Telford & Wrekin
COUNCIL

PARKING STANDARDS - EVIDENCE BASE

MAY 2016

PARKING STANDARDS - EVIDENCE BASE

1. Introduction

This document outlines the evidence base underpinning the proposed non-residential and residential parking standards for the Shaping Places local plan. It provides the background to how the parking standards were calculated, which sources of data were used and how they differ from the existing Wrekin Local Plan parking standards but also other relevant local authorities.

The National Planning Policy Framework recommends that when setting local parking standards for residential and non-residential development, local planning authorities should take into account:

- the accessibility of the development;
- the type, mix and use of development;
- the availability of and opportunities for public transport;
- local car ownership levels; and
- an overall need to reduce the use of high-emission vehicles.

It also says that local authorities should seek to improve the quality of parking in town centres so that it is convenient, safe and secure, including appropriate provision for motorcycles.

2. Non-residential parking standards

Car parking standards were based on the previous local plan, other local authorities with similar urban structure and travel patterns (Essex where 82% of population has access to a car together with Warrington, Herefordshire and Milton Keynes, representing the new towns similar to Telford and Wrekin), and PPG13 recommendations (see Table 1 and 2).

Cycle parking standards were taken directly from “Design for Security - Cycle Parking Design Guidance”[1] and should be considered as minimal.

Disabled parking standards were taken from “Inclusive Mobility” document by the Department for Transport (DfT)[2] which recommends that 5% of the provision for new employment premises and 6% for shopping, leisure, recreational facilities and other places open to the public are designated for disabled motorists (Blue Badge

[1] http://www.designforsecurity.org/uploads/files/DFS_Cycles.pdf
[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/3695/inclusive-mobility.pdf

holders). This is in addition to a minimum of one space for each employee who is a disabled motorist. The numbers of designated spaces may need to be greater at hotels and sports stadia that specialize in accommodating groups of disabled people. In Telford and Wrekin, 5% of the parking spaces for B use classes and 6% for A, C1, C2 and D use classes should be designated to meet this requirement.

2.1 Non-residential parking standards benchmarking for key land use categories

Table 1 indicates into detail how the proposed key parking standards (deemed as key according to the PPG13 document[3]) compare to the existing Wrekin Local Plan and existing parking standards in Milton Keynes, Warrington and Herefordshire.

[3] http://webarchive.nationalarchives.gov.uk/20120919132719/http://www.communities.gov.uk/documents/planningandbuilding/pdf/1758358.pdf

Table 1: Non-residential parking standards benchmarking for key land use categories

Land use	**Telford Shaping places (based on PPG 13)**	**Wrekin Local plan**	**Milton Keynes (2009)**	**Warrington (2015)**	**Herefordshire (2006)**
Food retail	1 space per 14 sqm gross for units greater than 200 sqm 1 space per 20 sqm gross for units between 1000-2000 sqm 1 space per 35 sqm gross for units less than 1000 sqm	• 1 space/10 sq.m. gross (>2000 sqm) • 1 space/20 sq.m. gross (1000-2000sqm) • 1 space/35 sq.m. gross (<1000 sqm)	• 1/46 per sqm (central zone) • 1/14 to 1/23 per sqm (outside central zone)	• 1 space per 17 sqm (central area) • 1 space per 16 sqm (outside of central area)	• 1 car space/25 sq.m of gross floor area (central) • 1 car space/ 20 sq.m of gross floor area (suburban)
Non-food retail	1 per 20 sqm	• 1 space/18 sq.m. gross (>2000 sqm) • 1 space/20 sq.m. gross (1000-2000sqm) • 1 space/35 sq.m. gross (<1000 sqm)	• 1/66 per sqm (central zone) • 1/20 to 1/30 per sqm (outside central zone)	• 1 space per 23 sqm (central area) • 1 space per 22 sqm (outside of central area)	
Office	1 per 30 sqm	1 space/25 sq.m. gross	• 1/70 central zone • 1/30 to 1/50 per sqm (outside central zone)	• 1 space per 35 Sqm (central area) • 1 space per 26 sqm (stand-alone offices and business parks) (outside of central area)	1 car space/25 sq.m of gross floor area
Higher and further education	1 space per 2 staff + 1 space per 15 students	1 space/full time member of teaching staff + 1 space/1.5 full time	• 1/6 staff + 1/30 students (central zone)	• 1 space per 2 staff (central area)	1 car space/15 students where known or 1/10 sq.m of gross

