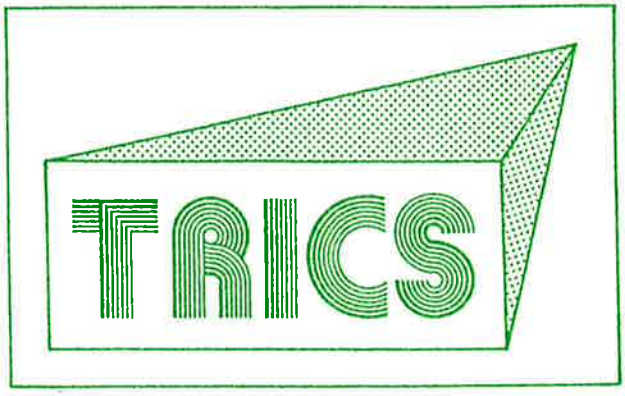

SURREY COUNTY COUNCIL

TRICS REPORT 89/3
REVIEW OF PARKING STANDARDS

JULY 1988

PREFACE

This report is a consultants' report and is governed by the extent of the brief upon which it was based. As such it is not intended as a complete parking document and its conclusions are recommendations based upon up-to-date views and data, and should not be viewed as policy statements in their own right. However, in the course of the development of this report, certain assumptions were inevitable but these are not in any way obligatory.

It should be noted that this document does not cover several land uses not specified by the brief, eg. schools, health centres, housing excluding one-bedroomed flats, etc.. Consequently, their absence should not be viewed as being indicative of their adequacy or inadequacy.

The wording of the recommendations should not be taken as a definitive statement of a policy to be adopted as each Planning Authority may need to modify the wording to incorporate local specifications and local definitions of Town Centre Areas etc.

CONTENTS

1 INTRODUCTION

1.1 ORIGINS

1.1.1 Parking standards for development control purposes were first introduced into London in 1943 as part of the County of London Plan. This proposed that car parking facilities can be provided in the Capital to ".....help remove one of the main causes of congestion on the streets, namely, the standing vehicle". This statement was the forerunner of modern day standards in non-metropolitan areas i.e. that parking standards should ensure that parking related to a development occurs off street. Modern town centre policies are now usually developed as a means of restricting access to an area as a positive restraint measure.

1.1.2 The 1947 Town and Country Planning Act made local authorities responsible for producing development plans and for the first time local authorities were able to implement car parking standards as part of policy. With the increasing car ownership which occurred in the 1950's and 1960's, car parking standards became essential in order to control the very emotive issues involved. The first standards were experimental and were not based on any data resulting from investigations into parking demand. As such, changes were only made "from experience" or by comparison to other neighbouring authorities, the situation arose where standards were derived by averaging other standards which had similarly been derived by averaging.

Consequently the purpose of this report is to examine the issues involved in the choice of parking standards and to supplement this with new data in order to come up with new standards for land uses with particular reference to the Surrey County Council area.

1.2 SURREY AND CAR OWNERSHIP

1.2.1 The so-called "stockbroker belt" forms a major part of Surrey's social and economic structure. This is reflected in the very high level of prosperity in the County.

1.2.2 This high level of prosperity, coupled with very high car ownership means that its inhabitants are more likely to use cars than other means of transport to do trips ranging from commuting to shopping and leisure. Data extracted from the County's Structure plan show that Surrey's car ownership has increased from 319 cars per thousand population in 1971 to 413 in 1981 and is set to continue increasing into the future. Consequently, in order to control the parking of such vehicles it is necessary that very high parking standards should be imposed, possibly even the highest in the country.

1.3 TERMS OF REFERENCE

The Terms of Reference for the Study required the Project Team to examine a specific range of land use classes. These were:-

Offices
High Tech, Business Parks, Science Parks
Business Use
Superstore
DIY Stores and Retail Warehousing
Regional Shopping Centres
Town Centre Retail
Residential: One bedroom flats
Sheltered Housing
Hotels and Conference Centres
Sports and Leisure Complexes
Libraries
Mixed Uses

Each of these land uses has been separately examined and is described in subsequent sections of this Report.

1.4 THE STUDY

1.4.1 The Study involved four major elements, namely:-

(i) Review of existing standards from other Authorities.

(ii) Detailed discussion with development control officers in adjacent County Councils.

(iii) Review of existing parking demand data, drawn together from various sources.

(iv) New survey work carried out within Surrey.

1.4.2 **Parking Standard**

Details of current parking standards have been obtained from a number of County Councils, District Councils and London Boroughs. These are referred to throughout this Report. To bring their relevance into perspective their dates of publication are given below:-

A. Counties and Out of London Authorities

Berkshire	:	January 1986
Cambridge City	:	Date unknown, this standard was recommended by several counties.
East Sussex	:	February 1988, (These are DRAFT standards only).
Essex	:	March 1987
Hampshire	:	1985
Kent	:	November 1986
Lincolnshire	:	February 1986. This standard also came highly recommended.
West Sussex	:	1983. Residential standards, 1987.
Glamorgan & Gwent	:	1980.

B. London Borough

Barking and Dagenham	:	April 1981
Bexley	:	February 1985
Bromley	:	November 1979
Camden	:	1979
Croydon	:	July 1976: shops and Offices revised 1987.
Enfield	:	October 1976
Hammersmith and Fulham	:	December 1987
Harrow	:	April 1987
Hillingdon	:	June 1983
Hounslow	:	March 1983
Islington	:	May 1986
Kensington and Chelsea	:	June 1982
Kingston	:	November 1984
Redbridge	:	April 1981
Richmond	:	September 1983
Southwark	:	Unknown
Sutton	:	Unknown
Tower Hamlets	:	March 1986
Wandsworth	:	1984
Westminster	:	Unknown

NOTE: Many of these standards are in a continuous state of review and the dates quoted may not refer to the time period during which all of the standards for a particular authority were derived. Consequently, standards which appear relatively new may be many years out of date.

1.4.3 Interview with Counties

Several of the counties in the South East were contacted with the intention of meeting to discuss their experiences. Those contacted were generally considered to be socially and economically quite similar to Surrey. Those interviewed were East Sussex, Essex, Hampshire, Kent and West Sussex. Berkshire and Buckinghamshire were also contacted but were not interviewed as the former was undertaking a review and has not come to conclusions yet and the latter does not issue county standards but are guided by the local districts.

This Report contains the details of the discussions with each authority. The comments included within these sections are as given to us and have been presented as accurately as possible. The discussions are expressed as general statements to ensure the confidentiality of their sources.

1.4.4 Review of Existing Data Sources

Data on parking demand has been compiled from as many sources as it was possible to collate. In total some 100 individual surveys have been quoted; sources of information have been referenced. It has clearly not been possible to check all the sources in detail and the data used is generally as presented by the original author or organisation.

1.4.5 Collection of New Data

To supplement published data and to make the recommendations more applicable to the Surrey area some 80 new surveys were carried out as part of this project.

Because of the large number of sites, full surveys could not be undertaken so an estimation of the peak parking time was made and the sites were surveyed by simple vehicle counts at these times. As such, it is realised that many of the parking demands will not represent an absolute peak and the effect of this is discussed in the appropriate sections of the Report.

1.5 DEFINITIONS

1.5.1 Floor Areas

One of the greatest problems in expressing standards is to find a parameter which is fairly consistent against which a standard can be expressed. This parameter should be a dimension which may not be changed without a new planning application e.g. number of dwellings. The three most important definitions used in this Report (which are not self obvious) are the following which are used for retail developments:-

Gross Floor Area (GFA) is the total floor area contained within a development. It includes productive and non-productive spaces and is usually measured to the external walls of building.

Omitting the common areas of malls, accesses, internal landscaping, toilets, etc., gives:

Gross Leasable Area (GLA), that is the total floor area rented by a tenant and encompasses both retail sales area and also storage, staff facilities and service areas; and is essentially the same as NET FLOOR AREA for a development occupied by a single operator.

Omitting the storage, staff facilities and service area, gives:

Retail Floor Area (RFA), that is the 'productive' floor area.

1.5.2 Operational Parking

The car parking needs of developments can generally be split into two groups; operational and non-operational parking. Operational car parking is defined as the parking needs of a development which are essential for the general running of that development (for example deliveries). This category could include cars which are essential to a business, for example, company cars for travelling salesmen. Non-operational car parking encompasses all car parking where a vehicle is used for convenience; for example, shoppers or office commuters' cars. Operational lorry parking for the purposes of this report has been taken as the lorry parking which necessitates the use of loading arrangements and is referred to here simply as lorry parking.

1.6 GENERAL ISSUES

1.6.1 Two particular issues are discussed in the later chapters. A preamble of them is given below:-

1.6.2 Commuted Payments

Several local authorities in urban areas accept commuted payments in town centre areas in return for a relaxation of standards. In these cases the minimum standard becomes the operational requirement of the site and the remaining spaces are paid for using commuted payments. If this method is to be used in Surrey, commitment should come from the District Authorities in the form of a programme for the construction of public car parks. Assessment of the level of provision of public car parking needed may be made by estimating the extent of development planned for the central area. Reference should then be made to the standard for equivalent rural sites and appropriate reductions could then be made for projected on-site operational parking. The use of this approach is covered in Chapter 8 reference 2.

Efficiency of off-street parking spaces in town centres is very important in maintaining the prosperity of such areas. Consequently, private car parks in town centres can be a waste of space for large periods of the day, particularly at the weekend, and these should be made available to the public.

1.6.3 Section 52 Agreements

These are agreements as set out in the Town and Country Planning Act, 1971. Though they should be used with caution, they are particularly helpful in cases where change of ownership could change the parking demand adversely. A particular case in point is the Business Use Class where a light industrial estate can be converted to offices without planning permission. The use of Section 52 agreement stating that the original planning permission for the light industrial estate is issued subject to adequate parking in case of change to offices would be preferable for this example. The application of Section 52 Agreement is discussed in the relevant chapters.

1.7 ACKNOWLEDGEMENTS

In order to compile this Report a great deal of help and assistance hasbeen afforded to the Consultants. In particular the Consultants would wish to acknowledge the detailed assistance given by the Development Control Officers of East Sussex, Essex, Hampshire, Kent and West Sussex.

The assistance of the 30 Authorities that provided details of their current parking standards is also acknowledged.

The surveys undertaken within the project could not have been undertaken without the assistance and co-operation of the Management, Owners and Occupiers of the 80 sites that were surveyed. Their assistance is acknowledged with thanks. Many other site owners and occupiers were contacted but their sites proved to be unsuitable for survey for various reasons. The original location of the sites was identified by the the District Council Planning Offices to whom thanks are given.

Special acknowledgement is given to B & Q and ASDA who provided details for a range of sites.

Much of the data provided to us has been given in confidence and we have undertaken to respect this confidentiality.

2 OFFICES

2.1 EXISTING STANDARD

1 car space per 30 sq m of gross floor area.

Different types of offices are not segregated within this definition.

2.2 STANDARDS OF OTHER AUTHORITIES

(Summarised in Table 2.1).

2.2.1 Berkshire

Offices: 1 car space per 30 sq m gross floor area (minimum of 2 spaces).

2.2.2 Cambridge City

Offices, Research and Development and Light Industrial:

1 car space and 1 cycle space for each 30 sq m of floor space.

Provision of service vehicles off the highway in certain instances.

2.2.3 Essex

General Offices: all offices other than Service Offices:

1 car space for every 30 sq m gross floor space.

However, where offices are to be built to the requirements of a specific client whose staffing and visitor requirements are known, the application will be considered on its individual merits.

Service Offices:

1 car space for every 25 sq m gross floor space.

Offices providing services direct to the public who may be expected to visit the premises. Such premises include banks, building societies, estate agents, photocopying firms, solicitors, accountants and surveyors.

Note: Head Offices of Banks and building societies which are not generally visited by the public are considered to be general offices.

2.2.4 **East Sussex**

Business Use:

1 space per 30 sq m gross floor area.

This covers Offices, Research and Development, High Technology Uses, Light Industry including craft and starter units.

Financial and Professional Services:

Banks, Building Societies, Estate and other agencies, Betting Shops etc.

1 space per 2 staff employed or 1 space per 30 sq m of gross floor area whichever is greater.

2.2.5 **Hampshire**

1 car space per 20 sq m.

2.2.6 **Kent**

Offices: 1 car space per 20 sq m floor space (this allows for a 1 space per 400 sqm requirement for operational purposes).

Includes offices that form part of an industrial or storage operation.

2.2.7 **Lincolnshire**

Offices: 1 space per 33 sq m of gross floor area for employees/visitors, subject to a minimum provision of 3 spaces.

2.2.8 **West Sussex**

Offices: 1 space per 30 sq m of which 10% should be identified and reserved for visitors.

2.2.9 **Glamorgan and Gwent**

Offices:

Central Areas: 1 space per 280 sq m (operational only).

Non-Central Areas: Up to 1000 sq m : 1 space per 25-35 sqm
Over 1000 sq m : 1 space per 30-40 sqm

These figures include non-operational requirements.

