

# 1 Data, Analysis and Findings

## 1.1 Data Provision

1.1.1 In order to understand the type and duration of usage in Worcester's car parks, an analysis has been undertaken of ticket machine data provided by Worcester City Council. In the absence of available data for the city's private car parks, this study focuses on the operations of those car parks operated by the City Council. The Council has provided a comprehensive dataset for the period 2009/10–2011/12, including:

- Total parking ticket sales and revenue by car park
- Total ticket sales and revenue by car park zone
- Monthly ticket sales and revenue by car park
- Monthly ticket sales and revenue by car park zone
- Ticket sales using the RingGo pay-by-phone payment option
- Ticket sales using the Chip and PIN card payment option

1.1.2 This data has allowed an analysis of ticket sales on a month-by month and year-by year basis, and of the parking durations purchased by car park users. In undertaking the analysis a high-level approach has been used to gain an understanding of the overall trends in parking activity over the period assessed.

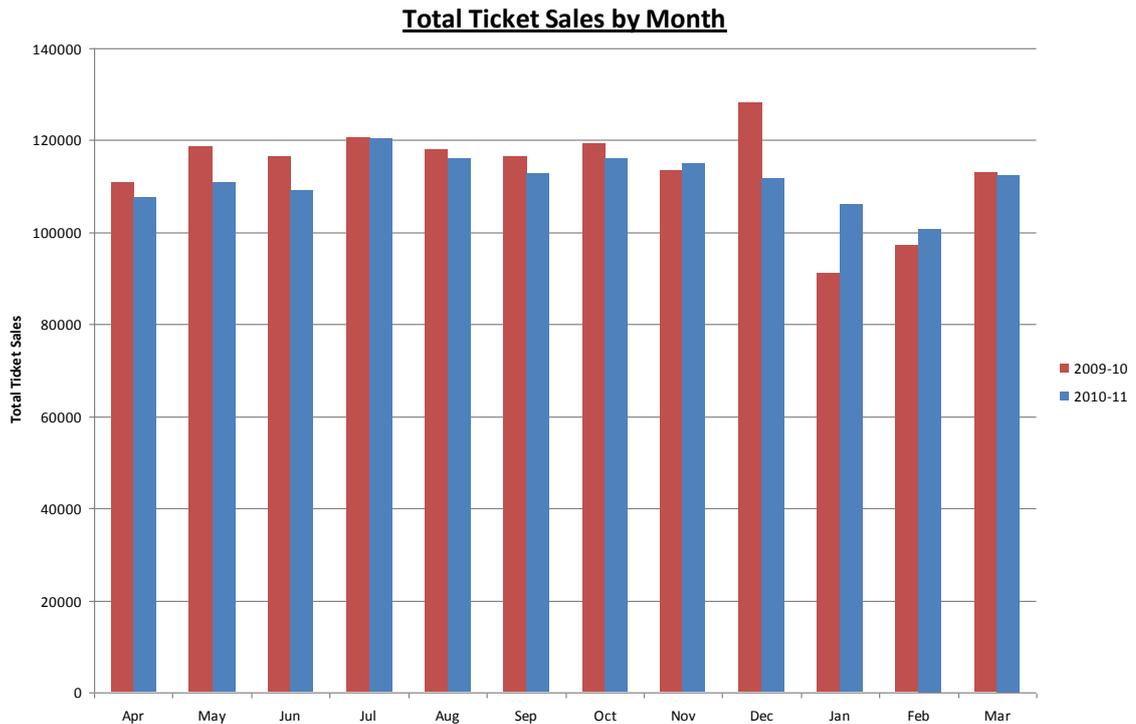
## 1.2 Car Park Surveys

1.2.1 Since it is difficult to derive overall levels of car park occupancy from ticket sales data, the data provided by the Council has been supplemented by surveys of Worcester's car parks, in order to determine levels of usage. The surveys were undertaken on Wednesday 5<sup>th</sup> and Saturday 8<sup>th</sup> September 2012, recording the number of vehicles in each of the Council's car parks at hourly intervals between 7am and 7pm. The weather during both these surveys was hot and clear with no rain.