		member of non-teaching staff +1.5 spaces/3 students	• 1/2 staff + 1/15 students to 1/3 staff + 1/25 students (outside central zone)	• 1 space per 2 staff + 1 space per 15 students (outside of central area)	floor area whichever is the greatest 1 space/2 staff
Cinemas and conference facilities	1 space per 5 seats	1 space/3.5 sq.m. net public area (Clubs/dance halls/community centres/theatres etc)	• 1/16 seats (central zone) • 1/5 seats (outside central zone)	• 1 space per 10 seats (central area) • 1 space per 6 seats (outside of central area)	Cinema: 1 car space/10sq.m of floor area. If only open in the evening consideration will be given to dual use of spaces in public car parks

2.1 Non-residential parking standards benchmarking for all land use categories

Table 2 shows the parking standards for each land use category and indicates how it compares to the other local authorities and the existing Wrekin Local Plan.

Table 2: Parking standards for non-residential developments

Land use category	**Subcategory**	**Vehicles (maximum in central areas, flexible in the other areas)**	**Other local plans**	**Wrekin Local Plan**
COMMERCIAL AND LEISURE				
A2 Financial and professional services		1 space per 25 sqm staff working area 1 space per 35 sqm PFA	Essex: 1 per 20 sqm Herefordshire: 1 per 30 sqm Milton Keynes: 1 per 20-66 sqm (depending on the area)	Same
A3 Restaurants and cafés		1 space per 10 sqm of GFA	Milton Keynes: same (and	1 per 6 sqm

			even less in central areas) Herefordshire: 1 per 5 sqm Warrington: 1 per 8 sqm	
A4 Drinking establishments		1 space per 10 sqm of GFA	Milton Keynes: same Warrington: 1 per 8 sqm Herefordshire: 1 per 5 sqm	/
A5 Hot food takeaways		1 space per 20 sqm	Essex: same	/
B1 Business		1 per 30 sqm	Essex: same PPG13: same	1 per 25 sqm
C1 Hotels		1 space/bedroom (visitor or staff)	Essex: same Warrington: same	1 per bedroom (visitor or staff) + 1 space/3 non-residential staff + 1 space/6 sqm net restaurant floor area + 1 space/10 sqm net banquet/ conference + 1 space/3 sqm net public bar area + other uses within complex by negotiation
RETAIL				
A1 Shops	Food	1 space per 14 sqm gross for units greater than 200 sqm 1 space per 20 sqm gross for units between 1000-2000 sqm 1 space per 35 sqm gross for units less than 1000 sqm	See table 1	1 per 10 sqm (>2000 sqm) 1 per 20 sqm gross (1000-2000sqm) 1 per 35 sqm gross (<1000 sqm)
	Non-food	1 per 20sqm	PPG13: same	1 per 18 sqm gross (>2000

			Essex: same	sqm) 1 per 20 sqm gross (1000-2000sqm) 1 per 35 sqm gross (<1000 sqm)
INDUSTRY/WAREHOUSING				
B2 General industrial		1 space per 50 sqm GFA (up to 250 sqm), thereafter 1 space per 60 sqm GFA + 1 articulated vehicle space per 500 sqm GFA	Essex: 1 per 60 sqm Warrington: 1 per 25 sqm Milton Keynes: 1 per 60 sqm Herefordshire: 1 per 25 sqm	1 per 40 sqm gross up to 250 sq.m. thereafter, 1 space/50 sq.m. gross + 1 articulated vehicle space/500 sq.m. gross or part thereof
B8 Storage or distribution		1 space/100 sqm gross + 1 articulated vehicle space/500 sqm GFA or part thereof	Milton Keynes: 1 per 100 sqm Warrington: 1 per 80 sqm Essex: 1 per 150 sqm	1 per 80 sqm gross +1 articulated vehicle space/500 sq.m. gross or part thereof
COMMUNITY USES				
D1 Non-residential institutions	Medical, health, day centre	1 space per 2 staff + 3 spaces per consulting room	Warrington: same Milton Keynes: same Essex: same	1 space/staff member +3 spaces/consulting room
	Creche, child care	1 space per 1 staff + drop off/pick up facilities	Essex: same	/
	Schools, higher or further education	Primary and secondary: 1 space per 1 staff plus drop off parking spaces Further: 1 space per 2 staff + 1 space per 15 students	*Primary and secondary education:* Essex: same Milton Keynes: same *Further education:* Warrington: same	*Primary and secondary education:* 1 per full time member of staff + minimum of 3 visitor spaces at Primary Schools + minimum of 8 visitor spaces at Secondary Schools

