



Residential Car Parking Research for Nottinghamshire

Highway Development Control Guidance

FIRST EDITION – 1st February 2010



Residential Car Parking Research for Nottinghamshire

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If you require this publication in an alternative format please email:

Email Address: transport.strategy@nottscc.gov.uk

Nottinghamshire County Council
LTP & Programmes
Communities
Trent Bridge House
Fox Road
West Bridgford
Nottingham
NG2 6BJ

Tel: 0115 97 72560

Fax: 0115 97 74054

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Department for Communities and Local Government
Eland House
Bressenden Place
London
SW1E 5DU
Telephone: 020 7944 4400
Website: www.communities.gov.uk

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Introduction

This document sets out guidance to developers and others on the demand for car parking space on residential developments in Nottinghamshire.

1. National guidance for the provision of parking space to serve new development appears in Planning Policy Guidance Note (PPG) 13 *Transport* (March 2001). Paragraphs 12 to 17, which deal with housing development, have been replaced by new policy set out in Planning Policy Statement (PPS) 3 *Housing* (November 2006). The relevant paragraphs are as follows (emphasis added).

Extracts from PPS3 Housing (November 2006)

16. Matters to consider when assessing design quality, amongst other things, include the extent to which the proposed development:

- **Is easily accessible and well-connected to public transport and community facilities and services, and is well laid out so that all the space is used efficiently, is safe, accessible and user-friendly.**
- **Takes a design-led approach to the provision of car-parking space, that is well-integrated with a high quality public realm and streets that are pedestrian, cycle and vehicle friendly.**

51. Local Planning Authorities should, with stakeholders and communities, develop residential parking policies for their areas, taking account of expected levels of car ownership, the importance of promoting good design and the need to use land efficiently.

2. This document takes advantage of increased flexibility in Government policy, to provide an evidence base to residential car parking demand which is more responsive to local circumstances. It acknowledges and incorporates the findings of recent research on residential parking, in particular *Residential Car Parking Research* (2007) produced by WSP and others for the Department for Communities and Local Government. They give an approximation to the level of car ownership for each type of housing, which can be used in assessing the part of the policy concerned with avoiding road safety problems and environmental problems caused by "overspill" parking.

Residential Car Parking Research (2007) published by The Department of Communities and Local Government (DCLG)

The Department for Communities and Local Government (DCLG) published *Residential Car Parking Research* (2007). This research, which was undertaken by WSP Ltd in association with Phil Jones Associates, TRL and David Lock Associates and others for the Department for Communities and Local Government (DCLG) considers expected levels of car ownership¹ and the factors which have a significant influence on car ownership and car parking demand, including:

- Dwelling size (number of 'rooms'), type and tenure;
- Dwelling location;
- Availability of allocated and unallocated parking spaces;
- Availability of on-and off-street parking;
- Availability of visitor parking; and
- Availability of garage parking.

Car ownership levels for all households in England were utilised based upon the 2001 Census. The 2001 Census is considered the most suitable source of car ownership data that is widely available.

Dwelling size is categorised by the number of 'rooms' in the 2001 Census. The count of the number of rooms in a household's accommodation does not include bathrooms, toilets, halls or landings, or rooms that can only be used for storage. All other rooms, for example, kitchens, living rooms, bedrooms, utility rooms and studies are counted.

The data is then categorised by dwelling size (number of 'rooms'), type and tenure. This enables the car ownership levels for particular categories of dwelling to be identified.

The data is then categorised in terms of location. These categories are listed as:

- Remote Rural
- Rural
- Suburban
- Urban
- City Centre
- Inner London

Taking into account the influencing factors (eg dwelling size, type, tenure and location) car parking demand may be calculated for a particular dwelling category. Total demand for car parking spaces varies depending on dwelling size and the extent to which car parking spaces are allocated.

1. Throughout this research 'car ownership' is used to refer to the number of cars and vans that are available for use by one or more members of a household. It includes company cars and vans that are normally parked at the home.

Residential Car Parking Research for Nottinghamshire

The philosophy and methodology established in the DCLG *Residential Car Parking Research* (2007), is promoted in the highway design guide 'Highways, transportation and development' (Htd) that has been adopted by Nottinghamshire County Council, Leicestershire County Council, Derbyshire County Council and Leicester City Council.

Furthermore, the DCLG *Residential Car Parking Research* (2007) suggests that 'Local planning authorities may wish to develop similar approaches to calculating car parking demand, taking into account the characteristics of housing in their area and local assessments of future household and car ownership levels.

On this basis Nottinghamshire County Council resolved to produce '*Residential Car Parking Research for Nottinghamshire*' for their area utilising similar approaches to calculating car parking demand as the DCLG *Residential Car Parking Research* (2007).

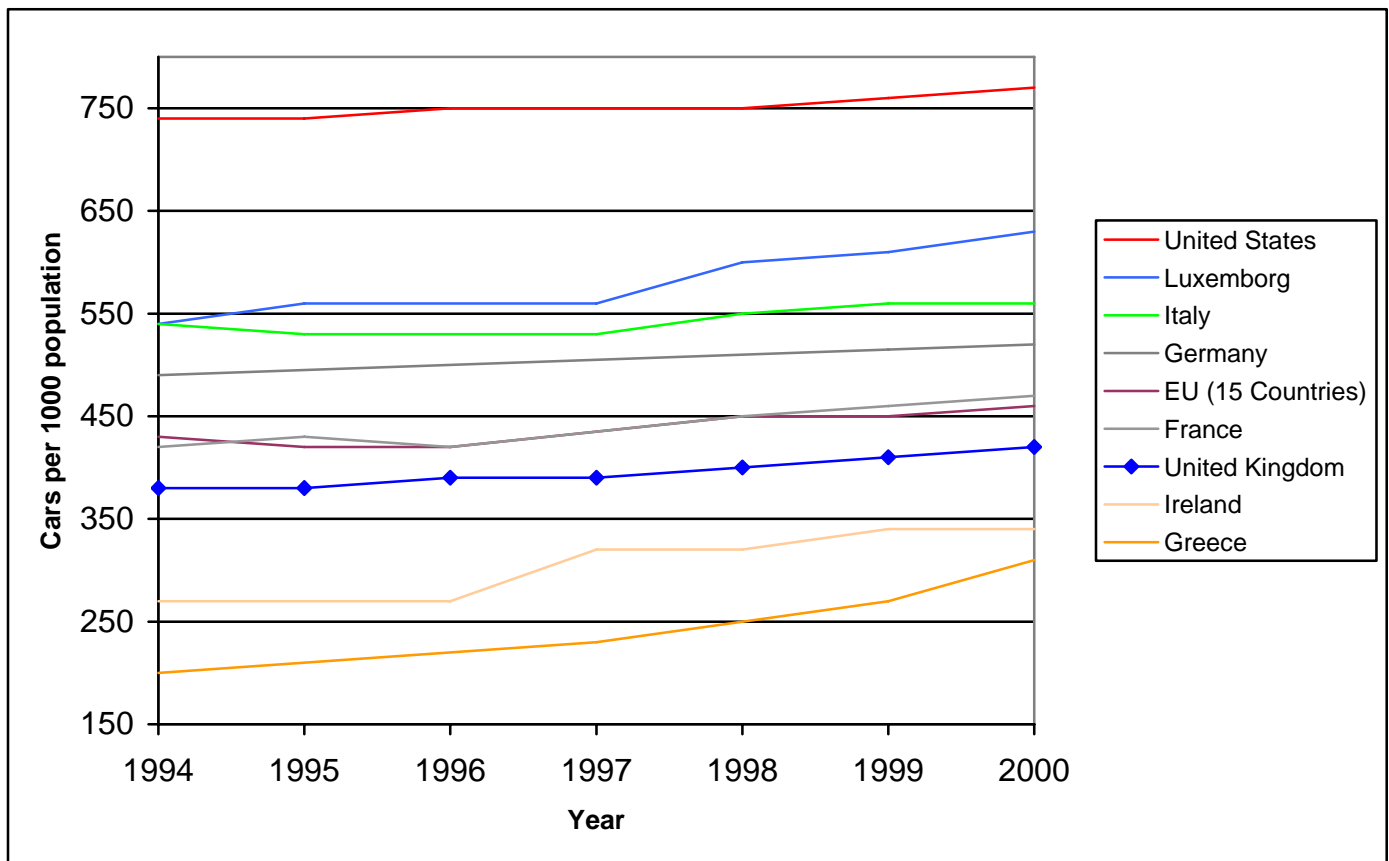
It should be noted therefore that Nottinghamshire County Council has produced this document, '*Residential Car Parking Research for Nottinghamshire*', with the kind permission of the DCLG under the terms of the Click-Use Licence C2009001650.

Growth in Car Ownership

Figure 1 shows how car ownership has grown in recent years in the United Kingdom (UK) and in other countries. It suggests that the number of cars per household in the UK does not appear to be reaching saturation level and that car ownership is:

- Lower in the UK than the average for the EU;
- Lower in the UK than in other similarly-developed countries; and
- Likely to continue to grow for the foreseeable future.

