7 Predictions of Demand

7.1 Background

7.1.1. To determine the potential future demand, which the town could witness, a review of the following was undertaken with information currently available or having to be forward predicted based on current trends.

- Seasonal
- Residential
- Business
- Tourism
- Town Centre/Retail

7.1.2. This section is seen as a guide as to the potential future demand in parking and has been prepared on the basis of retaining the current ratios were possible to population/parking for key users. However it is clearly noted that the Council would seek to promote alternate sustainable transport options in parallel to any additional parking provision in accordance with their policy's set out in the Local Transport Plan.

7.1.3. The town is inevitably growing as is the Thames Valley and the South East; hence this section seeks to assess the potential increased demand that the different town centre users will create in the future.

7.2 Seasonal Variations

7.2.1.1. The surveys undertaken in March 2008, were anticipated to offer a neutral usage pattern of the car parks with limited influence from seasonal variations, brought on by school holidays, tourism, Christmas or other influences such as retail sales.

7.2.1.2. The surveys were undertaken to provide a basic weekday and Saturday profile of the main car parks and hence provide a basic town profile. The timing of the report meant that the seasonal affect could only be assessed in terms of historical data; hence PBA reviewed two sets of data for 2006 & 2007, the historical ticket sales for 2007 and a review of the traffic changes on the relief road in 2006.

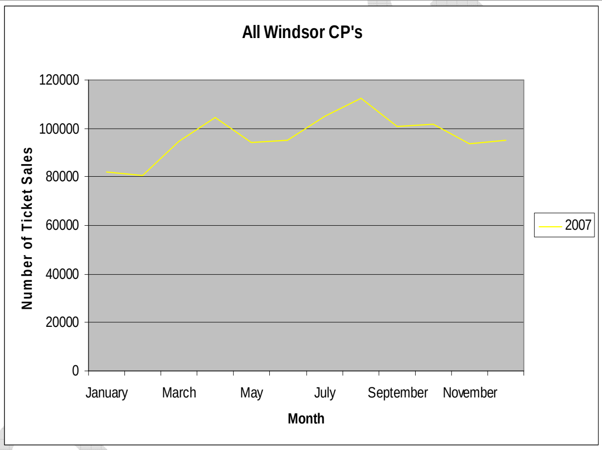
7.2.1.3. The Council propose that a new set of summer surveys be undertaken in July 08, to reaffirm the predictions and clarify the summer situation, when the major influences such as school holidays and tourism have their main impact on the parking in the town centre.

Parking Review

7.2.1.4. The table below shows the ticket sales for 2006 split across each month, as can be seen across the year there is a 27% uplift in parking sales, with the uplift focused on the summer months. The changes in demand between February and the summer months is in excess of 22%.

7.2.1.5. The level of parking within the town does not change significantly in the summer and the February surveys showed that Saturdays were already close to capacity for a short period of the day. The level of uplift suggests an increase in the capacity limit being met for a longer period of the day and in principle across the week

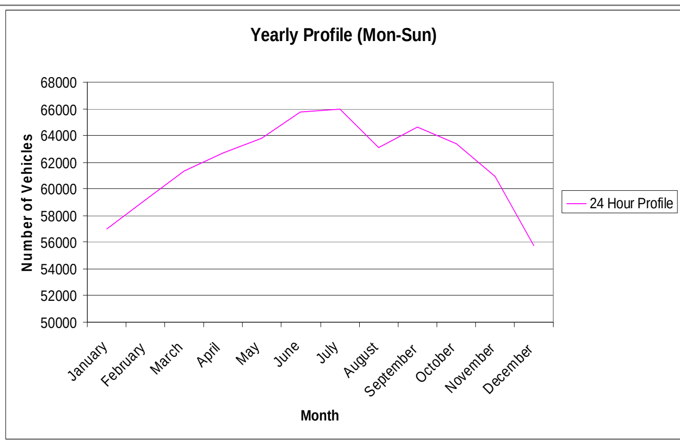
Month	Spaces	Percentage Change
January	81851	Base
February	80799	-1.3%
March	94671	13.5%
April	104351	21.6%
May	94373	13.3%
June	95111	13.9%
July	105211	22.2%
August	112351	27.1%
September	100897	18.9%
October	101508	19.4%
November	93904	12.8%
December	95279	14.1%



Traffic Review

7.2.1.6. The data collected for the parking review has been duplicated with respect to the volume of traffic counted on the Relief Road across 2007. As can be seen by the table and graph below, the traffic flows increase by up to 16% in the summer months and as such supports the conclusion set out in the previous section that during the summer months the car parks are at capacity for a longer length of the day, as the overall capacity does not significantly change, but the traffic demand does.

