WARRINGTON
Borough Council

TECHNICAL NOTE – Residential Parking Demand Calculations (February 2015)

Final document

1. INTRODUCTION AND OVERVIEW

1.1. This technical paper sets out a series of calculations to establish the level of parking demand for different types of household in Warrington and to help define appropriate parking standards for the borough.

1.2. The calculations use 2011 Census data of car ownership levels in Warrington and are based on the DCLG Residential Car Parking Research methodology (DCLG, 2007).

1.3. 2011 Census data was provided by the Office for National Statistics. The data set shows car ownership levels against the number of habitable rooms (see census definition of habitable rooms), dwelling type and tenure.

1.4. The final calculations for deriving the parking standards incorporate the following factors:

- Car ownership per household by dwelling size and tenure
- Forecast growth in car ownership
- A minimum allocated provision per dwelling
- Additional unallocated residential demand
- Unallocated visitor parking demand
- A distinction between large and small developments
- Allowance for the non-use of garages

1.5. Following this introduction and overview, section 2 sets out the background information used (including base Census 2011 data) and section 3 outlines the options assessment of other factors that could potentially be used to influence parking standards.

1.6. Section 4 looks at predicted growth in demand and section 5 is a description of the process used to calculate the rate of demand and different types of parking space. Section 6 is a comparison of the resultant rates for Warrington with recently adopted rates in other areas. A worked example of the residents parking calculations is also attached.

[*Please note that for the purposes of this report, where the text refers to "cars" this should be taken to mean "cars or vans" as per the Census 2011 definition*]

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2. BACKGROUND INFORMATION

Car ownership per household

2.1. The table below sets out car ownership in Warrington for all households from the 2011 census.

Table 1: Number of cars per household in Warrington – all households (Census 2011)

	Total households	Number of cars per household				
		None	One	Two	Three	Four +
Total households	85,080	16,395	35,555	26,610	5,048	1,472
Proportion of total households	100%	19.3%	41.8%	31.3%	5.9%	1.7%

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2.2. The percentage of households with no car is lower in Warrington (19.3%) than regionally (28.0%) and nationally (25.6%). This is a decrease from 20.9% in 2001 in Warrington.

2.3. The percentage of households with one car is similar in Warrington to the regional and national situation at approximately 41.8% (a decrease from 43.3% in 2001).

2.4. There is a higher percentage of households in Warrington with two or more cars (38.9%) than both regionally (29.5) or nationally (32.1%). This is an increase from 35.7% in 2001 in Warrington.

Tenure

2.5. 71.6% of households in Warrington are owner occupied, which is significantly higher than the regional figure of 64.5% and the national figure of 63.5%.

2.6. 15.6% of households in Warrington are in the Social Rented Sector, lower than the regional figures of 18.3% and the national figure of 17.6%.

2.7. There are 11.2% of households in the Private Rented Sector, lower than the regional figure of 15.4% and the national figure of 16.7%. However, in percentage terms, there has been a significant increase in stock (from 4.2% to 11.2%) in the private rented sector in comparison to levels recorded at the 2001 Census.

ONS data

2.8. **Table 2** is an example of the type of data set supplied by the ONS. It sets out car ownership in Warrington by tenure, dwelling type, and number of habitable rooms for all households from the 2011 census. A similar table was also supplied for each ward in the borough.

2.9. The census definition of ‘habitable rooms’ includes rooms such as kitchens, living rooms, bedrooms, utility rooms and studies, but not bathrooms, toilets, halls or landings or rooms that can only be used for storage.

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2.10. The original data separated the figures for shared ownership and rented dwellings – however, there were very few dwellings within the shared ownership category and these were amalgamated into the rented category to enable robust analysis.

Table 2: Car ownership by tenure, dwelling type and habitable rooms – all households (Census 2011)

	Total households	Number of cars per household				
		None	One	Two	Three	Four +
Houses by tenure						
Owner occupied						
1 room	12	2	6	3	1	0
2 rooms	108	24	63	19	1	1
3 rooms	711	191	396	106	15	3
4 rooms	6109	1249	3394	1296	146	24
5 rooms	16009	2260	8152	4797	680	120
6 rooms	15658	1338	6944	6127	1005	244
7 rooms	8876	350	2851	4433	965	277
8 or more rooms	11871	171	2283	6755	1932	730
Rented & shared ownership						
1 room	27	14	10	2	1	0
2 rooms	199	104	85	8	1	1
3 rooms	1682	991	624	64	3	0
4 rooms	3981	1683	1861	401	33	3
5 rooms	6446	2302	3108	923	94	19
6 rooms	2852	799	1394	574	64	21
7 rooms	798	179	391	194	26	8
8 or more rooms	562	112	225	180	35	10
Flats by tenure						
Owner occupied						
1 room	11	2	8	1	0	0
2 rooms	125	35	79	11	0	0
3 rooms	672	207	383	81	1	0
4 rooms	555	125	347	75	7	1
5 rooms	92	10	55	23	4	0
6 rooms	29	5	10	11	1	2
7 rooms	8	1	4	2	1	0
8 or more rooms	17	1	8	6	1	1
Rented & shared ownership						
1 room	143	86	50	6	1	0
2 rooms	876	485	349	38	4	0
3 rooms	4377	2566	1553	244	12	2
4 rooms	1781	846	755	171	7	2
5 rooms	330	172	110	40	6	2
6 rooms	78	41	28	8	0	1
7 rooms	32	15	13	3	1	0
8 or more rooms	53	29	16	8	0	0

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Habitable rooms and bedrooms

2.11. For the purposes of calculating residential parking demand, there is a need to convert the 'number of habitable rooms' into a 'number of bedrooms'. A number of previous studies are available that have established a conversion rate.

