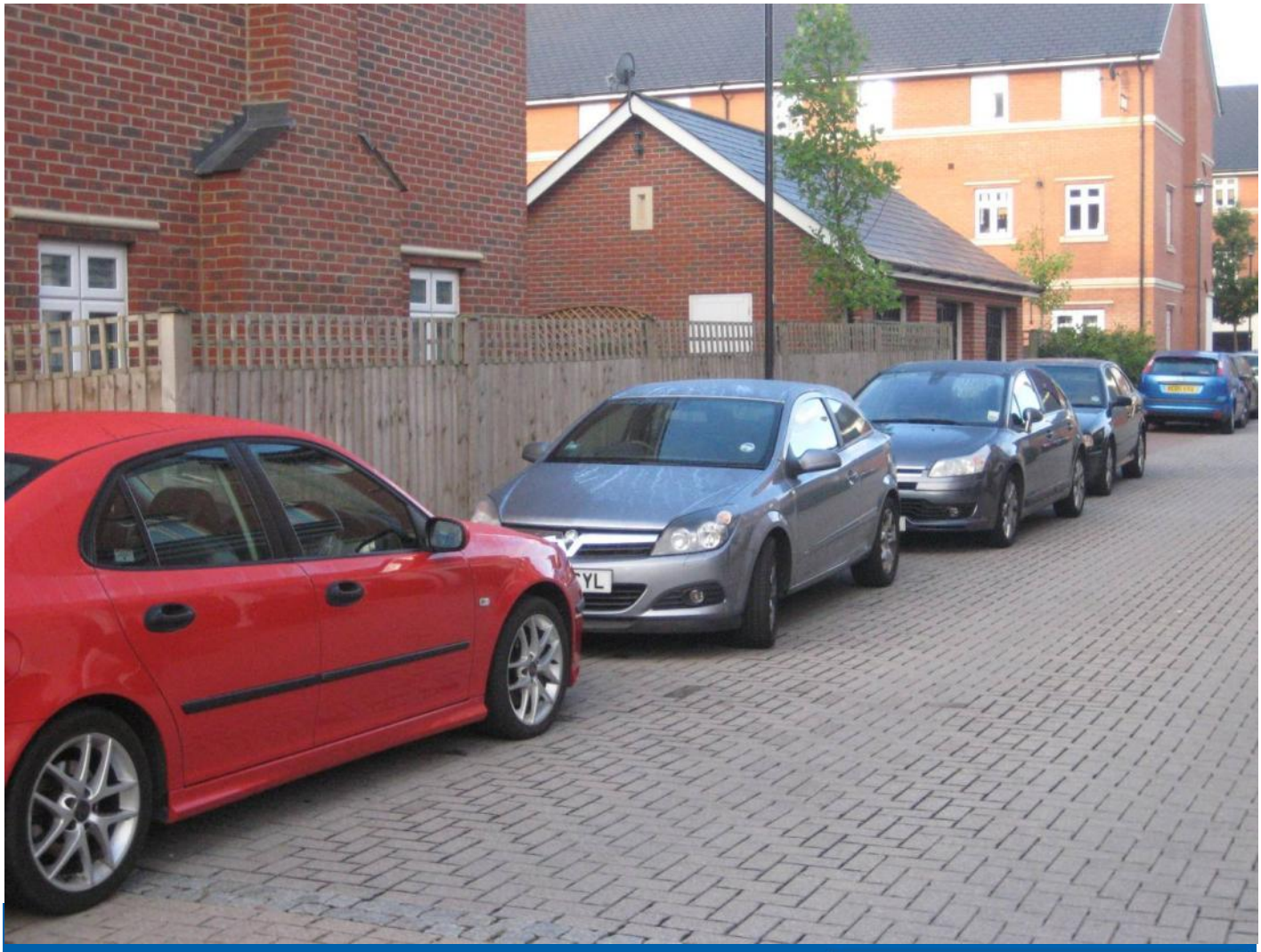

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WSP

Parking Standards Study Report
Consultation Document

WOKINGHAM BOROUGH COUNCIL

Wokingham Borough Council

October 2011

QM

Issue/revision	Issue 1	Revision 1	Revision 2	Revision 3	Revision 4	Revision 5
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Contents

1 Introduction and Policy Context

1.1 NEED FOR THE STUDY

1.1.1 A parking strategy was produced for Wokingham in 2003 setting out parking standards. This is now out of date and a new parking standards document is required to support the Local Development Framework Core Strategy. Specifically, the revised parking standards will be adopted in the Managing Development Delivery Development Plan Document (DPD).

TERMS OF REFERENCE

1.2 BACKGROUND

1.2.1 Historically Wokingham has a relatively high level of car ownership. According to the 2001 census Wokingham had one car for every 1.64 persons compared with an average of 1.87 for the southeast and 2.17 in England. This level of car ownership places a pressure on space for parking, especially in areas built when car ownership was much lower.

1.2.2 Our understanding of the travel behaviour of drivers and how they interact with the built environment has changed and improved. In particular, our understanding of how new layouts affect the behaviour of its users has improved.

1.2.3 This change of philosophy and understanding now needs to be incorporated within Local Government guidance to improve the environment in and around Wokingham.

1.2.4 Parking can have an effect on the environment, travel patterns, streetscape, social inclusion, congestion and traffic safety. Therefore, specifying the correct type and amount of parking and considering its location and layout is important in Wokingham. The parking standards document is intended to address these issues and provide general guidance to promoters, developers, council officers and the general public.

1.3 PARKING STANDARDS STUDY REPORT

1.3.1 This report will cover:

- Car parking considerations;
- Issue and problem identification;
- Formulating (design) guidance;
- Recommended parking standards;
- Transport Assessments and Travel Plans; and
- Sustainability Appraisal.

1.4 WORDLIST AND ABBREVIATIONS

1.4.1 For ease of reading this report, please find a list of common words and abbreviations used throughout:

Accessibility – the ability to travel to and from services, shops and other centres by means of non-car modes.

Allocated Parking Space – a parking space for the use of one property only whether within the curtilage of a property or not.

Car Parking Allocation – the number of car parking spaces to be provided for a site or individual property within the design.

Car Parking Standard – a rate or number of space per unit required by a local authority.

Car Ownership – the number of cars owned by a population of residents

GFA – Gross Floor Area

Modal shift – a quantifiable measure of the transfer of the means of travelling from the private car to a more sustainable form of travel.

PTW – Powered Two Wheeler

Smarter Choices – refers to a range of measures which encourage changes in travel patterns and behaviour for example, travel planning, teleworking, changes in working hours, use of different routes, services or travel modes

SUDS (Sustainable Drainage Systems) – a form of drainage that reduces or negates the need to transport rainwater runoff off-site for disposal. Often includes the filtration of run-off, attenuation and/or infiltration.

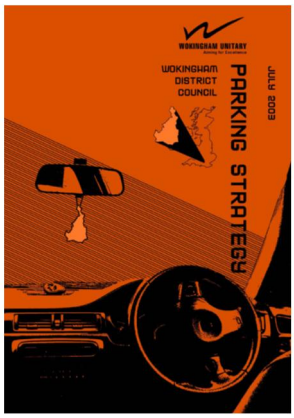
Unallocated Parking Space – a parking space for use by any resident or visitor to a site.

2 Car Parking Considerations

2.1 INTRODUCTION

2.1.1 This chapter details the importance of parking standards and the need to review and update standards to keep abreast of changes in legislation. Furthermore, this chapter describes important aspects, including car ownership and the environment, which much be considered when determining appropriate parking standards.

2.2 THE PURPOSE OF PARKING STANDARDS



2.2.1 The growth in car ownership in recent years, and the current over reliance on car travel, has a detrimental effect on people's quality of life in terms of increased congestion and pollution. Better management of vehicle use can be gained through improved controls on parking. Subsequently, better management of non-residential parking can encourage an increase in sustainable travel behaviour, which can include modal shift and an increase in the use of sustainable travel modes. However, car parking also has a connection to social inclusion and more restricted access to a vehicle may have an associated social cost.

2.3 THE NEED TO UPDATE PARKING STANDARDS

2.3.1 Wokingham Borough is constantly changing as new development is built. The way a person travels changes and adjusts to meet their local needs. It is important to ensure that parking standards keep pace with the changing built and natural environment so that parking facilities best serve the needs of the Borough's population, whilst ensuring this is balanced with quality of life and environmental objectives.

2.3.2 Improvements in our understanding of how the design of development areas influences the way people live and travel has led to more modern guidance being produced. The application of historic design standards, however well intentioned, has resulted in problems with parking in recent developments, for example excessive on-street parking. Part of this work on parking standards seeks to avoid this problem being increased or replicated.

2.3.3 To ensure housing supply is maintained, new areas of development are planned within Wokingham. It is important that up to date guidance on how these developments will address parking is produced to ensure that the highest possible quality of built environment is delivered, and that adequate provision and design for parking is provided.

2.3.4 Development in Wokingham, particularly in terms of new housing is carefully defined by the Local Development Framework (LDF) process. This process has identified Strategic Development Locations (SDL). These locations will be supported by improvements in transport infrastructure and services which will be designed to encourage more sustainable travel patterns. The provision of parking is an important element in the overall design of these SDLs, as parking is a major factor in influencing travel. A careful balance needs to be achieved between allowing Wokingham residents to own cars, whilst encouraging use of alternative modes of travel and not allowing car parking to dominate the urban landscape. Although it is likely most development will occur in these SDL's these updated standards need to cover all areas of the borough and all types of development which may come forward in the future.

2.3.5 Video and photographic evidence feeding into this review has been collected at the following site and a discussion is provided in Section 3.1.

2.4 HISTORIC PARKING GUIDANCE

2.4.1 Planning Policy Guidance 13 (PPG13), 2001, provides the current national framework for the planning of transport in England. The key theme is a general aim to reduce the parking provision at new developments as part of a package of measures to encourage sustainable travel. It states (in paragraphs 49 to 59) that this should be achieved by:

- Not requiring developers to provide more spaces than they themselves wish;
- Encouraging shared parking;
- Where appropriate, introduce and/or take advantage of on-street parking controls to minimise parking provision and prevent displacement parking; and
- Provide safe, convenient and secure cycle parking, and consider motorcycle parking.

2.4.2 In response authorities across England originally set maximum parking standards for different categories of development. National maxima were set in PPG13 for retail, assembly and leisure, business, higher and further education and stadia. Noticeably, no maximum was set in PPG13 for residential development.

2.4.3 PPG13 emphasised that meeting the maximum parking standards does not automatically make a proposal acceptable. The key message is that parking should be provided in concert with a package of measures to encourage the use of sustainable transport. Similarly, where it can be shown that parking provision restricted to maximum standards would affect road safety, provision in excess of these may be acceptable.

2.4.4 While demand can be influenced by measures in place to encourage sustainable travel, as raised in PPG13, it is car use that is more heavily affected by accessibility rather than car ownership. Similarly, reduced parking provision does not necessarily restrain parking demand but is more likely to result in unexpected on-street and displacement parking. PPG13, when it was originally launched, included a maximum parking provision for housing of 1.5 spaces per dwelling. This was soon "clarified" by government (by letter to all planning authorities) to seek an "average" across their planning area of around 1.5 spaces per dwelling.

2.4.5 The more recent update, Planning Policy Statement 3 (PPS3), 2006, advised that residential parking should take account of expected levels of car ownership, the importance of promoting good design and the need to use land efficiently. Recent guidance reflects this, encouraging flexibility, security and activity in the layout and a demand based approach to provision. PPS3 (paragraph 51) advises LPAs to develop residential parking policies for their areas.

2.4.6 More recently, in January 2011, the Local Government Secretary and Transport Secretary jointly announced that limits on car spaces for new homes and guidance on higher parking charges are to be scrapped. This removes the requirement for councils to limit the number of parking spaces allowed in new residential development, given that the Government believes that these rules led to an increase in on-street parking congestion, putting the safety of drivers, cyclists and pedestrians at risk. The emphasis of the current guidance is to give councils the freedom to set parking policies that are right for their areas.

2.4.7 In Wokingham Borough, the Executive Committee has agreed (28 October 2010) that parking standards will be applied in such a way as to provide appropriate vehicular parking, having regard to car ownership and, in particular, that those standards will have regard to the potential level of vehicle ownership/use, property size and the availability of high quality alternative means of transport.

2.4.8 It may, however, be appropriate to make a judgement about any reduction in car parking provision resulting from (and in some cases in support of) initiatives to encourage sustainable travel, usually presented in a Travel Plan, e.g. life style and city centre developments.

2.4.9 The Traffic Management Act 2004 places a duty on local traffic authorities to ensure the efficient movement of traffic on their road network and those networks of surrounding authorities. The Act gives authorities additional powers to better manage parking policies, moving traffic enforcement and the coordination of street works.

2.4.10 The Transport Act 2000 enables local traffic authorities outside London to introduce road user charges and workplace parking levies to help tackle congestion as part of a local transport plan.

2.4.11 The UK is committed to reducing its carbon emissions by the year 2050 and the impact of parking on car use is an important consideration.

2.4.12 At the time of drafting this report it is anticipated that guidance will be issued by the new coalition government on planning issues, especially the implications of the "localism" agenda for LPAs to consider and address.

2.4.13 However, general feedback from Wokingham councillors and the public is that recent developments (from 2001 to date) have not provided for adequate off-street parking and that poor layout and design (from historic guidance in Design Bulletin 32 and Places, Streets and Movement) have contributed to on-street parking issues.

2.5 DEFINING PARKING PROVISION

2.5.1 Car parking areas can vary in form, from designated off-street parking bays, to 'on-street' in areas without waiting restrictions. In this study parking has been considered in the following areas:

Off-street:

- Formalised car parks with or without marked bays

2.5.2 Car parks are common in high density development areas or where high demand exists. Design and management is critical to providing an effective service including: enforcement, layout and signage. Car parks can dominate the visual setting of an area and consideration is needed to ensure they are designed to minimise this impact. They may have areas of landscaping, be hidden underground or within buildings or be broken down into smaller areas.

- Garages and Car ports

2.5.3 Garages are sometimes accepted as allocated parking spaces but research suggests that more than 50% of garages are used for storage and not for car parking[1]. Major factors in using a garage for parking include storage space within a property, size

[1] Resident Car Parking Provision for Bournemouth, Poole and Dorset – Interim Guidance (2010) and Residential Car Parking Research for Department of communities and Local Government (2007).

of the garage and availability of parking on-street or at the property. Car ports, an alternative to garages which provide some shelter from the weather are not enclosed and, therefore, are not useful for general storage. These need to be sited in areas of natural surveillance to provide secure parking.

- Driveways

2.5.4 Driveways are one of the most popular residential parking areas in Britain. Parking on driveways is allocated parking and provides flexible space within a property. Care needs to be taken with the space dimensions specified as these can cause issues with vehicles overhanging the footway and highway and obstruction of pedestrian access to properties.

- Parking Courts

2.5.5 In residential areas, parking courts may be provided. These small parking areas need to be appropriately located to be convenient for the users, be located in areas of natural surveillance, preferably by the vehicle owners and be integrated into the development in terms of street scene, to form part of the visual landscape, but not dominate it.

- Underground car parks and Under-crofts

2.5.6 Under-croft and basement parking can be a useful parking design tool in addition to being an efficient use of space. Due to the enclosed nature, thought must be given to security of these areas. Flooding should also be considered, if the area floods regularly it may not be appropriate to use below ground level parking. However, structures built on top of parking can be designed to protect property if there is a risk of a rare, but serious, flooding event. Ventilation also needs to be a key consideration when designing underground and/or under-croft parking.

On-street:

- Marked bays and unrestricted areas of highway in developments

2.5.7 Designated on-street unallocated parking spaces provide many benefits to a street design:

- They bring people onto the street giving it a more active use
- They are often convenient for drivers, and
- Can be used for multiple purposes at different times of the day

2.5.8 Unrestricted on-street parallel parking has a long history in Britain. The practice arose not from design but from the rise in car ownership and a historic housing stock built when the car was less prevalent. This form of parking may be acceptable when accommodated in the design and where the width of the carriageway is adequate, and vehicles speeds are low. On-street parking can be a natural form of traffic calming encouraging lower vehicle speeds.

Motorcycle Parking:

2.5.9 Motorcycle parking is the provision of a dedicated space for parking of a motorcycle or Powered Two Wheeler (PTW).

Cycle Parking:

2.5.10 Cycle parking is as two types:

- Long term parking storage, which needs to be secure and covered such as at home or at a place of work; and
- Short stay cycle parking for visitors or customers, which may be in the form of a loop which the cycle might be locked against or a Sheffield stand in a convenient, overlooked location.

2.6 THE BASIS FOR DETERMINING PARKING REQUIREMENTS

2.6.1 For most use classes, parking allocation is based on the floor area of the development expressed as Gross Floor Area (GFA). The scale of the GFA is used as a standard approximation of the number of visitors and staff and hence the number of cars visiting the site. Parking for leisure class uses is often based on the capacity of the facility and the duration of stay per person. For residential sites the allocation tends to be based on the number or bedrooms in each dwelling which in term dictates the number of spaces required for the whole site.

2.6.2 The accessibility of a site by other modes of transport will also have an effect on the level of parking required. To take account of this, high accessibility zones have been defined locally, within which parking standards could be reduced (in discussion with planning and highway officers) due to the travel choices available. For more information on travel planning see Section 6.2.

2.6.3 However, whilst having a travel plan will not automatically reduce parking requirements, there is a strong likelihood that a properly implemented travel plan could reduce parking demand and therefore may be considered when assessing parking provision.

2.6.4 The final number of spaces required will vary depending on whether spaces are designated as allocated to a property or unallocated. It is generally desirable to have a proportion of spaces unallocated rather than wasting parking capacity by allocations to a dwelling which may not require it. The shared use of parking spaces ensures improved usage. This is particularly relevant when fractions of parking spaces are distributed through a residential layout.

2.6.5 When the correct overall number of spaces has been calculated it should be rounded up to the nearest whole number e.g. if 4.25 spaces are required, the allocation would be five spaces. In addition, on large developments the assessment will be carried out in sections of the site to ensure any shared spaces are located close to the dwellings they serve. This may sometimes result in half spaces being rounded up to whole spaces in more than one section.

2.6.6 The approach provided within this document should be regarded as only a starting point in any discussions with the Borough Council, as it should be recognised that each development site will need to be assessed on it owns merits within the wider context of the area within which the development sits.

2.6.7 It is strongly recommended that any developers discuss in detail the parking requirements with Council Officers regarding the flexibility of standards in the local development context. This is likely to be more important under the coalition governments “localism” agenda for planning.

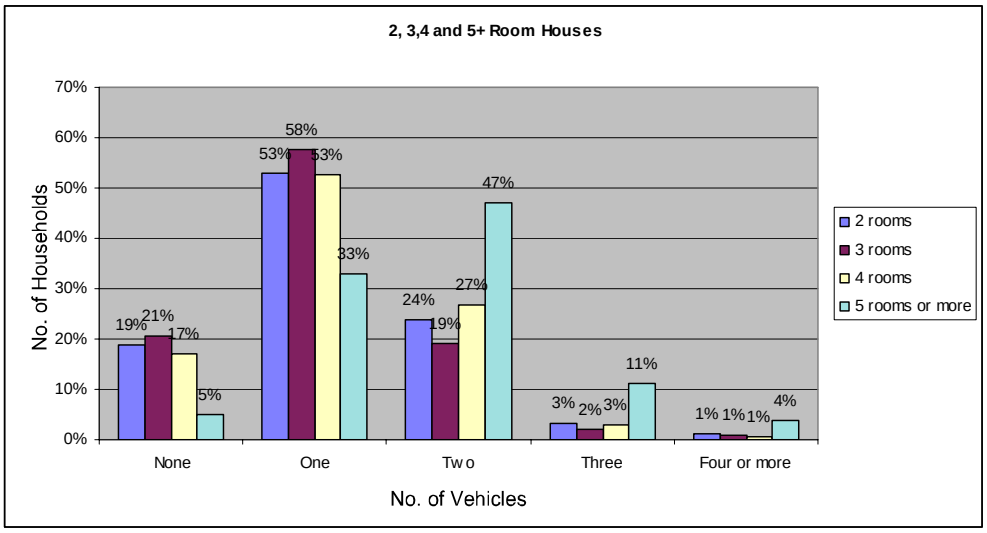
2.7 WOKINGHAM CAR OWNERSHIP

2.7.1 Whilst one of the key factors affecting levels of car ownership within a residential development is property size, categorised in terms of the number of habitable rooms, car ownership can vary greatly between properties of the same size.

2.7.2 Data was obtained from the Office of National Statistics regarding car ownership for houses and flats of different sizes within the Wokingham Local Authority area. The results were analysed separately for house and flats and these can be seen in Figures 2.1 and 2.2 below, respectively.

