safety is the main concern, as on-street parked cars are a major source of accidents in residential areas, particularly involving child pedestrians. Parking on footways and in visibility areas can also have a negative impact on amenity and safety. Disputes between neighbours over parking are a further problem, which developers tend to have to deal with in the early years of a scheme, and the highway authority afterwards.

4.63 These factors result in a tension between the aims of PPG3 to achieve narrower, more interesting streets with reduced levels of parking overall; the increased demand for on-street parking if off-street provision is reduced; and 16 See, for example, Appeals at Stanley, County Durham; and Ashbourne, Derbyshire. the desire of most highway authorities to reduce on-street parking in order to meet road safety obligations and reductions in vehicle crime.

4.64 On this latter point, one highway authority pointed to its obligation under Section 17 of the Crime and Disorder Act 1998 to 'do all that it reasonably can to prevent crime and disorder in its area', and saw a conflict between this and the increased requirement for on-street parking that might result from the application of PPG3-compliant parking standards.

4.65 As noted earlier, these concerns over the practicality of PPG3's parking policies are strongly held and tend to undermine, in the eyes of some stakeholders, the credibility of the whole document. These issues therefore need to be resolved quickly.

E. Procedural Barriers

4.66 New streets are brought forward under a quite separate policy and legal framework from new developments per se.

4.67 This is seen in the - once again - separation of functions between ODPM and DfT; the separate legal entities of local planning authority and local highway authority (even within unitary authorities), operating under different statutory and policy frameworks and often reporting to separate council committees; and the separate teams of officers responsible for planning and highways development control, even where they report to a common senior officer.

4.68 Although many planning and highway authorities do their best to integrate these two functions when dealing with proposals for new housing, there is no overall requirement for them to do so. We found that there may be a lack of integration of these functions in both two-

tier and unitary authorities.

4.69 Thus we heard of cases at the stakeholder meetings where developers obtained planning approval for a housing layout, only for the highway authority to require significant changes before they were prepared to enter into an adoption agreement. As noted below, the existing legal framework gives the highway authority considerable freedom to decide whether or not to adopt new highways, which neither the planning authority nor the developer can easily challenge.

4.70 To avoid this undesirable outcome most planning authorities will wish to avoid granting approval to a development where the highway authority has concerns over adoption, and so highway adoption tends to carry significant weight at planning stage. This was found to be true at several of our case studies, including Long Leys Road at Lincoln, and Seaview West at Sunderland.

4.71 One undesirable effect of this separation of processes is to make it more difficult to integrate the design of the buildings and the streets themselves, as is advocated in the more recent policy guidance, such as *Places, Streets and Movement* and *Better Places to Live - By Design*, which is generally held by planners and urban designers to be an important aim.

4.72 A further problem is that highway requirements for developments can also involve the making of orders - for 20mph zones or changes to waiting restrictions, for example - that are subject to quite separate processes, sometimes involving public consultation, objections and possible inquiries. One highway authority explained that it had received legal advice that it could not start these processes until the new roads were actually under construction, leading to delays and uncertainty at the very end of the planning and adoption process.

4.73 In general, planning issues tend to be broad in scale, focusing on location, density and overall disposition of land uses. In contrast, many highway design issues come down to matters of detail - such as road widths, corner radii and materials. There is reluctance by all stakeholders - both local authorities and developers - to invest sufficient time and effort to resolve detailed highway design matters at an early stage in the planning process, when the principle of development has not yet been established. This can result in less integration between highway designs and building layouts than is desirable.

4.74 The lack of any site-specific guidance on highway design requirements early in the planning process can present particular difficulties to developers bidding for land on the open market. Developers have to make judgments of the number and type of plots they will be able to achieve, and the costs of highway and other infrastructure, when making offers to landowners. Whilst developers will often seek the views of the planning authority on site-specific layout issues, in order to inform their land value assessments, it is reported that obtaining similar views from the highway authorities can be more difficult.

4.75 Consequently developers will base their considerations on published local highway standards and are therefore likely to resist any attempt to raise design quality later, during the planning process - say through the use of more expensive materials - as this will not have been taken into account in the price they have paid for the land.

4.76 The changes to planning procedures foreshadowed in the Planning Green paper, and

now laid before Parliament, are aimed at bringing more certainty to the development and design process through Local Development Frameworks and the greater use of Development Briefs for areas of change.

4.77 There is a risk, however, that the highway authority, either because it is not asked or due to a lack of motivation and resources, will not play its full part in the development of these local, site-specific policies.

4.78 Moreover, it should not be overlooked that much new development - particularly on urban brownfield sites - comes through windfall sites, which by definition are not capable of advance planning. Many of these sites will come to developers on the open market, who will be subject to the commercial pressures described above. There is a risk that such sites will continue to be developed in a standards-led manner, to the lowest common denominator.

F. Legal Barriers

4.79 Many stakeholders were concerned over the working of the Highways Act 1980, the main statute of relevance to the creation of highways in new residential developments.

4.80 The Act itself is complex and lengthy, and defines the powers and responsibilities of highway authorities and others when dealing with new and existing highways. Its form and content can be directly traced back to previous versions of the Act - its immediate predecessor was enacted in 1959. Parts of the Act dealing with Private Streets date from the 19th Century.

4.81 It was widely felt that the Act is long overdue for reform. Particular concerns voiced by stakeholders included:

- the complex wording of many of the clauses, which make the Act difficult to interpret, even for experienced highway authority officers;
- the many changes to the Act that have taken place since it was first made;
- the lack of any role for the Government (in the role of the Secretary of State) in the setting of general technical requirements for the design and adoption of non-trunk highways¹⁷;
- the lack of any recognition of any functions of highways, other than for the movement of vehicles and people;
- the absence of any clear criteria on which to judge the adoptability of a new highway;
- the lack of a workable and timely appeal system against the refusal of a highway authority to adopt a new highway;
- the difficulties involved with the promotion of new highways that are expressly not proposed for adoption;
- the historic and inadequate level of fines for transgressions; and
- other miscellaneous matters, such as the presumption against street trees.

4.82 In order to address what were perceived as shortcomings in the Highways Act, some highway authorities sponsored local Acts of Parliament - for example the Cheshire County Council Act 1980 - which gave them further powers. In the case above, no developer can commence construction of any new street before Cheshire County Council has approved the plans, notwithstanding any application for adoption. Thus in some places the legal framework, and not just technical standards, is different in neighbouring authorities.

4.83 Developers were particularly concerned that the Highways Act places local highway authorities in a very powerful position when deciding whether and how to adopt new streets under Section 38. Although the term 'Section 38 Agreement' is used, it was said at by one stakeholder that the document is, in reality, an ultimatum presented to the developer by the highway authority. Developers also felt that the process of negotiating a fresh Section 38 Agreement, virtually from scratch, for every development was an inefficient process that should be simplified.

4.84 A model Section 38 Agreement was brokered by the HBF and local authority representative bodies some time ago, but it has not been widely taken up as written. Our first questionnaire found that whilst about half of the authorities 17 Other than road humps and traffic calming. used the model agreement with amendments, the rest used a different form of agreement entirely. This is in contrast with the position on drainage, where a model agreement contained in *Sewers for Adoption* is widely used. It would therefore appear that a model form of agreement can be given greater weight by incorporating it within an overall manual of good practice, endorsed by national level bodies.

G. Resource and Financial Barriers

4.85 Many local authority staff complained of a severe lack of staff resources in their organisations. The 2002 ICE Local Transport and Public Realm survey found that over 80% of authorities are having severe or significant difficulty recruiting staff to implement the transport/public realm agenda.

4.86 Developers, including at the Haydon III and Lincoln case studies, echoed this, indicating that they found difficulties in obtaining timely responses from authorities over planning, design and adoption issues. The effect of this is again to reinforce the reliance placed upon published standards, as there is often insufficient staff time available to assess and agree upon more innovative solutions and to prepare site-specific design guidance. Best Value incentives to determine a set proportion of planning applications within statutory time limits can actually discourage local authorities from spending the time needed to resolve more complex issues.

4.87 An unwillingness of local authorities, at senior level, to give priority to the proper funding of development control departments (both planning and highways) was seen as a root cause of this problem.

4.88 This is despite the fact that developers are normally charged a fee of around 6% of the value of the adoptable works by the highway authority for checking, technical approval and inspection. We were told of one scheme where the highway authority was reluctant to adopt the highways simply because it had not been able to make timely inspections, due to lack of

resources, and through no fault of the developer.

4.89 It was explained to us that in many (although not in all) cases, the highway authority inspection fees pass into general funds, rather than being ring-fenced for the design approval and site inspection process. One highway authority development control department, which was short of inspection staff, was said to make a significant 'profit' for the local authority.

4.90 Local authorities were also said to make inadequate provision for road maintenance. This was raised at several of the case study meetings and again is borne out by the ICE survey, which found that the backlog of highway maintenance had increased in 78% of authorities. Clearly one answer to this would be to increase funding allocations for local authorities in this area, but there is no guarantee that the authorities would actually spend the money on this area. The ICE survey found that, on average, only 87% of the Standard Spending Assessment for highway maintenance is actually spent on it, with the lowest authority only spending 66% of the allocated figure.

4.91 As noted earlier, this reinforces the unwillingness of highway authorities to adopt any materials or designs that are considered to require higher levels of maintenance. Where developers do propose such designs - non-standard lighting columns and street trees are the usual examples - it is commonplace for them either to be maintained by a different agency, such as the local planning authority or a local management company, or for the highway authority to require a payment, often in the form of a commuted sum, to meet what are seen as their exceptional costs.

4.92 Developers not surprisingly tend to favour the first option, if this can be achieved without causing other difficulties. Maintenance companies, where residents pay an annual sum for the upkeep of shared areas, are normal on apartment developments, where there are often areas of landscaping to be maintained, but are less usual for houses.

4.93 Charging residents for the maintenance of 'special' features was seen by some as desirable, as it would make for a more direct link between residents and the quality of their local public realm. There were concerns that this might lead to privatised space, gated communities and less social inclusion, however.

4.94 The other option open to developers - payment to the highway authority, normally as a commuted sum - is a highly charged issue. Developers considered that it was unreasonable for them to be asked to firstly donate a useful piece of public infrastructure to the authority, and then to be asked to pay to have it maintained. Authorities, however, felt that they were being left with the problems and needed to be safeguarded against any possible financial shortfall. One respondent said it was like 'being given a dog for Christmas' - i.e. a gift that the authority may not wish to receive.

4.95 Whatever the rights and wrongs, it appears that local authorities are increasingly seeking commuted sums for highways. Some authorities are developing clear policies on this matter, establishing what they will and will not adopt without payment. Most highway authorities believe, although this is not accepted by the HBF, that they are entitled to seek commuted sums under the Highways Act for Section 278 works, where development-related improvements are carried out on existing highways. The legality of extending commuted sums to Section 38 works - i.e. where new highways are being provided by the developer - is

strongly disputed by the HBF.

4.96 The desire of highway authorities to seek payments to offset maintenance liabilities for non-standard designs does affect the willingness of developers to propose them, thus making it more difficult to achieve better quality streets and spaces.

H. Other Issues

Designing for Disabled People's needs

4.97 Some stakeholders were concerned over potential conflicts between what may be less 'legible' street designs and the needs of disabled people. Such streets might have features such as a greater variety of paving materials, reduced kerb heights, areas of planting and street trees and more street furniture.

4.98 This issue did arise during the preparation of the Home Zone Design Guidelines, published by Institute of Highway Incorporated Engineers (IHIE) in June 2002, principally due to concerns over the needs of visually-impaired people. Other potential difficulties include the need of wheelchair users for smooth surfaces, which may not be best served through the use of blockwork or other unit pavements.

4.99 In November 2002, the Mobility Unit of DfT *published Inclusive Mobility - A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure*, which includes advice on minimum footway widths, gradients, surfacing materials and other criteria.

4.100 No specific conflicts between disabled persons' requirements and PPG3 policies have been identified during the course of this research, but they may well arise in the future, and attention needs to be paid to this issue in framing the proposed interventions.

Utility Issues

4.101 Planning for and delivering utilities (including drainage) was seen as a difficulty by local authorities and developers alike. As noted in the section on Motivational Barriers, utility companies have little interest in the design quality of new or existing streets. That statement is not meant critically - the utilities are highly regulated bodies performing a vital function, which have to meet stringent financial and performance targets set by industry regulators.

4.102 This would not matter so much were it not for the fact that, in the absence of any other national body, the National Joint Utilities Group (NJUG) has produced national guidelines on the recommended positioning of utility apparatus in the street. DB32 refers to these NJUG documents and thus gives them considerable weight, through Government endorsement.

4.103 The documents are not in themselves deficient in technical terms; but problems can stem from the fact that they are written from the perspective of the utilities, and their needs, rather than any balanced assessment of what is good and bad for the overall design of the street. Again this is no criticism of NJUG, which has no part to play in street planning or design.

4.104 For example, NJUG10¹⁸ deals with conflicts between utilities and street trees, and advises that they should be kept apart wherever possible. Other NJUG guidance states that

footways are the preferred location for utilities, and hence street trees within footways - a common feature of many traditional streets - are effectively ruled out by the available documentation. The fact that there are other technical solutions that would allow for more creative designs, such as the use of root barrier systems and careful selection of species, does not figure. Difficulties are also experienced where there is no traditional footway - for example on the Tyne Park case study - where there is then no easily identifiable route for services.

4.105 The control of the routing and laying of utilities was reported to be a major problem by some developers, although this is perhaps becoming less of an issue where competition exists between suppliers, and developers are in a stronger position to insist on particular solutions. It is notable that the NJUG standard dealing with the planning of utilities in new developments has had to be withdrawn, as it was considerably out of date. A document setting out how utilities should be planned for and routed in new developments under the current regime is required.

4.106 The overall conclusion was that insufficient thought is often given to the detailed planning and design of utility routes, and that much is left to the construction stage, which can lead to ad-hoc decisions, creating conflicts with more vulnerable elements of the street design, such as trees. In some of our case studies - at New Hall, Harlow and at Station Road West, Canterbury - planned street trees were omitted during construction stage, due to conflicts with utilities. The presumption should be that the trees are the most important feature, with the services being designed to accommodate them.

4.107 In the case of drainage, our attention was drawn to the fact that there are sometimes separate highway drainage and surface water sewer systems (as well as foul water systems) within the same street, which can lead to inefficiencies and underground congestion, militating against the narrower streets sought by PPG3. Under Section 115 of the Water Industry Act 1991, the highway authority and water authority can agree to share systems, but it was reported that the procedure does not always work well in practice. There can be tensions between the two parties, each of whom wishes to minimise maintenance costs.

4.108 There are also reported difficulties on detailed issues, such as when manholes are required at the head of adopted sewers and buildings are constructed at back of footways, so that there is no driveway or garden space available in which to site the manhole. Placing manholes within the footway, as may be required in these circumstances, can cause conflict with utilities. A detailed technical solution to this problem is needed.

4.109 We were also made aware of possible conflicts between larger, terraced buildings, and the need to provide adequate connections between individual dwellings and the public sewers in the street. In more conventional detached/semi-detached housing, private drains can simply pass between buildings to the street. A separate research project into this issue is underway, sponsored by the Department of Trade and Industry, which will report on these issues, and which will lead to further design guidance.

4.110 Sustainable Urban Drainage Systems (SUDS) are advocated by many organisations as a way of reducing rainwater run-off, through infiltration systems and other techniques. There are concerns that the higher density schemes coming forward under PPG3 may make it more difficult to achieve SUDS solutions, as the higher densities and increased proportion of hard surfacing will increase run-off intensity and offer less scope to accommodate soft infiltration

systems, such as swales and soakaways. British Standard EN 752 Part 4¹⁹ requires a minimum distance of 3 metres between the edge of buildings and any soakaway devices.

4.111 There are other solutions that might be more applicable in urban situations, such as porous pavements and other permeable surfaces, but these are not compatible with most local highway authority adoption standards.

4.112 There are serious difficulties in any event over the application of these techniques, due to concerns over maintenance liabilities on the part of the adopting highway and water authorities - but PPG3 exacerbates the problem of achieving widespread use of SUDS. A national SUDS working group is considering maintenance issues and is due to report during 2003.

Waste Collection

4.113 Part H of the Building Regulations states that the Waste Collection Authority (typically the district or unitary council) can specify the 'waste collection point', from where refuse is taken away in vehicles by the Authority. The maximum distance that the waste authority is required to carry waste from the storage points (where residents leave their waste) to the waste collection point is set in the Building Regulations at 25 metres. It has been reported to us that this criterion has become more fixed over time, and that originally it was to be taken as an overall average across a site. This then is an example of a rule that has become more stringent, and needs to be reviewed.