2.12. **Table 5** is a conversion table based on the conversion factors used by Dudley MBC (for dwellings with 3 or more habitable rooms) and the rates used in Dorset (for dwellings with 2 or fewer habitable rooms). Both these studies were based on observed surveys of households and had very similar results. By combining the rates is possible to create a comprehensive conversion table for use in Warrington.

Table 3: Dudley MBC relationship between habitable rooms and bedrooms

Number of habitable rooms	Average number of bedrooms	Indicative equivalent number of bedrooms
3	n/a	1
4	2.1	2
5	2.8	3
6	3.1	3
7	3.6	4
8	3.8	4

Table 4: Dorset habitable room – bedroom conversions for houses and flats in Greater Dorset

Number of habitable rooms	Number of bedrooms
2 or less	1
4	2
6	3
8 or more	4

Table 5: Combined habitable room – bedroom conversion table for Warrington

Number of habitable rooms	Indicative equivalent number of bedrooms
1	1
2	1
3	1
4	2
5	3
6	3
7	4
8	4

2.13. The conversion table has been used to redefine the car ownership table supplied by the ONS to illustrate car ownership by number of bedrooms.

2.14. The data for 3 and 4 bedroom flats did not have sufficient sample sizes for conclusions to be drawn therefore these categories have been combined.

Table 6: Car ownership by tenure, dwelling type and number of bedrooms – all households (Census 2011)

	Total households	Number of cars per household					Number of cars	Rate of cars per household
		None	One	Two	Three	Four +		
HOUSES								
Owner occupied								
1 bedroom	831	217	465	128	17	4	788	0.95
2 bedrooms	6109	1249	3394	1296	146	24	6,520	1.07
3 bedrooms	31667	3598	15096	10924	1685	364	43,455	1.37
4 bedrooms	20747	521	5134	11188	2897	1007	40,229	1.94
Rented & shared ownership								
1 bedroom	1908	1109	719	74	5	1	886	0.46
2 bedrooms	3981	1683	1861	401	33	3	2,774	0.70
3 bedrooms	9298	3101	4502	1497	158	40	8,130	0.87
4 bedrooms	1360	291	616	374	61	18	1,619	1.19
FLATS								
Owner occupied								
1 bedroom	808	244	470	93	1	-	659	0.82
2 bedrooms	555	125	347	75	7	1	522	0.94
3+ bedrooms	146	17	77	42	7	3	194	1.33
Rented & shared ownership								
1 bedroom	5,396	3,137	1,952	288	17	2	2,587	0.48
2 bedrooms	1,781	846	755	171	7	2	1,126	0.63
3+ bedrooms	493	257	167	59	7	3	318	0.65
Total households	**85,080**	**16,395**	**35,555**	**26,610**	**5,048**	**1,472**	**109,807**	**1.29**

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3. OPTIONS ASSESSMENT: HOUSEHOLD & DEMOGRAPHIC FACTORS

3.1. This section examines a range of potential demographic factors that could potentially be used to influence parking standards. It considers patterns of car ownership in:

- Small and large houses and flats
- Owner occupied and rented accommodation
- Different ward areas
- Different levels of affluence
- Proximity to a public transport hub

3.2. The aim of the section is to recommend key household and demographic factors to be included within the parking standards calculations.

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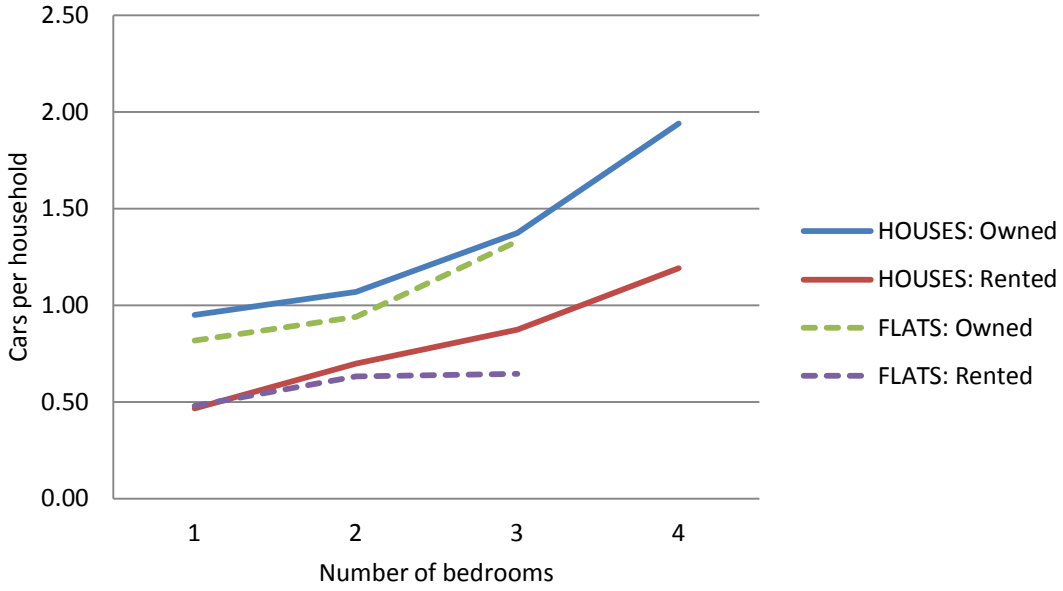
Rate of car ownership by household in Warrington

3.3. **Figure 1** illustrates the rate of cars per household in Warrington by the size of dwelling.