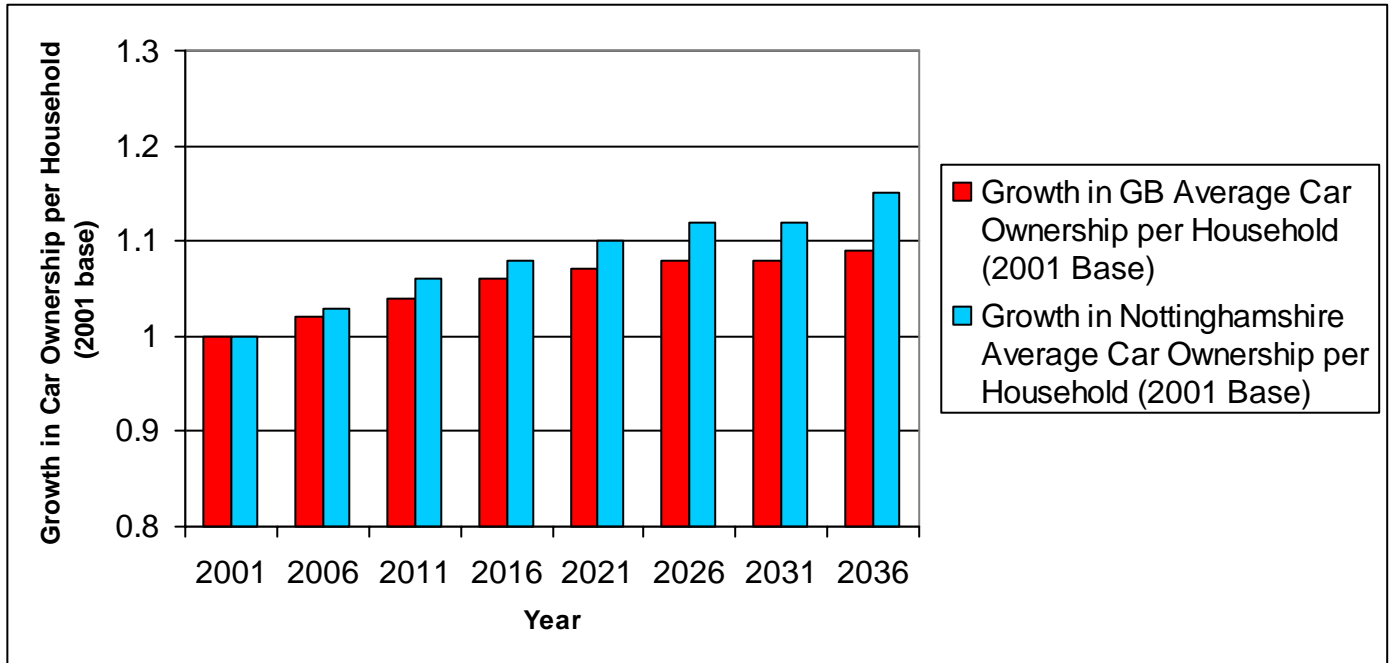
Figure 1: Growth In Car Ownership Per Person (Source – EU)



Predictions of growth in car ownership (down to local authority level and below in some cases) can be derived from the TEMPRO₂ model. Figure 2 shows the increase in car ownership per household predicted by the model for Great Britain and Nottinghamshire for the period up to 2036. TEMPRO forecasts take into account planning data, including forecasts of growth in population and households in each local authority area. These forecasts of car ownership growth are for all dwellings, and do not take into account dwelling size, type and tenure.

2. TEMPRO is a computer program prepared and issued (as a free download) by the Department for Transport – see www.tempro.org.uk. It has also been used to derive the average 2026 car ownership values set out in this research.

Figure 2: Tempo (Version 6) Forecasts of Car Ownership Growth



Factors influencing car ownership and car parking demand

Dwelling size, type and tenure

Dwelling size and type are major factors in determining car ownership³ levels. This is logical as larger dwellings are more likely to be inhabited by more people of driving age and/or households with larger incomes. Conversely, smaller dwellings tend to be occupied by single-person households. The number of bedrooms has often been used as a proxy for size, however this is a coarse measure given the significant variation in car ownership that has been found between, say 4 and 5 room dwellings, and the fact that in most flats there is little difference between individual rooms (other than kitchens) and the uses to which they can be put. This research uses the number of rooms (as defined by the Census)⁴ as the proxy for dwelling size.

Tenure is another influence on household car ownership. In particular, households occupying rented accommodation can have up to 0.7 fewer cars than owner-occupied households in dwellings of similar size and type. Local planning authorities will wish to consider tenure carefully when developing car parking policies given that any future changes in the tenure of dwellings may change the nature and demand for car parking.

Appendix A sets out car ownership levels for all households in Nottinghamshire, based upon the 2001 Census. The data is categorised by dwelling type, tenure and size (number of rooms). This enables the car ownership levels for particular categories of dwelling to be identified.

Dwelling location

In terms of location, local planning authorities may wish to consider the effect on car ownership of the availability of local services that can be reached on foot and by cycle and access to public transport.

To assist the local planning authorities (LPA) understanding of these effects within their areas, Nottinghamshire County Council has obtained from National Statistics the Census data broken down to district ward areas. One way of presenting this data is set out in Appendix A for Nottinghamshire and in Appendix D for the districts authorities. This data can then be used to examine in detail car ownership patterns in a particular district.

Basing expected car ownership upon Census or other survey data, as set out above, implicitly assumes that new housing will have similar car ownership characteristics to the existing housing stock in the area. Local planning authorities will want to consider whether this is an appropriate generalisation when developing car parking policies for their area.

3. Throughout this research 'car ownership' is used to refer to the number of cars and vans that are available for use by one or more members of a household. It includes company cars and vans that are normally parked at the home.

4. 'Rooms' are defined in the 2001 Census as follows: The count of the number of rooms in a household's accommodation does not include bathrooms, toilets, halls or landings, or rooms that can only be used for storage. All other rooms, for example, kitchens, living rooms, bedrooms, utility rooms and studies are counted.

Availability of allocated and unallocated car parking spaces

The allocation of spaces to individual dwellings can have an adverse impact upon the efficiency of car parking provision. Allocated parking spaces include any spaces within the curtilage of a property (eg garage or driveway parking) and any spaces in communal areas where the space is reserved for one particular property. On-street spaces upon public highways are always unallocated although they can be reserved for a particular purpose such as residents' parking.

The potential impact of allocated car parking spaces is best illustrated through a worked example, as set out below. In 2001, the profile of car ownership for households in 5 room owner-occupied houses in Nottinghamshires was:

- 16% had no car;
- 55% had one car;
- 24.5% had two cars;
- 3.5% had three cars; and
- 1% had four or more cars.

Assuming a one to one relationship between households and dwellings (as this research does), this gives an overall demand of 1.2 car parking spaces per dwelling, assuming that the car parking spaces are unallocated (ie shared). However, if each dwelling were to be allocated one car parking space (which could not be used by any other household), then 16% of the allocated spaces would be unused (ie by households with no car). Also, there would be additional demand for parking spaces from households with two or more cars which would equate to:

ADDITIONAL DEMAND FOR PARKING PER DWELLING =

*1 X (PROPORTION OF TWO CAR HOUSEHOLDS) +
2 X (PROPORTION OF THREE CAR HOUSEHOLDS) +
3 X (NO. OF FOUR CAR HOUSEHOLDS)*

Which in this case would be:

Additional demand = $(1 \times 0.245) + (2 \times 0.035) + (3 \times 0.01) = 0.345$ cars per dwelling

The overall parking requirement per dwelling would therefore be:

1.0 allocated space + 0.345 unallocated space = 1.345

In other words, by allocating 1.0 space per dwelling, the overall parking requirement would increase to 1.345 spaces per dwelling, which would result in a 12% ($1.345/1.2$) increase in the space required for parking, compared to a situation where car parking is unallocated.

5. See Table in Appendix A for source data.

If this approach is applied to flats, the efficiency advantages of unallocated parking are even greater. For example, the profile of car ownership for households in 4 room owner occupied flats in 2001 for Nottinghamshire⁶ was:

- 36% had no car;
- 55% had one car;
- 8% had two cars;
- 1% had three cars; and
- 0% had four or more cars.

This gives an overall demand of 0.7 car parking spaces per dwelling, assuming that the car parking spaces are unallocated. The additional demand for car parking, if each dwelling were allocated one car parking space, is set out below.

ADDITIONAL DEMAND FOR PARKING PER DWELLING =

$$1 \times (\text{PROPORTION OF TWO CAR HOUSEHOLDS}) + \\ 2 \times (\text{PROPORTION OF THREE CAR HOUSEHOLDS}) + \\ 3 \times (\text{NO. OF FOUR CAR HOUSEHOLDS})$$

Which in this case would be:

$$\text{Additional demand} = (1 \times 0.08) + (2 \times 0.01) + (3 \times 0.0) = 0.1 \text{ cars per dwelling}$$

The overall parking requirement per dwelling would therefore be:

$$1.0 \text{ allocated space} + 0.1 \text{ unallocated space} = 1.1$$

When 1.0 allocated space per unit is provided there is still a demand for unallocated parking of an additional 0.1 spaces per unit, making 1.1 in total. Thus in this case there is a 57% (1.1/0.7) increase in the space required for parking, compared to a situation where car parking is unallocated.