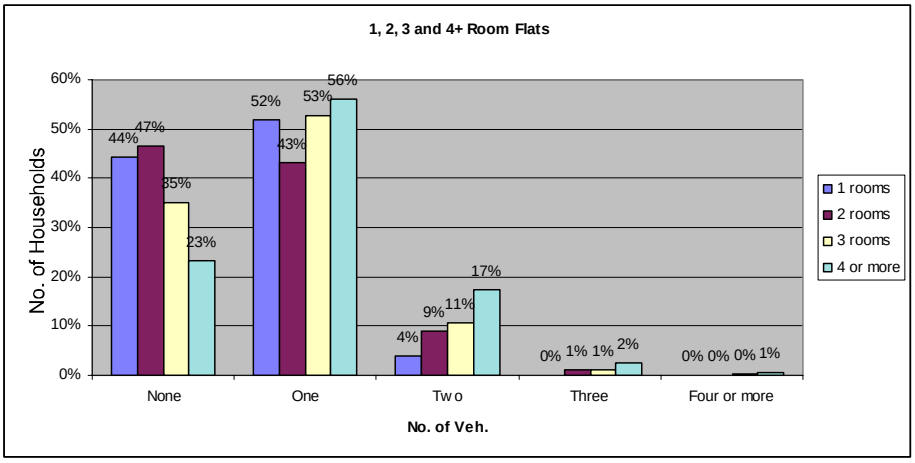
2.7.3 The graph of car ownership for houses in Wokingham, shown in Figure 2.1 below, shows that, generally, there is little variance in the levels of car ownership between 2, 3 and 4 bed houses. As can be seen in Figure 2.1, 5 bedroom houses are the anomaly. The data shows that approximately one in five houses do not own a car; just over half own one car and one quarter own two cars. This analysis does not take account of the tenure of houses i.e. rented, privately owned or shared ownership

Figure 2.1: Wokingham Car Ownership for Houses.



2.7.4 Compared to houses the statistics for flats within Wokingham show that a much larger proportion of flat occupiers do not own a car. For flats with one or two habitable rooms, 46 % of flat occupiers, on average, do not own a car. Furthermore, one third of three room flat occupiers do not own a car. The results show that the majority of flat occupiers that do own a car, own either one or two cars.

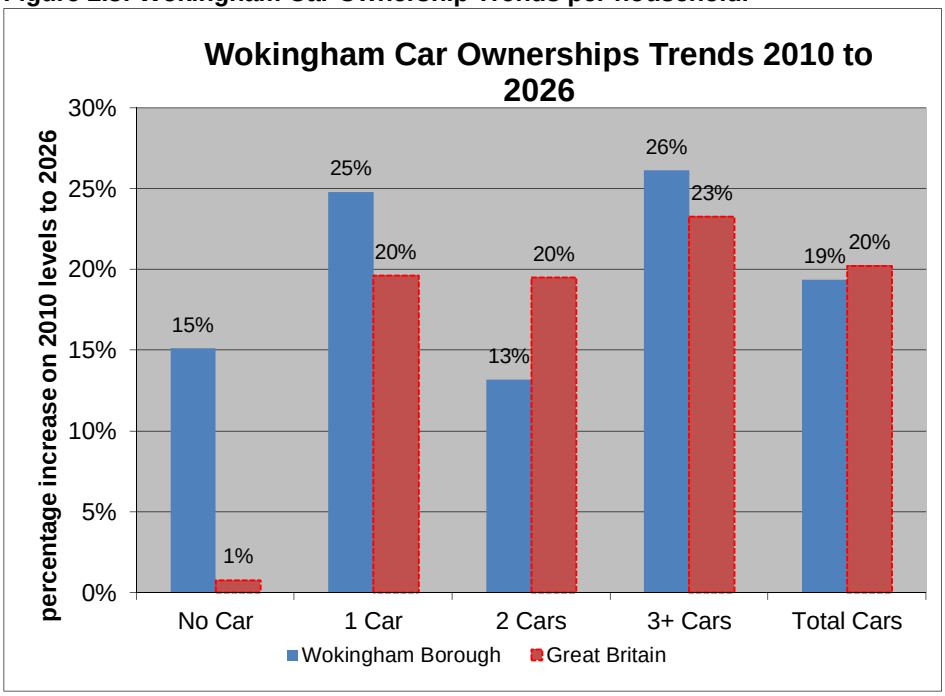
Figure 2.2: Wokingham Car Ownership for Flats.



2.8 THE EFFECTS OF CAR OWNERSHIP TRENDS

2.8.1 According to TEMPRO[2] 6.2 the growth forecasting software tool, total car ownership is expected to increase by 19% by 2026, from current 2010 levels across Wokingham Borough. The graph in Figure 2.3 shows the percentage increases in household ownership of cars between 2010 and 2026 for Wokingham Borough, compared to the national average for Great Britain. By 2026 there will be a 15% increase in households that do not own a car, which is greater than the National average increase of 1%. The largest increase can be seen for 1 and 3 car households, which are expected to increase by 25% and 26% respectively, with households owning 2 cars expected to increase by 13%.

Figure 2.3: Wokingham Car Ownership Trends per household.



[2] TEMPRO is a modelling tool designed to allow users to look at the growth in trip ends, using actual and forecast data supplied by the Department for Transport. TEMPRO also allows users to look at trends in the growth of trip ends in terms of the car ownership profile.

2.9 ENVIRONMENTAL CONSIDERATIONS

2.9.1 Parking provision at all non-residential developments has an important impact on travel patterns. Supplying the correct level and design of parking can encourage sustainable travel behaviour. The use of travel plans and other smarter choices initiatives is important to reduce pressure on parking. More information on Smarter Choices and travel planning is included in Section 6.2.

2.9.2 Car parking for residential development located within, or close to, town centres needs to be considered carefully. Reduced parking standards do not necessarily lead to reductions in car ownership and can lead to localised parking problems. Taking into consideration the available travel opportunities on a site-by-site basis and providing the appropriate level of car parking from the outset, in tandem with a Smarter Choices strategy, could alleviate localised parking issues and also encourage residents to leave their vehicles at home.

2.9.3 Parking often requires hard landscaped areas within its designs. Sufficient consideration needs to be given regarding provision of drainage for these areas. For new parking areas a SUDS system is likely to be preferred. Most parking area will require filters such as petrol interceptors, although pollution filtration may be an integrated part of a SUDS system. Advice on the use of SUDS and pollution control for parking can be gained from the Environment Agency. New arrangements for the future maintenance of SUDS are contained within the Flood and Water Management Act, and may have implications on the design of these systems.

2.9.4 Efficient design to minimise land take for parking such as secure basement parking, for example, allows more space including for potential wildlife habitats, balancing the impact of the development on the environment.

2.9.5 Parking areas may require softening with landscaping and vegetation. Parking should be integrated into the streetscape. It should not be hidden but equally should not dominate the street scene. Car parking areas can be dual use where these areas are used mostly during one part of a day. For instance, residential parking may not be fully utilised during the day and instead, might be used for amenity space during this period.

3 Issue and Problem Identification

3.1 INTRODUCTION

3.1.1 In order to set appropriate parking standards for Wokingham Borough, it is imperative to understand current issues so that these might be tackled and avoided through revised guidelines.

3.1.2 This chapter considers the issues in relation to:

- Residential parking;
- Allocated and unallocated parking;
- Car free development;
- Business, retail and school parking;
- Leisure and community parking;
- Parking for commercial vehicles, bicycles and powered two wheelers;
- Provision for blue badge parking and electric buggies;
- Parking for car clubs and car sharing, parent and child parking and private hire vehicles;
- Mixed use parking;
- Urban areas;
- Extensions and change of use;
- Provision for electric vehicles;
- Waiting restrictions and planning obligations;
- Commuted sums for parking; and
- Transport Assessments.

3.1.3 To understand the issues in better detail, a number of surveys were undertaken at locations that have been through the planning process under prevailing parking standards.

3.2 RESIDENTIAL PARKING

3.2.1 Video and photographic surveys were undertaken for recently completed developments (between 2004 and 2009) within Wokingham. These developments are shown in the Table 3.1 below.

Table 3.1: Video and Photographic Research Sites in Wokingham

No.	Development	Area	Year of Completion	Approx. No. of Homes.
1	Dowles Green (Off Keephatch Road)	Wokingham	2005/07	169
2	Poperinghe Barracks (Poperinghe Way)	Arborfield	2006/07	76
3	Songbird Close (Church Lane)	Shinfield	2004/06	144
4	Barn Croft Drive (Marsh Farm)	Earley	2006/07	149
5	Shinfield Park (Former Met Office College Site)	Shinfield	2008/09	310
6	Ducketts Mead (Former ARS Site)	Shinfield	2008/09	75
7	Cutbush Lane	Shinfield	2007/08	165
8	Church Lane (The Manor)	Shinfield	2007/08	97
9	Benham Drive,	Spencer's Wood	2007/08	121
10	Wheatsheaf Close	Winnersh	2008/09	36
11	Jersey Drive (Off Chatsworth Avenue)	Winnersh	2007/08	209

3.2.2 In addition to these surveys, specific car parking beat surveys were undertaken for sites: 1, 2, 3, 4, 6, 9 and 11. These surveys were completed for an average weekday and weekend in September and included surveys prior to 5am in the morning and after 10pm in the evening, the survey results are shown in Appendix A.

3.2.3 Records of on-street and off-street parking levels were recorded as well as parking on verges, soft landscaping, footways and in “no parking” designated areas.

3.2.4 Research was also completed by examining the annual monitoring reports at the council. The information extracted included the number of units built, the split of bedroom numbers (unit size) and total number of parking spaces.

3.2.5 A further survey was conducted to record the total number of garages provided on each of the development sites.

3.2.6 The video and photographic surveys demonstrated a consistent level of issues with large volumes and inappropriate on-street parking.

3.2.7 The main observations on inappropriate parking included:

- Parking on, or partly on, the footways including: parking on driveways where the vehicle is overhanging the footway and parking with 2 wheels on the carriageway and 2 on the footway

- Parking on bends, at junctions or at traffic calming

- Parking on verges or landscaped areas such as grassed areas and hard landscaped areas.

- High volumes of unattractive and obstructive parking on the highway

3.2.8 The main cause of inappropriate parking appears to be that parking restraint, applied through the planning process and not physical restraint, in residential developments does not discourage car ownership in excess of the anticipated parking provision. Insufficient provision causes parking on the highway in areas which are not designed to accommodate or resist parking at the considerably high levels observed at the surveyed sites.

3.2.9 Parking is mostly provided as allocated parking on a per property basis and this is not the most efficient use of space.

3.2.10 From the observations made during these surveys it is apparent that the level and problems associated with “on street parking” were related to the way that parking was provided, in terms of the type of space and the design of development with regard to parking.

3.2.11 Recent developments have often been designed with a setback from garages or gates providing half a driveway. This has caused a prevalence of parking with half a car overhanging onto adjacent footways, as shown in the selection of photographs below.

3.2.12 Manual for Streets (MfS) suggests garages can only be determined as allocated parking on a site-by-site basis and this will depend on factors such as:

- The availability of other spaces, including on-street parking. Where this is limited, residents are more likely to park in their garages;
- The availability of separate cycle parking and general storage capacity. Garages are often used for storing bicycles and other household items; and
- The size of the garage. Larger garages can be used for both storage and car parking.

3.2.13 In respect of the last point above, MfS states that many local authorities are now recommending minimum garage sizes of 6m by 3m. A brief search has revealed that Reading, Hampshire and West Berkshire councils use this standard. It is recommended that Wokingham adopted this standard, and include for garage door size of 2.4m wide by 2.1m height. Where the garage could be used for cycle storage as well as car storage the overall dimensions should be increased to 7m by 3m.

3.2.14 Furthermore, national research has shown that less than 50% of garages are actually used for car parking. The figures in Table 3.2 below have been derived from previous research and current policy guidance. This behaviour can place additional pressure on car parking in developments where cars park alternatively on-street, instead of within garages.

Table 3.2: Garage Use Data.

Location	Percentage of Garage Use for Car Parking	Research Source
Unknown	33%	Department for Communities and Local Government (DCLG) - Residential Car parking Research, (2007), WSP
Various Sites England	44%	ODPM - Car Parking Standards and Sustainable Residential Environments, (2204), WSP
Waterside Park, Kent	36%	Surveys of garage use at Ingress Park and Waterstone Park, Dartford, Kent, Scott Wilson
Oxfordshire	45%	WSP and Phil Jones Associates (2006) unpublished research

3.2.15 To examine this affect in Wokingham, a new development site at Chatsworth Avenue, Winnersh (Jersey Drive), was examined with respect to car parking allocation. The site has 209 dwellings as shown in Table 3.1. The existing parking standard for Wokingham suggested 365 parking spaces should be allocated to the site. However, the approved planning layout of the development provided for 386 spaces, including 107 garage spaces and the rest on drives and in parking courts. This equates to 279 visible (where cars are visible) off-street parking spaces.

3.2.16 An early morning visit was made to the Chatsworth Avenue site, where a parking beat survey was undertaken and numbers of parked vehicles were counted. This revealed:

- 358 visible 'off-street' parked vehicles; and
- 43 'on-street' parked vehicles (14 of which were parked on-street, either obscuring the footpath or parked on verges).

3.2.17 Therefore, a total of 401 parked vehicles were observed on site; 122 vehicles over the allocated number of visible parking spaces (being 279).

3.2.18 Using the assumption that 50% of garages are used for storage, it might have been expected that 332 visible vehicles would be noted to be parked off-street. The survey results show that there were 26 more vehicles parked in such locations. Not to mention the additional 43 vehicles parked on-street which were unallocated.

3.2.19 The additional vehicles observed on site imply that other factors, in addition to the idea that 50% of garages are used for storage rather than as vehicle parking, could be involved. These other factors could include:

- The percentage of garages used for storage is underestimated in this example;
- The allocated parking provision within the development causes an imbalance in available spaces (for example, a 3 bedroom house has 2 allocated spaces but only one car);
- The dimension of garages is considered to be too small to park a vehicle; and, or
- Allocated parking is not where residents want to park (e.g. near their residence).

3.2.20 It is recommended that further site specific research is undertaken to identify the actual factors involved in surplus residential parking and to confirm / enhance the national garage usage research. Household surveys as part of residential existing travel planning within the Borough could be used to collate this information.

3.3 ALLOCATED AND UNALLOCATED PARKING

3.3.1 The split between allocated parking and unallocated parking can affect the efficiency of the use of space and the layout of the development. This is due to the variation in parking demand between one property and another, for example where one property is car free but the next, of a similar size, has two or more cars.

3.3.2 A combination of both allocated and unallocated parking can often be the most appropriate solution. There are several advantages to providing a certain amount of unallocated communal parking and it is recommended that there should be a presumption in favour of including some in all residential layouts. Key considerations for communal parking are that it:

- only needs to provide for average levels of car ownership;
- allows for changes in car ownership between individual dwellings over time;
- provides for both residents' and visitors' needs; and
- can cater for parking demand from non-residential uses in mixed-use areas, which will tend to peak during the daytime when residential demands are lower.

3.3.3 An example of the benefits of applying allocated and unallocated parking to a 20 property development compared to general practice is described below.

3.3.4 Table 3.3 below, Columns A to G, represents a typical situation where the WBC Appendix 8 Local Plan car parking standard (Column C) has been applied so that all spaces are allocated to a property (Column D). The table then shows the actual levels of car ownership per dwelling (Column E). As can be seen in Columns F and G, this method has resulted in some properties being allocated more spaces than they have cars, resulting in vacant spaces (Column F) and some properties having fewer spaces than they have cars, resulting in additional cars being parked on-street (Column G). The latter could well include cars parking in unsatisfactory locations such as those detailed in Paragraph 3.1.3 above.

Table 3.3: Example development demonstrating provision and demand for spaces

A	B	C	D	E	F	G	H	I	J	K
									Provision using a combination of allocated & unallocated spaces	
Property No.	Size	Standard	Allocated Spaces	Car Ownership	Vacant Spaces	Parked On street	To provide for demand using allocated parking *(linked to data in columns D & E)*	To provide for demand using unallocated parking *(linked to column E)*	Spaces Allocated*	Unallocated Spaces required**
1	1 bed	1	1	0	1	0	1	0	0	4
2			1	0	1	0	1	0	0	
3			1	1	0	0	1	1	0	
4			1	0	1	0	1	0	0	
5			1	2	0	1	2	2	0	
6			1	1	0	0	1	1	0	
7	2 bed	1.5	2	2	0	0	2	2	0	8
8			1	0	1	0	1	0	0	
9			1	3	0	2	3	3	0	
10			2	1	1	0	2	1	0	
11			2	2	0	0	2	2	0	
12	3 bed	2	2	3	0	1	3	3	1	3
13			2	1	1	0	2	1	1	
14			2	1	1	0	2	1	1	
15			2	2	0	0	2	2	1	
16	4 bed		2	2	0	0	2	2	1	6
17			2	2	0	0	2	2	1	
18			2	3	0	1	3	3	1	
19			2	1	1	0	2	1	1	
20			2	3	0	1	3	3	1	
	TOTAL	4.5	32	30	8	6	38	30	9	21

*Allocated spaces to aid marketing of higher value properties

** Difference between columns J & E

3.3.5 With the evidence that 6 vehicles are being parked on-street, it can be deduced that insufficient allocated parking has been provided for at this location. However, we know from Columns D and E that 32 parking spaces have been provided in total and that there are only 30 vehicles in total on the site.

3.3.6 Column H shows that, using parking standards and catering for demand, a total of 38 allocated spaces would be required. An increase of 6 spaces compared with just applying the standards. This would ensure that all vehicles on the site can be parked off-street. If parking on the site was provided entirely by off-street unallocated parking (Column I), a reduction of 2 spaces from the standard could be achieved, whilst still catering for demand.

3.3.7 However, it is recognised that having allocated spaces for larger properties, most commonly a driveway, is seen as enhancing a property value. Columns J and K show how many parking spaces could be provided on site through providing a mix of allocated, to cater for larger properties, and unallocated parking. This shows that demand could be catered for through providing a mix of 30 allocated and unallocated parking spaces, a reduction of 2 from the standard (Column D).

3.3.8 The above example using historic WBC LP standards shows the benefits of basing parking provision and allocation on parking demand compared to current standards / practice. The methodology provides flexibility to allow a developer to decide how best to design parking within their development to meet the calculated demand and to minimise space wasted by vacant allocated spaces. Also a lower provision of allocated spaces can be supplemented with unallocated spaces to achieve more flexible site wide parking provision. The advantages of this method are to minimise surplus on street and inappropriate parking within the development.

3.3.9 The above methodology is proposed to provide a more (land) efficient parking provision, by considering and applying the local parking demand for a development. The residential parking demand for Wokingham to be applied to new developments has been calculated in Appendix B with tables for developers to use and an illustrative example in Section 5.13

Habitable rooms to bedrooms

3.3.10 Parking standards have generally been calculated on the basis of the number of spaces per bedroom. However, the research undertaken for DCLG was based on habitable rooms (taken from the census definition, see footnote). Using habitable room data provides for a more efficient and flexible assessment of how dwellings could be adapted over time. As a result the parking demand calculations are based on properties according to the number of habitable rooms[3]. To assist developers and planners a conversion factor has been provided to convert from habitable rooms to bedrooms. The tables in Section 5.12 are based on a conversion from the Dorset Parking Study, however it is accepted that further local research is required to obtain a more local conversion factor for the Wokingham Borough area.

[3] The Census defines number of habitable rooms as follows:

The count of the number of habitable rooms in a household's accommodation does not include bathrooms, toilets, halls or landings, or rooms that can only be used for storage. All other rooms, for example, kitchens, living rooms, bedrooms, utility rooms and studies are counted. If two rooms have been converted into one they are counted as one room. Rooms shared between households, for example a shared kitchen, are not counted.

Visitor Parking

3.3.11 Visitor parking should be served by unallocated parking including on-street provision. For developments where at least 50% of the parking provision is unallocated no additional provision needs to be made for visitor parking.

3.3.12 For developments located in town centres and other locations with good accessibility by non-car modes, and where on street parking is controlled, it is often appropriate to omit visitor car-parking spaces.

3.3.13 Where appropriate, visitor parking should be calculated as part of the allocated and unallocated parking calculation as described in Section 5.13.

3.4 CAR FREE DEVELOPMENT

3.4.1 Car free development, as a new approach to modern urban living, is supported in Government Planning Policy Guidance (PPG) including: PPS3 on housing and PPG13 on transport, as well as in their urban white paper: 'Our towns and cities: the future - delivering an urban renaissance' (DETR, 2000) and the Mayor of London's Transport Strategy and London Plan.

3.4.2 This is a planning policy for new housing schemes where space traditionally reserved for car parking is instead used for more housing units or greener uses such as more play spaces and cycle parking. Residents of car free housing schemes are not eligible for on-street parking permits.

3.4.3 Car Free development can refer to either development with no allocated parking or developments with no vehicle access. This does not necessarily prohibit car ownership. Car Free development of either type is more popular in the Greater London area where levels of accessibility are far higher. Car Free schemes outside of London are unlikely to be viable unless located in areas with excellent public transport links, especially rail, with good access to local shops and facilities by modes other than private car.

3.4.4 Low allocation schemes may be more popular where exemplar standards of public transport access are provided including rail, and where travel plans and smarter choices measures are present.

3.4.5 Car free or low parking provision schemes require to be:

- easily accessible by public transport;
- near a range of amenities, including shops and leisure activities;
- within a highly enforced controlled parking zone; and
- need to be supported by a robust travel plan which actively encourages the use of sustainable modes of travel e.g. through the provision of bus travel tokens or reduced/free cycle provision and car clubs.