2.3 LONDON BOROUGHS' STANDARDS

In approximate numerical order: (Summarised in Table 2.2)

AUTHORITY	STANDARD
LB Hillingdon	One car space per 33 sq m of gross floor space plus accommodation for loading and unloading facilities. Where appropriate commuted payments are accepted in lieu.
LB Sutton	One space per 35 sq m.
LB Bexley	One space per 37 sq m except for Bexleyheath the standard for which is: one space per 60 sq m
LB Richmond	0- 49 sq m : 2 car spaces 50- 99 sq m : 3 car spaces 100-159 sq m : 4 car spaces Greater than 159 sq m : 1 space per 40 sqm plus operational requirement of 1 per 400 sq m.
LB Bromley	One space per 32.5 sq m upto 227 sq m floor area. One space per 46.5 sq m thereafter.
LB Enfield	0- 46 sq m : 4 car spaces 47-115 sq m : 5 car spaces 116-185 sq m : 6 car spaces 186-255 sq m : 7 car spaces 256-325 sq m : 8 car spaces 326-394 sq m : 9 car spaces 395-460 sq m : 10 car spaces foreach additional 46 sq m: 1 car space
LB Harrow	Town centre sites: a maximum of 1 space per 464 sq m and a commuted payments contribution.
LB Hammersmith & Fulham	Business Use: Operational: 1 per 200-500 sq m depending on location Non Operational: 1 per 60-1500 sq m Highest combination: 1 space per 46.2sqm

LB Croydon	Central Croydon: 1 space per 186 sqm Elsewhere: 1 space per 46 sqm
LB Hounslow	Hounslow Town Centre: 1 space per 92.9 sq m Rest of Borough: 1 space per 46 sq m Commuted payments are sought if number of spaces is greater than 25.
LB Redbridge	0- 93 sq m : 5 spaces 94-139 sq m : 7 spaces 140-186 sq m : 9 spaces Thereafter one space per 46 sq m.
LB Barking & Dagenham	Barking Town Centre: Maximum of 1 space per 465 sq m. Heathway and Chadwell Heath: Maximum of 1 space per 186 sq m. Otherwise the same standard as Redbridge is applied.
RB Kingston	Operational: 1 space per 500 sq m to be catered for on site. Non Operational: 1 space per 75 sq m - this must be replaced by commuted payments in central areas. In non-central areas, developments over 2000 sqm will be expected to make their car parks available for public use at off peak times at a standard of 1 space per 65 sq m.
LB Islington	1 space per 465 - 1115 sq m dependent on location. This is for operational needs only.
LB Camden	A maximum of one space per 740 sqm (1110 sqm in central areas).

LB Wandsworth	Town Centre Areas: 1 space per 743 sq m.
City of Westminster	1 space per 744 sq m.
RB Kensington & Chelsea	One space per 750 sq m or 1110 sq m depending on location.
LB Tower Hamlets	Central Areas: 1 space per 1100 sq m (maximum). Rest of Borough: 1 space per 750 sq mn

2.4 PARKING DEMAND DATA

2.4.1 In order to assess the parking demands of office developments, a compilation of existing data was made and new surveys were undertaken. These are summarised in Table 2.3 and represent 23 individual sites of which 20 are in Surrey. The new surveys consisted of "spot checks" on the level of parking present at what was thought to be the peak time of day (usually mid-afternoon). As such, many of the surveys may not represent the peak parking demand over the course of a week. The sites were chosen on the basis that they were believed to be self contained i.e. that they fulfilled the parking needs of the particular office development being examined and that access to the public was restricted. This should mean that the observed parking at these sites is a fair representation of the attraction to a particular office. However the large spread of figures suggests that this may not have been achieved and the top two sites identified on Table 2.3 should be treated with caution.

2.4.2 It should be noted that the surveys undertaken at Costain in Woking, Petrofina in Epsom and the two American Express Offices in Brighton were undertaken by more rigourous methods than the rest. In each of these cases, the surveys were by interview and data was obtained from all car users including those that did not park within the curtilage of the development. They are therefore a good control against which to measure the "spot check" method.

2.5 COMMENTS FROM OTHER COUNTIES

2.5.1 The shortage of parking for offices in urban areas is causing particular problems. Previous policies of restraint in town centres have not changed the modal split for offices towards public transport. Developers now find it difficult to find tenants for office blocks without adequate parking and are now very keen to provide ample parking to make new developments more attractive.

2.5.2 In one case study examined, the amount of car parking within the town centre areas is deliberately restricted. The office standard there is based on operational needs only , i.e. is intended to cater for those whose cars are an essential part of work and is therefore strictly applied. Local policy dictates that only the town centre is to be developed for offices and not the outer borough regions which have less demands on space. This leads to the paradox that developers are not allowed to provide adequate parking in the only place where they are allowed to develop offices, ie in central areas.

2.5.3 The County Councils do however recognise that lack of parking will not persuade people to use public transport. The only way this could happen would be if a frequent free service was provided. This is clearly not feasible. Commuted payments are therefore sought as a preferred option to allow for town centre demands, but there must be public commitment in the form of investment in public car parks before this can work, otherwise funding will take an inordinate amount of time to accumulate.

2.5.4 It is one county's opinion that demand does not increase linearly with floor area but flattens off above a certain size. It is thought that this is because larger offices tend to have large low use floor areas, for example, computer departments, libraries etc.

2.5.5 Standards in certain large towns are lower to allow for lack of on-site space. Commuted payments are accepted in lieu but until many more offices are built, not enough capital will have been accrued to provide public car parking. There are now traffic circulation problems in these towns due to heavy on-street parking as drivers search for spaces.

2.6 DISCUSSION

2.6.1 The use of office car parking standards within the development control process has three main aims:

(i) To ensure parking does not overspill onto the public highway in such a way as to cause a hazard to the public.

(ii) To minimise the local environmental effects of on-street parking.

(iii) To ensure that developers rather than the public sector bear the cost of the parking needs generated by new developments.

(iv) As a means of controlling traffic levels in congested town centres, particularly commuter traffic.

2.6.2 The parking demands of different offices can be extremely variable. Among the factors which affect this demand are:

(i) The availability of public transport.

(ii) The proximity of public car parks.

(iii) The ability to park in adjacent streets.

(iv) Traffic congestion on the journey to work.

(v) The size of the office.

(vi) The type of office activity.

(vii) The mix of staff employed.

2.6.3 The desirability to fulfill that demand is based on the following factors:

(i) The environmental effect of large areas devoted solely to parking.

(ii) The possibility of congestion because of excessive traffic generation arising from car parks.

(iii) The desire to cater for operational requirements off-street.

(iv) The lack of availability of office car parks to the public outside working hours.

(v) The wish not to attract car-borne commuters who could use public transport instead.

(vi) The desire to keep commuter parking off the streets.

2.6.4 As a matter of practicality, car parking standards are split into 2 categories to help cater for these factors:

(i) Town centre offices, where public accessibility is generally good and congestion occurs during peak hours. Maximum efficiency of both off- and on-street parking is necessary.

(ii) Out of town areas, where public transport is generally poor, public car parks are few and commuting is essentially car based.

In the case of the former, policy usually dictates that only an office's operational requirements be met on site with the developer helping to fund public car parks to cater for commuters in the form of commuted payments. In the case of the latter, is is more desirable to meet all the parking needs of a particular office on site.

2.6.5 Office parking standards may be expressed in several different forms:

(i) Gross floor space/parking space approach:
This is the most common form and also one of the most acceptable as gross floorspace will not vary without new planning permission. However, parking demand is not consistent with respect to gross floor area.

(ii) Graduated floor space/parking space approach:
This is where offices of smaller size are required to provide more than the required standard for larger sizes. An example of this is shown in Section 2.3 (e.g. Enfield's standard).

(iii) The staff/parking space approach:
This method is usually unacceptable as staffing levels are rarely known in advance and could change with time. However, parking demand expressed with respect to number of employees (especially male employees) is usually found to be the most consistent in any mathematically based regression analysis.

The most acceptable form of expressing office car parking standards is believed to be the gross floor space/parking space method.

2.6.6 The definitions of operational and non-operational parking are included in Chapter 1. In town centre situations, it seems as if the best option is to allow offices to provide only for operational needs. The non-operational needs could then be provided in the form of commuted payments used to provide adjacent publicly available spaces. In assessing what these needs are, reference is made to the modal splits of various office developments (see Table below).

MODAL SPLIT OF TRAVEL TO OFFICES

SITE	TYPE OF OFFICE	MODE OF TRAVEL			
		CAR %	PUBLIC TRANSPORT %	WALK %	OTHER %
(i) Outer London (Male only)	Town Centre	72	19	5	4
(ii) Outer London (Male only)	Out of Centre	75	18	3	4
(iii) Costain	Town Centre (Free Parking)	80	12	8	0
(iv) Petrofina	Town Centre	73	14	13	0

Sources: (i) and (ii) GLC, 1986
(iii) and (iv) JMP Consultants Ltd for Surrey County Council, 1987.

As can be seen from this data, out of central London locations do not have a large effect on modal split as far as car usage is concerned. It would seem that there has been a shift in modal splits from those surveys taken in 1972 quoted in the GLC's Traffic Generation Users Guide which quotes the proportion travelling by foot at 39% and it would seem that this shift is towards vehicle based trips. Therefore for offices, if commuted payments are to be used, those payments should cover the cost of providing parking to bring the total provision up to the out-of-town level.

2.6.7 Some offices complain that such parking controls impair their ability to operate efficiently. The rigid implementation of operational parking spaces in this way, they argue, does not cater adequately for their employees for which commuting by car is essential e.g those in sales, service industries. While the standard prescribes some allowance for operational off-street parking, it is virtually impossible to ensure that space is reserved for this purpose. Frequently, restricted spaces are used by senior management and essential vehicles add to the congestion of adjacent roads.

2.6.8 Only about half of the cars available in Surrey are used for journeys to work, partly because of the high level of commuting by rail into Central London. The lack of cross county rail facilities and the very high levels of car ownership and traffic volumes in Surrey imply that if the Surrey parking standard is to be demand based then it must be one of the highest in the country. With car ownership due to rise even further in the future, it is vital that such a standard allows for some further growth.

2.6.9 In the light of the demand based information in Table 2.3, a standard of 1 car space for 20 sq m would appear to be the most appropriate. This is supported by the more recently issued county parking standards especially those of Hampshire and Kent.

2.7 CONCLUSIONS

There is a general trend among the counties to gradually increase their car parking standards in keeping with demand from the previously accepted level of one per 30 sqm. Virtually all of them felt that the current provision of one per 30 sqm is not high enough and survey results confirmed this. The offices which produced the highest demand in the surveys were mainly town centre sites and would therefore not represent the maximum demand that might occur in an outer area. It is therefore believed that many new "outer area" office developments will have a demand easily approaching one space per 20 sqm and that this should be adopted as the standard. This standard might be greatly reduced in town centre sites as a matter of traffic engineering policy. Any commuted payments collected as a result of this should be combined with other town centre sites and public car parks should be built to cater for the desired needs of users. As the peak hours of parking for offices and town centre retail are different, a reduction in the amount of parking spaces that would have to be provided could be made. In order to prevent interim on-street parking, initial public investment in parking space should be provided. It is suggested that on-site parking for town centre sites should meet operational demands only and that this level should be taken as being approximately 1 per 200 sqm, but individual circumstances should be considered separately. It should be recognised that a lack of car parking provision for town centre sites will increase the pressure for outer area development.

2.8 RECOMMENDED STANDARD

1 car space per 20 sq m of gross floor area to include 1 space per 200 sq m for operational use. In defined central area locations the standard may need to be reduced on overall planning grounds but should never be less than the 1 per 200 sqm requirement for operational space.

2.9 REFERENCES

1. "Traffic Generation Studies, Surrey County Council", JMP Consultants Ltd, January 1987.

2. "Offices: The Implementation of Car Parking Standards and the Ensuing Problems", G Smith and M Burroughs, December 1981.

3. "Survey of Offices in London", Greater London Council, March 1986.

4. "Car Parking Standards and the Urban Economy", S L Haworth and I C Hilton, November 1982.

5. Surrey Council; Transport Policies and Programme, 1988/89.

6. Surrey Structure Plan, Proposed first alteration, 1980.

TABLE 2.1

SUMMARY OF SELECTED 'SHIRE' PARKING STANDARDS

'SHIRE' AREA	1 SPACE PER SQ M OF GROSS OFFICE FLOOR AREA	
	GENERAL	DEFINED CENTRAL AREAS
Kent	20 sq m	
Hampshire	20 sq m	
Berkshire	30 sq m	
Cambridge	30 sq m	
East Sussex	30 sq m	
Essex	30 sq m	
W Sussex	30 sq m	
Surrey	30 sq m	
Lincolnshire	33 sq m	
Glamorgan & Gwent	25-35 sq m	280 sq m

TABLE 2.2

SUMMARY OF SELECTED LONDON BOROUGH STANDARDS

BOROUGH	1 SPACE PER - SQ M OF GROSS OFFICE FLOOR AREA	
	GENERAL	DEFINED CENTRAL AREA
Hillingdon	33	-
Sutton	35	-
Bexley	37	60
Richmond	40	-
Bromley	46	-
Enfield	46	-
Harrow	46	464
Hammersmith and Fulham	46	-
Croydon	46	186
Hounslow	46	93
Redbridge	46	-
Barking and Dagenham	46	186-465
Kingston	75	500
Islington	465	1115
Camden	740	1110
Wandsworth	None Stated	743
Westminster	None	744
Kensington and Chelsea	750	1100
Tower Hamlets	750	1100

NB Where the standards have been defined in discrete ranges a typical office development of 3000 sq m has been assumed for comparison purposes.