The examples set out above illustrate how the allocation of one car parking space per dwelling can create additional demand for car parking. Local planning authorities will want to calculate the effect of allocating one or more car parking spaces per dwelling using their own local data on car ownership. For the purposes of this research, Table 1 considers the typical relationship between average car ownership and additional demand for unallocated parking based upon 2001 Census data. A worked example of how this table can be used to estimate car-parking demand is set out in Appendix C.

6. See Table in Appendix A for source data.

Table 1: Typical Additional Demand for Unallocated Parking for owner occupied houses in Nottinghamshire

Average Car Ownership Per Dwelling	Typical Additional Demand for Unallocated Parking	
	With ONE allocated space per dwelling	With TWO allocated spaces per dwelling
0.1	X	X
0.2	0.0	0.0
0.3	0.0	0.0
0.4	0.0	0.0
0.5	0.1	0.0
0.6	0.1	0.0
0.7	0.1	0.0
0.8	0.2	0.0
0.9	0.2	0.0
1.0	0.2	0.0
1.1	0.3	0.0
1.2	0.3	0.1
1.3	0.4	0.1
1.4	0.5	0.1
1.5	0.6	0.1
1.6	0.7	0.1
1.7	0.7	0.1
1.8	0.8	0.2
1.9	0.9	0.2
2.0	1.0	0.3
2.1	1.1	0.3
2.2	1.2	0.4
2.3	X	X
2.4	X	X
2.5	X	X

Note: Cells marked X are where insufficient data was available to provide representative values

Availability of on and off street parking

In the past, local planning authority approaches to residential car parking have typically focused on off-street provision due to concerns that on-street parking may lead to problems of congestion and road accidents. Whilst these concerns may be well-founded in some existing streets, on-street parking does make a valuable and flexible contribution to the overall supply of parking and need not be problematic, especially when streets are designed so that traffic speeds are kept low and adequate space is allowed for moving vehicles and pedestrians. Recommendations for the design of on-street parking in residential areas are set out in *Manual for Streets 7*.

This research recommends that well-designed on-street parking in residential areas can explicitly count towards the overall supply of unallocated spaces, regardless of whether the spaces are formally marked or are simply occasional spaces on the highway.

7. *Manual for Streets*, Department for Transport and Communities and Local Government, March 2007. See <http://www.communities.gov.uk/planning>.

Availability of visitor parking

Whilst there are times, such as evenings and weekends, when residents are likely to receive significant numbers of visitors in cars, this demand can to some degree be offset by other residents being away at the same time. This balancing effect is most significant when a high proportion of parking spaces are unallocated (and so available to both visitors and residents). This research suggests that no special provision need be made for visitors where at least half of the parking provision associated with a development is unallocated. In all other circumstances, it may be appropriate to allow for additional demand for visitor parking of up to 0.2 spaces per dwelling ⁸.

Availability of garage parking

Local planning authorities will need to consider whether to count private garages as car parking spaces given that they are not used for this purpose by a significant proportion of residents ⁹.

This is a complex issue, as garage use depends upon a number of factors including the adequacy of storage within the dwelling, the ease of use of the garage and the difficulty (or otherwise) of finding a parking space outside the garage.

Local planning authorities will want to encourage approaches that provide well utilised car parking spaces within housing schemes. For example, this could involve requiring car ports rather than fully enclosed garages or dwellings that make adequate provision for storage. Where developers provide garages which are likely to be under-used, authorities will want to consider the effect of this in terms of additional parking demand, and its impact in terms of street design requirements. Further advice on this issue is set out in *Manual for Streets*.

8. This is based upon research by Jenks and Noble in their 1996 study of Lower Earley in Reading. They recommended that no special provision need be made for visitors when at least half of the parking provision associated with a development is unallocated. In all other circumstances it was advised that an additional demand, equivalent of up to 0.2 spaces per dwelling, would be generated by visitors.

9. This was re-affirmed by the case study questionnaires carried out as part of the DCLG *Residential Car Parking Research* (2007), where less than one third of respondents said that they parked their cars in their garages.

Average car ownership: The Nottinghamshire Matrix

To assist understanding of likely future car ownership growth, Tables 2 and 3 set out illustrative Nottinghamshire matrices for average car ownership values for 2001 and 2026, based upon 2001 Census data and using the TEMPRO forecasting tool. The tables show a range of average car ownership values according to dwelling type, size, tenure and location and use regional-level forecasts for car ownership growth. Although Census data is available for different tenures (see Appendix A and D), these illustrative matrices focus on one particular tenure, ie owner-occupied dwellings. Both tables show that car ownership generally increases as the number of rooms in dwellings increase. Houses have higher car ownership levels than flats whilst in terms of location, rural and remote rural areas have the highest levels of car ownership. Background information on how the values in the tables were calculated is set out in Appendix B.

Table 2: 2001 Average Car Ownership Values for Nottinghamshire				
2001	Rural		Built-up	
Number of Rooms	Flats	Houses	Flats	Houses
1	X	X	X	X
2	X	X	X	X
3	X	X	X	X
4	X	1.0 – 1.3	0.6 – 0.9	0.8 – 1.0
5	X	1.3 – 1.5	X	1.0 – 1.2
6	X	1.5 – 1.7	X	1.1 – 1.3
7	X	1.8 – 1.9	X	1.4 – 1.6
8	X	2.1 – 2.2	X	1.6 – 1.9

Note: Cells marked X are where insufficient data was available to provide representative values

Table 3: 2026 Average Car Ownership Values for Nottinghamshire				
2001	Rural		Built-up	
Number of Rooms	Flats	Houses	Flats	Houses
1	X	X	X	X
2	X	X	X	X
3	X	X	X	X
4	X	1.1 – 1.4	0.6 – 1.0	0.9 – 1.1
5	X	1.5 – 1.7	X	1.1 – 1.3
6	X	1.7 – 1.9	X	1.2 – 1.5
7	X	2.0 – 2.1	X	1.5 – 1.8
8	X	2.3 – 2.5	X	1.8 – 2.1

Note: Cells marked X are where insufficient data was available to provide representative values.

Calculating Car Parking Demand

Examples of how car parking demand may be calculated, taking into account the influencing factors already previously discussed (eg dwelling type, size, tenure and location) is set out in Tables 4, 5 & 6. This shows, for a particular dwelling category, ie owner-occupied houses in built-up locations, how the total demand for car parking spaces varies depending on dwelling size and the extent to which car parking spaces are allocated.

Table 4: Example Calculation Of Car Parking Demand			
Type: Houses Location: Built-up Tenure: Owner Occupied	Total Demand for Car Parking Spaces (Allocated and Unallocated)		
No of Allocated Spaces Per Dwelling	0	1	2
3 Room House	X	X	X
4 Room House	1.0	1.4	2.2
5 Room House	1.2	1.5	2.3
6 Room House	1.3	1.6	2.3
7 Room House	1.7	1.9	2.3
8 Room House	1.9	2.1	2.4

Note: Cells marked X are where insufficient data was available to provide representative values

Table 5: Example Calculation Of Car Parking Demand			
Type: Flats Location: Built-up Tenure: Owner Occupied	Total Demand for Car Parking Spaces (Allocated and Unallocated)		
No of Allocated Spaces Per Dwelling	0	1	2
2 Room Flat	X	X	X
3 Room Flat	X	X	X
4 Room Flat	0.8	1.4	2.2
5 Room Flat	X	X	X

Note: Cells marked X are where insufficient data was available to provide representative values

Table 6: Example Calculation Of Car Parking Demand			
Type: Houses Location: Rural Tenure: Owner Occupied	Total Demand for Car Parking Spaces (Allocated and Unallocated)		
No of Allocated Spaces Per Dwelling	0	1	2
3 Room House	X	X	X
4 Room House	1.2	1.5	2.3
5 Room House	1.6	1.9	2.3
6 Room House	1.8	2.0	2.4
7 Room House	2.1	2.1	2.5
8 Room House	2.4	2.4	2.7

Note: Cells marked X are where insufficient data was available to provide representative values

The details of how these worked examples were developed are set out in Appendix C, D & E. Local planning authorities may wish to develop similar approaches to calculating car parking demand, taking into account the characteristics of housing in their area and local assessments of future household and car ownership levels.

Appendix A:

Car ownership cross tabulations, 2001 Census Data, for Nottinghamshire

The following table set out for Nottinghamshire, each household, car ownership levels related to the size, type and tenure of dwelling.