			Milton Keynes: same	*Further education:* 1 per full time member of teaching staff + 1 space/1.5 full time member of non-teaching staff +1.5 spaces/3 students
	Art gallery, museum, exhibition hall or library	1 space per 25 sqm	Essex: same	/
	Public Hall or places of worship	1 space per 10 sqm GFA	Herefordshire: same Essex: same Warrington: same (central areas)	same
D2 Assembly and leisure	Cinema, music and concert halls, bingo and dance halls	1 space per 5 seats	PPG13: same Essex: same Milton Keynes: same (for outside of central areas) Herefordshire: 1 per 10 sqm Warrington: 1 per 6 seats (for outside of central area)	/
	Indoor/outdoor sports or recreation/stadia	1 space per 15 spectators	Essex: same Milton Keynes: same Warrington: assessed through TA	1 per 25 sqm
	Swimming pool / ice rink / Health clubs / Gymnasium	1 space/20 sqm GFA	Warrington: 1 per 23 sqm Herefordshire: 1 per 10 sqm Essex: 1 per 10 sqm Milton Keynes: 1 per 22 sqm	1 per 25 sqm
	Golf courses	3 spaces per hole	Essex: same Herefordshire: same	/

	Conference centres	1 space per 5 seats	PPG13: same Essex: same Warrington: 1 per 6 seats	/
SUI GENERIS				
Certain uses do not fall within any use class and are considered 'sui generis'.	Garage / Service stations / Car repair workshops / Petrol filling stations	1 space per 20sqm retail space	Essex: same Herefordshire: same	/
	Railway/bus stations	Bus station: None unless justified Railway station: Individual merit		/
	Car parks / P+R sites	Individual merit		/
	Caravan/ camping site	1 space per pitch + 1 space per 2 full time staff members	Essex: same	/

PFA=public floor area, GFA= gross floor area

3. Background and evidence case to the calculation of residential parking standards

The basis for setting the parking standards was looking at car ownership and identifying the most important factors influencing car ownership in Telford and Wrekin which are:

- Overall numbers of car parking spaces in a development could be reduced if some spaces were provided that were not allocated to specific properties.

- Location (there is generally a lower car ownership in areas closer to borough town centres)
    - Average car ownership in Telford (2011): 1.2
    - Average car ownership in rented dwellings (1/3 of all dwellings): 0.8
    - Average car ownership in owned dwellings (2/3 of all dwellings): 1.5
    - Average car ownership in flats (10% of all dwellings): 0.6
    - Average car ownership in houses (90% of all dwellings): 1.3

- Dwelling size, type and tenure (there is a lower car ownership in flats and in rented dwellings)
    - Average car ownership in Telford (2011): 1.2
    - Average car ownership in urban areas (within 800 m from the borough centres): 1.0
    - Average car ownership in suburban areas (outside of 800 m from the borough centres but within urban hectare): 1.3
    - Average car ownership in rural areas (outside of urban hectare): 1.7

Table 3: Car ownership in Telford:

Number of bedrooms per dwelling	Telford average car ownership (Census 2011)	Urban areas (=average*0.83) +Tempro 25%	Suburban areas (=average*1.08) +Tempro 25%	Rural areas (=average*1.42) +Tempro 27%
1	0.5	0.5	0.7	0.9
2	0.9	0.9	1.2	1.6
3	1.2	1.2	1.6	2.2
4	1.7	1.8	2.3	3.1
5	1.9	2.0	2.6	3.5