1.2.2 On both survey dates there was no race meeting at the race course and during the Wednesday survey there was a cricket match being undertaken, however, this will have limited impact on the surveyed sites as the relatively low attendance is likely to be accommodated within the on-site parking areas.

## 1.3 Total Ticket Sales by Month

1.3.1 Ticket machine data from the Metric operating system has been analysed to give the total number of parking ticket sales on a monthly basis for the years 2009/10 and 2010/11. Data for 2011/12 was not used in this analysis as the dataset for this period is incomplete due to a technical failure. **Figure 3.1** shows total parking ticket sales per month for the two years analysed.

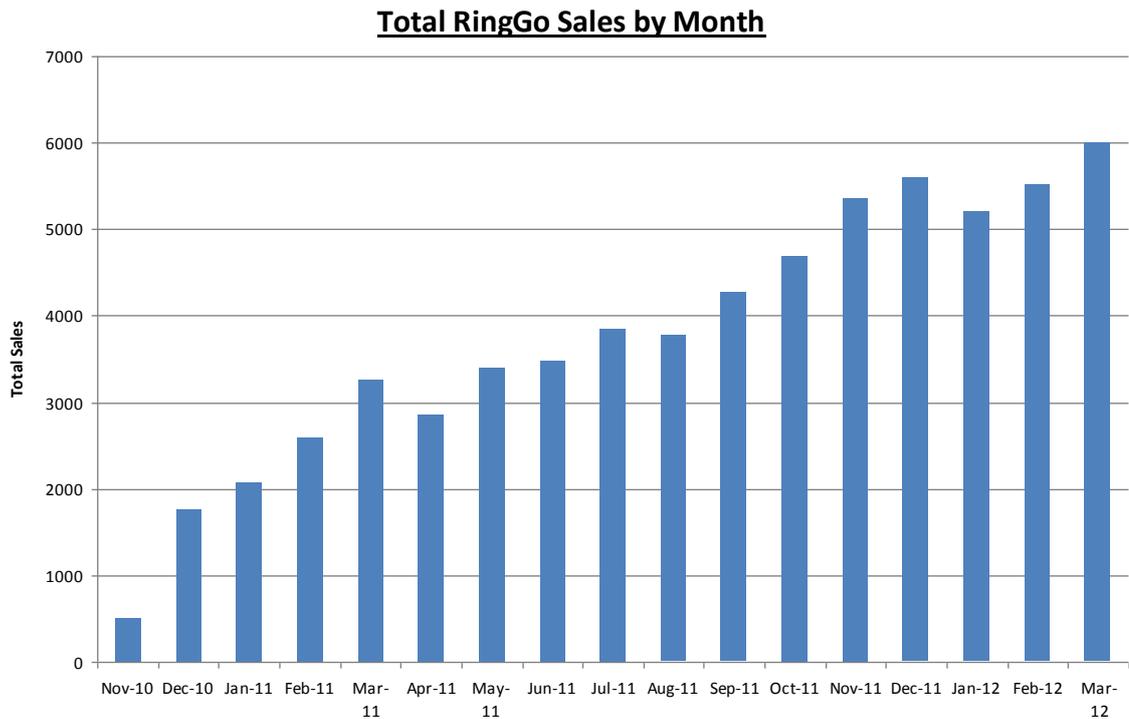


**Figure 3.1 Total Monthly Ticket Sales 2009/10 and 2010/11**

- 1.3.2 Throughout this period, monthly ticket sales generally remained within the range of 115,000-120,000 per month, although a seasonal low occurs in January/February of both years. Sales in this period dropped to between 91,000-105,000 and in 2009/10 this followed a seasonal high of 128,000 in December 2009. Surprisingly, ticket sales did not show a significant increase in the summer months, with just a minor summer peak in July of each year.
- 1.3.3 Total sales over the whole year were similar in both cases, with 1.573 million tickets sold in 2009/10 against 1.525 million in 2010/11. The data available for 2011/12 shows a significant reduction to 1.227 million but this is misleading, as the Metric system was not working for a time.