3.4.6 Car free housing can contribute to:

- making Wokingham a less car dependent place to live, work and visit
- reduce traffic congestion and pollution
- improve the quality of the environment
- encourage more travel on foot, by cycle and by public transport

3.4.7 The development of car free housing contributes to tackling climate change. Motorised transport is responsible for over 25% of carbon dioxide (CO2) emissions which leads to global warming and climate change.

3.4.8 Car free housing is being introduced in cities such as London, Cambridge, Brighton, Edinburgh, Amsterdam, Berlin and Bremen.

3.4.9 However, it is highly unlikely that car free schemes would be acceptable to local residents (for fear of overspill parking), developers (viability and attractiveness of sites) and buyers (who will still own cars). They are also highly politically sensitive.

3.4.10 It is unlikely that Car Free developments in Wokingham would be appropriate, given car ownership levels and limited public transport options in some areas.

3.5 BUSINESS PARKING

3.5.1 Parking for business development needs to balance the accessibility and need for parking, together with the future viability of the site for attracting businesses and employees.

3.5.2 Businesses should, wherever possible, encourage employees to adopt sustainable travel patterns. Reducing single occupancy car journeys for work purposes should be a core aspiration for employers. This is best achieved through the use of smarter choices measures implemented through travel plans (see section 6). A balance is required between providing the access a business needs for its operations, space requirements, increasing efficiency and the cost attributed to providing parking and attracting / retaining staff. These are important considerations in determining the amount of parking required.

3.5.3 To support sustainable travel measures, the availability of car parking and, or cost of use should be carefully controlled. The provision of parking in terms of attracting staff, the savings in terms of land availability and environmental benefits need to be balanced.

3.5.4 In highly accessible locations, such as Wokingham Town centre, lower allocations of parking provision may be considered. In these cases employees could travel by public transport or by car share to get to and from work. In town centre areas where land is more valuable, reducing car parking has the additional benefit of releasing land for other purposes.

3.5.5 The effect of restricting parking at the work destination rather than at the home is that Wokingham residents' capacity to own a vehicle is not affected and those that work in town centres such as Wokingham, Reading or Bracknell are further encouraged to use their vehicle less.

3.6 RETAIL PARKING

3.6.1 There is a wide diversity of parking that can take place for retail uses. Food and non-food uses can generate different levels of demand and can therefore be treated separately. Retail bulk goods such as supplied at garden centres or DIY stores also attract more parking due to heavier take away goods, and changes in facilities, discussed below, can lead to longer durations of stay (affecting parking accumulations).

3.6.2 The increase in provisions of cafes and restaurants in DIY and garden centres also has the effect of increasing dwell times and affecting parking accumulations. It is suggested that careful consideration is given to planning applications which seek to

make internal changes to these types of retail use and the implications for parking, especially at busy periods such as bank holidays. In these instances, careful management of the site will be required and it is suggested that conditions are imposed that require management plans for different scenarios to be provided at the planning stage.

3.6.3 In retail centres such as those in Wokingham and Woodley, parking is provided centrally in public car parks. It is assumed that any new non-food retail development located within 250 metres of a public car park in Wokingham town centre will have its customer car parking provided centrally in this way. The proposed parking zone is illustrated in Figure 3.1 below. A similar proposed zone is illustrated in Woodley in Figure 3.2 (larger versions of Figures 3.1 and 3.2 are given in Appendix C).

Figure 3.1: Proposed Wokingham Retail Parking Zone.

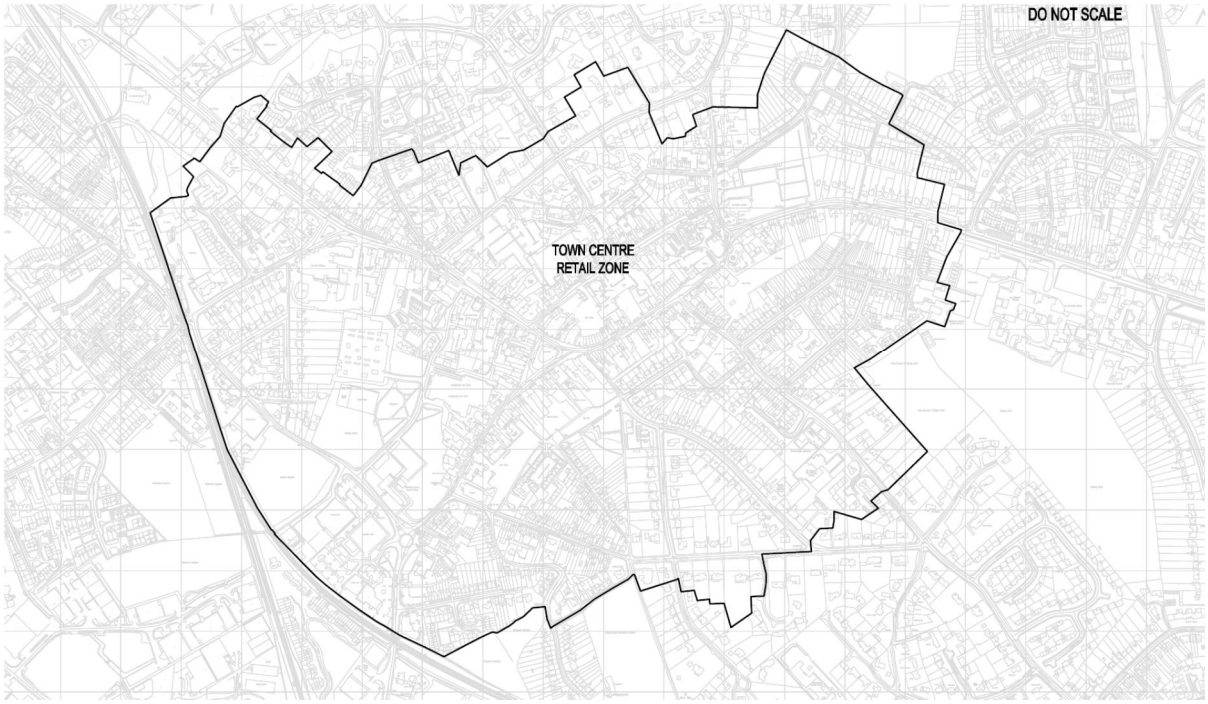
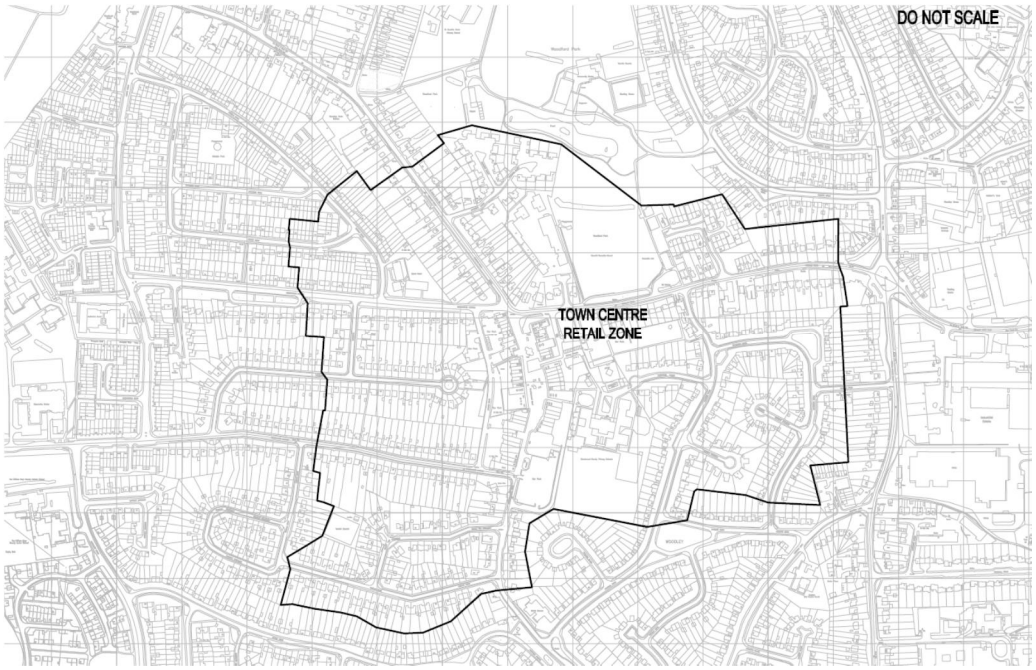


Figure 3.2: Proposed Woodley Retail Parking Zone.



3.7 SCHOOL PARKING

3.7.1 No specific survey information has been completed in relation to school car parking within the Borough for the purpose of this report. However, research was completed by examining parking standards from 24 other authorities.

3.7.2 Furthermore, anecdotal information from discussions with officers and through local schools indicates that there a number of issues with parking demand. Including:

- That a large proportion of the council's schools are within urban areas and as such, the availability of land for the provision of parking can be restricted;
- That the demands on schools to meet national standards and inclusivity have required the expansion of the staff required (with teaching assistants and Special Education Needs support) on sites with little room to accommodate parking; and
- The new approaches to providing services in the community, such as Sure Start Children's Centres, create new demands for parking.

3.7.3 WSP are currently awaiting the results of baseline surveys to be undertaken at a number of the Borough's Children Centres as part of the planning approvals and conditions attached to these permissions.

3.7.4 Over 81% of schools in the borough have school travel plans and in part, these can assist in reducing the demand for car parking, although the majority of these are targeted at reducing pupils travelling to schools by car and the inappropriate, on-street parking this can cause.

3.7.5 It is recommended that each new application for schools or extensions / conversions within the school grounds is dealt with on its own merits. The need for an updated school travel and parking management plan is a pre-requisite.

3.8 LEISURE AND COMMUNITY PARKING

3.8.1 The Sports Development team in Wokingham Borough Council was consulted for information on the facilities and parking for Sports and Leisure. They provided a short summary of the facilities and parking behaviours they were aware of. The council own four main leisure centres within the borough; three are managed by a leisure supplier:

- Loddon Valley Leisure Centre – Earley;
- Carnival Pool – Wokingham, and;
- St. Crispins Leisure – Wokingham

3.8.2 Each of these facilities, with the exception of Carnival Pool, has their own car park where parking is provided free of charge. Carnival Pool is "Pay and Display" due to its proximity to the town centre, but car parking is refunded when using the Leisure Centre. The car park is shared with other users, including local businesses, and Sports Development reports that it becomes "difficult to park during busy periods".

3.8.3 At St. Crispins and Loddon Valley dual use car parking occurs, with the school at St. Crispins and ASDA at Loddon Valley. At Loddon Valley, Sports Development observes that there is limited disabled parking.

3.8.4 Two further sites exist in Wokingham: Pinewood Leisure centre which is used by private leisure suppliers and clubs where facilities include a gymnastics hall and outdoor pitches; and Cantley Park which has a variety of outdoor pitches including all weather pitches and Tennis Courts. In total the site has approximately 10 pitches and 9 tennis courts.

3.8.5 The Cantley Park site is used for events such as football, hockey and netball tournaments and during these events parking can be an issue in terms of insufficient space. This has become a more regular occurrence since the installation of the all-weathers pitches. This site currently has a car park for 120 cars, although additional space is made available through overflow areas on adjacent fields, although these are not always available due to poor ground conditions.

3.8.6 The weekly football, hockey and netball leagues attract teams from across Berkshire and, as such, the majority of participants and spectators come by car. Ensuring there is sufficient space for parking should be a site management issue.

3.8.7 There are also a number of public and private parks and sports facilities (Sol Jol park, Reading Cricket and Hockey club for example) where sports events take place on a regular basis. These contribute to local parking problems with overspill parking on local and major roads.

3.8.8 Other publicly operated Leisure Centres include:

- Bulmershe Leisure Centre (leased to Woodley Town Council by Wokingham Borough Council); and
- Woodford Park Leisure Centre (Woodley Council).

3.8.9 These are reported to have limited spaces but not significant problems were known of. The following large private facilities exist:

- LivingWell (Private health & leisure club) – Wokingham;
- David Lloyd (Private leisure club) – Thames Valley Park; and
- Nirvana (Private health & leisure club).

3.8.10 These private facilities were reported as currently having sufficient parking for users.

3.8.11 The limited information provided suggests that private facilities currently provide sufficient parking. However, large outdoors sports grounds, especially where these are used for events, need to have available parking. This should be carefully considered during planning applications for improvements to these facilities such as all-weather surfaces or introduction of stands for seating, which would further increase capacity and demand for parking.

3.8.12 It is difficult for the planning system through the use class breakdowns to accommodate the changes that can occur at leisure facilities, as they react to trends in society or new games or sports crazes. These can sometimes have detrimental impacts on parking, either by seeking to remove parking to provide new facilities or by changes in length of stay and thus parking accumulations. Careful consideration will therefore be required at the planning stages to ensure sufficient management of parking is maintained.

3.8.13 When considering parking for community hall, discussions at the planning stage will be required to establish how these halls will cope with special events, such as wedding receptions or large parties for example, that are likely to generate a significant demand for car parking.

3.8.14 The nature of these events attracts participants from a wide catchment and, as such, car use tends to be the predominant form of travel.

3.8.15 As such, careful consideration will be required for the sites promoters to demonstrate how overflow parking could be accommodated. This may require a detailed site management plan, provision of occasional overflow parking (either on site or close by) or the necessity for local roads to be wider to accommodate, safely, on street parking.

3.8.16 It will be for the highways and planning officers to use reasonable professional judgement to adjust the parking standards accordingly in these situations and for promoters to recognise the need for careful site management.

3.9 PARKING FOR COMMERCIAL VEHICLES

3.9.1 The amount of parking should be based on: the developments use, trip rate associated with the development and the need or lack thereof for overnight parking at the site. The site use will mean that the amount of commercial vehicle parking will vary greatly between one site and another.

3.9.2 It is the responsibility of the developer to prove that adequate facilities are provided on site for the proposed use. This may include providing details of the proposed operation of the site once in use such as whether the site will need to store vehicles not in use or on layover periods, the frequency of vehicles visiting the site for deliveries or the type and size of vehicles using the site. The developer is reminded that the council does not provide commercial vehicle parking within the borough and therefore the developer must consider where vehicles might be stored when not in use.

3.9.3 It is recommended that commercial developments that require regular freight deliveries should provide a "Delivery and Servicing Plan" (DSP). This plan should provide a framework to better manage all types of freight vehicle movement to and from individual buildings and could form part of an overall Workplace Travel Plan.

3.9.4 A DSP should seek to improve safety, efficiency and reliability of deliveries to the development location. It should also identify unnecessary journeys and deliveries that could be made by more sustainable modes to help reduce congestion and minimise the environmental impacts of freight activity.

3.9.5 General guidance on DSPs is currently available from Transport for London, and it is recommended that WBC prepare their own DSP guidance as part of their workplace travel planning advice.

3.10 PARKING FOR CYCLES

3.10.1 Cycling is an essential component to assist in establishing sustainable travel behaviours. Increased cycle use can reduce car based travel and associated congestion and environmental impacts as well as offering health benefits, which in the wider context can reduce pressure on health services.

3.10.2 To support cycling a plentiful supply of attractive and convenient cycle parking needs to be provided, particularly at employment locations, and commercial developments should offer employees showers, changing and drying facilities. Best practice in local authority guidance shows that parking for cycles falls into two categories: short and long term.

Short Term Cycle Parking

3.10.3 Short term facilities provide temporary storage for up to an hour or two while an appointment is undertaken, such as an errand or short term activity, including shopping, lunch or a visit to the post office, for example.

Long Term Cycle Parking

3.10.4 Long term parking needs to be more secure and covered; this includes storage at home, at work or at school.

3.10.5 Research into cycle parking in Oxfordshire suggests that houses have higher levels of cycle ownership than flats. Table 3.4 below illustrates this.

Table 3.4: Cycle Ownership Data.

	Average Cycles per Dwelling	Average Cycles per Resident
Houses Oxford City	2.65	0.73
Houses rest of Oxfordshire	1.51	0.52
Flats Oxford City	0.97	0.48
Flats rest of Oxfordshire	0.44	0.23

* Research carried out for CABE/Oxfordshire County Council by WSP and Phil Jones Associates in 2006.

3.10.6 A review of cycle parking standards published by a selection of other local authorities was undertaken to provide more information on typical specifications for cycle parking standards. This identified that the current Wokingham Borough standards were low in comparison to other authorities. A consensus of the most popular levels for cycle parking was evident and this has been used to suggest increased levels of cycle parking standards for the borough.

3.11 PARKING FOR POWERED TWO WHEELERS

3.11.1 In 2008 there were 1.3 million licensed motorcycles in use - representing approximately 3% of all motor vehicles[4]. In developing and implementing policies on parking, local authorities should consider appropriate provision for motorcycles.

3.11.2 In 2008/2009 105,000 motorcycle driving tests were undertaken. The South East has the highest rate of motorcycle ownership with 3 in every 100 people, on average, owning a motorcycle.

3.11.3 When comparing journey purposes for motorcycles and cars it is evident that more commuting trips were made by motorcycle owners, compared with other trip purposes, than those with cars.

3.11.4 Local Transport Plan guidance states that local authorities should consider the needs of motorcyclists to enable them to make integrated journeys. This includes provision for changing modes, such as ensuring sufficient parking at transport interchanges, particularly rail stations. Motorcyclists require additional facilities for storage of motorcycle helmets and for changing protective clothing, in addition to secure areas for parking. These factors need to be considered in any new development.

3.12 PROVISION FOR BLUE BADGE PARKING

3.12.1 In Wokingham 10% of the population (2010 figures) are 70 years of age or more. This is the most vulnerable group in terms of applications for blue badges.

3.12.2 Spaces for disabled people need to be properly marked and meet the minimum space requirements (see Paragraph 4.9 below).

[4] Transport Statistics Bulletin - Compendium of Motorcycling Statistics 2009, Office of National Statistics

3.12.3 WSP was appointed to undertake research into off-street disabled parking facilities in the UK on behalf of the Department for Transport, British Parking Association (BPA), Mobilise and the British Council of Shopping Centres (BCSC). The study was commissioned to help better understand the provision, allocation, use, misuse and enforcement of designated "Blue Badge" disabled parking bays in off-street public car parks. The findings enabled recommendations to be made which can assist in updating guidance on the provision of "Blue Badge" parking. The Executive Summary of the study report was published on the BCSC website for their members to access on 25th March 2010.

3.12.4 Current guidance on disabled parking requirements is based on a provision for disabled people of 6% of the overall number of parking bays regardless of the size of the car park, where it is located or the land use that it serves.

3.12.5 The research indicated that over provision of "Blue Badge" parking can result in the inefficient use of space and lead to complaints, especially in busy town centres. Such underutilised space could be put to more beneficial use, including improved waiting facilities and improved quality of parking for disabled people. It is possible that spaces are not utilised due to design issues impeding use.

3.12.6 Over 2,000 BPA and BCSC members were invited to participate in a WSP designed survey to gather information on their car parks and the utilisation of designated disabled bays. Due to a low response from some land uses the study focussed on car parks serving town centres and the retail sector.

3.12.7 When data was examined it was found that only 18% of the car parks surveyed had a provision of 6% or more disabled persons parking bays. The majority of these car parks had less than 200 bays in total.

3.12.8 The study also found that the percentage utilisation of "Blue Badge" parking is generally lower in car parks with over 200 bays. Only 3% of these car parks had disabled parking utilisation of 6% or more.

3.12.9 The approved conclusions and recommendations of the study were:

- The 'one size fits all' approach of the current '6% guidance' does not take account of factors such as demography, topography, etc. which affect the demand for "Blue Badge" parking in a particular town or car park;
- The demand for "Blue Badge" parking is dependent on the function of the car park, the land use it serves and the overall provision of "Blue Badge" parking within the local vicinity / town centre;
- "Blue Badge" parking provision must be assessed by experienced practitioners either on an individual car park basis or collectively where more than one car park serves the same land uses; e.g. town centre car parks; and

- Guidance on the required number of "Blue Badge" parking bays should reflect the size of the car park, as follows shown in Table 3.5 below.

Table 3.5: Recommended Blue Badge Provision.

Size of Car Park	Recommended Provision	Number of "Blue Badge" Bays
Less than 10 bays	As required, to be confirmed by council officers	
10 – 50 bays	2 bays + 3%	2 - 4 bays
51 – 200 bays	3 bays + 3%	5 – 9 bays
201 – 500 bays	4 bays + 3%	10 – 19 bays
501 - 1,000 bays	5 bays + 3%	20 – 35 bays
Over 1,001 bays	6 bays + 3%	36 bays +

3.12.10 For car parks with more than 200 spaces the recommended provision could:

- avoid unnecessary construction costs caused by the over-provision of designated disabled parking bays; and
- allow the conversion of unused space for more beneficial uses, such as:
  - better quality "Blue Badge" bays
  - electric car charging points
  - cycle parking
  - car club / pool car spaces
  - general parking bays
  - parent and child parking where appropriate

3.13 PROVISION FOR ELECTRIC BUGGIES

3.13.1 This refers to parking provision for users of powered wheelchairs and mobility scooters. The Department for Transport is undertaking a review and consultation on proposed changes to the laws governing the use of mobility vehicles and powered wheelchairs and this may include additional guidance on parking issues.