4.114 This represents an important design interface between the buildings, particularly larger apartment blocks with shared waste storage points, and the street itself. Whilst it was not evident on the information presented to us that the 25 metres requirement presents a significant barrier to the implementation of PPG3-compliant highway layouts, it points to the need to consider the buildings and the space between them in a holistic way; and to ensure that rules such as this do not become more restrictive over time.

Barriers - Conclusions

4.115 In conclusion, we have found that there are many complex barriers to the achievement of good quality new residential streets. 19 BS EN 752 Part 4 Drain and sewer systems outside buildings. Hydraulic design and environmental considerations.

4.116 Many of these problems stem from the conflicting aims and demands of the various stakeholders involved in their planning and design; the lack of any common agenda or measures of success; and the lack of properly researched, current and comprehensive technical guidance. We have also found that most developers are only making limited efforts to modify their street layouts and designs to comply with PPG3 and that the system of 'enforcement' of PPG3 needs to be toughened.

4.117 Our proposed interventions are aimed at addressing these problems.

⁶ In this context, we use 'quality' to mean primarily the visual and residential amenity of the street, including the objective, set out in PPG3, of placing the needs of people above traffic.

- ⁷ Hancox and Wald: Highways law and Practice, p.219 (Butterworths, 2002).
- ⁸ 'A New Deal for Transport - better for Everyone'. (1988)
- ⁹ Better Places to Live: By Design, DTLR (2001)
- ¹⁰ Circular 08/00: The Town and Country Planning (Residential Development on Greenfield Land) (England) Direction 2000.
- ¹¹ New Homes Marketing Board and Halifax Plc: New Homes Today (September 2002)
- ¹² Except junction visibility, where *Places, Streets and Movement* supercedes DB32 and PPG13, Annex D
- ¹³ Planning policy Guidance Note 13: Transport, DoE, DoT (1994), replaced by DETR (2001).
- ¹⁴ Harwood et al: International Sight Design Practices - Proc. First Int. Symposium on Highway Geometric Design (1999); and CROW: ASW Recommendations for traffic provisions in built-up areas, 4th edition (1996).
- ¹⁵ WRc: Sewers for Adoption, 5th Edition (2001).
- ¹⁶ See for example, Appeals at Stanley, County Durham; and Ashbourne, Derbyshire.
- ¹⁷ Other than road humps and traffic calming.
- ¹⁸ NJUG: NJUG 10, Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees (1995)
- ¹⁹ BS EN 752 Part 4 Drain and sewer systems outside buildings. Hydraulic design and environmental considerations.

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5. Interventions

Introduction

5.1 In this section of our report, we set down our recommendations for Interventions. These have been drawn from all strands of the research, including the literature review, the various meetings and discussion groups, the questionnaires and the case studies.

5.2 The proposed interventions are designed to address and overcome the barriers identified in Section 4 above, and are summarised under the following headings:

A. Technical Interventions

B. Incentives for Change

C. Better Integration of Planning and Highways Development Control

D. Financial Interventions

E. Community Involvement

F. Legislative Interventions

5.3 These interventions each address a number of barriers, rather than any particular issue in isolation. The relationship between the barriers and the interventions is set out in Table 6.2 of this report.

A. Technical Interventions

Manual for Streets

5.4 Stakeholders were virtually unanimous in calling for new, Government endorsed, technical documentation for the design and adoption of new residential streets, to be published as soon as possible. Previous, well-intentioned, attempts to encourage a more flexible interpretation of DB32 such as *Places, Streets and Movement* have not achieved all that was hoped, and we agree that a more thorough review is needed.

5.5 What is needed, we believe, is a document that:

- is endorsed by and carries the weight of Government;
- takes Government policy as its starting point;
- is comprehensive - covering all aspects of street design and not just geometry;
- is prepared jointly by (and therefore accepted by) the engineering and urban design/planning fraternities and other key stakeholders - including representatives of the

utilities;

- is a common reference point for all those involved in street design, and not just engineers;
- is based on the presumption that local highway authorities will refer to technical guidance contained in it when setting any local standards;
- allowing them to concentrate on the development of standards for local materials, or other vernacular requirements; and
- is subject to regular review and revision, keeping it up-to-date with the current policy and legal frameworks.

5.6 Under the present system, Government effectively leaves local highway authorities ('highway authorities') to determine their own highway standards. Highway authorities in turn tend to base their residential road standards on such nationally - endorsed documents as are available (e.g. DB32), even when they are not directly applicable (e.g. DMRB). Alternatively, highway authorities fall back onto the relative security of past practice. This type of approach does not seem to be repeated in other important policy areas; Planning, Health or Education, for example.

5.7 We recognise that the fundamental relationship between Government and highway authorities is unlikely to be changed, but consider that more could be done to provide clear and appropriate guidance from the centre, so that local authorities can make better informed decisions when setting and applying local standards.

5.8 We considered the option of simply revamping DB32, bringing it more into line with the current policy framework, and leaving highway authorities to continue to interpret it through comprehensive local standards. But whilst this might help to resolve difficulties over the achievement of PPG3-compliant layouts, it would not deal with the significant problems over the adoption of better quality materials.

5.9 Furthermore, to simply issue an updated DB32 would fail to recognise that highway requirements must be considered alongside other issues in order to make good quality places and streets. A more comprehensive manual would have the important function of bringing together the various groups and educating them about one another's areas of interest and responsibility.

5.10 Finally, preparing an updated DB32 would still require highway authorities to prepare comprehensive local technical standards for adoption, with all of the inefficiencies and inconsistencies that that entails. It would also be based on a snapshot of current policy, once again becoming overtaken by changing circumstances. Just revising DB32 would therefore be a missed opportunity, which would not address need for 'joined up' thinking.

5.11 We also considered whether it would be better to have no central technical guidance at all - i.e. simply withdrawing DB32 and *Places, Streets and Movement* - in the hope that developers would not be constrained in developing their proposals, so that local highway authorities would have to consider all schemes on their merits, from first principles. This idea stemmed from the thought that centralised guidance might lead to standardisation across the

country and a stifling of innovation - a levelling down rather than a levelling up. In the real world, however, this would cast highways authorities further adrift, with the likelihood that their existing standards would remain in force.

5.12 The first recommendation of *Paving the Way*²⁰, produced by CABE last year, is for the publication of a succinct summary of statutes, legislation and design guidance affecting street design, and Government is considering this as part of its cross-cutting review of public space, as set out in *Living Spaces - Rights and Responsibilities*²¹. However, whilst this is a helpful initiative, and one which would be a very useful starting point for the preparation of the new document, we do not believe that it will be enough to remove the inherent conflicts between the different documentation relating to the detailed issues of street design; nor serve to bring up to date those documents that are patently in need of revision.

5.13 Our research has confirmed that the application of centrally-endorsed advice on best practice, which is in common use, is the best defence against claims for defective design - even though the fear of such claims is out of proportion to their actual number. Hancox and Wald note²² that the courts will tend to base their assessment of a design on whether it accords with (modern) 'common practice' - and that the DMRB presently fulfils this function.

5.14 We propose the name *Manual for Streets* for the new document, with the important subtitle of 'A Reference for Design and Adoption'. The use of the word 'Manual' was chosen to give it similar weight to the DMRB, which will help the new document to achieve the status of 'common practice'. The subtitle will emphasise the application of the manual to all stages of the process, including adoption.

5.15 The reference to streets, rather than roads, will reinforce the view, held by most urban designer/planners and many engineers, that whilst roads have only one main function - namely movement - streets have several other important functions. One analysis of the functions of streets was provided in *Paving the Way*, which identified them as follows:

- circulation, for vehicles and pedestrians;
- access to buildings and the provision of light and ventilation to buildings;
- a route for utilities;
- storage space, especially for vehicles; and
- public space for human interaction, discourse and sociability.

5.16 To this list we would add placemaking and visual amenity as important functions of streets, with an emphasis on linking the layout and use of the buildings with the layout of the street.

5.17 A successful street has to balance all of these functions, and therefore *Manual for Streets* will need to address all of them, to properly set each design requirement in context.

5.18 Some stakeholders were uncomfortable with any suggestion that the new document

would contain 'standards', preferring it to be considered as no more than 'guidance'. The fact that the courts and public inquiries will place considerable weight on the document through its publication and general use, regardless of its precise designation, probably means that this is not a highly significant point.

5.19 We do not envisage that DfT would consider and approve proposed 'departures from standards' contained in *Manual for Streets*, akin to the role of the Highways Agency in the use of DMRB. Many documents, such as British Standards, define what should be regarded as technically acceptable without requiring a central body to police their application. Moreover, DfT are not a highway authority, unlike the Highways Agency, and are not empowered to direct local highway authorities on design matters (other than on such statutory issues as signing and road markings).

5.20 The document should, however, establish measurable benchmarks for performance; and provide sound guidance for potential users (including local highway authorities when developing and applying their own standards), identifying those circumstances when it may be acceptable to depart from recommended ranges of values. The likely implications on key outcomes, such as traffic speed and road safety, of departing from these recommended ranges should be described, based on the best available research.

5.21 The document would need to provide a system to inform the reader on the weight to be given to the various items of guidance. DMRB does this by placing technical requirements (as opposed to advice and guidance) in boxes, whilst the ASVV (the Dutch national manual for traffic and highway planning in urban areas) has a finer, five point scale using a star rating system. The aim should be to maximise the flexibility of the proposed manual, so that it does not unduly limit the options available to the designer, nor constrain innovation.

5.22 We envisage that the document would be made up of a number of discrete sub-sections, divided by street function, rather than being divided (as is more commonly the case with local standards, even more forward-looking documents such as Kent Design) into an 'urban design/planning' and a 'highways' section. We consider that such structures reinforce the divisions between the groups and do little to make each aware of the other's needs.

5.23 Our experience in drafting the '*Home Zone Design Guidelines*', published by the Institute of Highway Incorporated Engineers in 2002, was that a topic-based approach allows the various design requirements of the different professions to be interwoven. For example, parking can be seen by engineers as a transport-related function of streets (although one that is not recognised by the Highways Act); but decisions on the numbers, disposition and arrangement of parking will have major implications for the overall density and appearance of a development.

5.24 A possible topic-based structure for *Manual for Streets* would be:

- Policy Framework;
- Objectives for Streets;
- Placemaking;

- Visual Quality;
- Social Interaction;
- Parking;
- Access;
- Movement;
- Utilities;
- Materials (including planting);
- Construction;
- Adoption;
- Maintenance; and
- Model Agreement.

5.25 We envisage that the document would be available on both CD Rom and the Internet, with hyperlinks between sections, so that users are encouraged to make connections between the various implications of design decisions.

5.26 The document would need to identify both the positive and negative implications of such design decisions on all aspects of street function, which would need to be weighed in the balance against the overall policy objectives. The ASVV uses this approach, which is both honest and helpful.

5.27 A scoping exercise should be carried out at the outset, with wide consultation, to establish the overall structure and content of the document and identify any gaps in knowledge that will need to be filled.

5.28 The document will need to be based on sound research, particularly in terms of the effects of layout, geometry and other factors on road safety. A particular area for investigation should be the suggested principle (employed on the Harlow case study) that drivers will modify their behaviour if geometries (including sightlines) and layouts do not permit them to drive 'normally', without the m feeling unsafe. If existing research is inadequate then further work will need to be commissioned, which would have implications for the research programmes of DfT - possibly through the Traffic Management Board of the Roads Liaison Group - and also ODPM.

5.29 However, interim guidance should be published based on the research that already exists, both in the UK and overseas. An initial search by TRL for published information on innovative approaches to traffic calming revealed a number of references, including to the concept of 'self-explaining roads', where drivers take implicit information from their environment on how they should drive.

5.30 Through this research-based process, key factors such as design speed and visibility, and their relationship with road safety, will be put onto a proper scientific basis - what the ICE has referred to as 'evidence based design' in *its Designing Streets for People* report of 2002. This research should include an assessment of the safety implications of bringing UK sight distance requirements into line with those of other countries, as described in paragraph 4.47 above.

5.31 DB32 and most local highway standards set out a hierarchy for streets, based mainly on traffic function and flow, working (downwards) from local distributors to short culs-de-sac. Many stakeholders are uncomfortable with this approach, which tends to place undue emphasis on traffic considerations, leads to rigid types of street and does not fit easily with more permeable layouts. We propose that this model is not followed in the new guidance - a 'fitness for purpose', or 'performance specification' approach is preferred, considering the functional requirements and layout of each particular street, rather than a 'method specification', with its predetermined solutions.

5.32 The document should include guidance on the structural design of residential streets. Concerns were expressed by some developers that some local highway authorities were requiring road pavements to be over-designed, possibly through the inappropriate application of DMRB, or simply through past practice. The document should also provide guidance on appropriate headroom and loading requirements for structures across less heavily trafficked highways (see paragraph 4.52 above).

5.33 *Manual for Streets* should be cognisant of drainage and utility issues, and include references to *Sewers for Adoption* and the Building Regulations in this area. It should take into account - and influence, where necessary - any changes to drainage design and adoption practice as a result of ongoing research into SUDS and PPG3-related issues. On utilities, it should include new guidance on planning for and routing supplies in new developments (see paragraph 4.105 above), including detailed advice on conflicts between utilities and street trees. It should also deal with designing for the collection of solid waste, which may involve a review of the requirements of the Building Regulations in this area (see paragraph 4.113 above).

5.34 The document should also refer to the needs of disabled people, taking the advice given in publications of the DfT's Mobility Unit and placing it in context alongside the other functions of streets.

5.35 Although much of the proposed content focuses on 'design' the document should clearly address the adoptability of new streets, both in technical terms and through the inclusion of a model form of agreement for highway adoption. We have already noted the need to include both 'adoption' and 'design' in the sub-title of the document.

5.36 When drafting the new model form of agreement, consideration could be given to restructuring the payments made to local authorities under Section 38, separating fees for design checks and site supervision, to create greater transparency and accountability (see paragraph 4.88 above). The new model agreement should entitle the developer to a defined level of service when payments are made under Section 38 Agreements for checking and site supervision. It is the latter that is most crucial, as most construction defects arise on site. Section 38 payments should not be seen as an additional source of revenue for local

authorities.

5.37 A more radical option, put forward by the HBF, would be to 'incentivise' payments for design checking so that highway authorities are rewarded for dealing with developers' proposals more quickly - at the same time as planning approval, for example. Care would be need to be taken to ensure that standards were not likely to be compromised by such a fee structure, but the idea is worthy of further consideration.

5.38 Highway authorities are concerned that they are sometimes asked to adopt excessive areas of highway, perhaps as part of public squares or where on-street parking is expressly provided. *Manual for Streets* should include firm guidance on the extent of the highway that will generally be adoptable, without triggering any payment towards additional maintenance costs (as discussed in Section D Financial Interventions, below). This could be defined by the functions of the various areas making up the public space - for movement of vehicles and people, parking and access - with typical dimensions.

5.39 This part of the Manual will also need to deal with the problem where, particularly on more informal and innovative layouts, there is uncertainty over what should become publicly and privately maintainable space. There is considerable overlap between the types of spaces at the lowest end of the (traffic) hierarchy, such as mews courts, parking courts, home zones, shared driveways and short culs-de-sac, with a lack of any clearly-defined basis for the limits of the public realm. The stakeholders in the Tyne Park case study were grappling with these issues, as parts of the proposed layout did not easily fit with the normal tests for adoptability.

5.40 Similarly, *Manual for Streets* should include details of construction materials that should be regarded as generally acceptable. There will obviously need to be an allowance in the system for local variations, to enable designers to achieve a sense of place or to respond to local vernacular. One answer to this may be to make provision for highway authorities to define a palette of locally acceptable materials, including a set number of types of street furniture, such as streetlights. This would offer a degree of choice to designers, without forcing highway authorities to maintain an unlimited range of material types.

5.41 We envisage that the document would have a loose-leaf structure, like DMRB and the Building Regulations, so that individual sections can be published and updated individually. The document should not be published and then left to age, like DB32. It should be subject to regular review by a standing committee, possibly drawn from the various institutions with an interest in the quality of new streets.

5.42 This structure would also allow the most important sections of the document to be published more quickly. We would recommend beginning with those sections that effectively replace DB32 - on Parking, Access and Movement - so that DB32 can then be formally withdrawn. The Policy and Objectives sections should also be brought forward quickly to place the emerging advice in context. The Policy section should draw mainly on PPG3, but the key policies of PPG13 will also be important, including the forthcoming advice on the preparation of Transport Assessments for new developments. This initial publication should also include the model agreement for adoption.

5.43 The drafting and publication process should be as inclusive as possible, with a proper consultation exercise which recognises and acknowledges the views of all parties; and seeks

to reconcile them through discussions, rather than imposition, wherever possible. The process should begin with a scoping study, as outlined in paragraph 5.27 above. This consultation exercise could be integrated with a series of 'consciousness-raising' events, as set out in Section B, Incentives for Change, below. Following the completion of the scoping study, Government should publish a timetable for the preparation of the document so that stakeholders can anticipate and plan for its publication.