TABLE 2.3: PARKING DEMAND DATA: OFFICES

SITE	GFA SQ M	DATE OF SURVEY	DAY	PARKING PROVISION (NUMBER OF CARS)	PARKING DEMAND (NUMBER OF CARS)	PARKING PROVISION (SQ M PER SPACE)	PARKING DEMAND (SQ M PER CAR)	
Hay's Wharf, Guildford (1)	372	25/01/88	Monday	30	32	12.4	11.6	
Cornhill Insurance, Guildford (1)	3143	26/01/88	Tuesday	181	266	17.4	11.8	
Costain, Woking (2)	5400	17/02/87	Tuesday	40	272	135.0	19.9	*
Runnymede House, Egham (1)	531	08/01/88	Friday	26	25	20.4	21.2	
Petrofina, Epsom (2)	5400	01/02/87	Wednesday	132	229	40.9	23.6	*
American Express, Preston Rd, Brighton (3)	4916	24/02/85	Thursday	105	194	46.8	25.3	*
Berni Inns, Chertsey (1)	939	08/01/88	Friday	30	31	31.3	30.3	
Biwater House, Dorking (1)	2356	15/01/88	Friday	80	74	29.5	31.8	
Kennedy and Donkin, Godalming(1)	6967	14/01/88	Thursday	200	205	34.8	34.0	
American Express, Edward St, Brighton (3)	25929	24/05/85	Thursday	50	668	518.6	38.8	*
145 Frimley Rd, Camberley (1)	989	12/01/88	Tuesday	34	25	29.1	39.6	
Sabre House, Dorking (1)	1438	15/01/88	Friday	39	36	36.9	39.9	
Air Express, Staines (1)	1210	06/01/88	Wednesday	32	27	37.8	44.8	
INS Ltd, Sunbury (1)	1740	07/01/88	Thursday	46	33	37.8	52.7	
London Road, Camberley (1)	636	19/01/88	Tuesday	10	12	63.6	53.0	
24 High St, Addlestone (1)	873	08/01/88	Friday	20	14	43.7	62.4	
Shell Gold Card, Chertsey (1)	1020	08/01/88	Friday	24	18	42.5	62.7	
Memorex Ltd, Staines (1)	910	06/01/88	Friday	15	14	60.7	65.0	
Abinger House, Dorking (1)	1858	15/01/88	Friday	43	27	43.2	68.8	
Esher Cars, Esher (1)	2782	13/01/88	Wednesday	64	38	43.5	73.2	
British Telecom, Brighton (3)	18240	18/09/84	Tuesday	250	231	73.0	80.0	
Leys House, Guildford (1)	1757	29/01/88	Friday	20	20	87.9	87.9	
St Georges House, Camberley	1650	12/01/88	Tuesday	28	14	58.9	117.9	

SOURCES: (1) - Original surveys undertaken by JMP Consultants Ltd
(2) - Data taken from Trip Generation Report by JMP Consultants Ltd
(3) - Data derived from the South East Counties Trip Generation Database, TRICS
* Data obtained from full interview of all staff.

3 HIGH TECH, BUSINESS PARKS & SCIENCE PARKS

3.1 EXISTING STANDARD

1 car space per 30 sqm for laboratories, libraries, offices, etc.

1 car space per 50 sqm for production areas.

1 car space per 40 sqm where the mix is unknown in advance.

As yet, no clear definition of High Tech, Business Parks and Science Parks has emerged. In the past, these have always been considered as a mix of offices and production areas in such a way as was not covered by light industrial. It is likely that in the future, developments of this type will seek B1 Class approval. However this may not always be the case and hence this Section of the Report has been kept separate from the Business Use section.

3.2 STANDARDS OF OTHER AUTHORITIES

(Summarised in Table 3.1)

3.2.1 Berkshire

Research and Development:-

1 space per 25 sqm of gross floor area, minimum of 2 spaces.

Industrial:-

1 space per 50 sqm of gross floor area, minimum of 2 spaces.

One lorry space per 500 sqm up to 2,000 sqm.

One lorry space per 1,000 sqm thereafter.

3.2.2 Cambridge City

Offices, Research and Development and Light Industrial:-

One car space and one cycle space for each 30 sqm gross floor space.

Provision for service vehicles off the highway in certain instances.

3.2.3 East Sussex

Offices, Research and Development, High Technology Uses, Light Industry including Craft and Starter Units:-

1 car space per 30 sqm of gross floor area and space for loading and unloading as required by the Local Planning Authority.

3.2.4 **Essex**

High Technology Industry:-

One car space per 35 sqm gross floorspace. Adequate provision must be made for service vehicles.

Industrial:-

A minimum provision of 2 car parking spaces per unit and, in addition, 1 space for every 50 sqm gross floorspace, except that, where the office floorspace exceeds 200 sq m or 20% of the total floorspace of the development, provision shall be 1 space for every 30 sqm gross office floorspace and 1 space for every 60 sqm of the remaining floorspace.

In all cases, adequate provision must be made for the parking of service vehicles.

3.2.5 **Hampshire**

High Technology:-

One space per 30 sqm.

3.2.6 **Kent**

Industries of a Highly Technical Nature:-

Requirement is likely to be between that of offices and industrial buildings (see 3.5.3).

Industrial Buildings:-

Units less than 100 sqm - 1 van space adjacent to each unit; 1 car space per unit provided communally.

Units between 100 and 200 sqm - 1 van parking space adjacent to each unit; 2 car spaces per unit provided communally.

Units above 200 sqm - 1 car space per 50 sqm industrial floorspace plus provision for goods vehicles. Attached offices to be considered separately.

3.2.7 **Lincolnshire**

Industry:-

One space per 50 sqm of gross floorspace up to 1,000 sqm plus one additional space per 75 sqm for development between 1,000 and 2,000 sqm plus one additional space per 100 sqm thereafter, minimum of 3 spaces. Associated office development to be assessed separately where the office floor area exceeds 100 sqm.

3.2.8 West Sussex

High Tech Uses:-

1 space per 30 sqm of which 10% should be identified for visitors.

Lorry parking requirements to be assessed individually.

Industrial:-

1 space per 50 sqm, 15% of spaces shall be for lorries.

3.2.9 Glamorgan and Gwent

Industrial:-

Non-operational requirement:

Up to 1,000 sqm: 1 per 60 sqm, minimum 2 spaces
Over 1,000 sqm: 1 space per 80-120 sqm

Operational requirement:

Gross Floor Area (sqm)	Space to be Provided (sqm)
100	70
250	85
500	100
1,000	150
2,000	10% of GFA

3.3 LONDON BOROUGHS' STANDARDS

(Summarised in Table 3.2)

3.3.1 High Technology

AUTHORITY	STANDARD
LB Harrow	1 space per 30 sqm of floorspace
LB Hammersmith and Fulham	Non-operational: 1 space per 60-1,500 sqm depending on location Operational: 1 space per 200 sqm Highest combination: 1 space per 46 sqm

3.3.2 Light Industrial

In approximate numerical order:-

AUTHORITY	STANDARD
LB Bexley	One space per 45 sqm gross floorspace. One lorry space per 230 sqm excluding the first 230 sqm. Units of less than 230 sqm considered individually.
LB Sutton	One space per 46 sqm plus lorry requirement assessed individually.
LB Bromley	One space per 23 sqm gross floorspace up to 232 sqm. One space per 60 sqm thereafter.
LB Hounslow	1 space per 69.7 sqm (minimum of 4 spaces). 1 lorry space per 464 sqm.
LB Hammersmith and Fulham	Operational: 1 space per 100 sqm gross floor area (minimum of 2). Non-operational: 1 space per 250-2,500 sqm. Highest combination: 1 space per 71.4 sqm.
LB Richmond	Floor Space — Car Spaces 0- 99 sqm — 2 100-199 sqm — 3 200-299 sqm — 4 Over 299 sqm — 1 space per 75 sqm Plus 10% to be added for visitors
LB Enfield	0- 92 sqm — 4 93-232 sqm — 5 233-370 sqm — 6 371-510 sqm — 7 511-650 sqm — 8 651-789 sqm — 9 790-920 sqm — 10 Over 920 sqm — 1 per 92 sqm
LB Redbridge	0-743 sqm — 1 space per 46 sqm plus 1 space Over 743 sqm — 1 space per 93 sqm plus 9 spaces

LB Hillingdon	Floor Area	Floor Area per Car Space	Floor Area per Lorry Space
	0-278sqm	46.4 sqm	278 sqm
	278-557sqm	70 sqm	464 sqm
	Over 557sqm	93 sqm	464 sqm
LB Barking and Dagenham	0-743 sqm: 1 space per 47 sqm Over 743 sqm: 1 space per 93 sqm		
RB Kingston	1 space per 100 sqm gross floor area		
LB Tower Hamlets	Lea Valley, Limehouse, Isle of Dogs: 1 space per 125 sqm (minimum 2) and 1 lorry space per 500 sqm (minimum 1) Rest of Borough: 1 space per 250 sqm (minimum 2) and 1 lorry space per 500 sqm (minimum 1)		
LB Harrow	0-235 sqm: 1 space per 50 sqm (minimum of 2). For each additional 139 sqm: 1 space. 1 commercial vehicle space per 464 sqm. 1 space per 46 sqm for ancillary office accommodation.		
LB Camden	0-230 sqm: 2 car spaces and 1 lorry space. 230-460 sqm: 3 car spaces and 1 lorry space. 460-920 sqm: 3 car spaces plus 2 lorry spaces. Over 920 sqm: 1 car space and 1 lorry space per 460 sqm.		
LB Wandsworth	0-232 sqm: 2 car spaces. 233-464 sqm: 3 car spaces. Over 464 sqm: 2 car spaces plus 1 per 186 sqm of office space plus 1 per 464 sqm of production area. One lorry space per 464 sqm (minimum 1 lorry space).		
LB Islington	Inner London: 1 space per unit and 1 space per 745 sqm. Elsewhere: 1 car space per unit plus 1 space per 465 sqm.		

3.4 PARKING DEMAND DATA

3.4.1 Data as assessed from existing literature and from surveys undertaken by the Consultant is shown in Tables 3.3, and

3.4. The new surveys were undertaken by spot checks at assumed peak hours, which were usually during the afternoons of the specified days. As with offices, the time of peak could easily have been missed. Several of the sites were still not fully occupied and the floor areas quoted are those which were quoted in planning applications. Consequently, these sites may not have yet reached their full demand.

3.4.2 The surveys at Woking Business Park and Mole Business Park included both traffic counts and simple interviews to ascertain origin/destination, catchment area and purpose of visit. They both included businesses involved in specialised light manufacture, usually computer based, connected with telecommunications, or with plastics. As such, it is believed that a strong research and development aspect as well as a high level of manufacturing to specification is involved in both Business Parks. Although both sites take the title of Business Park they would be more correctly defined as 'High Tech' Developments.

3.5 COMMENTS FROM OTHER COUNTIES

3.5.1 High Technology Industry is a standard to deal with a type of use for which there is so far only limited local knowledge of the likely car parking implications. It is considered that a standard that approximates more closely to the standard for offices but also reflects the industrial element in any scheme would be the most appropriate. The standards adopted by other local authorities have been considered when formulating this standard.

3.5.2 The standard for High Tech developments in some authorities is informal and has been relaxed in certain cases. As yet, few High Tech developments have been built and occupied. There are some business parks which as yet have no tenants where the developers claim this is partly because they have had to provide more parking spaces than necessary and that the cost of providing this parking has caused rent levels to be above that which most small companies would be able to pay.

3.5.3 If a standard is to be specified for this type of development, then it is believed it should be somewhere between that for offices and for industrial. A standard of one car space per 30 sqm gross floor area and one lorry space per 500 sqm gross floor area was suggested by several Authorities.

3.5.4 In one Authority, high tech developments are taken as those which encompass the leading technology of the day, especially electronics based developments. They could include a research and development aspect coupled with production line and offices. Those firms with no research and development or which manufacture to a client's specification only are put within the bracket of light industrial. As such, high tech developments are more labour intensive than Light Industrial developments, but would not need as high a parking provision as, say, offices. The general idea behind high tech parks seems to be that new companies move in to get started and move out as the company develops and expands. There is an emerging trend of small business developments within residential areas, for example, car repairs, solicitors and doctors. Many of these do not have planning permission and this is causing a problem especially where whole streets become small business orientated with a subsequent parking problem due to deliveries and business calls. However, it is recognised that many have a local clientele (for example, solicitors, car dealers) whereas research based developments would not. The latter are therefore more strongly opposed in residential areas.

3.5.5 It is usually specified that all Business Use/Industrial/Office developments reserve 10% of spaces for visitors.

3.6 **DISCUSSION**

3.6.1 By implication, business parks seem to have 3 essential characteristics.

(i) A good business location, which includes easy access to road, rail and air transport.

(ii) A high quality, low density development, well landscaped and with good car parking provision.

(iii) An actively managed, well serviced development occasionally with recreational and with general business facilities.

Surrey is an ideal location for developers to set up business parks considering its good transport facilities and easy access into London.

3.6.2 Science Parks are seen as essentially the same as business parks but with 2 extra characteristics.

(i) A research and development base to the exclusion of conventional patterns of production and office use.