Figure 1: Urban, suburban and rural areas of Telford

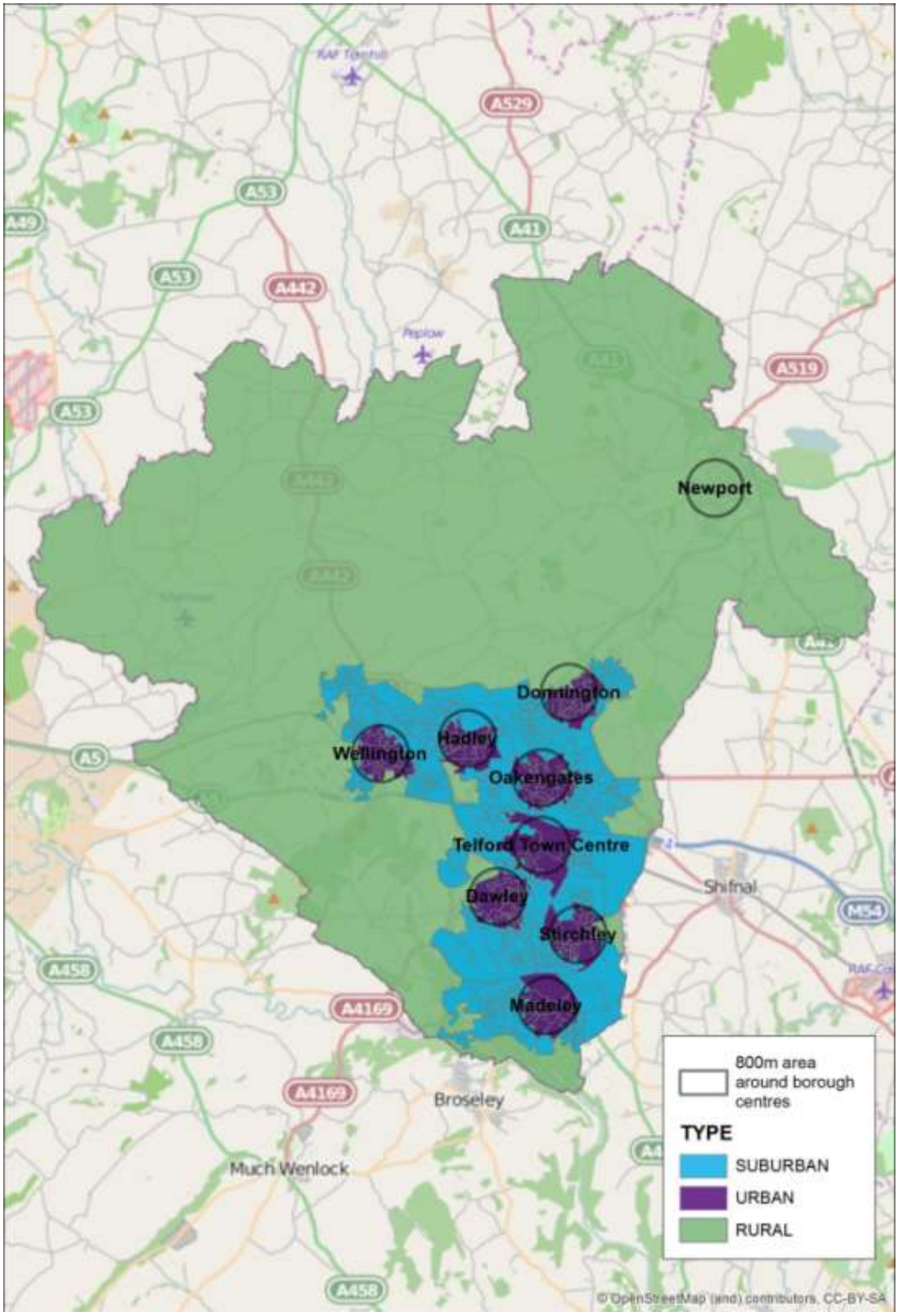


Figure 2: Car ownership and proportion of flats

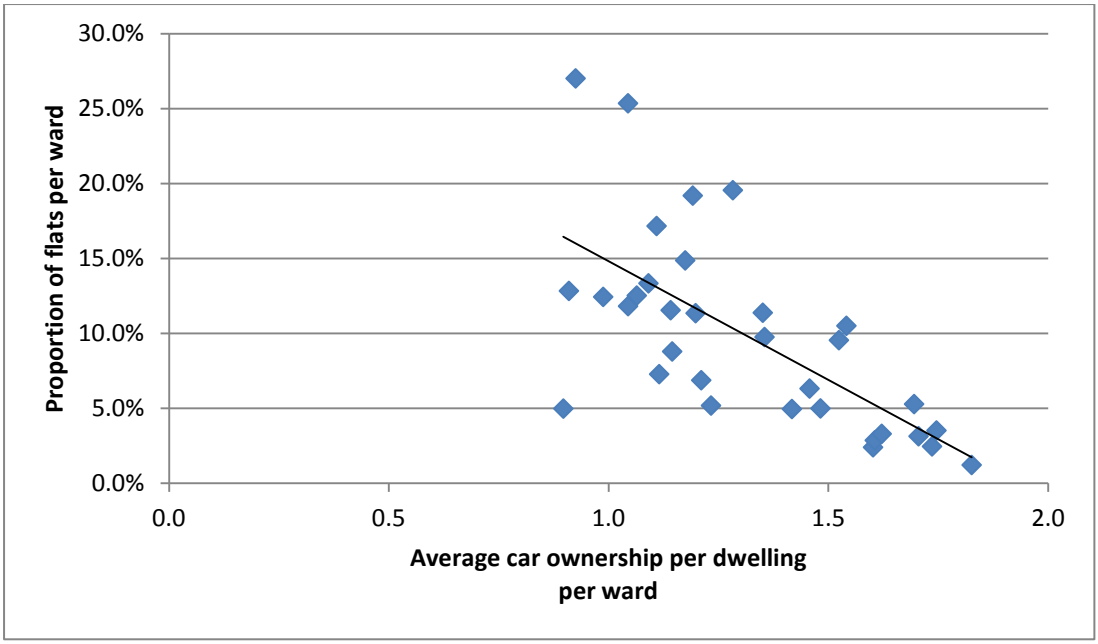
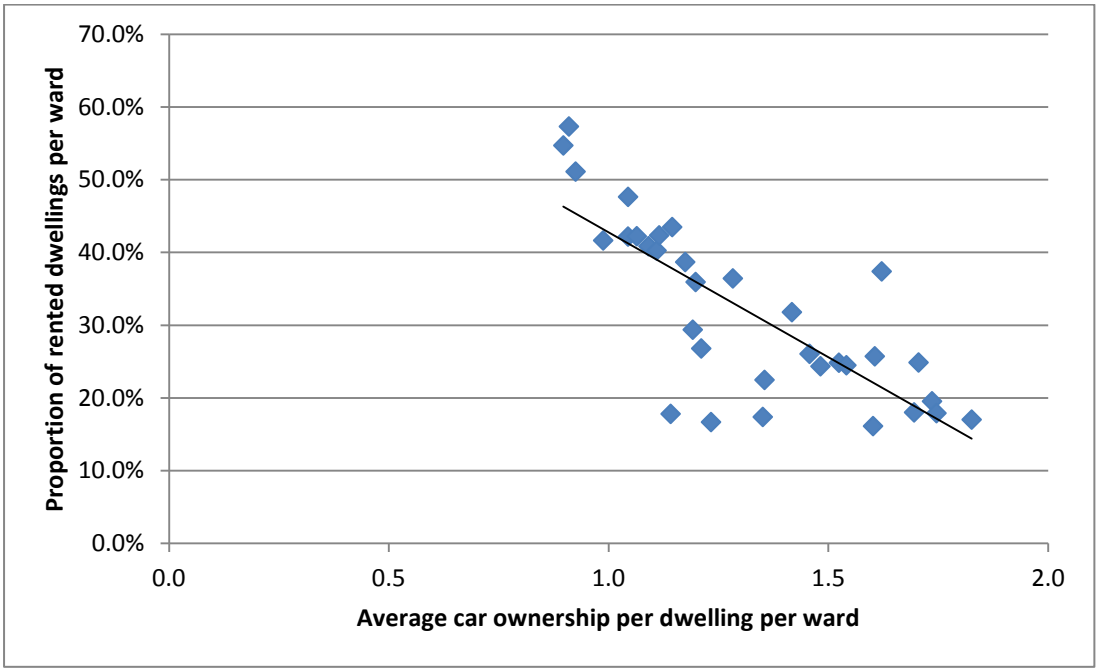


Figure 3: Car ownership and proportion of rented dwellings



Following a similar methodology used in national guidance published by the Department of Communities and Local Government in May 2007 as "Residential Parking Research" a matrix approach to parking provision was adopted in this policy.

"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."

"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 disabled persons' or residents' 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."

Figure 4:

Table 1: Typical Additional Demand for Unallocated Parking

	Typical Additional Demand for Unallocated Parking	
Average Car Ownership Per Dwelling	With 1 Allocated Space per dwelling	With 2 Allocated Spaces per dwelling
0.1	0.0	0.0
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	0.4	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	0.8	0.2
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	1.3	0.4
2.4	1.4	0.5
2.5	1.5	0.6
2.6	1.6	0.6
2.7	1.7	0.7

“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”:

- Take average car ownership values (*the TEMPRO Urban Car Ownership Growth of 25% has been applied to the 2011 Census figures*)
- Using average car ownership levels, look up in Figure 4 to find additional demand for unallocated parking arising as a consequence of up to 1 or 2 spaces being allocated per dwelling.
- Combine Tables to produce total demand for residents’ parking.
- Calculate the proportion of total demand for residents’ parking that is for additional unallocated spaces.
- Allow for 0.2 spaces per dwelling for visitors for cells with values of less than 50%.