Figure 1: Graph of rate of car ownership by household in Warrington – all households (no growth)



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Dwelling size

3.4. The ONS data illustrates a pattern of increasing car ownership as the number of bedrooms in a property increases. The rate of increase for rented flats is not as pronounced as for the other dwelling types.

Tenure & dwelling type

3.5. Car ownership is slightly lower for flats compared to houses.

3.6. There is a pattern of higher car ownership amongst property owners and a lower rate associated with rental accommodation. However, the tenure of a property can change over time – and, unless a new development can guarantee that the properties will be rental in perpetuity, it would seem wise to plan parking requirements based on the higher home ownership rate.

Ward area

3.7. To examine the influence of demographics on car availability, the data for each ward area was examined using the same process as for the whole of Warrington data.

3.8. In a number of wards, the sample size was too small to be able to reach robust conclusions at individual ward level for owner occupied 1 or 2 bedroom houses.

3.9. In addition, categories for rented houses, owned flats and rented flats had various degrees of small sample size that mean insufficient data was available.

3.10. Although we might expect there to be some variation in the level of car ownership in different ward areas there is insufficient data available to draw robust conclusions at ward level.

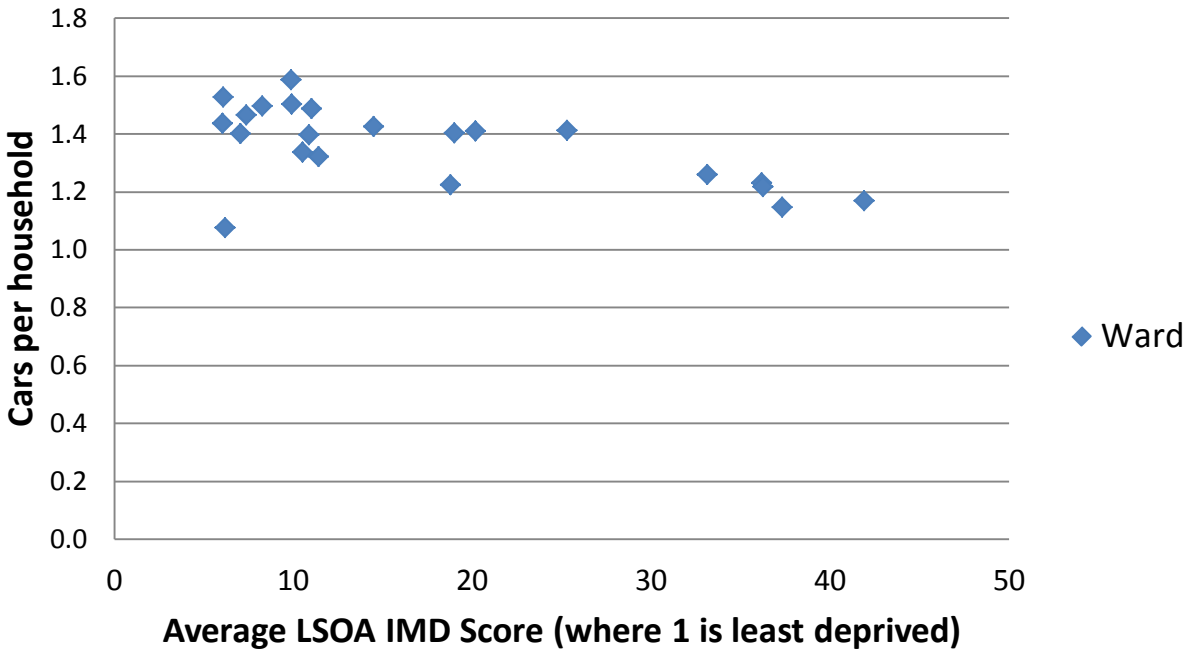
3.11. The characteristics of a ward area may also change over time – particularly where large scale development is planned. Using the existing characteristics of ward area as a factor in parking standards is therefore not considered to be appropriate.

Demographics – Relative affluence/deprivation

3.12. The rate of car ownership for each ward, for 3 bedroom owned houses, was plotted against DCLG 2010 average Indices of Multiple Deprivation (IMD) score. This showed that there was a slight pattern of lower car ownership rates associated with higher levels of deprivation – however there were exceptions to this pattern and insufficient data was available for other housing types. The difference in car ownerships rate between the most and least deprived wards was also small.

3.13. Patterns of deprivation can change over time and it is considered inappropriate to use patterns of relative deprivation to influence parking policy.

Figure 2: Ward car ownership rate for 3 bedroom owned houses by IMD



Location and accessibility to public transport links

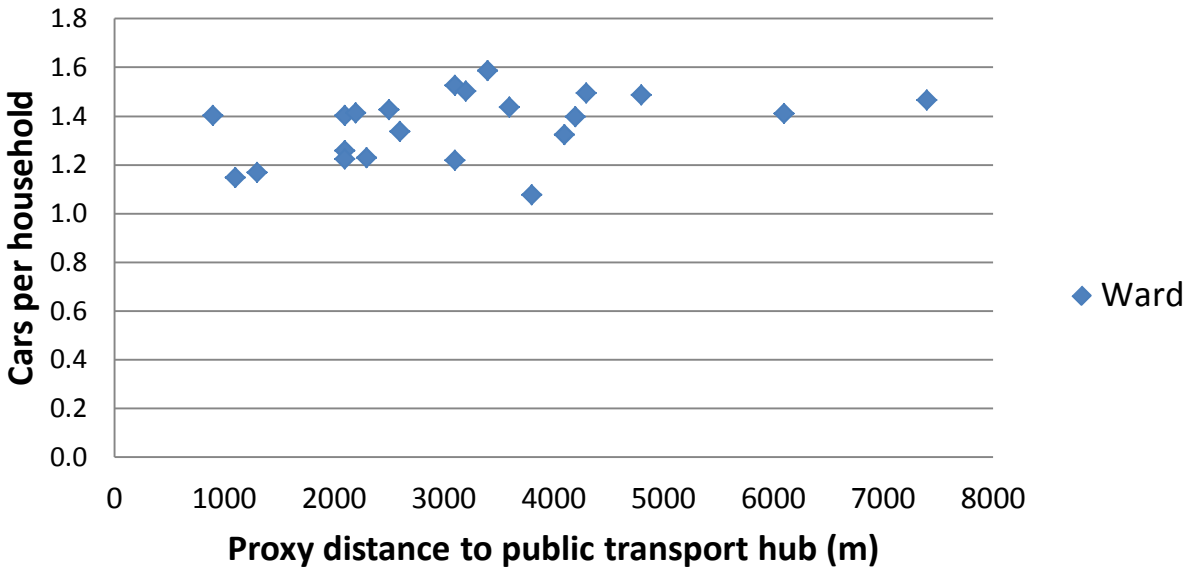
3.14. The degree to which proximity to public transport links impacts on car ownership rates has been tested by plotting the rates for 3 bedroom houses in each ward against the proxy distance to a key transport hub.