3.13.2 Currently the main issues associated with mobility scooter parking relates to when parking occurs on carriageway in defined parking bays/ resident's bays and disabled bays and also where they obstruct the public footway for pedestrians including other mobility impaired highway users.

3.13.3 The Highway Code states that:

> *"there is one class of manual wheelchair (called a Class 1 invalid carriage) and two classes of powered wheelchairs and powered mobility scooters. Manual wheelchairs and Class 2 vehicles are those with an upper speed limit of 4 mph (6 km/h) and are designed to be used on pavements. Class 3 vehicles are those with an upper speed limit of 8 mph (12 km/h) and are equipped to be used on the road as well as the pavement.*

When you are on the road you should obey the guidance and rules for other vehicles; when on the pavement you should follow the guidance and rules for pedestrians.

All normal parking restrictions should be observed. Your vehicle should not be left unattended if it causes an obstruction to other pedestrians - especially those in wheelchairs. Parking concessions provided under the Blue Badge scheme (see 'Other information') will apply to those vehicles displaying a valid badge".

3.13.4 Therefore mobility scooters should not be left on footways unattended if it causes an obstruction to other pedestrians. This includes wheelchair users and those with prams or pushchairs.

3.13.5 Parking concessions provided under the Blue Badge Scheme apply to class 2 and 3 vehicles displaying a valid badge.

3.13.6 With regard to parking standards, as a mobility scooter can be used by a registered disabled person on a footpath; it shall be treated for the purposes of the Road Traffic Regulation Act 1984 and the Road Traffic Act 1988, and the Road Traffic Offenders Act 1988 as not being a motor vehicle. It is not considered appropriate, therefore, to seek parking standards at this time other than those related to blue badge parking.

3.13.7 Nonetheless, careful consideration should be given to the provision of sufficient storage and charging spaces within residential use classes (C2, C3, D1 and D2) to allow for inclusivity and adaptability to changes in demographics and changes of uses.

3.14 PARKING FOR CAR CLUBS AND CAR SHARING

3.14.1 Car Clubs offer a form of shared car ownership and/or use. Vehicles are stored in secure garages or in designated on-street bays, offering guaranteed parking which can be attractive in areas of parking restraint.

3.14.2 The burden of car ownership, insurance, tax and maintenance are removed from individuals, yet access to a car is maintained. They offer access to new vehicles and potentially a range of vehicle types and sizes depending on need.

3.14.3 Efficiencies are achieved through shared use and clubs can enable households to have a first, second or third car. Use of a car club vehicle instead of a private vehicle can therefore also lead to further fuel and efficiency savings, where use of a newer, more fuel efficient car club vehicle replaces use of an older private car.

3.14.4 UK experience so far suggests that for each car club vehicle, about five private cars are taken off the road. 20-50% of members will give up a car and if members have given up their car they are likely to reduce mileage by 60-70%. If they do not, travel patterns are generally unaltered.

3.14.5 Therefore, car clubs can be an effective way of reducing car parking demand and encouraging sustainable travel behaviour and the most convenient parking spaces should be made available for car clubs if they are introduced into an area.

3.15 PARENT AND CHILD PARKING

3.15.1 Parent and child parking is usually provided at the discretion of the developer or car park owner. Provision of this type of parking allows extra space for securing and releasing children from car seats (by allowing car doors to be opened wider) or manoeuvring pushchairs or buggies close to the vehicle. The location of this parking is generally close to the entrance of a facility and is now becoming common at supermarkets and some other large retailers.

3.16 PARKING FOR PRIVATE HIRE VEHICLES

3.16.1 Currently the Wokingham Taxi Officer has issued licenses for 94 Hackney Carriages and 180 Private hire vehicles to ply taxi services within the borough.

3.16.2 If developments are of a sufficient size or type to attract regular use of taxis or private hire vehicles, the developer will need to consider provision of appropriate waiting facilities. When not for hire parking of taxis is considered to be the same as for private vehicles. Provision at Taxi offices will need to be considered on the basis of the provision they offer in terms of rest facilities.

3.16.3 When a development will attract regular use of coaches or minibuses the development will need to provide facilities for coaches or minibuses to park. This might include museums, private leisure facilities or theatres. The provision for coach parking at such facilities will need to be considered by the Council. Wokingham currently has limited demand for coach parking and the existing sites have ample space to accommodate coaches.

3.17 MIXED USE PARKING

3.17.1 Mixed use developments may provide parking that is used by different visitors at different times of day. However, this should not be assumed and the developer must demonstrate there is adequate parking for the development through their transport assessment and or parking accumulation research. Initially the different uses should be assessed separately using the correct parking standards for each use class.

3.18 URBAN AREAS

3.18.1 Within urban areas such as Wokingham Town Centre, parking requirements for retail (class A use) development are likely to be provided centrally in public car parks. If a business in class A is within 250 metres of a public car park within Wokingham town centre, allocation for customer parking should be considered as being fulfilled.

3.18.2 For development in areas of high accessibility in an urban centre a development may be considered a prime site for a low car parking allocation or “car free” development (see Section 3.4 for more information on car free development).

3.18.3 Development within areas which have high levels of accessibility may be eligible for a reduced parking allocation. Areas where this may be considered typically exhibit high levels of public transport provision in terms of bus services and rail access, cycle and pedestrian links, access to food shopping and health and education facilities in the near vicinity. However, this should not be assumed and each site should be assessed on its own merits and be subject to officer discussion and advice.

3.19 EXTENSIONS AND CHANGE OF USE

3.19.1 If an extension or change of use is proposed it is the responsibility of the developer to demonstrate that sufficient parking will be provided for the proposed changes.

3.19.2 In particular, existing residences converted to apartments or Houses of Multiple Occupancy (HMO) will need to consider the correct parking provision to standards.

3.19.3 Extensions (including extensions by the provision of mezzanine floors) shall be considered in terms of their impact on car parking. The same process of demonstrating adequate parking provision will apply in this case. Parking provision for extensions and mezzanine floors will vary greatly upon use class. For example the difference between an increase in floor area for warehousing and storage is likely to have less affect than an increase in retail space, or office, uses.

3.19.4 Information was requested from the Planning Inspectorate for planning appeals relating to mezzanine floors and HMO's. 87 letters of appeal were returned which related to parking provision. In each case the Inspectors' comments depended on the use class: An increase in floor space purely for the purposes of storage was not considered to have a significant impact on parking demand. However, additional office space was considered to increase demand. Where an inspector found that an impact on parking was likely, parking would be required based on the total floor space including the mezzanine floor.

3.19.5 One appeal was found to be located in Wokingham regarding HMO's and parking. In this case the Inspector considered that an HMO was not comparable to a family home of the same size and would require additional parking.

3.20 PROVISION FOR ELECTRIC VEHICLES

3.20.1 A brief review of the current rollout of charging points has been undertaken. As the take-up of electric vehicles increases provision will need to be made for vehicle charging points. Charging points are relatively inexpensive to install and consideration should be given to the availability of an electrical supply in parking areas. Locations that may be particularly suitable for charging points are medium to large workplaces, homes and shopping centres. Funding sources for infrastructure in the form of grants from European and government initiatives have been available.

3.20.2 Various charging points are available on the market, including those that are designed to be free to use and those that manage payment for electricity use. Examples are "PodPoint", "Chargemaster" and "Park and Power". In the UK many large retailers and shopping centres are installing charging points as a promotional tool and some infrastructure and electricity suppliers are aiming to install a million charging points in the UK over the next 5 years.

3.20.3 It is recommended that consideration is given to the requirement or easy adaptation of parking spaces to allow charging points to be rolled out as and when demand rises for their provision.

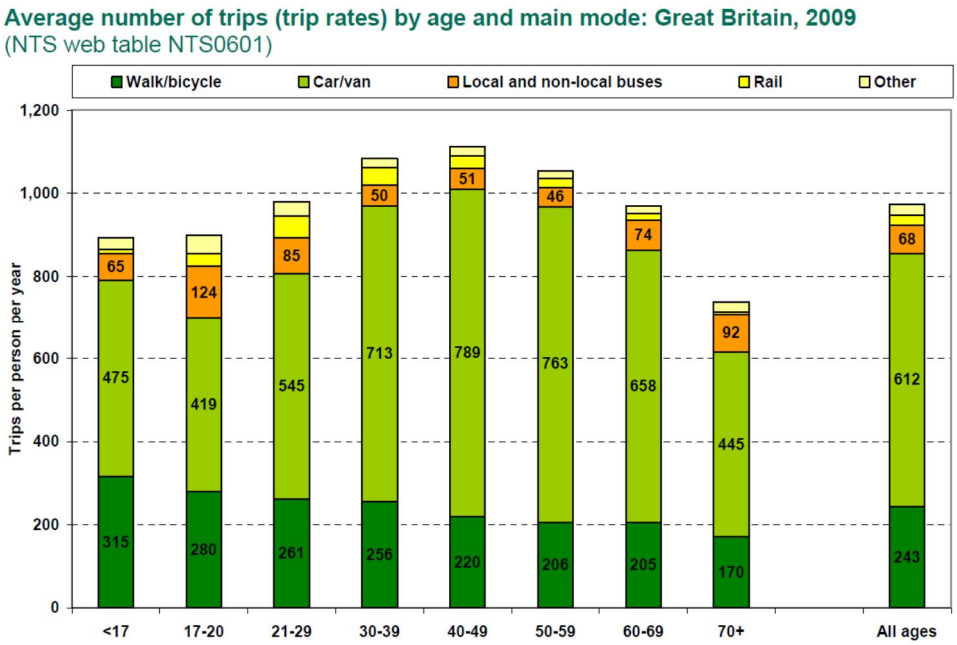
3.20.4 It is recommended that consideration is given during the design of dwellings to include the provision of electric car charging points, either fixed externally to the building (for charging on driveways) or as part of the garage or car port. If the necessary infrastructure and electrical wiring is incorporated at the time of build, this would simplify future conversion.

3.21 RETIREMENT / WARDEN CONTROLLED

3.21.1 Data from the Department for Transport in the 2009 National Travel Survey indicates that the number of car trips made reduce in older age. The data shows that the average number of trips taken per year reduces from 763 in the 50 to 59 year category to 658 in the 60 to 69 year old category and then reduces further to 445 in the 70 plus category (Figure 3.3).

3.21.2 This infers that a lower level of car parking may be considered for retirement or warden controlled accommodation, although higher provision for visitors may be needed to offset this. This should only be considered on a site by site basis following officer discussions.

Figure 3.3: Reproduction of DfT Trips by Age Group Statistics.



From: National Travel Survey: 2009, Department for Transport

3.22 NEW USE CLASSES

3.22.1 In April 2005, changes were made to several classifications defined in the Town and County Planning (Use Classes) Order 1987.

3.22.2 Prior to this, the A3 use class covered all Food and Drink land use purposes. Following the changes, the uses previously covered by A3 were covered by three new classifications. These are:

- A3 Restaurants and cafes – For the sale of food and drink and for consumption on the premises – restaurants, snack bars and cafes
- A4 Drinking Establishments – Public house, wine bars or other drinking establishments (but not night clubs)
- A5 Hot food takeaways – For the sale of hot food for consumption off the premises

3.22.3 WSPs review of the parking standards of local authorities has highlighted that many standards do not designate A3, A4 and A5 use classes separately. Several standards divide the A3 classification to encompass the A4 and A5 uses.

3.22.4 In some cases, local authorities who have adopted the new use classes in their standards have sub-divided these further in order to provide greater control over parking allocation. An example of this is the parking standards for Three Rivers District Council, Hertfordshire, which separates its A5 classification into four further sub-classifications.

3.22.5 Regardless of whether new land use classes have been included in parking standards or not, there is a level of consistency between some local authorities in terms of their parking provision allowances.

3.22.6 Most local authorities that separately specified for the new use class A3 (7 out of 10) opted for one car parking space for 5metres (m) sq. of dinning space, two more opted for one space per 6sqm. Additional allocations were provided separately for staff.

3.22.7 A4 allocations were identified to vary from one space per 2.5sqm to 5sqm of bar or public space. Six out of 10 authorities allocate one space per 3sqm, with two other authorities close to this at one per 2.5sqm and one per 4sqm. Additional allocations were provided separately for staff.

3.22.8 Allocations for A5 varied greatly, the most common allocation was one space per 3m of public floor space.

3.22.9 The comparison in ranges between local authority parking standards demonstrates a requirement for Wokingham Borough Council to define standards as clearly as possible in order to limit ambiguity in their interpretation.

3.23 WAITING RESTRICTIONS

3.23.1 Ideally the use of waiting restrictions to prevent on street parking should be avoided by good design wherever possible. Waiting restrictions require enforcement to be effective, can be unsightly and have adverse effects on surrounding properties. Restrictions often need to be extended a considerable distance from a development location and overspill parking can be experienced where the restrictions end. Therefore, the use of restrictions should be strictly limited to where a traffic flow issue requires them and not as a primary tool for car parking management.

3.23.2 Traffic Regulation Orders (TROs) can only be implemented following statutory public consultation and so a planning consent granted either cannot be implemented until the TRO is approved or can only use best endeavours to secure the TRO.

3.24 PLANNING OBLIGATIONS

3.24.1 In exceptional circumstances councils may consider a commuted sum in place of insufficient parking but only in locations where there are sufficient alternative transport options or facilities. For further information on car free developments see Section 3.3.

3.25 COMMUTED SUMS FOR PARKING

3.25.1 The use of commuted sums for payments to local authorities to offset car parking provision, especially in town centre locations, are negotiated in appropriate circumstances. These may be where achieving car parking on the development site make for inefficient or unviable layouts or there is sufficient, close, public parking which could be shared close by.

3.25.2 To accept such a commuted payment WBC would need to be satisfied that the contribution could be used to realistically resolve any issues arising out of the lack of provision of the parking spaces.

3.25.3 However, we would note that there can be efficiencies achieved in larger regeneration schemes for town centres where it can be demonstrated that multi-use or "sharing" of parking provision could be achieved.

3.25.4 WSP would suggest that any scheme which supports multi-use parking should be examined on its own merits.

3.26 TRANSPORT ASSESSMENTS

3.26.1 Applications for new development may, where appropriate, be required to assess the transport impact of the development. Depending on the size of the development a transport statement or transport assessment might be required. As part of this assessment the developer is required to assess the need for car parking.

3.26.2 The primary impacts that need to be assessed are: impact on sustainable travel, security and the layout and geometry in terms of movement of vehicles, pedestrians, cyclists and other street users. For most non-residential development there is a relationship between the estimated number of trips and the parking provision. Parking provision is also effected by the accessibility of the site by non-car modes, travel planning and the type of the development. More information can be found in Chapter 6.

4 Formulating (Design) Guidance

4.1 INTRODUCTION

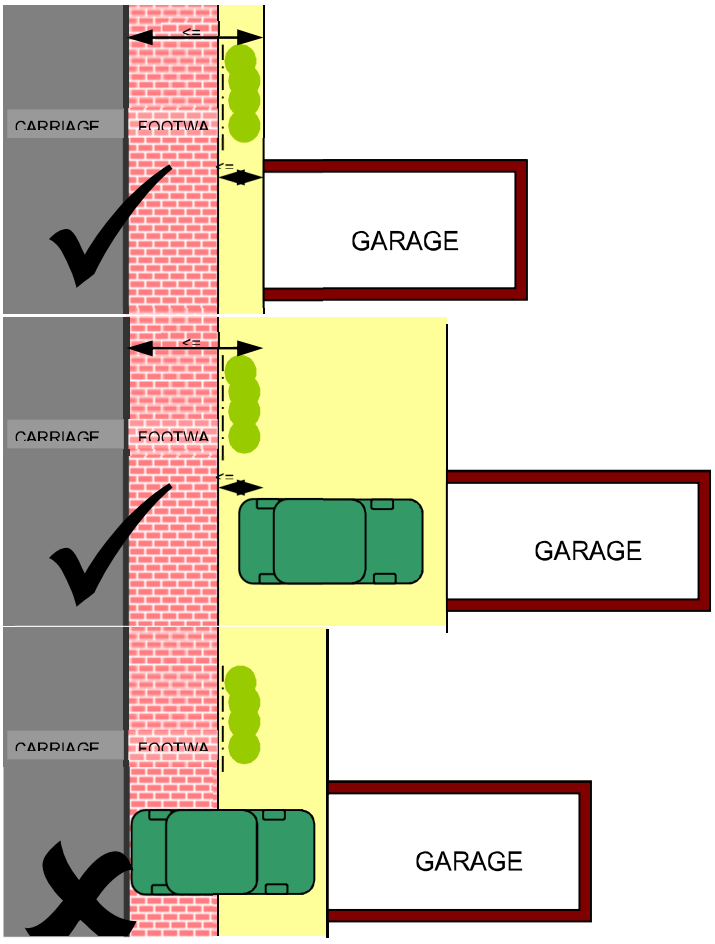
4.1.1 Following the identification of the current issues related to parking and having gained an understanding of why these issues have occurred, as discussed in detail in Chapter 3, it has been possible to formulate specific design guidance for parking. This chapter sets out this guidance.

4.2 OFF STREET RESIDENTIAL PARKING

4.2.1 To prevent parking that obstructs the footway as described in paragraph 3.1.7, the following regarding setback of garages, gates or car ports is recommended (Figure 4.1). The setback distances should be either of the following:

- The overall distance between edge of the carriageway and the gate, garage or start of the car port should be not more than 3 metres where the distance from the back of a footway to the gate would be no more than 1.5 metres; or
- The distance between the back of the footway and the gate, garage or car port should be at least 5 metres and the distance between the carriageway and the back of the footway should be no more than 3m. Up and over doors require space between the car and the garage for the door to swing open. 0.5m is normally sufficient for this. Roller doors and other solutions can be used where spaced is limited, but would need to be secured by planning condition.

Figure 4.1: Illustrations of correct driveway and garage parking design.



4.3 ON STREET RESIDENTIAL PARKING

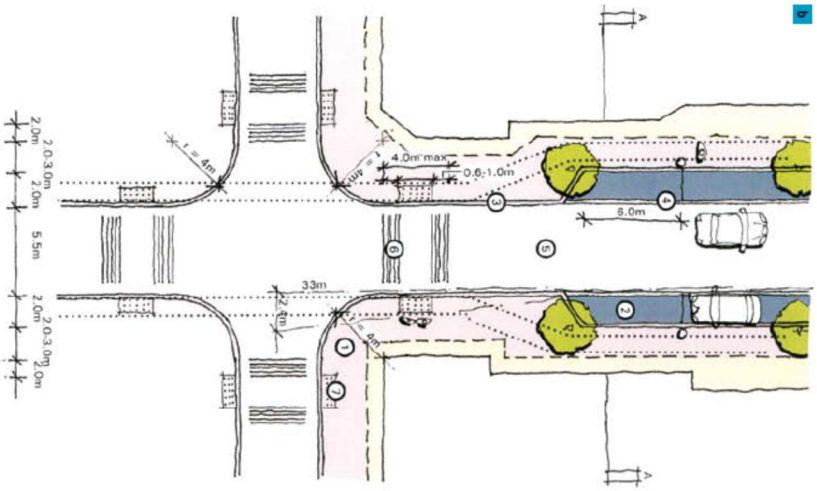
4.3.1 'On street' parking which is integrated into the street design adds to the street scene and can provide vitality to a street. Indiscriminate parking caused by less thoughtful design will detract from a streets 'look and feel'.

4.3.2 'On street' parking may be softened or broken up by the addition of trees and vegetation. Parked vehicles may also form a buffer between pedestrians and the carriageway. Planting needs to be considered in term of visibility requirements, possible root damage and irrigation needs, for further guidance refer to Wokingham Borough Design guidance.

4.3.3 The use of 'parking squares' should also be considered; these can provide added value to a design by providing the opportunity for hard landscaping and may combine well with informal "meeting" areas which help to provide a sense of place.

4.3.4 Good parking design is critical and can make the difference between a successful street design and one where parking detracts from the streets look. Further guidance can be found in Manual for Streets[5] (Figure 4.2), Car Parking – What Works Where[6] and the Urban Design Compendium[7]:

Figure 4.2: Example of Best Practice On Street Parking Design.

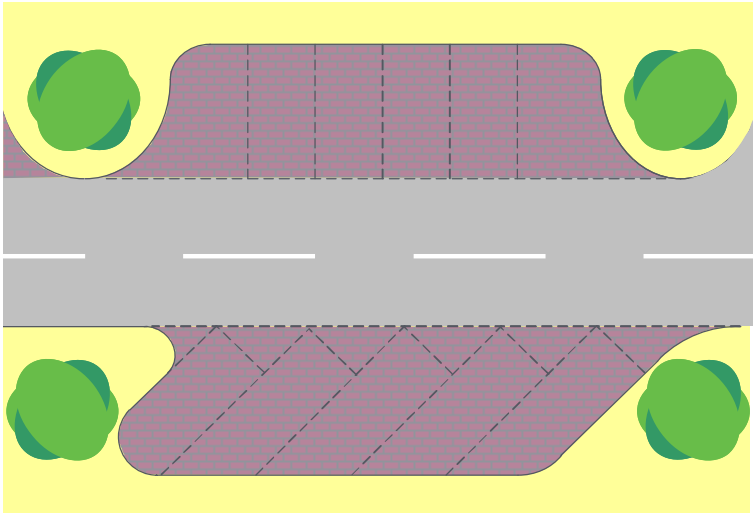


Manual for Streets page 35, originally English Partnerships, EDAW and Alan Baxter & Associates

4.3.5 In low speed (30 mph or less) or residential areas, parking may be perpendicular to the highway or angled. Ideally, spaces should be placed in groups of 5 or 6 bays broken by landscaping, trees or build outs which break up parking and reduce the potential dominance of parking on the street scene. Angled parking should be angled to point in the direction of flow in the nearest lane to the bays. Angled bays should be arranged so drivers are encouraged to reverse into them, as visibility might be restricted if reversing out. An example design is outlined in Figure 4.3 below. Angled parking does not work well in cul-de-sacs.