Table 4: Suggested parking standards for the central areas

Number of bedrooms per dwelling	Average car ownership (2031)	Number of unallocated spaces when no allocated spaces	Allocated space per dwelling	Unallocated required space per dwelling	Allocated and unallocated	% of unallocated	Total Demand (Allocated + unallocated + 20%)
1	**0.5**	0.5	1.0	*0.1*	1.1	9.1%	**1.3**
2	**0.9**	0.9	1.0	*0.2*	1.2	16.7%	**1.4**
3	**1.2**	1.2	1.0	*0.4*	1.4	28.6%	**1.6**
4	**1.8**	1.8	2.0	*0.2*	2.2	9.1%	**2.4**
5	**2.0**	2.0	2.0	*0.3*	2.3	13.0%	**2.5**

Table 5: Suggested parking standards for the suburban areas

Number of bedrooms per dwelling	Average car ownership (2031)	Number of unallocated spaces when no allocated spaces	Allocated space per dwelling	Unallocated required space per dwelling	Allocated and unallocated	% of unallocated	Total Demand (Allocated + unallocated + 20%)
1	**0.7**	0.7	1	*0.1*	1.1	9.1%	**1.3**

2	**1.2**	1.2	1	*0.4*	1.4	28.6%	**1.6**
3	**1.6**	1.6	2	*0.1*	2.1	4.8%	**2.3**
4	**2.3**	2.3	2	*0.4*	2.4	16.7%	**2.6**
5	**2.6**	2.6	3	*0.6*	3.6	16.7%	**3.8**

Table 6: Suggested parking standards for the rural areas

Number of bedrooms per dwelling	Average car ownership (2031)	Number of unallocated spaces when no allocated spaces	Allocated space per dwelling	Unallocated required space per dwelling	Allocated and unallocated	% of unallocated	Total Demand (Allocated + unallocated + 20%)
1	**0.9**	0.9	1.0	*0.2*	1.2	16.7%	**1.4**
2	**1.6**	1.6	2.0	*0.1*	2.1	4.8%	**2.3**
3	**2.2**	2.2	2.0	*0.4*	2.4	16.7%	**2.6**
4	**3.1**	3.1	3.0	*0.8*	3.8	21.1%	**4**
5	**3.5**	3.5	3.0	*1*	4.0	25.0%	**4.2**

Cycle parking: Cycle parking standards were taken directly from "Design for Security - Cycle Parking Design Guidance"[4] and Cambridge City Council Cycle Parking Standards of the Cambridge Local Plan 2006[5] and should be considered as minimal. The guidance proposes 1 secure space per bedroom (long stay type for residents) and some level of visitor cycle parking (short stay type for visitors, minimum 2), in particular large housing development.

Disabled parking: 5% of all residential car parking spaces should be designated for disabled parking which is the recommendation of the Manual for Streets[6]. A higher percentage is likely to be necessary where there are proportionally more older residents. It is preferable to provide these spaces in unallocated areas, including on-street, as it is not normally possible to identify which properties will be occupied by or visited by disabled people. It is recommended that spaces for disabled people are generally located as close as possible to building entrances.

[4] http://www.designforsecurity.org/uploads/files/DFS_Cycles.pdf
[5] https://www.cambridge.gov.uk/sites/default/files/docs/CycleParkingGuide_std.pdf
[6] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf

3.1 Residential parking standards benchmarking

Tables 7, 8 and 9 compare the proposed Shaping Places parking standards for central, suburban and rural area, respectively, with the existing Wrekin Local Plan and local authorities of Milton Keynes, Warrington and Herefordshire.