3.15. The proxy distance is defined as the approximate distance from the main centre of population in each ward to the closest key transport hub – Warrington Bus Interchange, Warrington Central Station, Warrington Bank Quay Station or Birchwood Station.

3.16. **Figure 3** demonstrates that there is no significant correlation between cars/household rate and distance from a transport hub for the ward areas in Warrington.

3.17. Data for 3 bedroom owned houses is used to illustrate this point as this is the only full set of data with sufficient sample sizes.

Figure 3: Graph of ward level cars per household by distance to transport hub (3 bedroom houses)



3.18. The town centre has higher levels of accessibility and public transport availability than anywhere else in the borough – there is easy access to two mainline rail stations providing direct links to most areas of the country and direct bus links to all areas of the borough from the bus interchange.

3.19. The rate of car ownership per household in Bewsey and Whitecross and Fairfield and Howley wards support this view, however, the level of affluence in these wards is also likely to be a factor.

3.20. Overall, it is considered desirable to allow lower levels of parking within the town centre to encourage more sustainable growth in the borough's most well connected and accessible location.

Conclusions

3.21. Rates of parking per household are required to reflect:

- patterns of increasing car ownership as the number of bedrooms increases;

- higher levels of car ownership in houses compared to flats; and,
- whether the development is within the town centre.

3.22. The following factors are not appropriate for calculating parking standards in Warrington:

- Household tenure (as tenure can change over time)
- Levels of affluence/deprivation of ward areas (as regeneration will change area characteristics and insufficient data was available to support calculations)
- Ward location and accessibility to public transport (as no significant correlation was found and insufficient data was available to support calculations).

3.23. It is therefore recommended that the main statistical basis for parking standards calculations should be the rate of car ownership in owner-occupied houses and flats by size of dwelling in Warrington and whether or not the development is within the town centre.

3.24. **Table 7** extracts the rates to be used as the basis for parking standards.

Table 7: 2011 Rate of car ownership by household in Warrington – basis for parking standards

	Total households	Cars per household					Total number of cars	Rate of cars per household
		None	One	Two	Three	Four +		
HOUSES								
1 bedroom	831	217	465	128	17	4	788	0.95
		26.1%	56.0%	15.4%	2.0%	0.5%		
2 bedrooms	6109	1,249	3,394	1,296	146	24	6520	1.07
		20.4%	55.6%	21.2%	2.4%	0.4%		
3 bedrooms	31667	3,598	15,096	10,924	1,685	364	43455	1.37
		11.4%	47.7%	34.5%	5.3%	1.1%		
4+ bedrooms	20747	521	5,134	11,188	2,897	1,007	40229	1.94
		2.5%	24.7%	53.9%	14.0%	4.9%		
FLATS								
1 bedroom	808	244	470	93	1	-	659	0.82
		30.2%	58.2%	11.5%	0.1%	0.0%		
2 bedrooms	555	125	347	75	7	1	522	0.94
		22.5%	62.5%	13.5%	1.3%	0.2%		
3+ bedrooms	146	17	77	42	7	3	194	1.33
		11.6%	52.7%	28.8%	4.8%	2.1%		
All Warrington	**85,080**	16,395	35,555	26,610	5,048	1,472	109807	1.29
		19.3%	41.8%	31.3%	5.9%	1.7%		

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4. FUTURE GROWTH

4.1. In order to ensure that parking provision will be adequate for years to come, TEMPRO has been used to establish the rate of growth of car ownership and number of households from 2011 through to the end of the Local Plan period 2031.

4.2. These rates have then been applied to the figures above as per DCLG guidance.

Table 8: TEMPRO growth rates

	Household Growth Rate	Growth rate no-car	Growth rate one car	Growth rate two cars	Growth rate three + cars	Growth rate three + cars
TEMPRO Growth Rates Forecast to 2031	1.12	0.92	1.16	1.17	1.22	1.22

Table 9: Rate of car ownership by household in Warrington – including growth to 2031