5.44 We recognise that the preparation of such a document would be a major task that would require considerable investment by Government. Overall, however, we believe that there would be savings to public sector expenditure - not least due to the removal of the burden from local highway authorities of producing comprehensive local standards every few years.

5.45 We were advised by highway authorities that the cost of producing new and revised comprehensive highway standards can be very significant - figures ranging from £100,000 to £300,000 were indicated. Even taking a figure at the lower end of the scale, it will cost well over £10million to update those highway standards that pre-date PPG3, using the present model.

5.46 Whilst there would still be a need, under the current framework, for more limited local standards, highway authorities would be encouraged to make reference to *Manual for Streets* on many topics, so that their costs would be much reduced. Overall, we believe that there would be a considerable saving to the public purse.

5.47 More significant would be the economic and social gains to be achieved through earlier technical approvals, leading to the faster delivery and better quality of new housing developments.

5.48 One key issue that would need to be faced would be whether the document should confine itself to residential streets; or whether, given the effort and investment required, it should be extended to cover streets in commercial developments and higher-status urban streets (in traffic terms). We consider - and this was supported by stakeholders - that the document should begin with residential streets, up to and including what are currently referred to as 'local distributors'; but that there should be a clear intention to deal other types of streets in due course, including those serving commercial and mixed development - and ultimately closing the gap between current local design guides and DMRB.

5.49 Over time, therefore, *Manual for Streets* would provide a focus and structure for much of the technical information produced by Government - both DfT and ODPM and with links to the work of DEFRA on drainage - relating to the design of new and existing local streets. This could include material that is currently issued through documents such as Local Transport Notes and Traffic Advisory Leaflets; and forthcoming documents such as the technical guidance for local highway authorities on busy urban streets, being prepared as part of the DfT's Mixed Priority Routes Demonstration Project (due for completion in 2005/6). This approach would maximise the take-up of all of the Government's output in this area, making best use of the substantial investment that is already taking place.

5.50 The process whereby *Manual for Streets* took over as the principal source of technical guidance would need to be carefully managed; to avoid the potential for there being any confusion as to what documentation should be regarded as definitive at any point in time; and

to avoid conflict between Manual for Streets and any pre-existing documents. The proposed 'loose-leaf' structure would facilitate this approach, as long as the issuing organisation had a proper document management system in place, similar to that used by the Highways Agency for the issue and maintenance of DMRB.

5.51 Finally, there is the question of who would be best to take the lead on the preparation of the document. To some extent this is not particularly important - we have noted already that Department of the Environment (now ODPM) took the lead on DB32, working in collaboration with the then Department of Transport.

5.52 In view of the wide-ranging content, we believe that ODPM would again be best placed to take the lead, but the endorsement of DfT will be vital to ensure its acceptance by highway authorities. ODPM would need to work very closely with DfT, CABE, local government, the various Institutions with an interest in the public realm (including highways, planning and urban design bodies), the House Builders Federation (HBF) and the utilities. A standing committee drawn from these various bodies could form a peer review group to monitor the quality of the emerging document.

5.53 Ideally, the document should have a foreword by the Deputy Prime Minister and the Secretary of State for Transport; and be announced by means of a Joint Circular of ODPM and DfT, so that it is brought to the attention of all highway and planning authorities and is seen to be endorsed by both departments of Government.

Dissemination and Training

5.54 Under the 'Cultural' barrier heading, we noted that the two key groups - engineers and planners/urban designers - have an insufficient understanding of each others' views and objectives.

5.55 The publication of *Manual for Streets* will help to bring the two groups together, but it will need to be promulgated strongly by ODPM and the other representative bodies involved in its preparation. There is a steady stream of new guidance on many topics, and it will be vital to emphasise the importance of this particular one. We were referred to *Housing Layouts - Lifting the Quality*²³, a previous attempt by the HBF and others to bring forward the quality streets agenda, that had failed to make a significant impact.

5.56 Conferences and other training events will need to follow to ensure that this failure is not repeated; and as far as possible these should be designed to be relevant to all stakeholders, to encourage wider understanding. There is scope for some conferences held in the near future to discuss and publicise new approaches to residential street design, as outlined in Section B below.

5.57 The Urban Design Skills Working Group report to DTLR in September 2001 made a number of recommendations for improving skill capacity in this field, and any training events on new approaches to street design should be integrated with these wider initiatives.

Status of the Document

5.58 We recognise that we are placing considerable emphasis on the development of *Manual*

for *Streets* as a solution to many of the barriers identified in our research. We believe that it will, in itself, do much to address these problems and to encourage all stakeholders to pay more attention to the development of better quality streets.

5.59 The document's clear linkages between the policies of PPG3 and measurable design criteria will increase the motivation of all stakeholders to apply its recommendations. The provision of nationally-endorsed guidance will encourage highway authorities to seek innovative and better quality designs through their own standards, not least by providing a clear defence against public liability claims. It will also motivate planning authorities to become more involved in the process of highway design, by integrating urban design and engineering guidance. This should lead to closer working of the two types of authorities, giving clearer direction to developers on design criteria for individual sites. Finally, developers will be more motivated to propose PPG3-compliant schemes once they have greater certainty that the highways will ultimately be adoptable.

5.60 However, it is possible that some highway authorities - who are the main drivers for change - will choose to continue with 'business as usual', requiring developers to continue to work to outdated and prescriptive local standards and failing to properly integrate planning and highways development control. We have therefore given thought to further interventions that will give greater force to the document.

5.61 We have firstly considered interventions that will place an incentive on local authorities to use this document, and to work within integrated teams, as set out below in Section B - Incentives for Change. A further and more powerful option would be to place the guidance on a statutory basis akin to the Building Regulations, which is discussed in Section F - Legislative Interventions. Our proposals for the phasing of these interventions are set out in Section 6.

Parking Policy and Guidance

5.62 We noted in Section 3 that there are serious concerns over the application of the parking advice contained in PPG3. It appears that there may well be some misunderstanding of the aim of the advice, and certainly there are inconsistencies in its application. Moreover, concerns by decision makers over the adverse effects of providing inadequate numbers of off-street spaces may be affecting their general application of PPG3.

5.63 We therefore recommend that supplementary advice is issued by Government on this matter as soon as possible, to clarify policy.

5.64 In due course, further technical guidance is warranted on the establishment of the appropriate level of parking for new housing, depending on such factors as location; accessibility to local facilities by non-car modes; and size and type of dwellings. This should be published as part of *Manual for Streets*. It may require further research and should be integrated with the forthcoming advice on Transport Assessments, as promised by PPG13, which will advise how to measure the accessibility of new developments, by different modes of transport.

B. Incentives for Change

5.65 One of the key barriers to the achievement of better quality streets is the fact that there is

little incentive for the highway authority to have regard to other than the 'pure' highway functions of safety and durability when considering streets put forward for adoption. We have therefore given thought to possible levers that would encourage highway authorities to take a more proactive approach to the development of good quality streets, including the use of *Manual for Streets* as core guidance.

5.66 Some of these levers would also encourage planning authorities to take a greater interest in the design of new highways, as part of a greater commitment to the implementation of PPG3.

Local Transport Plan Policies

5.67 The Local Transport Plan is the main statement of policy for highway authorities. They are a statutory requirement of the Transport Act 2000 and are produced every 5 years. In the period since the first full LTPs were issued in 2000, local authorities have published two Annual Progress Reports (APRs), setting out the progress they have made in achieving the objectives of the LTP.

5.68 The better integration of planning and transportation was a core objective of the Transport White Paper, and previous DETR guidance on the preparation of LTPs required highway authorities to show how their policies were linked to the policies in Local Development Plans in their area.

5.69 Earlier this year, the Government announced that local authorities that are judged 'excellent' under the Comprehensive Performance Assessment will no longer need to produce Local Transport Plans. Nevertheless, it is anticipated that such authorities will still be requested to show how they will plan and deliver transport schemes, in an integrated manner. The majority of highway authorities will continue to prepare Local Transport Plans.

5.70 The current LTP guidance set a total of 27 criteria (each with around 10-15 sub headings, setting out 'minimum requirements' and 'good characteristics') on which the quality of LTPs was assessed. These included 'Consistency with National Planning Guidance . . . and development plan'. Government has stated that the allocation of resources to local authorities will be dependent in part on the quality of the LTP submissions, based on these assessment criteria.

5.71 The most recent DfT guidance on the preparation of the second round of APRs hinted at the role that highway authorities can play in improving public space, noting that authorities may be asked in future to show what they have achieved in this area.

5.72 The next round of LTPs is due to be submitted in July 2005 and will take effect in April 2006. There is an opportunity to make more explicit references in the next round of LTP guidance to the part that highway authorities should play in encouraging and adopting better quality streets; and in integrating their development control functions with those of the planning authority.

5.73 We therefore propose that an additional criterion be added to the assessment framework for the next round of LTPs, entitled 'Policies for a Better Public Realm', or similar. This criterion would assess local authority LTP policies on whether they will encourage local highways and

other transport infrastructure (both new and existing) to be better quality, more attractive, public spaces.

5.74 A sub-heading under this criterion (which should be a 'minimum requirement') should require highway authorities to set out their policies for incorporating *Manual for Streets* into their development control and highway adoption policies.

5.75 The existing criterion on Planning (as referred to in paragraph 5.70 above) is quite general and refers only to planning policy, not process and should be redrafted in the new LTP guidance. Again as a minimum requirement, it should include a requirement for the highway authority to set out its general policies for working in partnership with the planning authority. This would cover the formulation of local development plans and site-specific policies (including references to the proposed reforms to the planning system - see Section C below); and on the processing of individual planning applications.

5.76 We recognise that the LTP system will not guarantee the take up of these ideas. LTPs are very complex documents, containing hundreds of policies on every aspect of the highway authority's powers and responsibilities. Whilst some highway authorities will place a high priority on these two areas of policy, not all will choose to do so.

5.77 Nevertheless, the use of the LTP process is an established, albeit fairly new, framework for influencing local decision making, which should be employed.

Best Value

5.78 Best Value is the Government's overarching instrument for influencing the policies and procedures of local government and offers another possible way forward. Best Value sets national objectives (Performance Indicators) for local authorities and assesses their performance against them, with national league tables of performance then being published.

5.79 Best Value Performance Indicators (BVPIs) have been set for around 100 local authority functions, but this represents only about 25% of the services they perform. The intention is to enable a rounded assessment of the overall performance of the authority.

5.80 The BVPIs for 2002/3 for Transport cover the functional performance of transport networks; the condition of roads, road safety, bus passenger journeys and so on. The Planning BVPIs cover the percentage of homes developed on brownfield sites and measures of the efficiency of the decision making process, including the proportion of applications determined within target periods. The Government is seeking to develop a Best Value indicator or set of indicators on the quality of the planning service for introduction in 2004/5.

5.81 The local authority stakeholders we spoke to through the research were, unsurprisingly, lukewarm about the use of Best Value to raise the quality of new residential streets. They saw Best Value as a bureaucratic system that was costly and time consuming to implement.

5.82 We did feel it worthwhile to examine ways in which Best Value could be employed in this area, however. The first option considered would be to use Best Value to encourage highway and planning authorities to work more closely together, principally by establishing joint development teams that would work together to prepare relevant policies at local plan stage,

as supplementary planning guidance and on development briefs. This initiative would need to take into account the ongoing reforms to the planning system (see Section C below).

5.83 The joint development team would also be set up to provide a more comprehensive response to developers on planning applications, coordinating the views of both authorities. Some local authorities - for example Canterbury City Council and Kent County Council (see the Station Road West case study) already operate this system for many planning applications, with decisions taken locally and in a co-ordinated way.

5.84 This could be achieved by the preparation of a 'concordat' between national bodies such as the Planning Officers Society, the County Surveyors Society, the Technical Advisors Group and the Urban Design Alliance, which would set down what was considered to represent good joint working practice. We envisage that this concordat would include an endorsement of *Manual for Streets* as the primary source of technical benchmarks for new streets.

5.85 A BVPI could be set, which would apply to both highway and planning authorities, that would measure whether authorities had signed up to the various recommendations of the concordat.

5.86 From discussions with the Directorate in ODPM with responsibility for Best Value, we understand that this might be a way forward, but should only be considered as part of a wider review of planning objectives. Government is concerned to avoid introducing new BVPIs on an ad-hoc basis, and does not wish to 'micro-manage' the operation of local government. Furthermore, we understand that Best Value objectives are now tending to focus on the outcomes of local government services, rather than the process by which they are delivered, and this aim would need to be taken into account in the drafting of any BVPI in this area.

5.87 We also considered whether a BVPI could be written that would directly measure the quality of new streets that were adopted. This would require, firstly, the preparation of a series of measures that would be used to define what would be a 'good' new residential street, linked to the policy objectives of PPG3. Some measures could be related to traffic functions, such as speed, volume and noise. Over the medium term, say 3 years, it would also be possible to measure the number of road accidents on a new road.

5.88 Measurements related to the non-traffic functions of streets would be less straightforward, but it is encouraging to note that Government is pursuing the development of 'Design Quality Indicators' (DQIs) for public space, as indicated in its *Living Spaces - Cleaner, Safer, Greener*. Much work has already been undertaken by the Construction Industry Council and other bodies on the development of DQIs for new buildings, measuring factors such their build quality, functionality and impact. Although there will be challenges in extending this concept to new streets, it would appear that this is already a possibility.

5.89 The combination of public space DQIs and traffic objectives could form a comprehensive basis for assessing the quality of new streets, which could be measured using a Best Value Performance Indicator. This would assess the overall quality of the new streets adopted by a highway authority and approved by a planning authority over the course of each year. These indicators could be linked to the objectives for new streets, as set out in *Manual for Streets*.

5.90 The overall aim of these initiatives would be to give an incentive to the highway and

planning authorities to insist upon better quality residential streets. This would in turn influence developers to submit such schemes, in order to secure approval and adoption more quickly and easily.

5.91 In suggesting these ideas we are aware that this process might be considered too subjective and detailed for measurement under Best Value. Also, Best Value measures many local authority functions, and there is no guarantee that a particular local authority will focus on this as an area for improvement.

5.92 In conclusion, we believe that Best Value might be a way in which local government could be encouraged to place more emphasis on better quality streets, and to make use of *Manual for Streets*, but the process is not straightforward, nor is it certain to deliver the desired outcomes. Nevertheless, it should be considered as an intervention as BVPIs are reviewed.

Awareness Raising, Good Practice Dissemination and Awards

5.93 We found from the case studies and our stakeholder meetings that there are places and projects where good practice can be found. An early intervention should be to publicise these good examples and encourage debate on the key issues, through a series of regional conferences. 'Building for Life', a three-year partnership between the HBF and the Civic Trust, has already done this during 2002 for new housing developments in the round, through a series of regional events culminating in a national conference in London.

5.94 We envisage that these 'Good Streets' events, which would draw on the success of 'Building for Life', would be organised by ODPM with support from DfT, CABE, HBF and local government bodies, and would focus on the design and delivery of streets that meet the challenge of PPG3. As well as providing a showcase for good practice, in terms of both technical solutions and joint working between authorities, the events should set out the findings of this research and invite debate on the proposed interventions.

5.95 The aim should be to make an early start on the process of technical and procedural reform, giving all stakeholders a clear statement of Government's intentions and inviting feedback.

5.96 The collation and dissemination of good practice information should not be a one-off, but should be maintained over time. A regular review of case studies should be collated and published as a companion guide to *Manual for Streets*, providing a practical demonstration to stakeholders of the ways in which better quality streets can be delivered. This process should be integrated with the review and revision of *Manual for Streets* so that it builds on experience.

5.97 'Building for Life' already has examples of well-designed residential schemes mounted on its website www.buildingforlife.org. This could be extended to give more detailed information on newly adopted streets, possibly by introducing a further partner into the organisation with expertise on engineering matters, such as the Institute of Highway Incorporated Engineers.

5.98 We also suggest that a new annual award be created for 'Good Streets', which would be awarded to all of the stakeholders in a project. Local Government News already makes a 'Street Design Award', which could be better publicised in the private sector. We also note that 'Design for Homes', a not-for-profit company championing good design, presents awards for

good quality housing schemes (<http://www.designforhomes.org/hda/>) and this could be extended to new streets as a specific category.

5.99 Further regional seminars and training events will also be needed to raise the skills and knowledge of stakeholders to enable them to aspire to and achieve better quality streets. We understand that CABE are keen to be involved in such an initiative. CABE should work alongside a body representing engineers, such as ICE, IHT or IHIE, to ensure that the seminars are seen as relevant to all.