[5] Manual for Streets
[6] Car Parking What Works Where
[7] Urban Design Compendium

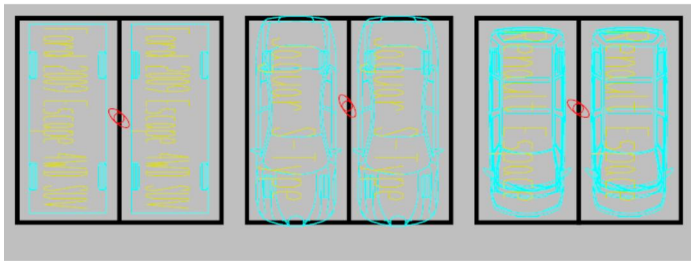
Figure 4.3: Illustration of On Street Parking Design.



4.4 DESIGN AND LAYOUT

4.4.1 Car parking spaces should be of adequate size to allow convenient parking and ingress and egress from the vehicle. It should be considered, due to the proliferation of larger domestic vehicles, that the size of spaces required has grown over recent years. Figure 4.4 shows a luxury 4x4, luxury Executive car and MPV from popular car manufacturers. It shows that using the accepted standard of 2.4m width by 4.8m length, a pedestrian cannot comfortably walk between the vehicles and it is likely to be difficult to get in and out of the vehicles. Whilst most vehicles are slightly narrower in width, it should not be assumed that vehicles will be parked centrally within spaces.

Figure 4.4: Illustration Issues Relating to Bay Sizes.

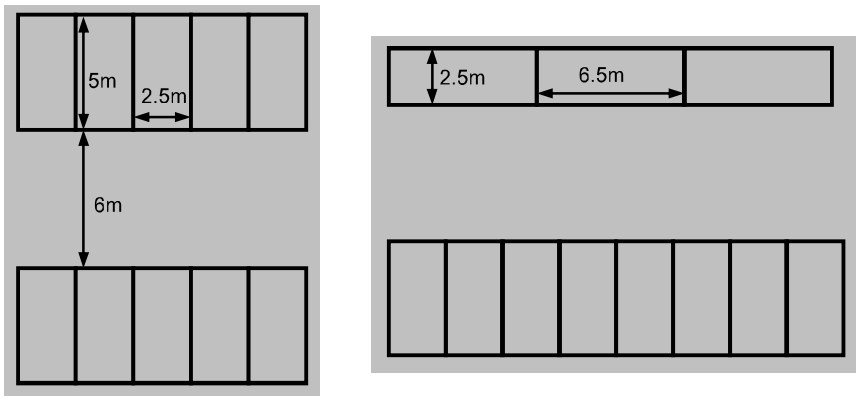


4 x 4 Luxury Executive MPV

4.4.2 It is therefore recommended that a slightly larger space be recommended such as 2.5m wide by 5m in length.

4.4.3 Where car parking spaces are adjacent to each other and at right angles to the aisle or access road, a 6m aisle is required for two-way access, see Figure 4.5 below.

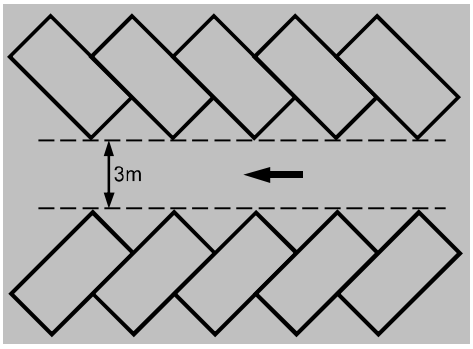
Figure 4.5: Car Parking Layout Dimensions.



4.4.4 Where spaces are parallel to the aisle or access road they should be 6.5m in length and 2.5m in width.

4.4.5 Diagonal parking can be useful where the width of land is restricted but generally results in greater land take per space than conventional parking layouts. Where one way traffic is stipulated and spaces are angled in the direction of access at 45 degrees a deduction in the aisle width can be allowed to 3m (Figure 4.6).

Figure 4.6: Car Parking Layout Dimensions Angled Bays.



4.4.6 70 degree angle parking may also be used and this would be associated with an aisle width of 4.5m for one way circulation or 5.4m for two way circulation.

4.4.7 Combinations of parking at 90 degrees to circulating flow and spaces at 45 or 70 degrees on opposite sides of an aisle or access road require a width 6 metres for two way circulating flow.

4.4.8 These dimensions and layouts are examples of compliant designs, other parking arrangements may be considered, but should be demonstrated that sufficient space has been designed for convenient vehicle circulation and parking. This is best demonstrated by the use of swept path analysis.

4.5 SAFE PEDESTRIAN ACCESS

4.5.1 Areas where car parking occurs can be dangerous for pedestrians due to the likelihood of vehicles manoeuvring and restricted visibility caused by parked vehicles. In car parks, provision of safe areas and routes to and from vehicles needs to be considered to ensure safe passage of pedestrians.

4.5.2 Many car parks now have hatched pedestrian areas and pedestrian walkways between vehicles; in larger car parks this is advisable.

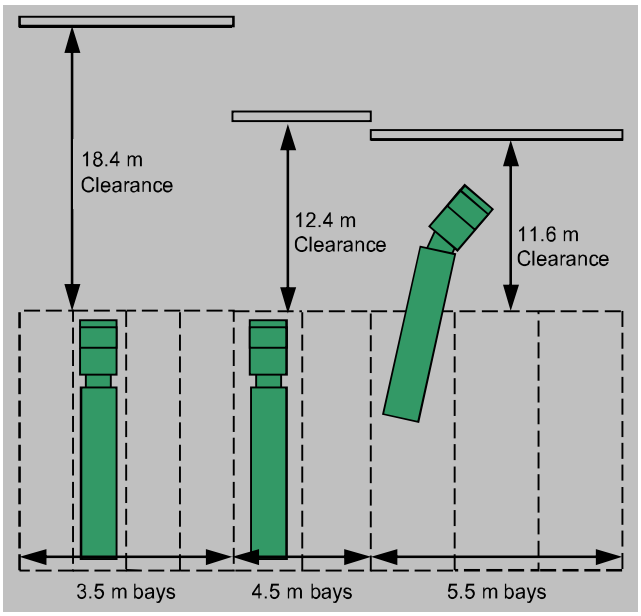
4.5.3 Access routes to and from car parks should not be intimidating and should not be enclosed. Advice on this can be found in "Safer Places: The Planning System and Crime prevention" published in 2004 by the Office of the Deputy Prime Minister and the Home Office.

4.6 COMMERCIAL VEHICLE PARKING

4.6.1 Guidance on parking for Heavy Goods Vehicles is available in 'Designing for Deliveries by the Freight Transport Association'. Parking areas, where delivery or service vans park, may need to be designed with larger dimensions. This should be resisted in residential areas.

4.6.2 The width of spaces will affect the width required of any aisle or access road. The diagram in Figure 4.7 below, based on advice in "Designing for Deliveries", illustrates this. Clearances include a 2m allowance for a vertical obstruction.

Figure 4.7: Lorry Parking Clearance Dimensions.



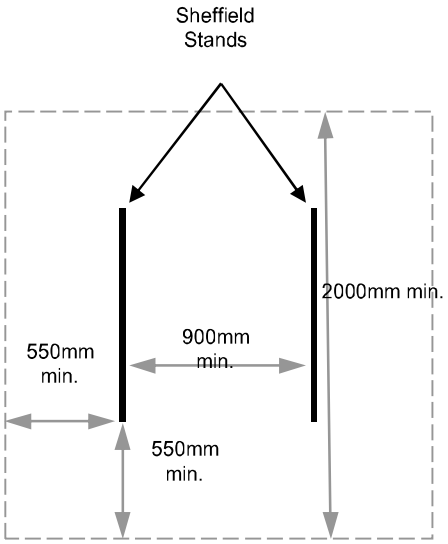
4.7 CYCLE PARKING DESIGN

4.7.1 Designers are referred to Manual for Streets, Section 8.2, for cycle parking design advice.

4.7.2 In residential situations a garage may be considered as a cycle parking space if it is wider than 3m and longer than 6m minimum internal dimensions. Any storage facility other than a garage provided for the express purpose of cycle storage should be at least 2m in length by 0.9m wide to fit one bicycle, or larger for more than one bicycle. Such a storage facility should be accessible from the outside of a property. External access to a rear garden with a cycle store such as a shed would be treated as provision of cycle storage.

4.7.3 In all situations cycle parking should be covered and secure. Short term cycle parking in public areas might be provided by Sheffield style stands. Stands should be placed at least 900mm apart and be at a minimum of 550 mm from a wall, fence or vertical obstruction, either to the side or ahead/behind a stand (650mm is preferable). A clear length of 2000 mm must be allowed for the length of a bicycle. Stands should be constructed of tubing 50 mm diameter as a minimum. It is generally preferable to have stands imbedded into the ground although the option to have them securely bolted down is generally acceptable (Figure 4.8).

Figure 4.8: Cycle Parking Layout Dimensions.



4.7.4 Cycle stands need to facilitate bicycles to be easily secured to a stand with a "D" lock or chains and wires to the crossbar or wheels. Provision of an intermediate lower level rail at approximately 150 mm from the ground, can prevent a wheel turning and allow children's' bicycles or step through bikes with slanted crossbars to be secured.

4.7.5 At workplaces or locations where cyclists are likely to leave bicycles for a number of hours, secure and covered compounds are recommended.

4.7.6 Designers and developers are referred to the Sustrans Information Sheet FF37 which provides details of best practice for cycle storage.

4.8 POWERED TWO WHEELER

4.8.1 Guidance on motorcycle parking is contained in Traffic Advisory Leaflet 02/02. General advice on designing highways to meet the need of motorcycles is given in the Institute of Highway Engineers (IHIE) Guidelines for Motorcycling, published in 2005. Some of the guidance contained in that document has been repeated here for ease of reference.

4.8.2 The IHIE guidelines provide considerable detail on the provision of public motorcycle parking at locations such as educational establishments and workplaces, at shopping/entertainment areas and within residential areas lacking private parking opportunities.

4.8.3 Motorcyclists prefer to park close to their destination, in places where they can secure their machine. Designated motorcycle parking facilities that fail to meet these requirements will probably be overlooked in favour of informal spaces that are considered more suitable by owners.

4.8.4 Motorcycles are prone to theft as they can be readily lifted into another vehicle. Security should therefore be a key consideration for those providing parking facilities for motorcycles.

4.8.5 In planning for private residential parking, in most situations motorcycles will be able to use car parking spaces, but in some situations it will be appropriate to provide designated motorcycle parking areas, particularly:

- where there is a high density of development and where car parking is likely to be intensively used; and
- where demand for motorcycle parking is expected to be significant.

4.8.6 Where designated parking is provided, covered spaces will provide protection from the elements.

4.8.7 Physical security need not be difficult or expensive to provide. Fixed features, such as rails, hoops or posts designed to provide a simple locking point to secure a motorcycle should be considered. Where motorcycles are parked in bays with one wheel against the kerb, a simple continuous steel rail satisfies most situations. The rail should be set at around 600 mm high to accommodate the range of wheel sizes in use. The addition of guard railing prevents the locking rail from becoming a tripping hazard.

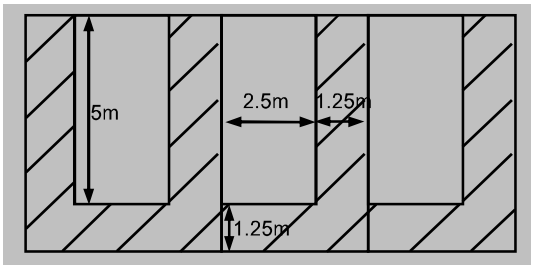
4.8.8 To estimate the space required for parking motorcycles, it is recommended that a 2.0 m by 0.8 m footprint is allowed per motorcycle. It is not necessary or desirable to mark individual bays. For regulated on-street parking, supported by a TRO, diagram 1028.4 of TSRGD should be used.

4.9 BLUE BADGE PARKING DESIGN

4.9.1 It is preferable to provide these spaces in unallocated areas, including on-street, as it is not normally possible to identify which properties will be occupied by, or visited by, disabled people. It is recommended that spaces for disabled people are generally located as close as possible to building entrances.

4.9.2 Extra space is required for disabled parking and recommended dimensions based on 1.5m the width of a standard space are shown in Figure 4.9.

Figure 4.9: Blue Badge Layout Dimensions.



4.10 CAR CLUB

4.10.1 Car club spaces should be located as conveniently and as prominently as possible to maximise the marketing potential. These should be clearly labelled as car club spaces.

4.11 PARENT AND CHILD PARKING

4.11.1 Where parent and child parking is provided the requirements for extra space should be considered with regard to use of car seats, buggies or pushchairs. Parent and child parking should normally be located to minimise the need to cross traffic aisles for parents accessing buildings with children.

4.11.2 The size of these bays can generally be in line with those for disabled bays.

4.12 PARKING FOR PRIVATE HIRE VEHICLES

4.12.1 Taxi parking in Wokingham is provided on-street and ranks should be considered in geometrical terms in the same way as car parking. Additional, the safety of pedestrians alighting needs to be considered.

4.12.2 At coach parking facilities, space needs to be provided for vehicles turning, wherever possible coach parking should be designed so that coaches do not need to reverse. The safety of pedestrians accessing the parking needs careful consideration. Dimensions for coach parking should be based on the largest vehicle likely to use the facility.

4.13 DESIGN GUIDANCE AND BEST PRACTICE FOR PROVISION OF CHARGING POINTS FOR ELECTRIC CARS

4.13.1 Charging points must be located for convenient and secure access to the charging point on a vehicle. However, it should be set back from the parking area and protected to avoid being struck by a vehicle parking. All charging points should have emergency cut offs in the event that they are damaged. Many suppliers are now emerging in the market place, which have different systems for public use.

4.14 APPLYING PARKING STANDARDS

4.14.1 A detailed discussion on parking standards is given in Chapter 5. Parking standards contained within this document are based on the use class of a development. It is likely that some developments may not fit within these categories.

4.14.2 It will be the responsibility of the developer to prove that parking provision has been adequately catered for on a proposed site.

4.14.3 The developer must prove that parking will not have a detrimental effect on traffic safety or on the character of an area due to an increase in parking on the public highway. This should be set out in the Transport Statement or Transport Assessment as part of the planning application.

4.14.4 The standards provided within this document should be regarded as only a starting point in any discussions with the Borough Council as it should be recognised that each development site will need to be assessed on it owns merits, within the wider context of the area within development sits. This is likely to be more important under the coalition governments “localism” agenda for planning.

4.14.5 For Residential parking the developer will need to show that spaces identified to serve each dwelling are within an acceptable distance from that dwelling (normally 25m for allocated parking). On larger schemes a plan showing plot numbers and parking layout allocation / unallocated and visitor spaces will be required.

5 Recommended Parking Standards

5.1 USE CLASSES

5.1.1 Wokingham parking standards are arranged by the Use Class for the site. The standards for each of the use classes shown in Table 5.1 below are detailed in the following sections of this chapter.

Table 5.1: Use Classes

Use Class	Description	Notes and examples:	Section
A1	Shops	Split between food and non-food	5.1
A1	Warehouse's to including only those selling bulk goods: DIY retail, garden centres, electrical appliance retail and furniture retail.		
A2	Financial and Professional Services	Banks, Building Societies, Estate Agents, Employment Agents	5.3
A3	Restaurants and Cafes	On site consumption	
A4	Drinking Establishments	Primarily Pubs and Bars	5.4
A5	Hot Food Takeaways	Offsite consumption	5.5
B1	Business	Such as offices	5.6
B2	General Industrial		5.7
B8	Storage and Distribution	Warehousing	5.8
C1	Hotels		5.9
C2	Residential Institutions	Nursing Homes, Boarding Schools, Residential Colleges	5.10 & 5.11
C3	Dwellings	Private Homes	5.12
D1	Non-residential Institutions	Training centres	5.14
D2	Assembly and Leisure	Split into: Leisure centres and gyms, theatres and Cinemas and other leisure uses	5.15
Sui Generis	Other developments not covered above		

5.1.2 The tables given in the following sections set out the suggested parking standards for new developments within Wokingham. These standards are based on the evidence and research presented in previous chapters within this report.

5.1.3 In the columns for cycle parking the abbreviations 'LT' which stands for Long Term and 'ST' which stands for short term are used; definitions for long and short term parking can be found in Section 3.9.

5.2 CLASS A1: SHOPS

5.2.1 It is recommended that this is split in sub-categories. Food stores, retail warehouses and garden centres and other non-food stores.

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
A1 Food	1 space per 20m²	1 space per 125m² (20% LT, 80% ST)	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**
A1 bulk goods Warehouses	1 space per 20m²	1 space per 250m² (20% LT, 80% ST)	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	
A1 Non-Food	Less than 1000m² = 1 space per 20m² More than 1000m² = 1 space per 14m²	1 short term space per 125m² (20% LT, 80% ST)	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	

5.3 CLASS A2: FINANCIAL AND PROFESSIONAL SERVICES

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
A2	Less than 1000m² = 1 space per 20m² More than 1000m² = 1 space per 14m²	1 space per 125m² (20% LT, 80% ST)	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**

CLASS A3: RESTAURANTS AND CAFES

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
A3	1 space per 5m²	1 space per 125m² (20% LT, 80% ST)	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**

5.4 CLASS A4: DRINKING ESTABLISHMENTS

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
A4	1 space per 3m²	1 space per 125m² (20% LT, 80% ST)	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**

5.5 CLASS A5: HOT FOOD TAKEAWAYS

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
A5	1 space per $3m^2$	1 space per $125m^2$ (20% LT, 80% ST)	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**

5.6 CLASS B1: BUSINESS

User Class	Car Parking Allocation	Cycle Parking Allocation	PTW Parking	Disabled Parking
B1	Less than $2500m^2$ = 1 space per $25m^2$ More than $2500m^2$ = 1 space per $30m^2$	1 LT space per $150m^2$	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**

5.7 CLASS B2: GENERAL INDUSTRIAL

User Class	Car Parking Allocation	Cycle Parking Allocation	PTW Parking	Disabled Parking
B2	up to $250m^2$ = 1 space per $25m^2$ above $250m^2$ = 1 space per additional $50m^2$	1 LT space per $200m^2$	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**

5.8 CLASS B8: STORAGE AND DISTRIBUTION

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
B8	up to 250m² = 1 space per 25m² above 250m² = 1 space per additional 200m²	1 LT space per 200m^2	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**

5.9 CLASS C1: HOTELS

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
C1	1 per room for customers, 1 per residential staff unit and 1 per 3 non – residential staff	1 LT space per 10 bedrooms & 1 space LT per 5 staff	1 space per 40 car parking spaces	**As Table 3.5**

Notes:

1. If a bar open to non-guests is included reference should be made to the class A4 with a reduction of 25% where the main purpose is a hotel.

2. If a restaurant open to non-guests is included reference should be made to the class A3 with a reduction of 25% where the main purpose is a hotel.

3. If halls or conference facilities are included reference should be made to Class D2.

4. The ratio of staff to bedrooms could be expected to vary depending on the type and style of hotel. As such the developer is required to have early discussions with the planning and highway authority on the anticipated staffing levels.

5.10 CLASS C2: RESIDENTIAL INSTITUTIONS

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
C2 Hospitals	Considered on individual merits	1 LT space per 5 staff and 10 ST space per 10 staff for visitors	1 space per 40 car parking spaces	**As Table 3.5**
C2 Residential Care homes (does not include independent units)	1 per full time equivalent staff member + 1 visitor space per 3 residents.	1 LT space per 5 members of staff	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	
C2 Residential Primary or Secondary Education	1 per full time equivalent staff member	1 LT space per 5 staff	1 space per 40 car parking spaces	
C2 Student Halls for Further or Higher Education	1 per 2 members of full time staff and 1 per 6 students	1 LT space per 2 students and 1 LT space per 5 staff	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	

Notes:

1. Staffing levels could be expected to vary depending on the type of residential institution. As such the developer is required to have early discussions with the planning and highway authority on the anticipated staffing or student levels.

5.11 CLASS C2A: SECURE RESIDENTIAL INSTITUTION

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
C2A	1 space per full time staff, Visitor – individual merit	1 space per 5 full time staff, Visitor – individual merit	1 space, +1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	**As Table 3.5**

For C2A class developments each proposal will to be assessed on its own merits provided a restraint-based approach is demonstrated.