Month	Flows	Percentage Change
January	56973	Base
February	59204	4%
March	61371	8%
April	62691	10%
May	63811	12%
June	65728	15%
July	65997	16%
August	63110	11%
September	64659	13%
October	63362	11%
November	60955	7%
December	55774	-2%



pba peterbrett

7.3 Town Centre Forecast

7.3.1. This section seeks to focus on the retail, leisure and general users of the town centre linked to the predicted uplift with the number of residents in the local area. The assessment has been split into two defined periods, weekday and weekend, as each one has clearly different level of users/demand.

Weekday

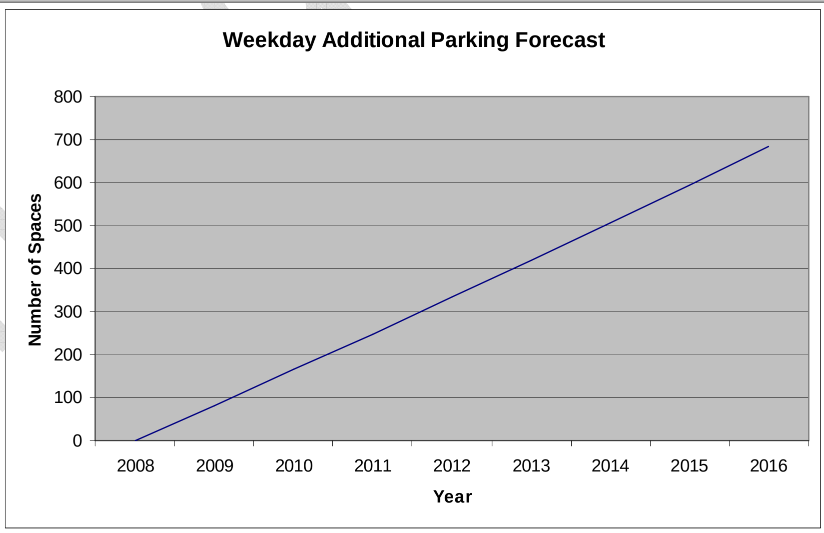
7.3.2. To assess the town centre demand, PBA have utilised a pro rata system based on the data collected through the car park and public questionnaire surveys. It was determined from the Thursday Interview surveys that 53.2% of the people interviewed were using the car parks for retail/ leisure use.

7.3.3. This in principle assumed that around 50% of the car park spaces were occupied by this type of user, hence around 1200 spaces at any one time. Using this and the population increase estimated at around 1.3% per year up to 2016, it was estimated that an extra 2052 trips per day to the town would be made up to 2016.

7.3.4. From the interview surveys on average people are using the car parks for between 2-3 hours and therefore converting the trips to spaces using a turnover for each space of 3 times a day requires that a provision of an extra 684 spaces would be required by 2016.

7.3.5. The table and graph below summaries the extra spaces required each year.

Weekday - Predictions	
Year	**Additional Spaces Required**
2008	0
2009	82
2010	165
2011	248
2012	333
2013	419
2014	506
2015	595
2016	684