(ii) An established link between theoretical and practical ideas in the form of a connection between an academic institution and business with an active interchange of staff. A good example of this is the Cambridge Science Park.

3.6.3 High Tech Parks encompass characteristics from both Business Parks and Science Parks. They usually cater for advanced technology companies, such as computer based industry. The density of employees is normally less than that of offices, due to provision of limited production facilities, storage, etc.(see 3.6.7).

3.6.4 As far as car parking is concerned, these three land uses are seen as being very similar, having one aim in common with each other, that is, to provide adequate parking within the curtilage. The description of all three is often encompassed within the term "high tech".

3.6.5 Light Industrial developments are usually those which concentrate on production, have little research and development involved and have less than 20% of their floor area taken up by offices. As such, they are not usually labour intensive and therefore have low parking demands with respect to floor area.

3.6.6 Parking standards for the developments being considered are usually expressed in two different forms:-

(i) Gross floor space/parking space. This is by far the most common form and is rarely questioned.

(ii) Number of parking space/individual units. This form is usually only used when small units are considered and different rates are usually applied for different sizes of unit. A good example of this is Kent County Council's standard for industrial buildings.

Form (i) is seen as the best. In the case of small units being present in a development, the standard could be applied to each unit individually and the number of parking spaces required could then be rounded up to the nearest whole number. For the same reason as offices, parking standards are not related to number of employees.

3.6.7 The parking needs of High Tech developments should be less than those of offices. This can be seen from the floorspace to employee ratios for offices and 'High Tech' developments within Surrey (from Surrey County Council Trip Generation Report).

Site	Labour Intensity
Costain Offices	14.2 sqm/employee
Petrofina Offices	16.6 sqm/employee
Mole Business Parks	29.1 sqm/employee
Woking Business Parks	34.6 sqm/employee

From the same report, the comparative peak parking demands were (per employee):-

Costain	0.71 veh/employee
Petrofina	0.71 veh/employee
Mole Business Park	0.56 veh/employee
Woking Business Park	0.72 veh/employee

This suggests that, as the 'high tech' development are less labour intensive then they should have a lesser parking demand with respect to floorspace, the degree of which depends on the labour intensity.

3.6.8 In other counties where high standards have been applied, there have been complaints that overprovision is occurring. However, as more than adequate parking is an essential feature of business, science and high tech parks, it is suggested that a high standard should be maintained. There are many more factors involved than parking which lead to the failure of such a development. Lack of parking provision will not make up for poor location, ineffective marketing and bad site management.

3.7 CONCLUSIONS

The standards most authorities have set for light industry appear to be unsuitable for high tech developments. Taking into consideration that high tech parks can be physically indistinguishable from campus style offices, a standard closer to that of offices would seem more appropriate. However, as has been shown, labour intensities are less than offices in such developments and so a standard of 1 per 30 sqm would probably be the most appropriate especially in the light of the standards set by the other county authorities. It seems as if there is a lesser demand for lorry parking at high tech developments than would normally be associated with industrial sites. The data shown in the Surrey County Council Trip Generation Studies report shows the demand to be 1 lorry per 1,250 sqm and 1 lorry per 5,000 sqm for Mole Park and Woking Park respectively. The industrial standard of 1 space per 200 sqm could consequently be reduced to 1 space per 500 sqm to be in line with that set by Berkshire (this is the only County that specifies a standard) and is similar to that set by most London Boroughs.

3.8 RECOMMENDED STANDARD

Definition

The standard for "High Tech", Business Parks and Science Parks should be 1 car space per 30 sq m of gross floor area with an indicative lorry parking standard of 1 space per 500 sq m.

On an estate with a gross floor area in excess of 10,000 sq m where there are multiple occupiers in large units and communal parking spaces the overall parking standard could be relaxed but should not fall below one space per 40 sq m of gross floor area.

The light industrial standard should remain at 1 space per 50 m^2.

It should be recognised that Business Use is a new Use Class Order which has evolved out of the trichotomy of High Tech/Business Park/Science Park definitions and this is discussed in the next chapter.

3.9 REFERENCES

1 "Traffic Generation Studies, Surrey County Council", JMP Consultants Ltd, February 1987.

2 "Business Parks and Science Parks", Estates Gazette, May 1986.

3 "Reasoned Justifications for the Car Parking Standards", Essex Planning Officers Association, March 1987.

4 "Kent County Council: Vehicle Parking Standards Review", (Confidential) Highways and Transportation Department, Kent County Council, 1986.

TABLE 3.1: SUMMARY OF SELECTED 'SHIRE' PARKING STANDARDS

'SHIRE' AREA	HIGH TECHNOLOGY/ RESEARCH & DEVELOPMENT Sq m of Gross Floor Area per Space	LIGHT INDUSTRIAL/ INDUSTRIAL Sq m of Gross Floor Area per Space
Berkshire	25	50
Cambridge	30	30
East Sussex	30	30
West Sussex	30	50
Hampshire	30	Not known
Kent	30 #	50
Essex	35	50
Surrey	40	50
Lincolnshire	-	69 *
Glamorgan & Gwent	-	80 *

* Based on a 3,000 sq m development

See Section 3.5.3

TABLE 3.2: SUMMARY OF SELECTED LONDON BOROUGH STANDARDS

BOROUGH	HIGH TECHNOLOGY/ RESEARCH & DEVELOPMENT	LIGHT INDUSTRIAL/ INDUSTRIAL
	Sq m of Gross Floor Area per Space	Sq m of Gross Floor Area per Space
Bexley	-	45
Sutton	-	46
Bromley	-	60
Hounslow	-	69.7
Hammersmith & Fulham	46	71
Richmond	-	75
Enfield	-	92
Redbridge	-	93
Hillingdon	-	93
Barking & Dagenham	-	93
Kingston	-	100
Tower Hamlets	-	125
Harrow	30	139
Camden	-	460
Wandsworth	-	464
Islington	-	465

TABLE 3.3: PARKING DEMAND DATA: HIGH TECH

SITE	GFA SQ M	DATE OF SURVEY	DAY	PARKING PROVISION (NO OF SPACES)	PARKING DEMAND (NO OF CARS)	PARKING PROVISION (SQM PER SPACE)	PARKING DEMAND (SQM PER CAR)
Fraser Nash, Leatherhead (1)	6,398	15.01.88	Friday	174	178	36.8	35.9
Telex Company, Poyle (1)	1,797	06.01.88	Wednesday	56	43	32.1	41.8
Riverside Centre, Guildford(1)	4,210	25.01.88	Monday	10	90	421.0	46.8
Broadford Park, Shalford (1)	6,555	26.01.88	Tuesday	34	136	192.8	48.2
Woking Business Park, Woking(2)	23,000	10.02.87	Tuesday	600	465	38.3	49.5
Mole Business, Leatherhead (2)	16,000	03.02.87	Tuesday	700	306	22.9	52.3
Freshfield Est, Brighton (3)	13,300	01.05.84	Thursday	-	185	-	71.9
Kestrel Court, Chertsey (1)	1,021	08.01.88	Friday	30	11	34.0	92.8
Catteshall Lane, Godalming (1)	23,223	14.01.88	Thursday	89	73	260.9	318.1

SOURCES: (1) Original Surveys undertaken by JMP Consultants Ltd
(2) Surveys undertaken in detail by JMP Consultants Ltd as part of previous project
(3) Data derived from the South East Counties Trip Generation Database, TRICS

TABLE 3.4: INDUSTRIAL

SITE		GFA SQ M	DATE OF SURVEY	DAY	PARKING PROVISION (NO OF SPACES)	PARKING DEMAND (NO OF CARS)	PARKING PROVISION (SQM PER SPACE)	PARKING DEMAND (SQM PER CAR)
North Weylands Industrial Estate, Walton	(1)	835	20.01.88	Wednesday	-	50	-	16.7
Royal Mills, Esher	(1)	3,282	13.01.88	Wednesday	130	89	25.2	36.9
Hewitts, Cranleigh	(1)	6,664	14.01.88	Thursday	160	125	41.7	53.3
St Georges Est, Camberley	(1)	4,688	12.01.88	Tuesday	127	69	36.9	67.9
Manfield Park, Cranleigh	(1)	5,713	14.01.88	Thursday	108	73	52.9	78.3
Toshiba et al, Sunbury	(1)	7,373	07.01.88	Thursday	88	82	83.8	89.9
Unibond, Camberley	(1)	10,753	12.01.88	Tuesday	107	70	100.5	153.6

SOURCE: (1) Original Surveys undertaken by JMP Consultants Ltd

4.1 EXISTING STANDARD

One car parking space per 30 sqm has been adopted as an interim measure with a lorry requirement of one space per 200 sqm. The new Business Use class has been defined as an amalgamation of light industrial, office and high tech. Individually these land uses are covered in Chapters 2 and 3 and this chapter is intended to bring together this information.

4.2 STANDARD OF OTHER AUTHORITIES

(Summarised in Table 4.1).

4.2.1 Berkshire

No standard has been set yet but the "Research and Development" standard which is used for high tech developments is expected to be the upper limit. This standard is one space per 25 sq m and is higher than the office standard.

4.2.2 Cambridge City

The standard for offices, research and development and light industrial is one car space and one cycle space for each 30 sq m gross floor space. Provision for service vehicles off the highway in certain instances.

4.2.3 East Sussex

B1, Business Use: 1 car space per 30 sq m of gross floor area plus space for loading and unloading as required by the local planning authority.

4.2.4 Essex

No standard has been set yet but the approach is likely to be that enough land be provided for the office standard of 1 per 30 sq m and a Section 52 agreement is attached saying that this land will be used for parking should the need arise.

4.2.5 Hampshire

Sufficient land for the office parking standard would have to be provided (i.e. at 1 space per 20 sq m) and a Section 52 agreement is obtained to ensure that this land is converted to parking at the relevant time.

4.2.6 Kent

Enough land for the office parking standard (1 space per 20 sq m) must be provided with an appropriate Section 52 agreement regarding its use.

4.2.7 West Sussex

The office standard (1 per 30 sq m) is applied unless it can be proven otherwise.

4.3 LONDON BOROUGHS' STANDARDS

AUTHORITY	STANDARD	
LB Harrow	Central Areas:	1 space per 40 sq m
	Out of Centre:	1 space per 30 sq m
LB Hammersmith and Fulham	Operational:	1 space per 200 sq m
	Non-operational:	1 space per 60 sq m
	Highest Combination:	1 space per 46 sq m

4.4 PARKING DEMAND DATA

4.4.1 There were only two sites that were surveyable which had been built and which had obtained planning permission as Business Use (B1) developments. The survey results are shown in Table 4.2. It is not known under which use class these two developments would have been classified previous to the inception of the Business Use class but it is suspected that they are high tech developments.

4.4.2 The two sites surveyed were both counted by the "spot check" method previously described. The Pinetrees survey was aborted after the number of vehicles present was counted but before the capacity of the car park was measured due to interjection by the management. The parking provision quoted is therefore an estimate.

4.5 COMMENTS FROM OTHER COUNTIES

4.5.1 It has been noticed that most planning applications within this class seem to be offices, so the office standard is being generally applied to such developments. In the case of low traffic generating developments, Section 52 agreements have been sought whereby provision of land adequate to hold the office standard is expected and this land will be used for parking spaces in case of change of use. This seems to tackle the problem quite well as far as new developments are concerned but problems arise when old developments, now included within the Business Use definition are able to change to offices without applying for planning permission and hence without having to provide adequate parking provision for such a development.

4.5.2 Many developers do not like using Section 52 agreements as they reduce the value of the development and make it very difficult to sell. Such developments could have difficulty finding occupants and some authorities are worried that planning blight could occur.

4.5.3 However, most developers see it as being in their interest to provide adequate parking and so this approach is often not seen as being a problem. Previous policies of restraint are often causing large parking problems in certain towns. Consequently, commercial developers avoid those towns and have set up business in other areas nearby where parking controls are more relaxed. This is adding to the pressure for green field developments.

4.6 DISCUSSION

4.6.1 The huge disparity between the parking needs of the different types of developments within the Business Use class is causing difficulties for many counties. There seems to be a clear solution available in the use of Section 52 agreements as set out in the Town and Country Planning Act 1971. However most authorities are reluctant to use such agreements as they are not legally enforceable and can easily be ignored by subsequent owners of land for which planning permission has been granted. Indeed, Section 52 agreements seem to scare away the more scrupulous of potential new owners and a "catch-22" situation occurs where a developer wanting to sell land of this sort can only sell to those not willing to uphold the Section 52 agreements upon which they were based.

4.6.2 The use of car parking standards for business use developments within the development control process has these main aims:

(i) To ensure that the proposed development has adequate parking provision.

(ii) To ensure that any further developments of that site which do not need planning permission will be adequately catered for.

(iii) To avoid rendering the development unsaleable because of the inflexibility of conditions imposed upon the developer.

4.6.3 Most of the developments within the Business Use class will be offices. Because of this, it is important that such development will be required to provide the present office parking standard. However it is recognised that non-office developments would then be required to provide an inordinate amount of parking if this standard is adopted for all business use developments. This would not only be a waste of resources but also a waste of land which could put even more pressure on the green belt areas in Surrey.

4.6.4 Any compromise between the office and (say) light industrial standards would also not be suitable as the majority of business use developments (i.e. offices) would then have inadequate parking provision, causing inevitable environmental and safety difficulties in adjacent on-street parking areas.