Nottinghamshire County

HOUSES BY TENURE (Houses comprising detached, semi-detached and terraced)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	229331	30299	109986	72784	12678	3584
Up to 3 rooms	3247	845	1772	547	63	20
4 rooms	29170	6700	17079	4816	480	95
5 rooms	75712	12272	41572	18579	2695	594
6 rooms	62480	8370	31100	19292	3009	709
7 rooms	27537	1407	10849	12344	2339	598
8 or more rooms	31185	705	7614	17206	4092	1568

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
13%	48%	32%	6%	2%	1.3
26%	55%	17%	2%	1%	1.0
23%	59%	17%	2%	0%	1.0
16%	55%	25%	4%	1%	1.2
13%	50%	31%	5%	1%	1.3
5%	39%	45%	8%	2%	1.6
2%	24%	55%	13%	5%	1.9

Shared ownership/Rented (social/private)	53225	25704	21649	4835	776	261
Up to 3 rooms	5239	3729	1362	127	15	6
4 rooms	12433	6603	4944	776	80	30
5 rooms	20039	9170	8777	1812	223	57
6 rooms	11560	5004	4970	1305	221	60
7 rooms	2384	815	1059	395	85	30
8 or more rooms	1570	383	537	420	152	78

48%	41%	9%	1%	0%	0.7
71%	26%	2%	0%	0%	0.3
53%	40%	6%	1%	0%	0.6
46%	44%	9%	1%	0%	0.7
43%	43%	11%	2%	1%	0.7
34%	44%	17%	4%	1%	0.9
24%	34%	27%	10%	5%	1.4

FLATS BY TENURE (Flats comprising of purpose built, converted/shared house and in a commercial building)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	3899	1354	2088	377	54	26
1 room	19	9	10	0	0	0
2 rooms	158	60	84	14	0	0
3 rooms	803	327	416	50	4	6
4 rooms	2350	855	1286	184	21	4
5 or more rooms	569	103	292	129	29	16

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
35%	54%	10%	1%	1%	0.8
47%	53%	0%	0%	0%	0.5
38%	53%	9%	0%	0%	0.7
41%	52%	6%	0%	1%	0.7
36%	55%	8%	1%	0%	0.7
18%	51%	23%	5%	3%	1.2

Shared ownership/Rented (social/private)	20594	13389	6232	819	109	45
1 room	644	487	146	5	3	3
2 rooms	2386	1783	555	33	12	3
3 rooms	8398	5982	2202	190	14	10
4 rooms	7069	4173	2512	342	35	7
5 or more rooms	2097	964	817	249	45	22

65%	30%	4%	1%	0%	0.4
76%	23%	1%	0%	0%	0.3
75%	23%	1%	1%	0%	0.3
71%	26%	2%	0%	0%	0.3
59%	36%	5%	0%	0%	0.5
46%	39%	12%	2%	1%	0.7

Appendix B: Definition of location types and calculation of average car ownership values

This appendix outlines the methodology used by this research to select representative samples of car ownership data based on the following five location categories initially identified:

- City centre;
- Urban;
- Suburban
- Rural
- Remote rural

The philosophy and methodology used in this document reflects that previously established in the DCLG *Residential Car Parking Research* (2007). It should be noted however that some data sorting methods advocated in the DCLG publication could not be fully replicated due to such things as data quantity (only Nottinghamshire data was considered) and the nature of Nottinghamshire itself.

The data was obtained from the 2001 Census using the format set out in Appendix A. This spreadsheet provides car ownership data at household level for all districts across Nottinghamshire. The cross-tabulations show the number of households with particular numbers of cars or vans (none, one, two, three and four+ cars) compared by dwelling size. Separate tables were obtained for different dwelling types (houses and flats) and for different tenures (owner occupied, rented and shared equity). In order to examine car ownership patterns within districts, Ward data on car ownership, dwelling size, type and tenure was obtained for all districts in Nottinghamshire.

The analysis considered owner-occupied flats and houses across Nottinghamshire. Although the cross-tabulated data is available for non-owner occupied dwellings, it was not possible to carry out a similar analysis for these tenures within the timeframe of this research.

It should be noted however that the initial five location categories were reduced to two categories during this research. The two location categories for Nottinghamshire based on local data and research are:

- Built-up (Urban and Suburban categories combined)
- Rural

The Nottinghamshire matrices based upon these two location categories are described on page 13 and set out in Tables 2 and 3.

The reasons for establishing these two location categories for Nottinghamshire are stated on pages 18, 19 and 20.

The method used to determine typical car ownership levels using Nottinghamshire Ward data are described below.

City Centre

Nottingham city centre is fully contained within the boundaries of Nottingham City Council which is a unitary authority. As such it was considered inappropriate to establish a 'City Centre' category as part of this research.

Urban

2001 Census data was taken for Nottinghamshire (7 districts plus Nottingham City) and the average car ownership values for owner-occupied flats and houses was calculated for dwelling sizes of 1-8 rooms. Ranges of average car ownership values were then calculated by taking 1 standard deviation either side of the mean.

To establish 'Urban' locations, all wards in Nottinghamshire were firstly ranked by population density, with the top 20% of wards being selected. These wards were then ranked according to the ratio of people who live in the ward to the number of people who work in the ward.

From this, the central 50% band of wards were selected. This process identified wards that are relatively densely developed and comprise a reasonably balanced mix of residential and employment areas. Each selected ward was studied on a ward map to check that it covered an urban area. By this process urban wards were selected for Nottinghamshire.

Average car ownership values were then extrapolated to 2026 using regional growth factors from TEMPRO. Averages and standard deviations were subsequently calculated.

Suburban

To identify 'Suburban' areas, all Nottinghamshire wards were ranked by their live to work ratio with the bottom 10% being selected, ie those wards with a large number of residents compared to the number of employees. These wards were then ranked by population density and those wards with more than 40 persons per hectare were selected and grouped regionally. This process identified wards that are reasonably densely developed and are mainly residential in character.

As with the urban wards each ward was studied on a map to assess if the area could reasonably be considered suburban.

Growth factors were then calculated as per the 'Urban' category. The 2001 and 2026 car ownership results can be seen in Tables 2 and 3 (page 13).

Built-up

Once the 'Urban' & 'Suburban' wards had been defined by the above processes and their locations studied on a ward map it became apparent that there was a great deal of correlation between these two categories in Nottinghamshire. Although no ward had been duplicated by the processes the average car ownership values were similar and overlapped to such an extent that it was considered appropriate to combine the two national categories of 'Urban' & 'Suburban' into one Nottinghamshire

category of 'Built-up'. This decision also had the added benefit of increasing the quantity of data available for this category which in turn reduced the standard deviation from the mean.

Rural and Remote Rural

To identify 'Rural' and 'Remote Rural' locations, all wards in Nottinghamshire were ranked by population density and the lowest 10% were selected. These wards were then categorised as 'Rural' or 'Remote Rural' using the following method previously established in the DCLG *Residential Car Parking Research* (2007):

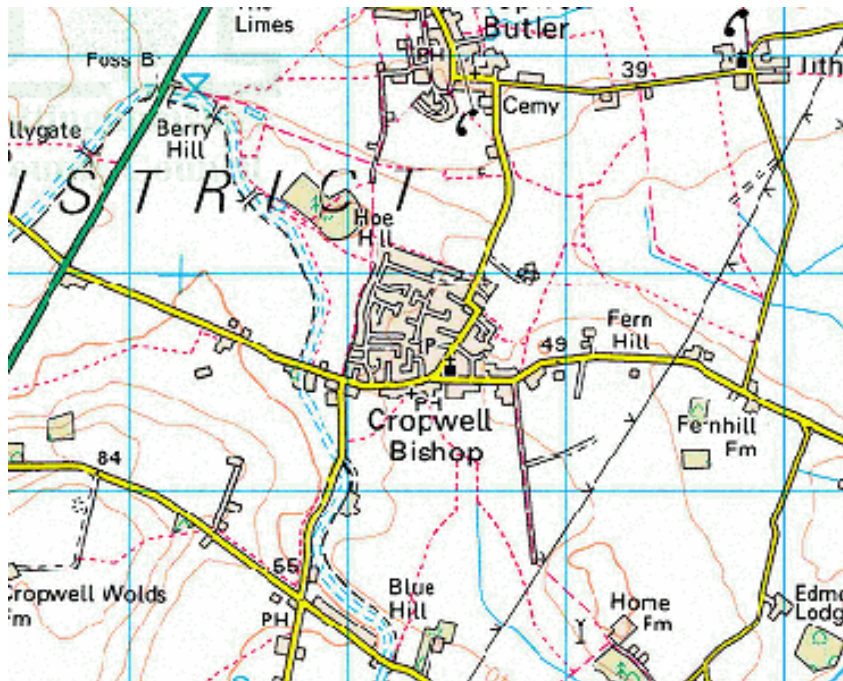
- Rural – there are no 'Urban Centres' within the ward, but the spatial centre of the ward is less than 10 km from the nearest 'Town'; and
- Remote Rural – there are no 'Urban Centres' within the ward and the spatial centre of the ward is greater than 10 km from the nearest 'Town'.

Following this exercise **no** Nottinghamshire wards were considered to be 'Remote Rural'. Therefore the 'Remote Rural' category was also removed from the Nottinghamshire matrices.

The 'Rural' category is included in the Nottinghamshire matrices and the resulting in the values given set out in Tables 2 and 3 (page 13).