	Total households	Cars per household					Total number of cars	Rate of cars per household
		None	One	Two	Three	Four +		
HOUSES								
1 bedroom	931	200 21.5%	539 58.0%	150 16.1%	21 2.2%	5 0.5%	921	0.99
2 bedrooms	6,842	1,149 16.8%	3,937 57.5%	1,516 22.2%	178 2.6%	29 0.4%	7,621	1.11
3 bedrooms	35,467	3,310 9.3%	17,511 49.4%	12,781 36.0%	2,056 5.8%	444 1.3%	51,017	1.44
4+ bedrooms	23,237	479 2.1%	5,955 25.6%	13,090 56.3%	3,534 15.2%	1,229 5.3%	47,653	2.05
FLATS								
1 bedroom	905	224 24.8%	545 60.2%	109 12.0%	1 0.1%	- 0.0%	766	0.85
2 bedrooms	622	115 18.5%	403 64.8%	88 14.1%	9 1.4%	1 0.2%	609	0.98
3+ bedrooms	164	16 9.6%	89 54.6%	49 30.1%	9 5.2%	4 2.2%	228	1.39
Overall	68,167	5,493 8.1%	28,980 42.5%	27,783 40.8%	5,807 8.5%	1,712 2.5%	108,814	1.60

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5. CALCULATING RESIDENTIAL DEMAND

5.1. This section describes the additional factors that need to be considered within the parking standards as per the DCLG Residential Car Parking Research methodology (DCLG, 2007).

Allocated and unallocated demand

5.2. The residential demand calculations are based on understanding the difference between allocated spaces and unallocated spaces:

- *Allocated spaces* are those that are dedicated to drivers from a particular unit or dwelling – and often sold as part of the dwelling.

- *Unallocated spaces* can be used by all and are often a more efficient use of space because different drivers/visitors can utilise each space through the course of a day.

5.3. In essence, a development that allocates all parking spaces to properties will need to provide a greater number of parking spaces than a development where spaces are unallocated.

5.4. Although the level of allocation is clearly a factor influencing the absolute number of spaces required it would be very difficult in practice to monitor any developments parking management systems following construction. Therefore there will always be a risk that unallocated parking spaces will subsequently be allocated and sold in conjunction with a specific property – which could potentially lead to parking shortages on site which in-turn could cause on-street parking problems.

5.5. To ensure that sufficient parking spaces are provided in perpetuity, it is therefore recommended that a minimum of one allocated parking space per 1-2 bed dwelling and a minimum of two parking spaces per dwelling with 3 or more bedrooms, is provided within all new developments within the borough. Parking standards should also ensure that there is sufficient unallocated residential and visitor spaces to satisfy predicted demand. However, where a development consists largely of flats, there is greater scope to provide all parking unallocated, as this has been demonstrated to be successful within case studies.

5.6. The recommendations for additional residential and visitor demand is therefore to be calculated on the basis that every household will have a least one allocated space. However, it should be noted that for developments consisting of flat, there is greater scope to permit all parking to be unallocated as this has been demonstrated to be successful in case studies.

5.7. By using figures for owner-occupied dwellings as the basis for calculations, there will be a stronger likelihood that demand will be satisfied and incidences of overspill into surrounding streets minimised.

5.8. Due to the proximity of alternative modes of travel, development in the town centre will only be required to provide unallocated parking at the rate of one space per

dwelling – however, disabled parking requirements will still need to be accommodated.

Additional residential demand

5.9. Allocating 1 space per dwelling means that households with 2, 3, or 4+ cars will need to find an unallocated space for their 2nd+ car elsewhere – either on-street on within the development.

5.10. This additional demand for parking needs to be met within the development.

5.11. For example, in the case of a new development of one hundred three bedroom houses (refer to **Table 9**) each with one allocated parking space:

- We would expect 36% of households to own 2 cars, and therefore we'd expect an extra 36 cars to need an unallocated parking space.
- Equally, within the same group of 100 houses, we would expect 5.8% of households to own 3 cars, and therefore we'd expect an extra 12 cars to need an unallocated parking space.
- Finally, a small proportion (1.3%) are likely to own 4 or more cars, so we would expect an extra 4 cars on average to need an unallocated parking space.
- In total, we would expect an extra 51 vehicles as additional demand not catered for within the allocated parking spaces. This is an additional rate of demand for parking of 0.51.

5.12. This level of additional residential demand is shown in column 4 of **Table 10**.

5.13. A similar calculation can be made that reflects the likely level of demand when 2 parking spaces are allocated per house. But in this case it will be the 3 car and 4+ car households with more cars than parking spaces that make up the total amount of additional demand.

5.14. This level of additional demand for unallocated spaces is shown in column 5 of **Table 10**.

Table 10: Unallocated & allocated parking demand for three-bedroom houses

			Additional demand for unallocated parking…		
Cars per household	Car ownership per household	Demand for parking if all spaces are unallocated	… with 1 allocated space per dwelling	… with 2 allocated spaces per dwelling	… with 3 allocated spaces per dwelling
0	9.3%	0	0	0	0
1	49.4%	0.49	0	0	0
2	36.0%	0.72	0.36	0	0
3	5.8%	0.17	0.12	0.06	0

4 or more	1.3%	0.05	0.04	0.03	0.01
Total additional unallocated residents' demand		**1.44**	**0.51**	**0.08**	**0.01**

5.15. This calculation has been repeated for each type of dwelling and the final figure for use in the parking standards is set out in the table below. All figures have been rounded to the nearest decimal place.

Table 11: Unallocated & allocated parking demand for houses and flats – including growth to 2031

		Additional demand for unallocated parking…		
	Basic demand for parking if all spaces are unallocated	… with 1 allocated space per dwelling	… with 2 allocated spaces per dwelling	… with 3 allocated spaces per dwelling
HOUSES by tenure				
1 bedroom	1.0	0.2	0.0	0.0
2 bedrooms	1.1	0.3	0.0	0.0
3 bedrooms	1.4	0.5	0.1	0.0
4 bedrooms	2.1	1.0	0.3	0.1
FLATS by tenure				
1 bedroom	0.8	0.1	0.0	-
2 bedrooms	1.0	0.2	0.0	0.0
3+ bedrooms	1.4	0.5	0.1	0.0

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5.16. **Table 11** shows the rate of additional unallocated parking demand that will need to be accommodated per dwelling where 1, 2 or 3 parking spaces are allocated per dwelling. These rates include the growth factor needed to reflect future anticipated rates of car ownership. The figures don't include the need for visitor parking.