4.7 CONCLUSIONS

There seems to be no way of implementing a single car parking standard for all business use developments. It is suggested that the standards set for the constituent parts of the business use class be retained as the guideline for the requirement for initial provision of car parking spaces. However, the use of Section 52 agreements seems to be the only way that enough space for the highest standard within the use (i.e. offices) should be provided if subsequently required. The area left over after the implementation of the relevant standard for that development should be landscaped and converted to car parking if necessary if the land is redeveloped in the future.

4.7.2 Enforcement of a Section 52 agreement is a problem. This has been countered by Kent County Council where a clause has been entered into the County of Kent Act making the terms of Section 52 agreements legally binding. Though this may not be possible in Surrey, every effort must be made to persuade developers that Section 52 agreements are in their interest as over-provision caused by a blanket office standard is a waste of their money and inadequate parking will greatly affect the value of the development. Continually, developers are finding that prospective tenants are becoming more and more reluctant to lease property with insufficient parking facilities.

4.8 RECOMMENDED STANDARD

1 car space per 20 sq m of gross floor area should be provided; this is to include 1 space per 200 sq m of operational space. In defined central area locations the standard may need to be reduced on overall planning grounds but should never be less than the 1 per 200 sq m required for operational space. Where non office uses are being developed the initial parking requirements may be:

High Tech etc	:	1 space per 30 sq m
Light Industrial	:	1 space per 50 sq m

Such lower provisions should only be granted in conjunction with a Section 52 agreement and where there is space sufficient to increase to the maximum level should this subsequently be found to be necessary.

TABLE 4.1

SUMMARY OF 'SHIRE' PARKING STANDARDS

'SHIRE' AREA	STANDARD SQM PER SPACE	USE OF SECTION 52 AGREEMENTS
Hampshire	20	Yes
Kent	20	Yes
Berkshire	25	Not Known
Essex	30	Yes
East Sussex	30	No
Surrey	30	No
West Sussex	30	No
Cambridge	30	Not Known

TABLE 4.2

PARKING DEMAND DATA: BUSINESS USE

SITE	GROSS FLOOR AREA	DATE OF SURVEY	DAY	PARKING PROVISION (NO. OF CARS)	PARKING DEMAND (NO. OF CARS)	PARKING PROVISION (SQM PER SPACE)	PARKING DEMAND (SQM PER SPACE)
Riverside Court, Weybridge	1,252	13/01/88	Wednesday	60	27	20.9	46.4
Pinetrees, Staines	13,459	08/01/88	Friday	400*	176	33.6*	76.5

Source: Original surveys undertaken by JMP Consultants Ltd

* Approximate

5.1 EXISTING STANDARDS

1 car space per 12 sq m gross floor area
plus operational requirements for delivery vehicles (guide figure 1 lorry space per 500 sq m).

A superstore is defined in Surrey as being a single level self-service store selling a wide range of food and a limited range of non-foods and having between 2500 and 5000 sq m of sales space.

5.2 STANDARDS OF OTHER AUTHORITIES

(Summarised in Table 5.1.)

5.2.1 Berkshire

Shops (gross floor area greater than 1000 sq m):

1 car space per 17 sq m gross floor area (g.f.a.)

1 lorry space per 1000 sq m for developments over 2000 sq m.

5.2.2 Cambridge City

Shops, Retail Warehouses and large stores:

1 car space and 1 cycle space for each 25 sq m g.f.a.

1 lorry space off the highway for each 500 sq m floor space.

5.2.3 East Sussex

Supermarkets and Superstores:

11 car spaces per 100 sq m of retail floor space if no petrol sales take place (i.e. 1 space per 9.1 sq m).

12 car spaces per 100 sq m of retail floor space if petrol sales take place (i.e. 1 space per 8 sq m).

PLUS

50 sq m of usable space for loading and unloading for each 450 sq m of retail floor space or part thereof.

Hypermarkets (over 4650 sq m retail floor space):

20.5 car spaces per 100 sq m of retail floor space (i.e. 1 space per 4.9 sq m).

50 sq m of loading space per 450 sq m retail floor space.

5.2.4 Essex

Shops, Supermarkets, Superstores and Hypermarkets:

For units of 2000 sq m gross floor space and over:

1 parking space for every 10 sq m floor space. In all cases adequate provision shall be made for the parking and turning of service vehicles delivering goods.

5.2.5 **Hampshire**

Superstore:

1 space per 10 sq m for free standing sites.

5.2.6 **Kent**

Hypermarkets and Superstores:

1 car space per 10 sq m gross floor space (this includes operational provision of 1 car space per 2000 sq m gross floor space) plus 1 lorry space per 1000 sq m floor space.

5.2.7 **Lincolnshire**

Superstores/Hypermarkets:

1 space per 12 sq m of gross floor area for customers plus 1 space per 100 sqm gross floor area for staff.
Total provision: 1 space per 10.7 sq m.

5.2.8 **West Sussex**

Hypermarkets/Superstores:

1 space per 10 sq m plus 1 lorry space per 500 sq m.

Hypermarkets are defined as single level self service stores offering a wide range of food and non food merchandise with at least 4600 sq m sales area.

Superstores are defined as being similar to hypermarkets but with a sales area of between 2300 sq m and 4600 sq m.

5.2.9 **Glamorgan and Gwent**

Supermarkets and Superstores (over 2001 sq m):

1 car space per 10 sq m and space to accommodate a minimum of 5 commercial vehicles.

5.3 LONDON BOROUGH'S STANDARDS

(Summarised in Table 5.2.)

In approximate numerical order:

AUTHORITY	STANDARD
LB Enfield	Stores in excess of 1860 sq m: 1 space per 9-20 sq m dependent on location.
LB Harrow	1 space per 10 sq m.
LB Sutton	1 space per 12 sq m for customers, 1 space per 125 sq m for employees. Total of 1 space per 10.9 sq m.
LB Hillingdon	Gross Floor Area / Spaces per 93 sq m 1000 sq ft / Sq m per Space
	1858-2787 sq m: 4.5 / 20.7
	2787-3716 sq m: 5.5 / 16.9
	3716-4645 sq m: 6.5 / 14.3
	4645-5574 sq m: 7.5 / 12.4
	5574-6503 sq m: 8.0 / 11.6
	6503-7432 sq m: 8.5 / 10.9
	over 7432 sq m: 8.5 (at least) / 10.9 (at least)
LB Richmond	1 space per 20 sq m for supermarket in excess of 1000 sq m g.f.a.
LB Bromley	1 space per 37 sq m for main centres.
LB Bexley	1 space per 37 sq m of gross floor area.
RB Kingston	1 space per 500 sq m of gross floor area (operational element). 1 space per 50 sq m of gross floor area (non-operational). Total: 1 space per 45.5 sq m.
LB Hammersmith and Fulham	Shops: Customer and Public use: 1 car space per 50 sq m gross floor area. Staff Use: 1 car space per 500-1500 sqm. Highest Combination: 1 car space per 45.5 sq m.

LB Croydon	1 space per 46.4 sq m.
LB Redbridge	1 space per 46.4 sq m.
LB Barking & Dagenham	1 space per 47 sq m.

5.4 PARKING DEMAND DATA

5.4.1 No free-standing superstores were identified in Surrey above those already surveyed. These potential sites which were identified all had either communal parking shared with other developments or in the case of town centre sites had "pay and display" parking frequented by those using high street facilities.

5.4.2 The two surveys undertaken as part of the Trip Generation Studies report in 1987, (Source 2) were both rigorous surveys with 11 hour traffic counts, and sample interviews being taken at the Burpham site. These were both free standing sites and as such the surveys should be a fair representation of other parking demands of these sites and also a good "barometer" against which to compare the other data. At both sites, counts of goods vehicles were taken but no indication of maximum accumulation was made. The total number of goods vehicles on the highest respective days were:

Store	Date	No. of Vehicles	Deliveries per day sq m per Goods Vehicles
Sainsburys, Burpham	Thursday 5/2/1987	29	196
Tescos, Hookwood	Friday 20/2/1987	46	160

Remembering that these are spread over the day, the maximum number of goods vehicles parked at any time for the day will depend upon the delivery facilities for the retailers, the time restrictions imposed on them for deliveries and the operators own distribution procedures.

5.4.3 Town sites were included from the TRICS database. The highest of these, the Safeways in Lewes, had its car park overflowing though it can be used by the public at large. The exact conditions under which these surveys were undertaken is unknown but it is believed that automatic traffic counters could have been used for most of them.

5.4.4 The data derived from published papers is in the main quite old and with much of it the exact date of survey is not specified. It is consequently not known how rigorously these surveys were carried out or whether they are peak figures taken from several surveys. Consequently it can only be concluded that the data collected does not represent the maximum demand for these particular sites.

5.5 COMMENTS FROM OTHER COUNTIES

5.5.1 In the last 10-15 years large out of town superstores have developed and are becoming increasingly popular. They are normally located close to large centres of population and are orientated towards one stop bulk buying. They offer a wider range of goods than a supermarket, often including non-food products. The old "large retail store" parking standard has been found to be inappropriate for developments of this scale and new standards have been derived for stores in excess of 5000 sq m gross floor area (or 2500 sq m selling space) and now, some authorities have set higher standards for retail developments with a retail floor area greater than 5000 sqm.

5.5.2 A good example of a "typical" superstore in the South East is Tescos in Hastings (see Table 5.3), having around 4000 sq m of sales area and a self contained car park. It is therefore thought of as a good yardstick. However there have been problems with other superstores nearby. Safeways in Lewes is reckoned to be at least 100 car spaces short of what it needs. This would mean that its demand is somewhere in the region of one space per 7 sq m. This is probably because Lewes has only one superstore and does not have a large enough population to support a second.

5.5.3 The standard which is set in Essex for "Retail Stores and Shops" covers all premises defined as a shop in the Town and Country Planning (Use Classes) Order and the definitions are split up by floor area. This general category includes shops, supermarkets, superstores and hypermarkets. Also included are takeaway food outlets. The one space per 10 sqm standard however is only imposed on developments of 2000 sq m gross floor space and over and is based on out-of-centre food based stores enjoying an average level of trading. A slightly higher ratio is likely to be justified for the largest of such schemes.

5.5.4 Standards have been derived by one authority as follows:

LOCATION OF STORE	GROSS FLOOR AREA PER CAR SPACE REQUIRED
Town Centre	19.7
District Centre	14.9
Suburban	12.9
Out of Town	10.4
Rural	9.3

These standards were formulated using information from existing stores outside the area, and then tested on three stores within the Authority Area as follows:

STORE	G.F.A SQ M	CALCULATED NEED FROM STANDARD	ACTUAL PROVISION
District	6045	443	419 (inadequate)
Suburban	11000	878	800 (adequate)
Out of Town	23225	2099	1829 (inadequate)

5.5.6 The new standards were seen to make up for the inadequacies of previous standards in all except the suburban case and a general standard of 1 space per 10 sq m gives floor area was adopted. This has been relaxed in town centre locations.

5.5.7 The Sainsbury development to the east of Chichester originally under-provided parking spaces. It was discovered that this was having an adverse affect on their turnover so Sainsburys took the opportunity when adding a small extension to the building of providing many more spaces. Now they provide such a convenient parking prospect for the shopper that there are not enough checkouts.

5.5.8 For one Authority the lorry space requirement for large retail stores was previously one space per 500 sqm g.f.a. This was felt to be too onerous for superstores where economies of scale and management practice may result in bulk delivering of goods. It was therefore recommended that the standard of one space per 500 sq m g.f.a. applies to stores up to 3000 sq m. Above 3000 sq m a minimum provision of six lorry spaces would then be required as a standard, with additional spaces defined by the planning authority taking account of local conditions. In the end, this was simplified to one lorry space per 1000 sq m gross floor area.

5.6 DISCUSSION

5.6.1 The main aim of car parking standards for superstores within the development control process is to ensure that parking for such developments does not overflow onto the surrounding highway network for safety and environmental reasons. With on-street parking being such an emotive issue, it is important that the parking needs of superstores are adequately catered for either on-site or in shared car parks.

5.6.2 As can be seen in Table 5.3, the parking demands of different superstores can vary considerably. Among the factors which affect these demands are:

(i) The availability of parking. Lack of parking space is a disincentive to shoppers.

(ii) The proximity of competing superstores.

(iii) The ease of access to the site.

(iv) The product mix of the superstore. The attraction of the store is likely to be less if it has a high percentage of floor area associated with durable goods.

(v) The percentage of gross floor area given to retailing.

(vi) The location of the superstore with respect to major highway routes.

(vii) Demographic fit (population quantity and spending power).

(viii) Car ownership levels.

(ix) Expected peak trading levels in the future.

5.6.3 It is in the interests of superstore operators to provide adequate parking as superstores are almost by definition targeted at the car borne shoppers. As such, most retailers provide more than adequate car parking spaces for both their present and future needs.

5.6.4 There are several reasons why parking demands are particularly high for superstores in Surrey. These are:-

(i) Apart from Greater London, Surrey has the highest population per store in the south East at 202,000 people/store compared with the next highest Hertfordshire at 195,000 people/store and Buckinghamshire 193,000. Consequently any future stores are likely to have a higher attraction in Surrey than in the other South East Counties.