5.12 CLASS C3: DWELLING HOUSES

5.12.1 Standards for residential dwellings form a large part of parking within the Borough. More basic methods of parking allocation have not previously been successful in providing efficient and effective provision for parking at residents homes. In particular, the way parking is provided has a significant effect on how much parking is required. The following information on residential parking provision provides a flexible, more formulaic, approach showing how the number of spaces varies depending on if these are allocated to a specific dwelling or unallocated for use by multiple dwellings. The allocation changes based on accessibility and the character of the area, this has been split into 3 categories: Urban, Town and Fringe and Village. A map showing the classification of each ward is given in Appendix B. The allocations are based on real empirical data of car ownership in Wokingham, more information on how these allocations were formulated can be found in the technical note in Appendix B.

Flats

5.12.2 The table below provides allocations for flats in new developments where the type of use of dwellings will not be known until they are built or they are designated as privately owned homes.

Table C3 -1: Flats Owned unallocated parking demand

		Unallocated demand								
	Allocated	**0**	**1**	**2**	**0**	**1**	**2**	**0**	**1**	**2**
No of Habitable Rooms	**No of Bedrooms**	Urban			Town and Fringe			Village		
1	**studio**	0.7	0.0		0.7*	0.0*		0.7*	0.0*	
2	**1**	1.0	0.2	0.0	1.0*	0.2*	0.0*	0.3	0.0	0.0
3	**1-2**	0.9	0.2	0.0	0.9*	0.2*	0.0*	0.6	0.1	0.0
4	**2**	1.0	0.2	0.0	1.0*	0.2*	0.0*	1.1	0.3	0.0
5 or more	**2-3**	1.2	0.4	0.1	1.2*	0.4*	0.1*	1.5	0.5	0.0

5.12.3 The table below provides allocations for flats which will be rented or shared this includes community housing.

Table C3 -2: Flats rented/ shared unallocated parking demand

		Unallocated demand								
	Allocated	**0**	**1**	**2**	**0**	**1**	**2**	**0**	**1**	**2**
No of Habitable Rooms	**No of Bedrooms**	Urban			Town and Fringe			Village		
1	**studio**	0.5	0.0		0.5*	0.0*		0.5*	0.0*	
2	**1**	0.5	0.1	0.0	0.5*	0.1*	0.0*	0.6	0.1	0.0
3	**1-2**	0.7	0.1	0.0	0.7	0.2	0.0	0.9	0.2	0.0
4	**2**	1.1	0.3	0.0	1.0*	0.3*	0.0*	1.0	0.3	0.1
5 or more	**2-3**	1.1	0.3	0.0	1.0*	0.2*	0.0*	1.0*	0.2*	0.0*

Houses

5.12.4 The table below provides allocations for houses in new developments where the type of use of dwellings will not be known until they are built or they are designated as privately owned homes.

Table C3 -3: Houses owned unallocated parking demand

		Unallocated demand								
	Allocated	**0**	**1**	**2**	**0**	**1**	**2**	**0**	**1**	**2**
No of Habitable Rooms	**No of Bedrooms**	Urban			Town and Fringe			Village		
3 or less	**1-2**	1.1	0.3		1.1	0.2		1.2	0.4	
4	**2**	1.2	0.4	0.0	1.2	0.4	0.0	1.3	0.4	0.1
5	**2-3**	1.4	0.5	0.1	1.6	0.6	0.1	1.5	0.6	0.1
6	**3**	1.6	0.7	0.1	1.7	0.8	0.1	1.7	0.8	0.2
7	**3-4**	1.8	0.9	0.2	2.0	1.0	0.2	2.0	1.0	0.2
8 or more	**4**	2.1	1.1	0.3	2.2	1.2	0.3	2.2	1.3	0.4

5.12.5 The table below provides allocations for houses which will be rented or shared this includes community housing and conversions to homes of multiple occupancy.

Table C3 -4: Houses rented/ shared unallocated parking demand

		Unallocated demand								
	Allocated	**0**	**1**	**2**	**0**	**1**	**2**	**0**	**1**	**2**
No of Habitable Rooms	**No of Bedrooms**	Urban			Town and Fringe			Village		
3 or less	**1-2**	0.9	0.2		1.1	0.3		0.9	0.2	
4	**2**	1.1	0.3	0.0	1.2	0.4	0.1	1.0	0.3	0.0
5	**2-3**	1.2	0.4	0.1	1.4	0.5	0.1	1.4	0.2	0.1
6	**3**	1.3	0.5	0.1	1.4	0.6	0.1	1.3*	0.5*	0.1*
7	**3-4**	1.6	0.7	0.2	1.7	0.8	0.2	1.6*	0.7*	0.2*
8 or more	**4**	2.0	1.0	0.4	1.7	0.8	0.2	2.0*	1.0*	0.3*

Note:

* Allocated parking demand figures based on Wokingham wide area rather than LLSOA level due to small sample size.

Habitable rooms to bedrooms

5.12.6 The parking study conversion factor in Table 5.2 below is based on actual observed survey data collected for the Dorset Parking Study and was used to convert habitable rooms to number of bedrooms. There is no clear cut conversion from 3, 5, or 7 habitable room properties to number of bedroom and therefore this is at the planning offices discretion, and would require definition from the developer and plot design details.

Table 5.2: Habitable rooms to bedrooms

Number of Habitable Rooms	Number of Bedrooms
2 or less	1
4	2
6	3
8 or more	4

5.13 RESIDENTIAL DWELLING ALLOCATED/UNALLOCATED PARKING EXAMPLE

5.13.1 The methodology is best illustrated through an example. The example takes a housing development based in Winnersh, which from Figure 3 in Appendix B is located in an urban area. The development is made up of the following dwelling types:

- 12 No. 1 bedroom houses (3 habitable rooms, 6 with 1 allocated space, 6 with no allocated space)
- 10 No. 2 bedroom houses (4 habitable rooms, 5 with 1 allocated space, 5 with no allocated space)
- 4 No. 3 bedroom houses (6 habitable rooms, all with 1 allocated space)
- 5 No. 4 bedroom houses (7 habitable rooms, 2 allocated space)

5.13.2 The developer needs to determine an initial level of parking provision they want to provide in the development. The developer then needs to calculate the level of unallocated demand for each dwelling type using the tables above.

5.13.3 The table below shows the unallocated demand for owned houses. For an owned house with one allocated space and 3 or less habitable rooms in an 'urban' area, would have a need for an additional 0.3 unallocated parking provision.

Copy of Table C3 -3 for demonstration purposes

		Unallocated demand								
	Allocated	**0**	**1**	**2**	**0**	**1**	**2**	**0**	**1**	**2**
No of Habitable Rooms	**No of Bedrooms**	Urban			Town and Fringe			Village		
3 or less	**1-2**	1.1	0.3		1.1	0.2		1.2	0.4	
4	**2**	1.2	0.4	0.0	1.2	0.3	0.0	1.3	0.4	0.1
5	**2-3**	1.4	0.5	0.1	1.6	0.6	0.1	1.5	0.6	0.1
6	**3**	1.6	0.7	0.1	1.7	0.8	0.1	1.7	0.7	0.2
7	**3-4**	1.8	0.9	0.2	2.0	1.0	0.2	1.9	1.0	0.2
8 or more	**4**	2.1	1.1	0.3	2.2	1.2	0.3	2.2	1.3	0.4

5.13.4 Applying the parking demand to each dwelling type and size the unallocated parking demand can be calculated for the whole development as shown in Table 5.3 below.

Table 5.3: Calculated unallocated parking example

Dwelling type	Allocated parking spaces	Number of dwellings	Total Allocated Spaces	Unallocated parking provision	Total Unallocated
House					
1 bedroom	0 spaces	6	0	6 x 1.1 = 6.6	7
1 bedroom	1 spaces	6	6	6 x 0.3 = 1.8	2
2 bedroom	0 spaces	5	0	5 x 1.2 = 6	6
2 bedroom	1 space	5	5	5 x 0.4 = 2	2
3 bedroom	1 space	4	4	4 x 0.7 = 2.8	3
4 bedroom	2 spaces	5	10	5 x 0.2 = 1.0	1
Total		31	25		21

5.13.5 If the developer was providing 25 allocated spaces on the development site, there would be a demand for an additional 21 unallocated spaces.

5.13.6 It should be noted that for simplicity this example ignored the effect of garages counted as allocated spaces. More information on this can be found in paragraphs 3.2.13 to 3.2.17. It is advocated that a garage of sufficient size is only counted as 0.5 of a space allocated, requiring an additional 0.5 unallocated space to be provided. In this example if all (nine) three and four bedroom units had a garage counted as an allocated space an additional 4.5 unallocated spaces would be required. This would result in 26 unallocated spaces being required.

VISITOR PARKING

5.13.7 Developers should also include for visitor parking, which is calculated for all dwellings that have 1 or more allocated space on the basis of 0.2 per dwelling. In the above example this would equate to an additional 4 (0.2 x 20) unallocated spaces on the development.

5.13.8 Taking into consideration visitor parking and garages the above development would need to provide (21+5+4) 30 unallocated spaces in total, in addition to 25 allocated spaces, a total of 55 spaces off-street (or on-street is designed to accommodate this without impacting access and turning).

5.13.9 In some instances on-street parking levels, parking restrictions and other local factors specific to a development site, may mean that both/ either Highways Development Control Engineers and Planning Officers request a deviation from the guidance. The methodology above will provide evidence to the Developer and the Planning and Highway Authorities helping them to decide upon the best parking solution to be applied to a new development.

Provision for other types of parking

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
C3 – Flats 1 or 2 habitable rooms	See advice regarding levels of allocated and unallocated parking above	1 per dwelling	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	
C3 – Flats 3 habitable rooms		1 per dwelling		
C3 – Flats 4 or more habitable rooms		2 per dwelling		
C3 – Houses 1 or 2 habitable rooms	See advice regarding levels of allocated and unallocated parking above	1 per dwelling		
C3 – Houses 3 habitable rooms		1 per dwelling		
C3 – Houses 4 or 5 habitable rooms		2 per dwelling		
C3 – Houses 6 habitable rooms		3 per dwelling		

5.14 CLASS D1: NON-RESIDENTIAL INSTITUTIONS

5.14.1 It is recommended that this is split into sub-categories:

- Hospitals;
- Health Centres and Libraries;
- Nursery's and Crèche;
- Primary Schools; and
- Secondary Schools, Colleges and Universities.

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
D1 Health Centres	1 per full time staff and 3 per consulting room	1 LT space per 5 staff and 1 ST space per 5 staff for visitors	1 space per 20 car parking spaces up to 100 car parking spaces. 1 space per 40 car parking spaces thereafter.	**As Table 3.5**
D1 Libraries	1 per 30 m^3	1 LT space per 5 staff and 1 ST space per 5 staff for visitors		
D1 Nursery's and Crèche	1 per full time staff	1 LT space per 5 staff		
D1 Primary Schools	1 per full time staff	1 LT space per 3 pupils and 1 LT space per 5 staff		
D1 Secondary Schools, Colleges	1 per full time staff + 1 per 5 post 17 year old students	1 LT space per 3 students and 1 LT space per 5 staff		

5.15 CLASS D2: ASSEMBLY AND LEISURE

5.15.1 It is recommended that this is split in sub-categories:

- Leisure centres and gyms;
- Theatres and Cinemas; and
- Other.

User Class	Car Parking Allocation	Cycle Parking Allocation	MTW Parking	Disabled Parking
D2 Leisure centres and gyms	1 per 10m^2 of public space	1 ST space per 10 per period visitors & 1 LT space per 5 staff	1 space per 40 car parking spaces	**As Table 3.5**
D2 Outdoor pitches	20 spaces per pitch + 1 per 10 spectator seats	1 space per pitch plus 10 spaces	1 space per 40 car parking spaces	
D2 Bowling alleys	4 per lane	0.5 per lane	1 space per 40 car parking spaces	
D2 Theatres and Cinemas	1 per 5 seats	1 ST space per 10 per 25 seats& 1 LT space per 5 staff	1 space per 40 car parking spaces	
D2 Other	1 per 20 m^2 of public space	1 ST space per 15 per period visitors & 1 LT space per 5 staff	1 space per 40 car parking spaces	

6 Transport Assessments and Travel Plans

6.1 TRANSPORT ASSESSMENTS

6.1.1 For any new development, the developer is required to demonstrate the impact of transport and how the design accounts for this impact, this will include consideration for parking.

6.1.2 The Transport Assessment or Transport Statement (DfT Guidance 2007) needs to clearly identify what parking provision has been provided for the site. This should clearly identify the quantity of allocated and unallocated spaces. The number of spaces on-street should be stated and included in the total of unallocated spaces. This approach is recommended in the Department for Communities and Local Government Publication: Residential Car Parking Research, 2007. The split between allocated and unallocated spaces and the proposal to maximise unallocated parking was also investigated in some detail in the Dorset Parking Study completed in 2010 which built on the national research and was discussed within Section 3.2 of this report.

6.2 RESIDENTIAL TRAVEL PLANNING

6.2.1 A Residential Travel Plan (RTP) is a management tool aimed at promoting sustainable travel as part of a new or existing development, with an emphasis on promoting healthy and sustainable travel options to residents and visitors and reducing the number and length of car journeys. Travel Plans are implemented with a long term view and will develop and evolve along with the community in which they operate. They have the potential to reduce the demand for car parking by encouraging better use of alternative means of travel.

6.2.2 Case study evidence suggests that where a comprehensive and well managed RTP is delivered (including site design, physical and promotional measures), it is reasonable to expect a reduction in car-based journeys than for a similar development without a RTP in place.

6.2.3 Wokingham Borough Council adopted local travel plan guidance “Residential Travel Plan Guidance for Wokingham” in January 2011. This guidance sets out when a Travel Plan is required with a planning application and explains how a plan should be prepared. The guidance document should be considered both by developers and their agents when preparing Residential Travel Plans for submission as part of a planning application.

6.2.4 Travel Plans can be provided in varying levels of detail usually dependant on the size of a development and its likely impact. Thresholds have been set in terms of the number of proposed dwellings and these thresholds vary between mixed use and single use development. Travel Plan types in Wokingham include: Residential Travel Plan Statements, Framework Travel Plans and Full Travel Plans.

6.2.5 A Residential Travel Plan Statement is a more simplified document setting out the smaller-scale residential travel planning measures that will be implemented for the development.

6.2.6 A Framework Travel Plan is used if a development is more speculative in nature, for example where the end users of a larger scale mixed-use development are unknown. This will require less initial detail about the precise timescales and mechanisms for the delivery of Travel Plan measures, but importantly will clearly set out when the additional details will be forthcoming.

6.2.7 A Full Travel Plan will contain a range of measures and initiatives, timescales, a clear management and delivery structure, and importantly, clearly defined targets, timescales for review and agreement on subsequent enforcement procedures.

6.2.8 RTPs involve identifying and delivering a range of measures and initiatives that collectively promote sustainable travel and encourage residents and visitors to change the way some of their daily journeys are undertaken. The Travel Plan measures will cumulatively have an effect on reducing car use and therefore may encourage families to own fewer vehicles. However, some specific measures have a direct effect on parking requirements, in particular:

- Provision of cycle parking;
- Car clubs;
- Car sharing; and
- Car park management measures.

6.2.9 These Travel Plan measures can be supported by good car parking design and organisation; in particular, the availability of: convenient cycle parking, dedicated car club spaces and unallocated bays which are most convenient for car sharing.

6.2.10 Car parking management measures are closely related to provision of the correct allocation of spaces within a development. This involves providing the correct balance between enough space to allow residents to park without dominating a development or causing safety and traffic problems and not encouraging unnecessary car use. Early pre-planning discussions with Wokingham Highway Development Control and planning teams will help to establish the correct approach to this balance early in the development design process.

6.3 WORKPLACE TRAVEL PLANNING

6.3.1 A Workplace Travel Plan is a management tool aimed at promoting sustainable travel within an organisation, with an emphasis on reducing unnecessary business journeys and a reliance on single-occupancy car travel. Travel Plans are implemented with a long term view, and will develop and evolve in accordance with both changes in an organisation and the wider environment in which they operate.

6.3.2 Reducing the impact of workplace travel and encouraging low carbon commuting patterns will not only provide a range of benefits for an organisation, but will support a greener, cleaner and more sustainable Wokingham Borough. Encouraging travel to work by more sustainable modes may reduce the volume of parking demand, meaning that less car parking can be provided at the workplace. This has important benefits in terms of maximising space for buildings and public realm.

6.3.3 In a similar way to residential travel planning, Workplace Travel Plans involve identifying and delivering a range of measures and initiatives for an organisation that can address current travel and transport issues affecting the workplace. These promote low carbon, and encourage staff and visitors to consider the full range of travel choices available to them for their everyday journeys.

6.3.4 Wokingham Borough Council adopted local travel plan guidance "Workplace Travel Plan Guidance" in January 2011. This guidance sets out when a Travel Plan is required with a planning application and explains how a plan should be prepared. The guidance document should be considered by organisations when preparing a voluntary travel plan for their work place, as well as those organisations preparing a Workplace Travel Plan for submission as part of a planning application.

6.3.5 In Wokingham a new site forming part of a planning application may be required to have a workplace Travel Plan depending on the size of the new development. Travel Plans types are the same as those described in paragraphs 6.2.5 to 6.2.7 for residential Travel Plans.

6.3.6 When deciding on Travel Plan measures to be included in a workplace Travel Plan, it will be necessary to consider the number of spaces to be provided in a car park, who will use them and the estimated levels of parking demand. Importantly a breakdown of the type of parking should be established; for example:

- General car parking spaces;
- Disabled spaces;
- Motorcycle spaces;
- Cycle spaces; and
- Car sharing spaces.

6.3.7 Furthermore, it is important to consider where else staff and visitors may park. For example, are there any on-street parking restrictions in the vicinity of the workplace?

6.3.8 When examining potential Travel Plan interventions some measures have a more direct effect on car parking. Measures that may be especially beneficial in terms of reducing car parking demand are:

- Introducing car parking charges for on-site parking spaces;
- Introducing a permit system that might, for example, only allow staff to park 4 out of 5 days per week - requiring them to find a more sustainable travel alternative for at least one day;
- Providing car parking spaces exclusively for staff willing to car share;
- Reducing the overall number of car parking spaces and providing additional cycle parking spaces;
- Membership of a 'car club', providing access to a car for employees who may require one, but reducing the need to park vehicles on-site. This also reduces the need for a vehicle fleet;
- Encouraging Teleworking when employees are not required in the office; and
- Realigning working hours to reduce the number of commuting journeys such as nine day fortnights.

6.3.9 Workplaces will be encouraged to reduce the amount of parking available to staff to promote more sustainable travel patterns. This should be discussed with Wokingham Planning and Highway Development Control officers early in the planning process.

7 Adoption Process

7.1 ADOPTION OF STANDARDS

7.1.1 In order for the parking standards document to have “weight” in the planning system it requires to be consulted on, and examined in public. To achieve this, WBC will include the parking standards and calculation approaches mentioned within this report within the Local Development Framework (LDF) document, Managing Development Delivery DPD.

7.1.2 In addition, WBC is currently preparing a Borough Design Guide SPD. In the preparation of this SPD the issues of parking and layout will also be addressed.

7.1.3 The council is also preparing a Highways Design Guidance document which provides developers with advice and standards which the Authority will expect in relation to the design of streets. This guidance will be based Manual for Streets 1 and 2 and will also include information on parking layouts.