C. Better Integration of Planning and Highways Development Control

5.100 The Planning Green Paper, published in December 2001, invited comments on a package of reforms to the planning system Government subsequently published its response to the Green Paper consultation, entitled *Sustainable Communities - Delivering through Planning*; and in December 2002 published the Planning and Compulsory Purchase Bill, that will enact most of the planned changes.

5.101 There is therefore an immediate opportunity to use these reforms to help to achieve better quality residential streets. There may be more scope to influence the regulations and development orders that will be made in due course by the Secretary of State rather than to influence the content of the Bill itself.

5.102 Ideally any new legislation or policy instruments would place appropriate duties on highway authorities and planning authorities to ensure common purpose and encourage integration in the planning and delivery of new streets.

5.103 Table 5.1 overleaf sets out the possible changes or other actions to the planning system that have been identified. There are a number of welcome initiatives in the planning reforms that should give greater certainty and transparency in decision-making.

Table 5.1: Planning Framework - Proposed Changes/ Actions

Subject Area	Background	Proposed Change/ Action	Mechanism for Effecting Change
Local Development Frameworks	Local Development Frameworks replace Local Plans and will contain a folder of local development documents (LDDs), including core policies; a proposed map showing site-specific policies; and area action plans for key areas of change, which could include area master plans, design	Place obligation on local planning authorities and local highway authorities to jointly prepare and approve core policies for the design and approval of new streets. The LDDs would then be deemed to be the approved policies of both authorities.	Through Regulations made by the Secretary of State under Clause 16 of the Planning Bill, setting out inter alia the form and content of the LDDs.

	statements and site development briefs/ design guides.		
Statements of Development Principles	Statements of Development Principles will complement and may eventually replace outline planning consents. A certificate would confirm that a developer has agreement, for a defined period, to work up a detailed scheme against set responding parameters, including design criteria. Conformity with the certificate will weigh heavily in favour of the subsequent detailed application.	Local planning authorities should encourage applicants to provide relevant highways information as part of their request for a Statement of Development Principles. This will enable the local planning authority to have regard to highways issues when to the request.	
Prescribed Application Forms	Government is to prepare Prescribed Application Forms	Information requirements of the local highway authority should be included on the application form	Through a Development Order by the Secretary of State, made under Clause 41/62 of the Planning Bill, defining the minimum set of information that is to be required by a local planning authority.
Duty to Respond to Consultation	Consultees to planning applications will have a duty to respond in a prescribed manner to pre-application discussions.	Duty of local highway authority to respond to be established, including procedure to be followed, information to be provided by proposer and response from highway discussions. Local highway authority response should include statement of adoption requirements.	Through a Development Order by the Secretary of State, made under Clause 48 of the Planning Bill.
One Stop Shop/ Single Regime	Planning Green Paper identifies possibility of standardising	Identify opportunities for single consent regime covering	Expressly include highway/traffic consents in ODPM

	<p>application and administrative procedures here consent required under different regimes. Example given is where permission is required for planning and for pollution control matters (latter from the Environment Agency). A 1998 DETR research project reviewed four authorities operating a single consent regime, including (in three of the four) highway engineering matters.</p>	<p>planning and highways agreements required under separate legislation, including adoption and matters requiring traffic/highways orders (eg speed limits, no waiting etc - see paragraph 4.72 above).</p>	<p>proposed research project.</p>
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D. Financial Interventions

Payments for Future Maintenance

5.105 It is important that Government takes steps to regularise the system for authorities seeking payments for future maintenance from developers, so that it is seen to be equitable and transparent.

5.106 Although they are a controversial topic, there was acceptance by some developers that payments for future maintenance are appropriate for truly exceptional items, such as bridges or retaining walls and/or where the highway authority is expected to adopt items that are truly exceptionally costly to maintain. The main areas of dispute are:

- which items should be regarded as exceptional; and
- the calculation of the charges that would then be payable.

5.107 Developers (and the HBF) would be particularly concerned to resist the extension of such payments into what could be regarded as normal items, which should be maintainable at no cost to the developer.

5.108 We have already set out our view that *Manual for Streets* should include clear guidance as to what should normally be regarded as adoptable, without any payment for future maintenance (see paragraph 5.38 et seq.)

5.109 Payments for future maintenance could then only be charged for items falling outside these categories, and with clear and equitable rules to determine their calculation. Research should be carried out (possibly via Best Value comparisons) to establish the 'normal' costs of maintaining different types of materials and street furniture. These costs should take account of

best practice amongst local authorities - for example the use of a particular type of street cleaning equipment that avoids damage to blockwork surfacing.

5.110 The calculations should take account of the increased revenue delivered to the local authority through residents' council tax payments; and be based on set financial criteria, such as interest rates. There should be no scope for the council seeking to recover from the developer any underspend on highway maintenance, caused by the local authority spending sums allocated for this purpose on other areas of expenditure.

5.111 Where payments for future maintenance are made, the local authority should be obliged to maintain the items to a defined standard, through a legal agreement - a 'quality contract', say. This could encourage those developers who choose to keep streets private for fear of poor maintenance, to offer streets for adoption in future.

5.112 We envisage that these changes would be implemented by means of a Government Circular, which would be published jointly by ODPM and DfT. When drafting such a policy, Government will need to confirm whether there is a legal basis for the charging of commuted sums to fund the future maintenance of newly-adopted streets, under Section 38 of the Highways Act 1980.

E. Community Involvement

5.113 Part of the Government's planning agenda is to achieve and sustain local communities, and to involve them more fully in the quality of their local environment. *Living Spaces - Cleaner, Safer, Greener* notes that community involvement is essential to making spaces sustainable in the long term, whilst *Paving the Way* recommends that local trusts should be encouraged for the improvement and maintenance of streets.

5.114 We consider that there could be an explicit role for the community in many new developments in the maintenance of 'their' public spaces, including local streets. This concept is at its strongest in Home Zones, streets which are designed to function primarily as spaces for people, and not just for traffic.

5.115 Where appropriate, properly-constituted community bodies could be encouraged to take responsibility for green spaces and other facilities for local people, such as small items of play equipment. This would reduce the burden on local authorities and give a greater sense of ownership and pride.

5.116 This approach would also offer an alternative to any payment for future maintenance of exceptional items that are not freely maintainable by the local highway authority. This approach was followed on the Tyne Park development, where the developer, Wimpey Homes, has chosen to establish a maintenance company to look after all of the planting on the scheme, including that which is within the adopted highway. We are also aware of a development in Northampton where Wilcon has used the Commonhold form of tenure for a development of 400 homes, with residents taking responsibility for managing their local environment.

5.117 Such arrangements are not widely used however, except on developments of apartments, and Government, in partnership with the HBF and local government, should publish guidance on the mechanisms available for establishing such bodies. Care will need to

be taken to ensure that these bodies are sustainable, so that the risk of the responsibility for maintenance falling back onto the local authority is minimised.

5.118 We note that CABI Space will provide a focus for research into public space issues, and may also be a suitable body to participate in the development of guidance in this area, extending its current remit on green spaces to include adopted streets.

F. Legislative Interventions

5.119 We have considered the possible legislative interventions under two headings: firstly the more limited changes that would be needed to place Manual for Streets on a statutory basis, if this is needed; and then more general changes to the legal framework.

Statutory Basis for Manual for Streets

5.120 The current legal framework leaves the local highway authority in a strong position when dictating standards and deciding when and whether to adopt highways. Although the introduction of Manual for Streets and the incentives to use it are expected to have a significant effect, it is not certain that these interventions will encourage all highway authorities to take a more positive attitude to the quality streets agenda.

5.121 To overcome this, statutory weight could be given to *Manual for Streets*, such that if a developer can demonstrate that the requirements of the Manual had been met, the highway authority will be obliged to adopt the street. We envisage that this might work in a similar way to the Building Regulations, whereby Statutory Regulations define the key objectives of new buildings - for example to provide an adequate system of drainage through a sewer or other means.

5.122 Under Building Regulations, detailed guidance is then published by the Secretary of State, which sets out an approved way that the Regulations can be met. This does not prevent the designer satisfying the objectives in a different way, however, if this can be proven from first principles. *Manual for Streets* could fulfil a similar function for new adoptable streets.

5.123 This would require the Secretary of State to make Regulations defining the criteria to be achieved for the adoptable streets, but there is presently no mechanism in the Highways Act 1980, the primary legislation for new streets, enabling this to take place. There would therefore need to be an amendment to the Highways Act to allow the Regulations to be made.

5.124 This would be a very powerful intervention, and as set out in Section 6, we see this as a longer-term option, depending on the effectiveness of the earlier interventions.

Specific Revisions to the to Highways Act

5.125 As noted in the section on Barriers, many stakeholders took the view that a review of the Highways Act is necessary, to address the shortcomings outlined in paragraph 4.81 above.

5.126 Highways authority representatives and other stakeholders were particularly concerned to clarify the procedures and obligations relating to roads that were expressly not proposed for adoption. This would require a review of the cumbersome Private Street Works and Advance

Payment Codes. (Sections 205-218 and 219-225 of the Act).

5.127 We recommend that the operation of these sections of the Act is reviewed by Government in due course.

²⁰ Paving the Way: how we achieve, clean, safe and attractive streets, CABI (2002)

²¹ October 2002.

²² Hancox and Wald: Highways law and practice, p.220 (Butterworths, 2002).

²³ Housing layouts - Lifting the Quality, DETR, House Builders Federation, Planning Officers Society (1988).

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6. Summary of interventions

6.1 The proposed Interventions are summarised on Table 6.1 overleaf, including the organisations we recommend as being primarily responsible.

6.2 We have attempted to prioritise actions by highlighting our view of both the:

- importance; and the
- timescale

of the various interventions in Table 6.1, each on a three point scale. Importance has been described as high, medium and lower; and timescale as short, medium and long-term.

6.3 For example, considering the possible need for changes to the emerging legislation on planning must be done in the short term, but is not of the highest importance; whereas the clarification of PPG3 parking policy is highly important and should be made in the short term.

6.4 Where actions are recommended for implementation in the short term, we have identified them as a 'Quick Win' and have explained how these interventions will take effect.

6.5 Table 6.2 that follows shows how the proposed interventions seek to address the barriers identified in Section 2 of the report.

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7. Conclusion

7.1 Streets are vital components of residential areas and greatly affect the overall quality of the places in which we live. Experience suggests that many of the street patterns built today will endure for hundreds of years, and we owe it to present and future generations to create well-designed places that will serve their needs well.

7.2 The primary purpose of this research was to establish whether the present system of highway adoption is supporting the delivery of the quality residential environments sought by PPG3. Our research has demonstrated, unequivocally, that there are substantial problems, which are serious in nature. The full impact of PPG3 will not be realised without action being taken to resolve them.

7.3 A failure to tackle these issues would seriously undermine the ability of the planning system to deliver developments that meet the key objectives of PPG3; to:

- make best use of land, particularly on tight urban sites;
- place the needs of people before ease of traffic movement; and
- create attractive, high-quality living environments in which people will choose to live.

7.4 Our research has found that the underlying causes of these problems are complex and need to be addressed through a range of integrated measures.

7.5 We have identified a series of 'interventions' for action by Government, working in partnership with the key stakeholders. These include;

- new technical guidance, relevant to all;
- measures to increase the motivation of all those involved to deliver better quality places; and
- improvements in the processes through which new streets are promoted, approved and adopted.

7.6 We believe that an early start on these actions should be made, so that their benefits can be realised as soon as possible.

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Appendix C: Literature Review

The most recent version of **Planning Policy Guidance Note 3, Housing (PPG3)**, published in 2000, promotes the principle of sustainability in designing and building new housing developments. A key area that is emphasised by **PPG3** is in relation to the layout and design of public space, with the configuration of highways within the development being recognised as fundamental to the way in which people and vehicles use the space. **PPG3** states as a headline objective that local planning authorities should:

- place the needs of people before ease of traffic movement in designing the layout of residential developments;
- seek to reduce car dependence by facilitating more walking and cycling, by improving linkages by public transport between housing, jobs, local services and local amenity, and by planning for mixed use;

There is anecdotal evidence however that where developers attempt to satisfy those objectives by designing developments that incorporate innovative highway layouts, they have experienced difficulties in having the local highway authority approve and/or agree to adopt the highway. A refusal to adopt highways would clearly cause difficulties for developers and, if regular or widespread among highway authorities, could rapidly discourage developers from attempting to provide non-traditional highway layouts, thus frustrating one of **PPG3**'s major objectives. This literature review forms part of a larger study, commissioned by the Department of Transport, Local Government and the Regions, which seeks to explore the extent of the problem, its causes and possible means to resolution.

This literature review will focus on relevant core and supplementary policy and design documents in order to highlight possible ambiguities or tensions between them. The review is presented in two sections. Section 1 considers headline objectives and gives an overview of the core documents relevant to this study. Section 2 considers the technical detail of the core documents and of supplementary guidance. *Paving the Way* has provided an overview of a number of technical documents, it is treated separately within the detailed literature review.

Overview of Core Documents

The documents of greatest relevance to this aspect of the literature review are:

- PPG3
- Design Bulletin 32
- Better Places to Live By Design
- Places, Streets and Movement
- Highways Act, 1980

- Town and Country Planning Act, 1990

Stated Objectives

PPG3 (published 2000) has the objectives stated above. **PPG3** however does not develop this vision by giving any further exposition on the implications for highway layouts nor does it recommend the revision of standards, by Highway Authorities, for highway layouts in residential developments. This lack of further information places a heavy reliance on the user to infer and envisage the types of highway layout that may be required in order to deliver the vision.

Such guidance is subsequently provided in **Better Places to Live (published 2001)**, which includes the statement that:

PPG3 provides the opportunity of a fresh start through...requiring local authorities to review critically the standards they apply to new development, particularly in relation to road layouts and car parking provision.

Better Places to Live, however, is not referenced within **PPG3** nor does **PPG3** explicitly mention the requirement attributed to it.

The only further detail given within **PPG3** relates to parking standards, where it is stated (Paras 59 - 62) that many authorities have standards for parking provision that have become increasingly demanding and have been applied too rigidly. The policy asks local authorities to revise their parking standards for significantly lower levels of off-street parking provision, and notes that standards that result, on average, in development with more than 1.5 spaces per dwelling should not be adopted.

By Design (published 2000) overall strongly reinforces the idea of promoting movement by pedestrians and cycle users within residential developments. It does however begin slightly ambiguously by describing as a principle objective of urban design "Ease of movement...a place that is easy to get to and move through". The idea of promoting particular types of movement - ie the sustainable modes; walking, cycling and public transport, whilst restraining or discouraging car use, is not stated at the outset of the document. Nevertheless, the Movement and Place Making section of **Better Places to Live** is quite explicit on the subject of pedestrian priority, stating that:

It is all too easy, however, for movement to seem an end in itself, shaping a development to the exclusion of other factors. This is particularly detrimental when one form of movement is given priority above others, as happens when a road layout designed largely to the requirements of vehicular traffic is allowed to dictate the whole character of a development....Successful environments are those designed at the human scale with the needs of pedestrians in mind.

Design Bulletin 32 (DB32) (Published 1992) itself refers to objectives in a 'flat' way, without making comment as to the relative priority of different considerations. Thus Chapter 1, on The Design Brief, lists a range of factors that should be incorporated into design considerations, however, while the need for accommodating pedestrians and cyclists in designs is stated,

there is no sense that this is of greater importance than facilitating the movement of vehicles. Rather **DB32** refers to the need for developers to negotiate with local authorities the priorities for the development's design:

The requirements which have to be taken into account in the brief must first be established with local planning and highway authorities, those who provide statutory and other services and police advisers on crime prevention.

It is left to those authorities, reacting to Government policy and policy guidance notes, to communicate the requirement of supporting Government policy objectives in relation to transport. This ultimately imposes a requirement that planning and highway authorities themselves completely understand current policy and its practical implications for development. In the absence of clear standards (see below) this implies a considerable depth of understanding at all levels in the authorities.

This may be a source of conflict if those engaged in the technical assessment of proposed residential layouts and highway designs are not confident in creatively applying the principles set out in current guidance; that lack of confidence leading them to refer in a literal way to the measurable standards set out in **DB32**. Ultimately this may be a matter of training and awareness and may also be affected by the seniority and experience of the staff engaged in this work. The layout of **DB32** also places a focus upon measurements and design detail rather than the concepts to which the various design features should be applied. These possible components of the problem, and others, will be further explored in the stakeholder meetings.

Guidance versus Standards

Better Places to Live is intended to stimulate thought as to the new approach demanded by **PPG3**. As it explicitly states it is "a guide to better practice, not a pattern book" and does not set out standards, although it does state that "the principles set out here are compatible with these [those of **Places, Streets and Movement**] technical requirements".