Table 7: Residential parking standards benchmarking for urban areas

Bedrooms	Telford Shaping places (central)	Wrekin Local Plan (1995-2006)	Milton Keynes (2009)	Warrington (2015) town centre	Herefordshire (2006) –
1	1 allocated + 0.3 unallocated Or 0.5 unallocated	1 allocated + 0.5 unallocated Or 1.25 unallocated	1	1	/
2	1 allocated + 0.4 unallocated Or 0.9 unallocated	2 allocated Or 1 allocated+0.75 unallocated Or 1.5 unallocated	1	1	/
3	1 allocated + 0.5 unallocated Or 1.2 unallocated	2 allocated + 0.25 unallocated or 1 allocated + 1 unallocated Or 1.75 unallocated	2	1	/
4	2 allocated + 0.3 unallocated Or 1.8 unallocated	3 allocated Or 2 allocated + 0.5 unallocated	2	1	/

Table 8: Residential parking standards benchmarking for suburban areas

Bedrooms	Telford Shaping places (suburban)	Wrekin Local Plan (1995-2006)	Milton Keynes (2009)	Warrington (2015) all other areas	Herefordshire (2006) – outside central area**
1	1 allocated + 0.6 unallocated Or 0.9 unallocated	1 allocated + 0.5 unallocated Or 1.25 unallocated	1 +0.25 unallocated in suburban and rural	1 allocated space demonstrated. +0.4 unallocated spaces	Max 1/unit
2	1 allocated + 0.8 unallocated Or 1.2 unallocated	2 allocated Or 1 allocated+0.75 unallocated Or 1.5 unallocated	1 +0.25 unallocated	2 allocated spaces +0.2 unallocated spaces	Max 2/unit
3	2 allocated + 0.3 unallocated Or 1.6 unallocated	2 allocated + 0.25 unallocated or 1 allocated + 1 unallocated Or 1.75 unallocated	2 +0.5 unallocated	2 allocated spaces +0.3 unallocated spaces	Max 3/unit
4	2 allocated + 0.7 unallocated Or 2.3 unallocated	3 allocated Or 2 allocated + 0.5 unallocated	2 +0.5 unallocated in suburban and rural	3 allocated spaces +0.3 unallocated spaces	/

**This should produce an average maximum rate of 1.5 spaces per unit for the development.

Table 9: Residential parking standards benchmarking for rural areas

Bedrooms	Telford Shaping places (suburban)	Wrekin Local Plan (1995-2006)	Milton Keynes (2009)	Warrington (2015) all other areas *	Herefordshire (2006) – outside central area **
1	1 allocated + 0.4 unallocated Or 0.9 unallocated	1 allocated + 0.5 unallocated Or 1.25 unallocated	1 +0.25 unallocated	1 allocated space demonstrated. +0.4 unallocated spaces	Max 1/unit
2	2 allocated + 0.3 unallocated Or 1.6 unallocated	2 allocated Or 1 allocated+0.75 unallocated Or 1.5 unallocated	2 +0.25 unallocated	2 allocated spaces +0.2 unallocated spaces	Max 2/unit
3	2 allocated + 0.6 unallocated Or 2.2 unallocated	2 allocated + 0.25 unallocated or 1 allocated + 1 unallocated Or 1.75 unallocated	2 +0.5 unallocated	2 allocated spaces +0.3 unallocated spaces	Max 3/unit
4	3 allocated + 1 unallocated Or 3.1 unallocated	3 allocated Or 2 allocated + 0.5 unallocated	3 +0.5 unallocated	3 allocated spaces +0.3 unallocated spaces	/

**This should produce an average maximum rate of 1.5 spaces per unit for the development.

3.2 Other residential parking standards:

Other residential car parking standards were based on the existing Wrekin Local Plan, other local authorities (Essex where 82% of population has access to a car, Warrington, Herefordshire and Milton Keynes as local authorities representing new towns), and PPG13 recommendations.

Cycle parking standards were taken directly from "Design for Security - Cycle Parking Design Guidance"[7] and should be considered as minimal.

The disabled parking standards were taken from the Essex parking standards (2009)[8]. Manual for Streets[9] recommends that 5% of all residential car parking spaces be designated for disabled parking. A higher percentage is likely to be necessary where there are proportionally more older residents. It is preferable to provide these spaces in unallocated areas, including on-street, as it is not normally possible to identify which properties will be occupied by or visited by disabled people. It is recommended that spaces for disabled people are generally located as close as possible to building entrances.