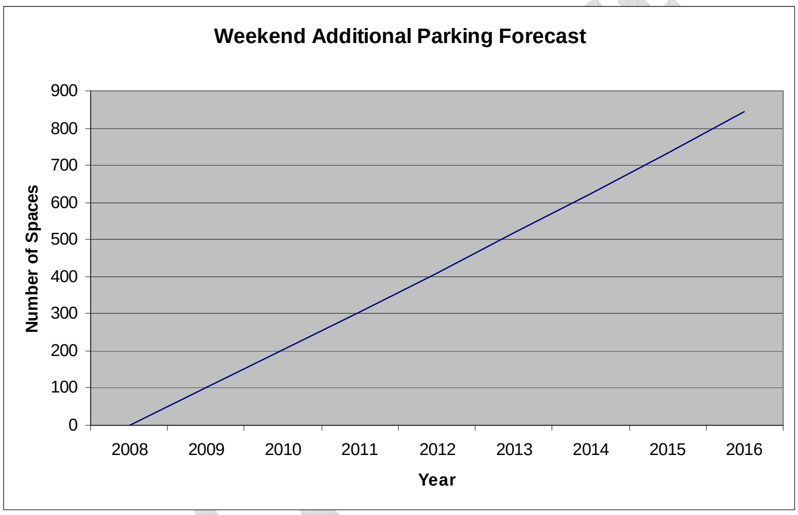


<u>Weekend</u>

7.3.6. It was also calculated from the Saturday Interview surveys that 65.6% of the people interviewed were using the car parks for retail/ leisure use. Using this and the population data as set out previously, it was estimated that an extra 2530 trips per day would be made by 2016. However it was also clear from the interview surveys that on average people are using the car parks for between 2-3 hours and therefore spaces are turned over up to 3 times a day so an extra 843 spaces would be required by 2016.

7.3.7. The table and graph below summaries the extra spaces required each year.

Year	Additional Spaces Required
2008	0
2009	101
2010	203
2011	306
2012	411
2013	517
2014	625
2015	733
2016	843

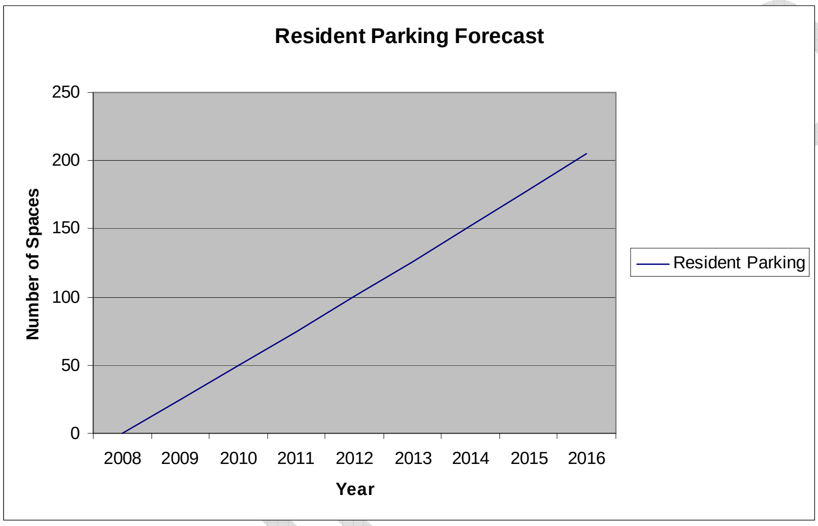


7.4 On Street Residential Forecast

7.4.1. From census data collected through GIS it was calculated that the population of Windsor in 1991 was 29,075 and the population in 2001 was 33,299. From this it was calculated that there was a 1.3% yearly increase in population, so using this yearly increase it was calculated that there would be a population of 36,371 in 2008.

7.4.2. It was also calculated that there is approximately 1936 on-street spaces available to residents to park on during the evening, which equates to 5.32% of the population in Windsor. If this ratio of population to on-street parking were maintained then a total of 205 extra spaces would be required by 2016.

7.4.3. The graph below shows the yearly breakdown of extra spaces required.



7.4.4. The data above based on the current predictions results in the requirement for the provision of spaces set out below each year.

Year	Additional On Street Spaces Required	Number of Spaces
2008	0	1936
2009	25	1961
2010	49	1986
2011	75	2011
2012	100	2037
2013	126	2062
2014	152	2089
2015	179	2115
2016	205	2142

7.4.5. RBWM have issued 2200 resident permits as of June 2008, where as there are only around 1936 on street spaces this would suggest a short fall of 264 on-street spaces, however the practical predictions should consider that not all the 2200 spaces need to be occupied simultaneously, with a combination of shift working, working away from home, holiday's and other life issues result in a only a percentage of these spaces being required.

7.4.6. In determining the occupancy of a commercial development, the development is often assumed to be between 85% to 90% occupied, if the 90% were utilised with respect to the permits, then the provision required to accommodate the demand is around 1980, which would suggest a shortfall of around 44 spaces, compared to the 250 plus spaces, if a straight permit to provision comparison is utilised.

7.4.7. However, it is also noted that the Council have a visitor permit policy which provides residents with short/day tickets for visitors and as such in addition to the demand likely by residents, this would also impact on the number of spaces. The on street surveys showed fairly low usage of the voucher system for visitors across all 4 zones and time periods, with Saturday during the day time the highest usage, but even then this equated to around only 1% of the overall provision of spaces.