The technical requirements of **Places, Streets and Movement (Published 1998)** and subtitled 'A Companion Guide to DB32' in turn refer back to **DB32**; hence there is an indirect technical link from **DB32** through to the guidance given in support of **PPG3**. It is implied that **DB32**'s standards may not prima facie lend themselves to the sort of layouts envisaged in **Better Places to Live**, leading **Places, Streets and Movement** to explicitly promote "a flexible interpretation of **DB32**", although the need for such may not be apparent to users of **DB32**.

There may therefore be a question of compatibility between the application of standards set out in **DB32**, if not carried out in a suitably flexible and interpretative manner, and the types of highway layout envisaged by the authors of **Better Places to Live**. The question then becomes one not of what standards are promoted *per se* but of the spirit in which they are applied and of the willingness and ability of users to translate the standards into a residential context that was uncommon when **DB32** was published in 1992.

Places, Streets and Movement is designed to ensure that **DB32** is utilised in a manner that is compatible with current policy objectives, stating that it "is intended to ensure that **DB32** is used more imaginatively than has previously been the case." It sets out amongst its objectives a desire to promote "the reduction of car use..." and "the detailed design of roads, footpaths

and cycle routes to avoid dominance by the car...". Therefore a strong steer is provided to users of **DB32**, provided they are aware of and familiar with this guidance in the interpretation of **DB32**.

A significant aspect of **Places, Streets and Movement** is its objective, reflecting its emphasis on flexibility, of promoting "a move away from overly prescriptive standards". This underlining of the need for imaginative application of principles in a manner that is responsive to local circumstances represents an ideal. However, it is possible this may give rise to a sense of exposure among highway authorities and others by effectively underlining their responsibility for the standards that they apply.

In the context of the concerns about liability and litigation that are thought to be prevalent among highway authorities, this may lead some to reject the flexibility and freedom offered to them in **Places, Streets and Movement**. It is possible that some continue to apply the standards set out in **DB32** in the way that they are accustomed to or refer to their own adopted standards or those of the Design Manual for Roads and Bridges. Crudely, it is possible that highway authorities' officers may envisage substantial costs to themselves, either personally or corporately, in agreeing to the adoption of highway layouts that they may consider give rise to risks of litigation.

Conversely they may perceive few obvious benefits, with new developments unlikely to have a significant influence on modal split or other policy objectives within their jurisdiction. This cultural element will be explored further in the questionnaire and stakeholder elements of the research, however at the top level it appears that if highway authorities wish to adhere to their existing standards there is sufficient scope for interpretation of **DB32** to enable them to do so and that such a posture may be validated to a degree by the continuing emphasis on **DB32** as a source of technical standards within **Places, Streets and Movement** and **Better Places to Live**.

Sequence of Publication

The provenance of **DB32** may also be significant in determining the manner in which it is used and referred to. At a superficial level it is obvious that, having been published in 1992, **DB32** pre-dates current policy objectives and therefore necessarily does not refer to them nor to the subsequent companion volume with its emphasis on creative interpretation. For a user of **DB32** then there is a reliance on their familiarity with the other literature in the area which may constitute a training issue. Beyond this obvious issue however, there is also the question as to how fully the standards of the 1992 edition of **DB32** have been adopted and internalised by highway authorities.

Brief consideration should be given to the 1977 edition of **DB32**. Ironically an examination of the 1977 edition reveals that in setting out design objectives, the 1977 version states that pedestrian movements and issues of liveability "should be given priority in design over the use of vehicles". This philosophy is not articulated explicitly in the 1992 edition, which may represent an oversight or may even have been interpreted by highway authorities as a dilution of objectives.

Further, the fact that an objective in designing residential highway layouts that is almost identical to that expressed in **PPG3** should have been stated twenty-three years prior to the

issue of **PPG3** begs the question as to why highway layouts on the **PPG3** model have not been forthcoming in the past. This in turn suggests that the influence of guidance documents may be limited in determining local authority practices one way or another. It further suggests that, although specific standards may be more or less helpful in promoting certain approaches, in reality the barrier to more widespread adoption of innovative highway layouts may in fact be one of institutional and occupational culture. The 1977 edition of **DB32** also states the need for innovative approaches in order to allow the development of new highway layouts. It is questionable whether that philosophy has been widespread among highway authorities.

Additionally the 1977 edition cautions against envisaging the worst possible combinations of user behaviour and attempting to design them out. While unlikely to have been significantly influential this statement does serve to highlight the possibility that highway authorities in assessing innovative layouts may assess them first and foremost with reference to considerations of road safety and hence of liability. The effect of such a perspective, if it exists, may well be to promote caution in considering unfamiliar designs, leading to delays in planning approval and/or refusals to adopt. This in turn would have the effect of rewarding developers who utilised standard layouts while penalising those who, in accord with the objectives of **PPG3**, designed around local circumstances to instil a sense of place in their designs.

Further, it is anecdotally the case that the 'safety culture' among highway engineers has in the past focussed on constraining the behaviour of vulnerable road users, rather than facilitating accessibility by the sustainable modes. Thus features such as pedestrian barriers and guard railing, 'cyclist dismount' signs etc have been deployed in preference to constraining vehicle movements as one way of providing safer environments. This culture may influence the interpretation of current design advice and restrain attempts to introduce features such as shared surfaces, raised pedestrian crossings and other features that can contribute to prioritising the needs of pedestrians. Whether such a culture is still in existence and, subliminally or otherwise, has the effect of 'natural selection' in favouring layouts with which highway authorities are familiar should form part of the qualitative research phase of this study.

Also when looking at the time sequence it has to be taken into account that local authorities issue their own guidance on buildings and roads. It may be the case that their guidance may not have been revised to take into account the objectives of **PPG3** and may still have a strong focus on **DB32**. This will need to be investigated as part of this project.

Legislation

In terms of objectives, the legislation that underpins the adoption process is also ambiguous. The Highways Act 1980 (37, (2)) grants powers to highway authorities to apply to magistrates' courts to make an order refusing adoption "if the council consider that the proposed highway will not be of sufficient utility to the public to justify its being maintained at the public expense". The requirement that a highway be of sufficient utility does not specify to whom, other than the general phrase "the public". Highway Authorities may require clarification as to what constitutes utility and reassurance that a highway designed in accordance with **PPG3**'s principles is of sufficient utility, even if it is designed to actively restrict or discourage vehicle use.

The Highways Act 1980 is not significantly modified in respect of this aspect of the adoption process by the New Roads and Street Works Act, 1991.

The Town and Country Planning Act, 1990 is relevant in this discussion in that it gives weight to the supplementary planning guidance issued by planning authorities, granting it the status of a material consideration in considering planning applications. In this context, if a planning authority has issued supplementary planning guidance with respect to highway layouts that predates **PPG3** and has not been revised following **PPG3**'s publication it may act to discourage developers from submitting innovative designs. This being the case, it is necessary that the subsequent stages of this project should explore whether supplementary planning guidance relating to highway layouts is commonly referred to by planning authorities and whether, if issued, it has been, or is intended to be, revised in accord with **PPG3**.

Predict and Provide

Throughout the latter part of the 1990s there was a gradual overturning of the principle of predict and provide (ie the concept whereby traffic volumes are predicted, based on the extrapolation of past trends; and a highway layout is provided to meet this level of demand). The move over time towards the concept of traffic demand management is reflected in the core documents under consideration. **DB32** tends to reflect the predict and provide approach to both parking and highway layout and includes statements such as

- (1.14) Risks of damage by over-running vehicles will mainly be reduced by making adequate provision for off-street and on-street parking and by ensuring that carriageways are wide enough to allow vehicles to pass each other.
- (1.61) When estimating directions, amounts and types of movement it is necessary to consider what changes are likely to occur over time in the location of local facilities and in the volumes and types of vehicular traffic generated within the scheme and different parts of the road layout in the local area...those which are foreseeable...must be taken into account when planning the layout"

By contrast the later documents promote the idea of planning and management in order to reduce vehicular traffic rather than to simply accommodate it. **PPG3** itself, as noted above, points out that car parking standards resulting in more than 1.5 off-street spaces on average per dwelling should not be adopted. **Better Places to Live** takes a particularly robust approach to this, and promotes ideas such as

...developers and local authorities may come under pressure from local residents to propose access arrangements which are neither sustainable nor suited to the new development. These problems can be difficult but a positive approach is needed if long-term issues of sustainable movement are not to be sacrificed for short-term convenience.

It is possible that the question of whether to constrain road traffic or to accommodate it is again one in which the objectives of **PPG3** and the standards and culture of highway authority staff may be at variance.

First Steps

Beyond the question of explicit objectives discussed above, the question of how to begin to

plan a development spatially is clearly fundamental to determining the ultimate character of that development. Here again there is potential for tension between **DB32** and later guidance.

DB32 advises that the fundamental source of guidance on layouts should be the Local Plan/UDP Part II, and that where they give guidance on the hierarchy of distributor roads etc around the site these may form the skeleton of a design. This places a reliance on planning authorities to have defined those roads in accord with the principles of **PPG3**. Further, **DB32** defines roads in terms of function and this may then influence the subsequent design of those links. This may introduce problems in relation to the definitions used, for example a shared surface road is defined as one that "may serve up to around 50 houses"; by leading with traffic functions as opposed to the emphasis recommended several years later in **Places, Streets and Movement**, to "look at the place not the car" and that "Ideally the design of new developments should be based on a network of spaces rather than a hierarchy of roads". Once again it seems that the technical definitions and standards given in **DB32** are capable of being applied in a manner consistent with **PPG3** but that this places a responsibility on the user to be aware of the opportunities and willing to take them.

Finally the definition of a hierarchy of roads in **DB32** may lead to sudden changes in the character of roads and streets as a user passes from, say a local distributor to a residential access road. This may undermine attempts to create a sense of place by unifying a development through consistent design in accord with **PPG3**.

Paving the way (published 2002) recognises that for the last 30 years or more it has been customary to identify roads and streets in a hierarchical classification to help prioritise capital and maintenance spending, and to guide development control and parking strategies. While some form of descriptive hierarchy may be necessary, the terms used carry the presumption that the prime use of roads and streets is vehicle movement, and that presumption has a fundamental influence on how they are designed and cared for. A different language, based on their overall character and functions rather than their vehicle capacity, might help pave the way for a different kind of design and management regime.

Overview of Core Documents - Conclusions

In considering the core guidance documents: **PPG3**, **DB32**, **Places, Streets and Movement** and **Better Places to Live**, there is a clear consistency of objective between the latter documents, however **DB32** has a prime function as the principal source of measurable standards. Pre-dating the others by 8 years it does not cross-reference other sources of guidance and it requires an imaginative interpretation that users may or may not be willing or able to give it.

The more progressive guidance in the earlier edition of **DB32** does not appear to have been followed through in the current version and therefore it may be that culture, experience and a resistance to risk-taking may be more influential in determining highway authority behaviour than the guidance per se. Nevertheless there is certainly scope to update **DB32**, giving it a stronger policy emphasis and potentially integrating it with **Places, Streets and Movement** as one document.

The ambiguity in the Highways Act, 1980, with respect to the utility of routes for adoption may be influential. This should be explored further in relation to the experience of practitioners prior

to making any recommendations as to possible revisions.

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Detailed Literature Review

Introduction

This section considers the technical detail of the core documents. *Paving the Way* has provided an overview of a number of technical documents and is treated separately within the detailed literature review.

This section of the literature review will examine the technical detail of the following documents:

- DB32
- Places, Streets & Movement: A companion guide to DB32 - Residential Roads and Footpaths
- PPG3: Housing
- Better Places to Live by design: a companion guide to PPG3
- IHIE Home Zone Design Guidelines
- IHT Guidelines for providing journeys on foot
- NJUG Guidelines for the planning, installation and maintenance of utility services in proximity to trees
- Paving the Way: How we achieve clean, safe and attractive streets
- By Design: Urban design in the planning system: towards better practice

Carriageway Widths

The dimensions of a carriageway are indicative of the typical types of vehicles likely to use a residential road. If the road acts as a local distributor road that demands ease of traffic flow and a typical speed limit of 30mph, carriageway widths must be in accordance with the 'Roads and Traffic in Urban Areas' recommendations, under the predict and provide attitude of **DB32**. In terms of on-street parking **DB32** (paragraph 3.16) recommends a carriageway width of 5.5m in order to provide sufficient space for cars to manoeuvre around parked cars and enter private driveway. It is crucial to consider kerb radii in conjunction with this. This suggested width should also be sufficient to allow two service vehicles to pass one another if no on-street parking.

The recommended width of 5.5m can also take account of blockages, for example as stated in **DB32** (3.22) a vehicle breakdown on a carriageway of this width will mean that a 3m width of carriageway will remain passable. This also allows for any other minor road works. In places where footways or verges may be used to bypass blockages, narrower carriageway widths may be considered acceptable. It is suggested that for busy residential roads, underground

services should be located outside the carriageway to minimise disruption. This may cause problems with footways with large numbers of utilities already located underneath them as well as possibly endangering vegetation in the area through root destruction, as recognised in the NJUG guidelines for utilities. Here there is a clear focus on the Highway function of the street rather than the creation of places as in **PPG3** and its accompanying document **Better places to live**.

DB32 (3.25) states that where carriageways allow only for single-file traffic in places where large numbers of dwellings are served

"... it will normally be essential for the road layout to provide alternative means of vehicular access - either permanently or for use in an emergency".

Places, Streets and Movement (page 54) provides a reinforcing overview of the approximate minimum carriageway width required for the free movement of traffic in residential areas:

No. dwellings served 50-300 25-50 Up to 25

Carriageway width (m) 5.5 4.8 4.1

While this specifies for the number of dwellings served it does not take into consideration the size of dwellings. This may cause problems with car parking as it is probable that 300 five bedroom detached homes are likely to have a higher car ownership compared to 300 one bedroom flats, and therefore generate greater traffic flows. This is not considered in present guidance. Also this does not allow for the use of narrower carriageway widths to reduce traffic speeds by layout as is suggested later in **Places, streets and Movement** (60).

DB32 (3.18-3.20) claims that carriageway narrowings can be less than 4.1m if cyclists are given special consideration in this instance. Potential delay and frustration caused to drivers may jeopardise the safety of cyclists as a consequence. A Transport Research Laboratory investigation (1978) found that most cyclists examined found a carriageway width of 3.25m to be acceptable, accounting for passing and being overtaken by cars on a carriageway with varying widths. The majority of cyclists were satisfied with a 3m width. However, more recent DfT guidance, Traffic Advisory leaflet 1/97 - cyclists at road narrowings, recommends that road narrowings be a maximum of 3.5m in 20mph limits, and that cycle bypasses or cycle lanes should be provided where the speed limit is 30mph or more.

Similar considerations to those previously highlighted are adhered to for the carriageway width requirements on bends. **DB32** (3.26-3.31) describes the necessary considerations, detailing the dependency of such matters on the radius for the bend and the length of vehicles using it. If a bend gives direct access to dwellings it is required to make provision for two large service vehicles to pass each other if one is parked. In general the following recommendation is made: "...carriageway widening is normally needed to the following extent on bends curving through more than 10 degrees along roads serving over 25 dwellings (widening should be on both sides of the curve, or on the inside)":

While **DB32** may appear to be flexible in giving approximate minimum widths other requirements such as access for emergency services gives an absolute minimum of 3.7m. Other factors which can also influence the layout of a development is the turning circle

between walls of 29m for hydraulic platforms and a minimum width of 3.1m for gateways as specified in the Fire Safety Department guidelines. Overall the measureable widths available to Highway Authorities are based on the traffic function of roads. If Highway Authorities wish to accept lower widths in order to encourage lower traffic speeds then they must look elsewhere for guidance, or use personal judgement.

Shared surfaces and Home Zones

DB32 (2.70) states that as a general guide shared surface roads may normally serve up to approximately 25 dwellings in a cul-de-sac and 50 dwellings where junctions with roads accommodating footways are located at each end of the shared surface.

The design of these roads should provide a tight kerb radii and / or a ramp at the entrance and such changes in alignment that may be necessary to restrain driving speeds to below 20mph. Secondly, the surface should not give the impression of being divided into a carriageway and footways - for example, there should be no difference in height in the cross section of the road.

Bollards may be used to create spaces free from vehicular traffic, whilst changes in surfacing colours and materials can be used to help demarcate parking areas, distance vehicles from dwelling entrances or to help restrain vehicle speeds. These should be chosen to suit both types of user where joint use is intended. Spaces to accommodate cars must be clearly identifiable.

In addition, a surface should be wide enough to allow pedestrians and vehicles to both pass with ease and manoeuvre. Also, at entrances adjacent to the shared area pedestrians and drivers must be able to see and be seen by approaching traffic; ie there must be "intervisibility". Sufficient lighting and routes to services must also be accounted for in the design.

DB32 (2.71) states that a differentiation between the shared surface and neighbouring roads with footways should be emphasised, through the use of design features such as gateways at entrances or closely spaced buildings. It is suggested that trees can complement the demarcation of parking spaces or pedestrian routes. Edge details should be in contrasting materials and lower in height than usual along access roads.