5.17. Visitor parking rates and garages are discussed in the following sections.

Visitor parking

5.18. Research suggests that where most spaces are allocated spaces, it may be appropriate to allow for additional demand for visitor parking of up to 0.2 spaces per dwelling (DCLG, 2007).

5.19. Unallocated spaces for residents and visitors should be identified within shared parking areas or be available on-street within the development in a location convenient to the dwellings they must serve.

5.20. Additional visitor parking won't be required where the number of allocated spaces exceeds the basic demand for parking from each dwelling by one whole space. For example, for a three bedroom house the basic demand for spaces is 1.4 which would require 2 whole spaces on plot to meet this demand – therefore no additional visitor parking will be required only when 3 allocated spaces are provided.

5.21. Visitor parking rates have been applied as described in **Table 12**.

5.22. In the town centre, where each dwelling has one space (allocated or otherwise), no visitor spaces will be required due to the high levels of accessibility and proximity of public car parks.

Table 12: Overall parking demand for houses and flats – including growth and visitor parking (not applicable in the town centre)

Dwelling type	Basic demand	Basic demand (whole spaces)	Allocated spaces per dwelling	Rate of additional residential demand	Sufficient allocated parking to accommodate a visitor vehicle?	Visitor parking rate	Overall minimum parking provision (spaces/ dwelling)
1 bed houses	1	1	0	0	no	0.2	1.2
			1	0.2	no	0.2	1.4
			2	-	yes	-	2.0
2 bed houses	1.1	2	1	0.3	no	0.2	1.5
			2	-	no	0.2	2.2
			3	-	yes	-	3.0
3 bed houses	1.4	2	1	0.5	no	0.2	1.7
			2	0.1	no	0.2	2.3
			3	-	yes	-	3.0
4+ bed houses	2.1	3	1	1.0	no	0.2	2.2
			2	0.3	no	0.2	2.5
			3	0.1	no	0.2	3.3
			4	-	yes	-	4.0
1 bed flats	0.8	1	0	0	yes	0	1.0
			1	0.1	no	0.2	1.3
			2	-	yes	-	2.0
2 bed flats	1	1	0	0	no	0.2	1.2
			1	0.2	no	0.2	1.4
			2	-	yes	-	2.0
3+ bed flats	1.4	2	1	0.5	no	0.2	1.7
			2	0.1	no	0.2	2.3
			3	-	yes	-	3.0

Residential Parking Standards – Summary Table for Developments of more than 5 dwellings

5.23. The minimum number and form of parking spaces required per dwelling is therefore a factor of: residential demand arising from different dwelling types; growth through to 2031; the proposed split between allocated and unallocated parking; and the need for visitor parking.

5.24. For 3 and 4 bedroom dwellings, it is considered inappropriate to include an option to offer 1 allocated space per dwelling because the subsequent requirement for unallocated spaces would be more than half a space per dwelling and could result in over-reliance on unallocated parking to meet changes in demand in the future.

5.25. The resultant residential parking standards, for developments of more than 5 dwellings, are set out in **Table 13.** This table includes the full range of options for developers and is included within the SPD as "Appendix D Alternative standards for residential development of more than 5 dwellings". The main body of the SPD Standards Table in Appendix A of the SPD contains a simplified version of this table which only includes the preferred standard shown in *italics* in **Table 13.**

Table 13: Residential parking standards for development of more than 5 dwellings (not applicable in the town centre)

Dwelling type	Minimum number and form of parking spaces required per dwelling *[The council's preferred option is shown in italics but all options are equally acceptable]*
1 bed flats	1 unallocated space OR *1 allocated space + 0.3 unallocated spaces* OR 2 allocated spaces
1 bed houses / 2 bed flats	1.2 unallocated spaces OR *1 allocated space + 0.4 unallocated spaces* OR 2 allocated spaces
2 bed houses	1 allocated space + 0.5 unallocated spaces OR *2 allocated spaces + 0.2 unallocated spaces* OR 3 allocated spaces
3 bed houses / 3 bed flats	*2 allocated space + 0.3 unallocated spaces* OR 3 allocated spaces
4+ bed houses	2 allocated space + 0.5 unallocated spaces OR *3 allocated space + 0.3 unallocated spaces* OR 4 allocated spaces

The minimum number of spaces given above will meet the needs of residents and visitors.

Allocated spaces are those that are dedicated to drivers from a particular unit or dwelling – and often sold as part of the dwelling. Allocated residential parking requirements should always be provided off-street.

Unallocated spaces can be provided in communal parking areas and are to be available for all. Unallocated spaces are a more efficient use of space because different drivers/visitors can utilise each space through the course of a day.

Where developers will be constructing new highway as part of their development, it will also be possible to

incorporate unallocated on-street parking into the street design.

Where a development is immediately adjacent to existing highway, this too may have the potential to accommodate a limited amount of the required unallocated on-street parking – however the onus will be on the developer to demonstrate suitable highway design and capacity immediately adjacent to the site.

Garages should not be included in the calculations unless the garage is of minimum size and additional unallocated parking can be accommodated (see later paragraphs on garages).