#### **1.4 RingGo Sales**

- 1.4.1 The ticket sales referred to above are the sales of pay-&-display tickets from machines in car parks, and since October 2010 these have been supplemented by sales using the RingGo pay-by phone system.



**Figure 3.2 RingGo Pay-by-Phone Sales Growth**

1.4.2 **Figure 3.2** shows the growth in RingGo sales since its introduction, and shows a steady increase in use of the system. It is estimated that RingGo sales now account for approximately 5% of ticket sales, and this figure is expected to increase in the future as the younger generation, who are increasingly use their phones for everyday tasks, start to drive.

### **1.5 Credit/Debit Card Sales**

1.5.1 A single machine accepting credit and debit card payments has been installed in the Cornmarket car park since April 2011. Data has been supplied for the year 2011/12 which shows that a total of 1,257 payments were made using cards during this period, on top of the over 20,000 cash payments made at this machine.

### **1.6 Ticket Sales by Car Park**

1.6.1 Our analysis has also examined the ticket sales data for individual car parks for both 2009/10 and 2010/11, from the viewpoint of overall ticket sales per month and ticket sales per space per month. This latter measure provides an indication of the popularity of a car park by allowing the turnover of spaces to be calculated, this being the number of times a parking space is occupied in a month.

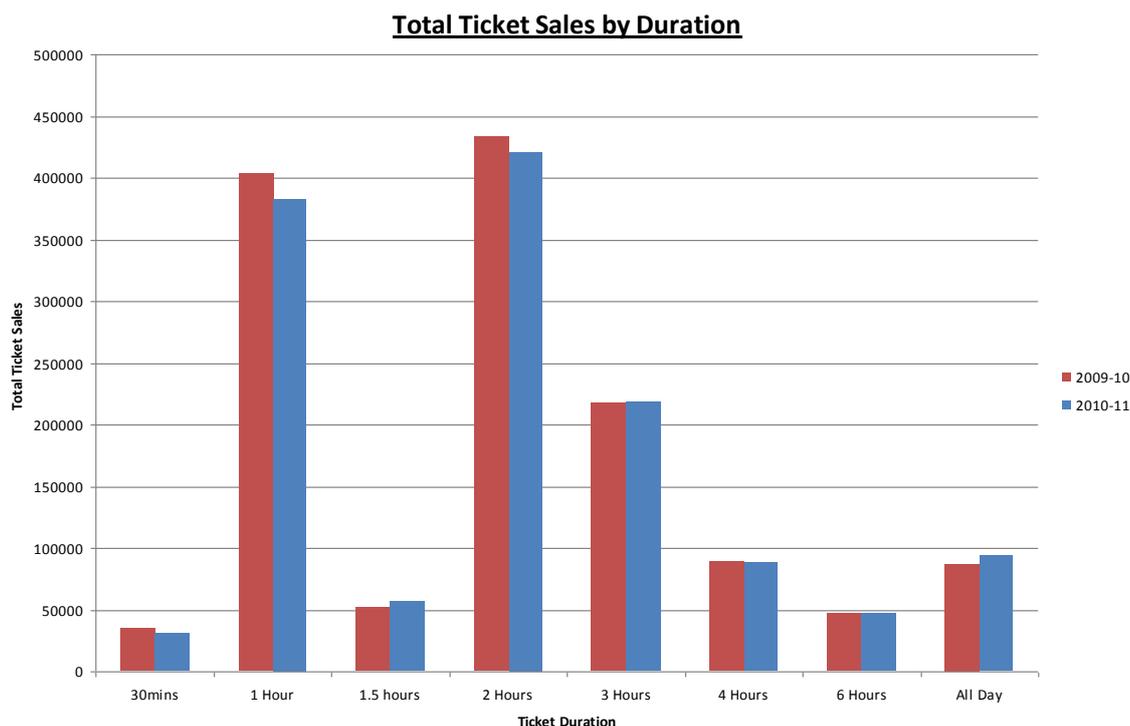
1.6.2 The full results of this analysis for each car park are presented in **Appendix A** of this report. The variations in overall ticket sales per month generally reflect the different car park capacities, but sales per space figures give an indication of a car park's popularity and the type of use it gets.