DB32 (1.42-1.46) claims that in terms of safety, shared surfaces are found to be very safe. Where accidents have taken place it had been where the design has not been in accordance with the previous bulletin. It is suggested that as such results highlight the safety of shared surfaces if designed well, Highways Authorities may endeavour to take this evidence into account when considering their duty under Section 66 of the Highways Act 1980 to provide "... a proper and sufficient footway as part of the highway in any case where they consider the provision thereof necessary or desirable for the safety or accommodation of pedestrians...".

Home Zones are a new concept which seek to enhance the street environment by giving all road users an equal right to use the whole of the street space; one of the key measures used is the introduction of shared surfacing. Home Zones are encouraged in a number of key policy documents, including PPG13, although they are not referred to in **PPG3**. Home Zones are subject to a specific legislative framework, with the primary legislation being Section 268 of the Transport Act 2000.

The **IHIE Home Zone Design Guidelines** sets out a number of design requirements for this type of residential street. These guidelines are different to many of those before it in that they are focused on providing a quality streetscape and look to cater for the needs of pedestrians rather than just focusing purely on traffic volumes, vehicle flows and vehicle speeds. The following measures described highlight this approach.

Firstly, Home Zones are appropriate in all types of residential area, including suburban, urban and inner city locations; and for all dwelling types including high rise flats, terraces and semi-detached or detached homes. Home Zones are also suitable for use in areas that have a significant level of non-residential use, provided that the volume and type of non-residential traffic is not excessive or damaging to the quality of the residential environment. There must always be enough residents to form a viable community throughout the Home Zone.

DB32 contradicts this in that it suggests in para 2.70 that shared surface streets should only be used on through streets with up to 50 dwellings or on cul-de sacs with up to 25 dwellings, whereas the **IHIE** suggest a far wider application, with the size of Home Zones only being limited by traffic flow (100 vehicles per hour in the afternoon peak). Vehicles should not have to travel more than 400m along Home Zone streets. This distance should be measured from any point within the Home Zone to the nearest point on a conventional street. People should not have to walk more than 400m to reach a bus stop.

In defining the Home Zone space it should be the buildings, trees, planting and surface treatments that should define the Home Zone, rather than conventional kerb edges and carriageway widths. Each Home Zone space should be unique, depending on the building heights, setbacks, its overall architectural character and the community's use of the street. **DB32** is in line with this approach to some extent when considering shared surfacing as it recognises the importance of layout rather than physical measures when attempting to reduce traffic speeds.

Home Zones must be clearly marked at their entrances and exits to ensure that all the street users recognise the different nature of the area. The new Home Zone sign should be used to provide a clear statement to drivers of the change in the operation of the streets. Where the Home Zone street joins a busy or fast road there should be a raised surface no more than 10m back from the junction with the main road and with the junction radii as small as possible.

Home Zones must provide children with a safe and attractive area outside their homes, which will provide a place to meet and play with their friends. The design of the Home Zone should make motorists feel that they are guests in the street and make it difficult for them to travel at speeds of more than 10 mph. **DB32**, however, only refers to reducing speeds to below 20mph in shared surfacing areas and does not take into consideration the use of the street for children's play in the making of places.

Home Zones must be designed to be accessible to and usable by, people of all types. Drivers usually expect to have priority over any part of the street between raised kerbs and therefore a continuous raised kerb should not normally be provided throughout the Home Zone.

The minimum width of any pedestrian-only areas will depend on local circumstances, but should not normally be less than 1.8m, which is the width required for two wheel chair users to pass. Any localised narrowings such as at planters or other vertical features, should not be

less than 1m wide, and should extend for no more than 6m. The route for vehicles through a Home Zone should be as narrow as is practicable, with a minimum width of 3m.

In general the Home Zone guidelines have very few prescriptive measurements and lend themselves to imaginative interpretation.

The **IHT Guidelines for Providing for Journeys on Foot** also takes into account shared surfaces but here the focus is very much on traffic speed control measures rather than the streetscape and environmental enhancement considered in the Home Zone guidelines. Here figures are given for certain features.

Device	Feature	Length (m)
Speed attenuation curves	Maximum radius	15
	Minimum forward visibility	25
	Length of straight between curves	12
Traffic calming	Maximum distance between traffic calming devices	40
Cul de sac	Maximum distance from end of speed attenuation curve	40
	Maximum distance from end of traffic calming device	20

Mixed use development

PPG3 (Para49) states that local authorities should endeavour to promote developments with a mix of land uses including housing.. According to the guidance, housing developments should be allowed with "limited or no off-street parking in areas with good public transport accessibility and where effective on-street parking control is present or can be secured". Mixed use development is also supported in **PPG1** *General Policy and Principles, in Paras 8 to 12*.

Verges and planting

DB32 (2.70) suggests that to discourage people from stepping off footways onto distributor roads and drivers from parking on footways, planted verges may be used. A verge width of 2m will normally be required, with a minimum of 1.35m in certain cases (2.82). Where verges or footways are not provided a 500mm wide paved margin will normally be required to provide clearance for vehicles. In this instance **DB32** is implying that the purpose of the carriageway is purely for vehicular movement.

- In relation to planting, **DB32** (3.84-3.87) recommends the following:
- Planted shrubs must not obscure visibility;
- Shrubs in verges should be no more than 600mm in height;
- Trees in verges should be at least 1m away from the carriageway;

- Trees should not obscure sight lines
- Species should be chosen to ensure against damage
- Characteristics of the site should be considered. Species should be selected that retain their natural character with moderate maintenance.

With reference to trees obscuring sight lines this will require judgement as to what is a necessary sight line which may in turn relate back to the design speed of the road and the road function hierarchy set out in **DB32**.

Requirements for visibility, street lighting and daylight and sunlight into dwellings and gardens should be considered when determining the mature sizes of trees and dwellings and their location within the layout. In addition trees located in paved areas should not present hazards to the visually impaired.

The **IHT Guidelines for Providing for Journeys on Foot** also provide recommendations for tree planting but these are qualitative rather than quantitative as in the case of **DB32**, and refer to the use of trees and landscaping as a way of visually narrowing the road, which **DB32** does not support.

NJUG have issued guidelines on the planning, installation and maintenance of utility services in proximity to trees, in NJUG10 - Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees. The guidelines recognise that **DB32** offers much advice on harmonisation of contours and the use of trees and shrubs to create a pleasing environment. However, the **NJUG** guidelines state the estates planner must ensure that neither trees nor utility services come into conflict.

Lighting

According to **DB32** (2.82), "lighting must be planned as an integral part of the layout of access and shared surface roads, shared driveways, footpaths and bus stops and in conjunction with the location and anticipated growth of trees". Also that " street lighting is necessary to illuminate bends, chicanes, islands, raised junctions, speed tables and road humps..." (2.54). The importance of lighting is emphasised through reducing the risks of night-time accidents; assisting in the protection of property; discouraging crime and vandalism; making residents feel secure and enhancing the scheme appearance after dark. The standard of lighting should reduce the occurrence of shadowing that may make pedestrians feel vulnerable. Also, the choice of lighting columns and fitting is important in the overall appearance and should be resistant to vandalism as far as possible.

Places, Streets and Movement (75) recognises further roles for street lighting in that lamp posts in prominent positions can be used to define an area and create spaces. For example two lamp posts at the entrance to a road can help create a gateway effect which will help to mark an area as special, in which drivers should behave differently. This suggests that there is some purpose for lighting in place making, as well as its traffic function.

The **IHT Guidelines for providing for Journeys on Foot** recognises the importance of street

lighting but also gives a more detailed description of what should be used such as 4-5m in height, white lighting as well as referring to the guidance in the British Standard Code of Practice for Road Lighting.

Off street and On street parking

DB32 states that the layout should make effective provision for off-street parking to ensure against blockage of access to dwellings and other associated hazards. **DB32** states the requirements for on-street parking should be accounted for in the design in terms of casual callers and service vehicles.

With reference to **DB32** (4.21-4.22) the characteristics of a development should be taken into consideration when determining the number of car parking spaces and the ratio of on and off-street parking should be distinguished. The following guidelines should be adhered to:

The location of the development (this is directly related to the need for residents to own a car);

The sizes and types of dwellings to be provided (affecting the household size and potential car ownership);

The proportions of grouped car parking spaces assigned to individual households and the proportions of spaces provided within dwelling curtilages (affecting the extent to which spaces would be available for general use).

Layout design (on-street and off-street provision; dimensions of spaces for manoeuvres and parking; widths and depths of driveways; hard-standings and garages; and physical means to control the use of privately maintained grouped parking spaces and shared driveways) can play an important role in ensuring that the parking provided is used.

Places, Streets and Movement (60) takes a more functional approach to parking arrangement however, suggesting that it can contribute towards traffic calming.

PPG3 (2002) takes a very different approach, noting that car parking standards should no longer be expressed as minimum standards, and that developers should not be required to provide more car parking than they or potential occupiers might want. PPG3 requires local authorities to reconsider their car parking standards to allow for significantly lower levels of off-street parking. It goes on to state that "car parking standards that result, on average, in development with more than 1.5 off-street car parking spaces per dwelling are unlikely to reflect the Government's emphasis on securing sustainable residential environments. Policies which would result in higher levels of off-street parking, especially in urban areas, should not be adopted."

There is thus a clear conflict between **DB32's** recognition of the problems inadequate off-street parking can cause and **PPG3's** deliberate emphasis on restricting the off-street parking supply.

Dispersal of traffic flow

According to **DB32** (1.57-1.64), Local Authorities are encouraged to work toward a hierarchical structure for their roads, this spans primary roads, local distributor roads and residential access

roads. It is intended that such a structure helps traffic use main roads safely; discourages the use of local residential roads for through travel and creates safe conditions for all users of residential roads.

When estimating directions and the amounts and types of vehicular movements it is necessary to hypothesise about future changes in the location of local facilities. New development must take the potential impacts of a scheme on the surrounding area into consideration as well as planning the layout itself. The levels of vehicular traffic within a scheme itself will largely be dependent upon variable household size and composition, socio-economic status, levels of car ownership and use of public transport. Special consideration will be required when a residential road feeds a school or shop. Here again is another reference to predict and provide and putting the car at the centre of road planning.

In terms of the hierarchical approach **DB32** deals specifically with residential roads and foot paths. **Paving the Way** recognises that where there is little specific guidance for other types of road, for instance urban local roads there is a tendency to apply inappropriate published trunk road standards to them.

Traffic speeds and road networks

DB32 (2.56) suggests that the design of new residential developments should normally aim to restrain 85th percentile vehicle speeds to:

- well below 20mph along shared surface roads, by keeping unrestrained road lengths to no more than around 40m;
- about 20mph along minor access roads, by keeping unrestrained road lengths to no more than around 60m;
- under 30mph along major access roads, by keeping unrestrained road lengths to no more than around 80m - 120m.

The results of a study undertaken as part of **DB32** (2.52) suggest that the combination of restraints may have been effective in reducing speeds. Ultimately, (2.53) the "combined visual impact of speed restraints and complementary measures must be an integral part of the overall design concept for the development". Design features that indicated to drivers that they were in a residential area where careful, slow driving was expected are stated to be: curving alignments and varying carriageway widths; gateways formed by trees, bollards or buildings; chicanes and islands, low shrubs and hedges delineating the carriageway boundaries and changes in surface materials and edge restraints thus reducing the apparent width of the carriageway.

DB32 (1.63-1.64) highlights that the Department for Transport must approve any speed limit below 30mph. However this is no longer the case: **Places, Streets and Movement** (63) states that Local Authorities can now undertake this without referral to DfT. To help reduce the number and severity of road accidents DfT will approve 20mph limits in residential areas on condition that drivers are alerted at entrances that they are in a 20mph zone and suitable engineering measures may be in use. The use of such zones can contribute to the local road

hierarchy and help to discourage non-access traffic from using residential roads. **Places, Streets and Movement** (63) states the following guidance on 20mph zones:

" 20mph zone signs must be erected at all entrances to a zone. Within the zone neither 20mph repeat signs nor traffic calming signs (e.g. signs for road humps, chicanes) are required. Therefore a high quality, uncluttered environment can be more easily achieved. At all exits to a zone a sign indicating the speed limit of the adjoining road must be displayed".

DB32 (2.29) recognises the legislation on traffic calming to be: Section 62 of the Highways Act, which provides a general power to improve highways; section 75 of the same Act empowers a highway authority to vary the relative widths of the carriageway and any footway; and Section 77 of the Act permits the level of a highway to be raised, lowered or otherwise altered. Specific powers relating to road humps are contained in Sections 90A and 90F of the Highways Act 1980. Highway Authorities will need to be satisfied that any speed restraint measures constructed come within the meaning of the relevant legislation.

Restraints such as bends, chicanes, islands, raised junctions, speed tables and road humps should be made conspicuous by the use of landscape features such as changes in surfacing materials, trees, shrubs or bollards. Road humps need to have warning traffic signs erected and placed in accordance with the Highways (Road *Hump*) Regulations 1990. There is however, considerable relaxation as to the traffic signs that need to be erected in 20mph zones (**DB32**, 2.54).

In addition, **DB32** (2.59) states that the design and location of speed restraints should not adversely affect access or entrances to dwellings. Also, that the number of speed restraints should be kept to minimum between individual dwellings and roads where speeds of 30mph are acceptable (2.60).

Places, Streets and Movement (60) provides the following reinforcing advice on traffic calming in addition to recommended measurements for types of traffic calming such as speed humps and cushions:

- Chicanes and pinch-points provide opportunities for planting and the creation of informal spaces;
- Raised junctions improve the opportunities for pedestrians to cross. However they should be designed so that children and visually impaired people do not presume they are part of the footway;
- Wherever possible cycle by-passes should be incorporated within traffic calming features;
- In an older streetscape or conservation area there are no standard solutions. Features should relate to the local context, using traditional materials wherever possible.

Whilst giving further advice on physical traffic calming features **Places, Streets and Movement** (60) takes a different approach to traffic management in that, where possible, traffic speeds should be managed by the arrangement of buildings and spaces. Physical traffic

calming measures, such as speed humps and chicanes, should be regarded as back-up measures where the layout alone does not produce low speeds. This approach is also recognised in **Better Places to Live by Design** especially with reference to new developments. A reliance on **DB32** then may promote a more 'retro-fit' styled highway layout, rather than one based on speed restraint through geometry.

Footpath and cycle track links

DB32 (2.64) states that "footpath and cycle track links between roads in the layout and between the layout and the surrounding areas should be created when such links would provide routes that are significantly shorter than those along the residential roads and when pedestrians and cyclists would thereby be able to reach their destinations without having to use heavily trafficked distributor roads adjacent to the site". Links should be kept as short as possible with both ends visible at any one time, whilst the layout should not provide an insecure environment in terms of crime or lighting.

Where possible, **DB32** (2.68) suggests that cyclists should be segregated from pedestrians. Where this is not possible, the footpath should be designed as a shared unsegregated cycle/footpath. However, **Better Places to Live** states that segregated pedestrian or cycle routes are not necessarily the answer, except when they can provide a more direct route from one place to another, and the focus should be on creating a low speed environment.

Overall **DB32** pays very little attention to provisions for cyclists and pedestrians especially in terms of measures and standards. It principally addresses provision for cyclists and pedestrians within the footway, and not through other means.

Gradients

DB32 (3.31) indicates that, in terms of gradients, it is important to consider the angle of change between gradients and at what height on the carriageway summits clear visibility is both required and achievable. *"For residential roads, a 600mm height is recommended to provide visibility between drivers and young child pedestrians"*:(3.34).

Detailed guidance on gradients is provided by **DB32** (3.35) as follows:

"the gradient of the non-priority road at a junction should, whenever possible, not exceed 5% when rising towards the priority road or 4% when falling to the priority road - for a distance of at least twice the kerb radius";

"whenever possible, the gradient of a shared surface road should not exceed 7%".

Emergency Access

DB32 (3.21) states that the Home Office currently recommends a minimum carriageway width of 3.66m for emergency access to access roads (British Standard 5588: Part 1). Fire appliances need to be able to reach within 45m of a suitable dwelling entrance. In some cases it is possible for an appliance to reach the scene of a fire along a 2.75m carriageway as long as the absence of parked cars can be ensured. BS 5588: Part 1 states that it is necessary to consult the fire authority to ascertain their recommendations relating to access roads in terms

of loadbearing capability, turning circles, width and headroom. **Places, Streets and Movement** (74) also says that adequate access must be provided for emergency vehicles and provides some general advice on the subject, but no quantitative guidance.

Junctions

DB32 states that there are considerations for residential roads which do not usually apply to distributor roads and which make road layout constraints less onerous. These considerations are discussed below.