7.5 Business Demand

7.5.1. The following section seeks to assess the additional demand by business and employees, both with respect to on street and in the main car parks. The review has been broken down to weekday and weekend, with a significantly lower provision/demand anticipated for weekend, with the level of office based employees anticipated to fall significantly, while still retaining those linked to retail and public services.

<u>Weekday</u>

7.5.2. From census data collected through GIS it was calculated that approximately 14,030 people were employed in the Windsor area in 1981, 16,600 in 1991 and 19,124 in 2001. From this it was calculated that there was a yearly increase of approximately 1.3% of people being employed, which is inline with the population average increase. The amount of people employed in 2008 was estimated as 20,980.

7.5.3. An approximate total of 108 on-street spaces are currently available for use by people holding business permits. This equates to 0.52% of the total employed. As the number of employed is predicted to increase to 23,332 by 2016 assuming the same current level of growth, then to retain the same ratio of business permits to those employed will result in an increased demand for business permits with an extra 12 on-street spaces required by 2016.

7.5.4. From the interview surveys on Thursday 6th March 2008, 21.6% of the people interviewed that day were using the car parks for work, with the majority of these parking there all day. Based on current ratio of employees to spaces occupied currently and assuming the ratio is maintained with the predicted increase in employee numbers across the Town, then is estimated that an extra 507 spaces would need to be provided by 2016 for business/work related uses.

7.5.5. The table and graph below summaries the combined on street and car park demand for extra spaces required each year.

Year	Additional Business/ Employees Related Spaces
2008	0
2009	62
2010	125
2011	188
2012	253
2013	318
2014	383
2015	452
2016	519

Weekend

7.5.6. From the interview surveys on Saturday 8th March 2008, 3% of the people interviewed that day were using the car parks for work. Based on this and the methodology utilised above, it was estimated that an extra 70 spaces would need to be provided by 2016 for business/ work related uses.

7.5.7. The table and graph below summaries the combined on street and car park demand for extra spaces required each year.

Year	Additional Business/ Employees Related Spaces
2008	0
2009	9
2010	20
2011	29
2012	40
2013	50
2014	61
2015	72
2016	82

7.6 Visitor Demand

7.6.1. In 2007 Windsor had 6.7 million visitors. RBWM Visitor Management Team have predicted that there is going to be a 12% increase in visitors up until 2016. This equates to a 1.5% increase per year, which means that by 2016 there will 7.66 million visitors. Additional data utilised in the assessment and considered relevant is set out below,

- 53% of those would seek to drive
- 20% would review the RBWM website in advance
- 78% thought the journey to Windsor was easy
- 75% are domestic tourists
- 36% come for the 1st time

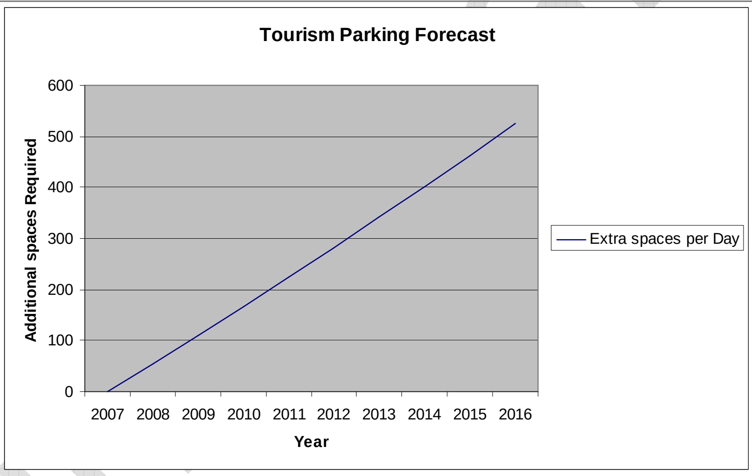
7.6.2. To predict the conversion from visitors to actual demand for parking spaces, PBA have used a simplified methodology using data from the surveys undertaken or data supplied to PBA by the Council.

7.6.3. Based on survey evidence 53% of visitors travelled by car, with an average vehicle occupancy assumed at 2 people. This would provide an increased demand of around 250,000 spaces a year. The car parking space turnover has been assumed as twice per day (1/2 day visits), hence this would reduce to around 125,000 spaces per year.