7.1.4 It is suggested that contact is made with WBC officers on the timescales for these documents.

Appendices, Figures & Tables

Appendix A Parking Survey Outputs

Planning data extracted from Annual Monitoring Reports from WBC																	
Site Name	**Parish Location**	**Application Number**	**Site Completion**	**Zone Number**	**No. of Dwellings**	**No. of Bedrooms**					**Parking Planning**	**Total Parking**	**Garages on Site**	**Average Parking Spaces / Dwelling (inc garages)**		**Parking Spaces (ex. 50% garages)**	**Average Parking Spaces / Dwelling (ex. 50% garages)**
						1	**2**	**3**	**4**	**5+**							
Land at Dowles Green (Linden)	Wokingham	2003/0766/F	2005/06	A	43	0	28	9	6	0	67	291	**72**	1.72		255	1.51
Dowles Green Farm (Taylor Wimpey)	Wokingham	2005/6163/F	2006/07		126	0	56	45	24	1	224						
Land at Marsh Farm (St James)	Earley	2005/4390/F	2006/07	B	149	12	52	40	34	11	231	231	**85**	1.55		189	1.27
Land at rear of Chatsworth Avenue (Bovis)	Winnersh	2005/5504/F	2007/08	C	209	16	74	63	38	18	386	386	**107**	1.85		333	1.59
Land at Poperinghe Barracks	Arborfield	2004/3319/RM	2006/07	D	76	0	43	29	4	0	134	134	**9**	1.76		130	1.70
Land at Hollow Lane (Phase 1)	Shinfield	2002/6040/RM	2003/04	E	59	0	29	26	4	0	106	228	**88**	1.58		184	1.28
Land at Junc. Church Lane/Hollow Lane (P2)	Shinfield	2002/7688/RM	2005/06		85	0	41	10	31	3	122						
Former ARS Site Shinfield Road	Shinfield	2004/3674/F	2008/09	F	75	8	31	14	22	0	121	121	**53**	1.61		95	1.26
Land bwt Basingstoke and Beech Hill Roads	Shinfield	2004/0991/F	2007/08	G	121	12	44	31	26	8	227	227	**87**	1.88		184	1.52
						48	398	267	189	41							

Max Parking figures from Beat Surveys	**ON STREET**	**OFF STREET**	**OBSCURE FOOTWAY**	**VERGE / L'SCAPE**	**NO PARKING**	**COMBINED PARKING TOTAL RECORDED IN PERIODS**	**TOTAL PARKING AVAILABLE FROM PLANNING DATA**	**PARKING AVAILABLE EX 50% GARAGES**
Land at Dowles Green (Linden)	42	141	19	1	13	**183**	291	255
Dowles Green Farm (Taylor Wimpey)								
Land at Marsh Farm (St James)	41	143	32	1	5	**184**	231	189
Land at rear of Chatsworth Avenue (Bovis)	43	358	13	1	1	**401**	386	333
Land at Poperinghe Barracks	7	92	4	0	0	**99**	134	130
Land at Hollow Lane (Phase 1)	38	132	29	1	0	**170**	228	184
Land at Junc. Church Lane/Hollow Lane (P2)								
Former ARS Site Shinfield Road	10	72	14	3	0	**82**	121	95
Land bwt Basingstoke and Beech Hill Roads	38	126	18	5	1	**164**	227	184

Appendix B Allocated/ unallocated parking demand calculations

1 Wokingham Borough Parking Study - Allocated/ Unallocated Parking

1.1 INTRODUCTION

1.1.1 This document was produced as part of the Wokingham Borough Parking Study to analyse the relationship between car ownership, dwelling type, dwelling size and dwelling tenure in Wokingham Borough. Using a combination of 2001 Census data, regional growth models, and regional mapping, the parking analysis was constructed in order to provide Wokingham Borough Council (WBC) with empirically based parking guidance that would provide a reliable indication of residential parking demand for the planning process.

1.1.2 The parking methodology used in this study is a modification of that included in the DCLG paper "Residential Car Parking Research" May 2007, focusing in detail on Census Output Areas (COAs) in Wokingham as well as the land use characteristics of both the urban and rural areas in Wokingham wards.

1.1.3 Since publication of the DCLG research paper, a number of local authorities have accepted the methodology for creating their own parking guidance and for developer parking proposals in residential developments. Although the 2001 Census data is now somewhat dated, a combination of applying growth factors taken from widely accepted programs such as TEMPRO assists in modernising and validating the data.

1.1.4 The guidance is based on average levels of car ownership extracted from 2001 census data and therefore some flexibility should be considered when deriving appropriate standards to reflect local, site specific conditions.

1.1 DATA COLLECTION

1.1.5 WSPD&T commissioned the Office of National Statistics (ONS) to produce a cross-tabulated data set from the 2001 Census. The data set showed number of cars owned against number of habitable rooms[1] for all households in Wokingham and was grouped into Lower Layer Super Output Areas (LLSOAs) (clusters of 5 or more COAs) and further grouped by household type (house or flat) and household tenure (owner occupied or shared/rented). Figure 1 below details the format of the Census data for all of Wokingham Unitary Authority.

[1] The Census defines number of habitable rooms as follows:

The count of the number of habitable rooms in a household's accommodation does not include bathrooms, toilets, halls or landings, or rooms that can only be used for storage. All other rooms, for example, kitchens, living rooms, bedrooms, utility rooms and studies are counted. If two rooms have been converted into one they are counted as one room. Rooms shared between households, for example a shared kitchen, are not counted.

Figure 1 Wokingham UA Census data

	Number of cars or vans					
	Total	None	One	Two	Three	Four or more
HOUSES BY TENURE						
Owner occupied	45022	2291	15530	20904	4757	1540
1 room	23	0	13	4	6	0
2 rooms	156	16	89	42	9	0
3 rooms	858	101	552	182	17	6
4 rooms	3435	491	1862	955	107	20
5 rooms	9484	834	4576	3371	551	152
6 rooms	9828	575	3952	4302	791	208
7 rooms	8199	169	2365	4393	986	286
8 or more rooms	13039	105	2121	7655	2290	868
Shared ownership & Rented	6100	1168	2750	1689	345	148
1 room	19	6	10	3	0	0
2 rooms	115	34	52	23	3	3
3 rooms	542	186	255	85	10	6
4 rooms	1490	356	736	360	33	5
5 rooms	1916	328	898	549	120	21
6 rooms	1064	182	472	290	87	33
7 rooms	480	48	186	182	32	32
8 or more rooms	474	28	141	197	60	48
FLATS BY TENURE						
Owner occupied	2275	521	1338	359	43	14
1 room	20	7	13	0	0	0
2 rooms	128	25	79	24	0	0
3 rooms	625	167	380	70	3	5
4 rooms	1247	280	735	201	27	4
5 or more rooms	255	42	131	64	13	5
Shared ownership & Rented	2708	970	1314	361	49	14
1 room	111	51	55	5	0	0
2 rooms	396	220	150	22	4	0
3 rooms	961	390	456	101	14	0
4 rooms	955	235	528	164	22	6
5 or more rooms	285	74	125	69	9	8

1.1.1 Due to ONS having strict disclosure controls, the habitable room increments detailed above were the largest permissible. The relatively small number of dwellings in LLSOAs dictated the format of the table as ONS required a level of disclosure that would not allow individual properties to be identified from the data.

1.2 DEFRA CLASSIFICATION

1.2.1 To allowing grouping of similarly characterised LLSOAs for statistical analysis a classification needed to be derived. The Department for Environment, Food and Local Affairs (DEFRA) in partnership with ONS, classified every COA in England and Wales which can be used as a framework for statistical analyses, however each classification needs to be considered on a case by case basis. The classifications defined by DEFRA are as follows:

- Urban (population over 10,000)
- Town and Fringe
- Village, Hamlet and Isolated Dwellings

1.2.2 These categories are further split into sparse or less sparse to provide six regional classes, as follows:

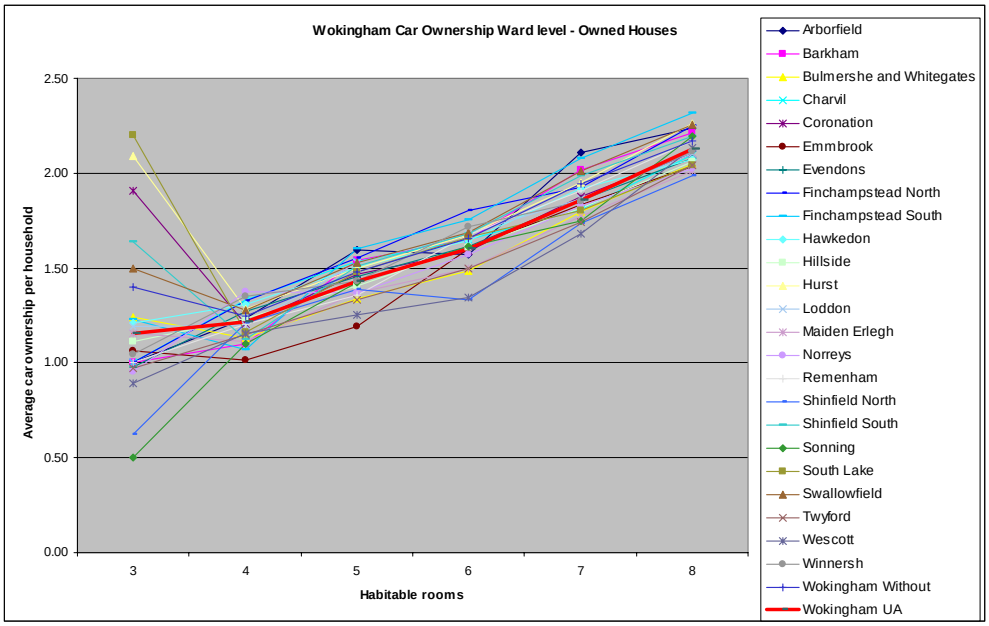
- Urban (Sparse)
- Town and Fringe (Sparse)
- Village, Hamlet and Isolated Dwellings (Sparse)
- Urban (Less Sparse)
- Town and Fringe (Less Sparse)
- Village, Hamlet and Isolated Dwellings (Less Sparse)

1.1.6 The LLSOAs in Wokingham all fall under Urban (less sparse), Town and Fringe (less sparse), and Village, Hamlet and Isolated Dwellings (less sparse), as shown in Figure 2.

1.2 ANALYSIS

1.2.1 At the commencement of this project, the overall car ownership/dwelling size relationship for owner occupied houses in Wokingham was analysed using the parking methodology detailed in **Section 1.1** and the ward level data sets for England and Wales used for the PPS3 addendum note, see Chart 1 below.

Chart 1: Census 2001: Wokingham car ownership owned houses – ward level



Generally for 4 to 8 habitable room owned houses car ownership levels increase as the number of habitable rooms increases and there is a difference of approximately 0.3-0.5 in car ownership across the Borough for each property size.

Chart 2 to 4 below show the variation in car ownership for each ownership and property type for each ward.

Chart 2: Census 2001: Wokingham car ownership owned flats – ward level

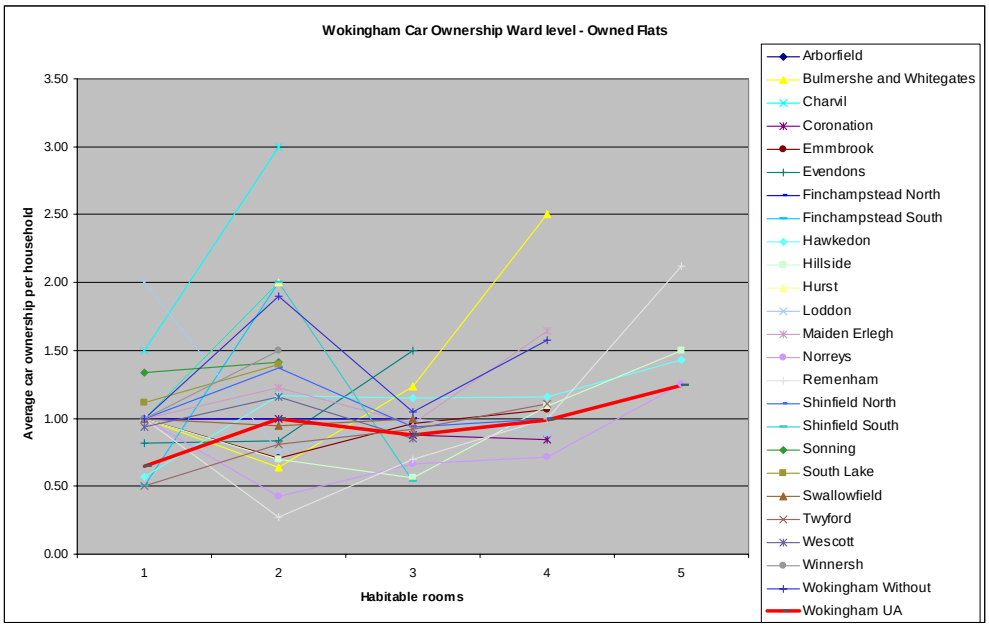


Chart 3: Census 2001: Wokingham car ownership shared/rented houses – ward level

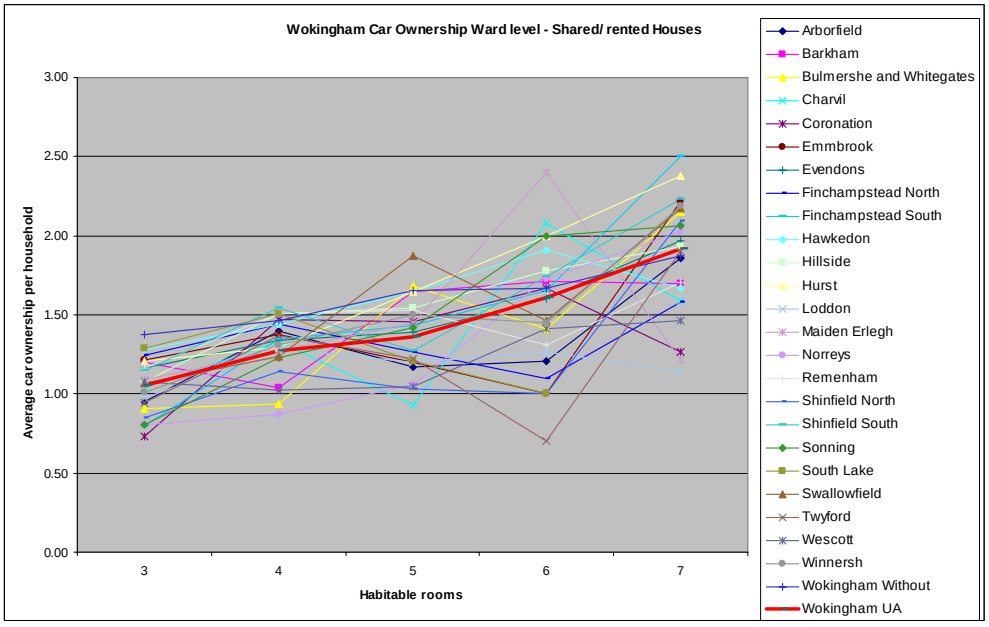
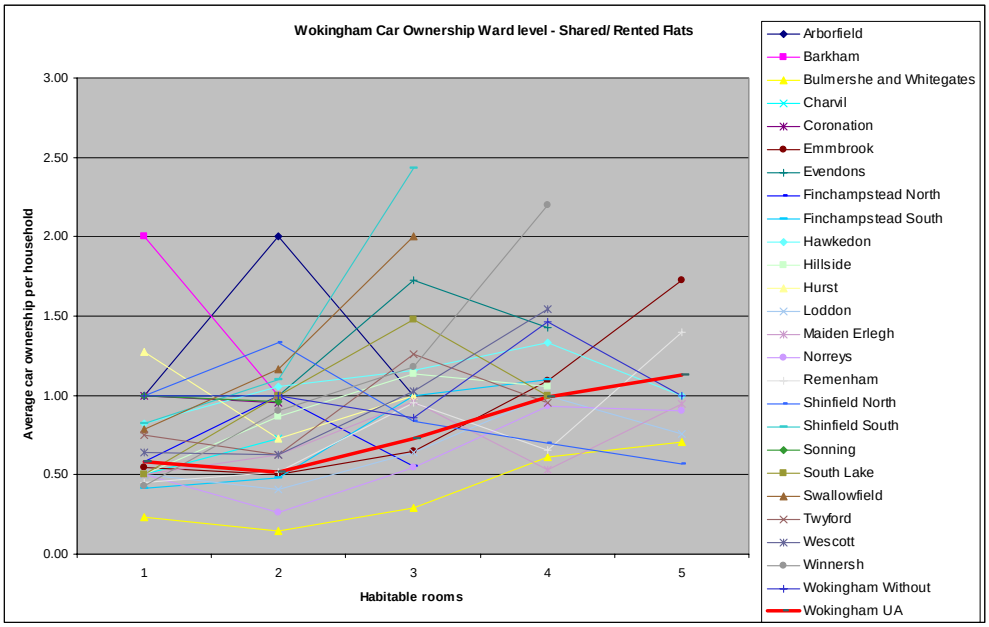


Chart 4: Census 2001: Wokingham car ownership shared/ rented flats – ward level



The above graphs show at ward level the car ownership for shared/ rented houses, owned flats and shared/rented flats vary quite significantly (0.5 to 2.00) depending on ward. A number of wards show anomalous high or low car ownership figures as a result of small data sets for each of these property types.

1.2.3 The results so far are consistent with previous parking research, with houses having a higher level of car ownership than flats and owner occupied properties owning more cars than shared/rented properties. The results show little variation across the wards for owner occupied houses, although there is variation for share/ rented houses, owned flats and shared/ rented flats, the sample sizes of these categories will be looked at more detail in section 1.4 below. It was decided that the DEFRA classification would be applied to each of the LLSOAs for all categories and the sample sizes analysed to assess if sufficient datasets are available.

1.3 TRAFFIC GROWTH

1.2.4 The car ownership data from the 2001 Census was growthed from 2001 to 2026 using regional growth factors from TEMPRO (percentage increase in cars per household). These factors were calculated by obtaining the number of cars and households both recorded in 2001 and forecast for 2026 from TEMPRO. This allowed for the cars per household to be calculated for both years and the growth factor was calculated by dividing the cars per household in 2026 by the cars per household in 2001. The growth factors for cars per household for Wokingham according to TEMPRO 6.1 figures is -2%, showing a potential decrease in cars per household, as the number of households increase more (25% overall increase) than the number of cars owned (23% overall increase) across the borough.

1.2.5 Additionally the TEMPRO growth can be applied to smaller areas defined by TEMPRO across the Borough, however the boundaries of these areas differ from the ward and LLSOA boundaries causing difficulties and inaccuracies in applying a suitable

growth factor. Therefore an average factor was applied to the borough as a whole rather than segregated specific areas.

1.2.6 According to TEMPRO the total number of households across the Borough will increase from 57350 to 71646 between 2001 and 2026, while the Wokingham Core Strategy states an increase of 57252 to 70033, which is taken from the forecast work undertaken for the Berkshire Joint Strategic Planning Unit by the Greater London Assembly. Using the housing figures from the Wokingham Core Strategy there's an increase of 0.5% car ownership per household across the Borough. It was decided that the housing figures taken from the Wokingham Core Strategy would most closely relate to future household growth and therefore a growth factor of 0.5% was applied to growth to 2026.

1.3 RE-CLASSIFICATION OF LLSOAS

1.3.1 Following the initial classification of LLSOAs using the DEFRA system detailed above, Wokingham Borough Council were consulted to ensure the class applied to each LLSOA reflected local conditions and the classification set out in the Wokingham Core Strategy.

1.3.2 As a result LLSOAs within wards of Wokingham Without, Finchampstead North, Barkham, Shinfield North, Sonning, Charvil, Twyford and Remenham, Wargrave and Ruscombe were reclassified, as shown in Figure 3.

1.4 HABITABLE ROOMS TO BEDROOMS

1.4.1 Dwelling size in the 2001 Census car ownership data is represented by habitable rooms (as it appears on the Census questionnaire), however, for planning and development purposes it is much easier to work by 'number of bedrooms.' Therefore in order to establish a conversion factor, studies for Kensington and Chelsea (Preferred option Core Strategy), and Dorset (Parking study) were reviewed.

1.4.2 The Kensington and Chelsea "Towards preferred options Core Strategy and the North Kensington Plan" simplifies the conversion from number of habitable rooms to number of bedrooms on the basis of:

- number of habitable rooms -1 = number of bedrooms

1.4.3 The Poole Parking Study used survey data from Greater Dorset The surveys revealed there to be no 2 habitable room houses or 7 and 8+ habitable room flats surveyed and due to the similarities between the habitable room-bedroom relationship for both houses and flats it is proposed that where data is missing, the alternative dwelling type habitable room-bedroom conversion is used. The survey data was used to formulate the following table conversion:

Table 1: **Habitable Room-Bedroom Conversions for Houses and Flats in Greater Dorset**

Number of Habitable Rooms	Number of Bedrooms
2 or less	1
4	2
6	3
8 or more	4

1.4.4 The Dorset parking study conversion factor is based on actual observed survey data and therefore provides a more reliable conversion than the simplified Kensington and Chelsea factor described above, therefore the Dorset Parking study should be applied to all parking demand data.

1.5 INITIAL RESULTS

1.3.1 **Table 2 to 9** below detail the number of dwellings for each of the property type, DEFRA category, and per habitable room. The 2 or less habitable room category for owned houses has very few dwellings across Wokingham and has therefore been amalgamated with the 3 habitable room category.

HOUSE OWNED

Table 2 Census Data: House Owned Sample Size

Habitable rooms	Sample size			Total
	Urban	Town and Fringe	Village	
3 or less	1072	54	63	1189
4	2773	312	347	3432
5	7716	909	863	9488
6	7888	998	965	9851
7	6273	941	980	8194
8 or more	8440	2133	2463	13036
Total	34305	5351	5705	45361

Table 3 Census Data: House Owned Car Ownership – 2026

Habitable rooms	Car Ownership		
	Urban	Town and Fringe	Village
3	1.1	1.1	1.2
4	1.2	1.2	1.3
5	1.4	1.6	1.5
6	1.6	1.7	1.7
7	1.8	2.0	1.9
8 or more	2.1	2.2	2.2

The above tables show:

- All DEFRA categories have large enough sample sizes for conclusions to be drawn,
- All categories follow the standard pattern of car ownership increasing with dwelling size.