Prior to assessing configuration, the following factors, according to **DB32** (3.37), must be taken into account:

- When a residential road is designed to exclude non-access traffic it must be remembered that rather than between origins and destinations, most vehicular journeys will be either entering or leaving the development;
- Exceptions are the vehicles that will visit more than one dwelling such as milk delivery;
- The exclusion of non-access traffic has the potential of instigating hierarchical traffic volumes within the layout, with the highest volumes being at the entry junction and decreasing further into the development.

Although crossroads are considered by many to be the most dangerous form of junction and one to be avoided, **DB32** (3.38) suggests that their use should not be automatically discounted at the lower end of the road hierarchy. In certain situations cross traffic will be minimal with low vehicle flows and speeds -between cul-de-sacs for example.

As the cross flow of traffic becomes more of an issue, other options need to be embraced. **DB32** (3.39-3.40) suggests two effective ways of dealing with this, either by staggering the junction or providing a roundabout. Staggered crossroads should be staggered by one carriageway width and preference should be given to right/left staggers to avoid delay or collision. In addition however, it mentions mini-roundabouts if space permits and the requirements in terms of signing and location can be met within the landscape and other housing objectives.

The **Department of Transport Standard TD 16/84** and **Departmental Advice Note 42/84** are highlighted. However, these two documents have been superseded and combined into **TD 16/93**, *The Geometric Design of Roundabouts*, which is now published by the Highways Agency. Amendments and additions have been made to reflect good practice in aspects such as entry path curvature assessments, geometry of entries, segregated left turn lanes, over capacity in early years and speed reducing measures at mini roundabouts. Like all Highways Agency documents, this is principally for application on trunk roads, and is not directed to low volume, low speed residential environments.

DB32 (3.41-3.42) determines two forms of identifiable T-junction. Firstly, where the major flow of traffic is on the non-priority road. This can be advantageous close to the entry point of a residential layout or where a change in road character is required as it slows the major flow of

traffic down. In such an instance however, priority markings or islands should be given to avoid conflicts due to the increase in amount of turning movements, especially where large traffic volumes are expected. Secondly, where the major flow of traffic is on the through road. Again priority markings will need to be considered for safety and convenience. Due to the creation of awkward land parcels, Y-junctions are said to be uncommon in residential road layouts - a statement that has to some extent been overtaken by PPG3's emphasis on brownfield, urban sites.

"As a general guide, it is suggested that non-priority roads serving more than around 100 dwellings should whenever possible join priority roads at an angle of 90 degrees, and be straight for a length of at least twice the kerb radius. Other non-priority roads may, if necessary, meet the priority road at an angle within 10 degrees of a right angle" (**DB32**, 3.44)

Whilst the spacing of junctions can have a severe impact upon the ease of traffic flow along a distributor road, it is said to be much less critical on a residential road where concentration is focussed more on the economic use of land. **DB32** (3.46) provides the following guidance: In order to provide adequate daylight, sunlight and privacy to dwellings, spacing between adjacent junctions should be at least 30-40m. The amount of traffic must be considered to ensure against blockages but traffic building up at exit junctions. In general:

"where the priority road serves no more than around 100 dwellings there need be no restrictions on junction spacing - and crossroads may be used;

where between around 100 and 300 dwellings are served by the priority road, it is desirable that the junction should be at least 30m (centre line spacing) from another junction on the same side of the priority road and at least 15m from another junction on the opposite side;

where a residential road joins a distributor road, it should be 5.5m wide for a distance of around 20m from the junction. Footways should be provided for that distance and no junctions with other roads or accesses to driveways should normally be provided along that 20m length - to help ensure that parking does not occur on the non-priority road carriageway close to the junction".

Places, Streets and Movement (60) proffers a different approach to junction spacing however: "Junctions generally reduce vehicle speeds considerably. More frequent junctions mean slower movement through the development". However, it does not suggest any specific frequency in terms of reducing speed. **DB32** fails to recognise the use of junctions as a traffic calming measure by stating that the spacing of junctions in residential are seldom critical and it is important that decisions on spacing be with regard to the effect they have on the economic use of the land

DB32 recognises that varying carriageway widths and the radii provided at junctions will determine the extent to which a vehicle may turn easily and without interfering with other traffic. Failure to address this issue properly is said to result in inconvenience, accidents or delay. The great majority of vehicle type using residential roads will be private cars with traffic volumes varying at different junctions.

In conjunction with junction radii considerations, pedestrian crossing points should also be addressed. **DB32** realises that it is not always possible to meet the stated aim of channelling pedestrian movement along a priority road footpath towards the tangent point of kerb on the non-priority road, where a dropped kerb will normally be located. Instead dropped kerbs may be located on junction radii therefore impacting the direction and convenience of pedestrian movement. **DB32** (3.52) suggests the following general guidance for kerb radii:

"kerb radii should be 10m at junctions with local distributor roads (subject to a 30mph speed limit), and 6m at junctions between residential roads where either the priority or non-priority road serves more than around 50 dwellings;

4m kerb radii may be used at junctions between residential roads where both the priority and non-priority roads are 5.5m wide and the non-priority road serves no more than 50 dwellings;

4m kerb radii may also be used where mountable shoulders are used at junctions between shared surface carriageways - with the inner radius being 6m, or 7.5 where carriageways are narrower than 5.5m;

no driveways should enter at the bellmouth of a junction".

As with junction spacing **Places, Streets and Movement** (60) again offers some contradiction to **DB32** through suggesting "smaller corner radii rather than wide sweeping curves at junctions, to force slower and more careful movement by all vehicles", although once again it fails to quantify this advice.

Footways and Footpaths

Footways are defined in Section 66 of the Highways Act as being that part of the highway which is for use by pedestrians. Footpaths are highways that are wholly reserved for pedestrians.

DB32 (3.70-3.75) offers the following guidance on width, stating that footways should normally be:

"2m for footways along roads serving more than 50 dwellings and where the full range of services underground are to be accommodated (assuming lighting columns are located against the back edge of the footway). This width allows for those in wheelchairs or pushing prams to pass each other.

Lesser widths may be used along roads serving more than about 50 dwellings (again assuming lighting is in normal position) - for example, footways with a minimum width of 1.35m would allow for electric wheelchairs, allow pedestrians to pass each other and may be acceptable to services providers where the range of services is divided along each side of the carriageway;

An additional footway width of 800mm (preferably in a different paving material) will be required to allow for vehicles to overhang the footway in places where vehicles

park at right angles to footways;

Where practicable, at entrances to driveways, a minimum width of 900mm carried through at footway level should be provided to enable pedestrians and wheelchair users to avoid the ramps to dropped kerbs;

A footway width of at least 3m should normally be provided outside entrances to schools and similar community buildings;

Local public transport operators should be consulted about requirements for footway widths at bus stops where shelters are to be provided".

In terms of headroom, this should normally be at least 2.6m, with a minimum of 2.3m for a distance no greater than about 10m. Up to a line 500mm away from the carriageway edge, restricted headroom may be extended.

In such cases where on-street parking would constrain drivers and pedestrians seeing each other it may be deemed necessary to extend the footway width. In accordance with **DB32** (3.73-74) this would both allow pedestrians to see beyond parked cars before crossing the carriageway and prevent vehicles parking on the carriageway and obscuring visibility at junctions. If the problem persists, high kerbs or bollards may need to be contemplated. If entering a shared surface non-priority road from a priority road, the footway should extend past the ramp into the shared surface layout.

Good practice for the provision of kerbs, according to **DB32** (3.75) is:

"At road junctions and the main locations where pedestrians will be crossing residential roads, kerbs should be ramped to assist wheelchair users and those with prams or pushchairs. The gradient should be no more than 8% and the kerb should be dropped so that it is flush with the carriageway. Tactile surfaces laid in accordance with the Department for Transport's advice should be provided at dropped kerbs to assist blind and partially sighted people"

Ramp gradients on footpath routes are deemed to be not steeper than 8% and where possible 5%. (**DB32**,3.78)

Due consideration must be given to barriers at junctions between footpaths and carriageways. The visual character and durability are mentioned but it is also emphasised so that their location does not impair footpath or carriageway users' visibility.

Another document outlining specifications for footways is the **IHT Guidelines for Providing for Journeys on Foot**. These guidelines take on board the policies outlined in the government design guidelines **Places, Streets and Movement** and **By Design - Urban design in the planning system: towards better practice**, which recognise **DB32** as the principal technical source for the subject. However, when looking at design details there is no reference made in the **IHT Guidelines** to **DB32** and instead there is a focus on the **Footways Design and Maintenance Guide** (Transport Research Laboratory, 1997). This has resulted in different standards being recommended in the **IHT** guidelines compared to those in **DB32** - for example footway widths. As shown above **DB32** recommends footway widths of 2m or 1.35m

depending on the number of dwellings been served. The **IHT** guidelines recommend the following:

- Absolute minimum width 1.8m
- Desirable minimum width 2.0m
- Preferred width 2.6m

The **NJUG** guidelines also state that a footway width of 2m is required to accommodate the full range of utilities services. This further contradicts some of the recommendations stated in the **IHT Guidelines for Providing for Journeys on Foot**.

Turning spaces

According to **DB32** (3.53) turning spaces will, in general, be required if vehicles would otherwise have to reverse over long distances or where they might cause damage to adjacent verges or footways (local public transport operators should be consulted if any road is to serve as a bus terminus).

It is suggested (3.54) that turning spaces may be provided as parts of junctions or as separate elements, the choice being dependent upon the potential degree of inconvenience. **DB32** (3.55) highlights certain factors that need to be taken into account such as, the use of the space for casual parking, the potential for mechanical road sweepers to enter the area and the layout of the kerbs. General guidance is provided as follows:

- *allow for refuse vehicles to turn when they would otherwise have to reverse more than 40m and for pantechnicons to turn when they would otherwise have to reverse more than 60m. When it is assumed that refuse vehicles or pantechnicons will reverse into the road, the following must be adhered to:*
 - o *The road should not serve more than around 100 dwellings;*
 - o *6m kerb radii should be provided at the junction;*
- *accommodate the vehicular movement patterns with space for vehicles to overhang and no obstructions more than 150mm high in these areas:*
 - o *Vehicles turning through 90°;*
 - o *Full lock forward;*
 - o *Full lock reverse;*
 - o *Hammerhead - T form;*
 - o *Hammerhead - Y form;*
 - o *Forward side turn;*
 - o *Reverse side turn;*

- ensure that parking spaces are provided outside the area required for turning - especially at the head of a cul-de-sac.

None of the other core documents make any reference to this issue but **Better places to live by design** does recognise that designing residential streets around the functional requirements of cars, service vehicles and utilities, with inadequate attention being paid to other important amenity requirements, has been one of the greatest failings of much recent development.

Visibility

As general guidance for sight lines, it is suggested in **DB32** (3.58) that a height of 600mm be taken as the point above which unobstructed visibility should be provided, wherever the potential exists for conflicts between motorists and other users such as pedestrians, young children or wheelchair users. This is particularly applicable on residential or shared surface roads.

Ultimately good visibility should be achieved with the minimum maintenance. Shrubs and trees, provided that when they are mature they do not exceed between 600mm and 2m in height and clear vision and sight lines are in evidence, can be planted in visibility splays at junctions and on bends. The most obvious obstructions to visibility, as highlighted by **DB32** (3.59) are summits, adjacent buildings (including bus shelters), screen walls, densely planted trees, and parked cars. However, the **IHIE Home Zone design guidelines** suggest the provision of excessive sight lines can encourage higher speeds and should be avoided.

Speed

0 5 10 15 20 25 30 mph
 0 8 16 24 32 40 48 km/h

0 6 14 23 33 45 60 m

Stopping distance

DB32 (2.70)

With concern to visibility at junctions, **DB32** (3.65) proffers general guidance in the suggestion that visibility should be ensured for vehicles turning left into a non-priority road by providing a visibility radius tangential to the kerb (i.e. inside the kerb radius). The bulletin provides details of normal visibility radii for different junction angles and kerb radii:

Junction deflection (degrees)	Kerb radius		
	4m	6m	10m
80	10m	11m	19m
90	9m	10m	19m
100	8m	9m	19m

DB32 (3.65)

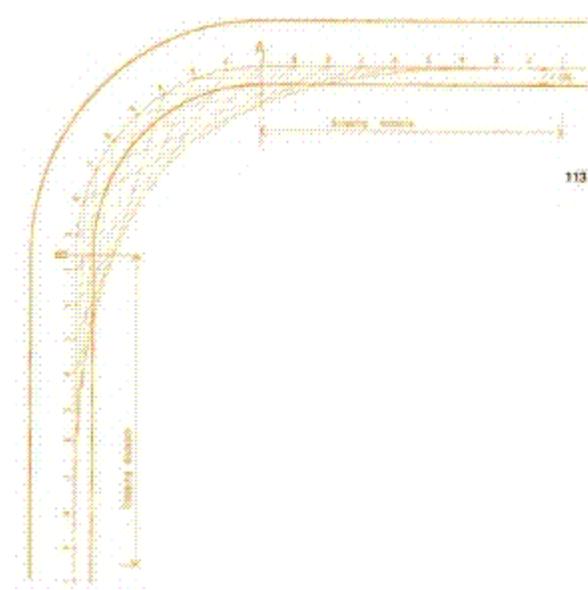
Places, Streets and Movement (58) provides superseding information for junction visibility but the distances stated are the same as those in **DB32**:

Speed limit (mph) 30 20

Major road distance (m) 90 45

If speeds can be contained to 30mph or 20mph the respective distances can be changed to 60m and 33m accordingly.

In a similar way to how the visibility at junctions should be treated, the necessary visibility on bends, according to **DB32** (3.66) should be related to the expected speed of vehicles and their relative stopping distances. Speeds should be assumed to be between 20mph and 30mph but Highways Authorities may have different requirements where speeds are expected to be below 20mph. The bulletin provides a defined methodology by which forward visibility curves on bends should be constructed, with special note given to the likelihood of large vehicles crossing the carriageway whilst negotiating tight bends.



Construction of Forward Visibility Curves (**DB32**,3.66)

Notice should also be taken of the levels of visibility possible along the carriageway edge to restrict obstructions to "intervisibility" between pedestrians and drivers, most notably when a vehicle leaves a driveway to cross a footway. This has serious implications for the design of vehicular entrances to dwellings, particularly where the buildings abut the back of footway.

General guidance is given (**DB32**, 3.68) in relation to X dimensions (allowing the driver to see along the carriageway or shared surface without encroaching onto it) and Y dimensions (based upon the anticipated speed and stopping distances of the vehicles on the road) as follows:

- *"X and Y dimensions of 2.4m should be provided where a driveway meets the back edge of a footway, with clear visibility at a level of 0.6m above road level in addition to visibility*

at the 1.05m level;

- *An X dimension of 2.4m should be provided where a driveway meets a carriageway or shared surface, though in urban areas with a speed limit of 30mph or less this distance may be reduced to 2m;*
- *The Y dimension where a driveway meets a carriageway or shared surfaces should be set out as in Planning Policy Guidance Note 13" (Table of speeds and Y dimensions).*

Paving the Way - General Review

Paving the Way contains a wide review of street design issues, and has therefore been summarised under its own heading.

Streetscape

Paving the Way suggests six main indicators for quality when assessing a streetscape, including:

- Comfortable and safe for pedestrians and the disabled
- A street designed to accommodate all sorts of functions, not dominated by any one function
- Visually simple, and free of clutter. Regardless of whether a street is a straightforward or complex space, what matters is the simplicity and the clarity of its paving, street furniture, lighting and landscaping.
- Well cared for, and where utilities or 'extraneous' advertising are subordinate to all other functions.
- Sympathetic to local character and activity context, in design and detail.
- Making appropriate ordered provision for access, deliveries and storage of vehicles.

Case Studies

Paving the Way looks at a number of case studies when investigating the impediments to quality. The aim of the case studies is to analyse the process for the design and management for streets, and to discover how that process influences the production of quality streetscape.

The decision making process used in some of the case studies in **Paving the Way** highlighted four main issues:

- Existing statute law, regulations and design guidance are often out of tune with the priority now given to streetscape and the needs of pedestrians. They are still focused on standard solutions, based on traffic volumes, vehicle flows and vehicle speeds. There is an

increasing awareness of the influence of vehicle speed on road design and its subsequent influence on the quality of life.

- Local Highway Authorities rely on standard practice, giving primacy to vehicle movement, because of fear of prosecution for negligence if accidents occur. Use of official guidance is regarded as the clear line of defence if faced with litigation through negligence is primarily measured against a duty of care, not against guidance.
- There is confusion about the relative status of the many statutes and documents relating to street design.
- The powers granted to a local authority in their role as Highway Authority under the **Highways Act 1980**, including adoption procedures, are administered in ways that are often at odds with the aims of planning and urban design.