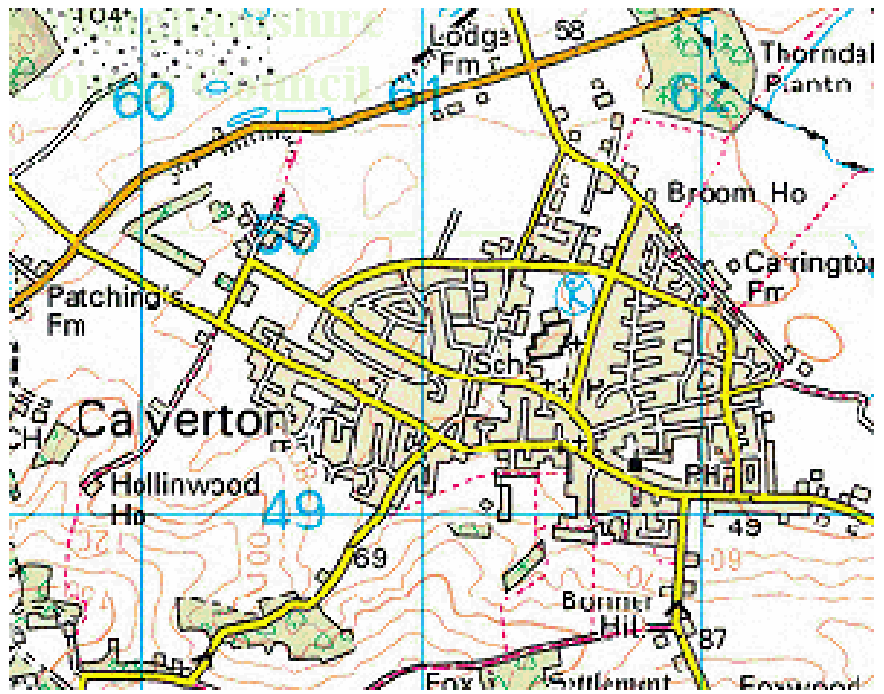
An 'Urban Centre'

An 'Urban Centre' was defined as any settlement with a geographical extent greater than 1km² and a Town was defined as any Urban Centre which exceeds 2km² in geographical extent. As an example, Cropwell Bishop in Rushcliffe (below) is less than 1km² in geographical extent (the overlain grid represents 1km squares), so it was not classed as an urban settlement.



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Calverton in Gedling (below), is between 1km² and 2km² in geographical extent and is classified as an Urban Centre. A rural or remote rural ward would not contain a settlement of this size.



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Worksop in Bassetlaw (below) is greater than 2km² in geographical extent and was classified as a Town. In addition, the geographical centroid of any remote rural ward would not lie within 10km of a settlement of this size.



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Appendix C: Worked example of calculating car parking demand

This appendix explains how Table 4, described on page 14 of this research, was created following 5 steps:

Step 1: Take average car ownership values for built-up, owner-occupied houses for 2026 from Table 3 (page 13), using values that are in the centre of the range given in the table (rounded to the nearest 0.1 space per dwelling).

Table C1: Average Car Ownership per Dwelling, 2026	
Rooms	Average 2026 Car Ownership Per Dwelling from Table 3 (nearest 0.1)
3	X
4	1.0
5	1.2
6	1.3
7	1.7
8	1.9

Note: Cells marked X are where insufficient data was available to provide representative values

Step 2: Using average car ownership levels in Table C1, look up in Table 1 (page 11) to find additional demand for unallocated parking arising as a consequence of up to 1 or 2 spaces being allocated per dwelling.

Table C2: Additional Demand for Unallocated Parking		
Rooms	Additional Demand for Unallocated Parking	
	1 Allocated Space per Dwelling	2 Allocated Spaces per Dwelling
3	X	X
4	0.2	0.0
5	0.3	0.1
6	0.4	0.1
7	0.7	0.1
8	0.9	0.2

Note: Cells marked X are where insufficient data was available to provide representative values

Step 3: Combine Tables C1 and C2 to produce total demand for residents' parking. The values in the '1 Allocated Space per Dwelling' and '2 Allocated Spaces per Dwelling' columns in Table C3 are obtained by adding 1 and 2 to the values in the relevant columns in Table C2.

Table C3: Total Demand for Residents' Parking

Total Demand for Residents' Parking			
Rooms	0 Allocated Parking Spaces per Dwelling	1 Allocated Parking Space per Dwelling	2 Allocated Parking Spaces per Dwelling
3	X	X	X
4	1.0	1.2	2.0
5	1.2	1.3	2.1
6	1.3	1.4	2.1
7	1.7	1.7	2.1
8	1.9	1.9	2.2

Note: Cells marked X are where insufficient data was available to provide representative values

Step 4: Calculate the proportion of total demand for residents' parking that is for additional unallocated spaces. The percentages are calculated by dividing the additional demand for unallocated spaces (cells in tables C1 and C2) by the total demand for residents' parking (cells in table C3).

For example, for 5 room dwellings, with 1 allocated space:

Additional demand for unallocated parking = 0.3

Total demand for residents' parking = 1.3

Proportion of total demand that is for additional unallocated parking = $0.3/1.3 = 23\%$

Table C4: Proportion of Total Demand for Residents' Parking that is for Additional Unallocated Parking

Proportion of Total Demand for Residents' Parking that is for Additional Unallocated Parking			
Rooms	0 Allocated Parking Spaces per Dwelling	1 Allocated Parking Space per Dwelling	2 Allocated Parking Spaces per Dwelling
3	X	X	X
4	100%	17%	0%
5	100%	23%	5%
6	100%	29%	5%
7	100%	41%	5%
8	100%	47%	9%

Note – Shaded cells are where less than 50% of total demand would be for additional unallocated parking

Note: Cells marked X are where insufficient data was available to provide representative values

Step 5: Allow for 0.2 spaces per dwelling for visitors for the shaded cells, to produce the final table.

Table C5: Total Demand for Residents Parking			
Type: Houses Location: Built-up Tenure: Owner Occupied	Total Demand for Car Parking Spaces (Allocated and Unallocated)		
No of Allocated Spaces Per Dwelling	0	1	2
3 Room House	X	X	X
4 Room House	1.0	1.4	2.2
5 Room House	1.2	1.5	2.3
6 Room House	1.3	1.6	2.3
7 Room House	1.7	1.9	2.3
8 Room House	1.9	2.1	2.4

Note: Cells marked X are where insufficient data was available to provide representative values

Step 6: In order to work out the total demand for car parking associated with any development you will need to know:

- The location category of the development (Built-up or Rural)
- The number of rooms of each dwelling
- The number of off-street car parking spaces allocated to that dwelling

For example a proposed development for 12 houses in a 'built-up' location may be made up of:

- 4 x 5 room houses with 2 allocated spaces
- 4 x 5 room houses with 1 allocated spaces
- 4 x 4 room houses with 0 allocated spaces

Step 7: Using Table C5: it can be calculated that for a built-up location each:

- 5 room house with 2 allocated spaces will have a total demand for car parking of 2.3 spaces
- 5 room house with 1 allocated spaces will have a total demand for car parking of 1.5 spaces
- 4 room house with 0 allocated spaces will have a total demand for car parking of 1.0 space

Step 8: Therefore the total demand for car parking generated by the development is:

- 4 x 5 room house (2 allocated spaces) will have a total demand for car parking of 9.2 spaces
- 4 x 5 room house (1 allocated space) will have a total demand for car parking of 6.0 spaces
- 4 x 4 room house (0 allocated space) will have a total demand for car parking of 4.0 spaces

From this calculation it can be seen that the development has a total provision of 12 car parking spaces but is likely to generate a demand for 19.2 car parking spaces. It is reasonable to conclude therefore that the development as proposed is likely to create a situation where there is an 'overspill' car parking demand of some 7.2 cars parking on the highway. Any 'overspill' car parking demand may result in highway safety issues.

Appendix D: Worked example of calculating car parking demand

This appendix explains how Table 5, described on page 14 of this research, was created following 5 steps:

Step 1: Take average car ownership values for built-up, owner-occupied flats for 2026 from Table 3 (page 13), using values that are in the centre of the range given in the table (rounded to the nearest 0.1 space per dwelling).

Table D1: Average Car Ownership per Dwelling, 2026	
Rooms	Average 2026 Car Ownership Per Dwelling from Table 3 (nearest 0.1)
1	X
2	X
3	X
4	0.8
5	X
6	X

Note: Cells marked X are where insufficient data was available to provide representative values

Step 2: Using average car ownership levels in Table D1, look up in Table 1 (page 11) to find additional demand for unallocated parking arising as a consequence of up to 1 or 2 spaces being allocated per dwelling.

Table D2: Additional Demand for Unallocated Parking		
Rooms	Additional Demand for Unallocated Parking	
	1 Allocated Space per Dwelling	2 Allocated Spaces per Dwelling
1	X	X
2	X	X
3	X	X
4	0.2	0.0
5	X	X
6	X	X

Note: Cells marked X are where insufficient data was available to provide representative values

Step 3: Combine Tables D1 and D2 to produce total demand for residents' parking. The values in the '1 Allocated Space per Dwelling' and '2 Allocated Spaces per Dwelling' columns in Table D3 are obtained by adding 1 and 2 to the values in the relevant columns in Table D2.

Table D3: Total Demand for Residents' Parking

Total Demand for Residents' Parking			
Rooms	0 Allocated Parking Spaces per Dwelling	1 Allocated Parking Space per Dwelling	2 Allocated Parking Spaces per Dwelling
1	X	X	X
2	X	X	X
3	X	X	X
4	0.8	1.2	2.0
5	X	X	X
6	X	X	X

Note: Cells marked X are where insufficient data was available to provide representative values

Step 4: Calculate the proportion of total demand for residents' parking that is for additional unallocated spaces. The percentages are calculated by dividing the additional demand for unallocated spaces (cells in tables C1 and C2) by the total demand for residents' parking (cells in table C3).