(ii) Surrey has a very high standard of living and spending power is high. This can be seen from Surrey's unemployment rates which are currently the lowest in the country.

(iii) The number of households with two cars in Surrey is high, as is the general level of car ownership in the county. In 1971, there were 319 cars per thousand population compared with 413 cars per thousand population in 1981. This level is due to rise by a further 17% by 1991. The equivalent figures for England and Wales are 218 per thousand in 1971 and 296 per thousand in 1981 with a further increase of 36% by 1991. Even at this stage, Surrey will still have one of the highest car ownerships in the country as more and more households acquire second cars. (The number of households with two or more cars in Surrey increased by 60% between 1971 and 1981).

5.6.5 There seems to be a consensus between Counties that the definition of a superstore is a store of between approximately 2500 sq m and 5000 sq m of retail floor area, usually concentrating on foodstuffs and operating on a single level. Hypermarkets are taken to mean any superstore with a retail floor area greater than 5000 sq m. It should be noted that the definitions set by Berkshire and Cambridge City are much more general and this might help to explain their relatively low standard.

5.6.6 Superstore parking standards may be expressed in several different forms:-

(i) The retail floor area per parking space approach:

It is freely recognised that retail floor space provides the most reliable indicator of car parking requirements. It is sales area that produces sales and therefore trips, not storage area. Many authorities do not prefer this method however as it does not guard against the original operator of a superstore withdrawing to be replaced by one that uses a larger retail sales area. Whereas it is accepted that the new operator would have to adapt the store to his own needs it does not necessarily follow that planning permission would have to be sought. Consequently this method of expressing car parking standards is not recommended.

(ii) The graduated floor area per parking space approach:

This method has already been accepted in the form of the redefinition of food retail as supermarkets, superstores, hypermarkets etc.

(iii) The gross floor area per parking space approach:

Most authorities express their standards in this form. Despite the demerits outlined in (i) above, it is still the most suitable form for planning purposes. Even though the net floor space to gross floor space ratio varies from operator to operator, the provision of extra retail area in itself does not require renewed planning permission and therefore relating parking to net floor area will not allow for change of ownership at a future date. It is therefore recommended that this approach is retained as the format for parking standards in Surrey.

5.6.7 There is very little data available regarding loading bay requirements. This is because the requirements for goods vehicle parking vary depending upon the delivery practices of different retailers, restrictions in time of delivery and accessibility to the particular site being examined. The data which is available is usually related to total deliveries per day (as in section 5.4.2 and in "Designing for Deliveries' by the Freight Transport Association which specifices 1-4 visits per day per 100 sq m i.e. between 1 per 25 sq m and 1 per 100 sq m). The requirement for loading bays can only be calculated if the size of the vehicles, the time taken for off-loading, the amount of goods needed and restrictions in the delivery times are known. It is most likely that demands for smaller units are high as smaller goods vehicles are usually used, and demands for town centre sites are high as time restrictions are usually imposed and manoeuvering space is less so smaller vehicles have to be used. The standard for shops up to 2500 sq m is therefore likely to be suitable whereas the standard for Superstores is quite onerous at one per 500 sqm g.f.a. This is particularly so where large "national" operators are concerned as they tend to deliver in bulk. This results in the number of deliveries and therefore the number of loading bays required being greatly reduced. Such practices are becoming commonplace for larger stores so change of ownership should not affect the demand for loading bays significantly. It is envisaged that for stores of between 2500 sq m and 5000 sq m retail area a standard of one space per 750 sq m gross floor area would be suitable whereas stores of greater than 5000 sq m retail floor area would probably only require one space per 1000 sq m. This is borne out by the peak goods vehicle parking demand for the Langrey Centre in Eastbourne which consists of a Sainsbury Store (7000 sq m gross) and units (7500 sq m gross) totalling 9237 sq m of retail floor area : the peak demand is one space or bay per 1130 sq m.

5.7 CONCLUSIONS

5.7.1 As car ownership rises in Surrey, the number of cars available for shopping is rising also. With a strong increase in the number of households owning two or more cars, the prospect is for many more vehicle based trips for non-work based activities. Consequently parking demands at superstores and shopping centres are expected to increase in the future, and considering parking demands are already approaching one space per 10 sq m, it would seem that a higher standard than this needs to be contemplated. When looking at the parking standards set by other authorities, there is an underlying trend for a standard of one per 10 sqm. There are, however, two authorities which set higher standards than this, i.e London Borough of Enfield and East Sussex County Council.

5.7.2 In the case of the latter, even though the standard is expressed with respect to retail floor area, the hypermarket figure would still be in the region of one space per 8 sq m gross floor area for a net floor area to gross floor area ratio of 0.6. Therefore to allow for high car ownership in Surrey and the low amount of existing superstores with respect to population then Surrey's standard should be as high if not higher than the other authorities. On this basis, a standard of one space per 9 sq m is suggested. The planning authority may believe it to be expedient to relax this standard for those developments with a retail floor area to gross floor area ratio significantly lower than 0.6 but this should be tied to a Section 52 agreement, where possible, to restrict any lower standard to specific owners/occupiers.

5.7.3 The current servicing requirement, though it is only a guide figure, seems to be quite onerous for superstores, especially those operated by the non food retail chains who deliver in bulk. It is suggested that in such cases, where there are no restrictions to the time of delivery, that the guide figure be reduced to one space per 750 sq m for superstores and one space per 1000 sq m for developments over 5000 sq m of retail floor area.

5.8 RECOMMENDED STANDARD

One car space per 9 sq m of gross floor area

PLUS a guide figure of one goods bay or space per 750 sq m for developments between 2500 and 5000 sq m of retail floor area, or

a guide figure of one goods bay or space per 1000 sq m for developments over 5000 sq m of retail floor area.

The planning authority may wish to relax the car parking standard for stores where the ratio of retail floor area to gross floor area is significantly lower than 0.6. Such arrangements should be tied to a Section 52 agreement, where possible, to restrict any lower standard to specific owners/occupiers. The standard could be reduced in line with proposed retail space usage.

5.9 REFERENCES

1. "Traffic Generation Studies, Surrey County Council", JMP Consultants Ltd, February 1987.

2. "Surrey Structure Plan, Proposed first alteration, 1980".

3. "Designing for Deliveries", Freight Transport Association, October 1983.

4. "Car Park Provision at Asda Stores", Asda 1988.

5. "Grocery Stores 86: IGD Directory", Institute of Grocery Distribution, May 1986.

6. "Shopper and Vehicle Characteristics at large retail shopping centres", GR Leake and DJ Turner, January 1982.

7. "Parking demand at large retail shopping stores: a re-appraisal", GR Leake and DJ Turner, May 1987.

8. "Reasoned Justification for the car parking standards", Essex Planning Officers Association, March 1987.

9. "Vehicle Parking Standards Review" (Confidential), Highways and Transportation Department, Kent County Council, 1986.

TABLE 5.1: SUPERSTORE

SUMMARY OF SELECTED 'SHIRE' PARKING STANDARDS

'SHIRE' AREA	PARKING STANDARD SQ M PER CAR SPACE (GFA)	SERVICING REQUIREMENT SQ M PER LORRY SPACE (GFA)
East Sussex	9.1 *	450 #
Glamorgan and Gwent	10	5 spaces (minimum)
West Sussex	10	500
Kent	10	1000
Essex	10	Assessed individually
Hampshire	10	Not known
Lincolnshire	10.7	Not specified
Surrey	12	500
Berkshire	17	2000
Cambridge	25	500

* Assuming no petrol station attached (related to RETAIL floor area)

Assuming 50 sq m "usable space" equals one space

TABLE 5.2: SUPERSTORES

SUMMARY OF SELECTED LONDON BOROUGHS' STANDARDS

BOROUGH	SQ M PER SPACE (GFA)
LB Enfield	9
LB Harrow	10
LB Sutton	10.9
LB Hillingdon	14.3
LB Richmond	20
LB Bromley	37
LB Bexley	37
RB Kingston	45.5
LB Hammersmith and Fulham	45.5
LB Croydon	46.4
LB Redbridge	46.4
LB Barking and Dagenham	47

Data based on stores of 2500 sq m - 5000 sq m retail floor area

TABLE 5.3: SUPERSTORES

PARKING DEMAND DATA

SITE	GFA SQ M	NET FLOOR AREA	DATE OF SURVEY	DAY	PARKING PROVISION (NUMBER OF CARS)	PARKING DEMAND (NUMBER OF CARS)	PARKING PROVISION SQ M PER SPACE	PARKING DEMAND SQ M PER CAR
Safeways, Lewes (3)	2500	1700	11/04/86	Friday	243	46	10.3	10.2
Asda, Gwent (4)	5500	3813	31/07/77*	Friday	980	520	5.6	10.6
Sainsburys, Stockport (4)	4572	2266	06/12/86	Saturday	402	421	11.4	10.9
Sainsburys, Burphan(2)	5670	2980	05/02/87	Thursday	620	521	9.2	10.9
Tescos, Hookwood (2)	7350	4400	21/02/87	Saturday	700	632	10.5	11.6
Carrefour, Caerphilly (4)	9290	5110	30/11/78*	Friday	1000	782	9.3	11.9
Carrefour, Minworth (4)	13750	6500	31/05/72*	Saturday	1300	1140	10.6	
Asda, Aberdeen (4)	5202	4185	15/11/85	Friday	600	410	8.7	12.7
Prestos, Partick (4)	2230	1584	25/11/83	Friday	unknown	173	unknown	12.9
Co-Op, Ryle (4)	3700	3100	30/09/76*	Friday	450	276	8.2	13.4
Asda, Tipton (4)	4366	2926	30/06/79*	Friday	300	327	14.6	13.4
Carrefour, Eastleigh (4)	11500	5200	31/07/75*	Friday	1100	825	10.5	13.9
Tescos, Hastins (3)	6770	4028	25/09/87	Friday	500	472	13.5	14.3
Presto, Inverness (4)	2644	1765	27/03/87	Friday	213	184	12.4	14.4
Williams Low, Edinburgh(4)	2545	728	11/10/85	Friday	160	168	15.9	15.1
Tesco, Finchley(4)	5230	3270	31/05/79*	Friday	200	338	26.2	15.5
Co-Op Knowesborough(4)	1560	1160	31/10/79*	Friday	105	100	14.9	15.6
Sainsburys, Brighton (3)	5376	--	06/03/86	Thursday	340	335	15.8	16.0
Safeways, Eastbourne (4)	2787	1858	11/09/87	Friday	200#	160	13.9#	17.4
Fine Fare/1, Aberdeen (4)	6355	3518	07/02/87	Saturday	400	352	15.9	18.1
Asda, Radcliffe (4)	4518	2300	13/12/85	Friday	203	239	22.3	18.9
Safeways, Seaford (3)	2830	2200	20/06/80	Saturday	150#	148	18.9#	19.1
Asda, Ludsey (4)	8278	4929	26/06/80	Thursday	460	428	18.0	19.3
Preston, St Andrews (4)	2323	1574	27/03/87	Friday	270	118	8.6	19.7
Nona, Aberdeen (4)	5576	3813	15/11/85	Friday	500	279	11.2	20.0
Presto, Dundee (4)	2796	1626	20/03/87	Friday	120	126	23.3	22.2
Preston, Dumbarton (4)	2800	--	25/11/83	Friday	unknown	112	unknown	25.0
Fine Fare/2, Aberdeen (4)	5300	3097	15/11/85	Friday	270	196	19.6	27.0
Fine Fare, Stirling (4)	4610	3135	30/04.75*	Saturday	200	169	23.1	27.3
Cartiers, Sidcup (4)	3728	2320	30/11/78#	Friday	125	125	29.8	29.8
Fine Fare/3, Aberdeen (4)	2694	1452	07/03/87	Saturday	200	74	13.5	36.4

Sources
(1) Original surveys undertaken by JMP
(2) Data taken from Trip Generation report by JMP Consultants
(3) Data derived from the South East Counties Trip Generation Database, TRICS
(4) Data derived from various published papers.

* Date approximate
\# Parking provision approximate.

6 DIY STORES AND RETAIL WAREHOUSING

6.1 EXISTING STANDARDS

DIY Stores: One car space per 18 sq m gross floor area (g.f.a).

PLUS a guide of one lorry space per 500 sq m g.f.a.

Other retail warehousing: one space per 30 sq m g.f.a.

DIY stores are seen as essentially car based stores allowing for the sale of home improvement materials and tools.

Retail Warehousing including DIY cover more bulky goods such as building materials, carpets and large electrical.

6.2 STANDARDS OF OTHER AUTHORITIES
(Summarised in Table 6.1)

6.2.1 Berkshire

DIY/Home Improvement/Garden Centres:
1 car space per 20 sq m
Furniture Stores/Showrooms:
1 car space per 50 sq m g.f.a
1 lorry space per 500 sq m up to 2000 sq m
1 lorry space per 1000 sq m above 2000 sq m
A minimum of one loading bay for each unit.

6.2.2 Cambridge City

Shops, Retail Warehouses and Large Stores:
1 car space and 1 cycle space for each 25 sqm g.f.a
1 lorry space off the highway for each 500 sqm g.f.a.

6.2.3 East Sussex

Non-food Retail Warehousing:
5.5 car space per 100 sq m of retail floor space.
(1 space per 18.2 sq m retail floor space)

OR 6.3 car spaces per 100 sq m of retail floor space if combined with a garden centre (1 space per 15.9 sq m) 50 sq m of loading space per 450 sq m retail floor space.