Licensed operators

In almost every new street or street improvement, a recurrent issue concerns the powers granted to licensed operators to undertake works in the street. With so many demands on their resources, Local Highway Authorities are often not able to give monitoring of utilities the attention they require. The most frequently cited impacts are:

Works by utilities to the highway and footway, using rights granted by various statutes, especially the **New Roads and Streetworks Act 1991** - this includes the siting of telephone and other equipment, such as junction boxes

Advertising, billboards and fly posting, all of which come under the Town and Country Planning (Control of Advertisements) Regulations 1992.

Recommendations

Paving the way provides a number of recommendations based on the findings in the case studies and other aspects of its research. These are:

Statute and design guidance:

- A succinct summary should be published, detailing statutes, regulations and design guidance relevant to streetscape design and management. This summary should distinguish clearly between advisory and mandatory documents.
- Highway authorities should be advised under Best Value to establish an audit trail for design decisions in carrying out streetscape works, to show how people and vehicle movements have been taken into account, plus the use made of design guidance
- Existing guidance literature should be re-appraised with the aim of bringing such documents in line with Government policy on design, sustainability and the urban realm.

Street Design and Management

- Local authorities should be advised to introduce cross-sectoral management control for the administration of streets, with the aim of establishing an integrated approach to the public realm.
- In urban areas the District Council or other local authority should have responsibility for all roads and streets (other than motorways).

Design Detail

- The urban design components of streetscape, highway law and street works should form key elements of all relevant training courses in the built environment, including the proposed inter-professional certificate in urban design.
- Development Plans (or whatever alternative form of local development plan is introduced in the future) and the Local Transport Plans should improve specific strategies aimed at the improvement and maintenance of streetscape.
- Traffic Signs Regulations should be amended or guidance on their interpretation issued to allow local authorities to vary the size of signs to allow for sensitivity to local context as well as vehicle speed.

Licensed Operators

- The principles of the 'lane rental' and 'overcharging' systems for utility works in the street, as piloted in Middlesbrough and Camden in 2002, is supported and should be extended nationally if found to be implementable and successful in increasing street quality as well as reducing disruption.
- The Control of Advertising Regulations should be applied more considerately in streets themselves as well as to development fronting streets.

Long term care of the street

- The involvement of the local community in the care of the streetscape should be encouraged through the promotion of local community trusts for the improvement and management of streets.

The street as shared space

- The Highway Code should be rewritten to place greater emphasis on the shared use of streets, rather than mainly vehicle movement.

Detailed Literature Review - Conclusions

This detailed review of the core technical literature has identified the following:

- There are significant differences of emphasis and detailed content between the main sources of technical guidance on the design of new residential streets.
- **DB32**, originally published in 1977 and revised in 1992, remains the principal source of measurable criteria, and whilst it contains some guidance that is relevant to current thinking, much of it places a strong emphasis on the needs of vehicles and traffic.
- Other, later, documents - notably **Places Streets and Movement** - have sought to modify this emphasis and encourage a more flexible interpretation of DB32, but the prescriptive nature of much of its content makes this a difficult task.

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Appendix D: Stakeholder Meetings

A series of Stakeholder meetings was held in the London offices of WSP Development on 20 and 21 August 2002. 6 meetings were held, which were attended by 40 people, made up as follows:

Developers/Developer Organisations	8
Planning Authorities	3
Highway Authorities	17
Consultants	4
Other Stakeholders	8

The meetings were facilitated by staff from TRL, working to a framework of prepared questions and prompts, drawn from the draft literature review. Staff from WSP and DLA also attended the meetings as observers and to put further points to the stakeholders.

The original intention was for each meeting to consist mainly of one key group (eg Highway Authorities) but in order to achieve a satisfactory level of attendance it was necessary to allow some flexibility, and so some of the meetings were attended by a range of stakeholders. This did not appear to constrain the willingness of the attendees to voice their opinions and perhaps led to more creative discussions.

Table D.1 below summarises the key problems and issues that were raised in the series of Stakeholder meetings, classified into different types of factor.

Problem/Issue		Factors						
No.	Description	Legal	Technica 	Policy	Institutiona 	Procedura 	Financia 	Personne
1	Lack of integration of Highway Approval/Adoption and Planning procedures, systems, guidance, policy, standards, personnel- from top to bottom. In particular, planning permission and technical approval wholly separate procedures.	Àœ	Àœ	Àœ	Àœ	Àœ		Àœ
2	Highway Authorities (HA)	Àœ		Àœ				

	not required/no incentive to approve designs that achieve PPG3 objectives.							
3	No requirement for HAs to enter early dialogue with developers/LPAs, who may become committed to designs that will be unacceptable to HA.	À œ		À œ		À œ		
4	Lack of integration within HAs. Different personnel responsible for DC, adoption and maintenance, leading to watering down of initial designs. Further complexity when HAs operate District level Agencies.				À œ			À œ
5	Developers may be reluctant to offer designs that achieve PPG3 objectives - and rewarded for following established highway standards by faster technical approvals.	À œ	À œ	À œ				
6	Developers face					À œ	À œ	

	financial difficulties where sites bought pre-planning, in competition, and then face higher costs, through requirements for higher quality materials and/or commuted sums.							
7	Members unwilling to accept PPG3 compliant schemes; unfamiliar with concepts and/or perceived accident risks.			Àœ				
8	HA officers reluctant to move away from defined standards, either local or national - fear of recrimination and/or litigation if accidents result.	Àœ	Àœ					Àœ
9	HA officers tend to prioritise traffic function of streets in application of standards.		Àœ	Àœ				Àœ
10	Plethora of new national guidance, but no updated national standards.		Àœ					
11	Places Streets and Movements difficult to		Àœ					

	interpret and apply in practice.							
1 2	Existing local standards largely based on DB32 or Highways Agency standards (DMRB), which do not fully reflect PPG3 requirements.		Àœ					
1 3	Hierarchy of routes in DB32 based on traffic needs.		Àœ					
1 4	DB32 addresses only geometric/layout requirements.		Àœ					
1 5	Highway Authorities do not have confidence in positive safety effect of 'low' standard of provision - e.g. limited sightlines along streets and at junctions, reduced signs/markings, >3 point turns for large vehicles, crossroads junctions. HAs need proper research into these basic issues.		Àœ					
1 6	Individual authorities having own standards leads		Àœ	Àœ				Àœ

	to inconsistencies between areas/regions and involves authorities in significant work preparing and updating standards.							
17	Many authorities have local requirements for Section 38 Agreements, due to concerns over inadequacies of existing model agreement.	Àœ		Àœ				
18	Section 38 Agreements are time-consuming to conclude and are inflexible once entered into.	Àœ						
19	Section 37 not effective redress against HA refusing unreasonably to adopt No right of appeal on S38	Àœ						
20	Developers sometimes choose not to have roads adopted due to problems gaining technical approval, or where higher standard of maintenance required. Leads	Àœ	Àœ	Àœ				

	to concerns over effect on householders of living on private streets, including possible demise of management companies. Also concerns over polarisation of society - e.g. gated communities.							
2 1	Private Streetworks and Advance Payments Codes are not compatible with good quality private streets - they assume that private streets are a bad thing. As a result, these sections of Highways Act are now difficult to administer - operation of system varies between authorities.	À œ		À œ		À œ		
2 2	Lack of resources in Highway and Planning Authorities - more difficult and time consuming to consider innovative designs. Difficult to recruit new Highways DC						À œ	À œ

	officers.							
2 3	HAs reluctant to approve designs using other than very basic materials, due to high maintenance costs.		À œ	À œ				
2 4	Commuted payments for 'special' materials - Developers question legality and fairness. Developers concerned that commuted payments are becoming more widespread.	À œ	À œ	À œ			À œ	
2 5	Water companies' requirements for easements may be in conflict with narrow streets, leading to difficulties over sewer adoption.	À œ	À œ					
2 6	HAs reluctant to adopt highway with unadopted sewers (S104 of Water Industry Act) - particular problem with SUDS.	À œ	À œ					
2 7	SUDS possibly incompatible with higher densities.	À œ	À œ					
2 8	HAs reluctant to accept 'private' run off into highway drains. Can result in	À œ	À œ	À œ				

	separate drainage systems - inefficient, costly and space hungry							
29	HAs and utilities reluctant to accept street trees and planting due to (perceived?) high maintenance and accident risk and conflict with utilities. Trees and planting sacrificed to these 'harder' requirements.		Àœ	Àœ				
30	Safety Audit - required by some but not all HAs - further potential for delay and inconsistency and 'conservative' application of standards.		Àœ	Àœ				
31	PPG3 parking requirements - widespread concern over policy. Potential conflict between more on-street parking and narrower streets.		Àœ	Àœ				
32	Confusion over application of PPG3 parking policy - 'what is a space?' Different							

	interpretation of rules in different Government Regional offices.							
3 3	Utilities have no interest in quality of streets, and have rigid technical requirements - eg require standard footway and/or soft verge, not always present.	À œ		À œ	À œ			

It can be seen that the discussions were wide ranging and identified many issues that can act as barriers to the approval and adoption of street designs meeting the objectives of PPG3.

The meetings also generated a number of possible interventions that could be made in the planning approval and highway adoption processes to deal with these problems. Key ideas raised at the Stakeholder meetings are listed in Table D.2 below. It should be noted that not all of these proposals are consistent with one another.

Table D.2 - Interventions Suggested at Stakeholder meetings

Ref.	Suggested Intervention
	Complete reform of planning and highway authority structures, introducing single responsibility for streets - as proposed in 'Paving the Way'. Would require wholesale reform of Highways and Planning legislation.
	Legal/Policy requirement for securing technical approval at detailed planning stage, with right of appeal against technical approval at that stage. Less radical suggestion than a), but would still require reform of Highways and possible Planning Acts.
1	Policy/legal requirement on highway authorities to deliver PPG3 objectives. Possibly through LTP process and/or review of Highways Act.
10	Legal/policy requirement for individual Highway Authorities to 'speak with one voice' - ie so that recommendations/advice at planning stage must hold at technical approval stage.
2	Firm imposition of quality threshold by planning authorities, and published in advance through local policies, SPG, development briefs etc. Policy requirement on developers to demonstrate that they have met requirements for design quality.
3	Insure/indemnify HAs against public liability claims. One-off insurance payments by developers, possibly as part of S38 - (but is this lawful?)
	Training of local authority officers and members in new techniques/policies.
	Improved training regime/qualifications/ career path for highway development

	control officers.
	<p>New national standards to be prepared (or at least endorsed) by Government, removing need for full local standards (but would still need some local variants to create distinctiveness).</p> <p>Such standards would need bottom-up review of technical basis for road geometries, including low (<20mph) speeds. Further basic research likely to be necessary.</p> <p>Standards should consider different functions of roads beyond traffic and parking - play and social interaction, urban design quality, open space, etc. Create new definition of road hierarchy - eg Home Zone, High Street - based on these other functions.</p> <p>Standards should codify when/how HAs can be flexible in their application.</p> <p>Standards should consider different forms of on-street parking eg echelon/90 degree as part of overall street design.</p> <p>Standards should go beyond geometric issues - set out road construction, materials, drainage and utility requirements.</p> <p>Document would need to refer to and set out relationship with other relevant technical documentation and procedures - eg Building Regs and Sewers for Adoption</p> <p>Result would be a comprehensive document for designers and approvers of new streets - possibly entitled 'Streets for Adoption'.</p> <p>(Note - this intervention would be largely consistent with recommendations in 'Paving the Way,' for review of national highway standards/guidance)</p>
	Establish new standing body (eg HAUC) to regularly review and update street design policies and standards, balancing all competing design requirements.
	Allow certification of adoption 'worthiness' against new national standards by accredited bodies (akin to NHBC with Building Regulations)
6	New/revised Model Section 38 Agreement, replacing previous version issued by HBF.
7	Introduce improved legal mechanism for review/appeal of S38 Agreements.
	Introduce policy discouragement of private streets on grounds of social division and risks to householders
	Revise Highways Act to legitimise private streets, where design, construction and maintenance arrangements are to good standard. Would need review of Private Streetworks Code and Advance Payments Code sections of Highways Act
15	Policy requirement for HAs to define wider palettes of acceptable materials.
16	Establish legality of - and legal/policy framework for - application and calculation of commuted payments.
18	Set firm policy requirements for trees and planting in new streets - eg at development brief stage.

	Establish mechanism for establishing space requirements for utilities within the planning process - eg at development brief stage.
19	Review DfT and IHT guidance on Safety Audits. Include guidance on whether/when to audit in new national standards.
	Extend concept of 'speed orders' (ie formally setting low design speed for area) from Home Zones to other streets.
	Consider US-style 4 way stops at urban crossroads to reduce speeds and conflicts on grid systems.
20	Introduce Dutch-style positive parking control mechanisms on residential streets - already under consideration for Home Zones
	ODPM to clarify application of PPG3 policy for max 1.5 off-street parking spaces.

Many of these suggested interventions were also put forward at the Regional Workshops, which are summarised below.

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Regional Workshops

In order to ensure that the project gathered first-hand views from outside the south of England, two regional workshops were held. These took place in Birmingham on 1 October 2002; and in Newcastle-upon-Tyne on 2 October 2002.

The events began at 4.30pm with a brief presentation from WSP Development, setting out the purpose, methodology and programme of the project; and then describing some of the key problems that had been identified at the Stakeholder meetings. These problems were divided into 'technical' and 'process' issues, although it was recognised that there are overlaps between these broad categories.

The 'problems' put to delegates were drawn from those listed in Table D.1 above, and were as follows:

Problems - Technical Issues

- Highway standards being applied inflexibly
- DB32 does not reflect current policy regime
- DMRB inappropriate for residential streets
- Local Authority standards inconsistent and dated, and costly to review
- Existing standards tend to reinforce traffic function of streets
- Lack of confidence in 'design' measures to achieve slow speeds
- Narrow range of approved materials
- Conflict between PPG3 parking policy and street width and layout
- Conflict between public transport/servicing requirements and narrow streets
- Conflicts between sustainable drainage and higher densities

Problems - Process Issues

- Lack of integration of planning and highway approval processes
- Highway adoption requirements 'watering down' design quality
- Safety Audit - further delay, further watering down
- No requirement for Highway Authorities to achieve good quality places
- Insufficient requirement for Developers to achieve good quality places

- Highway Authorities fear of litigation if designs prove to be unsafe
- Section 38 Agreements - Inflexible, slow, no effective right of appeal, vary widely.
- Commuted payments - questionable legality, no consistency between authorities
- Utilities - difficult to plan for and manage

Delegates to the workshops were divided into groups of 5-7 people, generally including representatives of developers, highway authorities, planning authorities and consultants. These mixed groups were asked to offer possible solutions to the identified problems, and to identify any significant problems that were not on the lists. WSP staff were present on each table, facilitating the group discussions and recording agreed views.

After around 90 minutes, each group's conclusions were reported to the whole workshop through brief presentations. There was then a general discussion amongst all those present.

Both events were successful. The Birmingham event was attended by around 45 delegates and the Newcastle event by around 25 delegates (in addition to WSP and DLA staff).

Both events, but particularly Birmingham, generated a number of suggested solutions to the problems that were presented to them. The groups also confirmed that the problems that had been identified were real and significant.

Groups in Newcastle were more inclined to challenge the basic principles of PPG3, however. Several groups made statements to the effect that PPG3's call for higher density housing was not suitable for the North-East, as well as expressing more commonplace concerns over the 1.5 vehicles car parking guidance contained in PPG3.

Many of the solutions generated by the Regional Workshops were the same as, or very similar to, the suggested interventions put forward at the Stakeholder meetings, as summarised in Table D.2 above. In particular there was strong and consistent support for new national technical standards to replace DB32.

A number of fresh ideas were generated however, including

- If DB32 is rewritten it should address all urban streets, not just residential areas, since the focus now is on mixed use developments.
- Safety Audits should be changed from structure of 'Problem and Solution', which tends to suggest even minor problems are significant, to a system of risk assessment and management. Designers and approvers would then be able to consider the severity of the risk and the likelihood of it occurring and, in the light of this, consider whether it can be accepted.
- The point was made that until the mid-1980s, Highway Authorities had the power to direct refusal of planning applications on highways grounds. Although this is a negative expression of the idea, allowing for refusal and appeal on highways matters at planning

stage would have the advantage of settling matters at this point in the process.

- As noted above, there was some rejection in the Newcastle event of the underlying message of PPG3. A more positive expression of this was the suggestion that Regional Guidance be brought forward on housing design policy, which would be more appropriate to regional requirements.
- Any new standards should be performance based, rather than setting out defined solutions. This idea could also be extended to materials specifications.
- Design statements should be made mandatory at planning stage.
- Off-street parking areas should be adopted.
- Better coordination of utilities is needed - should be achieved through new highway authority powers.

Appendix E: Questionnaire Surveys will be available at a later date.