- 1.6.3 The Cornmarket car park has the highest turnover of spaces in Worcester by some margin. Each space was sold between 200-230 times per month over the two years examined, suggesting 7-8 users per space every day. This points to a high level of very short stay activity, and this is borne out by data on parking durations sold.
- 1.6.4 The car park with the next highest turnover is Providence Street, with typically 100-130 sales per space per month or up to 4 users per space per day. Slightly below this level are Commandery Road and King Street car parks, with the remaining Red and Amber Zone car parks generally in the range of 75-95 sales (or 2-3 users) per space per day.
- 1.6.5 Of the Green Zone car parks, Croft Road has the highest turnover (up to 40 sales per space per month), followed by Tallow Hill, Tybridge Street and Pitchcroft. The lower sales per space figures for these car parks suggest both a reduced popularity of these sites but also longer parking durations.

## **1.7 Parking Durations**

- 1.7.1 A review of the parking durations sold over the two years shows the majority of users to be short-stay visitors who stay for one or two hours, as shown in **Figure 3.3**. In 2010/11, approximately 380,000 one hour tickets and 420,000 two-hour tickets were sold in the city's car parks, and this is supplemented by further short stay parking in the city's three charged on-street parking areas. Approximately 220,000 three hour durations were sold but less than 50,000 six hour stays and 100,000 all day parking durations were sold in the same period. The 30 and 90 minute durations are for on-street parking areas only as this tariff does not presently exist in the other parking areas.
- 1.7.2 Thus it can be concluded that the majority of ticket sales are for short stay city centre visits and that there is a limited demand for all day parking from city centre workers. Anecdotal evidence suggests that long stay parking may take place on residential streets in some areas as this is free of charge, but this has not been corroborated by this study.
- 1.7.3 The profile of parking durations sold is similar in the majority of Red and Amber Zone car parks, with two hour stays out-selling one hour stays and with minimal long-stay sales. The Cornmarket and Providence Street car parks reverse this trend, with more one hour sales than two hour sales.

**Figure 3.3 Total Ticket Sales by Parking Duration**



*Note 30 minutes and 1.5 hour tickets are for the on-street parking only*

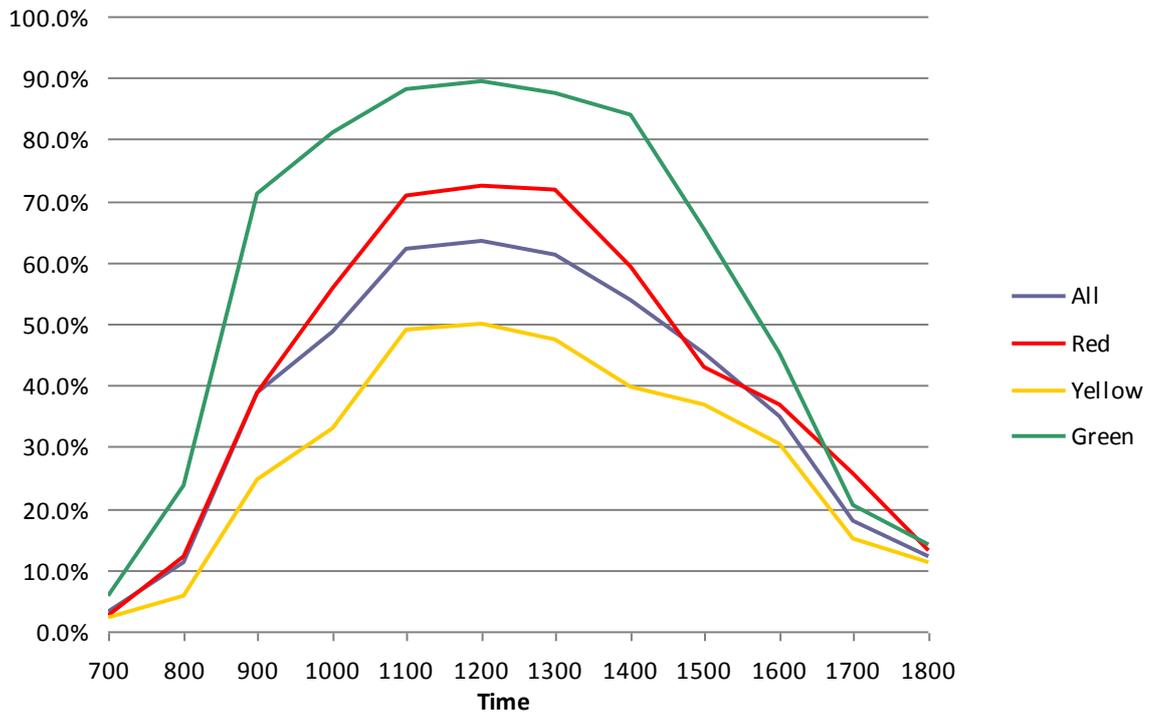
1.7.4 Of the Green Zone car parks, Croft Road and Pitchcroft have the highest levels of long-stay parking and more all day tickets are sold than short-stay tickets at these locations. Surprisingly, The Moors car park, which is reached through the Pitchcroft car park and is further from the city centre, has a higher level short-stay users, although long-stay parking occurs at a comparatively high level. Both Tybridge Street and Tallow Hill car parks see long and short-stay activity, with short stay out-selling long-stay by a small margin. The results of our parking duration analysis can also be found in **Appendix A**.

### **1.8 Parking Accumulation**

1.8.1 Ticket sales analysis does not easily reveal the levels of occupancy of car parks, and thus a survey of all the city's car parks was carried out on Wednesday 5<sup>th</sup> and Saturday 8<sup>th</sup> September to record general occupancy levels. This has provided a snap-shot of parking accumulation throughout the city and an individual profile for each car park. The weather during both these surveys was hot and clear with no rain.

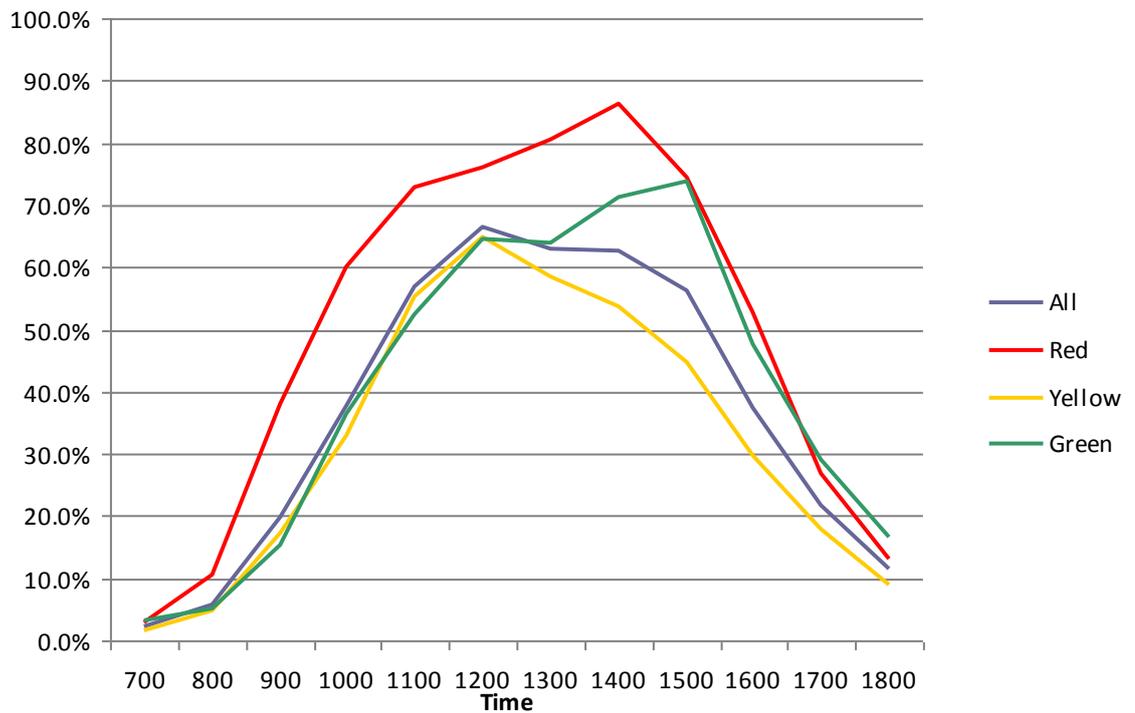
1.8.2 On both survey dates there was no race meeting at the race course and during the Wednesday survey there was a cricket match being undertaken, however, this will have limited impact on the surveyed sites as the relatively low attendance is likely to be accommodated within the on-site parking areas.

1.8.3 **Figure 3.4** and **Figure 3.5** show the overall numbers of vehicles parked in the City Council's car parks on the two survey days along with the overall levels of occupancy by percentage use.



**Figure 3.4 Parking Accumulation by Zone – Weds 5<sup>th</sup> September 2012**

**Figure 3.5 Parking Accumulation by Zone – Sat 8<sup>th</sup> September 2012**



- 1.8.4 On both days parking accumulation peaked at around 1,500-1,600 cars, suggesting that a significant amount of spare parking capacity exists within the city. However, it should be noted that overall parking levels are known to currently be reduced over previous years, and the poor summer weather in 2012 may also have served to reduce parking demand. This, whilst spare capacity does exist, it is likely to be less than the c.800 spaces indicated by the surveys.
- 1.8.5 The occupancy profiles differ on the two days, with Green Zone car parks seeing the highest levels of occupancy during the week (up to 90% full), followed by the Red (72%) and Amber (50%) Zones. On the Saturday, the Red Zone car parks fill up first and see a mid-afternoon peak of around 85% occupancy. The Amber and Green zones show similar profiles until midday, after which Amber Zone occupancy falls and the Green Zone rises to 75%, again in the mid-afternoon.
- 1.8.6 The occupancy profiles for individual car parks are presented in **Appendix B**. Profiles for the Wednesday show the Green Zone car parks at Tybridge Street, Pitchcroft and, to a lesser extent, Croft Road filling up in the hour before 9am and remaining fairly full throughout the day. Of the Amber Zone car parks, the Cattle Market and Newport Street show the highest levels of occupancy and in the Red Zone, Cornmarket shows the highest levels of occupancy (c.85%) with Copenhagen Street and Providence Street showing similar, slightly reduced levels (70%). The least used car parks are Clare Street and St. Martin's Gate, which did not exceed 30% occupancy at any time.
- 1.8.7 On the Saturday, parking accumulation occurred more slowly, with levels building until a midday peak which extended throughout the afternoon at Cornmarket, Cattle Market, Croft Road and Newport Street. Copenhagen Street and the Commandery car parks were also well used. The Green Zone car parks at Tybridge Street and Tallow Hill were less used, with typically 50-60% occupancy. Clare Street was well used on the Saturday, showing a peak of 90% occupancy. Although St. Martin's Gate showed an increase in usage over the Wednesday, at a peak of 50% this facility is significantly under-used.

## **1.9 Car Park Tariff Zones**

- 1.9.1 The City operates a zoning system for its car parks which divides parking locations into Red, Amber or Green areas by parking tariff. This presents a logical structure which is broadly based on proximity to the city centre; the Red Zone car parks are closest to the centre and charges for parking are higher than the edge-of-centre Amber Zone and outlying Green Zone car parks.
- 1.9.2 The car park selections which have been made for each zone have been done in a largely logical manner, although anomalies exist. For example, the car park at Newport Street is a similar distance from the city centre as that at Copenhagen Street but the former is in the Amber Zone and the latter the Red Zone. The Cattlemarket / Hive car park now has good links to the city centre with the pedestrian bridge across The Butts. At the South of the City Centre King Street is close to the new Cinema and restaurants that have been developed in Friar Street over the past few years.