For example, for 4 room dwellings, with 1 allocated space:

Additional demand for unallocated parking = 0.2

Total demand for residents' parking = 1.2

Proportion of total demand that is for additional unallocated parking = $0.2/1.2 = 17\%$

Table D4: Proportion of Total Demand for Residents' Parking that is for Additional Unallocated Parking

Proportion of Total Demand for Residents' Parking that is for Additional Unallocated Parking			
Rooms	0 Allocated Parking Spaces per Dwelling	1 Allocated Parking Space per Dwelling	2 Allocated Parking Spaces per Dwelling
1	X	X	X
2	X	X	X
3	X	X	X
4	100%	17%	0%
5	X	X	X
6	X	X	X

Note – Shaded cells are where less than 50% of total demand would be for additional unallocated parking

Note: Cells marked X are where insufficient data was available to provide representative values

Step 5: Allow for 0.2 spaces per dwelling for visitors for the shaded cells, to produce the final table.

Table D5: Total Demand for Residents Parking			
Type: Flats Location: Built-up Tenure: Owner Occupied	Total Demand for Car Parking Spaces (Allocated and Unallocated)		
No of Allocated Spaces Per Dwelling	0	1	2
1 Room Flat	X	X	X
2 Room Flat	X	X	X
3 Room Flat	X	X	X
4 Room Flat	0.8	1.4	2.2
5 Room Flat	X	X	X
6 Room Flat	X	X	X

Note: Cells marked X are where insufficient data was available to provide representative values

Step 6: In order to work out the total demand for car parking associated with any development you will need to know:

- The location category of the development (Built-up or Rural)
- The number of rooms of each dwelling
- The number of off-street car parking spaces allocated to that dwelling

For example a proposed development for 12 flats in a 'built-up' location may be made up of:

- 2 x 4 room flats with 2 allocated spaces
- 6 x 4 room flats with 1 allocated spaces
- 4 x 4 room flats with 0 allocated spaces

Step 7: Using Table D5: it can be calculated that for a built-up location each:

- 4 room flat with 2 allocated spaces will have a total demand for car parking of 2.2 spaces
- 4 room flat with 1 allocated spaces will have a total demand for car parking of 1.4 spaces
- 4 room flat with 0 allocated spaces will have a total demand for car parking of 0.8 spaces

Step 8: Therefore the total demand for car parking generated by the development is:

- 2 x 4 room flats (2 allocated spaces) will have a total demand for car parking of 4.4 spaces
- 6 x 4 room flats (1 allocated space) will have a total demand for car parking of 8.4 spaces
- 4 x 4 room flats (0 allocated space) will have a total demand for car parking of 3.2 spaces

From this calculation it can be seen that the development has a total provision of 10 car parking spaces but is likely to generate a demand for 16.0 car parking spaces. It is reasonable to conclude therefore that the development as proposed is likely to create a situation where there is an 'overspill' car parking demand of some 6.0 cars parking on the highway. Any 'overspill' car parking demand may result in highway safety issues.

Appendix E: Worked example of calculating car parking demand

This appendix explains how Table 6, described on page 14 of this research, was created following 5 steps:

Step 1: Take average car ownership values for rural, owner-occupied houses for 2026 from Table 3 (page 13), using values that are in the centre of the range given in the table (rounded to the nearest 0.1 space per dwelling).

Table E1: Average Car Ownership per Dwelling, 2026	
Rooms	Average 2026 Car Ownership Per Dwelling from Table 3 (nearest 0.1)
3	X
4	1.2
5	1.6
6	1.8
7	2.1
8	2.4

Note: Cells marked X are where insufficient data was available to provide representative values

Step 2: Using average car ownership levels in Table E1, look up in Table 1 (page 11) to find additional demand for unallocated parking arising as a consequence of up to 1 or 2 spaces being allocated per dwelling.

Table E2: Additional Demand for Unallocated Parking		
Additional Demand for Unallocated Parking		
Rooms	1 Allocated Space per Dwelling	2 Allocated Spaces per Dwelling
3	X	X
4	0.3	0.1
5	0.7	0.1
6	0.8	0.2
7	1.1	0.3
8	1.4	0.5

Note – Shaded cells are where DCLG published *Residential Car Parking Research (2007)* data has been used as insufficient Nottinghamshire data was available

Note: Cells marked X are where insufficient data was available to provide representative values

Step 3: Combine Tables E1 and E2 to produce total demand for residents' parking. The values in the '1 Allocated Space per Dwelling' and '2 Allocated Spaces per Dwelling' columns in Table E3 are obtained by adding 1 and 2 to the values in the relevant columns in Table E2.

Table E3: Total Demand for Residents' Parking			
Total Demand for Residents' Parking			
Rooms	0 Allocated Parking Spaces per Dwelling	1 Allocated Parking Space per Dwelling	2 Allocated Parking Spaces per Dwelling
3	X	X	X
4	1.2	1.3	2.1
5	1.6	1.7	2.1
6	1.8	1.8	2.2
7	2.1	2.1	2.3
8	2.4	2.4	2.5

Note: Cells marked X are where insufficient data was available to provide representative values

Step 4: Calculate the proportion of total demand for residents' parking that is for additional unallocated spaces. The percentages are calculated by dividing the additional demand for unallocated spaces (cells in tables E1 and E2) by the total demand for residents' parking (cells in table E3).

For example, for 5 room dwellings, with 1 allocated space:

Additional demand for unallocated parking = 0.7

Total demand for residents' parking = 1.7

Proportion of total demand that is for additional unallocated parking = $0.7/1.7 = 41\%$

Table E4: Proportion of Total Demand for Residents' Parking that is for Additional Unallocated Parking			
Proportion of Total Demand for Residents' Parking that is for Additional Unallocated Parking			
Rooms	0 Allocated Parking Spaces per Dwelling	1 Allocated Parking Space per Dwelling	2 Allocated Parking Spaces per Dwelling
3	X	X	X
4	100%	23%	5%
5	100%	41%	5%
6	100%	44%	9%
7	100%	52%	13%
8	100%	58%	20%

Note – Shaded cells are where less than 50% of total demand would be for additional unallocated parking

Note: Cells marked X are where insufficient data was available to provide representative values

Step 5: Allow for 0.2 spaces per dwelling for visitors for the shaded cells, to produce the final table.

Table E5: Total Demand for Residents Parking			
Type: Houses Location: Rural Tenure: Owner Occupied	Total Demand for Car Parking Spaces (Allocated and Unallocated)		
No of Allocated Spaces Per Dwelling	0	1	2
3 Room House	X	X	X
4 Room House	1.2	1.5	2.3
5 Room House	1.6	1.9	2.3
6 Room House	1.8	2.0	2.4
7 Room House	2.1	2.1	2.5
8 Room House	2.4	2.4	2.7

Note: Cells marked X are where insufficient data was available to provide representative values

Step 6: In order to work out the total demand for car parking associated with any development you will need to know:

- The location category of the development (Built-up or Rural)
- The number of rooms of each dwelling
- The number of off-street car parking spaces allocated to that dwelling

For example a proposed development for 12 houses in a 'rural' location may be made up of:

- 2 x 7 room houses with 2 allocated spaces
- 8 x 6 room houses with 1 allocated spaces
- 2 x 4 room houses with 0 allocated spaces

Step 7: Using Table E5: it can be calculated that for a rural location each:

- 7 room house with 2 allocated spaces will have a total demand for car parking of 2.5 spaces
- 6 room house with 1 allocated spaces will have a total demand for car parking of 2.0 spaces
- 4 room house with 0 allocated spaces will have a total demand for car parking of 1.2 spaces

Step 8: Therefore the total demand for car parking generated by the development is:

- 2 x 7 room house (2 allocated spaces) will have a total demand for car parking of 5.0 spaces
- 8 x 6 room house (1 allocated space) will have a total demand for car parking of 16.0 space
- 2 x 4 room house (0 allocated space) will have a total demand for car parking of 2.4 spaces

From this calculation it can be seen that the development has a total provision of 12 car parking spaces but is likely to generate a demand for 23.4 car parking spaces. It is reasonable to conclude therefore that the development as proposed is likely to create a situation where there is an 'overspill'

car parking demand of some 11.4 cars parking on the highway. Any 'overspill' car parking demand may result in highway safety issues.

Appendix F: Car ownership cross tabulations, 2001 Census Data, for the Districts in Nottinghamshire

The following tables set out for each District the household, car ownership levels related to the size, type and tenure of dwelling.