Garden Centres Alone:
1 car space per 30 sq m of overall display area (indoor and outdoor).

6.2.4 Essex

DIY Warehouses:
1 car parking space for every 15 sqm gross floor space.

Other Retail Warehouse:
1 car parking space for every 30 sqm gross floor space.

Retail Warehousing Parks:
Provision to be made on the basis of the expected composition of the park as between DIY units and others in accordance with the above. Where this is not possible the standard will be one space for every 22.5 sq m of gross floor space.

In all cases adequate provision shall be made for the parking and turning of service vehicles.

6.2.5 **Hampshire**

1 space per 25 sq m g.f.a. for retail warehousing, or
1 space per 20 sqm if a garden centre is included.

6.2.6 **Kent**

Non-food Retail Warehousing:
1 space per 25 sq m (including operational provision of one car space per 2000 sq m).

PLUS 1 lorry space per 500 sq m gross floor space.

6.2.7 **Lincolnshire**

Retail Warehouses, Discount stores, DIY Stores, Garden Centres: 1 space per 25 sq m of retail/display floor area

PLUS 1 space per 100 sq m of exterior display area

PLUS 1 space per 3 members of staff normally present.

6.2.8 **West Sussex**

Non-food Retail Warehousing:
1 space per 18 sq m plus one lorry space per 500 sqm g.f.a

Garden Centres:
1 space per 30 sq m

6.2.9 **Glamorgan and Gwent**

Retail Warehousing:
1 car space per 30 sqm and

SIZE	OPERATIONAL
up to 200 sq m	1 commerical vehicle
201 -1000 sq m	2 commercial vehicles
1001-2000 sq m	3 commercial vehicles
Over 2001 sq m	5 commercial vehicles

6.3 LONDON BOROUGHS' STANDARDS

In approximate numerical order: (summarised in Table 6.2).

Key : DIY - Do It Yourself Store
DRW - Discount Retail Warehousing
GC - Garden Centre

AUTHORITY	STANDARD
LB Enfield	DRW: 1 space per 15 sqm
LB Hounslow	DIY: 1 space per 18 sq m g.f.a DIY plus GC: 1 space per 16 sq m g.f.a. Electrical DRW: 1 space per 35 sq m g.f.a. Furniture DRW: 1 space per 45 sq m g.f.a.
LB Sutton	DRW up to 2500 sqm: a space per 46 sqm g.f.a. Over 2500 sqm: 1 space per 18 sq m g.f.a.
LB Harrow	DIY, DRW, GC: 1 space per 20 sqm
LB Bexley	DIY: 1 space per 20 sq m
LB Bromley	DRW: 1 space per 37 sq m

6.4 PARKING DEMAND DATA: (See Tables 6.3, 6.4 and 6.5).

6.4.1 Apart from those sites already surveyed within the initial study, only four potential new sites were identified for survey in Surrey. Two were not surveyed as they were as yet unoccupied. The third, Wickes in Woking, was stopped half way through the survey at the request of the Management. The number of spaces were known to be 178 and the store area was 3024 sq m g.f.a. This gives a parking rate of 1 space per 17 sq m. Though the car park was not full at the time it is known that it is frequently overflowing. The fourth site, Great Mills DIY, is included with the other data in Table 6.3.

6.4.2 The two surveys undertaken as part of the Traffic Generation Studies report for Surrey County Council were surveyed with a 3 day traffic count and sample interviews being taken. The B&Q in Leatherhead included some 950 sq m of garden centre retailing space but it is not thought that this has resulted in a particularly low or high parking demand. It should be noted that on the day surveyed the car park overflowed. The figure given for parking demand is an assessment of the total parking on and off site. The Texas in Reigate is thought to operate at a lower turnover on a less varied choice of products. It is thought that this is the reason for its relatively lower parking demand.

6.4.3 There is little data available on retail warehousing and retail parks. The information collected came from various sources but no new sites were identified in Surrey. The range of parking demands that emerged suggests that furher survey work needs to be undertaken in the future but, as retail warehousing is currently not a common type of development, it is difficult to find suitable survey sites.

6.5 COMMENTS FROM OTHER COUNTIES

6.5.1 Assessing the parking need of sites with more than one operator is causing particular problems, especially if the operators are not known in advance or if there is a subsequent change of occupants. One particular case in point was a retail warehouse development containing an MFI and a Queensway. As they were both in direct competition with each other their parking needs were less than would normally be needed if they were operating on different sites. Competition was such that both stores were trading well below their expected levels and it soon became a battle for survival. Comet then bought and occupied the Queensway site and large parking problems occurred as joint repulsion became joint attraction. Consequently the Districts where this occured now insist that retail parks or developments consisting of two or more retail warehouses have their parking individually assessed for each store.

6.5.2 Experience has shown that Do-It-Yourself stores generate significantly more turnover, traffic and parking than other forms of retail warehousing. The higher parking standards applied to DIY developments is therefore considered to be fully justified and has been supported by the Secretary of State for the Environment on appeal.

6.5.3 Luton Borough Council has produced a publication on shopping policies which recommended very high standards for retail warehousing as part of an integrated planning policy aimed at preserving the town centre as a retail area.

6.5.4 In the assessment of Retail Parks, DIY and other retail warehousing are considered separately hence the mix of developments within a Retail Park needs to be known. Where the mix is not known, an average of the who standards is usually used. However, if parking areas are to be communal, a lower standard may need to be accepted.

6.5.5 In the case of retail warehouse parks, it is believed that turnover of car parks is lower as customers tend to stay longer and hence the standard needs to be higher than that of the indivicual sites combined. Most retailers recognise the advantages of providing surplus parking spaces and will actually provide more spaces than are required. A particular example was quoted of a toy-based retail warehousing development where the requirement was 200 and the retailers insisted on providing 400. In general, toy stores are still a rare phenomenon and consequently shoppers are prepared to travel long distances to visit them. Consequently, the traffic generation and parking demands are much higher than one would expect for such a store.

6.5.6 Five sites in this type were surveyed in Kent and a standard of one space per 25 sq m emerged but it was thought that this will be proven inadequate. One such survey was undertaken on a Retail Park at Gillingham containing a Magnet and Southern, an MFI, a B&Q and a Furnishing World. The parking provision was one per 30 sqm and the demand was one per 33 sq m though it should be noted that these surveys were carried out in the week before Christmas.

6.5.7 A particular Payless DIY has parking problems not due to lack of provision but because parking is inconveniently placed away from the main entrance around the back of the building. Most people do not realise it is there. It was suggested that parking for such developments should have to be visible from the road, accessible from the road and within a certain distance of entrances and exits.

6.5.8 There are several large retail parks planned for the South East. Most of them consist of 4 or 5 units of a large size and occasionally several small units. It is usually not known in advance what types of stores will occupy the units as they are usually built by developers and let afterwards to the main retail chains. Planning for such sites is therefore a difficult task. Though there is no plan to put a DIY store on many of the sites yet, the decision whether or not to do so will greatly affect parking needs.

6.6 DISCUSSION

6.6.1 Retail warehousing has traditionally become a car based form of retailing. This is largely because such developments usually concentrate on the sale of more bulky goods which are not easily portable. Because of this most retailers realise that, in order to attract the potential customer, large parking areas must be provided. Consequently retail warehouses will be attracted to an area with high car ownership and not to an area where availability of public transport is a necessity. However, considering the wide range of parking demands encountered in Table 6.3, the assessment of a future store's parking needs is a very complex process which neither planning authorities nor developers can afford to get wrong. Retail warehouses are not a common phenomena and their interaction with each other over large catchment areas makes it very important that a high standard is set, especially in the light of the experiences of the South East counties where a retailer withdraws and is replaced by a much more active unit. In such a case the parking demand can greatly increase and parking standards should allow for this.

6.6.2 Increasingly, retail warehouses are being grouped into retail parks. Their interaction with each other is very difficult to predict especially as they have no standard format and frequently include food stores and fast food restaurants. So far, there has been no consistent approach taken by other authorities as can be borne out by Table 6.6 showing the parking provision at various retail parks around the country along with their compositions.

6.6.3 The huge variety of combinations exemplifies the problem that local authorities face when specific retailers have not been identified for a particular site. There is no set proportion of DIY usually involved in a retail park and as this is usually a major factor affecting the parking demand of such a site, any standard set for retail parks should be an average of the DIY standard and the general retail warehousing standard but with a leaning towards DIY.

6.6.4 It is possible to express standards with respect to either gross floor area or retail sales area. However, the latter is not usually considered as there is usually a very fine line between storage area and display area. Most net floor area to gross area ratios seem to be quite constant at between 0.90 and 0.95 for DIY. For other retail warehousing, this ratio may vary considerably with some stores concentrating on across the counter sales with customers making their choice from a catalogue. In these cases, storage area attracts sales as well as "retail" floor area and it is thought that because of this parking standards for all retail warehousing should be based on gross floor area.

6.6.5 DIY and other types of retail warehousing developments are now considered as being different types of land use. This is because they appeal to different markets. In the case of the latter, customers are usually looking for a particular item of luxury or necessity goods based on furniture or electical ware. Consequently, the customer is not likely to be a frequent visitor to that particular store and will probably spend quite a large amount of money on one item. DIY Stores by contrast attract a certain clientele who would most likely visit the store to buy convenience goods; the customer uses the materials and then comes back for more. Because of this DIY stores attract more people and therefore more traffic than other types of retail warehouse. Consequently, the traditional separation of the two types is quite justified and has been supported both in inquiries and on appeal to the Secretary of State for the Environment.

6.6.6 There is little consistency in the parking standards set for Garden Centres as it is not clear whether they are classed as the equivalent of DIY or retail warehouses. However, their patterns of retailing are quite similar to DIY stores, i.e. they concentrate on cheap convenience goods which are mainly expendable (for example fertiliser, seeds, etc) and also the tools which are necessary to use them. Because of this it is thought that they probably have quite a high parking attraction expecially as they usually have a very intensive display. Consequently, it is believed that garden centres should have the same parking standards as DIY stores and that they should be related to the total display area, both internal and external. Measurement of display area is a problem and it is suggested that the total roofed area be taken and multiplied by 2 in cases where display area is not distinguishable from parking areas.

6.7 CONCLUSIONS

6.7.1 DIY stores and garden centres are now very popular in the south east of England and they attract a large amount of shoppers expecially on Saturdays and Sundays. In the light of this it is felt that Surrey's parking standards should be amongst the highest in the south east. The present standard of one space per 18 sq m is showing itself to be inadequate. The demands in Table 6.3 are all tending towards a higher standard especially as most are outside the traditional peak period of March/April and therefore probably do not represent the highest demands. It is therefore thought that a standard of one space per 16 sq m would be more appropriate.

6.7.2 It has been shown that retail warehouses have a lesser parking attraction than DIY though usually more money is spent in them (the average spending per capital on electical goods in 1982 was £99 and on furniture was £48 whereas the equivalent figure for DIY was only £33). However, judging by the data that has been collected and the standards of other authorities it seems as if the present standard should be increased to one space per 25 sq m.

6.7.3 Judging by the results from Birkenshaw and Blythswood Retail Parks it would seem that Retail Park developments may attract more parking than the individual developments would if on separate sites. This evidence is not conclusive and there are too many factors involved and not enough data. The factors involved are also probably outside the scope of the information available to a planning authority trying to set a standard for such a site. It is therefore suggested that a blanket figure of one space per 20 sq m be used for retail parks except where the total DIY floor space would require a greater standard.

6.8 RECOMMENDED STANDARDS

Do-it-yourself stores: 1 space per 16 sq m gross floor area.

Garden Centres: 1 space per 16 sq m total display area.

Other Retail Warehousing: 1 space per 25 sq m gross floor area.

Retail Parks: 1 space per 20 sq m gross floor area.

PLUS a guide of one lorry space per 500 sq m g.f.a.

6.9 REFERENCES

1. "Reasoned Justification for the Car Parking Standards", Essex Planning Officers Association, March 1987.

2. "Vehicle Parking Standards Review", Highways and Transportation Department, Kent County Council, 1986.

3. "Traffic Aspects of DIY Centres", DJ Turner and MF Jeeves, Highways and Transportaion, May 1985.

4. "Retail Warehouse Parks: An Approach to Planned Development", Bernard Thorpe and Partners, May 1985.

5. "Surrey County Council, Traffic Generation Studies", JMP Consultants Ltd, February 1987.

6. "Review of Shopping Policies", Luton Borough Council, December 1986.