7.6.4. To weight the daily attraction pattern, it was assumed that the visitors come to Windsor on approximately 243 days out of the year (2/3rds of the year). From this it was calculated that an extra 524 parking spaces would be needed by 2016 daily.

7.6.5. The table and graph below summaries the extra spaces required per year.

Year	Additional Spaces Required
2008	55
2009	110
2010	167
2011	224
2012	282
2013	341
2014	401
2015	462
2016	524



7.7 Suppressed Demand

7.7.1. It has also been assumed that there is a level of suppressed demand due to the perception of lack of parking within Windsor and the issues of finding a parking space. The recent public questionnaire suggested that around 1% found the journey to the car parks difficult.

7.7.2. This obviously does not account for those that did not attempt to access the car parks and sought to travel elsewhere, but it does suggest that there could be an issue, hence for the purpose of this exercise; the report assumes a 5% suppressed demand.

7.7.3. Therefore on a basic level, it is assumed that the current parking provision would have to be expanded by an additional 5%to cater for the perceived suppressed demand.

7.8 Overall Forecast Summary

7.8.1. The following section seeks to summarise the data assessed above and consider the likely level of demand against the following criteria,

- Firstly time scale, the demand has been assessed from current 2008 predictions through to 2016, this tie in with the Visitor predictions obtained from the Council, however the focus for the report will be 2008 to 2013.

- Secondly, the demand has been split into 3 categories, Evening, Weekday and Weekend users.

7.8.2. All the various increases in demand for resident, business and tourism result in an overall increase in demand for parking within Windsor.

<u>Evening</u>

7.8.3. The table below sets out the possible future demand for additional spaces for the evening in the town within the residential streets. The table is made up of two specific demands as set out below,

- Residential - demand from predicted resident/population increase

- Residential Shortfall - possible current shortfall in spaces to permits

Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Resident	0	25	49	75	100	126	152	179	205
Resident Shortfall	44	44	44	44	44	44	44	44	44
Total	44	69	93	119	144	170	196	223	249
Business On-street	0	1	3	4	6	7	9	11	12

7.8.4. In addition to the evening demand, the table does also include for a small possible increase in business permits, but this is predominantly a daytime demand and would be accommodated, if the resident provision were increased, through dual day and evening use.

<u>Weekday</u>

7.8.5. The following tables and graphs seek to determine the predicted demand for a weekday covering the 4 elements summarised below,

- Town Centre - predicted increase in general, retail, leisure and other users of the town centre

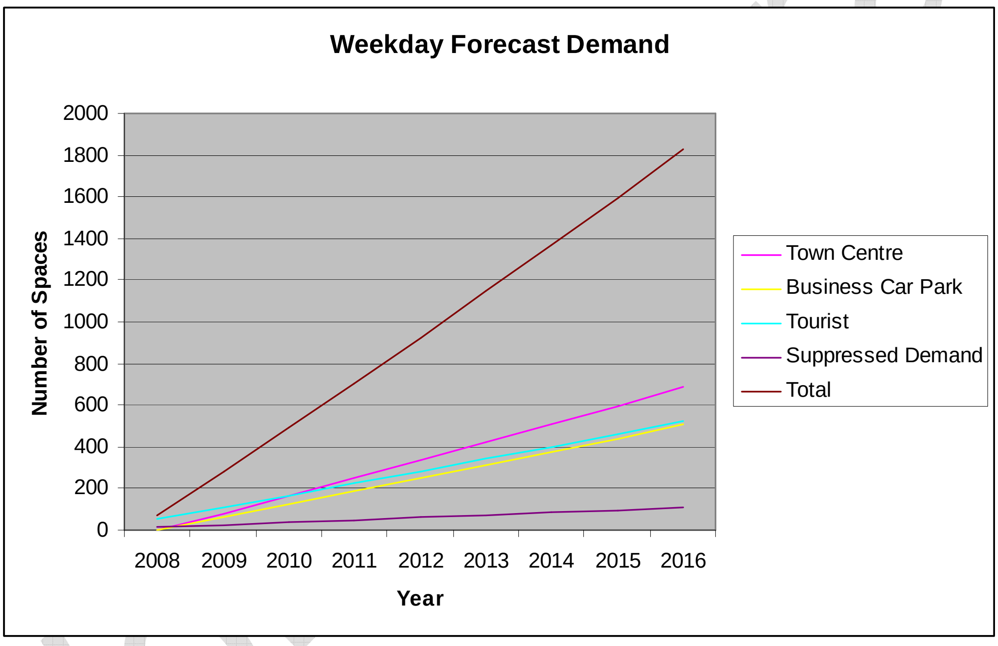
- Business Car Park - predicted increase in demand by employees on the town centre car parks

- Tourists - predicted increase in spaces generated by visitors

- Suppressed Demand - a estimate of suppressed usage of the town centre car parks by locals and others who currently choose to visit other towns

7.8.6. The table and graph seek to demonstrate the combined demand of all 4 users from 2008 through to 2016.

Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Town Centre	0	82	165	248	333	419	506	595	684
Business Car Park	0	61	122	184	247	311	376	441	507
Tourist	55	110	167	224	282	341	401	462	524
Suppressed Demand	16	27	38	50	62	73	85	98	110
Total	71	280	492	706	924	1144	1368	1596	1825



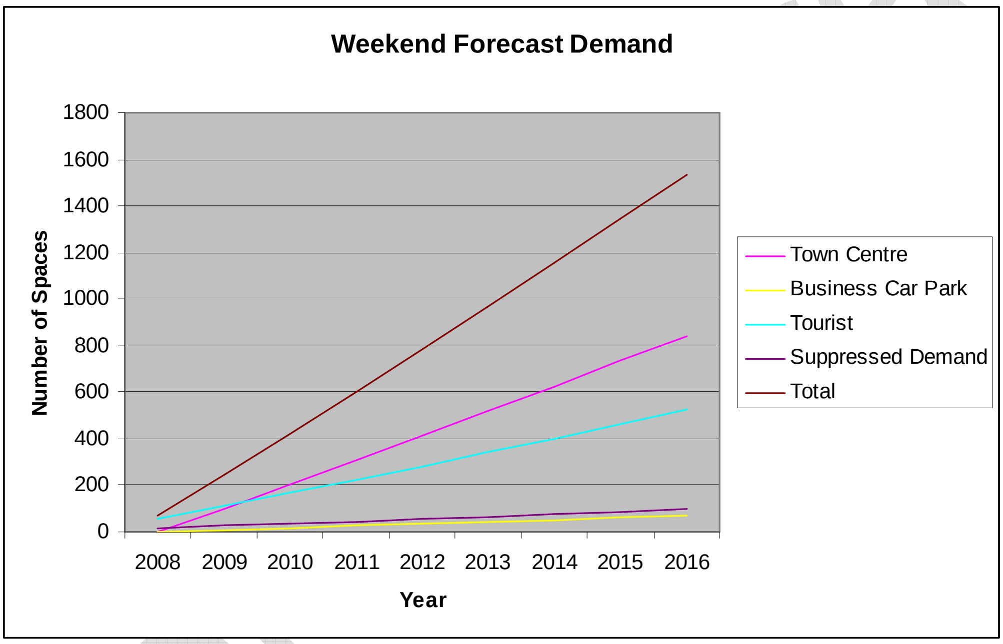
<u>Weekend</u>

7.8.7. The following tables and graphs seek to determine the predicted demand for a weekend covering the 4 elements summarised below,

- Town Centre - predicted increase in general, retail, leisure and other users of the town centre
- Business Car Park - predicted increase in demand by employees on the town centre car parks
- Tourists - predicted increase in spaces generated by visitors
- Suppressed Demand - a estimate of suppressed usage of the town centre car parks by locals and others who currently choose to visit other towns

7.8.8. The table and graph seek to demonstrate the combined demand of all 4 users from 2008 through to 2016.

Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Town Centre	264	264	264	264	264	264	264	264	264
Business Car Park	0	8	17	25	34	43	52	61	70
Tourist	55	110	167	224	282	341	401	462	524
Suppressed Demand	16	27	38	50	62	73	85	98	110
Total	335	409	486	563	642	721	802	885	968



Summary

7.8.9. The table below seek to summarise the weekday and weekend possible future demands for additional parking within the town centre, which could occur up to 2016. This is a prediction on demand and does necessary support the premise that the demand should be met by provision, indeed the accessibility of the town is a key consideration when assessing the future measures and needs to be coupled with the objectives set out in the LTP for sustainable travel.

Year	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Weekday (incl. eves)	2008	2009	585	825	1068	1314	1564	1819	2074
Weekend	4016	409	486	563	642	721	802	885	968