Ashfield

HOUSES BY TENURE (Houses comprising detached, semi-detached and terraced)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	33494	5359	16938	9191	1575	431
Up to 3 rooms	555	160	297	83	9	6
4 rooms	5237	1176	3028	919	97	17
5 rooms	12931	2208	7005	3114	488	116
6 rooms	9529	1528	4774	2654	457	116
7 rooms	3069	218	1226	1307	250	68
8 or more rooms	2173	69	608	1114	274	108

Shared ownership/Rented (social/private)	8776	4699	3393	577	74	33
Up to 3 rooms	773	593	166	14	0	0
4 rooms	1845	1089	661	79	8	8
5 rooms	3556	1783	1469	254	35	15
6 rooms	2141	1029	907	179	19	7
7 rooms	331	143	148	31	6	3
8 or more rooms	130	62	42	20	6	0

FLATS BY TENURE (Flats comprising of purpose built, converted/shared house and in a commercial building)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	246	74	127	33	9	3
1 room	3	3	0	0	0	0
2 rooms	6	3	3	0	0	0
3 rooms	55	23	25	4	3	0
4 rooms	124	39	68	14	3	0
5 or more rooms	58	6	31	15	3	3

Shared ownership/Rented (social/private)	3051	2174	763	94	17	3
1 room	100	77	20	0	3	0
2 rooms	408	333	69	3	3	0
3 rooms	1302	989	281	26	3	3
4 rooms	983	644	294	40	5	0
5 or more rooms	258	131	99	25	3	0

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
16%	51%	27%	5%	1%	1.2
29%	54%	15%	2%	1%	0.9
22%	58%	18%	2%	0%	1.0
17%	54%	24%	4%	1%	1.2
16%	50%	28%	5%	1%	1.3
7%	40%	43%	8%	2%	1.6
3%	28%	51%	13%	5%	1.9

54%	39%	7%	1%	0%	0.6
77%	21%	2%	0%	0%	0.3
59%	36%	4%	0%	0%	0.5
50%	41%	7%	1%	0%	0.6
48%	42%	8%	1%	0%	0.6
43%	45%	9%	2%	1%	0.7
48%	32%	15%	5%	0%	0.8

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
30%	52%	13%	4%	1%	0.9
100%	0%	0%	0%	0%	0.0
50%	50%	0%	0%	0%	0.5
42%	45%	7%	5%	0%	0.8
31%	55%	11%	2%	0%	0.8
10%	53%	26%	5%	5%	1.4

71%	25%	3%	1%	0%	0.3
77%	20%	0%	3%	0%	0.3
82%	17%	1%	1%	0%	0.2
76%	22%	2%	0%	0%	0.3
66%	30%	4%	1%	0%	0.4
51%	38%	10%	1%	0%	0.6

Bassetlaw

HOUSES BY TENURE (Houses comprising detached, semi-detached and terraced)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	31285	3669	14985	10134	1943	554
Up to 3 rooms	401	92	223	72	14	0
4 rooms	3553	780	2145	556	62	10
5 rooms	9989	1522	5640	2370	371	86
6 rooms	8318	1011	4238	2547	433	89
7 rooms	3955	179	1545	1798	340	93
8 or more rooms	5069	85	1194	2791	723	276

Shared ownership/Rented (social/private)	9803	4909	3898	798	159	39
Up to 3 rooms	1337	953	347	29	5	3
4 rooms	2522	1389	968	135	24	6
5 rooms	3326	1546	1473	264	31	12
6 rooms	1943	820	837	228	46	12
7 rooms	378	128	168	63	19	0
8 or more rooms	297	73	105	79	34	6

FLATS BY TENURE (Flats comprising of purpose built, converted/shared house and in a commercial building)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	221	57	125	25	8	6
1 room	6	3	3	0	0	0
2 rooms	10	4	6	0	0	0
3 rooms	41	15	20	3	0	3
4 rooms	101	32	59	7	3	0
5 or more rooms	63	3	37	15	5	3

Shared ownership/Rented (social/private)	2371	1604	673	77	14	3
1 room	76	64	9	3	0	0
2 rooms	313	242	64	4	3	0
3 rooms	821	600	203	18	0	0
4 rooms	867	565	276	23	3	0
5 or more rooms	294	133	121	29	8	3

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
12%	48%	32%	6%	2%	1.4
23%	56%	18%	3%	0%	1.0
22%	60%	16%	2%	0%	1.0
15%	56%	24%	4%	1%	1.2
12%	51%	31%	5%	1%	1.3
5%	39%	45%	9%	2%	1.7
2%	24%	55%	14%	5%	2.0

50%	40%	8%	2%	0%	0.6
71%	26%	2%	0%	0%	0.3
55%	38%	5%	1%	0%	0.5
46%	44%	8%	1%	0%	0.6
42%	43%	12%	2%	1%	0.8
34%	44%	17%	5%	0%	0.9
25%	35%	27%	11%	2%	1.3

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
26%	57%	11%	4%	3%	1.0
50%	50%	0%	0%	0%	0.5
40%	60%	0%	0%	0%	0.6
37%	49%	7%	0%	7%	0.9
32%	58%	7%	3%	0%	0.8
5%	59%	24%	8%	5%	1.5

68%	28%	3%	1%	0%	0.4
84%	12%	4%	0%	0%	0.2
77%	20%	1%	1%	0%	0.3
73%	25%	2%	0%	0%	0.3
65%	32%	3%	0%	0%	0.4
45%	41%	10%	3%	1%	0.7

Broxtowe

HOUSES BY TENURE (Houses comprising detached, semi-detached and terraced)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	33982	4634	16589	10581	1692	486
Up to 3 rooms	434	97	250	77	7	3
4 rooms	4576	1107	2678	708	66	17
5 rooms	12065	1934	6606	3024	415	86
6 rooms	9372	1205	4575	3039	445	108
7 rooms	3997	199	1556	1806	338	98
8 or more rooms	3538	92	924	1927	421	174

Shared ownership/Rented (social/private)	6296	2846	2656	659	103	32
Up to 3 rooms	565	381	159	19	6	0
4 rooms	1353	651	581	105	12	4
5 rooms	2549	1132	1104	276	27	10
6 rooms	1358	537	609	169	38	5
7 rooms	301	103	143	38	13	4
8 or more rooms	170	42	60	52	7	9

FLATS BY TENURE (Flats comprising of purpose built, converted/shared house and in a commercial building)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	548	188	299	48	6	7
1 room	0	0	0	0	0	0
2 rooms	24	11	10	3	0	0
3 rooms	124	47	66	8	3	0
4 rooms	328	113	186	26	0	3
5 or more rooms	72	17	37	11	3	4

Shared ownership/Rented (social/private)	3789	2459	1143	161	18	8
1 room	64	46	18	0	0	0
2 rooms	380	285	89	6	0	0
3 rooms	1513	1095	383	27	3	5
4 rooms	1440	826	518	86	7	3
5 or more rooms	392	207	135	42	8	0

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
14%	49%	31%	5%	1%	1.3
22%	58%	18%	2%	1%	1.0
24%	59%	15%	1%	0%	1.0
16%	55%	25%	3%	1%	1.2
13%	49%	32%	5%	1%	1.3
5%	39%	45%	8%	2%	1.6
3%	26%	54%	12%	5%	1.9

45%	42%	10%	2%	1%	0.7
67%	28%	3%	1%	0%	0.4
48%	43%	8%	1%	0%	0.6
44%	43%	11%	1%	0%	0.7
40%	45%	12%	3%	0%	0.8
34%	48%	13%	4%	1%	0.9
25%	35%	31%	4%	5%	1.3

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
34%	55%	9%	1%	1%	0.8
0%	0%	0%	0%	0%	0.0
46%	42%	13%	0%	0%	0.7
38%	53%	6%	2%	0%	0.7
34%	57%	8%	0%	1%	0.8
24%	51%	15%	4%	6%	1.2

65%	30%	4%	0%	0%	0.4
72%	28%	0%	0%	0%	0.3
75%	23%	2%	0%	0%	0.3
72%	25%	2%	0%	0%	0.3
57%	36%	6%	0%	0%	0.5
53%	34%	11%	2%	0%	0.6

Gedling

HOUSES BY TENURE (Houses comprising detached, semi-detached and terraced)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	37052	5297	18253	11035	1946	521
Up to 3 rooms	572	138	312	108	11	3
4 rooms	4897	1094	2953	778	61	11
5 rooms	12417	2224	6830	2879	408	76
6 rooms	10269	1450	5154	3083	468	114
7 rooms	4565	260	1868	1923	410	104
8 or more rooms	4332	131	1136	2264	588	213

Shared ownership/Rented (social/private)	5390	2578	2268	471	61	12
Up to 3 rooms	285	162	113	10	0	0
4 rooms	1114	556	464	86	5	3
5 rooms	2512	1230	1041	209	27	5
6 rooms	1158	508	520	113	17	0
7 rooms	223	91	93	35	4	0
8 or more rooms	98	31	37	18	8	4

FLATS BY TENURE (Flats comprising of purpose built, converted/shared house and in a commercial building)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	1186	496	587	93	10	0
1 room	0	0	0	0	0	0
2 rooms	30	17	10	3	0	0
3 rooms	187	101	78	8	0	0
4 rooms	846	342	440	57	7	0
5 or more rooms	123	36	59	25	3	0

Shared ownership/Rented (social/private)	3087	2081	873	108	16	9
1 room	111	97	14	0	0	0
2 rooms	405	300	95	4	3	3
3 rooms	1421	1046	338	34	0	3
4 rooms	896	510	329	50	7	0
5 or more rooms	254	128	97	20	6	3

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
14%	49%	30%	5%	1%	1.3
24%	55%	19%	2%	1%	1.0
22%	60%	16%	1%	0%	1.0
18%	55%	23%	3%	1%	1.1
14%	50%	30%	5%	1%	1.3
6%	41%	42%	9%	2%	1.6
3%	26%	52%	14%	5%	1.9

48%	42%	9%	1%	0%	0.6
57%	40%	4%	0%	0%	0.5
50%	42%	8%	0%	0%	0.6
49%	41%	8%	1%	0%	0.6
44%	45%	10%	1%	0%	0.7
41%	42%	16%	2%	0%	0.8
32%	38%	18%	8%	4%	1.2