Residential development of 5 dwellings or less (including residential domestic improvement/extensions)

5.26. For large residential developments, the calculations set out above are an effective mechanism to ensure the most efficient provision of allocated and unallocated spaces required to accommodate likely demand for parking. However, for smaller developments and domestic improvement / extensions, there is unlikely to be enough land to enable the most effective use of allocated and unallocated spaces to be achieved. It is therefore important that the dwellings provide sufficient on-plot parking spaces to meet basic demand and as well as basic levels of visitor parking.

5.27. As such, it is necessary to make a distinction between larger developments and smaller developments (of 5 dwellings or less) including residential domestic improvements/extensions in the standards.

5.28. A development of 5 dwellings will require 1 visitor parking space (0.2 x 5) and development with fewer dwellings than 5 would need to round-up visitor provision to 1 whole space.

5.29. **Table 14** sets out a simpler approach for small residential development (including residential domestic improvements/extension) that will ensure basic levels of parking provision for residents and visitors are maintained.

Table 14: Final residential parking standards – developments of 5 dwellings or less outside of the town centre (including residential domestic improvements/extensions)

Dwelling type	Minimum number of parking spaces
1 bed flats	1 allocated space per dwelling
1 bed houses / 2 bed flats	1 allocated space per dwelling
2 bed houses	2 allocated spaces per dwelling
3 bed houses / 3 bed flats	2 allocated spaces per dwelling
4+ bed houses	3 allocated spaces per dwelling
Visitor Parking: 1 visitor space will be required for each development in addition to the minimum above. For a development of 1 unit the visitor space should be provided on-plot wherever possible. The visitor space for developments of 2-5 units can be a shared unallocated space – i.e. it can be provided in a shared area of the development, or developers will need to demonstrate that there is	

Dwelling type	Minimum number of parking spaces
suitable highway design and capacity immediately adjacent to the site to accommodate it on-street. Alternatively, developers can provide an extra on-plot space for each individual dwelling. Garages should not be included in the calculations unless the garage is of minimum size and additional unallocated parking can be accommodated (see later paragraphs on garages).	

5.30. Where development is for 5 dwellings or less, or consists of improvement or extension to an existing property, the parking provision should meet the parking standards set out for the proposed dwelling type in Table 14.

5.31. For example, the conversion of a 2 bedroom house to a 3 bedroom house will be acceptable if the number of parking spaces remains at 2 allocated on-plot spaces and capacity is available on street for visitor parking.

5.32. There are some circumstances where it may be appropriate to consider less than the minimum parking provision – for example, a household extension that creates an extra bedroom may have a minimal impact in planning terms if the street has a large amount of available on-street parking capacity. In such circumstances, the emphasis needs to be on the developer to provide evidence to demonstrate that there are no existing on-street car parking problems in the vicinity and that further on-street parking would not give rise to problems either individually or cumulatively.

5.33. Where an existing residential scheme includes a garage within the parking provision for the estate and the loss of parking spaces is proposed, the applicant will need to ensure replacement off-street parking provision for those spaces that are to be lost (either to the level of the minimum parking standards or to the existing level of parking). In such circumstances an existing single garage will count as one parking space and an existing double garage will count as two spaces.

Garages

5.34. The Pre-Publication Draft Core Strategy consultation gave rise to the following comment: “Garages are used for storage. It is not reasonable to continue to take the first garage as a usable car parking space in any size home.” (Consultation Response, WBC, 2012)

5.35. There is also concern surrounding the conversion of garages to residential use which results in a loss of parking space and higher demand for on-street spaces.

5.36. In the past, any garages have automatically been included within the calculations for parking spaces across a site; however, both Manual for Streets (DfT, 2007) and the CIHT & IHT Guidance Note for Residential Parking (CIHT & IHE, 2012) suggest that garages are often used for storage rather than for parking a vehicle.

5.37. The Department for Communities and Local Government (DCLG) Residential Car Parking Research (2007), WSP, suggest that only 33% of garages are used for parking cars and 67% of garages are used for storage or other uses.

5.38. Research in Warrington in 2014 (undertaken as part of the Warrington Personalised Travel Planning LSTF project) corroborates the WSP research by finding that 52% of respondents with a garage “never” and 9% “hardly ever” parking in their garage of a sample size of 1390. In addition, the survey found that 77% of single garage owners stated that the majority of their garage space was given over to non-car uses such as storage or gym equipment.

5.39. The size of a garage will also influence its use; smaller garages may be insufficient to enable drivers and passengers to exit the vehicle and may only be suitable for storage and bicycles.

5.40. If a developer would like garages to count towards the overall provision, a minimum size of 7.0 x 3.0m or 6.0 x 3.5m (internal dimension) is recommended. This may then be included as one allocated space per dwelling in the calculation sheet; however, a further 0.6 unallocated parking spaces per garage will be required to take account of the lack of use of garages for parking.

5.41. Garages of this size and over are considered large enough for the average sized family car and cycles, as well as some storage space, however, there is clear evidence to suggested that even garages of sufficient size may not be used for parking.

5.42. The minimum size that applies to calculations for provision are not appropriate to apply to car ports or to basement car parking/garaging in blocks of flats because these are generally designed more like shared car parks.

5.43. Developers may opt to not include garages in their calculations if the requirement for additional unallocated parking spaces is difficult to accommodate within the development. In this situation, developers may choose to increase the number of on-plot allocated spaces rather than provide a greater number of unallocated spaces.

5.44. Where garages of any size are provided these will count toward satisfying bicycle parking standards.

Table 15: Garage dimensions

Garage criteria	Dimensions	Notes
Minimum size Single garage	7 x 3m or 6 x 3.5m (internal dimensions) Minimum door width 2.5m for standard single garage.	Garage may count toward overall provision; however, a further 0.6 unallocated parking spaces per garage will then be required to take account of the lack of use of garages for parking. Garage will count as 2 cycle parking spaces. Garages below the minimum size will count as 4 cycle parking spaces.
Minimum size Double garage	5 x 6m (internal dimensions) Minimum door width of 5m.	Garage will count as 1 space toward overall provision and as 4 cycle parking spaces.
The minimum sizes will not apply to car ports or to basement car parking in blocks of flats – standard parking space dimensions should be used. Car port and basement car parking in blocks of flats will each count as 1 space toward overall provision.		