- 1.9.3 The multi-storey St. Martin's Gate car park could also be considered as a city centre and therefore Red Zone car park, but its low levels of patronage suggest that its current Amber Zone status is currently appropriate as an increase in charges to Red Zone levels may negatively impact on patronage.
- 1.9.4 The three On Street parking areas (Silver Street, College Precinct, Severn Street) operate a different tariff system to the rest of the parking areas with a maximum stay of 1.5 hours and no return within two hours. The charges are £0.30 for 30 minutes; £0.70 for an hour and £1.20 for up to 1 hour 30 minutes. These are cheaper than the Amber zone parking, which is the area that all the on-street parking areas reside and considerably cheaper than the Red zone parking.

### **1.10 Existing Parking Assessment Summary of Key Findings**

- 1.10.1 The ticket sales analysis has assisted in identifying the parking patterns and behaviour that currently exist in Worcester and allowed conclusions to be drawn on the type of user the city attracts. Predominant amongst these is the short-stay shopper or visitor; by far the majority of parking durations sold are for 1 or 2 hours.
- 1.10.2 Surprisingly, the analysis did not show any significant seasonal variations relating to the summer months. This could suggest that drivers that visit the city as tourists do so throughout the year, or that the numbers of visitors in the summer is less than could be expected. The seasonal variation that was observed is associated with the Christmas period, with increased usage in December followed by reduced demand in January and February at most of the city's car parks.
- 1.10.3 There is a demand for long-stay parking and this is mainly accommodated by the Green Zone car parks where long stay parking has the lowest charge. The 2012 summer tariffs for long stay parking which have been introduced to encourage longer parking durations will be in effect until the end of September, and therefore data on the effectiveness of these measures cannot be made available to inform this study.
- 1.10.4 The Cornmarket car park is the most frequently used, with a high level of turnover of spaces which are used for shorter parking durations than at other car parks. This is mainly due to its convenience for access to city centre shops. Other car parks which are popular for short stay activity are the Cattle Market, Providence Street and Newport Street.
- 1.10.5 Surprisingly, the large multi-storey car park at St. Martin's Gate is poorly used despite good links to the city centre and the reduced tariff associated with its Amber Zone status. The recently opened ASDA car park provides alternative parking in the same area for less cost and analysis of the data indicates that revenue at the St Martins Gate car park has dropped by between 20% and 30% during 2012/13 which can be in part attributed to the direct competition with the ASDA car park.
- 1.10.6 In overall terms, the City Council's car parks offer a significant excess of parking supply over demand. The observed current peak usage levels are around 65%. The parking data for the past three years has shown a general decline in usage, however, even if parking activity was to return to historic levels, an over-supply of at around 20%, or 480 spaces, appears likely. It should be noted that this figure does not take account of any spare capacity in privately operated car parks, for which figures are not available.

- 1.10.7 It is understood that the car park zoning system was drawn up as a way of providing a structure to parking tariffs and of grouping city centre, edge-of-centre and out-of-centre car parks together for charging purposes. This has been successful in part, but drivers unfamiliar with the city are unaware of the existence of the system until they have chosen a parking location, as car park signage does not inform them of the choices available.
- 1.10.8 The naming of car parks generally follows the name of the road upon which it is located, but this could be improved to give an indication to drivers as to its location and purpose. For example, the Copenhagen Street car park is close to the city centre but also serves leisure users visiting the river and riverfront businesses, and could be re-named the Riverside car park. Similarly, the Pitchcroft car park could be re-named to identify its location close to the racecourse and the Cattle Market car park more strongly associated with the Civic Centre, or 'Hive'