Table 10: Other residential parking standards benchmarking

Land use	Subcategory	Vehicles	Disabled	Other local plans	Wrekin Local Plan
C2 Residential institutions	Residential Education Establishments – Primary/ Secondary	1 space per 2 staff	1 bay or 5% of total capacity, whichever is greater	Warrington: same Essex: 1 per 1 staff	/
	Residential Education Establishments – Further/ Higher	1 space per full time equivalent		Essex: same	/

[7] http://www.designforsecurity.org/uploads/files/DFS_Cycles.pdf
[8] https://www.essex.gov.uk/Environment%20Planning/Planning/Transport-planning/Infomation-for-developers/Documents/Parking_Standards_2009.pdf
[9] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf

		staff + 1 space per 5 students			
	Care, nursing homes and hospitals	1 space/4 bed space + 1 space/staff For hospitals to be considered on a case by case basis	Dependent on actual development, on individual merit, although expected to be significantly higher than business or recreational development requirements	Essex: same Herefordshire: same	Same
	Residential hostels	1 space/4 bed spaces			Same
	Retirement homes and sheltered housing	1 space per 2 units + 1 space per staff	N/A if parking is in curtilage of dwelling, otherwise as Visitor/ unallocated	Essex: 1 per dwelling Herefordshire: 1 per 4 beds Warrington: 1 per 2 dwellings + 1 per staff + 1 per 5 dwellings for visitors	1.25 per unit

4. Electric vehicles

There is no doubt electric vehicles are taking off in the UK: in 2015, there are nearly thirty different electric models available in the UK and around 40,000 registered EVs on UK roads, compared with just 3,500 in 2013. 2014 alone saw a massive 166.6% increase in pure EV registrations. Last year, sales of plug-in cars quadrupled to almost 14,500[10], of which just under half were pure battery electric vehicles rather than plug-in hybrids. This is an astonishing figure given only around 20,000 electric cars have been registered under the government's £5,000 plug-in grant scheme since it started in January 2011. This huge increase in electric cars in 2015 has come about because of a greater level of choice for drivers, a shift in the public's attitude towards electric cars and a constantly improving public recharging network[11].

Consequently, there is also a growing public charge point infrastructure of over 3,000 locations in 2015. EV charging points are primarily defined by the power (in kW) they can produce and therefore what speed they are capable of charging an EV. There are three main EV charging speeds: Slow charging (up to 3kW) which is best suited for 6-8 hours overnight; Fast charging (7-22kW) which can fully recharge some models in 3-4 hours; and Rapid charging units (43-50kW) which are able to provide an 80% charge in around 30 minutes. Zap-Map maps all public access charge points across the UK: there are 9282 UK points (5 in Telford and Wrekin) and 3542 locations.

The Government's policies:

Planning regulations increasingly require local authorities to have regard for policies that will promote both mitigation of and adaptation to climate change effects. As part of the Ministerial announcement made on 3 January 2011, that outlines the Government's position on certain aspects of parking policy and electric vehicle infrastructure, the Government has also taken the opportunity to encourage electric vehicle charging infrastructure in new development, where this does not affect the development's overall viability; and has signalled its intention to proceed with proposals to introduce permitted development rights for electric vehicle charging points.

The National Planning Policy Framework recommends that "plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to incorporate facilities for charging plug-in and other ultra-low emission vehicles."

The DfT supported the government's commitment to making sure that the UK is a world leader in the electric car industry by investing £37 million funding package for

[10] http://www.businessgreen.com/bg/analysis/2389124/electric-car-sales-quadruple-during-2014
[11] http://www.nextgreencar.com/electric-cars/

home and on-street charging (it was available until April 2015). The government provides 75% of the cost of installing new charge points.

There is a recognition in the “Creating Growth, Cutting Carbon: Making Sustainable Local Transport Happen” White Paper that reducing carbon emissions of the vehicles themselves has a contribution to make to overall carbon reduction.

Traffic regulations – particularly the Road Traffic Regulation Act (RTRA) 1984 – provide broad powers to introduce lower carbon incentives in public parking schemes, both residential on-street and public off- and on-street parking. New permitted development rights have been enacted to allow local authorities to install electrical outlets for recharging EVs in offstreet public and private car parks without the need to apply for planning permission, and amendments have also been made to clarify that local authorities can install on-street charging points for EVs as permitted development[12].

Other Local Authorities

Some local authorities encourage developers to include EV points where appropriate and reasonable (e.g. Birmingham, Cambridge, Manchester, Nottingham, Hereford) whilst some local authorities provide specific guidance in terms of electric vehicle parking standards (Bristol, Leeds, Milton Keynes).

[12] http://www.racfoundation.org/assets/rac_foundation/content/downloadables/61442_racf_lcv%20and%20la%20powers%20(author%20buchanan)_aw.2_web.pdf