FLAT OWNED

Table 4 Census Data: Flat Owned Sample Size

Habitable rooms	Sample size			Total
	Urban	Town and Fringe	Village	
1	21	0	0	21
2	103	0	11	114
3	586	6	35	627
4	1161	12	75	1248
5	150	28	23	201
6	30	3	6	39
7	21	3	12	36
8 or more	12	0	9	21
Total	1960	52	160	2172

Table 5 Census Data: Flat Owned Car Ownership – 2026

Habitable rooms	Car Ownership		
	Urban	Town and Fringe	Village
1	0.7	0.5	N/A
2	1.0	0.5	0.3
3	0.9	0.7	0.6
4	1.0	1.1	1.1
5	1.2	1.1	1.5
6	0.8	1.3	2.5

1.5.1 The above tables show:

- Urban DEFRA category for owned flats has large enough sample sizes for conclusions to be drawn, with the exception of 6 habitable rooms
- Town and Fringe, and Village do not have sufficient sample sizes for conclusions to be drawn for most habitable room categories, this causes car ownership information of these categories to be either unavailable, or over exaggerate figures as in the instance of Village with 6 or more habitable rooms.
- Where information is available and sample size sufficient categories follow the standard pattern of car ownership increasing with dwelling size.

HOUSE SHARED/ RENTED

Table 6 Census Data: Houses Shared/ Rented Sample Size

Habitable rooms	Sample size			Total
	Urban	Town and Fringe	Village	
3 or less	503	94	491	1088
4	938	301	915	2154
5	1342	247	343	1932
6	625	157	622	1404
7	273	108	273	654
8 or more	286	74	286	646
Total	3967	981	2930	7878

Table 7 Census Data: Houses Shared/ Rented Car Ownership – 2026

Habitable rooms	Car Ownership		
	Urban	Town and Fringe	Village
3	0.9	1.1	0.9
4	1.1	1.2	1.0
5	1.2	1.4	1.4
6	1.3	1.4	1.3
7	1.6	1.7	1.6
8 or more	2.0	1.7	2.0

1.5.2 The above tables show:

- Urban and Town and Fringe DEFRA category for owned flats has large enough sample sizes for conclusions to be drawn.
- Village have sufficient sample sizes for conclusions to be drawn for all habitable room categories, although a smaller sample size for 5 habitable room category causes potentially over exaggerated car ownership figures.
- For urban shared/ rented category follows the standard pattern of car ownership increasing with dwelling size.

FLATS SHARED/ RENTED

Table 8 Census Data: Flat Shared/ Rented Sample Size

Habitable rooms	Sample size			Total
	Urban	Town and Fringe	Village	
1	81	3	12	96
2	335	18	42	395
3	745	81	121	947
4	770	40	159	969
5	169	3	9	181
6	51	6	9	66
7	12	0	3	15
8 or more	21	0	0	21
Total	1768	130	301	2199

Table 9 Census Data: Flat Shared/ Rented Car Ownership – 2026

Habitable rooms			
	Urban	Town and Fringe	Village
1	0.5	1.0	0.8
2	0.5	0.6	0.6
3	0.7	0.7	0.9
4	1.1	0.6	1.0
5	1.0	1.0	1.0
6	1.2	2.0	1.0

1.5.3 The above tables show:

- Urban DEFRA category for shared/ rented flats has a large enough sample sizes for 2 to 4 habitable rooms for conclusions to be drawn.
- Town and Fringe, and Village do not have sufficient sample sizes for conclusions to be drawn for nearly all habitable room categories, this causes car ownership information for these categories to be either unavailable, or over/under exaggerate figures.
- Due to the limitations and variation in the sample size the data does not follow the standard pattern of car ownership increasing with dwelling size.

1.6 INITIAL FINDINGS SUMMARY

1.6.1 The above tables show:

- Urban DEFRA category for owned properties and rented houses has large enough sample sizes in most cases for conclusions to be drawn.
- Town and Fringe, and Village do not have sufficient sample sizes for conclusions to be drawn for most habitable room categories, this causes car ownership information of these categories to be either unavailable, or over exaggerate figures as in the instance of Town and Fringe with 8 or more habitable rooms.

1.6.2 Where information is available and sample size sufficient categories follow the standard pattern of car ownership increasing with dwelling size. The initial findings show that owned houses and urban category sample sizes are sufficient in most instances to produce reliable results. The remainder of categories do not have sufficient sample sizes and therefore the overall Wokingham averages should be used as a basis for these areas in the first instance.

1.7 UNALLOCATED DEMAND

2.1.1 The unallocated demand when allocated parking spaces are provided has been calculated using the spread of dwellings that own between 0 and 4+ vehicles in the base data. For instance in Table 10 below, a 3 habitable roomed owned house in urban Wokingham has a car ownership of 1.1 cars per dwelling. However, when that dwelling is allocated 1 parking space there is an overspill of 0.2 cars per dwelling. This overspill relates to the spread of car ownership in the census data, with some dwellings owning no cars, some 1 car and some 2 cars. Where dwellings own zero cars, an allocated parking space will be unused and the overspill represents the properties that have two cars (balancing the average at 1.1 car per dwelling), of which only one could be parked in the allocated parking space.

HOUSE OWNED-LLSOA

Table 10: LLSOA level unallocated parking demand by DEFRA category – house owned

Habitable rooms	Unallocated demand								
	0	1	2	0	1	2	0	1	2
	Urban			Town and Fringe			Village		
3 or less	1.1	0.3	0.0	1.1	0.2	0.0	1.2	0.4	0.0
4	1.2	0.4	0.0	1.2	0.4	0.0	1.3	0.4	0.1
5	1.4	0.5	0.1	1.6	0.6	0.1	1.5	0.6	0.1
6	1.6	0.7	0.1	1.7	0.8	0.1	1.7	0.8	0.2
7	1.8	0.9	0.2	2.0	1.0	0.2	2.0	1.0	0.2
8 or more	2.1	1.1	0.3	2.2	1.2	0.3	2.2	1.3	0.4

HOUSE RENTED/ SHARED- AVERAGE WOKINGHAM

Table 11: LLSOA level unallocated parking demand by DEFRA category – house rented shared

Habitable rooms	Unallocated demand								
	Urban			Town and Fringe			Village		
	0	1	2	0	1	2	0	1	2
3 or less	0.9	0.2	0.0	1.1	0.3	0.0	0.9	0.2	0.0
4	1.1	0.3	0.0	1.2	0.4	0.1	1.0	0.3	0.0
5	1.2	0.4	0.1	1.4	0.5	0.1	N/A	N/A	N/A
6	1.3	0.5	0.1	1.4	0.6	0.1	1.3	0.5	0.1
7	1.6	0.7	0.2	1.7	0.8	0.2	1.6	0.7	0.2
8 or more	2.0	1.0	0.4	1.7	0.8	0.2	2.0	1.0	0.4

FLAT OWNED-AVERAGE WOKINGHAM

Table 12: LLSOA level unallocated parking demand by DEFRA category – Flat owned

Flat Owned

Habitable rooms	Unallocated demand								
	Urban			Town and Fringe			Village		
	0	1	2	0	1	2	0	1	2
1	0.7	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
2	1.0	0.2	0.0	N/A	N/A	N/A	0.3	0.0	0.0
3	0.9	0.2	0.0	0.7	0.0	0.0	0.6	0.1	0.0
4	1.0	0.2	0.0	1.1	0.3	0.0	1.1	0.3	0.0
5 or more	1.2	0.4	0.1	N/A	N/A	N/A	1.5	0.5	0.0

FLAT SHARE/RENTED AVERAGE WOKINGHAM

Table 13: LLSOA level unallocated parking demand by DEFRA category – Flat rented/ shared

Habitable rooms	Unallocated demand								
	Urban			Town and Fringe			Village		
	0	1	2	0	1	2	0	1	2
1	0.5	0.0	0.0	N/A	N/A	N/A	N/A	N/A	N/A
2	0.5	0.1	0.0	N/A	N/A	N/A	0.6	0.1	0.0
3	0.7	0.1	0.0	0.7	0.2	0.0	0.9	0.2	0.0
4	1.1	0.3	0.0	N/A	N/A	N/A	1.0	0.3	0.1
5 or more	1.1	0.3	0.0	N/A	N/A	N/A	N/A	N/A	N/A

1.7.1 For those areas and property categories that had insufficient sample sizes to drawn sufficient conclusions (highlighted grey in tables 9 to 12 above), the overall Wokingham parking demand tables (13 to 15 should be used)

HOUSE OWNED-AVERAGE WOKINGHAM

Table 14: Wokingham level unallocated parking demand by DEFRA category – House owned

Habitable rooms	Unallocated demand		
	0	**1**	**2**
3 or less	1.1	0.2	0.0
4	1.2	0.4	0.0
5	1.4	0.5	0.1
6	1.6	0.7	0.1
7	1.9	0.9	0.2
8 or more	2.1	1.1	0.3

HOUSE RENTED/ SHARED- AVERAGE WOKINGHAM

Table 15: Wokingham level unallocated parking demand by DEFRA category – House shared/ rented

Habitable rooms	Unallocated demand		
	0	**1**	**2**
3 or less	0.9	0.2	0.0
4	1.1	0.3	0.0
5	1.3	0.5	0.1
6	1.3	0.5	0.1
7	1.6	0.7	0.2
8 or more	2.0	1.0	0.3

FLAT OWNED-AVERAGE WOKINGHAM

Table 16: Wokingham level unallocated parking demand by DEFRA category – flat owned

Habitable rooms	Unallocated demand		
	0	**1**	**2**
1	0.7	0.0	0.0
2	1.0	0.2	0.0
3	0.9	0.2	0.0
4	1.0	0.2	0.0
5 or more	1.2	0.4	0.1

FLAT SHARE/RENTED AVERAGE WOKINGHAM

Table 17: Wokingham level unallocated parking demand by DEFRA category – Flat rented/ shared

Habitable rooms	Unallocated demand		
	0	**1**	**2**
1	0.5	0.0	0.0
2	0.5	0.1	0.0
3	0.7	0.1	0.0
4	1.0	0.3	0.0
5 or more	1.0	0.2	0.0

1.8 SUMMARY

1.8.1 This document was produced as part of the Wokingham Borough Parking Study to analyse the relationship between car ownership, dwelling type, dwelling size and dwelling tenure in Wokingham Borough. Using a combination of 2001 Census data, regional growth models, and regional mapping, the parking analysis was constructed in order to provide Wokingham Borough Council (WBC) with empirically based parking guidance that would provide a reliable indication of residential parking demand for the planning process.

1.8.2 The figures produced should be used as a basis for calculating parking demand although should be adjusted for specific areas to reflect local conditions.

Date Modified:

Drawn By:

KEY

2001 Census Wokingham Ward Boundaries

Census 2001 SOA Boundaries

DEFRA SOA Classification

'SOA_classification (2)$'.DEFRA_no

Urban

Town and Fringe

Village

Remenham, Wargrave and Ruscombe

Twyford

Charvil

Sonning

Coronation

Bulmershe and Whitegates

South Lake

Loddon

Hurst

Maiden Erlegh

Hillside

Hawkedon

Winnersh

Shinfield North

Emmbrook

Norreys

Wescott

Shinfield South

Arborfield

Evendons

Barkham

Wokingham Without

Finchampstead North

Swallowfield

Finchampstead South

0 0.45 0.9 1.8 2.7 3.6

Kilometres

WSP

TITLE:

WOKINGHAM BOROUGH COUNCIL
PARKING STRATEGY

DEFRA SUPER OUTPUT AREA CLASSIFICATION

FIGURE No:

FIGURE 2

File:

Date Modified:

Drawn By:

KEY

2001 Census Wokingham Ward Boundaries

Census 2001 SOA Boundaries

DEFRA SOA Classification

SOA_reclassification$.DEFRA_no

Urban

Town and Fringe

Village

Remenham, Wargrave and Ruscombe

Twyford

Charvil

Sonning

Coronation

Bulmershe and Whitegates

South Lake

Loddon

Hurst

Maiden Erlegh

Hillside

Hawkedon

Winnersh

Shinfield North

Emmbrook

Norreys

Wescott

Shinfield South

Arborfield

Evendons

Barkham

Wokingham Without

Finchampstead North

Swallowfield

Finchampstead South

0 0.30.6 1.2 1.8 2.4

Kilometres

WSP

TITLE: WOKINGHAM BOROUGH COUNCIL PARKING STRATEGY

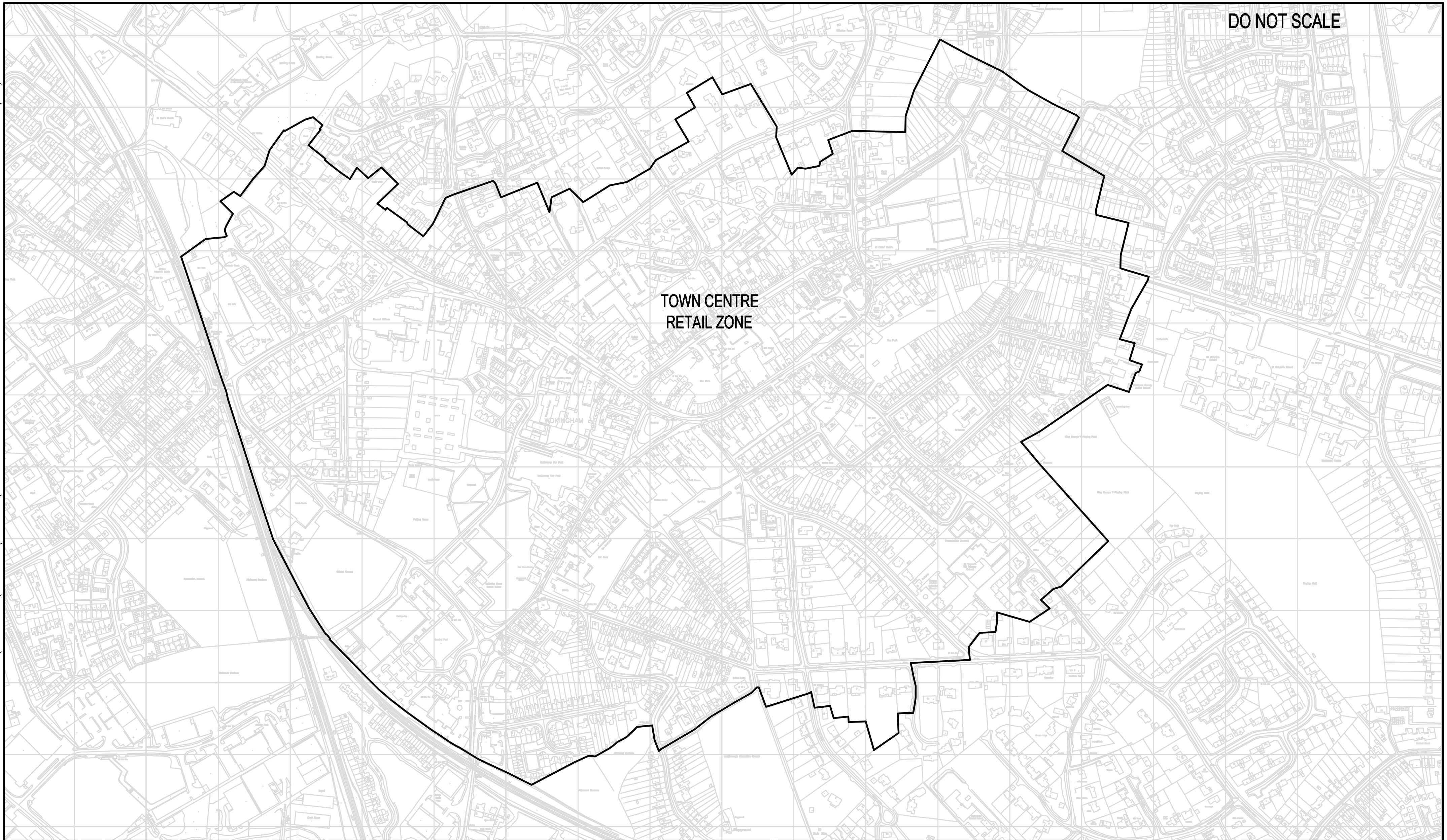
SUPER OUTPUT AREA RECLASSIFICATION

FIGURE No:

FIGURE 3

File:

Appendix C Parking Zonal Plans



REV	DATE	BY	DESCRIPTION	CHK	APD
A	NOT ISSUED	DAH	ISSUED	@	@

DRAWING STATUS: FOR INFORMATION ONLY

WSP
Mountbatten House, Basing View, Basingstoke, Hampshire RG21 4HJ
Tel: +44 (0)1256 318800 Fax: +44 (0)1256 318700
http://www.wspgroup.com

CLIENT: WOKINGHAM BOROUGH COUNCIL

ARCHITECT: -

PROJECT: WOKINGHAM PARKING STANDARDS STUDY

TITLE: WOKINGHAM TOWN CENTRE RETAIL ZONE

SCALE @ A3: 1:5000

CHECKED:

APPROVED:

CAD FILE: RETAIL ZONE WOKINGHAM

DESIGN-DRAWN: NR

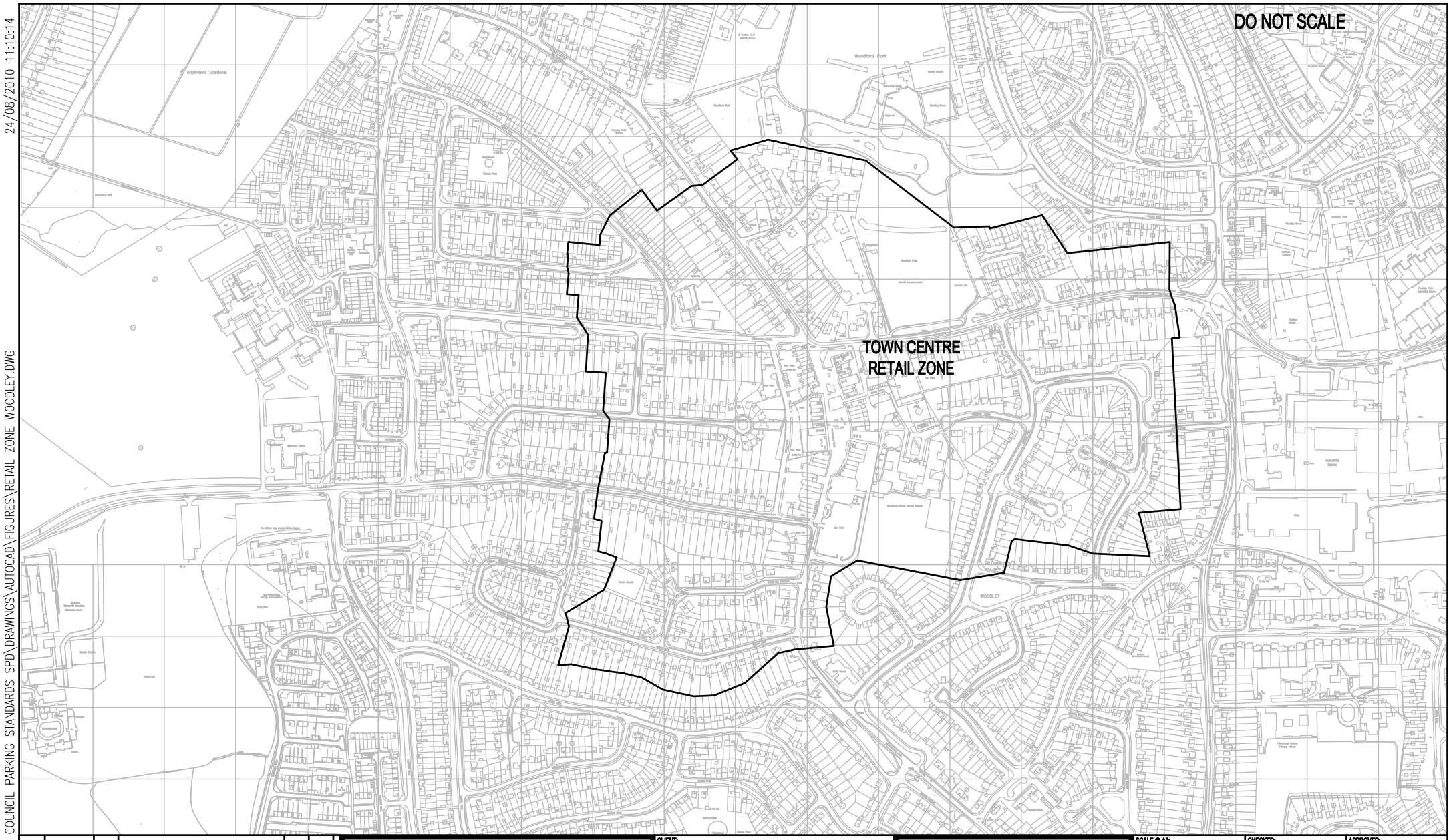
DATE: AUG 2010

PROJECT No: 1039

DRAWING No: 1039

REV: A

DO NOT SCALE



REV	DATE	BY	DESCRIPTION	CHK	APD
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CLIENT: WOKINGHAM BOROUGH COUNCIL

ARCHITECT: -

PROJECT: WOKINGHAM PARKING STANDARDS STUDY

TITLE: WOODLEY TOWN CENTRE RETAIL ZONE

SCALE @ A3:	CHECKED:	APPROVED:
1:5000		
CAD FILE:	DESIGN-DRAWN:	DATE:
RETAIL ZONE WOODLEY	NR	AUG 2010
PROJECT No:	DRAWING No:	REV:
1039	1039	A

24/08/2010 11:10:14 N:\WOKINGHAM BOROUGH COUNCIL PARKING STANDARDS SPD\DRAWINGS\AUTOCAD\FIGURES\RETAIL ZONE WOODLEY.DWG