TABLE 6.1

SUMMARY OF SELECTED "SHIRE" PARKING STANDARDS

'SHIRE' AREA	STANDARD: SQ M PER SPACE			
	DIY	RETAIL WAREHOUSING	LOADING REQUIREMENTS	GARDEN CENTRE
Essex	15 *	30 *	'adequate'	-
Surrey	18	30	500	-
West Sussex	18	18	-	30
Berkshire	20	50	500/1000	20
East Sussex	20 #	20 #	450	33 #
Cambridge	25	25	500	-
Hampshire	25	25	unknown	20
Kent	25	25	500	-
Lincolnshire	25	25	-	25
Glamorgan and Gwent	30	30	5 vehicles	

* Retail Parks at one space per 22.5 sq m

\# Based on net floor area to gross floor area ratio of 0.9

TABLE 6.2

SUMMARY OF SELECTED LONDON BOROUGHS' STANDARDS

BOROUGH	STANDARDS: SQ M PER SPACE (GFA)	
	DIY	OTHER RETAIL WAREHOUSING
LB Enfield	15	15
LB Hounslow	16-18	35-45
LB Sutton	18	18
LB Harrow	20	20
LB Bexley	20	-
LB Bromley	37	37

TABLE 6.3

PARKING DEMAND DATA: DIY

	GFA SQ M	NET FLOOR AREA	DATE OF SURVEY		PARKING PROVISION (NUMBER OF CARS)	PARKING DEMAND (NUMBER OF CARS)	PARKING PROVISION SQ M PER SPACE	PARKING DEMAND SQ M PER CAR
Homebase, Basingstoke(3)	3020.0	-	05/85	Saturday	200	164	15.1	18.4
Sainsburys HB, Croydon(4)	5206.0	4733.0	09/81	Saturday	212	270	24.6	19.3
B & Q, Reading (4)	5592.0	5181.0	04/86	Sunday	230	280	24.3	20.0
B & Q, Altrincham (4)	3279.0	2988.0	04/83	Sunday	140	158	23.4	21.6
B & Q, Leatherhead (2)	4000.0	3250.0	02/87	Sunday	158	185	25.3	21.6
Great Mills DIY Ashford(1)	3060.0	-	01/88	Sunday	166	126	18.4	24.3
B & Q, Greenford (4)	4478.0	4186.0	08/84	Sunday	183	184	24.5	24.3
B & Q, Ilford (4)	4255.9	3970.0	08/86	Sunday	230	174	18.5	24.5
B & Q, Ashford, Kent (4)	2094.0*	1904.0	06/83	Saturday	143	80	14.6	26.2
B * Q, Watford (4)	4366.0	4125.0	08/85	Sunday	234	166	18.7	26.3
B & Q, Stanmore (4)	4884.0	4376.0	04/86	Sunday	226	179	21.2	26.7
B & Q, Vernon, Glasgow (2)	2300.0	-	02/85	Sunday	207	85	11.1	27.1
Texas, Brighton (3)	3250.0	-	03/86	Saturday	161	109	20.2	29.8
B & Q, Hastings (3)	2034.0*	1849.0	06/83	Sunday	68	68	29.9	29.9
Payless DIY, Brighton (3)	2755.0	-	03/86	Saturday	76	91	36.3	30.3
B & Q, Ponders End (4)	4258.0	3980.0	01/86	Sunday	197	136	21.6	31.3
B & Q, Hogganfield Glasgow (4)	4260.0	-	02/85	Sunday	-	136	-	31.3
B & Q, Wimbledon (4)	3250.0	3019.0	08/84	Saturday	120	104	27.1	31.3
B & Q, Chingford (4)	3595.0	3361.0	08/84	Saturday	122	108	29.5	33.3
B & Q, Gorseinon, Glamorgan (4)	2350.0*	2137.0	06/83	Saturday	93	68	25.3	34.6
B & Q, Poole (4)	2248.0*	2044.0	06/83	Saturday	97	63	23.2	35.7
B & Q, Birmingham (4)	3902.0	3716.0	10/85	Saturday	153	109	25.5	35.8
DO-IT-ALL, Stirchley W. Midlands (4)	1329.0*	1208.0	08/80	Friday	59	35	22.5	38.0
B & Q, Old Trafford, Manchester (4)	4088.0	3953.0	07/83	Sunday	157	106	26.0	38.6
B & Q, Larkfield, Kent(4)	3577.0	3344.0	08/84	Sunday	166	90	21.5	39.7
Texas, Reigate (2)	3160.0	2330.0	02/87	Saturday	80	79	39.5	40.0
B & Q, Loughborough, Leics, (4)	2013.*	1830.0	06/83	Saturday	143	49	14.1	41.1
B & Q, Canterbury (5)	1470.0	-	Winter/85	Unknown	60	35	24.5	42.0
DO-IT-ALL, Willenhall, W. Midlands (4)	3015.0*	2741.0	09/80	Friday	130	71	23.2	42.5
B & Q, Cheltenham (4)	4663.0	4306.0	10/85	Saturday	158	107	29.5	43.6
Payless, Canterbury (5)	1670.0	-	Winter/85	Unknown	100	36	16.7	46.4
B & Q, Aintree (4)	3066.0	2787.0	06/83	Sunday	200	59	15.3	52.0
Texas, Lewes (3)	2175.0	1785.0	06/87	Friday	44	39	49.4	55.8
Dodge City, Stretchford(4)	4089.0*	3717.0	09/80	Friday	200	71	20.4	57.6
Brewers, Tunbridge Wells(5)	1840.0	-	Winter/85	Unknown	50	29	36.8	63.4
Dodge City, Bliston (4)	3199.0	2908.0	09/80	Saturday	196	32	16.3	100.0

SOURCES
(1) Original surveys undertaken by JMP Consultants
(2) Data taken from Trip Generation report by JMP Consultants
(3) Data derived from the South East counties Trip Generation database, TRICS
(4) Data derived from various published papers and reports
(5) Kent County Council reports (CONFIDENTIAL)
* GFA approximate

TABLE 6.4

PARKING DEMAND: RETAIL WAREHOUSING

SITE	GFA SQ M	RETAIL FLOOR AREA	DATE OF SURVEY	DAY	PARKING PROVISION (NUMBER OF CARS)	PARKING DEMAND (NUMBER OF CARS)	PARKING PROVISION SQ M PER SPACE	PARKING DEMAND SQ M PER CAR
Comet, Rochester (5)	2250.0	-	Winter/85	Unknown	34	95	66.2	23.7
Oakhive, Maidstone (5)	2890.0	-	Winter/85	Unknown	80	84	36.1	34.4
MFI, Hastings (3)	4552.0	1672.0	09/87	Saturday	150	111	30.3	41.0
MFI, Finnieston, Glasgow (4)	4000.0	-	02/85	Sunday	N/A	88	N/A	45.5
Brown Bear, Dawsholm, Glasgow (4)	2770.0	-	01/85	Sunday	N/A	50	N/A	55.4

Sources: (3) Data derived from the South East Counties Trip Generation Database, TRICS

(4) Data derived from various published papers and reports.

(5) Kent County Council report (CONFIDENTIAL).

TABLE 6.5

PARKING DEMAND DATA: RETAIL PARKS

SITE	GFA SQ M	RETAIL FLOOR AREA	DATE OF SURVEY	DAY	PARKING PROVISION (NUMBER OF CARS)	PARKING DEMAND (NUMBER OF CARS)	PARKING PROVISION SQ M PER SPACE	PARKING DEMAND SQ M PER CAR
Birkenshaw Retail Park Uddington, Strathclyde (4)	9220.0	-	02/85	Sunday	N/A	559	N/A	16.7
Blythswood Retail Park Renfrew, Strathclyde (4)	13580.0	-	01/85	Sunday	N/A	720	N/A	18.9
Abbotsinch Retail Park Paisley, Strathclyde (4)	6770.0	-	01/85	Sunday	N/A	244	N/A	27.7
Gillingham 'Business' Park (5)	8410.0	-	Winter/85	Unknown	285	252	29.5	33.4

Source: (4) Data derived from various published papers and reports.

(5) Kent County Council report (CONFIDENTIAL)

TABLE 6.6

CHARACTERISTICS OF RETAIL WAREHOUSING ESTATES

RETAIL PARK	TYPE OF STORE BY SIZE (SQ M)							GFA M^2	NO OF SPACES	PARKING PROVISION SQ M PER SPACE
	DIY/ TEXTILES	FURNITURE/ CARPETS	ELECTRICAL	TOYS	GARDEN CENTRES	SPORTS/ LEISURE	OTHER			
Aireside Centre, Leeds'	-	9733	-	2569	-	-	-	12302	275	44.7
Bishop Centre, Taplow	1300	1470	93	-	1161	841	251	5116	350	14.6
Cheetham Hill, Manchester	6973	4923	-	-	-	-	-	11896	493	24.1
Fairacres, Abingdon	2322	11924	-	-	-	-	-	14226	355	40.2
Gillingham, Kent	2322	6038	-	-	465	-	-	8825	285	29.5
Maesglas Estate, Newport	5128	8082	2666	-	-	-	-	15876	579	27.4
Swansea: Outside Pk	2880	10280	-	-	-	-	-	12230	375	32.6
Inside Pk		6964	1858	-	-	-Clothes	2229			
						Foods	7983	19034	1353	13.7
York Road, Doncaster:										
- The Stadium	2787	4710	882	-	-	-	-	8379	300	27.9
- Other Retail Warehouses	828	8342	-	-	-	-	-	9170	281	28.9

Source: Reference (4)

7 REGIONAL SHOPPING CENTRES

7.1 EXISTING STANDARD

No standard has been set for developments larger than a superstore (5000 sq m retail floor area) for which the standard is one space per 12 sq m gross floor area.

7.2 STANDARDS OF OTHER AUTHORITIES

(Summarised in Table 7.1) No authority has a parking standard for Regional Shopping Centres. The following are standards for the largest stores:-

7.2.1 East Sussex

Hypermarkets: 20.5 car spaces per 100 sq m retail floor space (r.f.a.) that is, 1 space per 4.9 sq m r.f.a.

7.2.2 Essex

Stores over 2000 sq m : 1 parking space for every 10 sq m gross floor space (g.f.a.)

7.2.3 Kent

Hypermarkets: 1 space per 10 sq m g.f.a.

7.2.4 Lincolnshire

Hypermarkets: 1 space per 12 sq m g.f.a. for customers
1 space per 100 sq m g.f.a. for staff
Total: 1 space per 10.7 sq m

7.2.5 West Sussex

Hypermarkets: 1 space per 10 sq m

7.3 LONDON BOROUGHS' STANDARDS

No London Borough specifies a standard for Regional Shopping Centre. The following are the standards for Hypermarkets and large stores (quoted in terms of gross floor area):

AUTHORITY	STANDARD: One space per
LB Enfield	9 sq m
LB Harrow	10 sq m
LB Sutton	10.9 sq m
LB Hillingdon	10.9 sq m
LB Richmond	Each case considered separately (Hypermarkets) Supermarkets: 20 sq m
LB Bromley	37 sq m

7.4 PARKING DEMAND DATA

The data in Table 7.2 is compiled from several reports included in the Trip Generation Studies report previously undertaken for Surrey County Council. The sites identified are as follows:-

(i) Milton Keynes

Milton Keynes shopping centre is not free standing but forms the centre of the new town. Because of this, the surveys undertaken were completed by interview and scaled up to give traffic generation and parking demand. The modal split throughout the week indicated that 70% of shoppers came by car, 12% by bus, 8% by coach excursion and 7% walked. On Saturday the percentage which came by coach excursion was 17% as opposed to by car at 67% and by bus 9%. The figures generally suggested that the centre acted as a local centre at the beginning of the week but attracted shoppers from long distances at weekends.

(ii) Metro Centre, Gateshead

Though not fully completed, the Metro Centre, Gateshead is one of the largest shopping centres in the country containing 4 general stores and 160 other retailing units. The surveys were undertaken six days a week during November and December 1986 and consisted of traffic counts and interviews. The site currently has 5000 car spaces for shoppers and 1400 for employees. Data on catchment area showed that on a Saturday 29% of shoppers travelled more than 20 minutes to get to the centre and 12% travelled more than 30 minutes. By contrast, the Sainsbury store in Burpham only 5% of customers come from more than 20 minutes drive and less than 1% from more than 30 minute drive away. From a small sample interview, it was found that on Friday 77% of shoppers came by car (72% on Saturday), 17% by bus (18% on Saturday), 4% by coach (7% on Saturday) and 1% walked on both days.

(iii) Brent Cross Shopping Centre

Brent Cross consists of 2 department stores, four large variety stores and over 70 small units. Its location close to the North Circular and the southern end of the M1 implies that it has a large catchment area and it is reckoned that the average trip length is about 30 minutes. The site is well served by a network of local bus routes and because of this a large precentage of shoppers are believed to travel by public transport. The car park holds 5200 and in addition to this there is a staff car park.

7.5 COMMENTS FROM OTHER COUNTIES

Permission has been granted for the new Regional Shopping Centre at Thurrock. It will have one million square feet and 8000 parking spaces i.e. 1 space per 11.6 sq m g.f.a. The parking provision was set down by the developers and the local Council was unable to contest it. However, they do believe that 8000 spaces is an overprovision as the developers realise the risk to their development if potential shoppers and retailers are put off by parking problems. It is reckoned that the traffic generation for the site is a more contentious issue than parking.

Most Authorities are still at a loss as how to assess the parking demands for such large retail developments. Traffic generation is generally thought to be a more contentious issue.

7.6 Discussion

7.6.1 A Regional Shopping Centre is generally defined as a covered centre usually containing two department stores, several other large variety stores and a large amount of small shops. The range of gross floor space provided is usually between 500,000 sq ft to 1,500,000 sq ft. The attraction of a regional shopping centre is quite different from that of a hypermarket as the latter will have one major retailer concentrating on convenience goods whereas the former will have many retailers concentrating on comparison or durable goods. As such, traffic generation rates for regional shopping centres would be lower than those for smaller developments, average parking duration tends to be a lot longer as is shown in the table below: