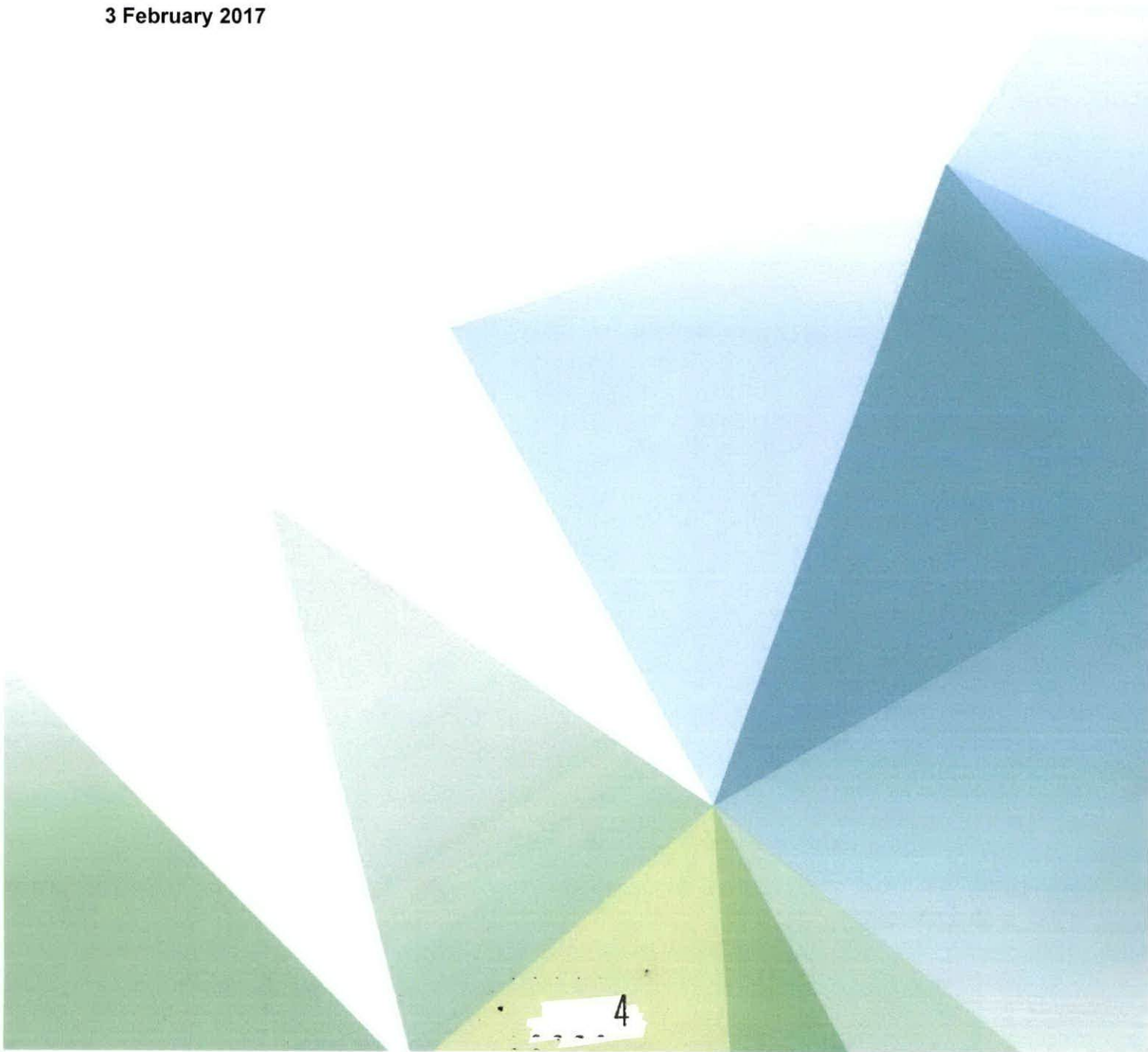


Cirencester Town Centre Off-Street Parking Study

Cotswold District Council

3 February 2017



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1. Introduction

1.1. Background

Atkins has been commissioned to undertake a parking study in order to assess the long term demand for parking within the existing off-street town centre car parks located in Cirencester. This assessment aligns with the *Cotswold District Council Local Plan* period (2011-2031)¹.

1.2. Report Purpose

This parking study quantifies the existing parking patterns within Cirencester and evaluates the long term demand for parking within the town centre. The purpose of this study is to identify the future demand for parking within the existing town centre car parks, taking into consideration the additional demand associated with the delivery of the *Cotswold District Council Local Plan*² and other committed developments as identified by Cotswold District Council.

The conclusions of this parking study will inform the overall parking strategy for Cirencester over the Local Plan period (2011-2031) in order to determine the level of parking required in terms of quantum, location and phasing of delivery.

1.3. Scope of Study

This study includes consideration of the following Council operated car parks:

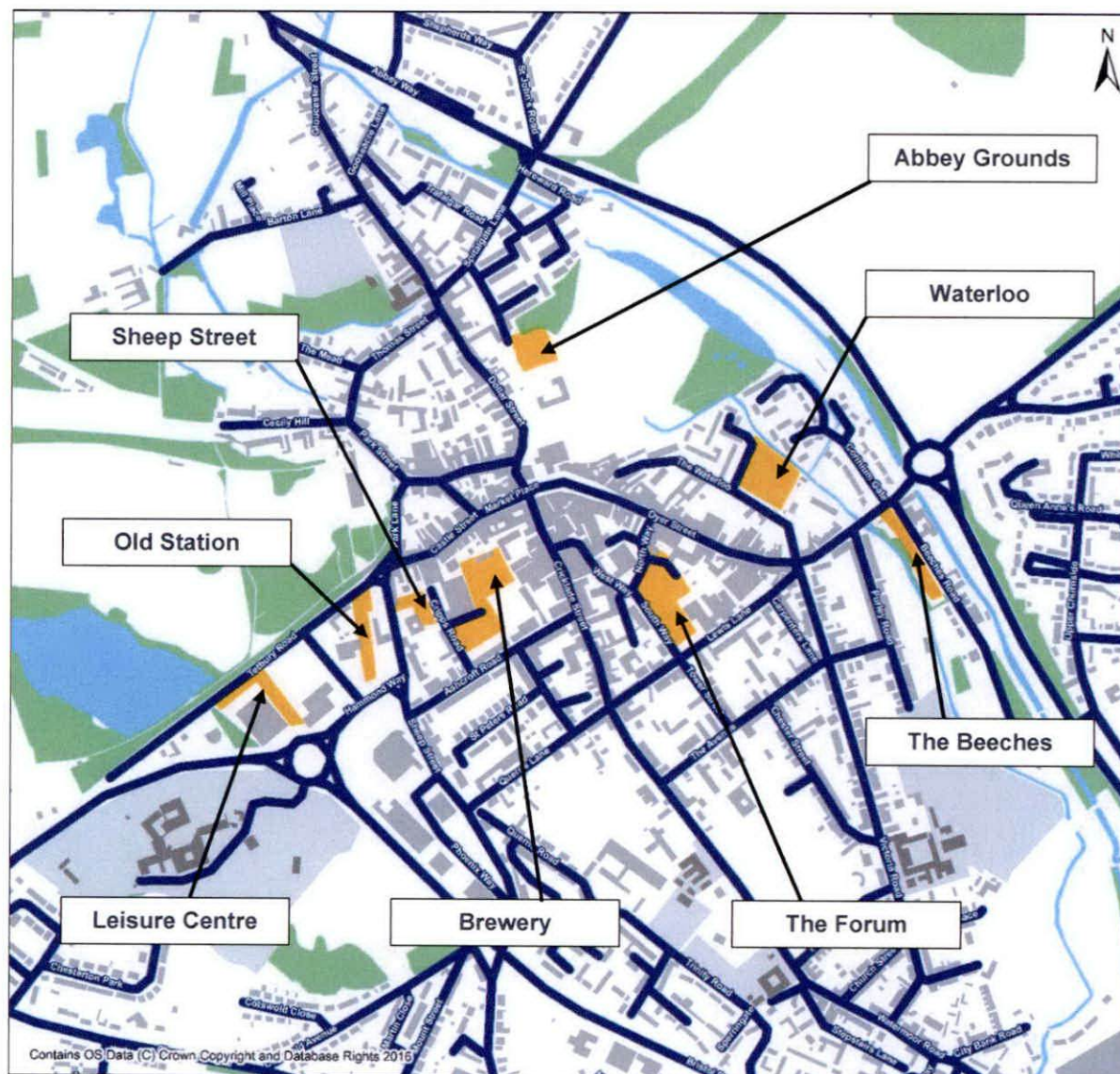
- Abbey Grounds
- Beeches
- Brewery
- Forum
- Leisure Centre
- Old Station
- Sheep Street
- Waterloo

The location of these car parks is shown in **Figure 1-1**.

¹ Whilst there could be additional demand for car parking beyond 2031, it is not possible to know development aspirations nor the policy stance beyond the current period.

² The methodology employed within this assessment references the *Cotswold District Local Plan 2011-2031: Submission Draft Reg. 19*, published in June 2016 and the subsequent addendum published in December 2016. The parking assessment has been dealt with in accordance with these versions.

Figure 1-1 Location of Existing Off-Street Town Centre Car Parks within Cirencester



The following Council operated car parks have not been included in this study:

- Queen Street: A 15 space car park primarily used by local residents who do not have off-street parking provision; and
- Trinity Road: Cotswold District Council office car park only available for public use on weekends and bank holidays.

1.4. Car Park Operation

A summary of the existing car park operation is set out in Table 1-1.

Table 1-1 Existing Car Park Operation

Car Park	Length of Stay Permitted	Spaces		Tariff								Permits Available?
		Standard	Disabled	Monday - Saturday						Sunday		
				½ hr	1 hrs	2 hrs	3 hrs	4 hrs	5 hrs		10 hrs	
Abbey Grounds	Long Stay	97	2	50p	£1.30	£2.30	£3.00	N/A	£3.90	£6.50	Free	✓
Beeches	Long Stay	145	None	50p	£1.30	N/A	N/A	N/A	N/A	£2.00	Free	✓
Brewery	Short Stay	298	6	50p	£1.30	£2.30	£3.00	N/A	N/A	N/A	All day = £1.50 1/2 hr = 50p 1 hr = £1.30 10am - 4pm	*
Forum	Short Stay	191	12	50p	£1.30	£2.30	£3.00	£3.50	N/A	N/A	Free	*
Leisure Centre	Short Stay	122	4	50p	£1.30	£2.30	£3.00	N/A	N/A	N/A	Free	✓ - Leisure Centre Members Only
Old Station	Long Stay	149	2	50p	£1.30	£2.30	£3.00	N/A	£3.90	£6.50	Free	✓
Sheep Street	Long Stay	77	2	50p	£1.30	£2.30	£3.00	N/A	£3.90	£6.50	Free	✓
Waterloo	Long Stay	233	2	50p	£1.30	£2.30	£3.00	N/A	£3.90	£6.50	Free	✓

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1.5. Report Format

This report includes the following sections:

- **Section 2** provides a summary of the data used to inform the study;
- **Section 3** outlines the Cotswold development aspirations and future parking demand;
- **Section 4** provides details of the methodology employed to determine future parking demand within Cirencester;
- **Section 5** discusses the phasing of additional car park capacity;
- **Section 6** identifies and considers themes which influence parking demand and which can be used to determine a suitable car parking strategy; and
- **Section 7** summarises the findings and conclusions.

2. Data Collection Summary

2.1. Introduction

This section of the report provides a summary of the previous 'Cirencester Parking Survey' undertaken by Gloucestershire County Council on behalf of Cotswold District Council. This report also details the further data collection exercise undertaken by Cotswold District Council. Both datasets have been used to establish the baseline occupancy and trends within the eight town centre car parks considered in this study.

2.2. Gloucestershire ANPR Study

Cotswold District Council commissioned Gloucestershire County Council to undertake a parking survey in Cirencester to quantify parking patterns in the town, and inform their assessment of future parking needs using vehicle mounted Automatic Number Plate Recognition (ANPR) technology. The study was undertaken in May 2015.

The parking survey was undertaken over two weekdays³ and Saturdays for a period of two weeks. Data for the two weekdays was averaged to represent a typical weekday. Data was collected across three survey periods, namely:

- AM Peak (09:00-12:00)
- Inter Peak (13:30-16:30)
- PM Peak (18:00-20:00)

A vehicle fitted with ANPR camera technology was driven around a set route through the town, capturing the number plate of vehicles parked on street and in the town's off-street car parks, providing a count of parked vehicles. The route was repeated three times each day. By cross referencing the observed vehicles in each survey period, the length of time vehicles remained parked in the town was identified. The origin of the observed vehicles was determined by obtaining the post code of the address which each vehicle is registered to from the DVLA records.

The key findings of the Gloucestershire County Council ANPR study were reported as follows:

- On-street parking is congested in the central town core both during the week and at weekends;
- Other parts of the town centre experience congestion, particularly the southern extents and Beeches Road;
- The remainder of the town centre area, within the ring road, is relatively well used but has some remaining capacity;
- Commuter parking is evident throughout the town, but is particularly significant in the Beeches Road area, and to the south of the town, outside existing parking permit schemes;
- There is no evidence of significant levels of commuter parking outside the ring road;
- Commuter parking is evident in the peripheral car parks, particularly Beeches Road where pricing is set to attract commuter parking. Those car parks dedicated to short stay parking have spare capacity during the week;
- Most car parks have some spare capacity at weekends; and
- Waterloo and Forum car parks are underused.

2.3. Cotswold District Council Survey

The findings of the above study were reviewed by Cotswold District Council. CDC considered that the study may have reported lower than actual levels of occupancy.

³ Surveys were undertaken on neutral days of Tuesday and Thursday, CDC has advised that the town is typically busier on Mondays and Fridays.

In order to verify the findings of the ANPR study, Cotswold District Council undertook monthly parking beat surveys from February 2015 up to and including August 2016. The surveys were carried out in the eight off-street car parks considered in this study and were undertaken from Monday to Saturday for one week during each month. The parking beat surveys included the number of vehicles parked but did not include vehicles waiting to locate a vacant parking space.

The occupancy levels reported by Cotswold District Council were higher than those reported from the ANPR survey.

The ANPR survey was only undertaken over a limited number of days over a two week period whereas the Cotswold parking beat surveys were undertaken from February 2015 up to and including August 2016. Throughout the 19 month period the beat surveys were undertaken, occupancy levels were shown to be consistently higher than the ANPR survey. It is therefore considered that the results of the Cotswold parking beat surveys provide a more comprehensive set of data which is more representative of the baseline conditions within Cirencester, and are more up to date.

2.4. Baseline Position

In order to calculate the baseline car park occupancy rates within Cirencester, the results of the Cotswold parking beat survey have been aggregated in order to determine the average weekday and weekend occupancy rates during the three survey periods identified above⁴. The baseline occupancy rates are presented in **Table 2-1**.

⁴ The baseline car park occupancy rates within Cirencester do not account for disabled parking provision since this is only available for use by blue badge holders and not freely available. Therefore, all calculations within this report only account for the vehicular demand associated with standard parking spaces.

Table 2-1 Baseline Car Park Occupancy Rates within Cirencester

Car Park	Capacity	AM (09:00-12:00)		IP (13:30-16:30)		PM (18:00-20:00)	
		Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Leisure Centre	122	112	98	110	105	65	34
Old Station	149	160	108	158	117	93	38
Sheep Street	77	81	47	80	51	47	17
Brewery	298	235	238	232	256	136	83
Forum	191	166	195	164	210	96	68
Beeches	145	140	119	138	129	81	42
Waterloo	233	191	168	188	180	111	59
Abbey Grounds	97	90	69	89	74	52	24
TOTAL	1312	1175	1042	1159	1122	681	365

N.b. Only includes vehicles parked and does not include vehicles waiting to locate a vacant parking space.

2.5. Distribution

Whilst the occupancy levels from the parking beat surveys undertaken by Cotswold District Council provide a more comprehensive representation of occupancy levels, these surveys do not provide any additional information in relation to distribution. Therefore, the postcode data from the ANPR survey results have been used to determine the distribution of vehicles parked within Cirencester by Lower Super Output Area (LSOA) Origin on an average weekday (see Figure 2-1) and an average weekend (see Figure 2-2). This exercise has been undertaken for vehicles originating within the Cotswold boundary only (accounting for 75% to 80% of vehicles).

Figure 2-1 Distribution of Parked Vehicles by LSOA Origin (Based on Weekday ANPR Survey)

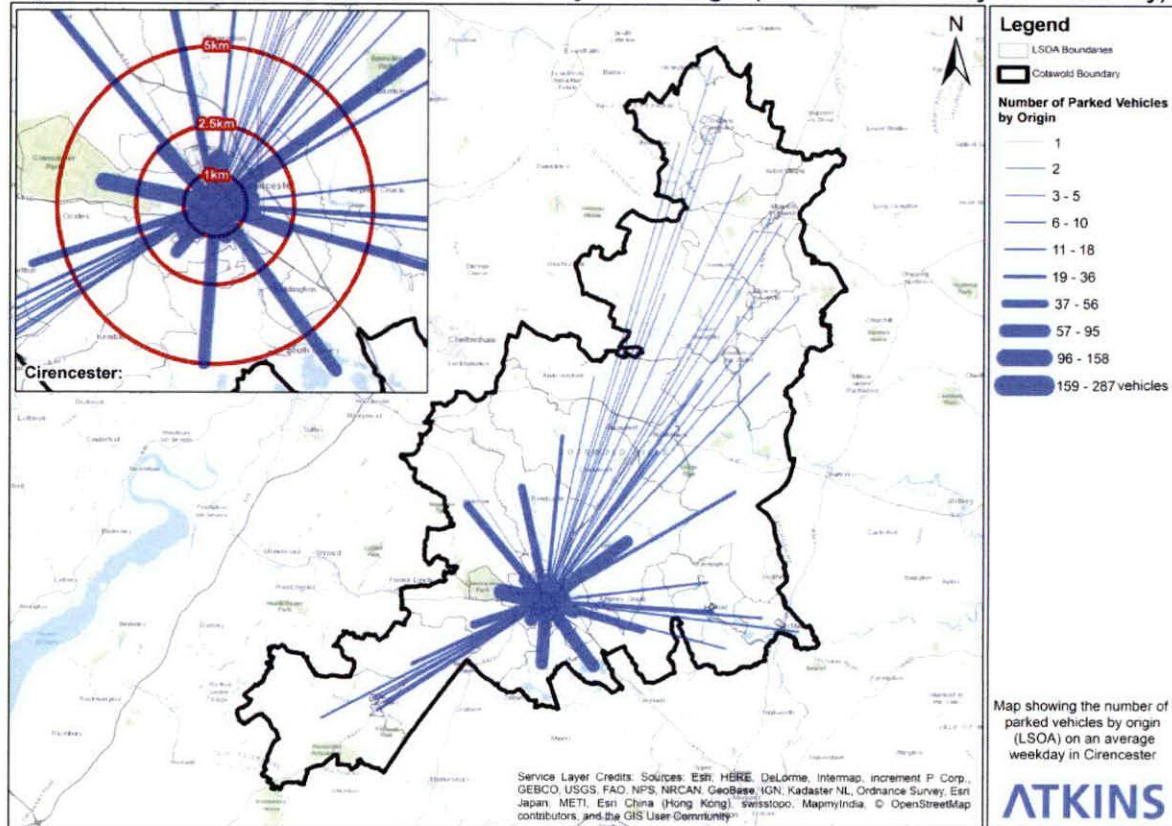


Figure 2-2 Distribution of Parked Vehicles by LSOA Origin (Based on Weekend ANPR Survey)

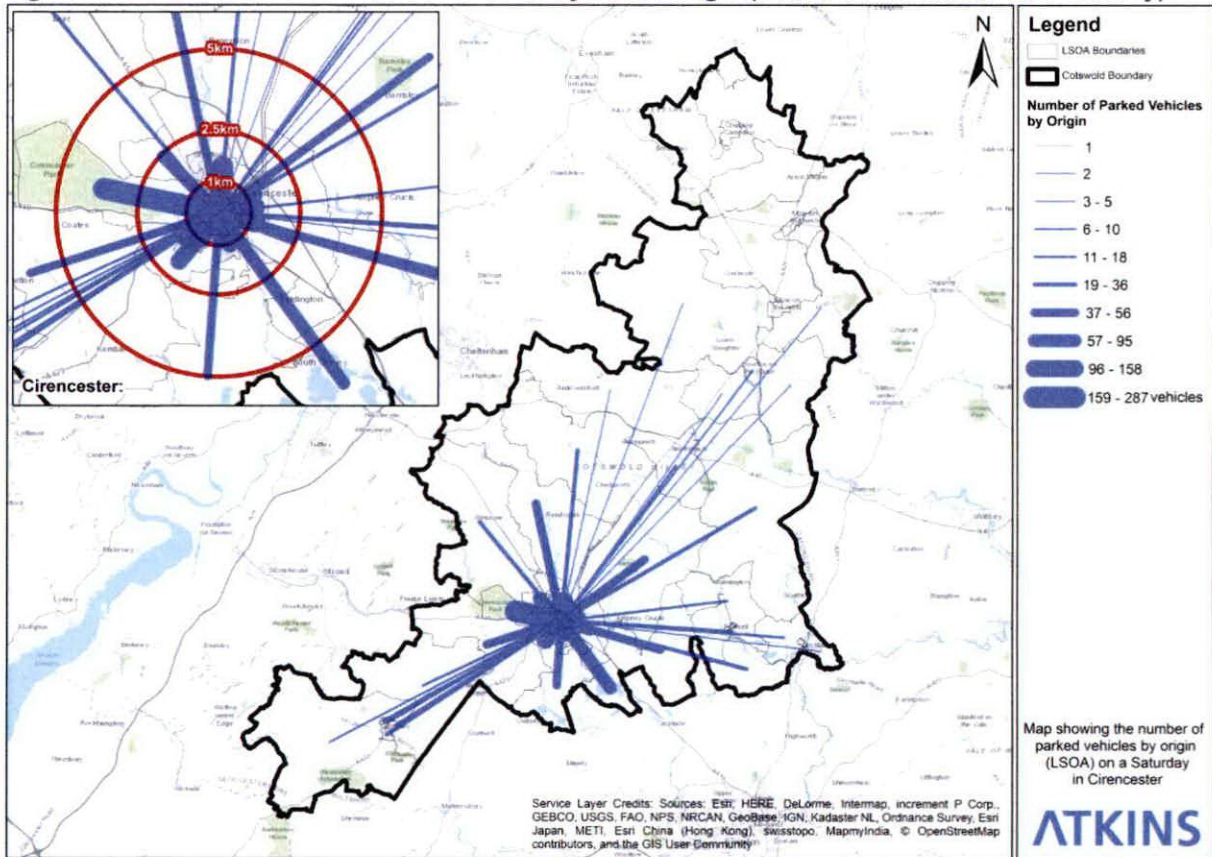


Figure 2-1 and Figure 2-2 indicate that a significant proportion of vehicles parking within Cirencester are travelling from within a 5km radius of the Town Centre (based on the results of the ANPR Survey).

In order to determine the baseline scenario, the car park occupancy rates presented in Table 2-1 have been distributed using the information presented in Figure 2-1 and Figure 2-2 to quantify where vehicle trips originate from.

2.6. Duration of Stay

The Cotswold parking beat surveys do not provide an indication of the duration of stay of vehicles. Therefore, the ANPR survey data has been utilised to determine the approximate duration of stay of vehicles parked in the surveyed car parks.

In particular, the number of vehicles recorded to be parked in one, two or three of the time periods surveyed on each day in each car park has been determined.

The length of stay was determined as follows:

- Short Stay (Visitors/Shoppers): Parked in one survey period only;
- Long Stay (Commuters): Parked in two survey periods; and
- All-Day: Parked in three survey periods.

A summary of the duration of stay in each car park for a weekday and a Saturday is presented in Table 2-2, below.

Table 2-2 Observed Duration of Stay (ANPR Survey)

Length of Stay		Short Stay (Visitors and Shoppers)	Long Stay (Commuter)	All Day
Weekday	Abbey Grounds	71%	23%	6%
	Beeches	67%	29%	4%
	Brewery	97%	3%	0%
	Forum	96%	4%	0%
	Leisure Centre	75%	20%	4%
	Old Station	55%	37%	8%
	Sheep Street	70%	27%	3%
	Waterloo	80%	18%	2%
Saturday	Abbey Grounds	94%	4%	2%
	Beeches	64%	27%	10%
	Brewery	99%	1%	0%
	Forum	98%	1%	0%
	Leisure Centre	94%	5%	1%
	Old Station	87%	11%	3%
	Sheep Street	98%	2%	0%
	Waterloo	91%	7%	1%

Table 2-2 demonstrates that on a weekday, the majority of vehicles observed were parked for only one survey period which is typical of shoppers and visitors. This is particularly the case in the Brewery and Forum car parks; this is to be expected as these are short stay car parks.

The Old Station, Sheep Street and Beeches car parks have a higher proportion of commuter parking. These are long stay car parks with the Beeches car park offering a low rate all-day tariff and so this trend would be expected.

On a Saturday, the data demonstrates that there is an even higher level of shopper/visitor use of the car parks. The Beeches again has a higher level of long stay parking which is likely to be in part due to the lower charging tariff.

3. Cotswold Development Aspirations

3.1. Introduction

This section of the report outlines potential development within Cirencester Town Centre and the wider Cotswold District which could result in an additional demand for parking within Cirencester. The following has been considered in this study and further detail is provided later in this chapter:

- Consented, but not built at time of surveys, development⁵; and
- Sites outlined within the Cotswold District Council Local Plan, 2011-2031.

3.2. Cotswold District Council Local Plan

The Cotswold District Council Local Plan identifies the policies and proposals which aim to meet the challenges facing the Cotswold District over the projected plan period 2011-2031. Cirencester will continue to be the primary focus for additional housing and employment growth, whilst its function as the primary economic, retail and cultural centre for the majority of the district will be enhanced. Beyond Cirencester, the majority of planned development is proposed to be located within existing sustainable towns and settlements in order to capitalise on existing services and facilities.

The Cotswold District Local Plan identifies the requirement for an additional 8,400 dwellings over the 20 year plan period – an average of 420 per year. Over the same plan period, economic forecasts anticipate total job growth to be between 10,500 and 11,900.

⁵ As identified by CDC.

4. Methodology

4.1. Introduction

This section of the report provides details of the methodology employed to determine future parking demand within Cirencester. The future parking demand is based on the baseline parking occupancy within Cirencester as identified in **Section 2** and the projected demand associated with development as outlined in **Section 3**. As such, this assessment assumes existing patterns are replicated. This therefore inherently assumes parking charges remain the same, highway network capacity does not affect access to the town centre or specific car parks and that there is adequate additional employment and retail provision to cater for the increased demand.

4.2. Consented Development (Not Built at Time of Surveys)

A list of Consented Development sites, which were not constructed during the time of the surveys, was provided by CDC. Transport Assessments were used to determine the total vehicle demand associated with the Consented Development sites identified by CDC. A summary of the total vehicle demand associated with the Consented Development Sites is provided in **Table 4-1**.

Table 4-1 Total Vehicle Demand Associated with the Consented Development.

	Leisure Centre	Old Station	Sheep Street	Brewery	Forum	Beeches	Waterloo	Abbey Grounds
Average Weekday								
AM Peak	0	19	10	9	0	18	29	12
Inter Peak	0	13	7	22	0	13	20	9
PM Peak	0	0	0	31	0	0	0	0
Total	0	32	17	62	0	31	49	21
Average Weekend								
AM Peak	0	0	0	29	0	0	0	0
Inter Peak	0	0	0	48	0	0	0	0
PM Peak	0	0	0	39	0	0	0	0
Total	0	0	0	116	0	0	0	0

4.3. Cotswold District Local Plan

The Cotswold District Local Plan identifies the requirement for an additional 8,400 dwellings over the 20 year plan period – an average of 420 per year. In order to account for the level of growth in housing within the Cotswold District and the projected impact on existing car park occupancy levels within Cirencester, the existing parking demand from each of the LSOA's where additional dwellings have been identified, has been factored to account for the level of growth in dwellings identified.

For example: The 2011 census identifies there are a total of 671 dwellings in Cotswold 009D (which encompasses Lechlade). There are proposed to be an additional 114 dwellings in the Lechlade area (an increase of 17%) and therefore the existing car park trends of those residing in Cotswold 009D have been uplifted by 17%.

The additional demand has been distributed amongst the existing town centre car parks within Cirencester based on the existing distribution (see **Table 4-2**).

Table 4-2 Total Car Park Demand Associated with CDC Local Plan Development

	Leisure Centre	Old Station	Sheep Street	Brewery	Forum	Beeches	Waterloo	Abbey Grounds
Average Weekday								
AM Peak	35	15	22	50	29	30	49	20
Inter Peak	34	15	22	49	28	29	49	19
PM Peak	19	8	13	28	16	18	28	11
Total	88	38	57	127	73	77	126	50
Average Weekend								
AM Peak	28	30	6	75	28	37	43	3
Inter Peak	30	31	6	80	29	39	47	3
PM Peak	10	10	2	26	10	13	15	1
Total	68	71	14	181	67	89	105	7

4.4. Projected Increase in Car Ownership

The assessment has not included for the projected increase in car ownership within the Cotswold District. With regards to the existing vehicular trips from within the Cotswold District, this assessment has assumed that increased demand would only occur as a result of the consented and Local Plan development. With regards to the existing vehicular trips from outside of the Cotswold District, these have been uplifted using TEMPro⁶ factors to account for development outside of the Cotswold District.

4.5. Operational Capacity

As vehicles arrive and depart car parks simultaneously, those vehicles already searching for a car parking space may miss newly vacated spaces. In addition, the existing Town Centre car parks within Cirencester are already approaching or at capacity, therefore, it is good practice to introduce under capacity margins to allow for the more efficient occupation of vacant parking spaces. It is commonplace across the industry to make an allowance of between 5% and 15% for under capacity margins.

As such, it has been agreed with Cotswold District Council that the calculations contained herein are based on a 10% under capacity margin; or 90% of the actual capacity.

4.6. Summary

This section of the report has outlined the methodology employed in order to determine the future parking demand within Cirencester. **Table 4-3** and **Table 4-4** provide a summary of the projected long term parking demand, taking into consideration the Cotswold development aspirations as outlined in **Section 3**.

⁶ The Trip End Model Presentation Program (TEMPro) is the industry standard tool for estimating traffic growth, which is required when assessing the traffic impact of a development on the local highway network.

Table 4-3 Summary of Future Parking Demand within Cirencester (Average Weekday)

	Time Period	Average Weekday								
		Leisure Centre	Old Station	Sheep Street	Brewery	Forum	Beeches	Waterloo	Abbey Grounds	Total
Cotswold District Council Baseline Occupancy Rates	AM Peak	112	160	81	235	166	140	191	90	1173
Consented Development		0	19	10	9	0	18	29	12	97
CDC Local Plan Development		35	15	23	50	28	31	50	19	251
TOTAL DEMAND		147	194	114	294	194	188	270	122	1522
OPERATIONAL CAPACITY (90%)		110	134	69	262	172	131	210	87	1175
SPARE CAPACITY		-37	-60	-45	-32	-22	-58	-60	-34	-347
Cotswold District Council Baseline Occupancy Rates	Inter Peak	110	158	80	232	164	138	188	89	1159
Consented Development		0	13	7	22	0	13	20	9	84
CDC Local Plan Development		34	15	23	49	28	30	49	19	245
TOTAL DEMAND		144	186	109	302	192	180	257	116	1487
OPERATIONAL CAPACITY (90%)		110	134	69	262	172	131	210	87	1175
SPARE CAPACITY		-35	-52	-40	-40	-20	-50	-48	-29	-313
Cotswold District Council Baseline Occupancy Rates	PM Peak	65	93	47	136	96	81	111	52	681
Consented Development		0	0	0	31	0	0	0	0	31
CDC Local Plan Development		19	9	13	28	16	17	28	11	141
TOTAL DEMAND		84	101	60	196	112	98	139	63	854
OPERATIONAL CAPACITY (90%)		110	134	69	262	172	131	210	87	1175
SPARE CAPACITY		25	33	9	66	60	32	71	24	321

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Table 4-4 Summary of Future Parking Demand within Cirencester (Average Weekend)

	Time Period	Average Weekend								
		Leisure Centre	Old Station	Sheep Street	Brewery	Forum	Beeches	Waterloo	Abbey Grounds	Total
Cotswold District Council Baseline Occupancy Rates	AM Peak	98	108	47	238	195	119	168	69	1043
Consented Development		0	0	0	29	0	0	0	0	29
CDC Local Plan Development		28	30	6	75	28	37	44	2	250
TOTAL DEMAND		126	138	53	342	223	157	211	71	1322
OPERATIONAL CAPACITY (90%)		110	134	69	262	172	131	210	87	1175
SPARE CAPACITY		-16	-4	16	-80	-51	-26	-2	16	-148
Cotswold District Council Baseline Occupancy Rates	Inter Peak	105	117	51	256	210	129	180	74	1122
Consented Development		0	0	0	48	0	0	0	0	48
CDC Local Plan Development		30	32	7	80	30	40	47	3	269
TOTAL DEMAND		136	149	58	385	240	169	227	77	1439
OPERATIONAL CAPACITY (90%)		110	134	69	262	172	131	210	87	1175
SPARE CAPACITY		-26	-15	12	-123	-68	-38	-18	11	-265
Cotswold District Council Baseline Occupancy Rates	PM Peak	34	38	17	83	68	42	59	24	364
Consented Development		0	0	0	39	0	0	0	0	39
CDC Local Plan Development		10	10	2	26	10	13	15	1	87
TOTAL DEMAND		44	48	19	148	78	55	74	25	490
OPERATIONAL CAPACITY (90%)		110	134	69	262	172	131	210	87	1175
SPARE CAPACITY		66	86	51	114	94	76	136	62	684

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The above tables demonstrate that the demand within all eight car parks considered in this study is forecast to exceed the operational capacity during the AM and inter peak period on a weekday and in six of the eight car parks in the inter peak period on a Saturday with the other two car parks operating at their operational capacity. The shortfall is forecast to be up to 347 spaces in the AM peak hour on a weekday; the forecast parking demand above operational capacity is approximately 30%.

The above results are presented graphically in **Figure 4-1** and **Figure 4-2**.

A site visit was undertaken to observe the operation of the Cirencester town centre car parks. It was observed that there is already additional demand within the car parks as vehicles were seen waiting for spaces to become available. It is possible that any additional capacity created would be used, at least in part, by these vehicles (which were not included in the surveyed occupancy levels). The provision of further car parking may also attract additional trips to Cirencester which could again utilise any additional parking created.

Figure 4-1 Summary of Future Parking Demand within Cirencester (Average Weekday)

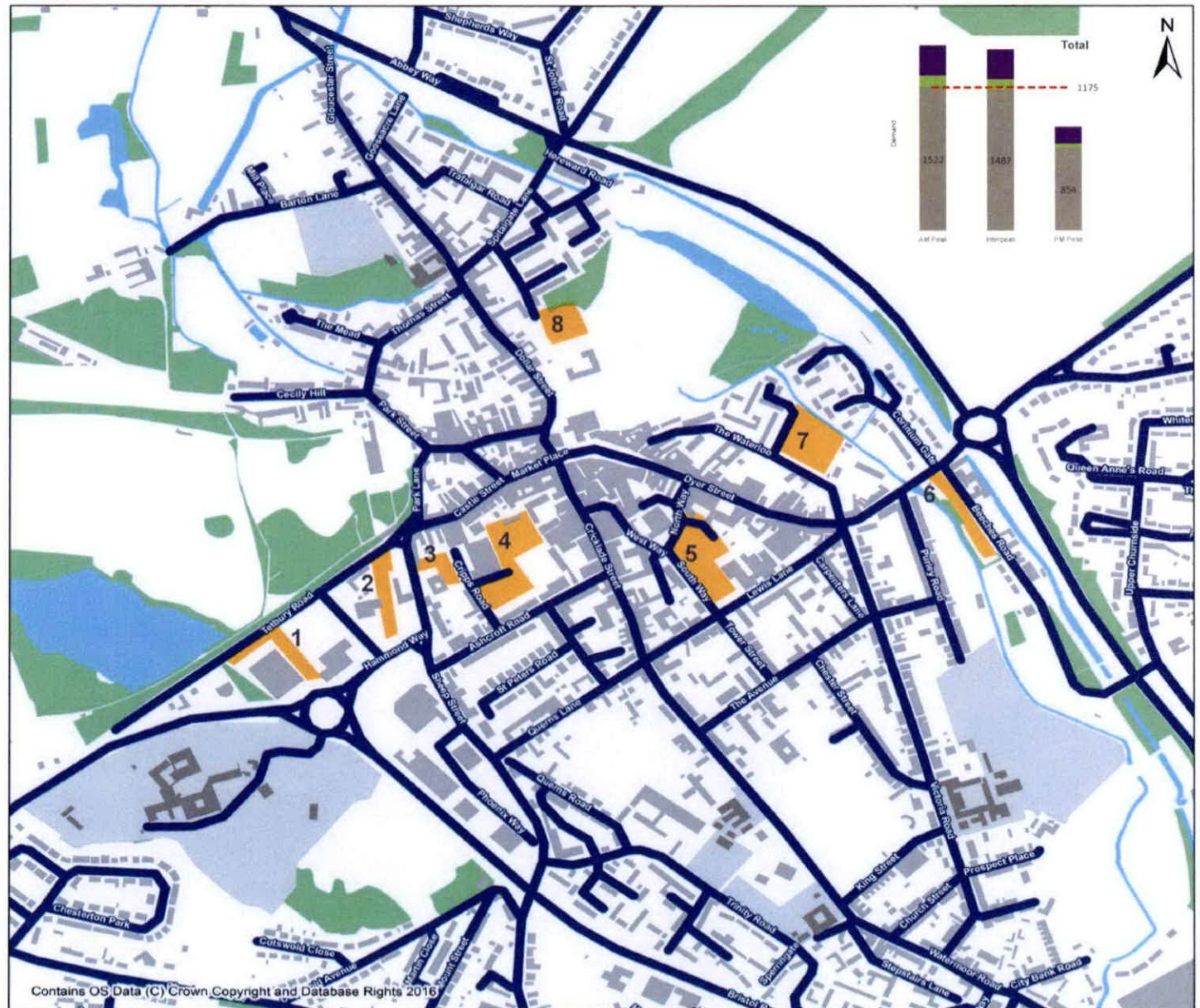
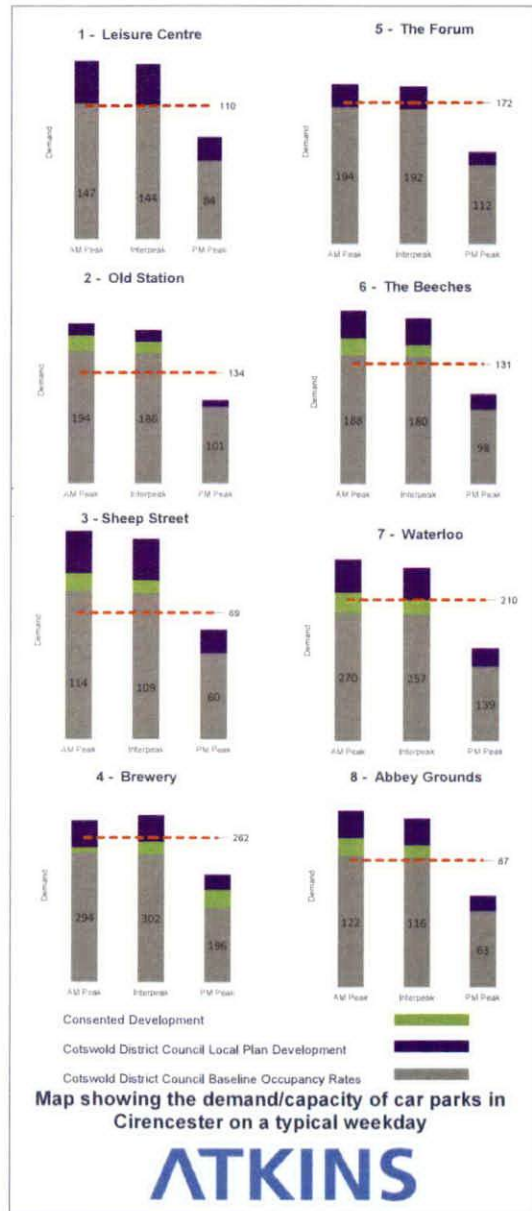
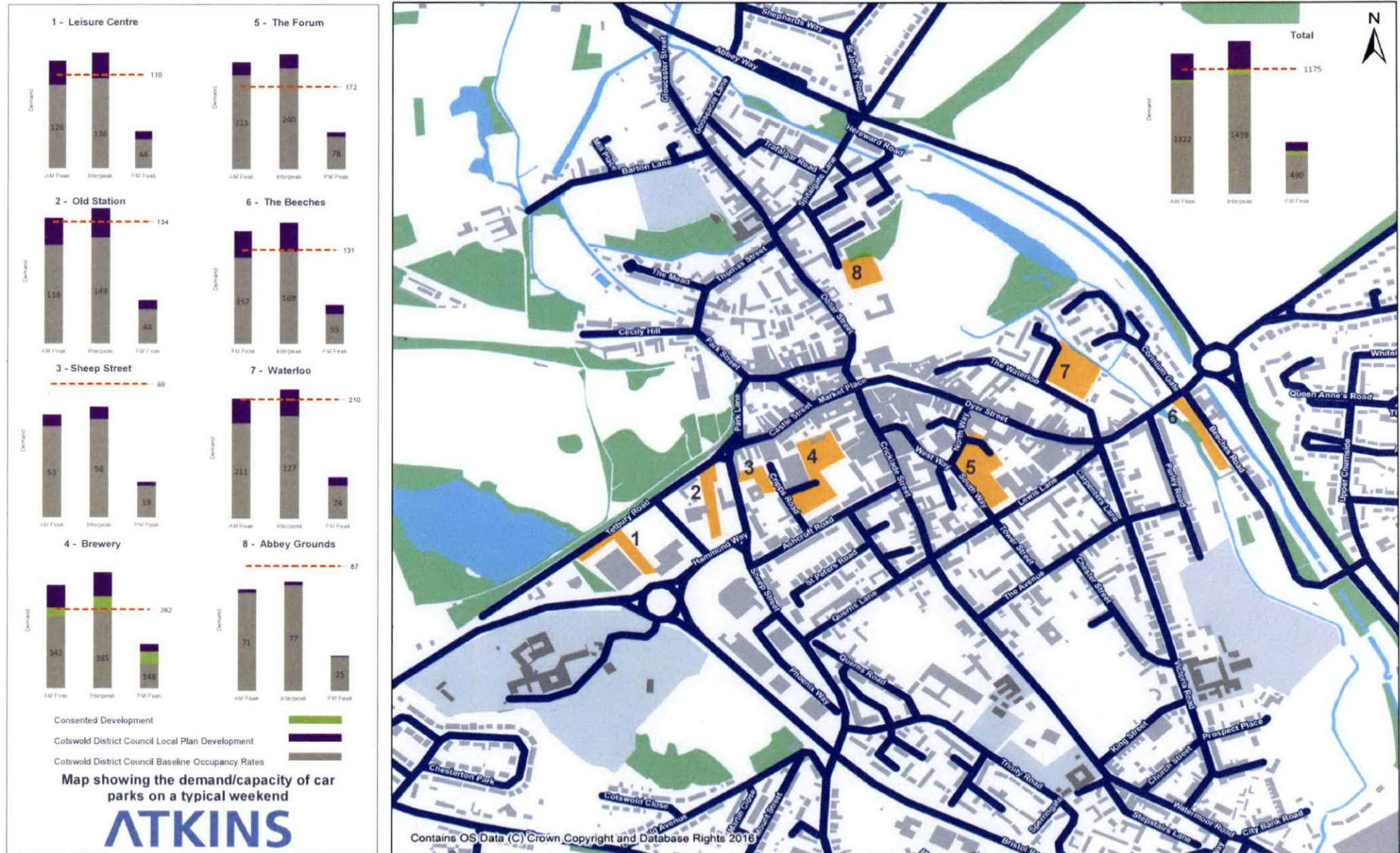


Figure 4-2 Summary of Future Parking Demand within Cirencester (Average Weekend)



5. Phasing

5.1. Introduction

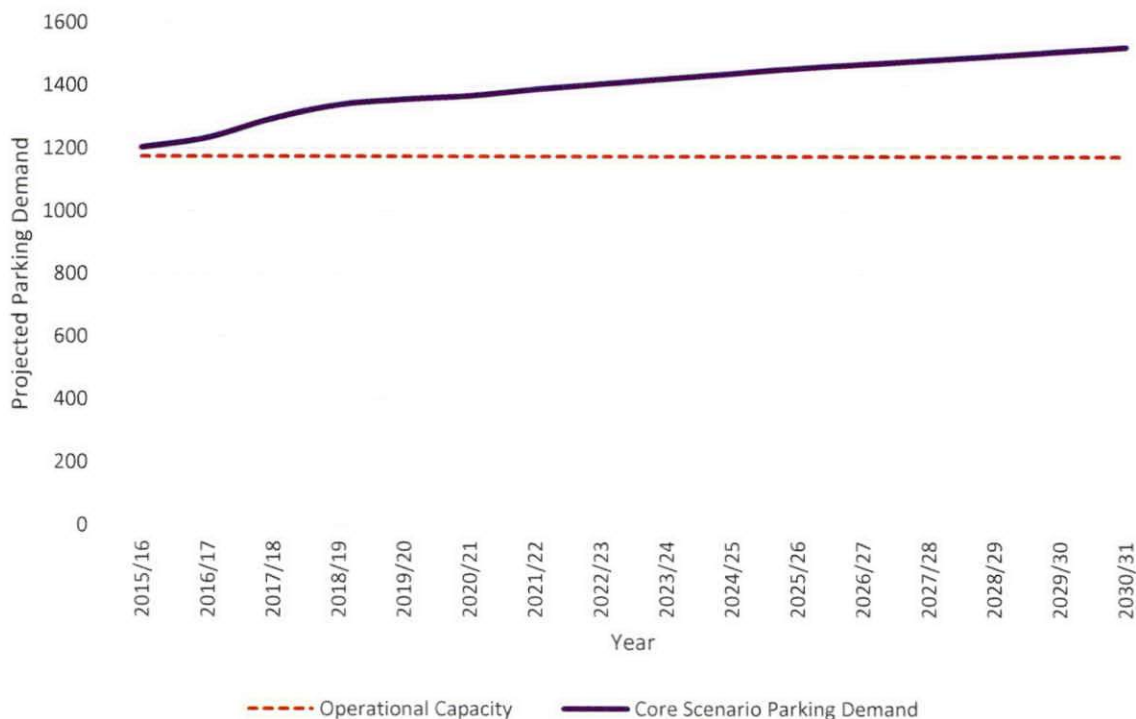
This section of the report outlines the methodology applied in order to project the forecast car parking demand over the Local Plan period for the core scenario.

5.2. Cotswold District Local Plan Trajectory

As identified in **Section 3**, the housing target set out within the Cotswold Local Plan (2011-2031) is 8,400 homes, an average of 420 dwellings per annum. The NPPF requires Local Planning Authorities to prepare a housing trajectory to illustrate the expected rate of delivery for their local plan period. Cotswold District's Housing Trajectory illustrates housing delivery in the district for the previous monitoring years from 2011/12 to 2015/16, and the anticipated delivery from the current monitoring year (2015/16) until the end of the Local Plan period (2031). This trajectory has been used to provide an indication of the projected growth in overall car parking demand as the construction of dwellings is likely to be key driver in demand for parking and the creation of new jobs and amenities.

The *Cotswold District Local Plan Housing Trajectory* illustrates the housing delivery from 2011/12 until 2031, whilst the Cotswold District Parking Beat Surveys (see **Section 2**) were undertaken between February 2015 and August 2016. Therefore, it has been assumed that the number of dwellings projected to be delivered between 2011 and 2014 (as indicated within the Local Plan Housing Trajectory) have already been delivered, and the associated parking demand has therefore been captured within the baseline parking beat surveys. Therefore the projected parking demand outlined within **Figure 5-1** covers the period from 2015/16 up until the end of the Local Plan Period (2031).

Figure 5-1 Projected Parking Demand within Cirencester (2015-2031)



5.3. Conclusion

Figure 5-1 indicates that the demand for parking within Cirencester Town Centre is already exceeding the available capacity. Table 5-1 provides a summary of the projected parking demand.

Table 5-1 Summary of Projected Parking Demand within Cirencester Town Centre (2015-2031)

Year	Total Demand/Projected Demand (Existing + Forecast)	Operational Capacity	Additional Demand (above operational capacity)
Baseline	1173 Spaces	1175	-
2015/16	1203		29
2016/17	1234		59
2017/18	1295		121
2018/19	1338		163
2019/20	1356		181
2020/21	1367		192
2021/22	1387		213
2022/23	1404		230
2023/24	1421		247
2024/25	1438		263
2025/26	1455		280
2026/27	1467		293
2027/28	1481		306
2028/29	1494		320
2029/30	1508		334
2030/31	1522		347

N.b. Numbers are rounded

6. Influencing Parking Behaviour

6.1. Introduction

This section sets out a summary of a review of existing published research, policy and guidance documents conducted to understand the factors which affect car parking use, occupancy and demand in town centre locations. This will help to aid consideration of how to provide the additional car parking identified by defining overarching principles for the provision and management of parking in Cirencester town centre.

6.2. National Policy Context

The National Planning Policy Framework states at paragraph 40 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. They should set appropriate parking charges that do not undermine the vitality of town centres.*”

A Written Statement was issued in March 2015 to accompany the guidance contained in NPPF. This emphasised the importance of ensuring that there is adequate parking provision in and around town centres and high streets.

6.3. Research

There have been various research reports published which include the following:

- Tsamboulas (2001), *Parking Fare Thresholds: A Policy Tool*;
- Golias, Yannis and Harvatis (2002), *Off Street Parking Choice Sensitivity*;
- British Parking Forum (2006), *Position Paper 12: Parking and Town Centres*;
- Kelly and Clinch (2008), *Influence of varied parking tariff on parking occupancy levels by trip purpose*;
- Department for Transport (DfT), (2009), *Public Experiences of and Attitudes towards Parking*;
- Tyler et al (2012), *The relevance of parking in the success of urban centres - [http://britishparking.co.uk/write/Documents/The_relevance_of_parking_in_the_success_of_urban_centres - A review for London Councils.pdf](http://britishparking.co.uk/write/Documents/The_relevance_of_parking_in_the_success_of_urban_centres_-_A_review_for_London_Councils.pdf)*
- Mary Portas (2011), *The Portas Review: An Independent review into the future of our high streets*;
- Caicedo and Diaz (2013), *Case analysis of simultaneous concessions of parking meters and underground parking facilities*;
- Association of Town and City Management (ATCM), The British Parking Association, Parking Data and Research International (PDRI) and Springboard (2013), *Re-Think! Parking on the High Street: Guidance on Parking Provision in Town and City Centres*;
- ATCM (2014), *In Town Parking: What Works? Innovative Practices in Parking Provision*; and
- Mruk (2015), *assessing the impact of car parking charges on town centre footfall*, prepared for Welsh Government.

A summary of the key findings from the above research is presented below. This has been broken down by the following considerations:

- Price-Related;
- Physical; and
- Time-Related.

6.4. Price-Related Considerations

The ATCM research, based on case studies from 11 UK towns and cities, and the Mruk research both found that parking tariffs were one of the most important factors pertaining a driver's choice of car park.

The DfT research shows that once the decision to drive has been taken, the cost of parking may be viewed as an additional, if possibly avoidable, marginal expense amongst car drivers. This suggests that drivers are happy to pay for parking, but that the cost should be appropriate to the location of the car park.

Other research has found that an increase in parking tariffs can have different impacts depending on the trip purpose. In a piece of research by Kelly and Clinch, based on a survey of 1,007 on street parkers in Dublin, it was found that as the parking tariff increases, those making non-business trips were more likely to cease parking in the area, compared to those making business related trips. This highlights that those travelling for business have less flexibility in comparison to those travelling for leisure.

Mary Portas, in her independent review of the future of UK high streets, suggests that local areas should implement free controlled parking schemes to encourage visitors. However, research by Caicedo and Diaz has found that although free parking can resolve some issues, it can lead to increased demand and more 'cruising' for spaces, especially for on-street parking. 'Cruising' contributes towards increased congestion, environmental concerns and wasted fuel.

The research has shown that reducing car parking tariffs can have a varying effect on car park occupancy in different locations. Prices can influence different user groups in different ways and whilst free parking can encourage visitors to town centres it would result in an increase in demand. The car parks within Cirencester have already been found to be well used and therefore it is unlikely that the introduction of free parking would be beneficial. Suitable pricing could however be used to influence the choice of car parks by different user groups.

6.5. Time-Related

There are a number of time-related factors which have been found to influence parking decisions, including search-time, access-time and egress-time. Tsamboulas found that a more expensive parking choice would be considered by drivers if there was a reduced walking time to the end destination, which is likely to explain why in some town centres car parks in the centre are more popular than those further away from key services and facilities.

Research has found that time also influences the choice between on- and off-street parking. Golias, Yannis and Harvatis (2002) found that off-street parking was seen as more attractive by drivers, as on-street parking has an increased search time and therefore, a perceived reduced likelihood of finding a parking space. Off-street parking was also seen as more attractive as it often has a shorter walk time to a driver's final destination.

6.6. Physical

Research conducted by the ATCM found that the location was the most important factor for driver's choice of car park. As highlighted above, research has also found that off street parking is often seen as more attractive as it often has a shorter walk time to a driver's final destination.

The safety and security of car parks, as well as the perceived safety of routes between the car park and the trip end are also key considerations to drivers.

6.7. UK Case Studies

There are a number of examples, of towns and cities across the UK that have moved away from the traditional view in relation to parking. A number of locations have altered their pricing structure depending on the user groups of the car parks and the times that they arrive/depart.

For example, Colchester has devised a parking strategy for four user groups: commuters, shoppers, lifestyle/leisure and visitors/tourists. Each of the user groups has a 'special offer'. In particular, there is a special offer targeted at commuters which is for those arriving before 8am and a further offer targeted at shoppers to encourage them to shop during off-peak periods.

Due to unequal use of town centre car parks in Swindon, in June 2010 Swindon Borough Council approved a reduction in car parking charges in a number of car parks across the city centre. A report to the cabinet in 2011 found that overall, retailers in the town centre had reported an increase in footfall and turnover. Whilst there was a reduction in the charges, the overall volume of cars in Swindon town centre car parks did not change, rather vehicles stayed longer. At the end of the study period, reduced charges were found to be more successful in multi-storey car parks, but overall, income and ticket sales were lower than before the changes to car parking spaces⁷.

Newport Borough Council introduced two hours of free parking in December 2010, and then a 10p tariff for the first two hours of parking in January 2011. In February 2011, there was a reported increase of over 2000 vehicles using the car park, compared to that in the previous year. Despite this increase in the number of vehicles using the car park, there was a reduction in car parking income.

In contrast, in Rugby, free parking passes for under used car parks have been distributed to local retailers to give out to customers. The passes give four hours of free parking for car parks at the edge of the city centre, encouraging the use of under used car parks.

These four case studies show that in general, reducing car parking tariffs in 'unpopular' car parks will increase the number of vehicles using the car park, which in some cases increases footfall and turnover for local businesses. However, these case studies also highlight that changes in car parking charges can impact the revenue generated from parking.

6.8. Key Findings and Strategy for Cirencester

Price-related, time-related and physical considerations have been shown to be key factors in a driver's choice of where to park. It is likely that most drivers are influenced by a combination of these factors. The key questions in determining how to price and locate car parks are 'what and who is the parking for?'

In terms of what the car parking is for and the purpose it serves to a local authority, this could be a source of revenue, a service to the public and visitors or it could be there to support economic vitality; or a combination of all of these.

Determining who would use the car parking, for example, visitors, shoppers, leisure users or commuters, and considering the typical behaviours and propensities of these different user groups allows for a suitable strategy to be developed. For example:

- Visitors/shoppers/leisure users:
 - Car parking that is close to shops and facilities;
 - Reduced tariff for very short stays;
 - Limits on the duration of stay; and
 - Mid-range tariffs so as not to discourage users from accessing the town but not so inexpensive so those who would otherwise access the town using sustainable modes would instead choose to drive.
- Commuters:
 - Car parking which is on the edge of the town centre or on peripheral sites (to reduce the number of vehicles in the immediate town centre area); and
 - Tariffs to encourage vehicles to park a greater distance away and walk.

The British Parking Forum published Position Paper 12 in March 2006 which summarised key considerations in determining a strategy for town centre parking. These key considerations are set out in **Table 7-1**, below.

⁷<https://cms.wiltshire.gov.uk/documents/s23794/Countywide%20Analysis%20of%20the%20Impact%20of%20Car%20Parking%20Charges%20App5.pdf>

Table 6-1 Key Considerations for Developing a Parking Strategy

Key Considerations	Application to Cirencester
Quantity and Convenience – quantity must match the size of the town centre, and in smaller centres, must not be more than five minutes' walk away from the main shops.	The forecast demand for parking has been determined and hence the quantity of parking spaces has been determined. A likely breakdown between short and long stay has also been determined and short stay parking should be accommodated within the central car parks. This can be achieved, at least in part, by moving and providing commuter parking in peripheral locations.
Payment and Control – payment on departure encourages a longer shopping trip and therefore a greater spend.	All car parks considered have credit and debit card facilities to allow convenient payment. All car parks are Pay & Display and therefore consideration could be given to a Pay on Foot system. This is self-enforcing through barrier control. Permit scheme for regular users of long stay car parks, and off peak permits for residents and shoppers. (8am to 10am and 4pm to 6pm). Free after 3pm /Free on Sunday
Free Short Stay - a very limited amount of free parking helps short visits and customer satisfaction but must not be open to abuse.	There is a rate of 50p for ½ hr in place in the car parks considered in this report.
Pricing Structure – tariffs should be limited up to three hours to discourage the use of parking spaces by commuters.	The Forum and Brewery car parks already have a maximum duration of stay of 3 to 4hrs and therefore they are well used by shoppers/visitors. This could be expanded to further central car parks with additional provision for commuters made in peripheral areas.
Security – car parks needs to be well designed, maintained and managed, with uniformed patrols and CCTV.	CCTV coverage in all town centre car parks and daily patrols of car parks by APCOA. Routes between car parks and key facilities should also be secure. There are routes between Waterloo and Abbey Grounds car parks and the town centre area which are not overlooked and which are poorly lit which may make them unattractive to pedestrians.
Quality – car parks are often the gateway to the town centre and should reflect the need to reflect high customer expectations.	It was identified that routes from Abbey Grounds and Waterloo car parks were not particularly attractive for pedestrians. Routes were not well lit nor overlooked.
Signage – highway signs including variable messaging boards can help drivers to find available spaces more easily.	The provision of signage to encourage users to utilise appropriate car parks along with the potential provision of real time information to lead drivers to car parks where there are spaces available.

6.9. Conclusion

This summary of literature and best practice has highlighted that there are a number of factors that affect use of car parks in town and city centres. Overall, the review has highlighted that these factors are inherently interlinked, and that it is important to consider the local parking context and the needs of the users.

7. Summary & Next Steps

7.1. Summary

Atkins has been commissioned to undertake a parking study in order to assess the long term demand for car parking within the existing off-street town centre car parks located in Cirencester. The assessment has been undertaken up to the end of the Local Plan period (2031).

The study covers eight town centre car parks; namely, Abbey Grounds, Beeches, Brewery, Forum, Leisure Centre, Old Station, Sheep Street and Waterloo car parks. The basis for the study is data collected by Cotswold District Council parking beat surveys (to determine occupancy levels) and Gloucestershire County Council ANPR survey (to determine the distribution of car parking trips and typical duration of stay).

The assessment has included a forecast of car parking demand generated by consented, proposed and Local Plan developments based on Transport Assessments prepared to support the developments (where available) and utilising existing trends identified from the ANPR survey.

The assessment has not included for the projected increase in car ownership within the Cotswold District. With regards to the existing vehicular trips from outside of the Cotswold District, these have been uplifted using TEMPro factors to account for growth resulting from development.

The study has found that the town centre car parks are already at or approaching capacity and the addition of demand generated by the various developments identified results in a shortfall in parking. The shortfall is forecast to be up to 347 spaces in the AM peak period on a weekday; the forecast parking demand above operational capacity is approximately 30% of the operational capacity.

National Policy recognises the importance that parking has in ensuring the vitality of town centres and encourages the provision of good quality parking with suitable charges. This should not however undermine the use of sustainable modes where viable or result in detriment to the town centre environment.

7.2. Next Steps

Whilst the study has determined the likely shortfall in parking, the next step in determining a suitable strategy for Cirencester. This would likely require consideration of the different car park user groups and developing a strategy which best caters for each group's needs. For example:

- Visitors/shoppers/leisure users:
 - Car parking that is close to shops and facilities;
 - Reduced tariff for very short stays;
 - Limits on the duration of stay; and
 - Mid-range tariffs so as not to discourage users from accessing the town but not so inexpensive so those who would otherwise access the town using sustainable modes would instead choose to drive.
- Commuters:
 - Car parking which is on the edge of the town centre or on peripheral sites (to reduce the number of vehicles in the immediate town centre area); and
 - Tariffs to encourage vehicles to park a greater distance away and walk.

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