Disabled Parking

5.45. 5% of total unallocated off-street parking spaces within a residential development should be designated disabled parking. These should be provided in convenient locations in unallocated parking areas.

5.46. Where possible developers are encouraged to include 4% enlarged standard spaces (3.6x6m) to allow future expansion of the number of designated spaces if demand arises.

5.47. Spaces designated for disabled visitors should not be conveyed to individual owners to ensure that the space remains available for all disabled users in perpetuity.

Tandem parking spaces

5.48. Spaces that can only be accessed via another space will not count towards the parking standards unless they are spaces on an open private individual driveway and compatible with the design guide.

On-street parking

5.49. A number of guidance documents encourage the use of on-street parking as part of a holistic plan for parking in a new development (English Partnerships, 2006) (CIHT & IHE, 2012).

5.50. Advice from DCLG in their Residential Parking Research states that “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." (DCLG, 2007).

5.51. In many circumstances, on-street parking can make a valuable contribution to the required level of unallocated parking in a development -- in accordance with the guidance in the Department for Transport's 'Manual for Streets' -- provided the width of the roads is adequate to accommodate it safely and without the need to mount the pavement or park in bus or cycle lanes.

5.52. It is essential that developers take a 'design-led' approach to parking provision and ensure that the design takes into account on-street parking. Where the design is intended to incorporate on-street parking – to meet the requirement for unallocated parking – the estate roads should be of adequate width to accommodate parking.

5.53. In the case of roads where parking will be on one side, the road should be a minimum of 5.5 metres wide and where parking will be on both sides the road width should be a minimum of 7.5 metres wide.

5.54. On-street parking design should include breaks in lines or rows of on-street parking bays every 6 spaces. This can be either for tree planting or to make it easier for pedestrians to cross from one side to the other.

5.55. This approach has been supported by comments received in consultation on parking standards and design: "In Chapelford the design deliberately sets out to reduce on street car parking to remove street clutter. This objective is not one which the residents see as a priority because they have to live with the limited car parking and its consequences." "On Street Car parking should be treated as incidental and visitor parking". (Consultation Response, WBC, 2012).

SUMMARY OF RECOMMENDATIONS

5.56. The final calculations for deriving the parking standards incorporate the following factors:

- Car ownership per household by dwelling size and tenure
- Forecast growth in car ownership
- A minimum allocated provision for houses (not in the town centre)
- Additional unallocated residential demand
- Unallocated visitor parking demand
- A distinction between large and small developments
- Allowance for the non-use of garages

5.57. A worked example of the calculations is attached.

WARRINGTON Borough Council

6. COMPARISON WITH OTHER AREAS

6.1. The table below sets out the overall rate for comparison of some simple residential developments of 10 dwellings in wider Warrington.

Table 16: Overall WBC rates for comparison (not to be used for calculations)

Development	Total allocated spaces	Total unallocated spaces required	Overall rate for comparison
1 bedroom flats	10	4	1.3
2 bedroom flats	10	4	1.4
3 bedroom flats	20	3	2.3
2 bedroom houses	10	5	1.5
3 bedroom houses	20	3	2.3
4+ bedroom houses	20	5	2.5

6.2. A comparison of rates for 2 bedroom flats and 3 bedroom houses between different local authorities is set out in **Table 17** and **Table 18**.

Table 17: Comparison of rates for 2 bedroom flats with 1 allocated space

Development 10 x 2 bedroom flats	Total allocated spaces (min 1 per dwelling)	Additional unallocated residential spaces required	Additional visitor spaces required	Overall rate for comparison
Warrington	10 (min)	2	2	1.4
Dorset (Christchurch)	10	2	2	1.4
Wokingham (urban, owned)	10	2	2	1.4
Dartford	10	2	3	1.5
Dudley	10	5	c.1	1.6
Mid-Devon	10	7	1	1.8
North Somerset	20 (min)	0	0	2.0

Table 18: Comparison of rates for 3 bedroom houses with 2 allocated spaces

Development 10 x 3 bedroom houses	Total allocated spaces	Additional unallocated residential spaces required	Additional visitor spaces required	Overall rate for comparison
Warrington	20 (min)	1	2	2.3
Dartford	10	5	3	1.8
Mid-Devon	10	7	1	1.8
Dorset (Christchurch)	10	7	2	1.9
Dudley	10	7	c.2	1.9
Wokingham (urban, owned)	10	7	2	1.9
North Somerset	20 (min)	0	0	2.0

6.3. Mid-Devon District Council have adopted a minimum level of parking for each dwelling of 1.7 across their whole area based on allocating at least 1 space per dwelling. This rate does not discriminate between flats and houses, location or ownership. It therefore seems high for the 2 bedroom flats comparison.

6.4. Wokingham Borough Council have used the full DCLG methodology and have set rates for different types of dwelling (flats owned / flats rented / houses owned / houses rented) in different locations (urban / town and fringe/ village) with unallocated demand dependent on the number of allocated spaces proposed. Calculation of this rate is therefore very specific to the development and is relatively complex to calculate.

6.5. Overall, Warrington's calculated rates are similar to the examples given – however, the overall rate for 3 bedroom and 4 bedroom properties is marginally higher than the examples given because the minimum number of allocated parking spaces for these dwelling types is 2 spaces.