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
42%	49%	8%	1%	0%	0.7
0%	0%	0%	0%	0%	0.0
57%	33%	10%	0%	0%	0.5
54%	42%	4%	0%	0%	0.5
40%	52%	7%	1%	0%	0.7
29%	48%	20%	2%	0%	1.0

67%	28%	3%	1%	0%	0.4
87%	13%	0%	0%	0%	0.1
74%	23%	1%	1%	1%	0.3
74%	24%	2%	0%	0%	0.3
57%	37%	6%	1%	0%	0.5
50%	38%	8%	2%	1%	0.7

Mansfield

HOUSES BY TENURE (Houses comprising detached, semi-detached and terraced)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	28413	4446	14127	8149	1341	350
Up to 3 rooms	427	137	215	61	8	6
4 rooms	4079	997	2329	679	59	15
5 rooms	10763	1801	5872	2617	391	82
6 rooms	8429	1285	4150	2519	387	88
7 rooms	2554	148	1020	1096	234	56
8 or more rooms	2161	78	541	1177	262	103

Shared ownership/Rented (social/private)	9183	5139	3406	550	67	21
Up to 3 rooms	1185	924	250	11	0	0
4 rooms	2007	1196	711	88	9	3
5 rooms	3333	1656	1417	234	22	4
6 rooms	2095	1115	798	152	22	8
7 rooms	409	175	173	47	11	3
8 or more rooms	154	73	57	18	3	3

FLATS BY TENURE (Flats comprising of purpose built, converted/shared house and in a commercial building)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	422	159	216	38	9	0
1 room	3	0	3	0	0	0
2 rooms	16	7	4	5	0	0
3 rooms	81	30	42	6	3	0
4 rooms	263	105	137	18	3	0
5 or more rooms	59	17	30	9	3	0

Shared ownership/Rented (social/private)	2557	1771	709	68	3	6
1 room	75	58	17	0	0	0
2 rooms	299	242	54	3	0	0
3 rooms	1130	828	279	20	3	0
4 rooms	822	516	279	24	0	3
5 or more rooms	231	127	80	21	0	3

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
16%	50%	29%	5%	1%	1.3
32%	50%	14%	2%	1%	0.9
24%	57%	17%	1%	0%	1.0
17%	55%	24%	4%	1%	1.2
15%	49%	30%	5%	1%	1.3
6%	40%	43%	9%	2%	1.6
4%	25%	54%	12%	5%	1.9

56%	37%	6%	1%	0%	0.5
78%	21%	1%	0%	0%	0.2
60%	35%	4%	0%	0%	0.5
50%	43%	7%	1%	0%	0.6
53%	38%	7%	1%	0%	0.6
43%	42%	11%	3%	1%	0.8
47%	37%	12%	2%	2%	0.7

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
38%	51%	9%	2%	0%	0.8
0%	100%	0%	0%	0%	1.0
44%	25%	31%	0%	0%	0.9
37%	52%	7%	4%	0%	0.8
40%	52%	7%	1%	0%	0.7
29%	51%	15%	5%	0%	1.0

69%	28%	3%	0%	0%	0.3
77%	23%	0%	0%	0%	0.2
81%	18%	1%	0%	0%	0.2
73%	25%	2%	0%	0%	0.3
63%	34%	3%	0%	0%	0.4
55%	35%	9%	0%	1%	0.6

Newark & Sherwood

HOUSES BY TENURE (Houses comprising detached, semi-detached and terraced)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	32144	3691	14966	10783	2050	654
Up to 3 rooms	483	117	269	77	13	7
4 rooms	3381	711	2008	590	59	13
5 rooms	9854	1523	5400	2467	370	94
6 rooms	8594	1068	4387	2623	419	97
7 rooms	4042	168	1596	1818	374	86
8 or more rooms	5790	104	1306	3208	815	357

Shared ownership/Rented (social/private)	8071	3696	3414	822	112	27
Up to 3 rooms	731	501	209	21	0	0
4 rooms	2150	1195	828	114	9	4
5 rooms	2823	1175	1331	275	37	5
6 rooms	1753	679	804	230	36	4
7 rooms	342	95	156	81	5	5
8 or more rooms	272	51	86	101	25	9

FLATS BY TENURE (Flats comprising of purpose built, converted/shared house and in a commercial building)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	433	105	265	50	10	3
1 room	6	3	3	0	0	0
2 rooms	40	4	33	3	0	0
3 rooms	77	21	50	6	0	0
4 rooms	214	65	129	17	3	0
5 or more rooms	96	12	50	24	7	3

Shared ownership/Rented (social/private)	2451	1578	767	88	12	6
1 room	64	42	22	0	0	0
2 rooms	231	176	52	3	0	0
3 rooms	962	699	245	15	3	0
4 rooms	875	515	318	33	6	3
5 or more rooms	319	146	130	37	3	3

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
11%	47%	34%	6%	2%	1.4
24%	56%	16%	3%	1%	1.0
21%	59%	17%	2%	0%	1.0
15%	55%	25%	4%	1%	1.2
12%	51%	31%	5%	1%	1.3
4%	39%	45%	9%	2%	1.7
2%	23%	55%	14%	6%	2.0

46%	42%	10%	1%	0%	0.7
69%	29%	3%	0%	0%	0.3
56%	39%	5%	0%	0%	0.5
42%	47%	10%	1%	0%	0.7
39%	46%	13%	2%	0%	0.8
28%	46%	24%	1%	1%	1.0
19%	32%	37%	9%	3%	1.5

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
24%	61%	12%	2%	1%	0.9
50%	50%	0%	0%	0%	0.5
10%	83%	8%	0%	0%	1.0
27%	65%	8%	0%	0%	0.8
30%	60%	8%	1%	0%	0.8
13%	52%	25%	7%	3%	1.4

64%	31%	4%	0%	0%	0.4
66%	34%	0%	0%	0%	0.3
76%	23%	1%	0%	0%	0.3
73%	25%	2%	0%	0%	0.3
59%	36%	4%	1%	0%	0.5
46%	41%	12%	1%	1%	0.7

Rushcliffe

HOUSES BY TENURE (Houses comprising detached, semi-detached and terraced)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	32977	3203	14128	12911	2139	596
Up to 3 rooms	391	104	206	69	9	3
4 rooms	3447	835	1938	586	76	12
5 rooms	7693	1060	4219	2108	252	54
6 rooms	7969	823	3822	2827	400	97
7 rooms	5355	235	2038	2596	393	93
8 or more rooms	8122	146	1905	4725	1009	337

Shared ownership/Rented (social/private)	5711	1835	2615	964	201	96
Up to 3 rooms	365	213	119	29	4	0
4 rooms	1443	527	731	169	13	3
5 rooms	1940	648	942	300	44	6
6 rooms	1111	316	495	234	43	23
7 rooms	402	80	178	100	27	17
8 or more rooms	450	51	150	132	70	47

FLATS BY TENURE (Flats comprising of purpose built, converted/shared house and in a commercial building)	Number of cars or vans					
	Total	None	One	Two	Three	Four +
Owner occupied	847	276	471	90	6	4
1 room	3	0	3	0	0	0
2 rooms	33	15	18	0	0	0
3 rooms	240	90	135	15	0	0
4 rooms	471	159	267	45	0	0
5 or more rooms	100	12	48	30	6	4

Shared ownership/Rented (social/private)	3293	1722	1304	224	31	12
1 room	149	103	46	0	0	0
2 rooms	354	205	132	13	4	0
3 rooms	1252	725	473	50	4	0
4 rooms	1191	597	498	86	7	3
5 or more rooms	347	92	155	75	16	9

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
10%	43%	39%	6%	2%	1.5
27%	53%	18%	2%	1%	1.0
24%	56%	17%	2%	0%	1.0
14%	55%	27%	3%	1%	1.2
10%	48%	35%	5%	1%	1.4
4%	38%	48%	7%	2%	1.6
2%	23%	58%	12%	4%	1.9

32%	46%	17%	4%	2%	1.0
58%	33%	8%	1%	0%	0.5
37%	51%	12%	1%	0%	0.8
33%	49%	15%	2%	0%	0.9
28%	45%	21%	4%	2%	1.1
20%	44%	25%	7%	4%	1.3
11%	33%	29%	16%	10%	1.8

Percentage of households with particular numbers of cars/vans					Average No. cars/vans per household
None	One	Two	Three	Four +	
33%	56%	11%	1%	0%	0.8
0%	100%	0%	0%	0%	1.0
45%	55%	0%	0%	0%	0.5
38%	56%	6%	0%	0%	0.7
34%	57%	10%	0%	0%	0.8
12%	48%	30%	6%	4%	1.4

52%	40%	7%	1%	0%	0.6
69%	31%	0%	0%	0%	0.3
58%	37%	4%	1%	0%	0.5
58%	38%	4%	0%	0%	0.5
50%	42%	7%	1%	0%	0.6
27%	45%	22%	5%	3%	1.1



Nottinghamshire
County Council

Contact us

E-mail : transport.strategy@nottscc.gov.uk

Tel: 0115 97 72560

Fax: 0115 97 74054

Post: Nottinghamshire County Council, LTP & Programmes,
Communities, Trent Bridge House, Fox Road, West Bridgford,
Nottingham, NG2 6BJ

Internet: www.nottinghamshire.gov.uk